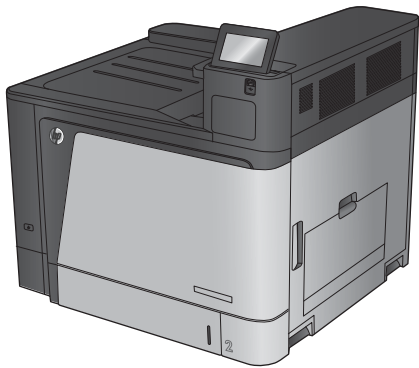


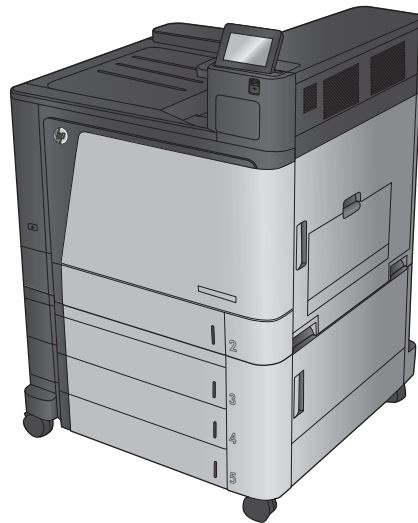


# LASERJET ENTERPRISE M855 LASERJET ENTERPRISE FLOW MFP M880

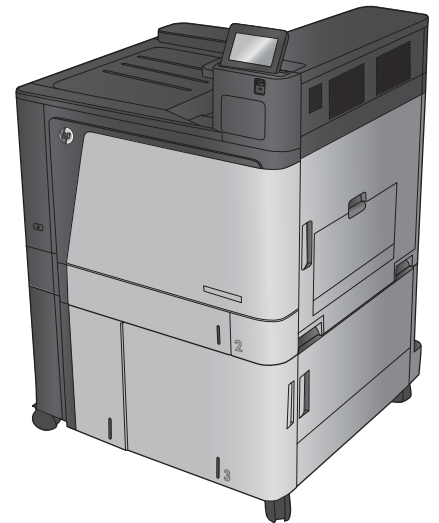
## Troubleshooting Manual



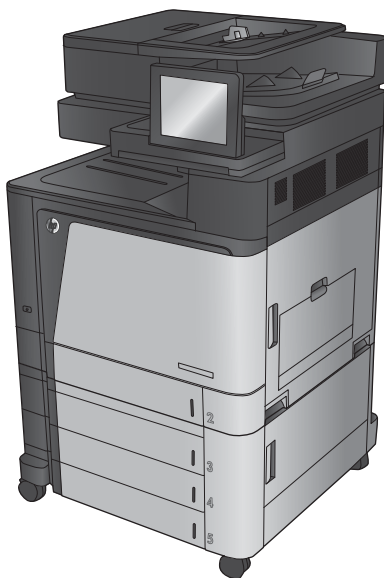
M855dn



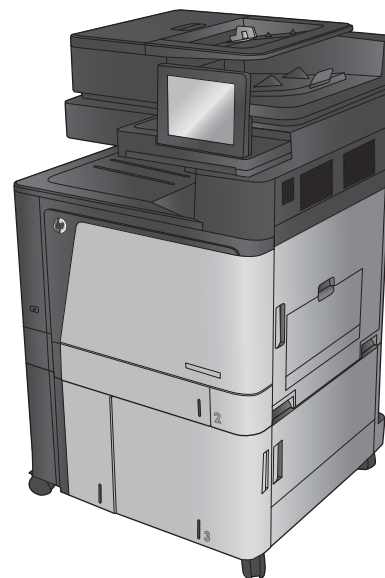
M855xh



M855x+



M880z



M880z+





# HP Color LaserJet Enterprise M855 and flow MFP M880

Troubleshooting Manual

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## Conventions used in this guide

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 **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 \(M855 only\) and 3x500-sheet paper feeder](#)
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- [Intermediate paper transportation unit](#)
- [Stapler/stacker and stapler/stacker with hole punch](#)
- [Booklet maker and booklet maker with hole punch](#)

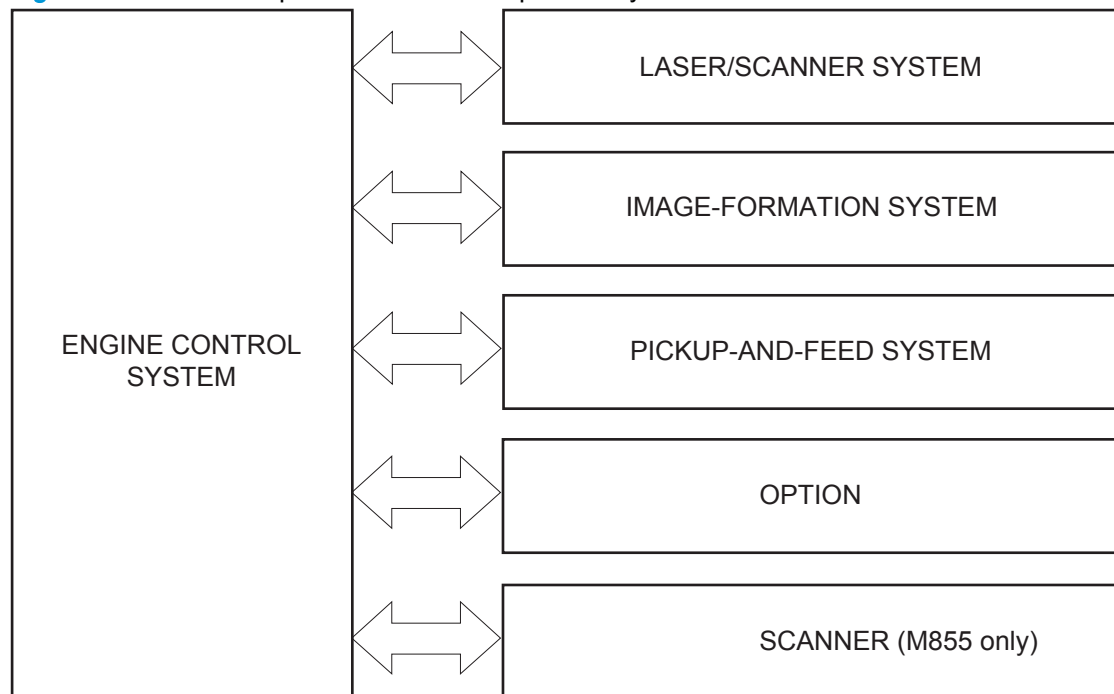
## Basic operation

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 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 pickup-and-feed system, which uses a system of rollers and belts to transport the paper through the product
- Scanner and document feeder functions and operations
- Accessories

**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



**NOTE:** The following sequence of operation applies to the engine portion of the product.

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

Name	Timing	Purpose
Waiting	From the time the power is turned on or when the product exits Sleep mode until the product is ready for printing	<ul style="list-style-type: none"><li>• Pressurizes the fuser pressure roller</li><li>• Detects the toner cartridges and imaging drums</li><li>• Detects the home position for the intermediate-transfer belt (ITB) and the developing unit</li><li>• Cleans waste toner from the ITB</li></ul>
Standby	From the end of the waiting sequence or the last rotation until the formatter receives a print command or until the product is turned off	<ul style="list-style-type: none"><li>• The product is in the ready state</li><li>• Awaits print reservation command (await INTR sequence)</li><li>• Enters Sleep mode after the specified length of time</li><li>• Calibrates if it is time for an automatic calibration</li></ul>
Initial rotation	From the time the formatter receives a print command until the paper enters the paper path.	<ul style="list-style-type: none"><li>• Activates the high-voltage power supply</li><li>• Prepares each laser/scanner unit</li><li>• Warms the fuser to the appropriate temperature</li></ul>
Printing	From the time the first sheet of paper enters the paper path until the last sheet has passed through the fuser	<ul style="list-style-type: none"><li>• Forms the image on the photosensitive drums</li><li>• Transfers the toner to the paper</li><li>• Fuses the toner image onto the paper</li><li>• Performs calibration after a specified number of pages</li></ul>
Last rotation	From the time the last sheet of paper exits the fuser until the motors stop rotating	<ul style="list-style-type: none"><li>• Moves the last printed sheet into the output bin</li><li>• Stops each laser/scanner unit</li><li>• Discharges the bias from the high-voltage power supply</li></ul>

# Formatter-control system

The formatter performs the following functions:

- 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 bi-directional 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.

## Formatter hardware

The formatter system includes the following components.

**Table 1-2** Formatter hardware components

Component	Function
Microprocessor	Stores fonts and microprocessor control programs.
RAM	Stores printing and font information and temporarily stores print-image data before it sent to the print engine. RAM data is lost when the product is turned off. <b>NOTE:</b> Upgrading RAM improves graphic-intense printing operations, but does not increase the I/O buffer space or the printing speed.
NVRAM	Stores configuration information. NVRAM is saved when the product is turned off.
USB	Sends and receives data through USB type B interface connector (connected to the host computer).
Hard disk drive (HDD) Solid state module (SSM)	The firmware is contained in the HDD or SSD. A remote firmware upgrade process is used to overwrite and upgrade the firmware on the HDD or SSM. <b>NOTE:</b> The SSM is for the M855dn model only.
Real time clock	This clock is used for the Wake-up time feature. It includes a battery to supply power when the product is turned off.
HP Jetdirect Inside (JDI)	JDI is an Ethernet interface that is part of the formatter.

## 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 hard disk drive (HDD) or solid state module (SSM) store the firmware. A remote firmware upgrade process is used to overwrite and upgrade the firmware on the HDD or SSM.

## 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 that 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 20.3 cm (8 in) full-color SVGA (M880) or 10.9 cm (4.3 in) full-color SVGA (M855) with capacitive touchscreen and adjustable viewing angle. It 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.

The M880 model has a QWERTY retractable keyboard beneath the control panel. The keys are mapped to your language in the same way the virtual keyboard on the product control panel is mapped. If you select a different keyboard layout for the virtual keyboard, the keys on the physical keyboard are remapped to match the new settings.

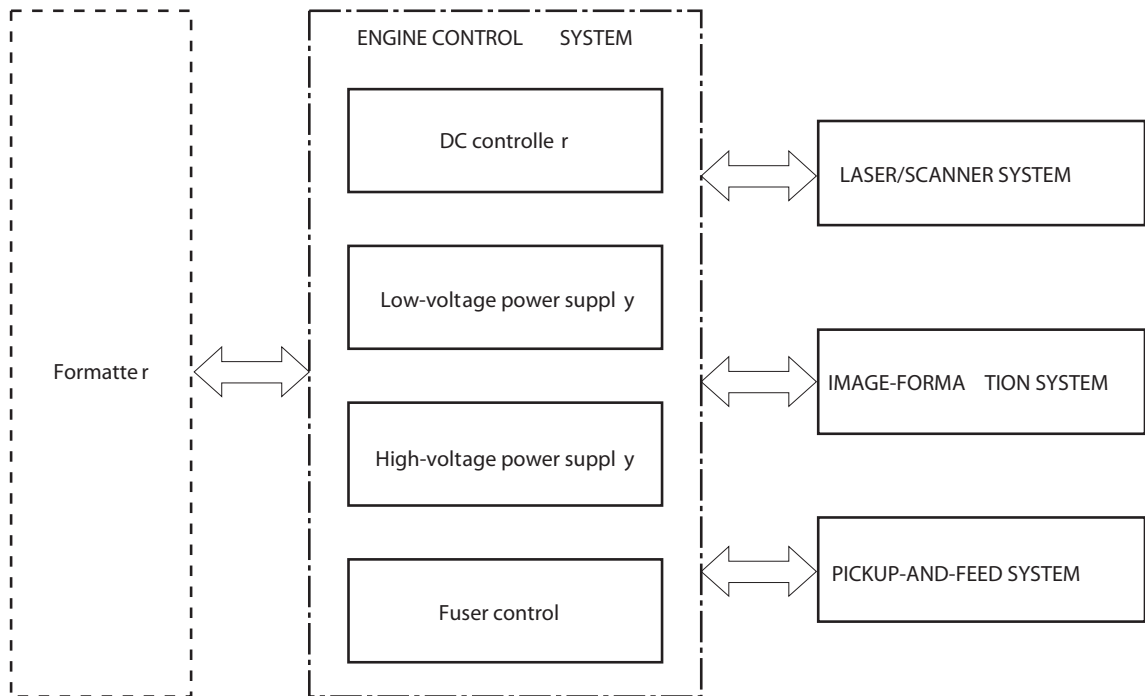


# Engine-control system

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

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

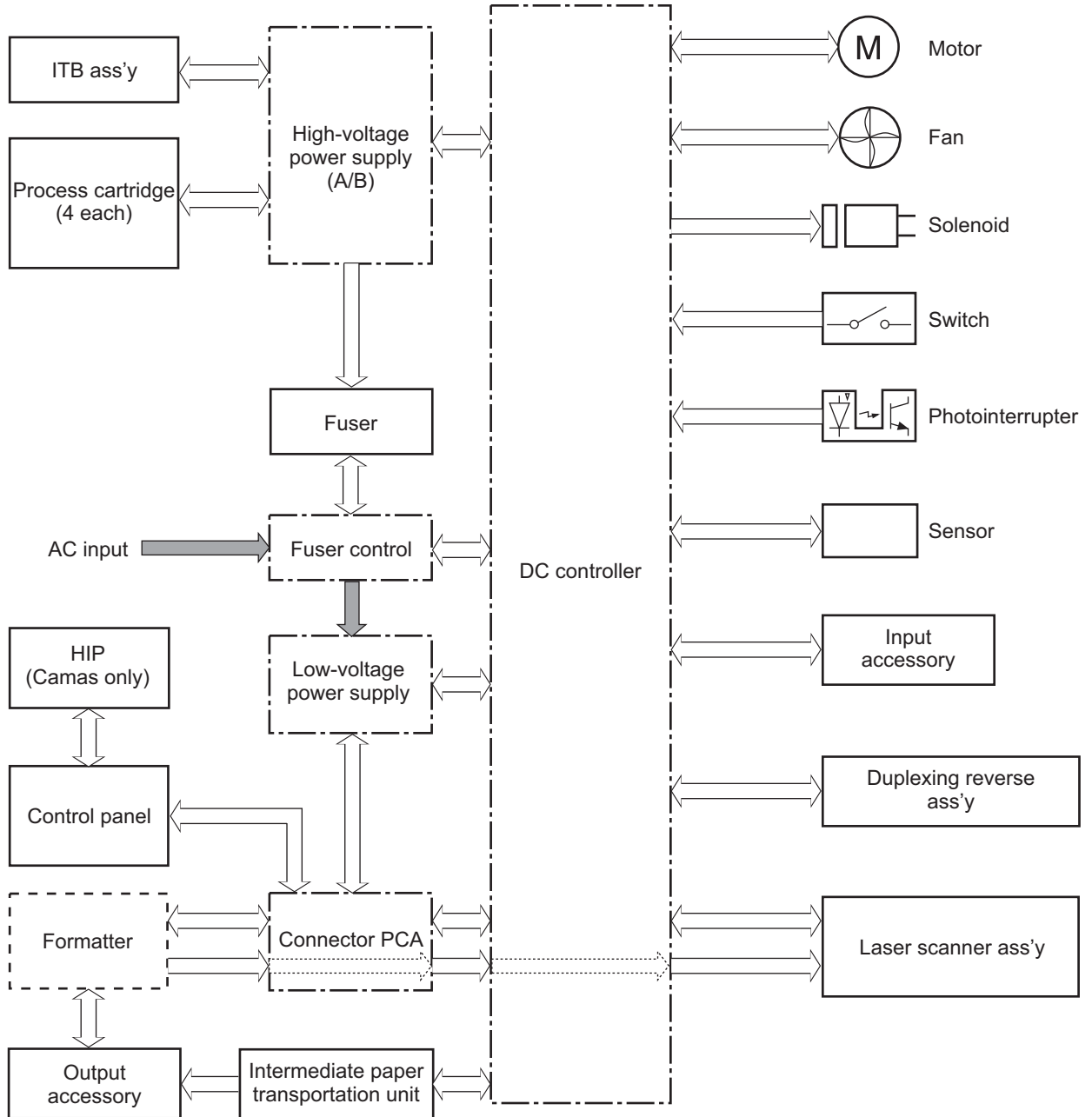
Figure 1-2 Engine-control system



## DC controller

The DC controller provides operational commands to each of the product components, and it interacts with the other engine-control systems and product systems to control the product operational sequence.

**Figure 1-3** DC controller block diagram



**Table 1-3** Motors

Abbreviation	Component name	Replacement part number
M1	Scanner motor (Y/M)	RM2-5176-000CN
M2	Scanner motor (C/K)	RM2-5176-000CN
M5	Pickup motor	RM1-9843-000CN

**Table 1-3 Motors (continued)**

<b>Abbreviation</b>	<b>Component name</b>	<b>Replacement part number</b>
M6	Registration motor	RM1-9843-000CN
M7	Cassette lifter motor	RM1-3222-000CN
M10	ITB motor	RM1-4519-000CN
M11	Fuser motor	RM1-4519-000CN
M12	Drum motor (Y)	RM1-9614-000CN
M13	Drum motor (M)	RM1-9614-000CN
M14	Drum motor (C)	RM1-9614-000CN
M15	Drum motor (K)	RM1-9614-000CN
M17	Fuser shutter motor	A2W75-67910
M18	Developer alienation motor (C/K)	A2W75-67910
M19	Developer alienation motor (Y/M)	A2W75-67910
M20	T1 roller alienation motor	RM1-3280-000CN
M21	Toner-replenishment motor (Y/M)	RK2-4819-000CN
M22	Toner-replenishment motor (C/K)	RK2-4819-000CN
M301	Duplex re-pickup motor	RM2-0291-000CN (M855) RM2-5061-000CN (M880)
M302	Duplex switch back motor	RM2-0291-000CN (M855) RM2-5061-000CN (M880)
M303	Duplex feed motor	RM2-0291-000CN (M855) RM2-5061-000CN (M880)

**Table 1-4 Fans**

<b>Abbreviation</b>	<b>Component name</b>	<b>Replacement part number</b>
FM1	Laser scanner fan	RK2-1322-000CN
FM2	Fuser fan	RK2-1378-000CN
FM3	Cartridge fan (Y/M)	RK2-1378-000CN
FM4	Cartridge fan (C/K)	RK2-1378-000CN
FM5	VOC fan	RM1-3364-000CN
FM6	Low-voltage power supply fan	RL1-4003-000CN
FM7	Cartridge front area cooling fan	RK2-1378-000CN
FM8	Delivery fan	RK2-1382-000CN
FM9	Fuser edge area cooling fan (rear)	RK2-1378-000CN
FM10	Fuser edge area cooling fan (front)	RK2-1378-000CN

**Table 1-4 Fans (continued)**

Abbreviation	Component name	Replacement part number
FM301	Duplex fan 1	RM2-0291-000CN (M855)
		RM2-5061-000CN (M880)
FM302	Duplex fan 2	RM2-0291-000CN (M855)
		RM2-5061-000CN (M880)

**Table 1-5 Solenoids**

Abbreviation	Component name	Replacement part number
SL1	Cassette pickup solenoid	RM1-9599-000CN
SL2	MP tray (Tray 1) pickup solenoid	RM1-9644-000CN
SL4	Toner-replenishment solenoid (Y)	
SL5	Toner-replenishment solenoid (M)	
SL6	Toner-replenishment solenoid (C)	
SL7	Toner-replenishment solenoid (K)	
SL301	Duplex flapper solenoid	RM2-0291-000CN (M855)
		RM2-5061-000CN (M880)

**Table 1-6 Switches**

Abbreviation	Component name	Replacement part number
SW11	Tray 2 paper size switch	RM1-3222-000CN
SW12	Cassette trailing edge switch	RM1-3222-000CN
SW13	Right door open/close switch	RM2-7035-000CN
SW14	Front door open/close switch	RM2-7035-000CN
SW17	Main switch	
SW101	Interlock switch 1	RM2-5062-000CN
SW102	Interlock switch 2	RM2-5062-000CN

**Table 1-7 Photointerrupters**

Abbreviation	Component name	Replacement part number
SR11	Fuser shutter home position sensor (front)	RM1-9857-000CN
SR12	Fuser shutter home position sensor (rear)	RM1-9857-000CN
SR13	T2 door open/close sensor	WG8-5935-000CN
SR14	Drum home position sensor (K)	A2W77-67908

**Table 1-7 Photointerrupters (continued)**

Abbreviation	Component name	Replacement part number
SR15	Drum home position sensor (C)	A2W77-67908
SR16	Drum home position sensor (M)	A2W77-67908
SR17	Drum home position sensor (Y)	A2W77-67908
SR18	ITB alienation sensor	A2W79-67902
SR19	Developer alienation sensor (Y/M)	RM2-5051-000CN
SR20	Developer alienation sensor (C/K)	
SR21	Tray 2 media-level sensor	RM1-3222-000CN
SR22	Tray 2 feed sensor	RM1-9599-000CN
SR24	Tray 1 feed sensor	RM1-9615-000CN
SR25	Tray 1 paper sensor	RM1-9644-000CN
SR26	Tray 1 last-media sensor	RM1-9642-000CN
SR27	ITB toner collection box full sensor	A2W77-67904
SR28	Fuser pressure release sensor	C1N54-67901 (fuser 110V) C1N58-67901 (fuser 220V)
SR29	Fuser loop sensor 1	RM1-9621-000CN
SR30	Fuser loop sensor 2	RM1-9621-000CN
SR31	Tray 2 paper sensor	RM1-9599-000CN
SR32	Tray 2 paper surface sensor	RM1-9599-000CN
SR33	Output bin full sensor	RM1-9841-000CN
SR34	Fuser flap open/close sensor	RM1-9606-000CN
SR35	Fuser output sensor 1	RM1-9640-000CN
SR36	Output media width sensor	RM1-9841-000CN
SR37	Fuser front width sensor	RM1-9640-000CN
SR38	Fuser rear width sensor	RM1-9640-000CN
SR39	Toner cartridge presence sensor (K)	WG8-5935-000CN
SR40	Toner cartridge presence sensor (C)	WG8-5935-000CN
SR41	Toner cartridge presence sensor (M)	WG8-5935-000CN
SR42	Toner cartridge presence sensor (Y)	WG8-5935-000CN
SR43	Toner-replenishment motor rotation sensor (Y/ M)	A2W75-67910
SR44	Toner-replenishment motor rotation sensor (C/ K)	A2W75-67910
SR45	Fuser output sensor 2	RM1-9640-000CN

**Table 1-7 Photointerrupters (continued)**

Abbreviation	Component name	Replacement part number
SR301	Duplex switchback feed sensor	RM2-0291-000CN (M855) RM2-5061-000CN (M880)
SR302	Developer delivery sensor	
SR303	Color sensor engagement sensor	RM2-5045-000CN
SR304	Duplex refeed sensor	RM1-9640-000CN
SR2501	TOP sensor	A2W77-67904

**Table 1-8 Sensors**

Abbreviation	Component name	Replacement part number
CN1	Environment sensor	RK2-4811-000CN
CS	Color sensor	RM2-5045-000CN
MS	Registration sensor	A2W77-67904
-	CPR/Density sensor	RM2-7026-000CN
-	ITB seal sensor	
SCN-TH1	Laser scanner assembly temperature sensor 1	
SCN-TH2	Laser scanner assembly temperature sensor 2	
-	Process cartridge toner collection box full sensor (Y)	
-	Process cartridge toner collection box full sensor (M)	
-	Process cartridge toner collection box full sensor (C)	
-	Process cartridge toner collection box full sensor (K)	
-	Process cartridge toner-level sensor (Y)	
-	Process cartridge toner-level sensor (M)	
-	Process cartridge toner-level sensor (C)	
-	Process cartridge toner-level sensor (K)	

## Motors

The product has numerous motors for paper feed and image formation. The DC controller can sense failure for several of the motors. When this occurs, the DC controller notifies the formatter so it can halt the printing process and provide an alert on the control panel display.

**Table 1-9 Motors**

Abbreviation	Component name	Components driven or motor function	Failure detection
M1	Scanner motor (Y/M)	Laser/scanner	
M2	Scanner motor (C/K)	Laser/scanner	
M5	Pickup motor	Cassette pickup roller, cassette feed roller, and MP tray pickup roller	No
M6	Registration motor	Registration roller	No
M7	Cassette lifter motor	Cassette lifter mechanism	No
M9	Primary-transfer roller disengagement motor	Engages or disengages the primary transfer roller	No
M10	ITB motor	ITB and the secondary transfer roller	Yes
M11	Fuser motor	Fuser roller, delivery roller, and fuser pressure roller	Yes
M12	Drum motor (Y)	Photosensitive drum and primary charging roller in the yellow imaging drum	Yes
M13	Drum motor (M)	Photosensitive drum and primary charging roller in the magenta imaging drum	Yes
M14	Drum motor (C)	Photosensitive drum and primary charging roller in the cyan imaging drum	Yes
M15	Drum motor (K)	Photosensitive drum and primary charging roller in the black imaging drum	Yes
M17	Fuser shutter motor	Fuser edge shutter	
M18	Developer alienation motor (C/K)	Engages and disengages the developing rollers in the cyan- and black-imaging drums	No
M19	Developer alienation motor (Y/M)	Engages and disengages the developing rollers in the yellow- and magenta-imaging drums	No
M20	T1 roller alienation motor		
M21	Toner-replenishment motor (Y/M)		
M22	Toner-replenishment motor (C/K)		
M301	Duplex re-pickup motor	Duplexing paper re-pickup roller, engages or disengages the color sensor	No
M302	Duplex switch back motor	Duplexing paper-reverse roller	No
M303	Duplex feed motor	Duplexing paper-feed roller	No

## Fans

The product has 11 fans that prevent the temperature from rising in the product and for cooling delivered paper.

**Table 1-10 Fans**

Abbreviation	Component name	Area cooled	Type	Speed	Failure detection
FM1	Laser/scanner fan	Laser/scanner area and formatter	Intake	Full/half	
FM2	Fuser fan	Fuser	Intake	Full/half	
FM3	Cartridge fan (Y/M)	Around the cartridge (Y/M)	Exhaust	Full	Yes
FM4	Cartridge fan (C/K)	Around the cartridge (C/K)	Exhaust	Full	Yes
FM5	Low-voltage power supply fan	Low-voltage power supply unit	Exhaust	Full/half	
FM6	Cartridge front-area fan	Toner-cartridge and imaging-drum area	Intake	Full/half	
FM7	Delivery unit fan	Delivery unit	Intake	Full	
FM9	Fuser edge area cooling fan (rear)	Around the rear edge of fuser sleeve	Exhaust	Full/half	Yes
FM10	Fuser edge area cooling fan (front)	Around the front edge of fuser sleeve	Exhaust	Full/half	Yes
FM301	Duplex fan 1	Duplexing driver PCA	Intake	Full	
FM302	Duplex fan 2	Output bin area	Exhaust	Full/half	

## 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 that is 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.

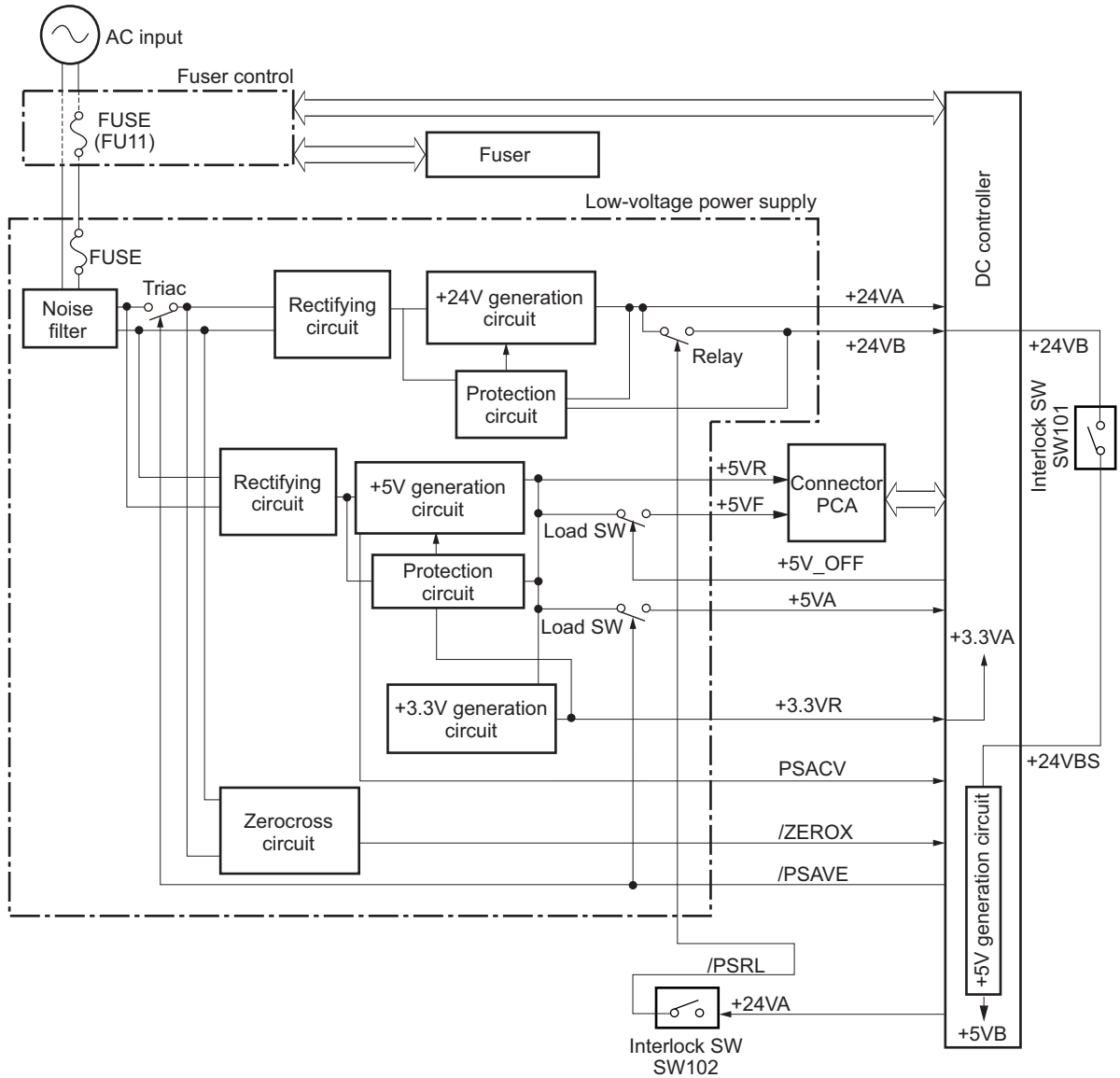


## Low-voltage power supply

The low-voltage power supply (LVPS) converts AC power into the DC voltage for the product mechanical assemblies. The following figure shows the system block diagram of the low-voltage power supply.

The product uses three DC voltages: 24V, 5V, and 3.3V. See [Table 1-11 Low-voltage power supply voltages description on page 16](#).

**Figure 1-4** Low-voltage power supply block diagram



**Table 1-11 Low-voltage power supply voltages description**

Main DC voltage	Sub-voltage	Behavior
+24V	+24VA	Supplied constantly Stopped during inactive off, active off, or Sleep mode
	+24VB	Supplied constantly Stopped during inactive off, active off, or Sleep mode Interrupted when right door open or front door open
+5V	+5VA	Supplied constantly Stopped during inactive off, active off, or Sleep mode
	+5VB	Supplied constantly Stopped during inactive off, active off, or Sleep mode Interrupted when right door open or front door open
	+5VR	Supplied constantly
	+5VF	Supplied constantly Stopped during inactive off
+3.3V	+3.3VA	Supplied constantly Stopped during inactive off or active off
	+3.3VR	Supplied constantly

## Over-current/over-voltage protection

The low-voltage power supply (LVPS) has a protective circuit against over-current and over-voltage to prevent failures in the power supply circuit. It 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 problem is identified.


The DC controller notifies the formatter of a LVPS failure when the protective function is activated.


In addition, the fuser control and the LVPS each have one fuse to protect against over-current. If over-current flows into the AC line, the fuse fails and AC power is stopped.

For personal safety, the product interrupts +24VB and +5VB power when the interlock switch is turned off. Accordingly, the DC voltage to the following components is interrupted:

- Fuser
- High-voltage power supply
- Delivery fan
- Fuser edge area cooling fan (rear)
- Fuser edge area cooling fan (front)
- Drum motor
- ITB motor
- Fuser motor
- Developer alienation motor
- Pickup motor
- Registration motor
- Fuser shutter motor
- Duplex re-pickup motor
- Duplex feed motor
- Duplex switch back motor
- Laser/BD PCA

---

 **WARNING!** The remote switch control circuit turns the product power on or off so that the AC power flows even if the power switch is turned off. Unplug the power cord before disassembling the product.

 **WARNING!** If you believe the over-current or over-voltage 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.

---

**Table 1-12 Low-voltage power supply functions**

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

## 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 (M880) can not be used when the product is in **Sleep Mode**.

## High-voltage power supply

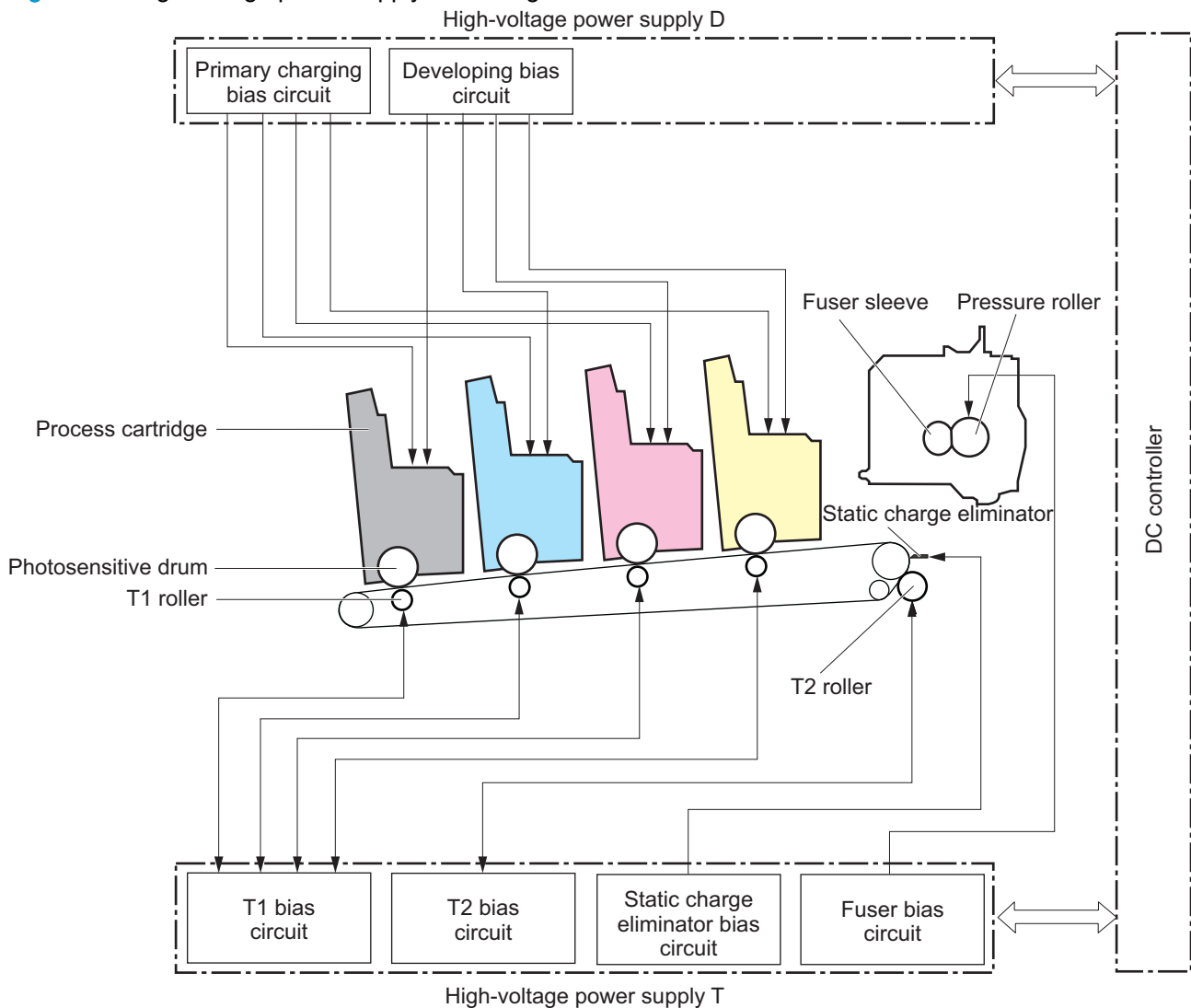
The high-voltage power supply (HVPS) applies biases to the following components:

- Primary charging roller
- Developing roller
- T1 roller
- T2 roller
- Static charge eliminator
- Pressure roller

The following figure shows the system block diagram of the high-voltage power supply.

 **NOTE:** The primary charging roller and the developing roller are in the cartridge.

**Figure 1-5** High-voltage power supply block diagram



Circuit	Description
Primary-charging-bias generation	A DC negative bias is applied to the surface of the photosensitive drum in each imaging drum to prepare it for image formation.
Developing-bias generation	A DC negative bias is used to adhere the toner to each photosensitive drum during the image formation process.
Primary-transfer-bias generation	A DC positive bias is used to transfer the latent toner image from each photosensitive drum onto the ITB.
Secondary-transfer-bias generation	Two DC biases—one positive and one negative—are used to transfer the toner from the ITB onto the paper.
Static-charge-eliminator-bias generation	A DC negative bias is used to reduce the electrical charge on the paper after the secondary-transfer process.
Fuser-roller-bias generation	A DC negative bias is applied to the fuser roller to remove any toner that adheres to the roller after fusing.

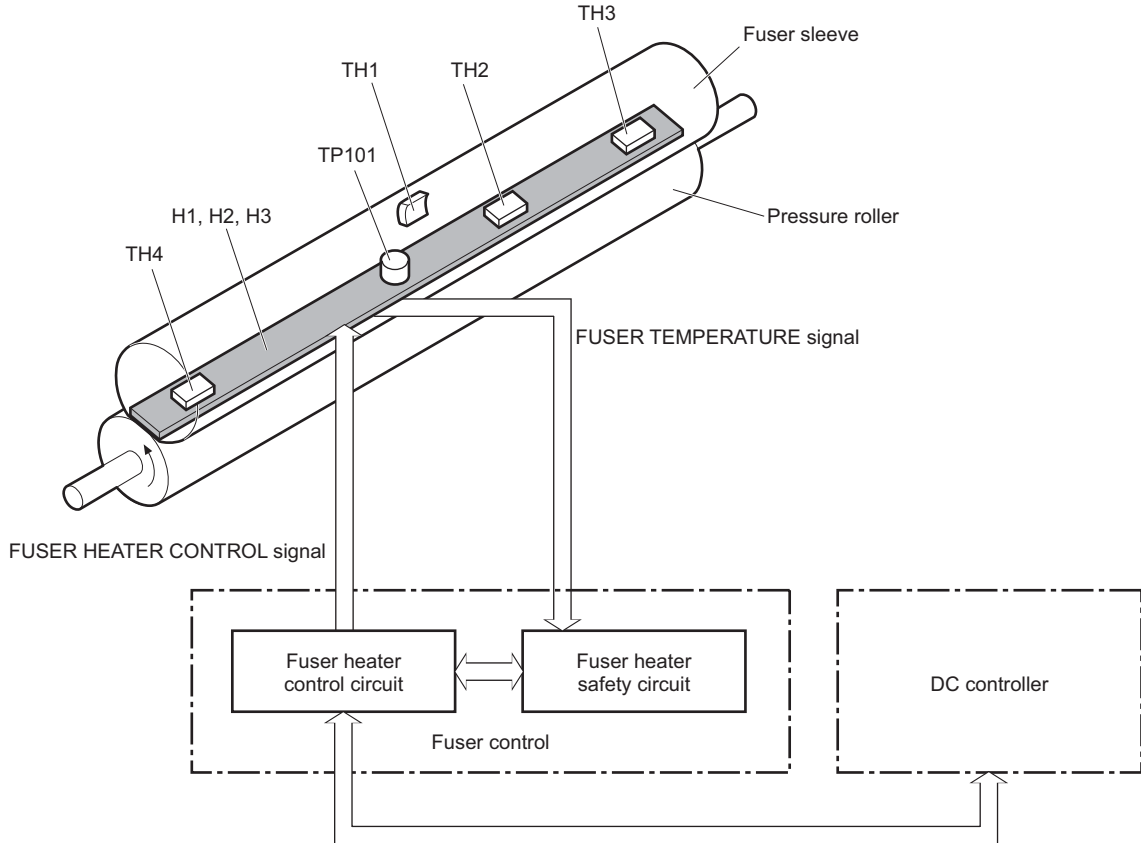
## Fuser bias

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

## Fuser-control circuit

This product features on-demand fusing. The fuser heater control circuit controls the fuser temperature according to commands from the DC controller. The fuser-control circuit consists of the following major components:

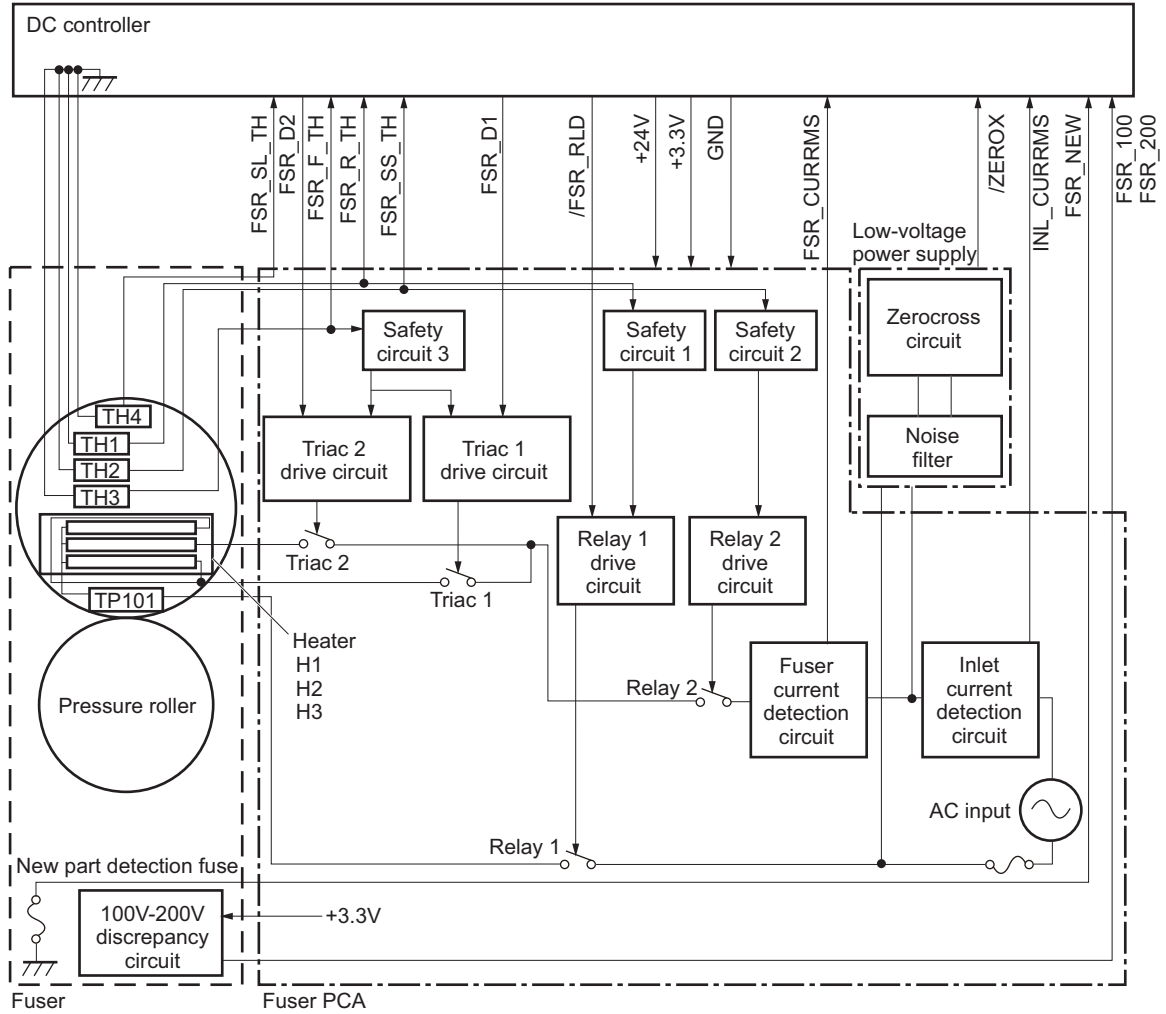
**Figure 1-6** Fuser-control circuit



**Table 1-13** Fuser components

Abbreviation	Component name	Function
H1	Fuser main heater	Heats the edge of the fuser sleeve
H2	Fuser sub heater	Heats the edge of the fuser sleeve
H3	Fuser sub heater	Heats the center area of the fuser sleeve
TH1	Main thermistor	Detects the center temperature of the fuser heater
TH2	Sub thermistor 1	Detects the temperature at one end of the fuser heater
TH3	Sub thermistor 2	
TH4	Sub thermistor 3	
TP101	Thermoswitch	Prevents an abnormal temperature rise of the fuser heater

Figure 1-7 Fuser system block diagram





## Fuser heater protection

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

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

- **DC controller**

The DC controller monitors the detected temperature of the thermistor. It releases the triac and relay to interrupt power supply to the fuser heater when it detects an excessive temperature.

- TH1: 223° C (433° F) or higher
- TH2: 195° C (383° F) or higher
- TH3: 223° C (433° F) or higher
- TH4: 195° C (383° F) or higher
- TP1: 240° C (464° F) or higher
- TP2: 240° C (464° F) or higher

- **Fuser-heater safety circuit**

The fuser heater safety circuit monitors the detected temperature of the thermistor. It releases the triac and relay to interrupt power supply to the fuser heater when it detects an excessive temperature.

- TH1: 230° C (446° F) or higher
- TH2: 200° C (392° F) or higher
- TH3: 230° C (446° F) or higher
- TH4: 200° C (392° F) or higher
- TP1: 250° C (482° F) or higher
- TP2: 250° C (482° F) or higher


- **Current detection circuit**

The inlet current detection circuit monitors the current flowing through the fuser control circuit. The fuser current detection circuit monitors the current flowing through the fuser heater. The DC controller deactivates the FUSER HEATER CONTROL signal to interrupt power supply to the fuser heater when the current of the CURRENT DETECTION signal is higher than a specified value.

- **Thermoswitch**

The contact to the thermoswitch breaks to interrupt the power supply to the fuser heater when the temperature of the fuser heater is abnormally high.

- TS101: 200° C (392° F) or higher
- TS102: 200° C (392° F) or higher
- TS103: 200° C (392° F) or higher

 **NOTE:** When the thermostiches reach this temperature, the actual temperature on the fuser rollers is approximately 370° C (698° F).

**Table 1-14 Fuser control functions**

Function	Supported feature
Fuser temperature control	Yes
Fuser failure detection	Yes
Frequency detection circuit failure detection	Yes
Fuser depressurization mechanism failure detection	Yes
Fuser type discrepancy detection	Yes
Fuser type identification detection	Yes
Fuser presence detection	Yes
Fuser life detection	Yes
Relay failure detection	Yes
Pressure roller cleaning	Yes
Fuser edge cooling function	Yes

The conditions of the fuser failure detection change as follows:

- **Abnormal high temperature**
  - **Abnormal high temperature 1**

The sub thermistor 1 keeps detecting 285°C (545°F) or higher for a specified period.
  - **Abnormal high temperature 2**

The sub thermistor 2 keeps detecting 285°C (545°F) or higher for a specified period.

The sub thermistor 3 keeps detecting 285°C (545°F) or higher for a specified period.
  - **Abnormal high temperature 3**

The main thermistor keeps detecting 210°C (410°F) or higher for a specified period.
- **Abnormal low temperature**
  - **Abnormal low temperature 1**

The sub thermistor 1 keeps detecting 80°C (176°F) or lower for a specified period during INTR period or PRINT period.

The sub thermistor 1 keeps detecting 50°C (122°F) or lower for a specified period during STBY period.

- **Abnormal low temperature 2**

The sub thermistor 2 keeps detecting 80°C (176°F) or lower for a specified period during INTR period or PRINT period.

The sub thermistor 2 keeps detecting 50°C (122°F) or lower for a specified period during STBY period.

The sub thermistor 3 keeps detecting 80°C (176°F) or lower for a specified period during INTR period or PRINT period.

The sub thermistor 3 keeps detecting 50°C (122°F) or lower for a specified period during STBY period.

- **Abnormal low temperature 3**

The main thermistor keeps detecting 60°C (140°F) or lower for a specified period during INTR period or PRINT period.

- **Abnormal temperature rise**

Each thermistor does not detect a specified temperature within a specified period from when the fuser heater is turned on.

- **Drive circuit failure**

The current flowing through the fuser heater is out of specified power supply range. The current flowing through the low-voltage power supply from the inlet is out of specified current range.

## Fuser identification

Whenever the product is turned on or when the right door is closed, the DC controller detects whether the fuser is present and whether the fuser is for a 110V model or a 220V model.

## Fuser-life detection

The fuser is rated to print a certain number of pages. When a new fuser is installed, the DC controller receives a signal and directs the formatter to set the fuser count to zero.

As pages are printed, the formatter increments the fuser count. When the page count reaches a certain threshold, the formatter sends a message to the control panel to alert the customer to order a replacement fuser.

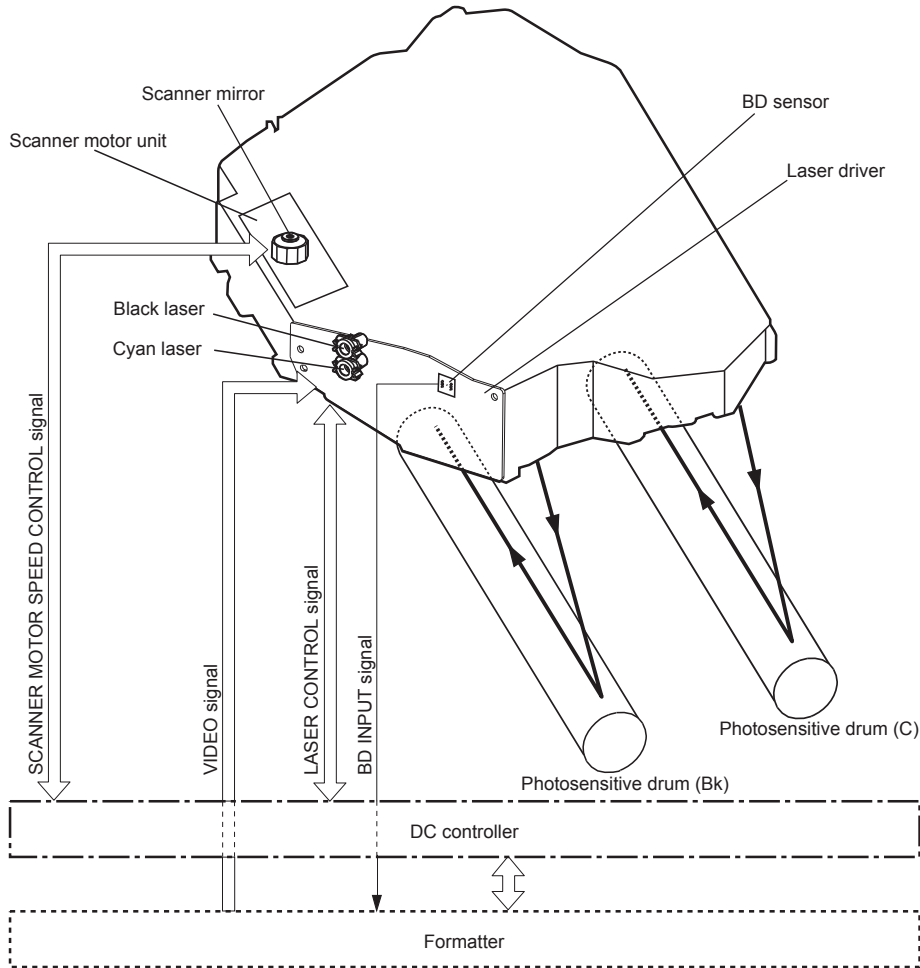
When the maximum number of pages has printed, the formatter sends a message to the control panel to prompt the customer to replace the fuser.

# Laser/scanner system

The laser/scanner system forms the latent electrostatic image on the photosensitive drums inside each of the imaging drums. The product has two laser/scanners: one for yellow and magenta and the other for cyan and black.

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

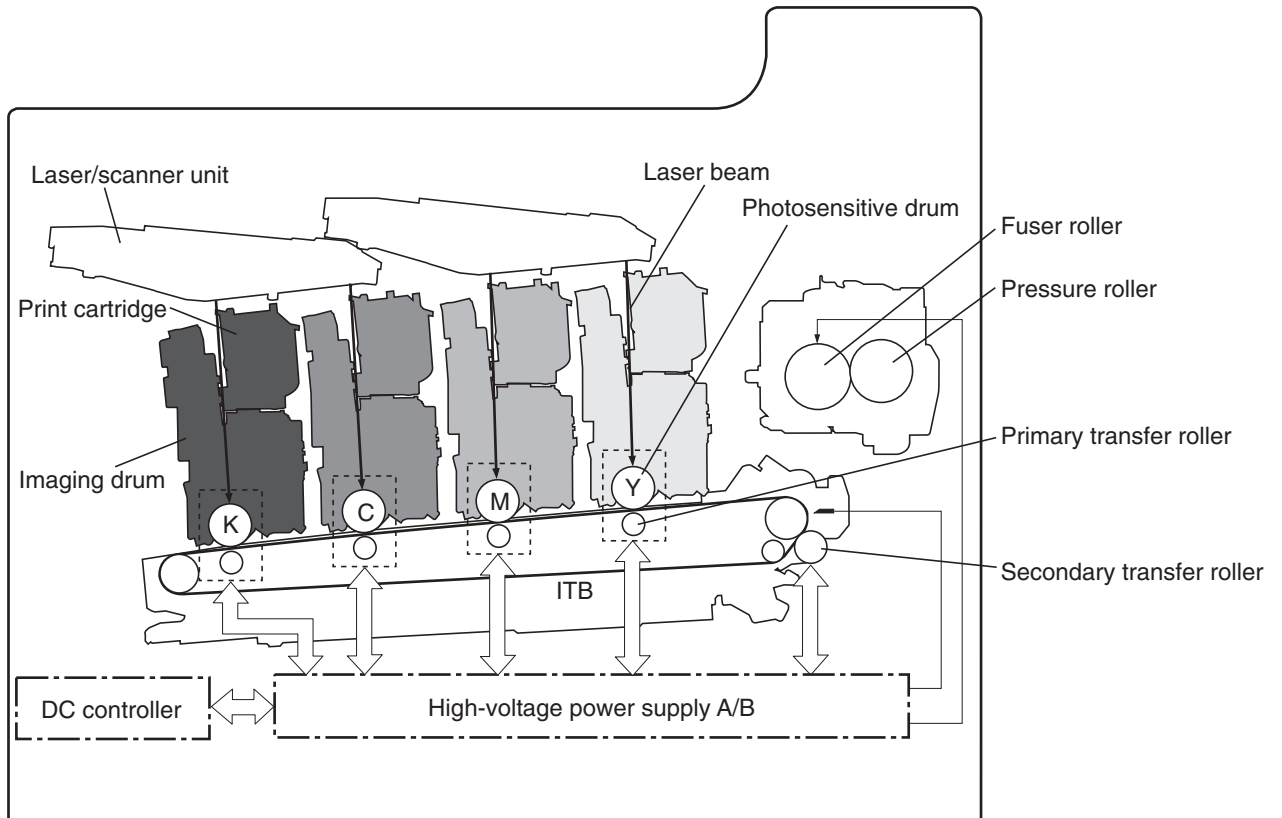
Figure 1-8 Laser/scanner system



# Image-formation system

The image-formation system creates the printed image on the paper. It consists of the laser/scanners, toner cartridges, imaging drums, ITB, and fuser.

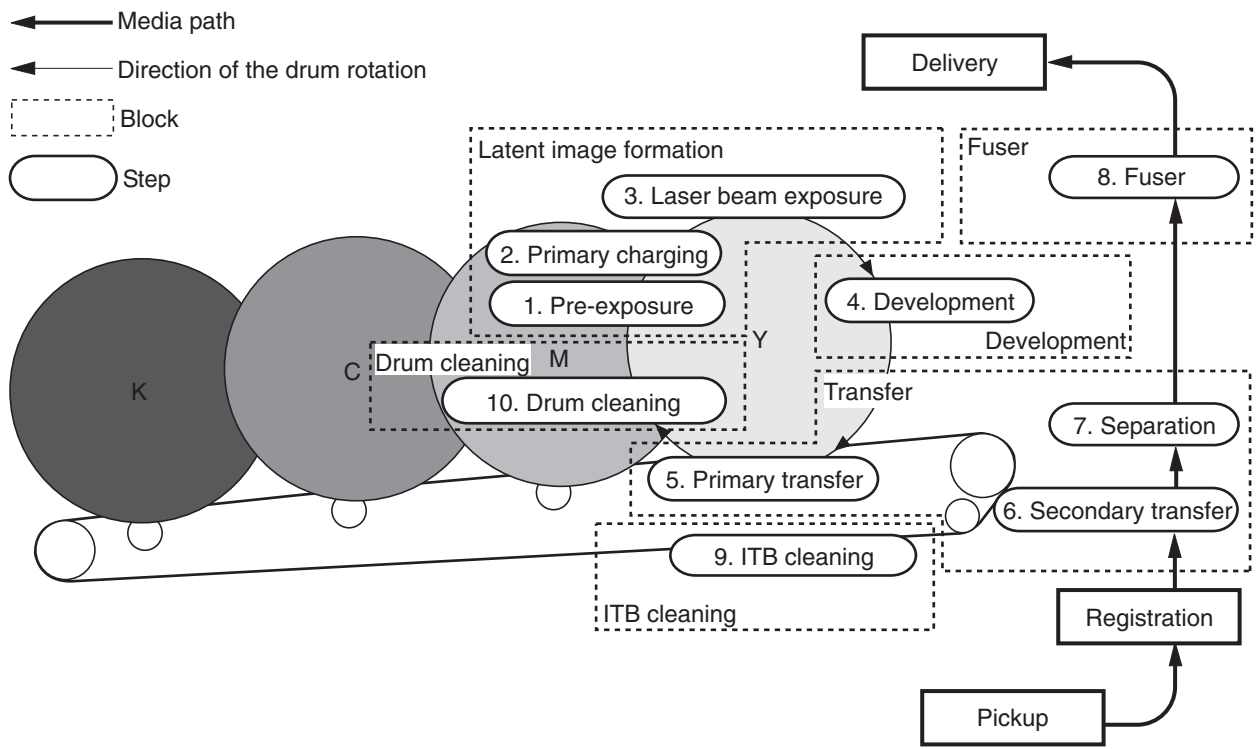
Figure 1-9 Image-formation system



## Image-formation process

The image formation system consists of ten steps that are divided into six functional blocks.

**Figure 1-10** Image-formation process

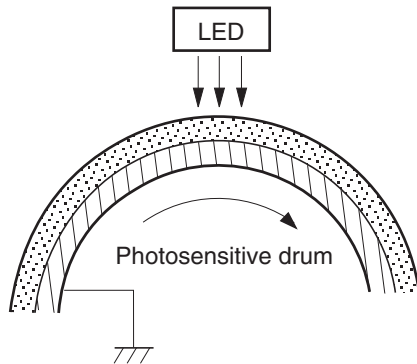


Functional block	Steps	Description
Latent image formation	1. Pre-exposure 2. Primary charging 3. Laser-beam exposure	An invisible latent image is formed on the surface of the photosensitive drums.
Development	4. Development	Toner adheres to the electrostatic latent image on the photosensitive drums.
Transfer	5. Primary transfer 6. Secondary transfer 7. Separation	The toner image is transferred to the ITB and subsequently to the paper.
Fusing	8. Fusing	The toner is fused to the paper to make a permanent image.
ITB cleaning	9. ITB cleaning	Residual toner is removed from the ITB.
Drum cleaning	10. Drum cleaning	Residual toner is removed from the photosensitive drums.

## Step 1: Pre-exposure

Light from the pre-exposure LED strikes the surface of the photosensitive drum to remove any residual electrical charges from the drum surface.

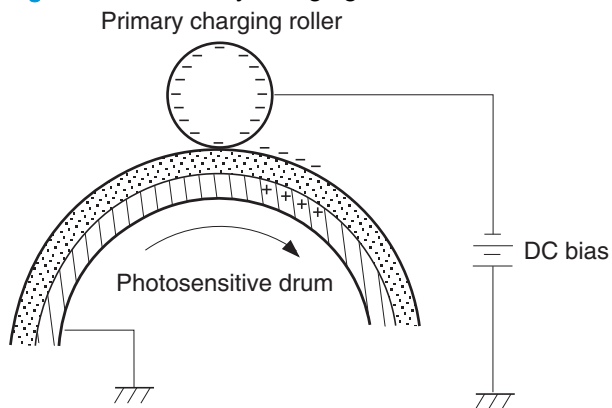
**Figure 1-11** Pre-exposure



## Step 2: Primary charging

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

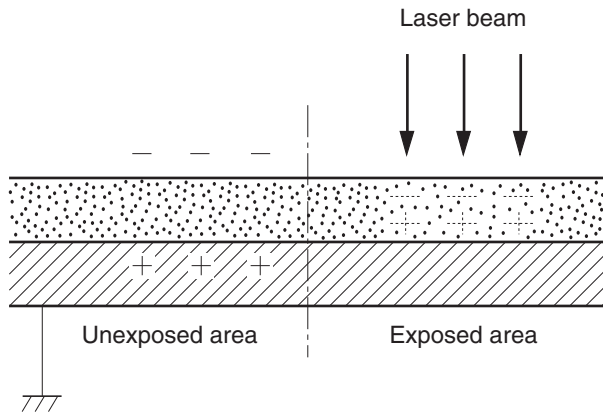
**Figure 1-12** Primary charging



### Step 3: Laser-beam exposure

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

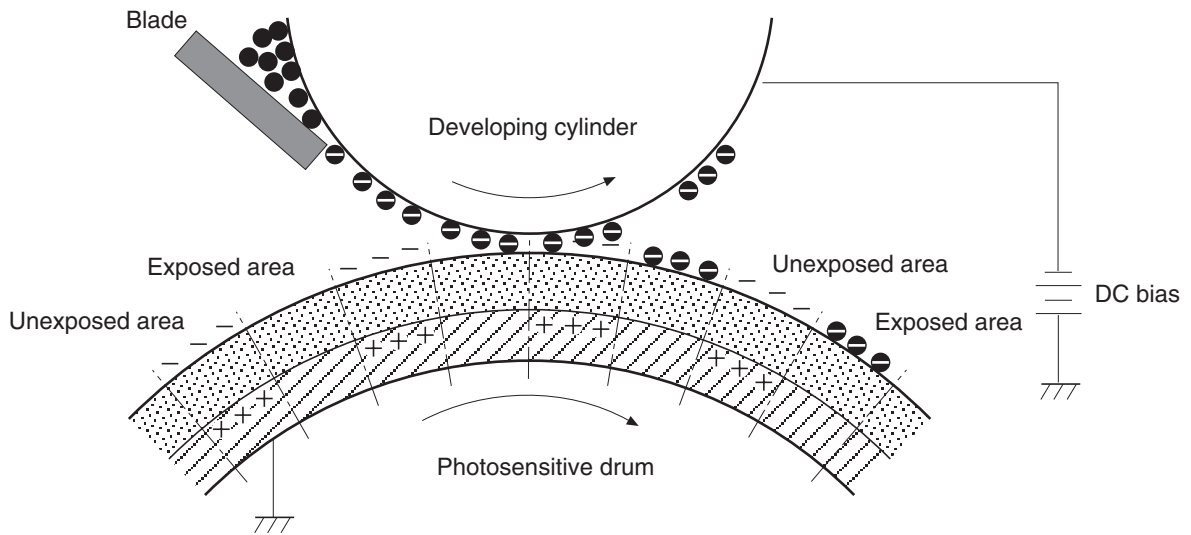
Figure 1-13 Laser-beam exposure



### Step 4: Development

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

Figure 1-14 Development

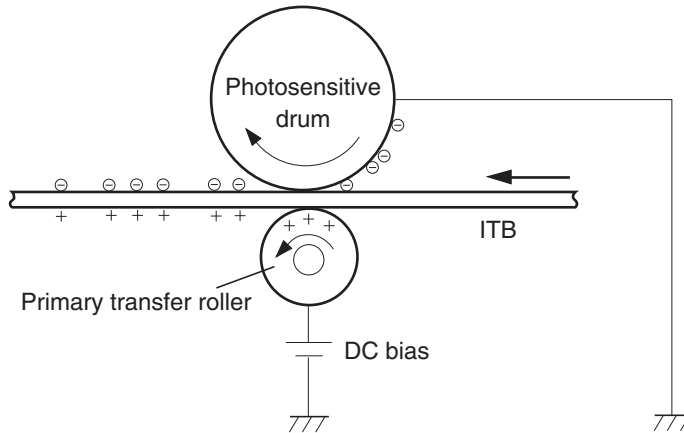




## Step 5: Primary transfer

The positively charged primary-transfer rollers contact the ITB, giving the ITB a positive charge. The ITB attracts the negatively charged toner from the surface of each photosensitive drum, and the complete toner image is transferred onto the ITB, beginning with yellow, then magenta, cyan, and black.

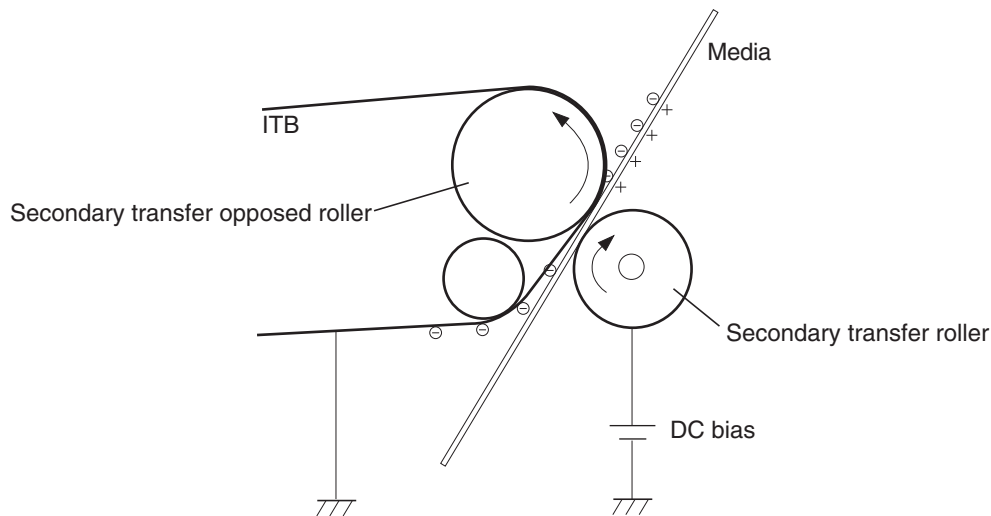
Figure 1-15 Primary transfer



## Step 6: Secondary transfer

The paper acquires a positive charge from the secondary transfer roller, and so it attracts the negatively charged toner from the surface of the ITB. The complete toner image is transferred onto the paper.

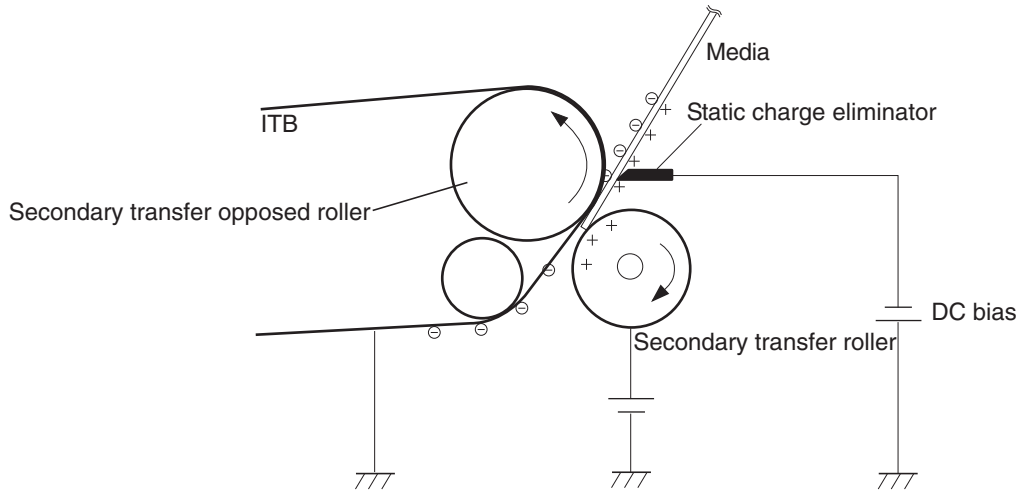
Figure 1-16 Secondary transfer



## Step 7: Separation

The stiffness of the paper causes it to separate from the ITB as the ITB bends. The static charge eliminator removes excess charge from the paper to ensure that the toner is fused correctly.

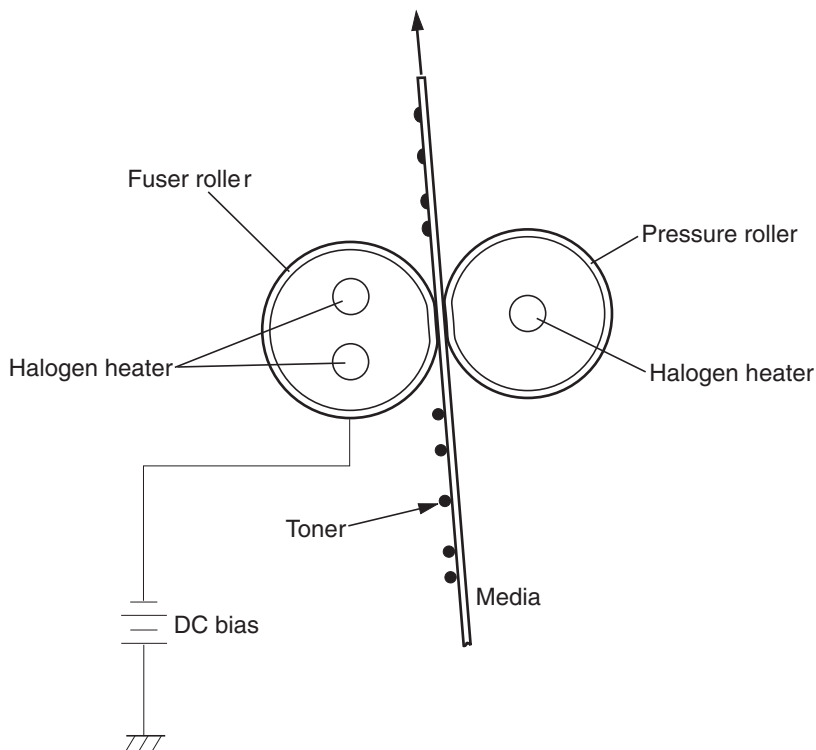
Figure 1-17 Separation



## Step 8: Fusing

To create the permanent image, the paper passes through a set of heated, pressurized rollers to melt the toner onto the page. The fuser roller has a negative DC bias to prevent the negatively-charged toner from being attracted to the roller, which would decrease print quality.

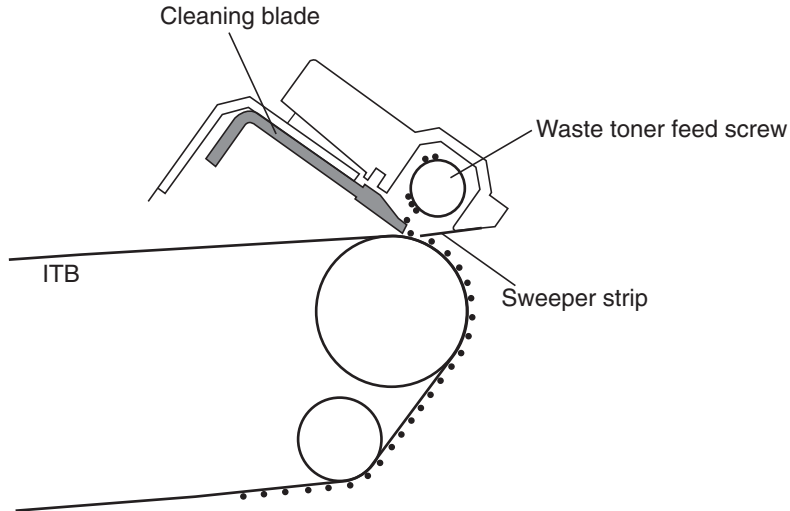
Figure 1-18 Fusing



## Step 9: ITB cleaning

After the paper separates from the ITB, the cleaning blade scrapes the residual toner from the surface of the ITB, preparing it for the next image. The waste toner feed screw picks up the residual toner and deposits it in the waste toner container inside the imaging drum.

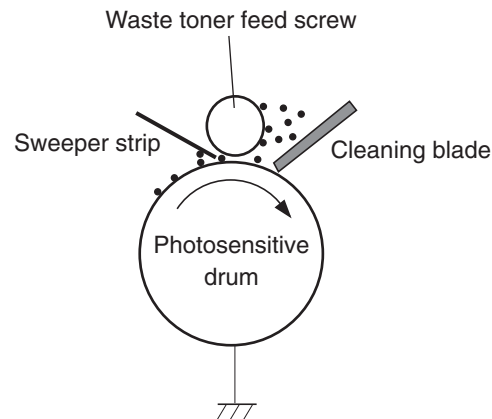
**Figure 1-19** ITB cleaning



## Step 10: Drum cleaning

Inside the imaging drum, the cleaning blade removes the residual toner from the surface of the photosensitive drum to prepare it for the next image. The waste toner feed screw picks up the residual toner and deposits it in the waste toner container inside the imaging drum.

**Figure 1-20** Drum cleaning

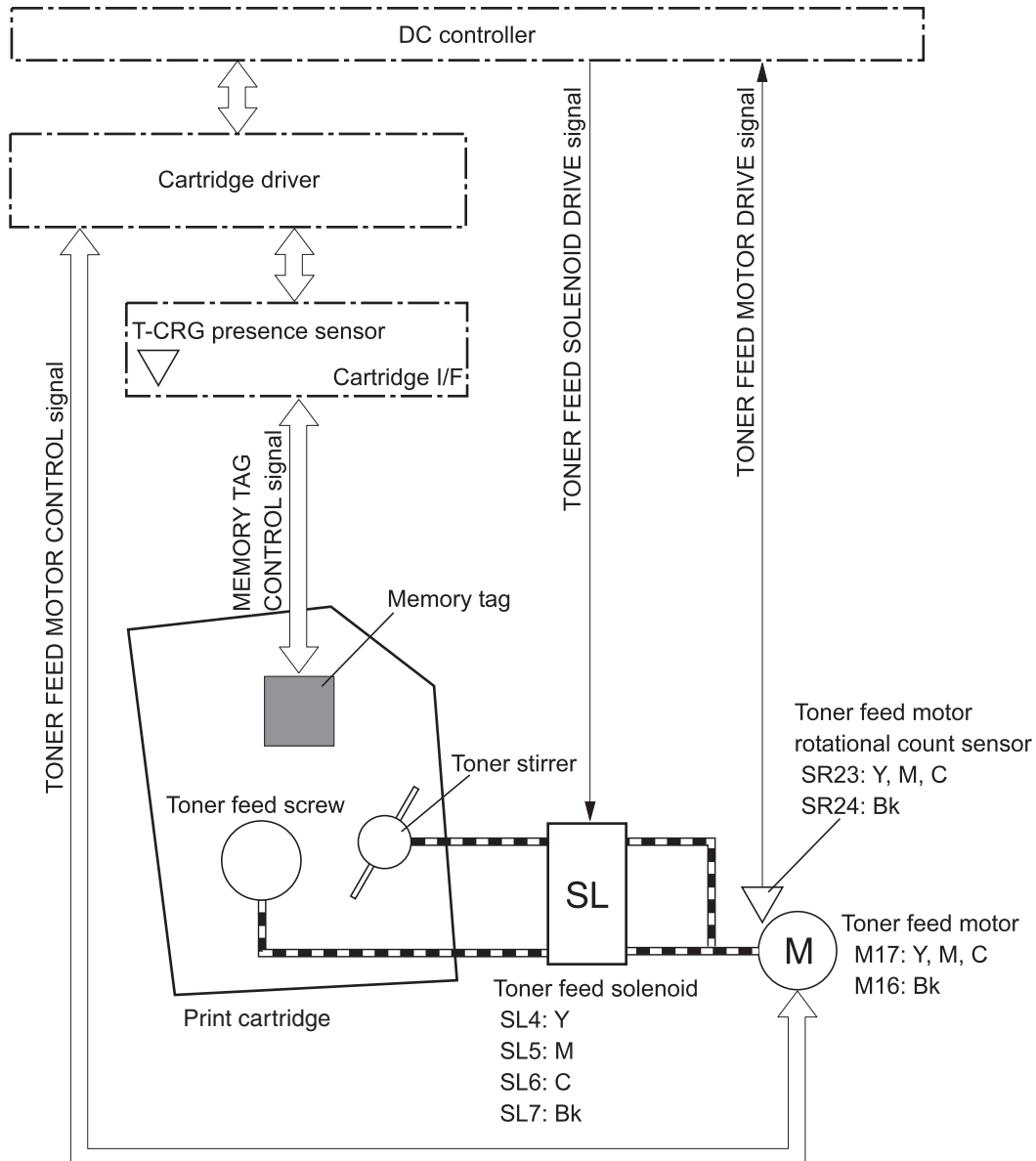


## Toner cartridge

The product has four toner cartridges, one for each color. Each toner cartridge contains a reservoir of toner and the following components:

- Toner feed screw
- Toner stirrer
- Memory tag

**Figure 1-21** Toner-cartridge system



The toner feed screw rotates, picks up the toner particles, and transports them into the imaging drum. The toner stirrer rotates at the same time as the toner feed screw to keep the toner particles from sticking to each other.

The memory tag is a non-volatile memory chip that stores information about the usage for the toner cartridge.

The DC controller notifies the formatter of an error if any of the following conditions exist:

- The memory tag fails to either read to or write from the DC controller.
- Any of the toner-cartridge presence sensors do not detect the presence of the toner cartridge.
- The toner level in any of the toner cartridges drops below a certain level.
- The toner feed motor is rotating but the rotational-count sensor does not increment the rotation count after a specified length of time. This condition indicates a failure in the toner-feed motor.

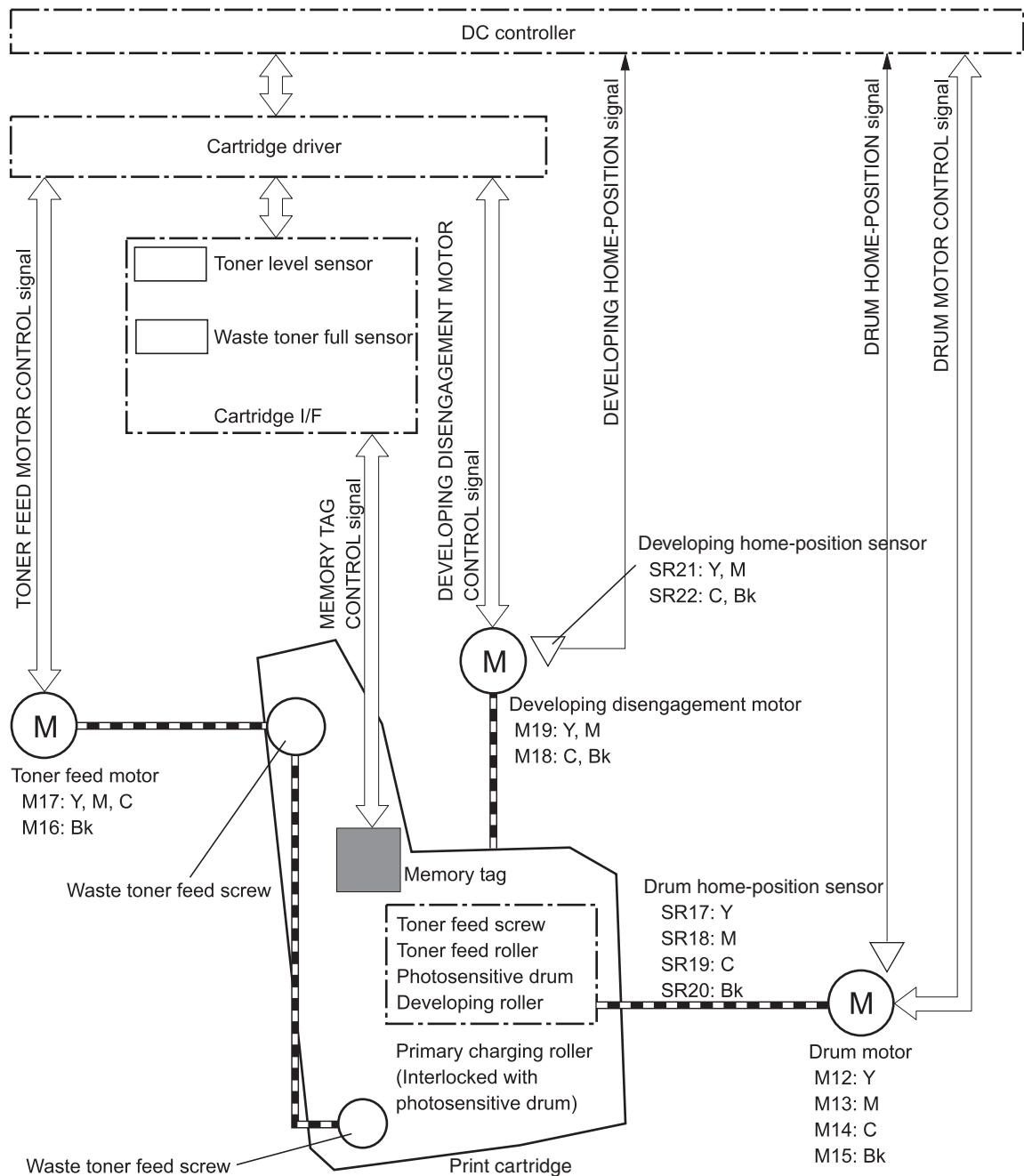
## Imaging drum

The product has four imaging drums, one for each color. Each imaging drum contains the following components:

- Photosensitive drum
- Primary charging roller
- Developing roller
- Toner feed roller

- Toner feed screw
- Waste toner feed screw

Figure 1-22 Imaging-drum system



The drum motor causes the photosensitive drum to rotate. That rotation causes the primary charging roller to rotate. The drum motor also drives the toner feed screw, the toner feed roller, and the developing roller to transfer toner from the toner cartridge onto the imaging drum.

The toner feed motor drives the waste toner feed screw, which removes the waste toner and transports it to the waste toner container.

The memory tag is a non-volatile memory chip that stores information about the usage of the imaging drum.

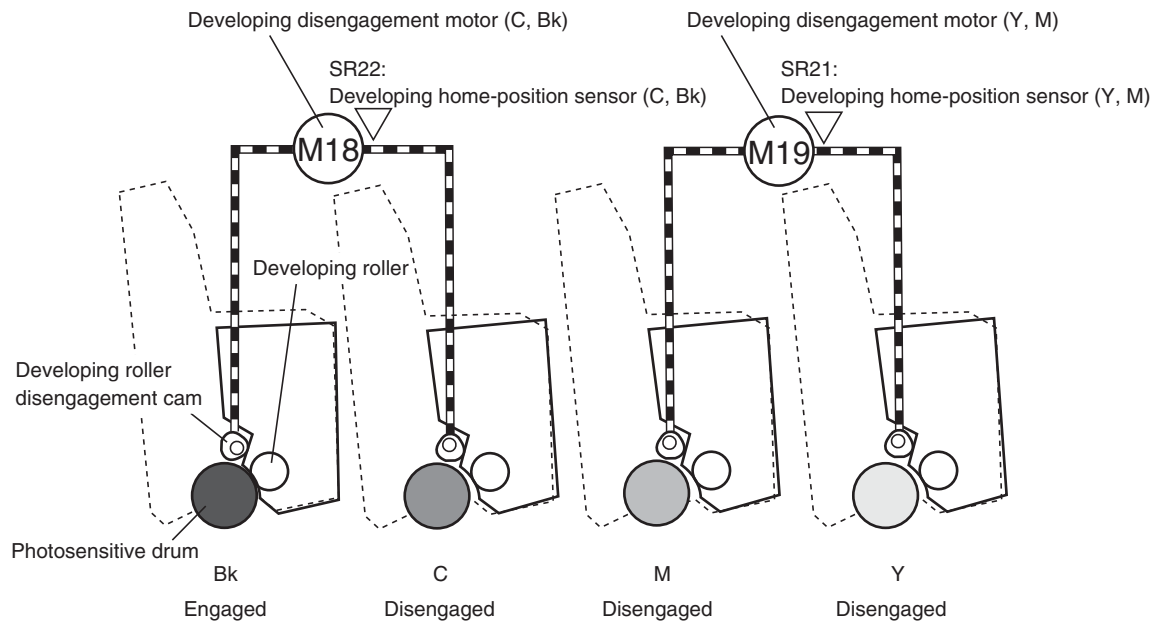
The DC controller notifies the formatter of an error if any of the following conditions exist:

- The memory tag fails to either read to or write from the DC controller.
- The toner level in any of the waste toner containers reaches a certain level.
- Any of the drum-presence sensors do not detect the presence of the imaging drum.
- Any of the imaging drums are installed incorrectly.
- The number of pages printed with the current imaging drum reaches a predetermined level.
- The level of toner in the imaging drum is not at a predetermined level while the toner cartridge is feeding toner to the imaging drum. This indicates a toner feed failure.
- The toner-level sensor detects a level of toner that is outside of a certain range during the print operation. This indicates a toner-level sensor failure.

## Developing roller engagement and disengagement

The product can print in full-color mode or in black-only mode. To print in black only, the developing rollers in the cyan, magenta, and yellow imaging drums are disengaged. This maximizes the life of those three imaging drums.

**Figure 1-23** Developing roller engagement and disengagement control



The DC controller rotates the developing disengagement motor and changes the direction of the cam according to the instructions from the formatter for each print job.

When the product is turned on and at the end of each print job, all four of the developing rollers disengage from the photosensitive drums. If the next print job is full-color, each of the developing rollers engages. If the next print job is black only, only the black developing roller engages.

If the DC controller does not detect any output from the developing home-position sensor, it determines that the developing disengagement motor has failed.



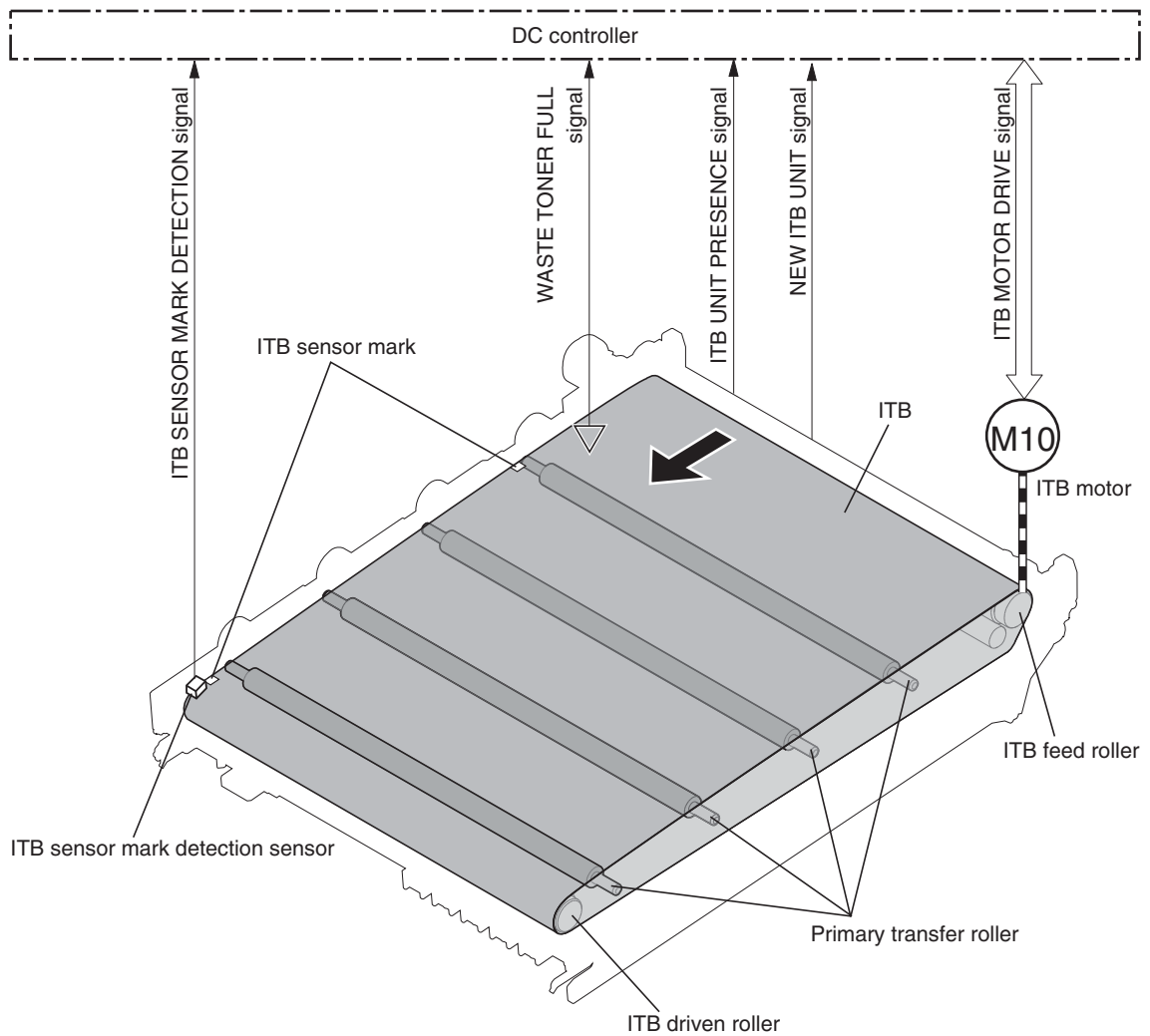
## Intermediate transfer belt (ITB) unit

The ITB unit accepts the toner images from the photosensitive drums and transfers the completed image to the paper. The ITB unit has these main components:

- ITB motor
- ITB feed roller
- ITB-driven roller
- Primary transfer rollers

The ITB motor drives the ITB feed roller, which rotates the ITB. The motion of the ITB causes the primary transfer rollers to rotate.

Figure 1-24 ITB unit



## Primary-transfer roller engagement and disengagement

Depending on the requirements of the print job, the primary transfer rollers engage with the ITB so it can receive toner from the photosensitive drums. There are three states of roller engagement.

**Table 1-15 Primary-transfer roller engagement states**

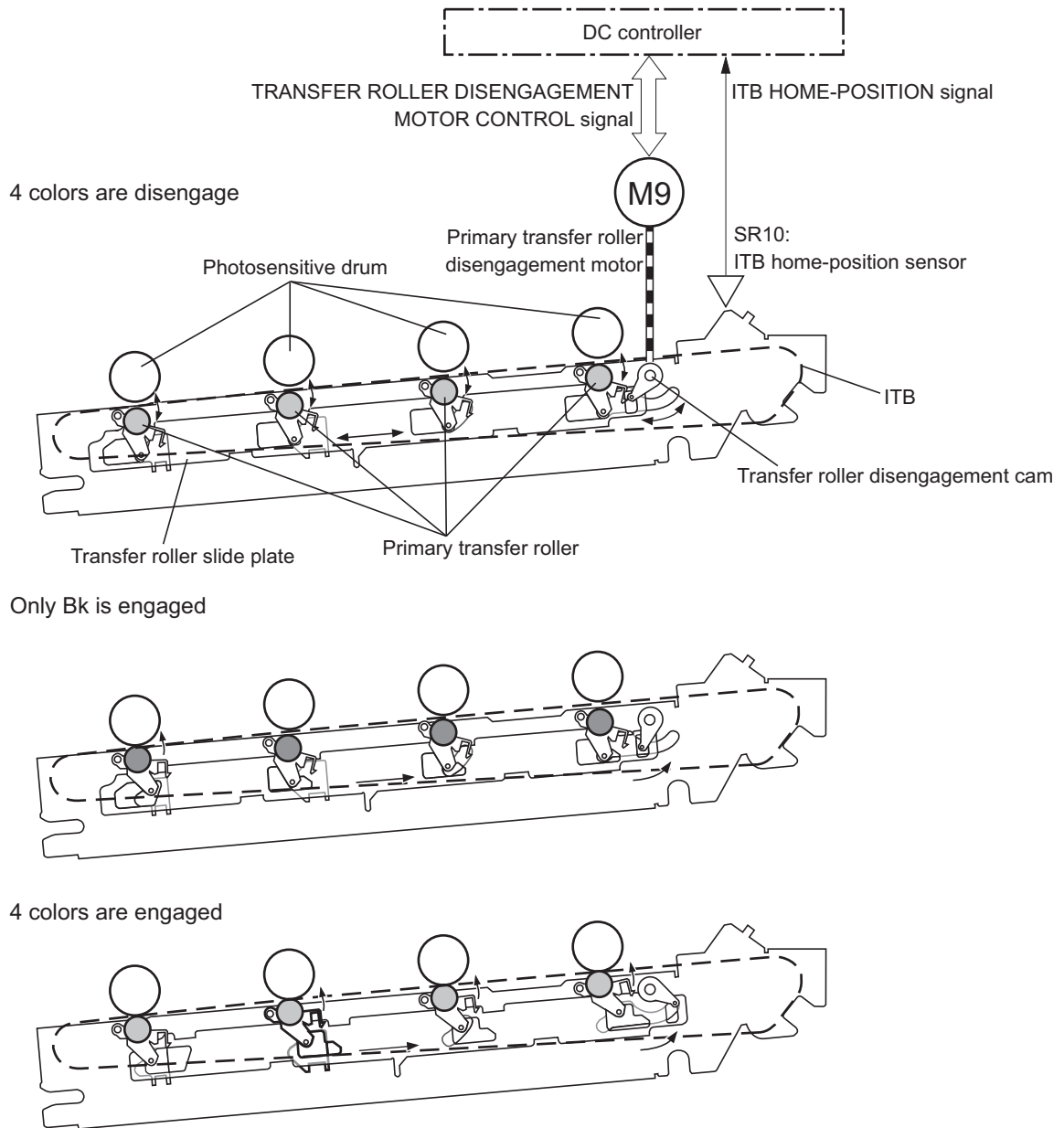
All rollers disengaged	The home position for the ITB unit
Black roller engaged	The state for a black-only print job
All rollers engaged	The state for a full-color print job

The primary-transfer roller disengagement motor rotates or reverses to place the primary-transfer roller disengagement cam into one of three positions. The cam causes the transfer roller slide plate to move to the right or left, which causes the primary transfer rollers to move up to engage the ITB with the photosensitive drum or down to disengage it.

If the DC controller does not receive the expected signal from the ITB home-position sensor during the primary-transfer roller engagement or disengagement operation, but the primary-transfer roller

disengagement motor is rotating, it determines that the primary-transfer disengagement mechanism has failed, and it notifies the formatter.

**Figure 1-25** Three states of primary-transfer roller engagement and disengagement



## ITB unit detection

The DC controller monitors several signals from the ITB unit to detect status.

**Table 1-16** ITB unit detection

ITB unit life detection	When a specified number of pages have been printed since an ITB unit was installed, the DC controller alerts the formatter that the ITB unit is at the end of its life.
ITB unit waste toner full detection	When any of the waste-toner containers collect a specified level of toner, the DC controller alerts the formatter that the imaging drum needs to be replaced.
ITB unit presence detection	The DC controller uses an ITB sensor to make sure that the ITB is correctly installed.
ITB perimeter detection	To make sure that the toner image is placed correctly on each page, the DC controller uses the ITB sensor marks on the surface of the ITB. It adjusts the paper re-pickup timing based on this position.
ITB sensor-mark detection-sensor-failure detection	If the DC controller cannot detect the ITB sensor marks, it determines that the ITB sensor-mark detection-sensor has failed, and it notifies the formatter.

## Secondary-transfer roller unit

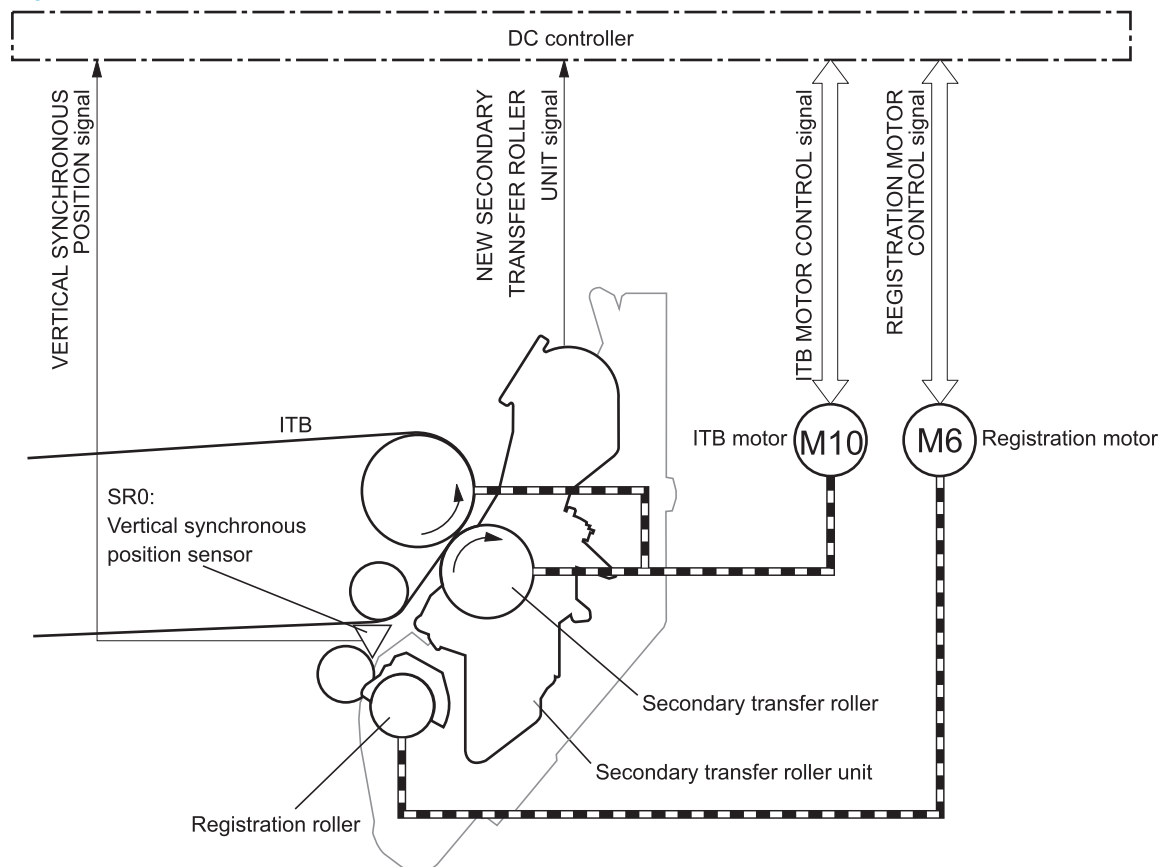
The secondary-transfer roller unit transfers the toner image from the ITB surface onto the paper. The ITB motor drives the secondary transfer roller, and the registration motor drives the registration roller.

To ensure that the toner image is placed correctly on each page, the DC controller stops the registration motor when the leading edge of the paper passes the vertical synchronous position sensor. It holds the paper in this position until the ITB is in the correct position, according to the ITB perimeter detection, to align the toner image with the paper.

The DC bias is applied to the secondary transfer roller when the product is turned on, when it is coming out of Sleep mode, or after a door has been closed. If no current is detected, the DC controller determines that the secondary-transfer roller unit is not present, and it notifies the formatter.

The DC controller can detect when a new secondary-transfer roller unit has been installed. After a specified number of pages have been printed since a new secondary-transfer roller unit has been installed, the DC controller notifies the formatter that the secondary-transfer roller unit is reaching the end of its life.

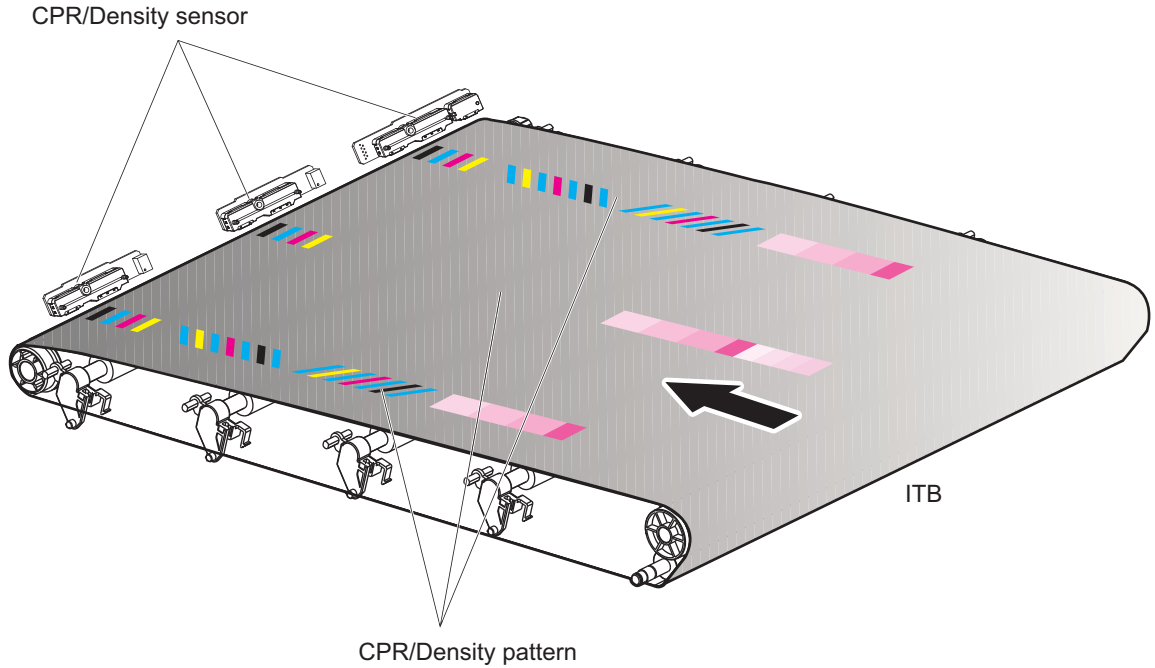
Figure 1-26 Secondary-transfer roller unit



## Calibration

The product calibrates itself to maintain proper print quality. The calibration corrects color-misregistration and color-density variation due to environmental changes or internal variations in the product. The CPR/Density sensor is added in the center of horizontal scanning direction for more precise correction.

**Figure 1-27** Calibration mechanism



The product has the following calibration functions.

**Table 1-17** Calibration functions

Function	Supported feature
CPR correction control	Yes
Environment correction control	Yes
Image density control (DMAX)	Yes
Image halftone control (DHALF)	Yes
Density uniformity with a page adjustment	Yes
Gray axis control (GAS)	No
Color measurement on paper (M855 only)	Yes

## Calibration overview

The product calibration feature supports the following major components or sub systems:

- No swipe calibration sensor system—there are no covers or brushes on the calibration sensors.  
The no swipe calibration sensor system prevents the build up of static electricity that can cause toner contamination of the sensors, which causes unreliable calibrations.
- The product uses three density sensors aligned across the width of the paper path.  
The three density sensors are required to support the product density uniform adjustment function. These sensors read the three sets of CPR/density patterns on the ITB.
- The product supports a self initiated page image density uniformity adjustment function.  
This function makes sure that the density across the page is consistent. This automatic firmware function monitors the results of the calibrations. If the density of the same level varies across the page, an adjustment is made to the laser as it sweeps across the page. The calibration CPR/density pattern is then adjusted to reflect the adjusted calibration.
- The product supports an enhanced CPR/density pattern and single execution for image halftone control (DHALF) and color plane registration (CPR) using consecutive execution.  
The enhanced CPR/density pattern combines the CPR and DHALF patches into a single calibration pattern that is used for a DHALF/CPR combined calibration and for CPR calibration.
- The product supports a CPR prediction algorithm that was added to supplement the thermal adjust algorithm.  
This item allows the product to adjust CPR without executing a calibration sequence.
- The product supports correlated error diffusion (CED) calibrations.  
This item reduces calibration time and frequency.
- The product supports the [Restore Calibration](#) control panel menu item.  
Selecting the [Restore Calibration](#) item from the control-panel menus restores factory set calibration settings and deletes only the stored calibration values from the product memory. In contrast, selecting the [Restore Factory Defaults](#) item from the control-panel menus deletes all of the stored values from the product memory.  
HP recommends using the [Restore Calibration](#) item from the control-panel menus if the product is experiencing calibration related problems.
- The product supports an on media calibration sequence.  
This feature allows the customer to execute a calibration for a specific media to make sure that the best calibration performance is achieved for a specific media type.

## Color-misregistration control

Internal variations in the imaging drums or the laser/scanners can cause the toner images to become misaligned. The color misregistration control corrects the following problems:

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

This calibration occurs at these times:

- The product is turned on, or the front door is closed, after replacing an imaging drum.
- The product is turned on, or the right door is closed, after replacing the ITB.
- A specified number of pages have been printed.
- The temperature in the laser/scanner unit area changes, which is a predictor of color misregistration.
- The user requests a calibration by using the control panel menus.

If data from the color misregistration and image-density sensors is outside a specified range when the product is turned on or when it is beginning the calibration sequence, the DC controller determines that these sensors have failed, and it notifies the formatter.

## Image stabilization control

Environmental changes or deterioration of the photosensitive drums and toner can cause variations in the image density. The image stabilization control reduces these fluctuations. There are three kinds of image stabilization controls.

**Table 1-18 Image stabilization controls**

Environment change control	<p>The DC controller monitors environmental information from internal and external temperature and humidity sensors. It adjusts the high-voltage bias to accommodate environmental changes. This control is performed under the following circumstances:</p> <ul style="list-style-type: none"><li>• The product is turned on.</li><li>• The imaging drum is replaced.</li><li>• A change in environmental conditions occurs.</li></ul>
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**Table 1-18 Image stabilization controls (continued)**

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Image density control (DMAX)	<p>This control corrects variations in image density that are related to deterioration of the photosensitive drum or the toner. The DC controller adjusts the high-voltage biases to correct the problem under the following conditions:</p> <ul style="list-style-type: none"><li>• The thermistor detects a temperature that is too low when the product is turned on.</li><li>• The product is turned on, or the front door is closed, after replacing an imaging drum.</li><li>• The product is turned on, or the right door is closed, after replacing the ITB.</li><li>• A specified number of pages have been printed.</li></ul>
Image halftone control (DHALF)	<p>The formatter performs this control to calibrate the halftone, based on the halftone-density measurements, under the following conditions:</p> <ul style="list-style-type: none"><li>• The thermistor detects a temperature that is too low when the product is turned on.</li><li>• The product is turned on, or the front door is closed, after replacing an imaging drum.</li><li>• The product is turned on, or the right door is closed, after replacing the ITB.</li><li>• A specified number of pages have been printed.</li></ul>

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## Color sensor and color-sensor control (M855 only)

The image halftone control measures the color halftones of the toner image on the ITB. However, this control cannot adjust halftone variations that occur because of differences in types of paper. To accommodate differences in paper, the product has a color sensor and a color-sensor-control mechanism, which is located in the duplex paper path. The product adjusts the color halftones based on measurements from a test pattern that is printed on a page and passed through the duplexer after fusing.

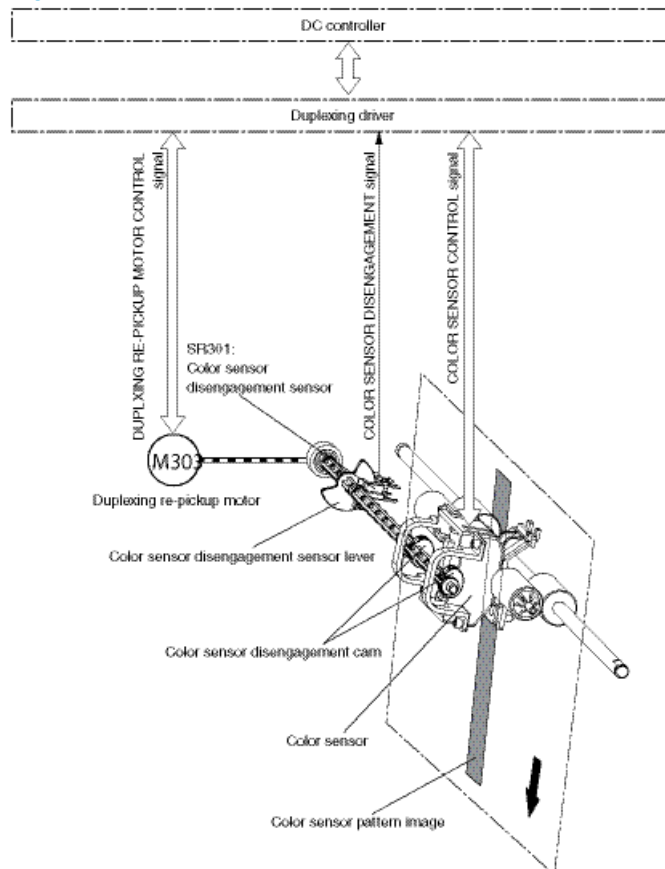
The color sensor is a spectrophotometer that is installed in the duplex paper path. The sensor measures the toner's spectral response to white light illumination, which allows the color density of the fused toner to be calculated using the media that is being printed on.

This is the best measurement of color and tone reproduction since the toner has been fused and is measured on the paper.

The color sensor engages or disengages based on the position of the color-sensor disengagement cam, which is driven by reversing the duplexing re-pickup motor.

If the DC controller receives no signal from the color-sensor disengagement sensor during a color sensor control operation, it determines that the duplexing paper feed mechanism has failed.

**Figure 1-28** Color-sensor control

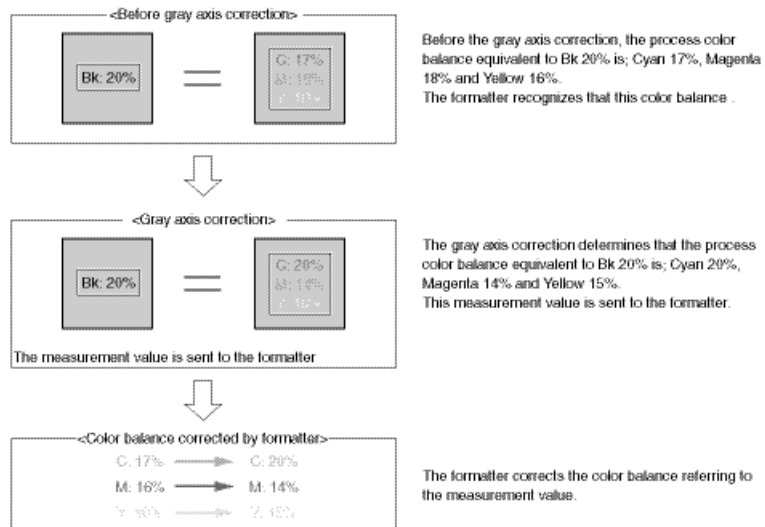


## Gray-axis correction

The gray axis correction adjusts for differences in the process-gray color that is designated by the formatter. The formatter adjusts the color balance for cyan, magenta, and yellow based on measurements from this control.

**Figure 1-29** Gray-axis correction

Flow of gray axis correction



# Scanning/image capture system



**NOTE:** The information in this section applies only to the HP LaserJet Enterprise flow MFP M880 product.

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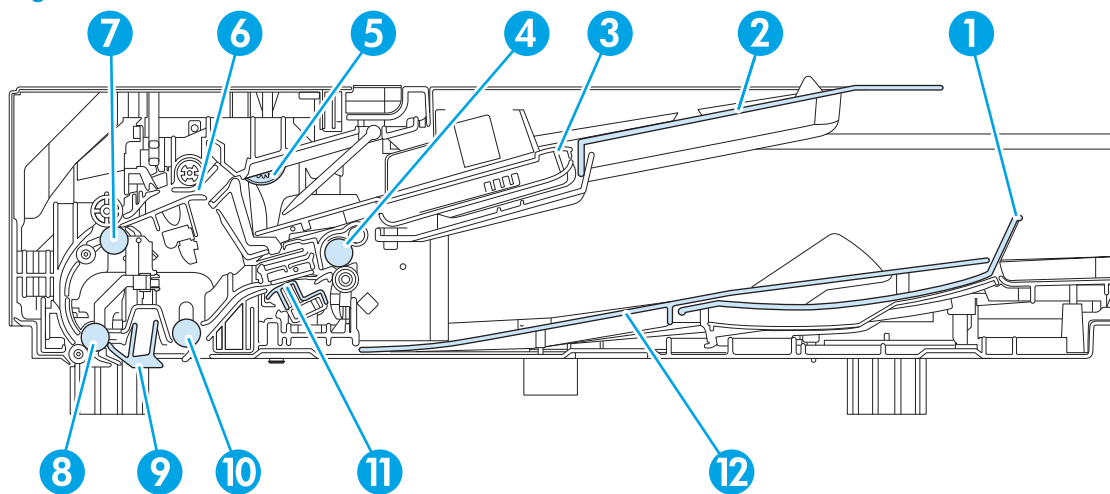
## Scanner

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 paper and a switch to indicate when the document feeder is open.

The document feeder 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

Figure 1-30 Document feeder cross section

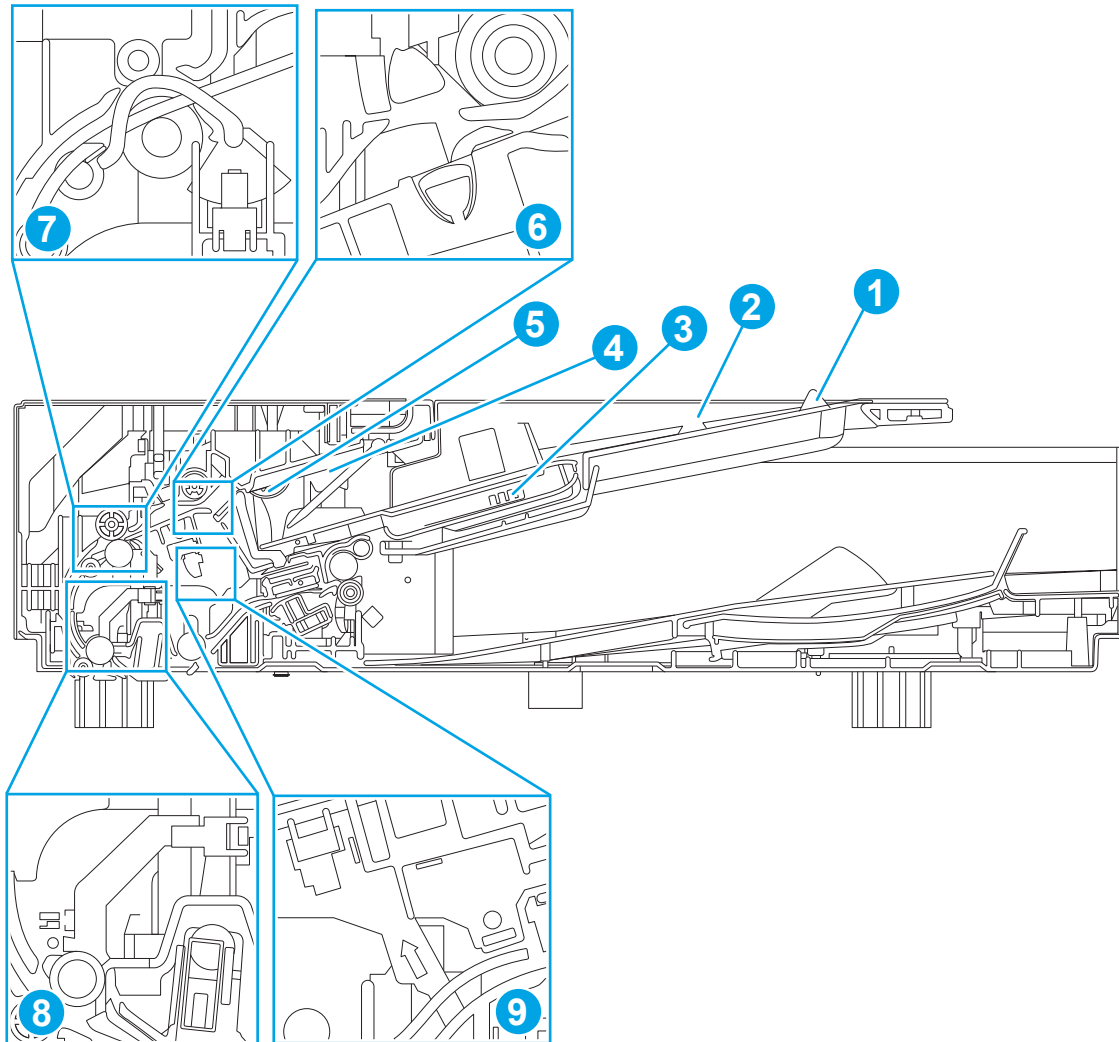


Item number	Component name
1	Paper stopper
2	Input tray
3	Lift plate
4	Exit-drive roller
5	Pick roller
6	Separation roller
7	Deskew-drive roller
8	Pre-scan drive roller
9	Simplex selector
10	Post-scan drive roller
11	Duplex selector (background selector)
12	Output tray

## Document feeder sensors

The document feeder contains the following sensors:

**Figure 1-31** Document feeder sensor positions



**Table 1-19** Document feeder sensors

Item number	Component name	Description
1	Sensor, legal	Detects whether there is a legal-size original.
2	Sensor, portrait/landscape	Detects whether there is a portrait-size or landscape-size original.
3	Sensor, media width	Detects the media stack width (one sheet or multiple sheets). Used in combination with other sensors to determine media size and orientation.
4	Sensor, stack height	Detects the media stack height (one sheet or multiple sheets).

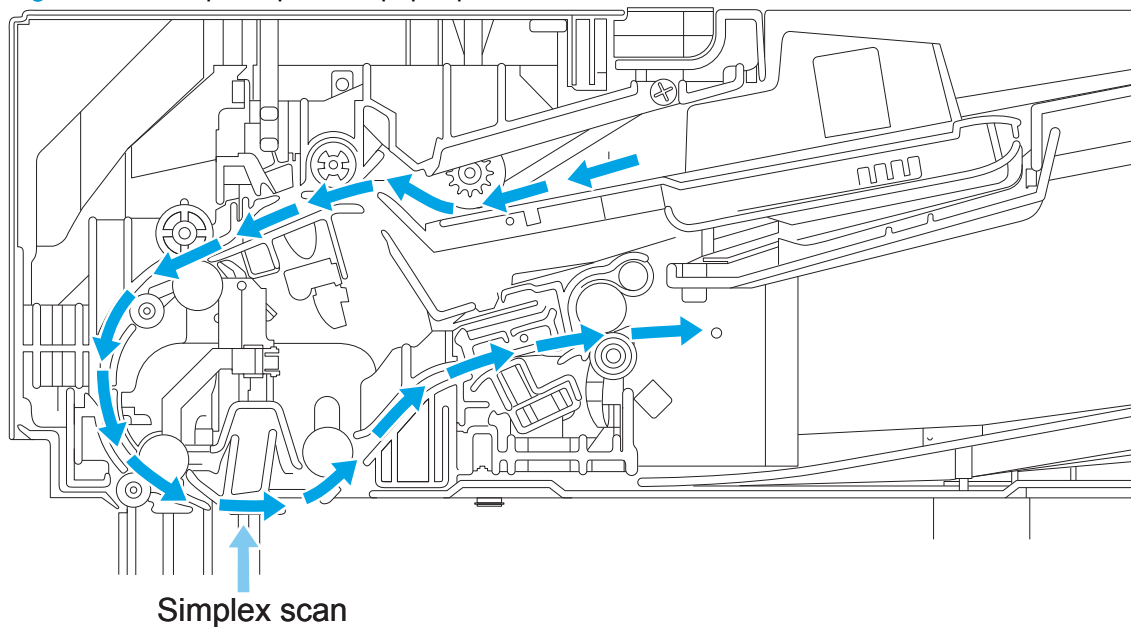
**Table 1-19 Document feeder sensors (continued)**

Item number	Component name	Description
5	Sensor, paper presence	Detects whether a document is present in the document feeder. If paper is present in the document feeder when copies are made, the product scans the document using the document feeder. If no paper is present when copies are made, the product scans the document using the scanner glass.
6	Sensor, ultrasonic	Uses ultrasonic sound to detect a multi-page paper feed. <b>NOTE:</b> This sensor also functions as the pick success sensor, and is the sensor that supports HP EveryPage.
7	Sensor, deskew	Detects the top of the page as it approaches the deskew rollers so the page can be deskewed.
8	Sensor, prescan1	Detects the top of the page as it approaches the front side scan module (in the scanner base) to tell the system when to start scanning.
9	Sensor, prescan2	Detects the top of the page as it approaches the e-duplex scan module so the system will start scanning.

## Document feeder simplex operation

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

**Figure 1-32** Simplex operation paper path



1. The *paper presence sensor* is activated when paper is loaded in the input tray.
2. The *lift motor* rotates to raise the lift plate until the maximum height is reached or the *stack height sensor* is triggered.
3. The *pick motor* rotates to lower the pick roller and start picking the loaded paper.

4. The *ultrasonic sensor* detects if more than one page passes the *separation roller*. If there is a multipick, the document feeder stops, and an error message appears on the control panel display.



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**NOTE:** This function can be enabled or disabled by using the [Copy Settings](#) or [Scan Settings](#) control-panel menus for print jobs that are a single sheet, but might be detected as two sheets (for example, a page with a sticky note on it).

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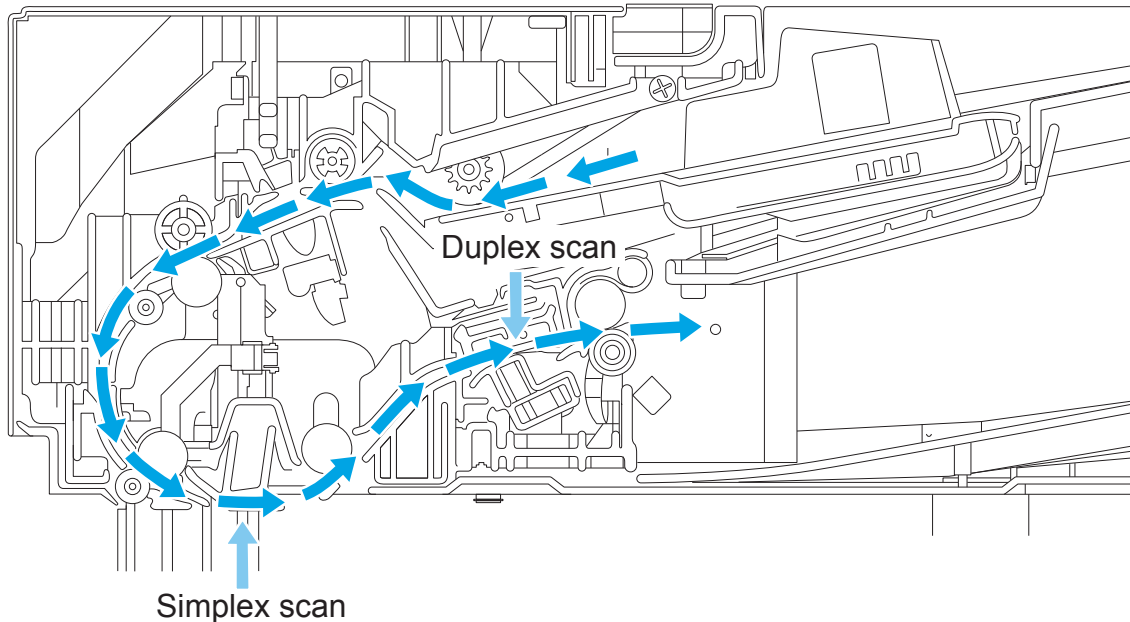
5. The *deskew sensor* is activated when leading edge of paper is driven past it. The firmware registers the leading edge of paper position.
6. The leading edge of paper continues to be driven into the pinch point of the *deskew drive roller* and the *deskew pinch rollers*. The paper is driven a preset distance past this point to create a buckle of paper allowing for skew correction.
7. The *deskew motor* rotates to drive the *deskew drive roller* which pulls paper toward the *prescan drive roller*.
8. The *pick motor* stops turning and allows both the *pick and separator rollers* to spin freely while paper is being pulled in by the *deskew drive roller*.
9. The *feed motor* rotates to drive paper into the *prescan1 sensor*. The firmware registers the paper leading edge position as the *prescan1 sensor* is triggered.
10. The *feed motor* continues to rotate to drive the paper leading edge a calibrated distance from *prescan1 sensor* to the simplex scan area. The simplex scanner begins capturing scan data.
11. If the *ultrasonic sensor* detects the trailing edge of the page and *paper presence sensor* is still activated, more than one page was loaded in the input tray, and the next page is fed starting with step 3. This is repeated for all pages loaded in the document feeder input tray.
12. The *prescan1 sensor* is deactivated when trailing edge of paper passes it. The firmware registers this position as the trailing edge of the paper.
13. The *feed motor* continues to rotate to drive the paper trailing edge through the preset distance from *prescan1 sensor* to the scan area. The *simplex scanner* stops capturing scan data.
14. The *feed motor* continues to rotate until the *input tray* is empty and all pages have been fed through the document feeder.
15. The *lift motor* rotates to lower the lift plate to the home position, and the document feeder is in a ready state for the next scan operation.



## Document feeder duplex operation

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

Figure 1-33 Duplex operation paper path



1. The *paper presence sensor* is activated when paper is loaded onto the input tray.
2. The *lift motor* rotates to raise the lift plate until the maximum height is reached or the *stack height sensor* is triggered.
3. The *pick motor* rotates to lower the pick roller and start picking the loaded paper.
4. The *ultrasonic sensor* detects if more than one page passes the *separation roller*. If there is a multipick, the document feeder stops and an error message appears on the control panel display.



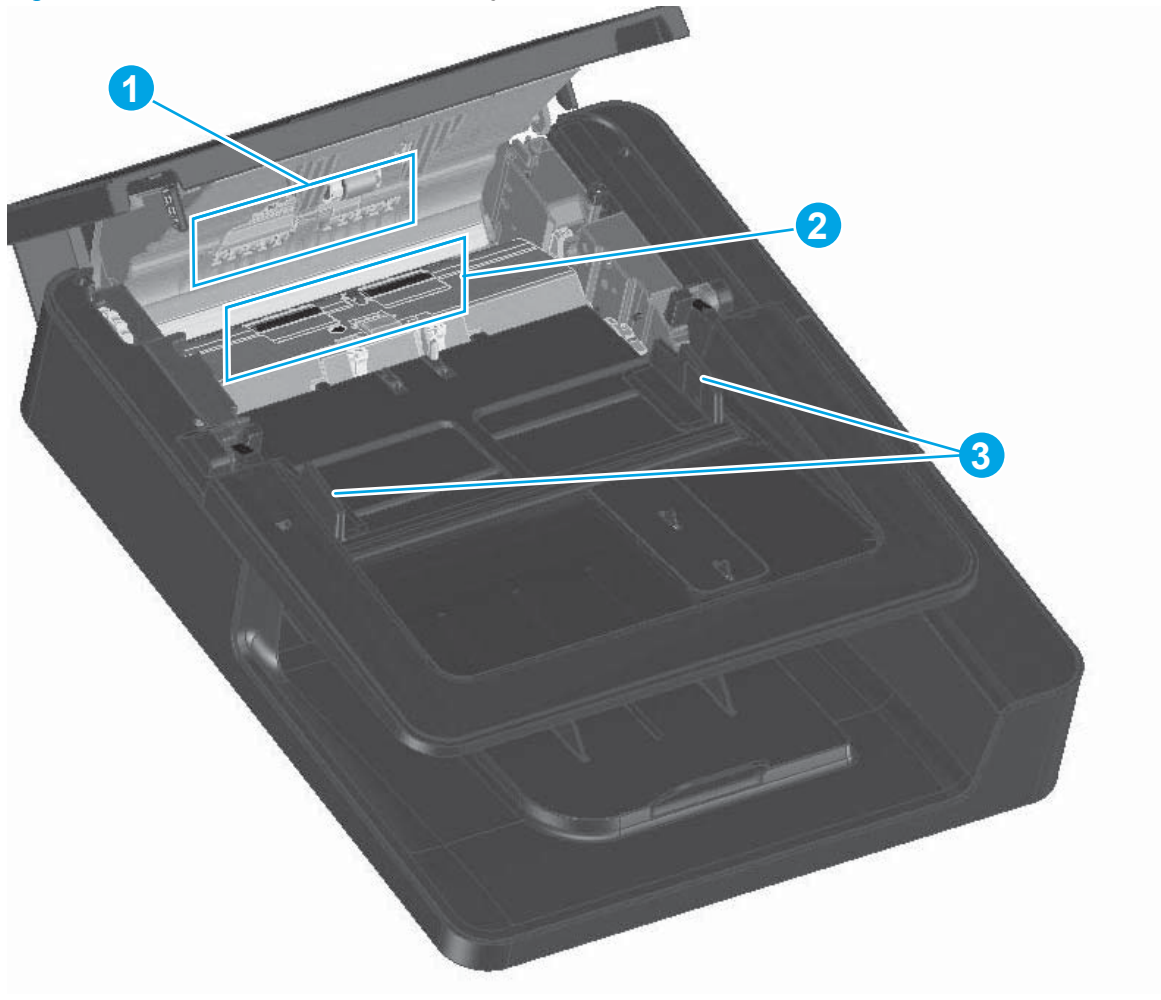
**NOTE:** This function can be enabled or disabled by using the [Copy Settings](#) or [Scan Settings](#) control-panel menus for print jobs that are a single sheet, but might be detected as two sheets (for example, a page with a sticky not on it).

5. The *deskew sensor* is activated when the leading edge of the paper is driven past it. The firmware registers the leading edge of the paper position.
6. The leading edge of the paper is continued to be driven into the pinch point of the *deskew drive roller* and the *deskew pinch rollers*. The paper is driven a preset distance past this point to create a buckle of paper allowing for skew correction.
7. The *deskew motor* rotates to drive the *deskew drive roller*, which pulls the paper toward the *prescan drive roller*.
8. The *pick motor* stops turning and allows both the *pick roller* and the *separator roller* to free-spin while paper is being pulled in by the *deskew drive roller*.
9. The *feed motor* rotates to drive the paper into the *prescan1 sensor*. The firmware registers the paper leading edge position as the *prescan1 sensor* is triggered.
10. The *feed motor* continues to rotate to drive the paper leading edge a calibrated distance from *prescan1 sensor* to the simplex scan area. The simplex scanner begins capturing scan data.

11. The *feed motor* continues to drive the paper until the *prescan2 sensor* is triggered by the paper leading edge. The firmware registers the paper leading edge position as the *prescan2 sensor* is triggered.
12. The *feed motor* continues to drive the paper leading edge through the calibrated distance from *prescan2 sensor* to the duplex scan area. The *duplex scanner* begins capturing scan data.
13. If the *ultrasonic sensor* detects the trailing edge of the page and the *paper presence sensor* is still activated, more than one page was loaded, and the next page is fed (once the firmware has the memory available to store the scan data). This is repeated for all pages that are loaded in the document feeder.
14. The *prescan1 sensor* is deactivated when the trailing edge of the paper passes it. The firmware registers this position as the trailing edge of the paper.
15. The *feed motor* continues to rotate to drive the paper trailing edge through the preset distance from the *prescan1 sensor* to the scan area. The simplex scanner stops capturing scan data.
16. The *prescan2 sensor* is deactivated when the trailing edge of the paper passes it. The firmware registers this position as the trailing edge of the paper.
17. The *feed motor* continues to rotate to drive the paper trailing edge through the preset distance from the *prescan2 sensor* to the scan area. The *duplex scanner* stops capturing scan data.
18. The *feed motor* continues to rotate until the *input tray* is empty and all pages have been fed through.
19. The *lift motor* rotates to lower the lift plate to the home position and the document feeder is in a ready state for the next scan operation.

## Document feeder paper control and deskew

Figure 1-34 Deskew rollers and width adjust

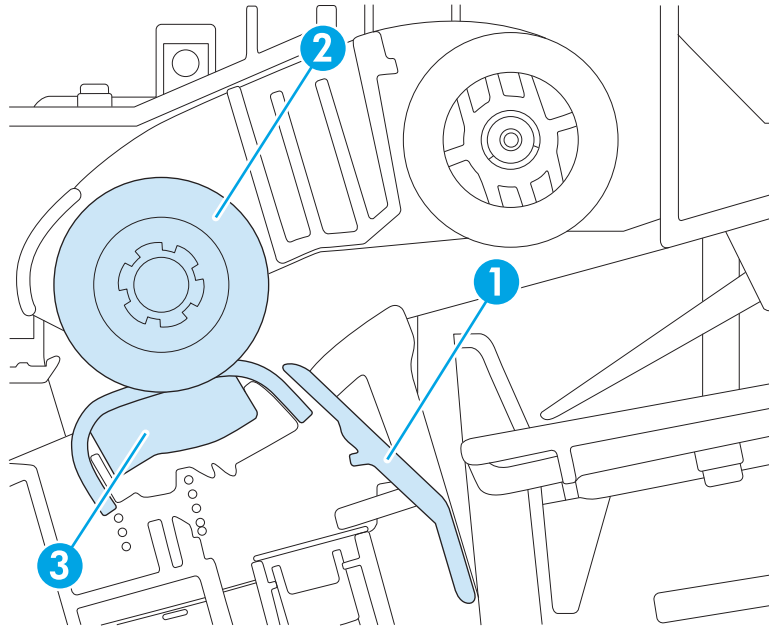


Item number	Component name
1	Deskew Pinch Rollers
2	Deskew Rollers
3	Width Adjust

- Adjustable width adjust guides are provided on the input tray to ensure that the paper is stacked together neatly at the center of the input tray. It also ensures the paper is located parallel with the direction of travel into the document feeder paper path.
- To further minimize skew due to improper loading of paper in the input tray, a deskew function is performed by buckling the paper to remove any skew between the paper and the document feeder.
- The leading edge of the paper lines up parallel with the deskew drive rollers in preparation to be driven into the remaining paper path of the document feeder.

## Document feeder paper pick and separation

Figure 1-35 Separation angled ramp, separation roller, and separation pad

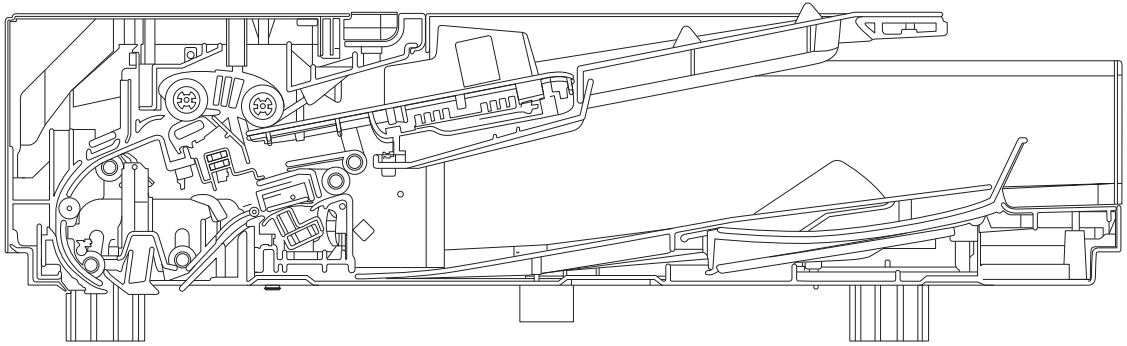


Item number	Description
1	Angled ramp
2	Separation roller
3	Separation pad

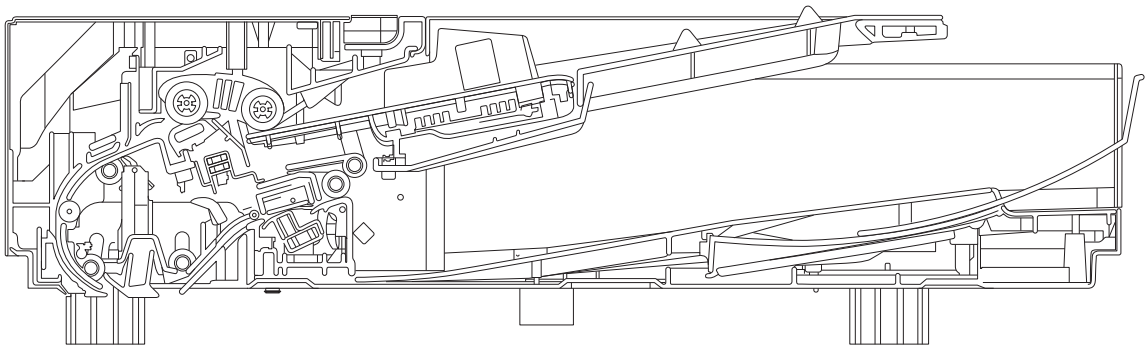
- The top sheet of paper is picked by the pick roller.
- The angled ramp (callout 1) profile functions as a barrier to prevent the remaining lower sheets from being picked with the top sheet.
- If more than one sheet of paper is being picked, the separation roller (callout 2) and separation pad (callout 3) stop the lower sheet of paper, which allows only the single top sheet to be pulled into the document feeder.
- The ultrasonic sensor, located behind the separator pad, ensures that the document feeder stops if more than one page is picked (HP Every page technology).
- The separation roller and separation pad are customer replaceable and have an expected life of 100,000 pages.

## Document feeder paper stopper and fins

Figure 1-36 Paper stopper



Paper stopper A4/legal



Paper stopper A3/legal

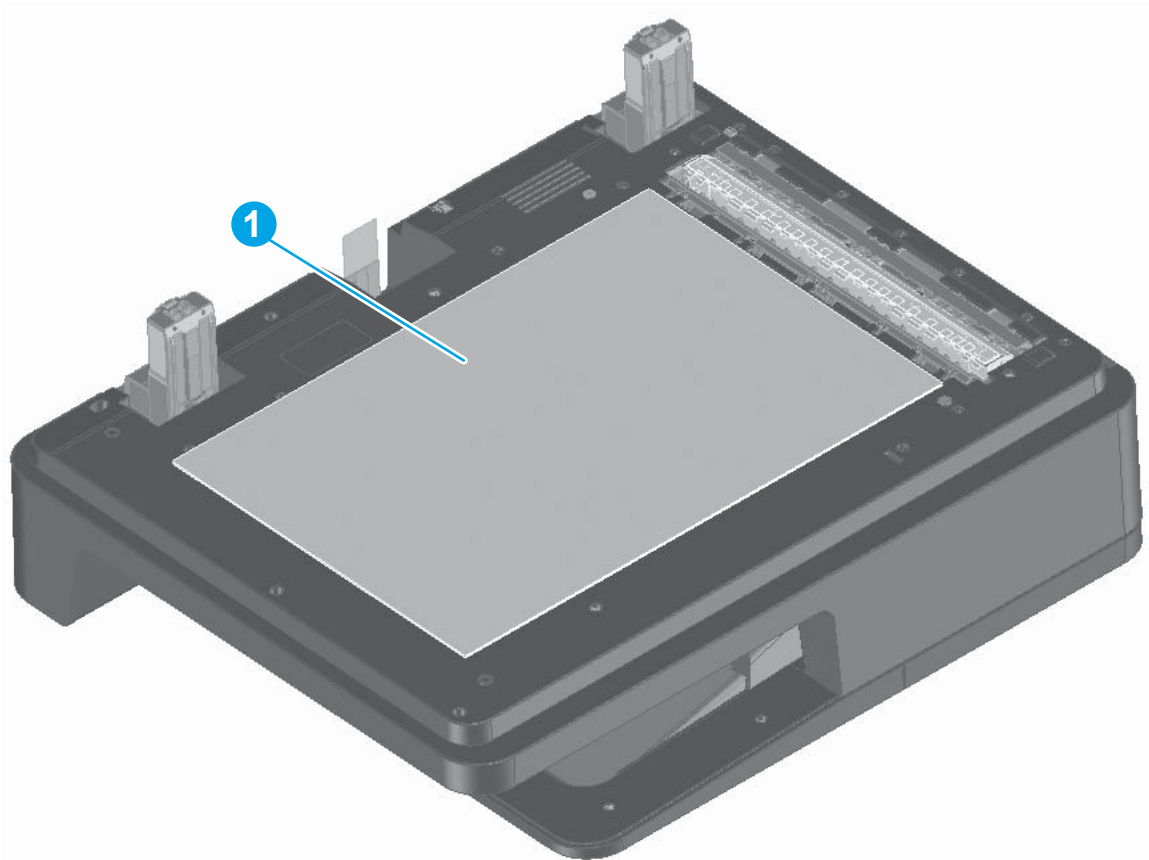
- The paper stopper on the output bin is adjustable to receive A4 short edge/legal and A3/Ledger paper.
- An audible click sound can be heard when the paper stopper is pulled out and locked in position.
- A spring automatically retracts the paper stopper when the user pushes in to close it.
- A pair of guides function to neatly stack A4 and letter size media, and then collapse when a longer sized paper is used.

## Document feeder simplex selector

- The simplex selector serves as a white or black background during the scanning process. The black background is used when certain automatic cropping and edge detection modes are enabled on the device.
- Switching between white and black mode is caused by rotating the deskew motor in reverse which actuates a cam and lever that toggle the selector.
- The simplex selector can sufficiently move (relative to the document feeder) to ensure consistent and stable contact with the document feeder-specific window of the simplex scanner.

## Document feeder white backing

Figure 1-37 White backing and simplex selector

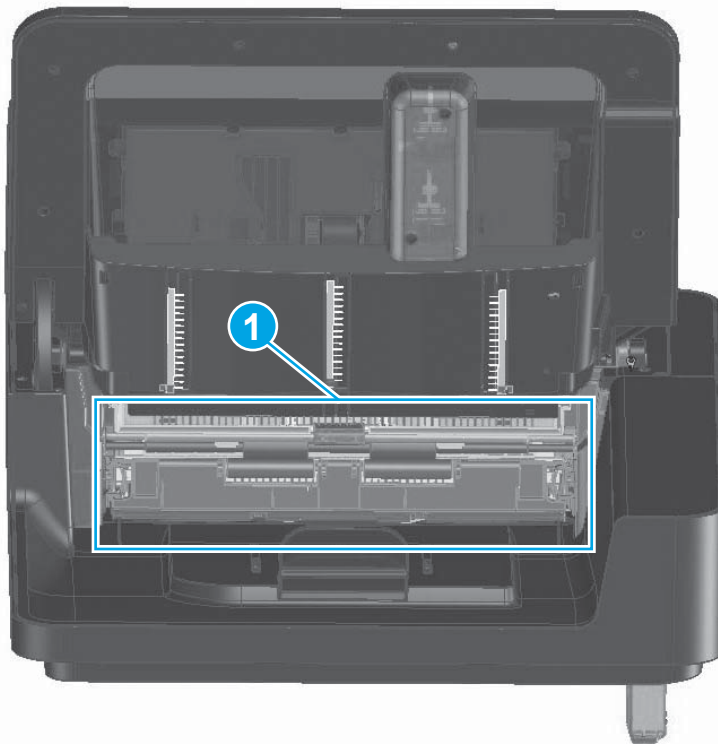


Item number	Description
1	White backing

- The white backing (mounted to the document feeder; callout 1) ensures that any paper placed on the flatbed scanner conforms to the glass, resulting in a uniform scan. The white color also enables scanning of transparent paper on the flatbed scanner window.
- The optical properties (color and reflectance) are sufficient to achieve the required image quality attributes on both transparent and non-transparent paper.
- The material used is UV-stabilized so its color will not change over time after being exposed to the light source from the scanner. Also, the light source on the scanner uses LED's and does not emit any UV light that might yellow the backing material.

## Document feeder duplex selector

Figure 1-38 Duplex selector



Item number	Description
1	Duplex selector

- The duplex selector is used as a white and black background for duplex scans. It also provides a white surface for duplex scanner calibration when the device is powered on.
- Switching between white, black, and calibration mode is done by rotating the deskew motor in reverse, which actuates a cam and lever that toggle the selector.
- The duplex selector is biased toward the duplex scanner to keep the media conformed to the duplex scanner glass.
- The duplex selector is removable so that the surfaces of the selector and the scanner can be cleaned if scans start to have lines in them.

To remove the selector, open the cover hatch, raise the input tray, push on the green latches, and then pull duplex selector out of the document feeder.



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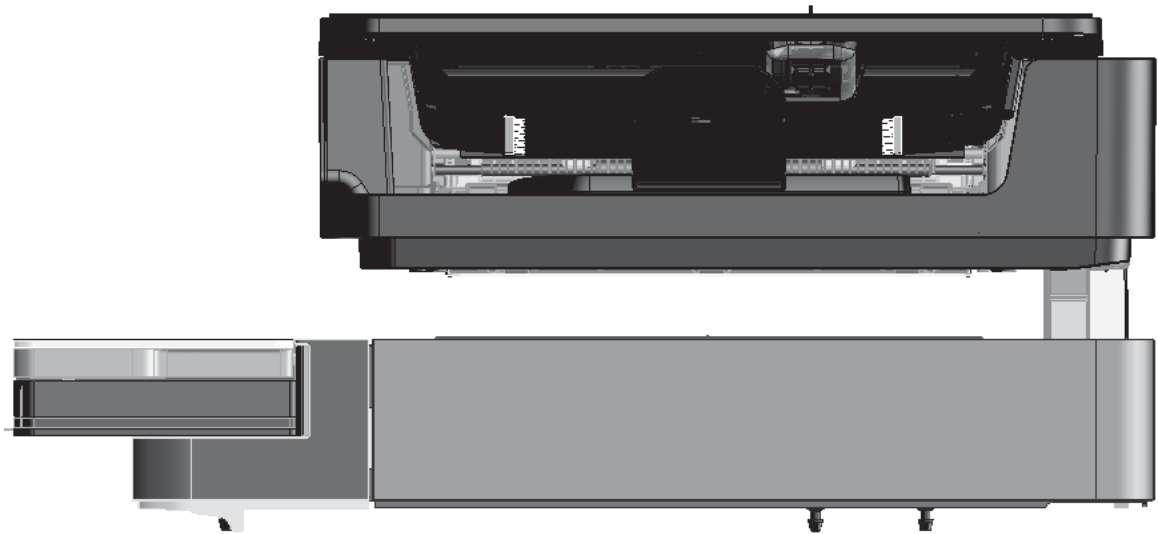
**TIP:** Remove the duplex selector to gain access to jammed paper.

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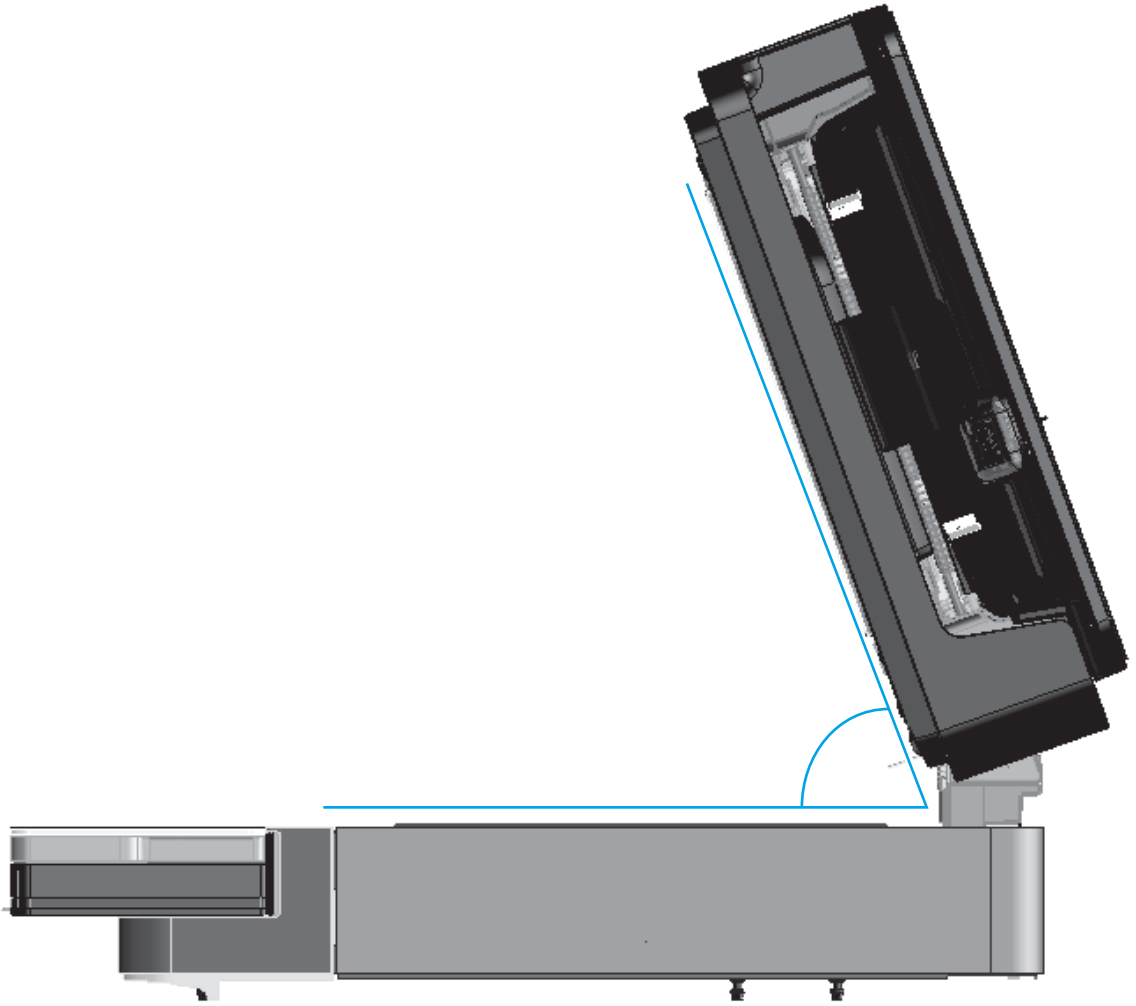
## Document feeder hinge

Figure 1-39 Document feeder closed (book mode)



- The hinges of the document feeder allow the document feeder to move vertically and accommodate the placement of books and other objects up to 40 mm (1.57 in) in height onto the flatbed scanner window, while still being able to close on top of the book or object (with the bottom of the document feeder mostly parallel to the flatbed scanner window).
- The document feeder hinge provides a height adjustment of at least 40 mm (1.57 in) when a maximum downward force of 5 kg (11 lb) is applied at front edge of the document feeder, with the fulcrum (such as the spine of a book) centered in the scan window and perpendicular to its long axis.
- The document feeder can withstand a downward force of at least 15 kg (33 lb) applied at the front edge center of the document feeder, and the fulcrum (such as the spine of a book) oriented parallel to the long axis of the scan window but located anywhere within the scan window, without breaking, deforming, detaching, or experiencing performance degradation.
- The document feeder hinge supports the document feeder in the open position and will prevent the document feeder from damage by being slammed.
- The hinge will hold the document feeder static in all positions higher than 125 mm (4.92 in) (as measured at the front of the document feeder). The force required to open or close the document feeder is less than 2.27 kg (5 lb).
- The hinge allows the document feeder to open to an angle of 70° from the horizontal.

Figure 1-40 Document feeder open (maximum opening 70°)



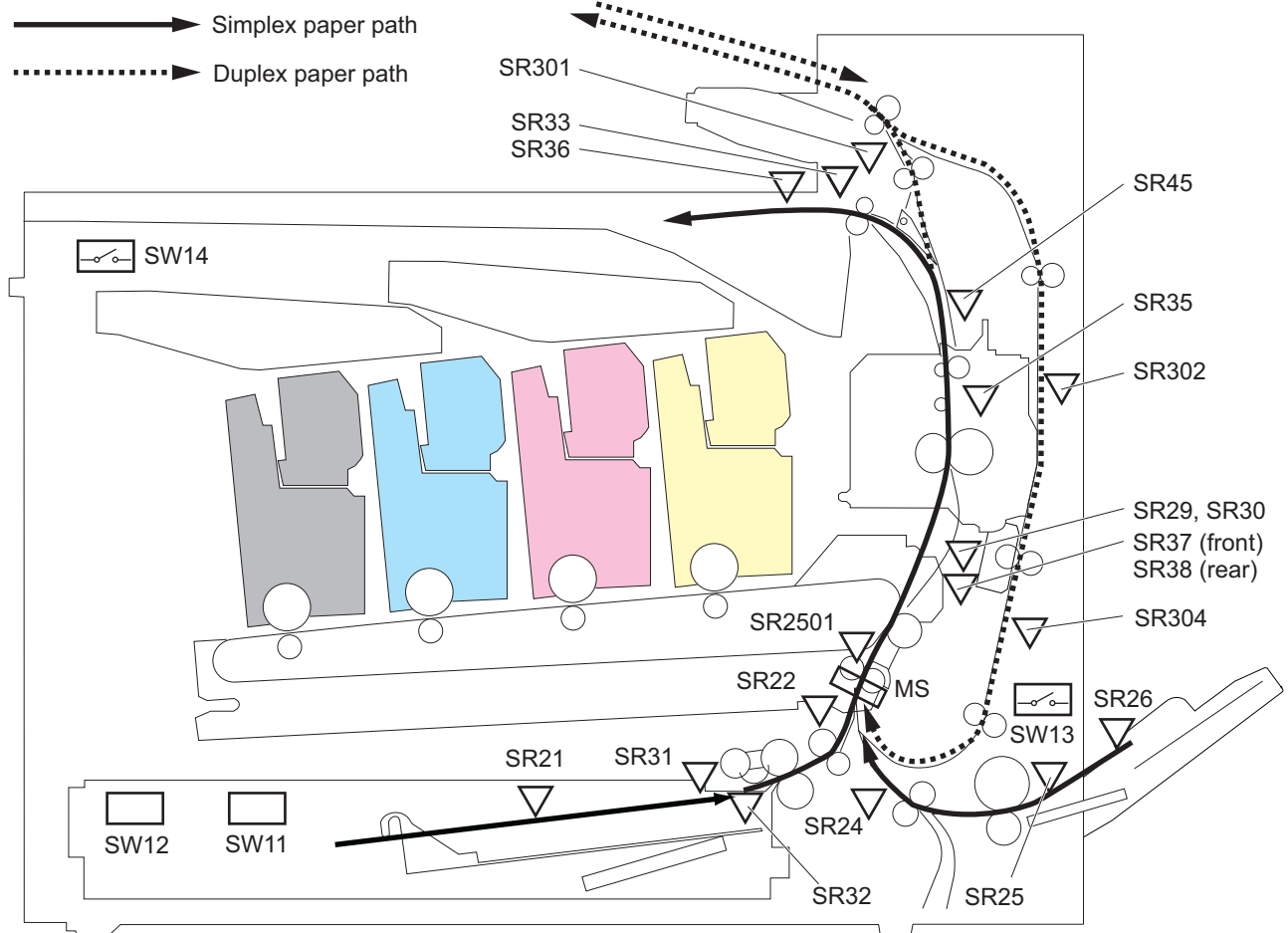
# Pickup, feed, and delivery system

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

## Photo sensors and switches

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

**Figure 1-41** Photo sensors and switches electrical components



**Table 1-20** Photo sensors and switches

Abbreviation	Component name	Replacement assembly
SW11	Tray 2 paper size switch	Lifter drive assembly RM1-3222-000CN
SW12	Tray 2 trailing edge switch	Lifter drive assembly RM1-3222-000CN
SW13	Right door open/close switch	Door open switch assembly RM2-7035-000CN

**Table 1-20 Photo sensors and switches (continued)**

<b>Abbreviation</b>	<b>Component name</b>	<b>Replacement assembly</b>
SW14	Front door open/close switch	Door open switch assembly RM2-7035-000CN
SR21	Tray 2 media-level sensor	Lifter drive assembly RM1-3222-000CN
SR22	Tray 2 feed sensor	Cassette paper pick up assembly RM1-9599-000CN
SR24	Tray 1 feed sensor	MP (Tray 1) media feed sensor RM1-9615-000CN
SR25	Tray 1 paper sensor	MP (Tray 1) paper pick up assembly RM1-9644-000CN
SR26	Tray 1 last-media sensor	MP (Tray 1) assembly RM1-9642-000CN
SR29	Fuser loop 1 sensor	RM-9621-000CN Registration secondary transfer assembly
SR30	Fuser loop 2 sensor	RM-9621-000CN Registration secondary transfer assembly
SR31	Tray 2 paper sensor	RM1-9599-000CN Cassette paper pickup assembly
SR32	Tray 2 paper surface sensor	RM1-9599-000CN Cassette paper pickup assembly
SR33	Output bin full sensor	RM1-9841-000CN Face down delivery assembly
SR35	Fuser output sensor 1	RM1-9640-000CN Right door sub assembly
SR36	Output media width sensor	RM1-9841-000CN Face-down delivery assembly
SR37	Fuser front width sensor	RM1-9621-000CN Registration secondary transfer assembly
SR38	Fuser rear width sensor	RM1-9621-000CN Registration secondary transfer assembly
SR45	Fuser output sensor 2	RM1-9640-000CN Right door sub assembly

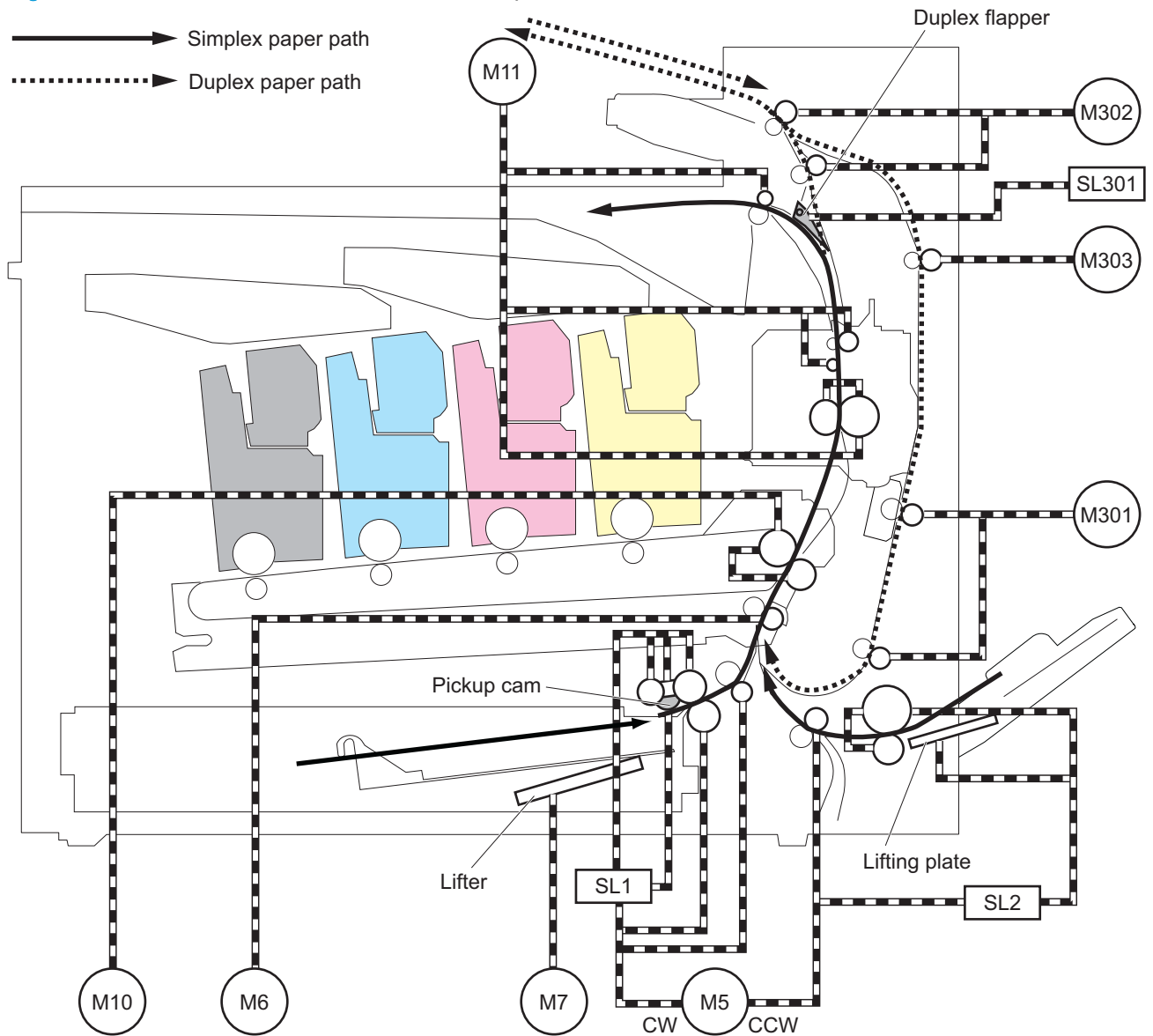
**Table 1-20 Photo sensors and switches (continued)**

<b>Abbreviation</b>	<b>Component name</b>	<b>Replacement assembly</b>
SR301	Duplex switchback feed sensor	RM2-0291-000CN (M855)
		RM2-5061-000CN (M880)
		Duplex reverse assembly
SR302	Developer delivery sensor	RM1-9640-000CN
		Right door sub assembly
SR304	Duplex refeed sensor	RM1-9640-000CN
		Right door sub assembly
SR2501	TOP sensor	A2W77-67901
		Intermediate transfer Belt (ITB)
MS	Registration sensor	A2W77-67901
		Intermediate transfer Belt (ITB)

## Motors and solenoids

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

**Figure 1-42** Motors and solenoids electrical components



**Table 1-21** Motors and solenoids (paper path)

Abbreviation	Component name	Replacement part number
M5	Pickup motor	RM1-9843-000CN
M6	Registration motor	RM1-9843-000CN
M7	Cassette lifter motor	RM1-3222-000CN
M10	ITB motor	RM1-4519-00CN
M11	Fuser motor	RM1-4519-00CN

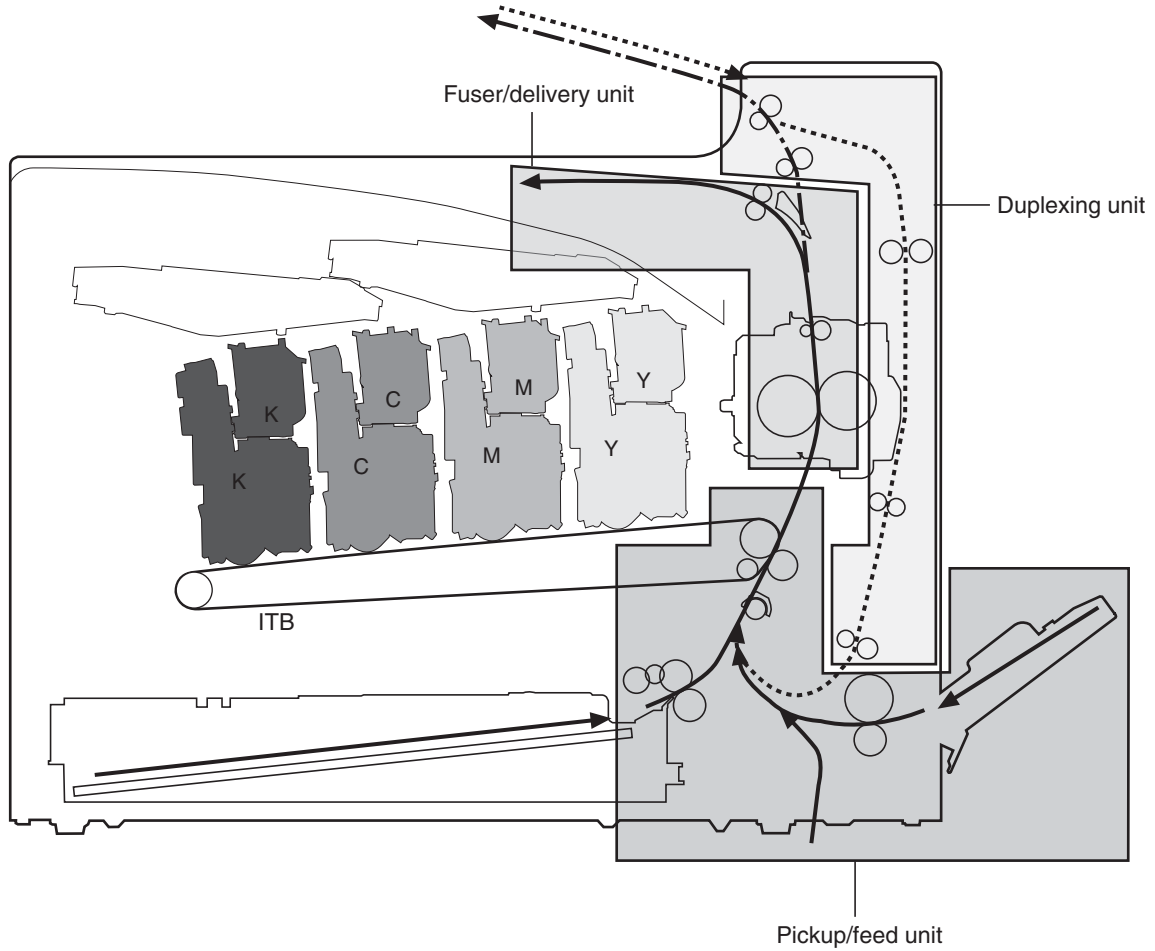
**Table 1-21 Motors and solenoids (paper path) (continued)**

Abbreviation	Component name	Replacement part number
M301	Duplex re-pickup motor	RM2-5045-000CN (M855)
		RM2-9646-000CN (M880)
M302	Duplex switch back motor	RM2-0291-000CN (M855)
		RM2-5061-000CN (M880)
M303	Duplex feed motor	RM2-0291-000CN (M855)
		RM2-5061-000CN (M880)
SL1	Cassette pickup solenoid	RM1-9599-000CN
SL2	MP tray (Tray 1) pickup solenoid	RM1-9644-000CN
SL301	Duplex flapper solenoid	RM2-0291-000CN (M855)
		RM2-5061-000CN (M880)

The pickup, feed, and delivery system can be divided into three units:

- Pickup-and-feed system
- Fuser and delivery unit
- Duplexing unit

**Figure 1-43** Three main units of the pickup, feed, and delivery system



## Pickup-and-feed system

The pickup-and-feed unit picks an individual sheet of paper from the multipurpose tray or the cassettes, carries it through the secondary-transfer unit, and feeds it into the fuser.

**Table 1-22** Main operations within the pickup-and-feed system

Operation	Steps
Cassette pickup	<ol style="list-style-type: none"> <li>1. Paper-size and cassette-presence detection</li> <li>2. Lift operation</li> <li>3. Paper-level and paper-presence detection</li> <li>4. Multiple-feed prevention</li> </ol>
Multipurpose tray pickup	<ol style="list-style-type: none"> <li>1. Paper-presence detection</li> <li>2. Last paper detection</li> </ol>
Paper feed	<ol style="list-style-type: none"> <li>1. Skew-feed prevention</li> <li>2. Paper detection</li> <li>3. Feed-speed control</li> </ol>

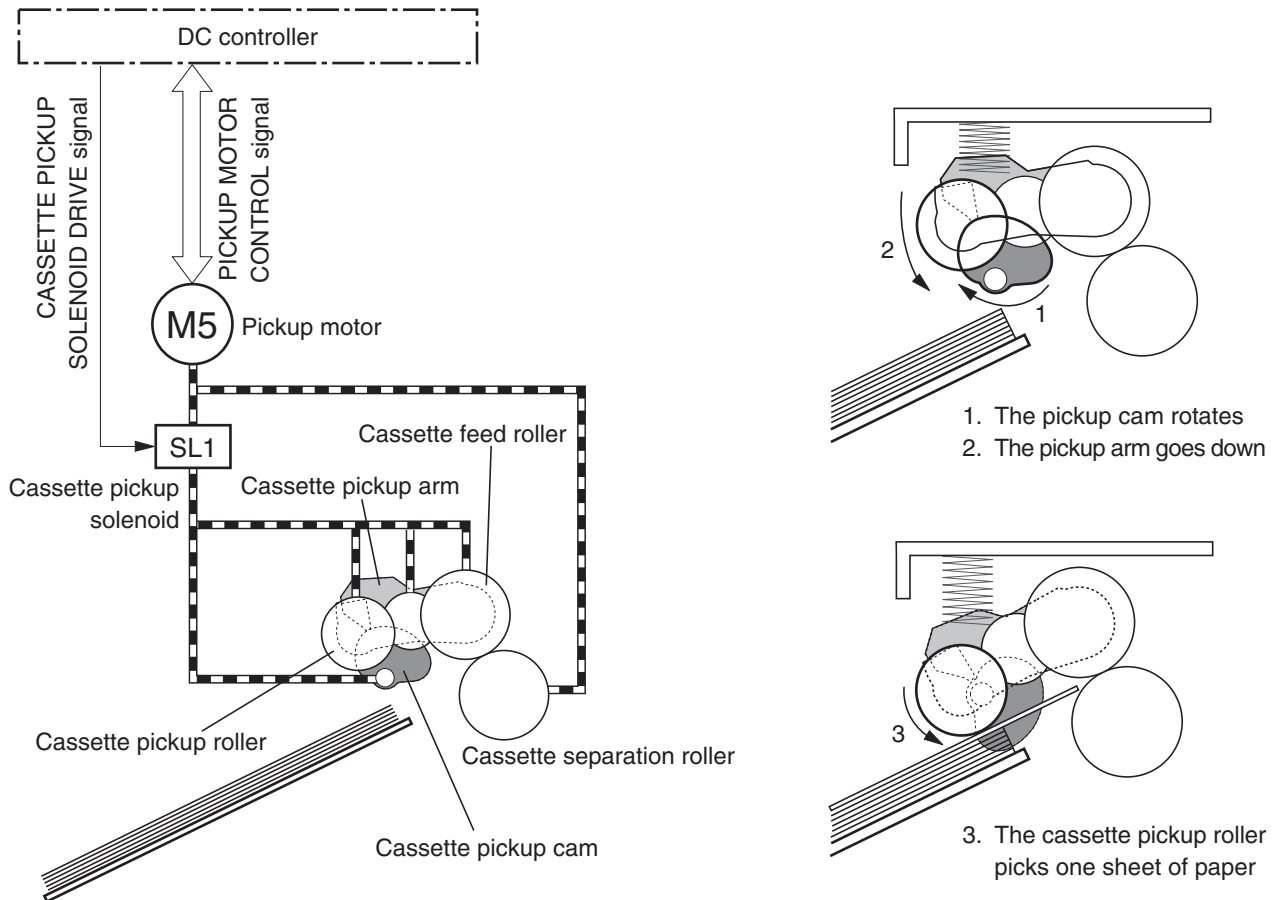


## Cassette pickup

The sequence of steps for the cassette tray pickup operation is the following:

1. When the product is turned on or the tray is pushed closed, the lifting mechanism lifts the paper stack so it is ready.
2. After receiving a print command from the formatter, the DC controller rotates the pickup motor, which causes the cassette pickup roller, cassette feed roller, and cassette separation roller to rotate.
3. The DC controller drives the cassette pickup solenoid, which rotates the cassette pickup cam. As the pickup cam rotates, the pickup arm moves down, the cassette pickup roller touches the surface of the paper stack, and it picks up one sheet of paper.

**Figure 1-44** Cassette-pickup mechanism



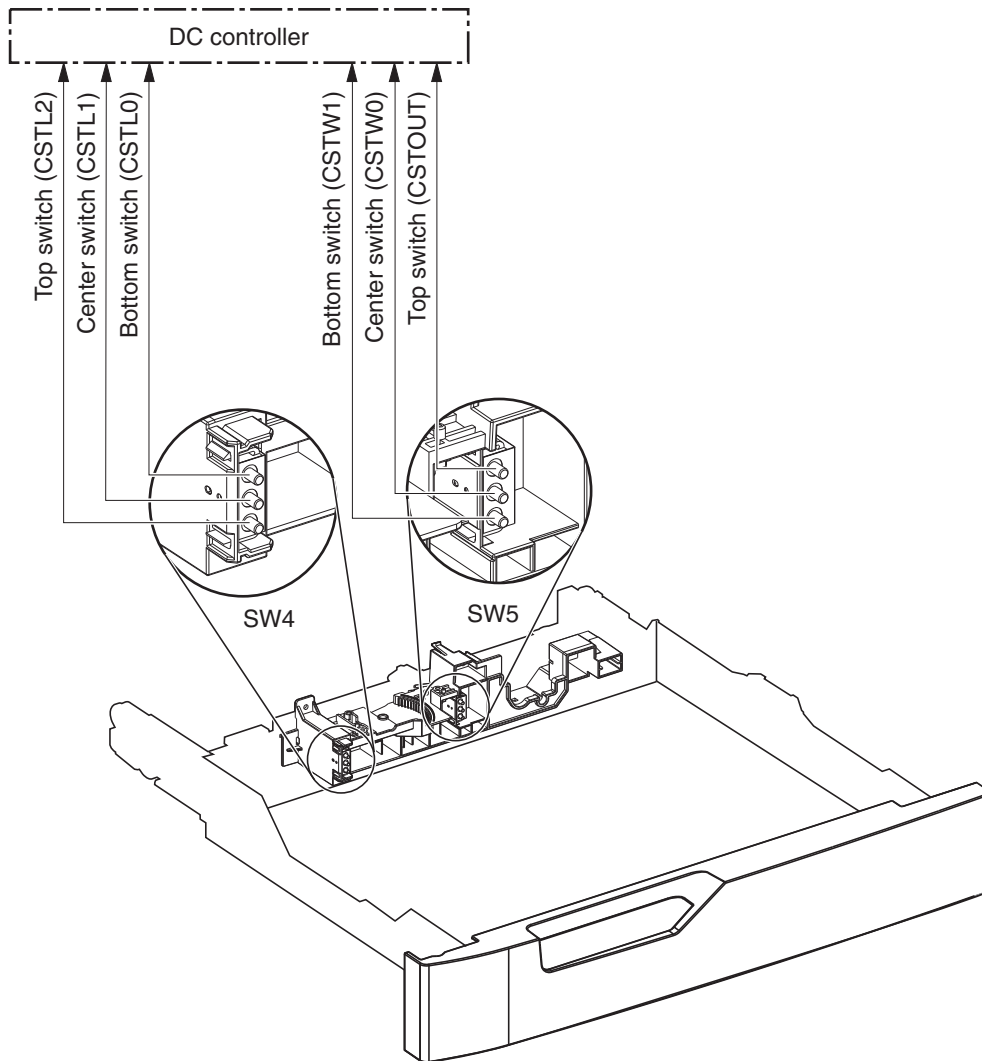
## Cassette paper-size and cassette-presence detection

The cassette end-plate detection switch and the cassette side-plate detection switch detect the size of the paper that is loaded in the cassette. Each of these switches contains three sub-switches.

The DC controller compares the paper length that is detected by the vertical-synchronous-position sensor to the detected size and to the size that is specified for the print job. If they do not match, the DC controller notifies the formatter.

The cassette end-plate detection switch also detects whether the cassette is present. If all three of its switches are off, the DC controller determines that the cassette is absent.

**Figure 1-45** Cassette paper-size detection switches



**Table 1-23** Switch states for paper-size detection

Paper size	Cassette end-plate detection switch (SW4)			Cassette side-plate detection switch (SW5)		
	Top switch	Center switch	Bottom switch	Top switch <sup>1</sup>	Center switch	Bottom switch
A5	On	On	Off	On or off	Off	On
A4	On	On	Off	On or off	Off	Off
Letter	On	On	Off	On or off	On	Off
B5	Off	On	Off	On or off	Off	On
Executive	Off	On	Off	On or off	Off	On
Letter-R	Off	Off	On	On or off	Off	On
A4-R	On	Off	On	On or off	Off	On

**Table 1-23** Switch states for paper-size detection (continued)

Paper size	Cassette end-plate detection switch (SW4)			Cassette side-plate detection switch (SW5)		
	Top switch	Center switch	Bottom switch	Top switch <sup>1</sup>	Center switch	Bottom switch
Legal	On	Off	Off	On or off	Off	On
B4	On	Off	Off	On or off	On	On
A3	On	Off	Off	On or off	Off	Off
Ledger	On	Off	Off	On or off	On	Off
Cassette absence	Off	Off	Off			

<sup>1</sup> The top side-plate detection switch controls the lifter mechanism. When the switch is on, the lifting plate moves up. When it is off, the lifting plate moves down. Its position has no effect on paper-size detection.

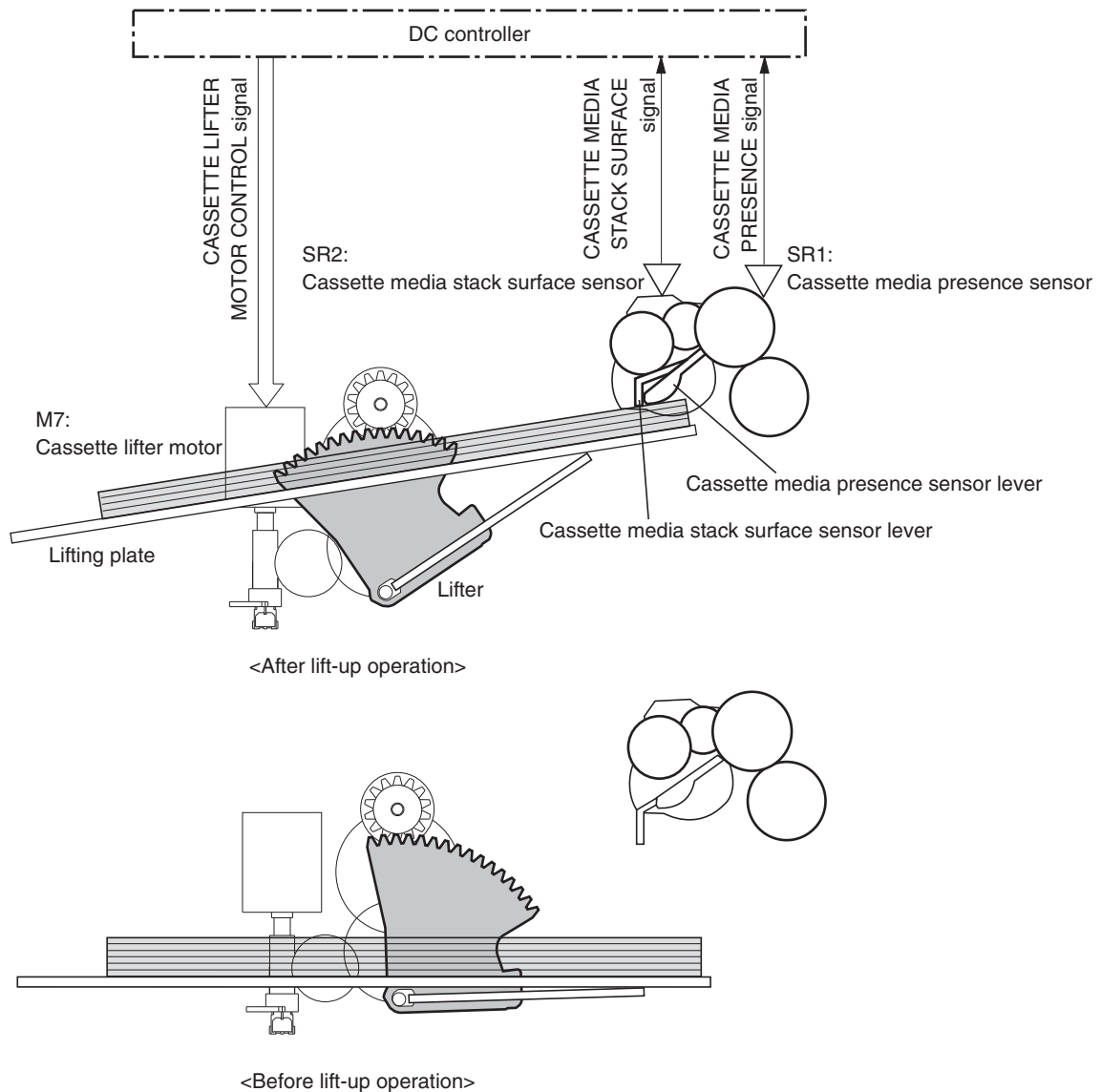
## Cassette lift operation

When the product is turned on, when the cassette is inserted, or as the paper level in the cassette decreases, the cassette lift mechanism raises the plate to keep the surface of the stack high enough so the pickup roller can reach it.

1. The DC controller rotates the cassette-lifter motor to raise the lift plate.
2. When the paper-stack surface sensor detects the paper surface, the DC controller stops rotating the cassette-lifter motor. If the sensor no longer detects paper, the DC controller begins rotating the motor again.

If the paper-stack surface sensor does not detect the paper within a specified time after the lifter motor begins rotating, the DC controller notifies the formatter that the lifter motor has failed.

Figure 1-46 Cassette lift mechanism



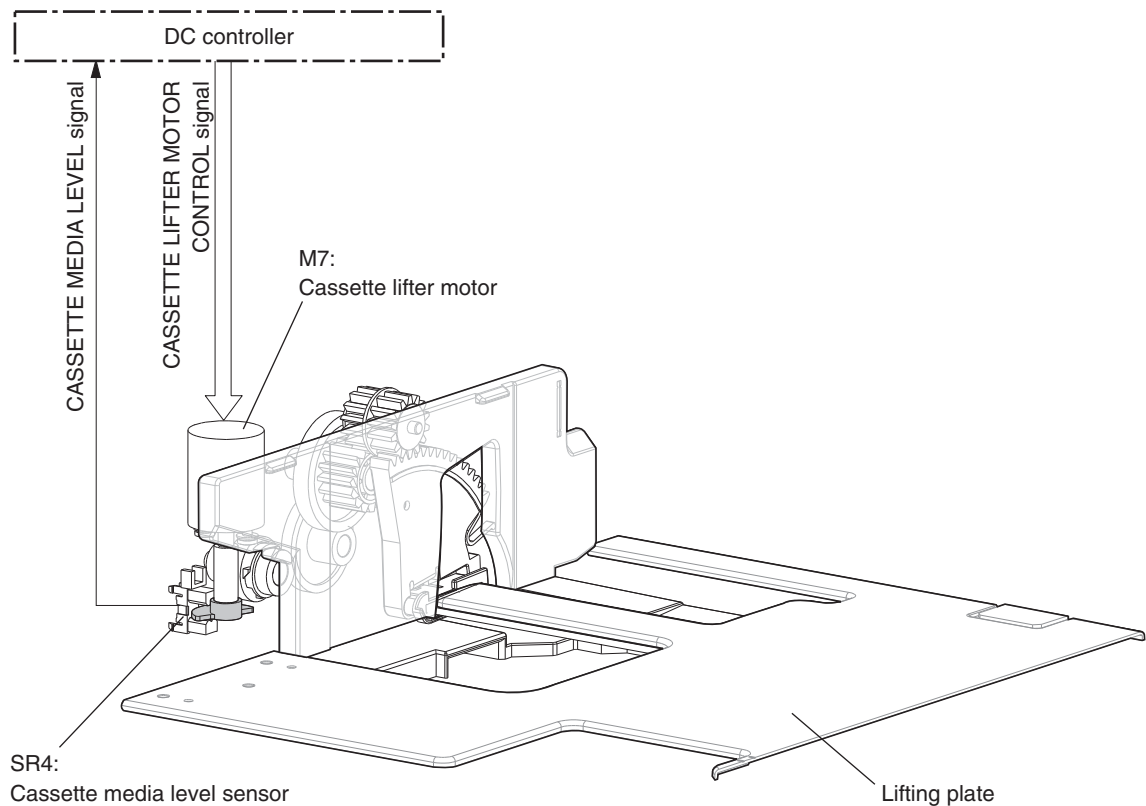
## Cassette paper-level and paper-presence detection

The height of the paper-lift plate in the cassette indicates the paper level. The paper-level sensor, which is at the end of the lifter motor, monitors the rotations of the motor and calculates the paper level. It reports the paper level to the DC controller in the following increments:

- No paper
- Less than 10%
- Between 10% and 20%
- Between 20% and 40%
- More than 40%

The cassette media-presence sensor detects whether paper is in the cassette.

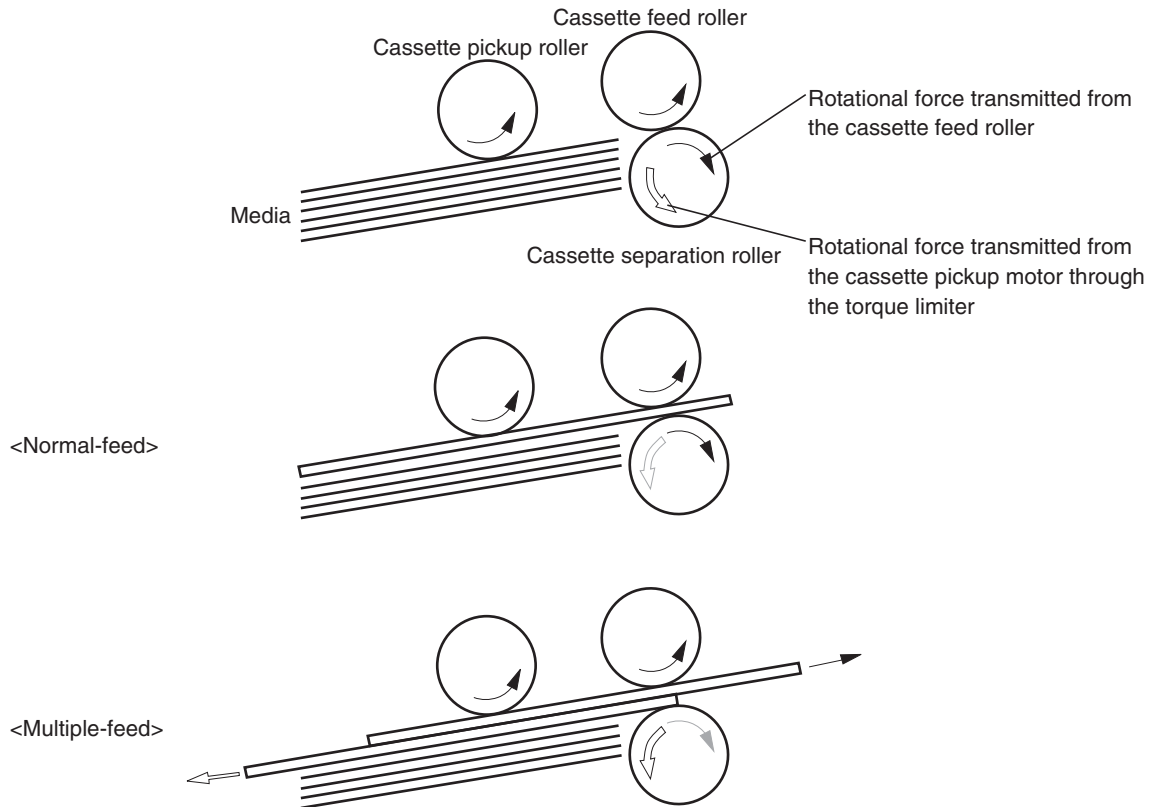
**Figure 1-47** Paper-level-detection mechanism



## Multifeed prevention

In each of the cassettes and in the multipurpose tray, a separation roller prevents multiple sheets of paper from entering the paper path. The separation roller is driven by the rotation of the feed roller, but it is equipped with a torque limiter that counteracts this rotation when more than one sheet of paper is between the two rollers.

Figure 1-48 Multifeed prevention



## Multipurpose tray pickup

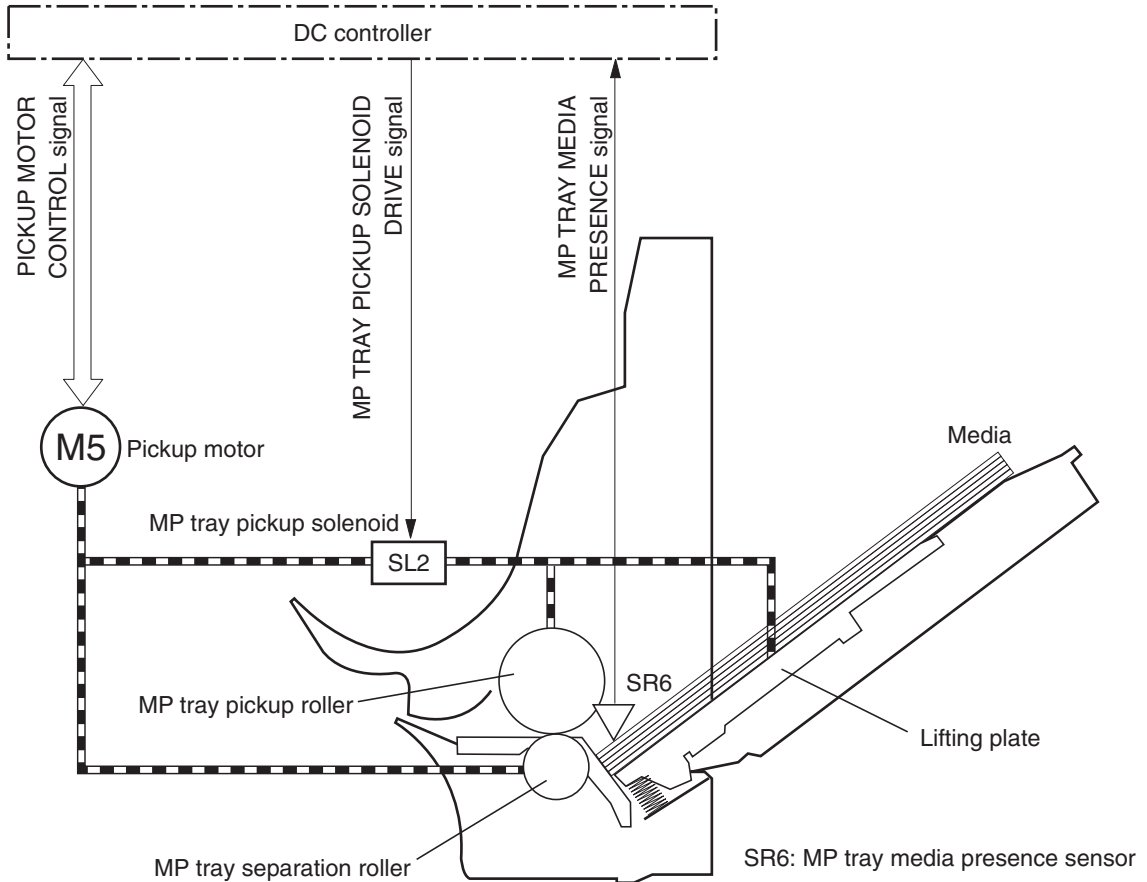
The multipurpose tray paper-presence sensor detects whether paper is in the tray. If no paper is present, the DC controller notifies the formatter. The print operation is not performed until paper is in the tray.

The sequence of steps for the multipurpose tray pickup operation as follows:

1. After receiving a print command from the formatter, the DC controller reverses the pickup motor, which causes the multipurpose tray separation roller to rotate.
2. The DC controller turns on the multipurpose tray pickup solenoid, causing the multipurpose tray pickup roller to rotate.

3. The lifting plate rises to meet the rotating pickup roller, and paper is picked from the stack.
4. The multipurpose tray separation roller isolates a single sheet of paper in case more than one sheet was picked. The single sheet of paper is fed into the product. This mechanism is the same as for the cassette pickup operation.

**Figure 1-49** Multipurpose tray pickup mechanism



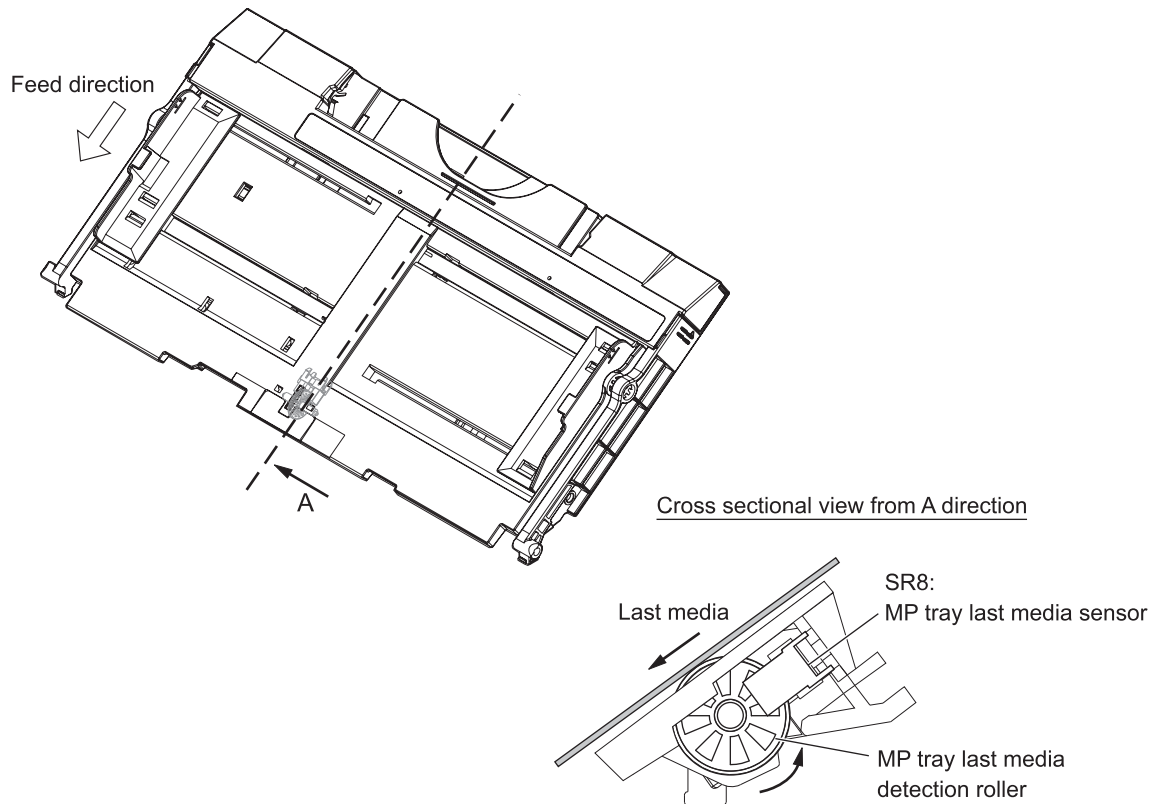
### Multipurpose tray last-paper detection

Because the paper path between the multipurpose tray paper-presence sensor and the registration roller is short, the product attempts to form the next image before the DC controller detects that the tray is empty. To prevent the image from being formed on the photosensitive drum and wasting toner, the multipurpose tray last-paper sensor detects the empty tray before the image-formation process begins.

As the last sheet of paper is picked up, the multipurpose tray last-paper detection roller rotates. It does not rotate if two or more sheets are in the tray. The multipurpose tray last-paper sensor detects

the moving roller, and it sends a signal to the DC controller. The DC controller notifies the formatter so it can temporarily disable the image-formation process.

**Figure 1-50** Multipurpose tray last-paper detection



## Paper feed

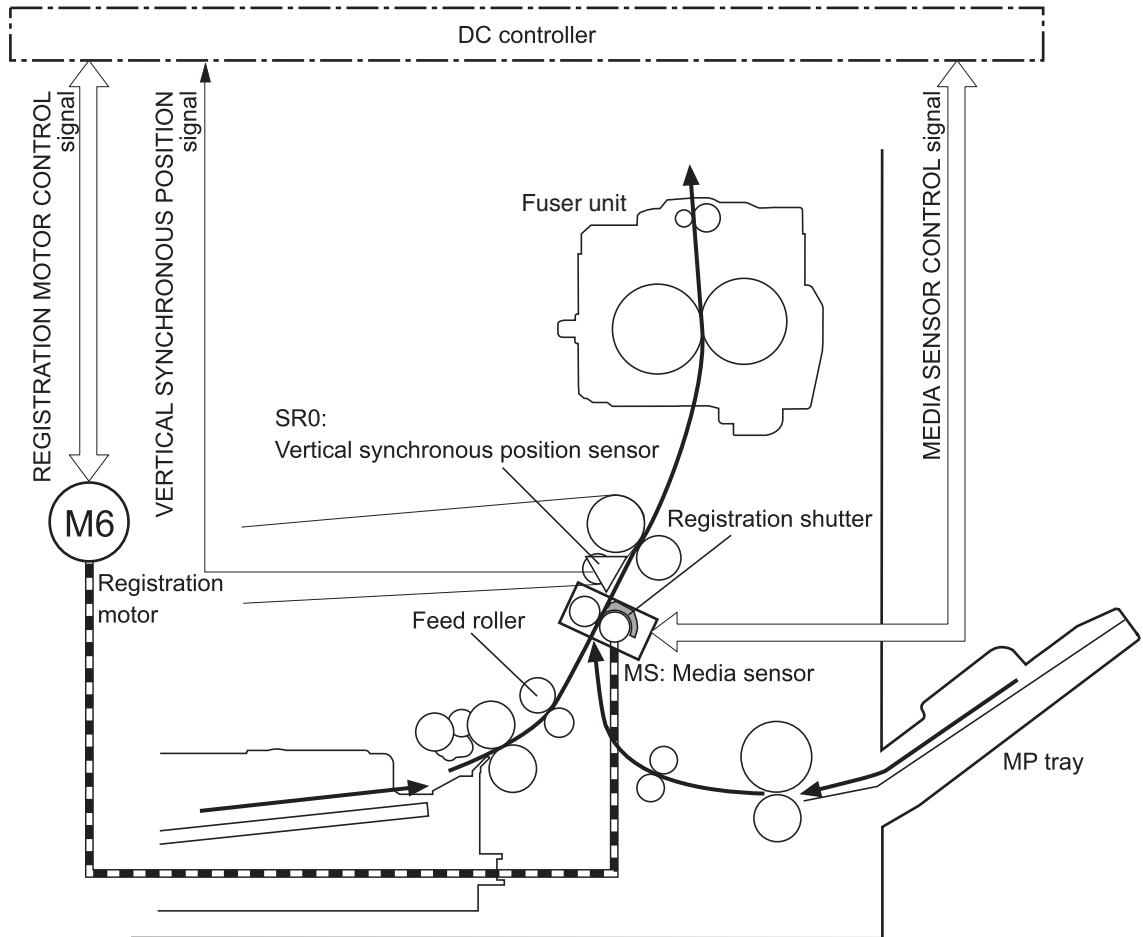
After the pickup operation, the paper is fed through the product and into the fuser.

1. The paper passes through the feed rollers. The registration shutter aligns the paper correctly to prevent skewed printing.
2. When the vertical synchronous position sensor detects the leading edge of the paper, the registration motor stops, and the paper movement pauses while the image on the ITB is timed to align with the leading edge of the paper.



3. While the paper is paused, the media sensor detects the type of paper.
4. When the timing is correct, the registration motor begins rotating again to feed the paper through the secondary transfer unit and into the fuser.

**Figure 1-51** Paper-feed mechanism

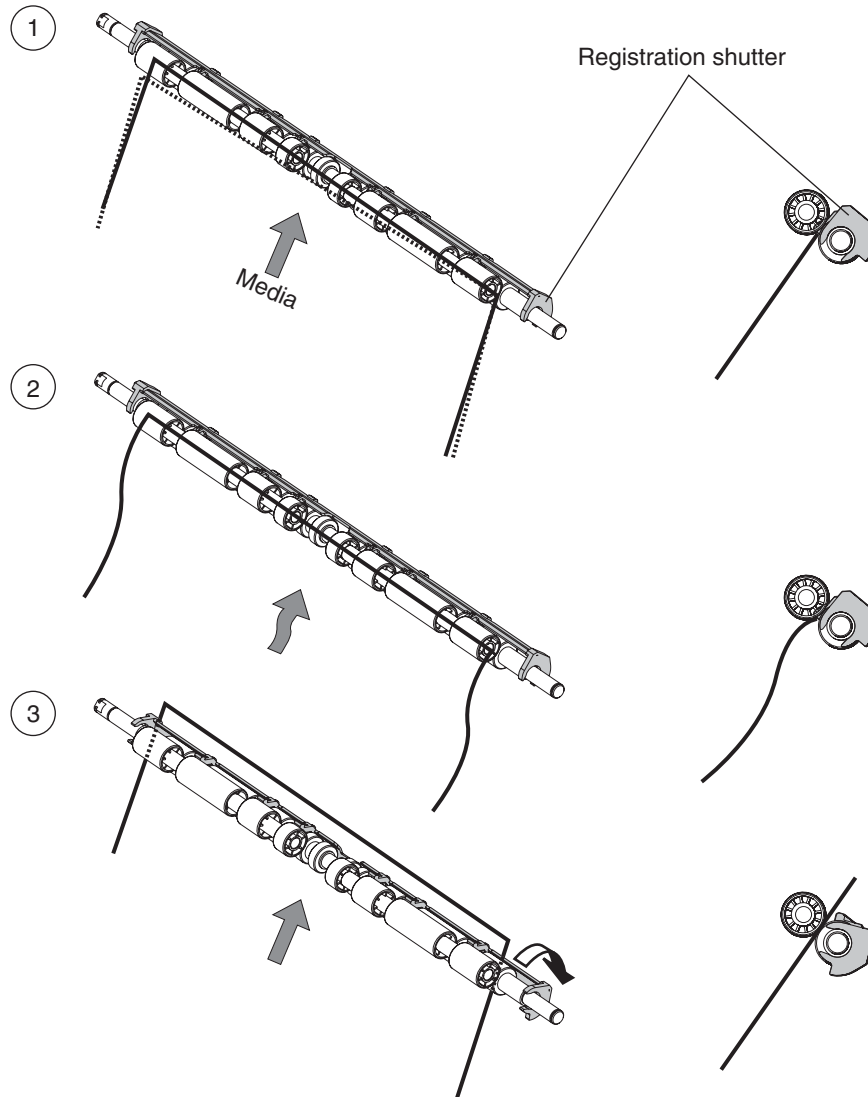


## Skew-feed prevention

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

1. As the paper enters the paper path, the leading edge strikes the registration shutter, but the paper does not pass through the shutter, so it is straightened.
2. The feed rollers keep pushing the paper, creating a force on the leading edge against the registration shutter.
3. When the force is great enough, the registration shutter opens and the paper passes through.

Figure 1-52 Skew-feed prevention

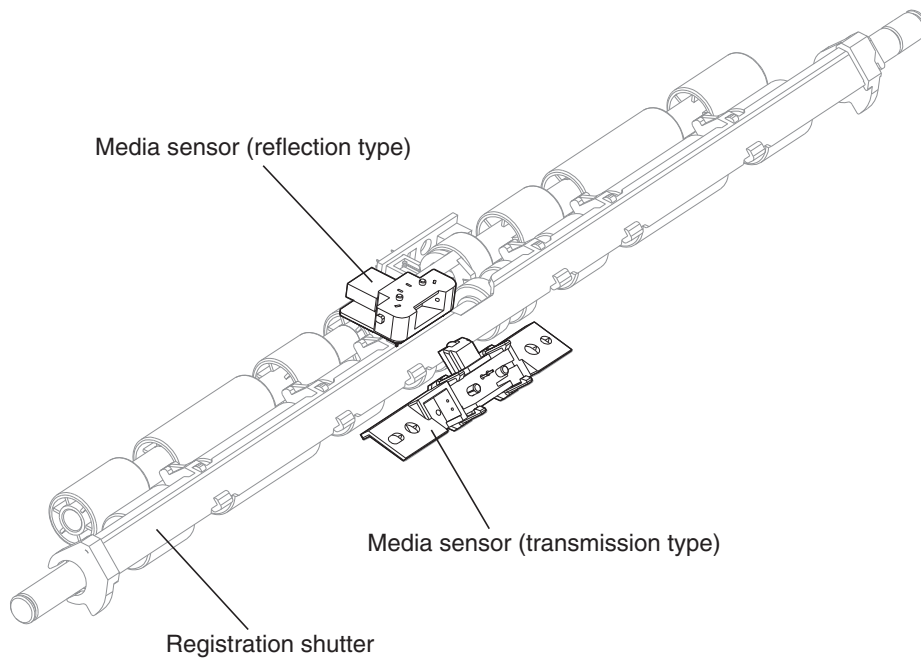


## Paper-type detection

The product can detect the type of paper in the paper path, and it adjusts the print mode accordingly. The product uses two types of media sensors:

- **Reflection:** Detects the glossiness of the paper
- **Transmission:** Detects the thickness of the paper

**Figure 1-53** Media sensor unit



- **Simplex printing:**
  - The mode specified for the print job is Transparency, but the media sensor detects another type.
  - The mode specified for the print job is something other than Auto or Transparency, but the media sensor detects a transparency.
- **Duplex printing:** The mode specified for the print job is compatible with duplex printing, but the media sensor detects a transparency.

When the product is turned on or when it comes out of Sleep mode, it tests the media sensor by turning on the LED. If the intensity of the light does not match the specified value, the DC controller determines that the sensor has failed.

### Feed-speed control

The DC controller adjusts the feed speed to improve print quality depending on the type of paper used for the print job. The paper is fed at a specific rate depending on the print mode designated by the formatter.

**Table 1-24** Print mode and corresponding feed speed

Print mode	Feed speed	Media sensor detection
Automatic	N/A	N/A
Normal 1	1/1	Yes
Normal 2	1/1	N/A

**Table 1-24** Print mode and corresponding feed speed (continued)

Print mode	Feed speed	Media sensor detection
Heavy media 1	3/4	Yes
Heavy media 2	1/2	Yes
Heavy media 3	1/3	Yes
Light media 1	1/1	N/A
Light media 2	1/1	N/A
Glossy media 1	1/3	Yes
Glossy media 2	1/3	Yes
Glossy media 3	1/3	Yes
Glossy film	1/3	Yes
Envelope 1	1/2	N/A
OHT	1/3	Yes
Label	1/2	N/A
Designated media 1	1/2	N/A
Designated media 2	1/3	N/A

## Media width detection

The DC controller detects the width and position of paper to prevent an edge overheat of the fuser heater. The DC controller detects the small-size or one-sided paper according to the media-width sensor combination and notifies the formatter of a misprint when it detects that the paper size is different from the designated size.

**Table 1-25** Media-width combination of the sensors (1 of 2)

Fuser front width sensor (SR37)	Fuser rear width sensor (SR38)	Media-width/location
ON	ON	Larger than B4
OFF	OFF	Narrower than B4
ON	OFF	Narrower than Letter-R and one-sided toward the front side
OFF	ON	Narrower than Letter-R and one-side toward the rear side

**Table 1-26** Media-width combination of the sensors (2 of 2)

Output media width sensor (SR36)	Media-width/location
ON	Wider than A4
OFF	Narrower than B5

## Fusing and delivery unit

The fusing and delivery unit fuses the toner onto the paper and delivers the printed page into the output bin. It has the following controls to ensure optimum print quality:

- Loop control
- Pressure roller pressurization/depressurization control

A sensor detects when the output bin is full, and the DC controller notifies the formatter.

### Loop control

The loop control maintains even tension on the paper while it is moving through the fuser to prevent print-quality defects and paper-handling defects.

- If the fuser rollers rotate more slowly than the secondary transfer rollers, the paper warp increases and an image defect or paper crease occurs.
- If the fuser rollers rotate faster than the secondary transfer rollers, the paper warp decreases and the toner image is not transferred to the paper correctly, causing color misregistration.

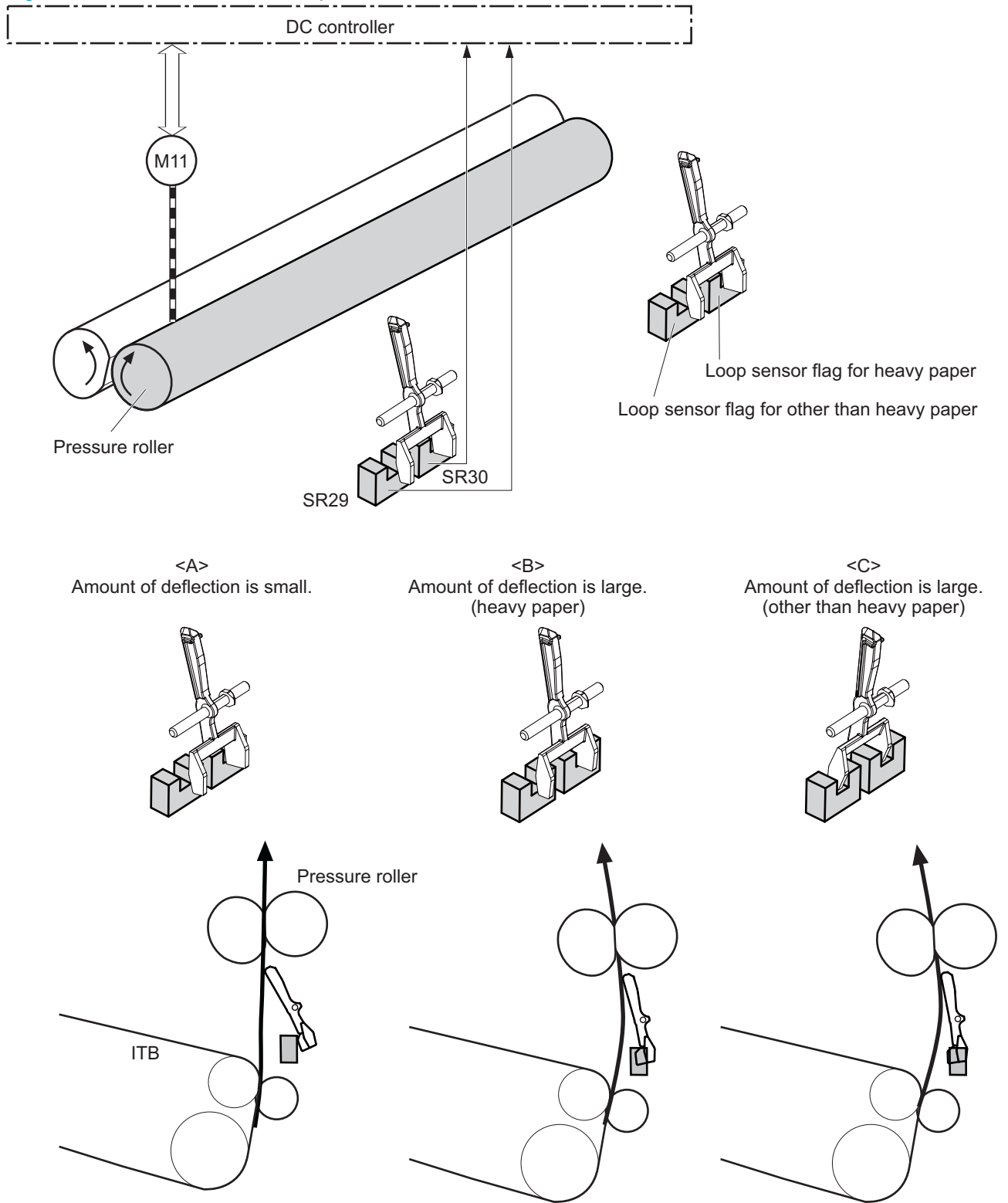
To prevent these problems, the loop sensor, located between the secondary transfer rollers and the fuser rollers, detects whether the paper is sagging or is too taut. The DC controller adjusts the speed of the fuser motor accordingly.

Two loop sensors detect the amount of deflection:

- **Fuser loop sensor 1**  
Detects the deflection of heavy paper
- **Fuser loop sensor 2**

Detects the deflection of normal paper other than heavy paper

Figure 1-54 Mechanism of the loop control



**Table 1-27** Loop control

Fuser loop sensor 1 (SR29)	Fuser loop sensor 2 (SR30)	Speed of fuser motor	Figure reference
OFF	OFF	Speed down	A
ON	OFF	Heavy paper: Speed up Other than heavy paper: Speed down	B
ON	ON	Speed up	C

## Fuser depressurize control

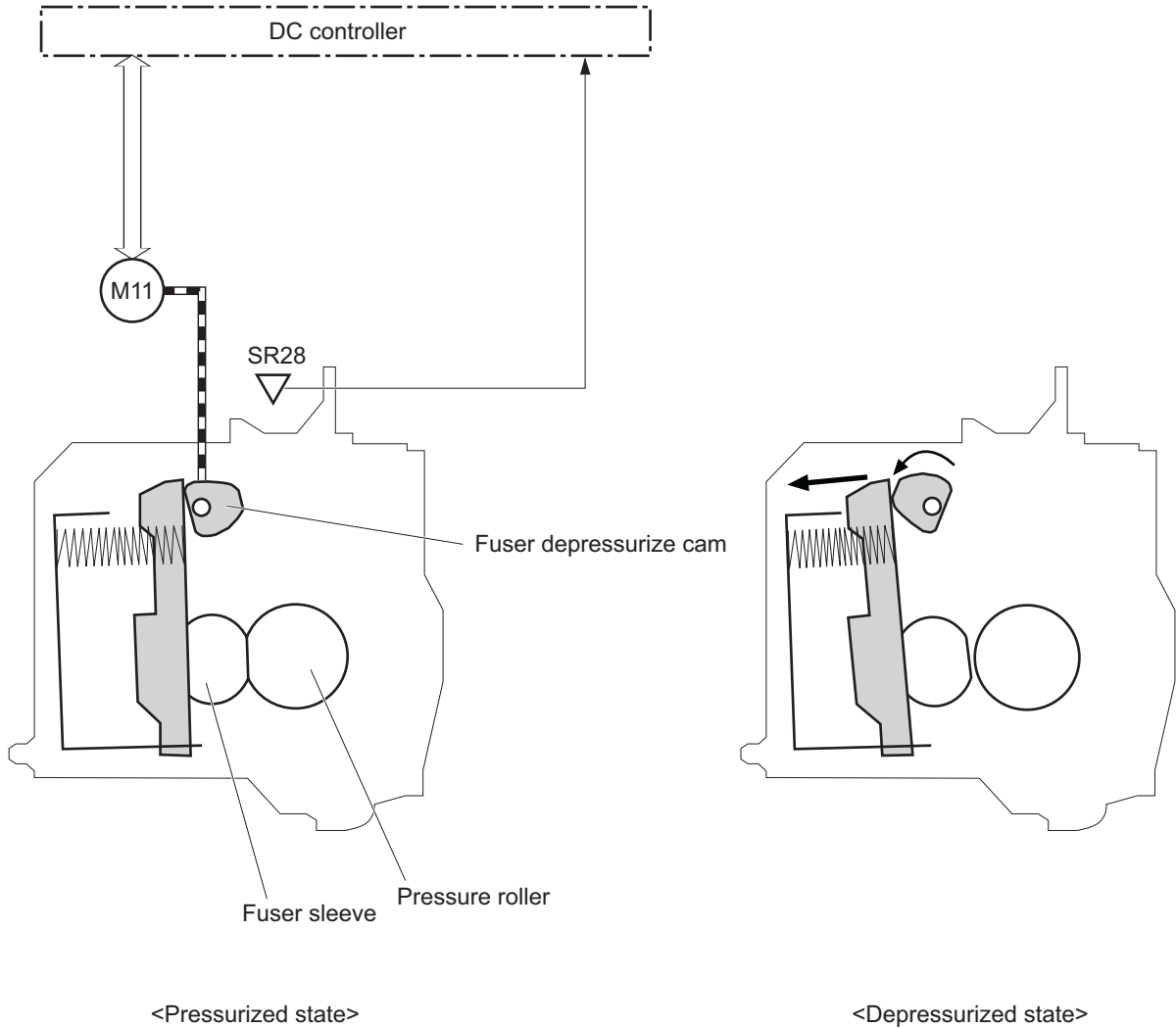
To prevent excessive wear on the pressure roller, deformation of the fuser sleeve, and to facilitate jam-clearing procedures, the pressure roller is not pressurized except during printing. The DC controller reverses the fuser motor, which rotates the fuser pressure-release cam.

The operational sequence of the fuser depressurize control is as follows:

1. Reverses the fuser motor and accordingly the fuser depressurize cam rotates.
2. As the fuser depressurize cam rotates, the fuser sleeve is pressurized toward or depressurized against the pressure roller.

The DC controller determines a fuser depressurization mechanism failure and notifies the formatter when the fuser home position sensor does not sense the home position within a specified period from when the fuser motor is reversed.

**Figure 1-55** Mechanism of the fuser depressurize control



The pressure roller is depressurized under the following conditions:

- When the product is turned off
- During Power-save mode (Sleep mode, active off or inactive off)
- When a paper jam is detected

**NOTE:** The fuser remains pressurized if the power is interrupted by removing the power cord or turning off a surge protector, or if the fuser is removed without turning off the product.



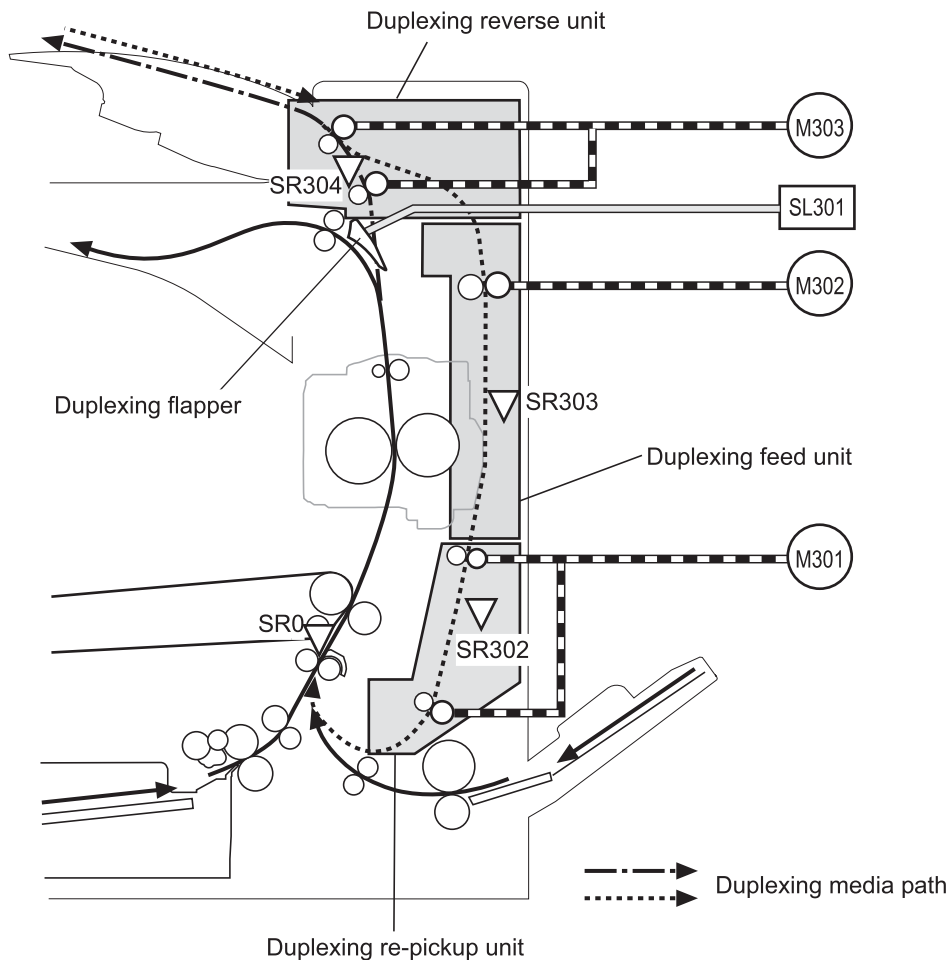
## Duplexing unit

For supported models, the duplexing unit reverses the paper and feeds it through the paper path to print the second side. It consists of the following components:

- **Duplexing-reverse unit:** Installed on top of the product
- **Duplexing-feed unit:** Inside the product, along the right side

The duplex flapper solenoid (SL301) controls the position of the duplexing flapper to feed the paper into the duplexing unit.

**Figure 1-56** Duplexing unit



**Table 1-28** Duplexing-unit components

Abbreviation	Component name	Replacement part number
M301	Duplex re-pickup motor	RM2-5045-000CN (M855)
		RM2-9646-000CN (M880)
M302	Duplex switchback motor	RM2:0291-000CN (M855)
		RM2-5061-000CN (M880)
M303	Duplex feed motor	RM2:0291-000CN (M855)
		RM2-5061-000CN (M880)

**Table 1-28 Duplexing-unit components (continued)**

Abbreviation	Component name	Replacement part number
FM301	Duplex fan 1	RM2:0291-000CN (M855)
		RM2-5061-000CN (M880)
FM302	Duplex fan 2	RM2:0291-000CN (M855)
		RM2-5061-000CN (M880)
SL301	Duplex flapper solenoid	RM2:0291-000CN (M855)
		RM2-5061-000CN (M880)
SR301	Duplex switchback feed sensor	RM2:0291-000CN (M855)
		RM2-5061-000CN (M880)
SR302	Developer delivery sensor	RM2:0291-000CN (M855)
		RM2-5061-000CN (M880)
SR304	Duplex refeed sensor	RM1-9640-000CN

All these components are driven by the duplexing driver, according to signals from the DC controller. If the DC controller cannot communicate with the duplexing driver, it notifies the formatter that the duplexing unit has failed.

## Duplexing reverse and feed control

The duplexing reverse procedure pulls the paper into the duplexing unit after it exits the fuser, and the duplexing feed procedure moves the paper through the duplexer so it can enter the product paper path to print the second side of the page.

1. After the first side has printed, the duplexing flapper solenoid is opened, which creates a paper path into the duplexing-reverse unit.
2. After the paper has fully entered the duplexing-reverse unit, the duplexing-reverse motor reverses and directs the paper into the duplexing-feed unit.
3. The duplexing re-pickup motor and duplexing feed motor move the paper into the duplexing repickup unit.
4. To align the paper with the toner image on the ITB, the duplexing re-pickup motor stops and the paper pauses until the specified time.
5. The paper re-enters the paper path, and the second side is printed.

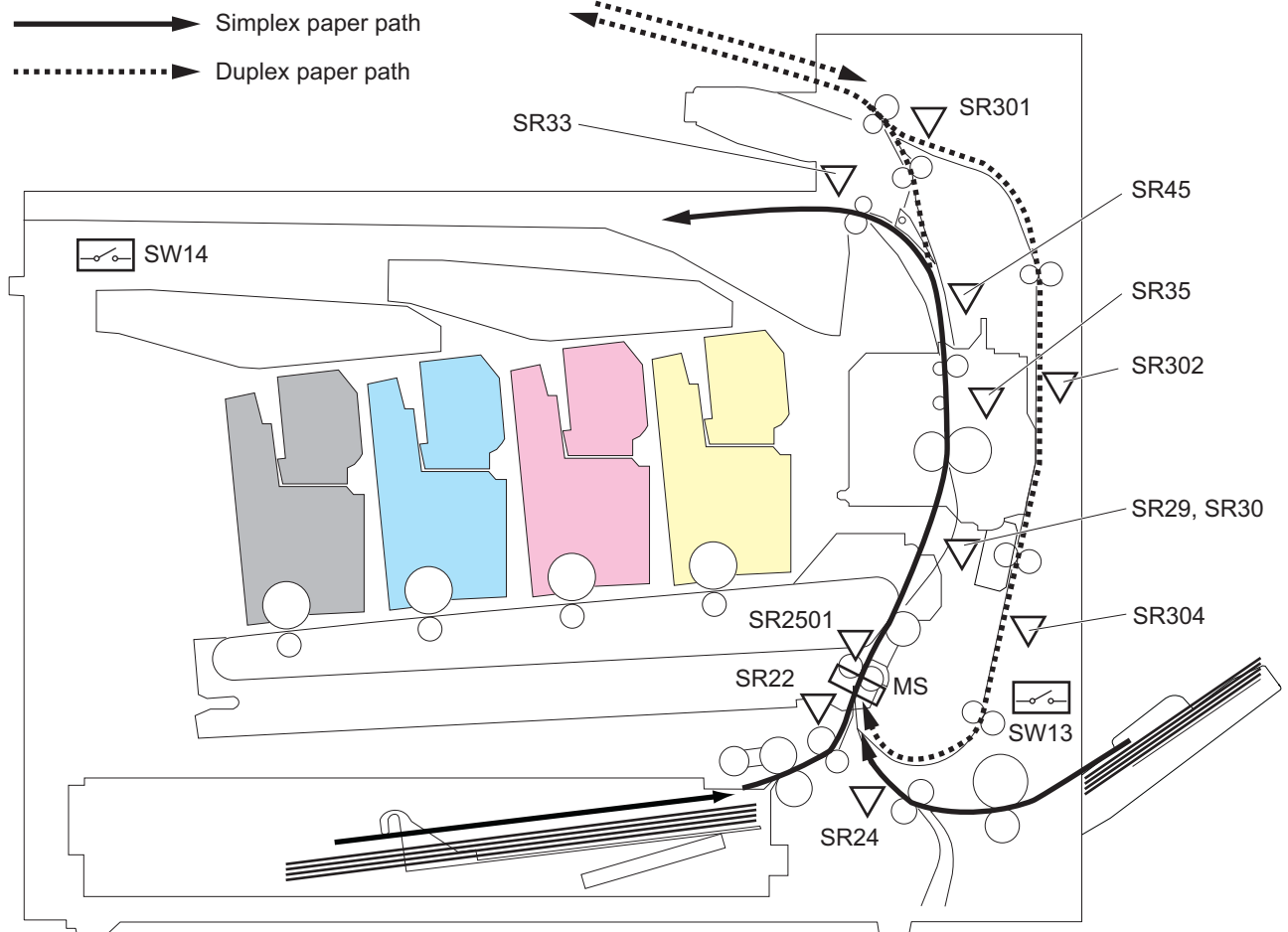
## Jam detection

The product uses the following sensors and switches to detect the presence of the paper as it moves through the paper path, to check whether the paper is being fed correctly or has jammed, and to report to the DC controller if the paper has jammed:

- Tray 2 feed sensor (SR22)
- Tray 1 feed sensor (SR24)
- TOP sensor (SR2501)
- Fuser loop sensor 1 (SR29)
- Fuser loop sensor 2 (SR30)
- Fuser output sensor 1 (SR35)
- Fuser output sensor 2 (SR45)
- Output bin full sensor (SR33)
- Duplex switchback feed sensor (SR301)
- Developer delivery sensor (SR302)
- Duplex refeed sensor (SR304)
- Registration sensor (MS)
- Right door open/close switch (SW13)
- Front door open/close switch (SW14)

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

**Figure 1-57** Location of each jam sensor and switch



The product detects the following jams.

**Table 1-29** Jam detection

Jam	Causes and conditions
Pickup stay jam 1	<ul style="list-style-type: none"> <li> <b>From MP tray (Tray 1)</b>                      The MP tray (Tray 1) media-feed sensor does not detect the trailing edge of paper within a specified period from when it detects the leading edge.                 </li> <li> <b>From Cassette</b>                      The cassette media-feed sensor does not detect the trailing edge of paper within a specified period from when it detects the leading edge.                 </li> </ul>
Pickup stay jam 2	The TOP sensor does not detect the trailing edge of paper within a specified period from when it detects the leading edge.
Fuser delivery delay jam 1	The fuser delivery sensor 1 does not detect the leading edge of paper within a specified period from when the TOP sensor detects the leading edge.
Fuser delivery delay jam 2	The fuser delivery sensor 2 does not detect the leading edge of paper within a specified period from when the fuser delivery sensor 1 detects the leading edge.

**Table 1-29 Jam detection (continued)**

<b>Jam</b>	<b>Causes and conditions</b>
Fuser delivery stay jam	The fuser delivery sensor 1 does not detect the trailing edge of paper within a specified period from when the TOP sensor detects the trailing edge.
Fuser wrapping jam 1	The fuser delivery sensor 1 detects the trailing edge of paper within a specified period from when it detects the leading edge.
Fuser wrapping jam 2	The face-down tray media-full sensor does not detect the leading edge of paper within a specified period from when the fuser delivery sensor 1 detects the leading edge.
Fuser wrapping jam 3	The fuser delivery sensor 2 detects the trailing edge of paper within a specified period from when the fuser delivery sensor 2 detects the leading edge.
Residual paper jam	<p>Any one of the following sensor detects a paper presence when the product is turned off, when the door is closed or when the product is released from Power-save mode (Sleep mode, active off or inactive off):</p> <ul style="list-style-type: none"><li>• TOP sensor</li><li>• Loop sensor 1</li><li>• Loop sensor 2</li><li>• Fuser delivery sensor 1</li><li>• Fuser delivery sensor 2</li><li>• Duplex switch back feed sensor</li><li>• Duplex feed sensor</li><li>• Duplex re-pickup sensor</li></ul>

After a jam, some sheets of paper might remain inside the product. If the DC controller detects residual paper after a door is closed or after the product is turned on, the product automatically clears itself of those residual sheets.

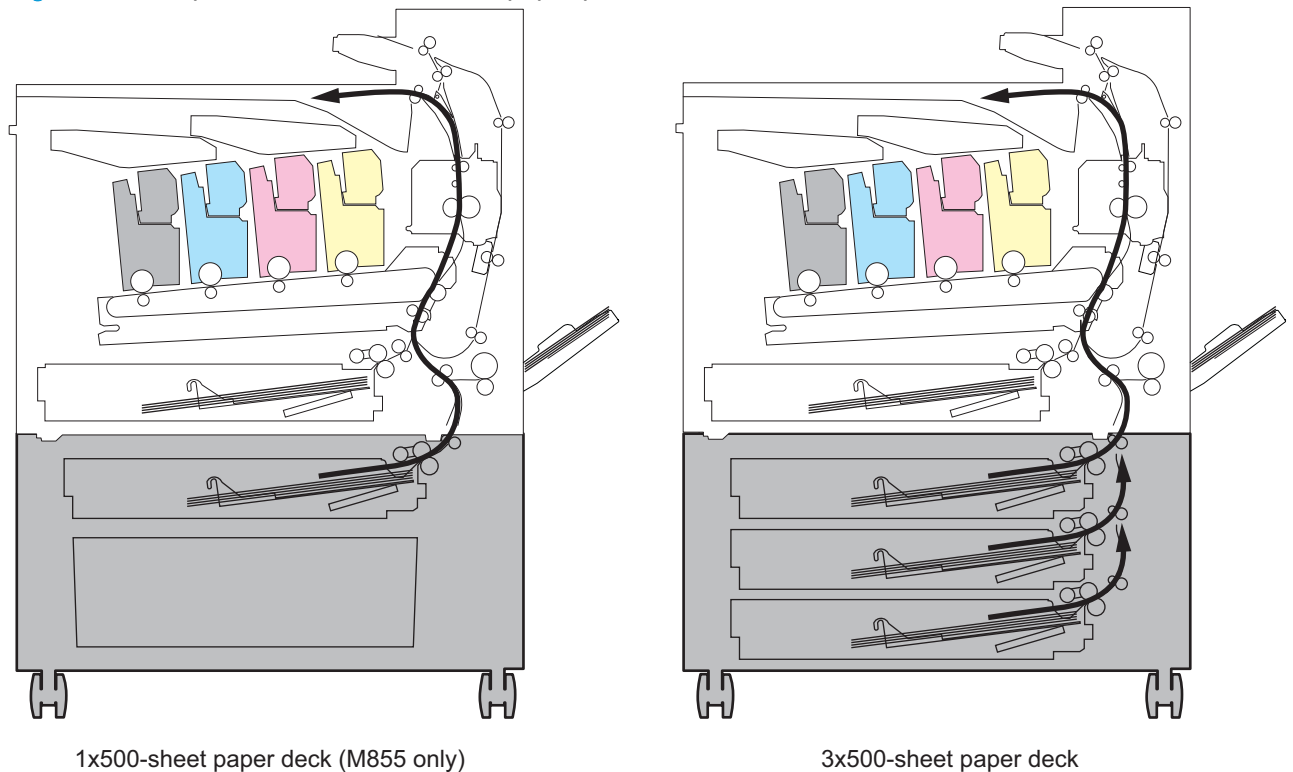
# 1x500-sheet paper feeder (M855 only) and 3x500-sheet paper feeder

The product is configured with either the additional 1x500-sheet input tray (M8555 only) or 3x500-sheet input tray depending on which bundle was purchased.

- The 1x500-sheet input tray (M8555 only) has one tray (Tray 3) and a storage compartment.
- The 3x500-sheet input tray has three trays (Trays 3, 4, and 5).

 **NOTE:** These optional trays are *not* identical to the main cassette (Tray 2).

**Figure 1-58** Paper feeder installation and paper path



These additional trays are each controlled by paper-feeder drivers, which contain a microcomputer. The paper-feeder drivers receive commands from the DC controller. If the DC controller is unable to communicate with a paper-feeder driver, it notifies the formatter that the optional input tray is not connected correctly.

## 1x500- and 3x500-sheet paper-feeder 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.

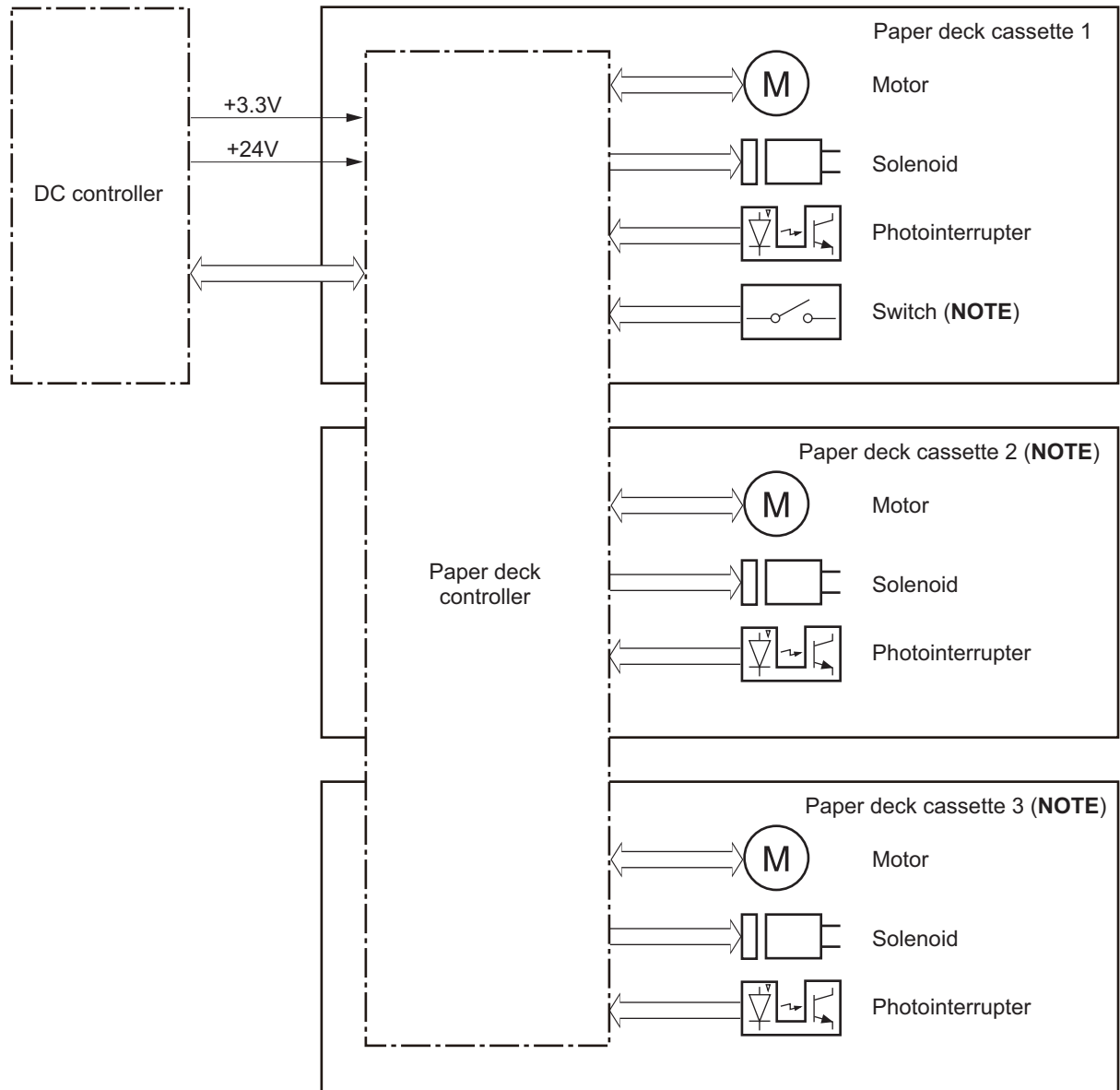
**Table 1-30 3x500-sheet paper-feeder cassette media-size detection and cassette-presence detection**

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
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	<b>NOTE:</b> 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

## Paper feeder electrical components

The following figure shows the signal flow of the paper feeder controller.

**Figure 1-59** Paper feeder electrical components



**Note:** 3x500-sheet paper feeder only



**Table 1-31 Paper feeder electrical components**

Component type	Abbreviation	Component name	Replacement assembly
Motor	M111	Cassette 1 lifter motor	Paper pickup assembly RM2-0275-000CN
	M112	Cassette 1 pickup motor	Motor RK2-1331-000CN
	M121	Cassette 2 lifter motor	Paper pickup assembly RM2-0275-000CN
	M122	Cassette 2 pickup motor	Motor RK2-1331-000CN
	M131	Cassette 3 lifter motor (3x500-sheet paper feeder only)	Paper pickup assembly RM2-0275-000CN
	M132	Cassette 3 pickup motor (3x500-sheet paper feeder only)	Motor RK2-1331-000CN
	Solenoid	SL111	Cassette 3 pickup solenoid (1x500- and 3x500-sheet paper feeder)
SL121		Cassette 4 pickup solenoid (3x500-sheet paper feeder only)	
SL131		Cassette 5 pickup solenoid (3x500-sheet paper feeder only)	
Switch	SW111	Cassette 3 media trailing edge switch (1x500- and 3x500-sheet paper feeder)	Auto close assembly RM1-3531-000CN
	SW112	Tray 3 media size switch (1x500- and 3x500-sheet paper feeder)	
	SW113	Right door open detection switch (3x500-sheet paper feeder only)	Switch button WC2-5512-000CN
	SW121	Cassette 4 media trailing edge switch (3x500-sheet paper feeder only)	Auto close assembly RM1-3531-000CN
	SW122	Tray 4 paper size switch (3x500-sheet paper feeder only)	
	SW131	Cassette 5 media trailing edge switch (3x500-sheet paper feeder only)	
	SW132	Tray 5 paper size switch (3x500-sheet paper feeder only)	

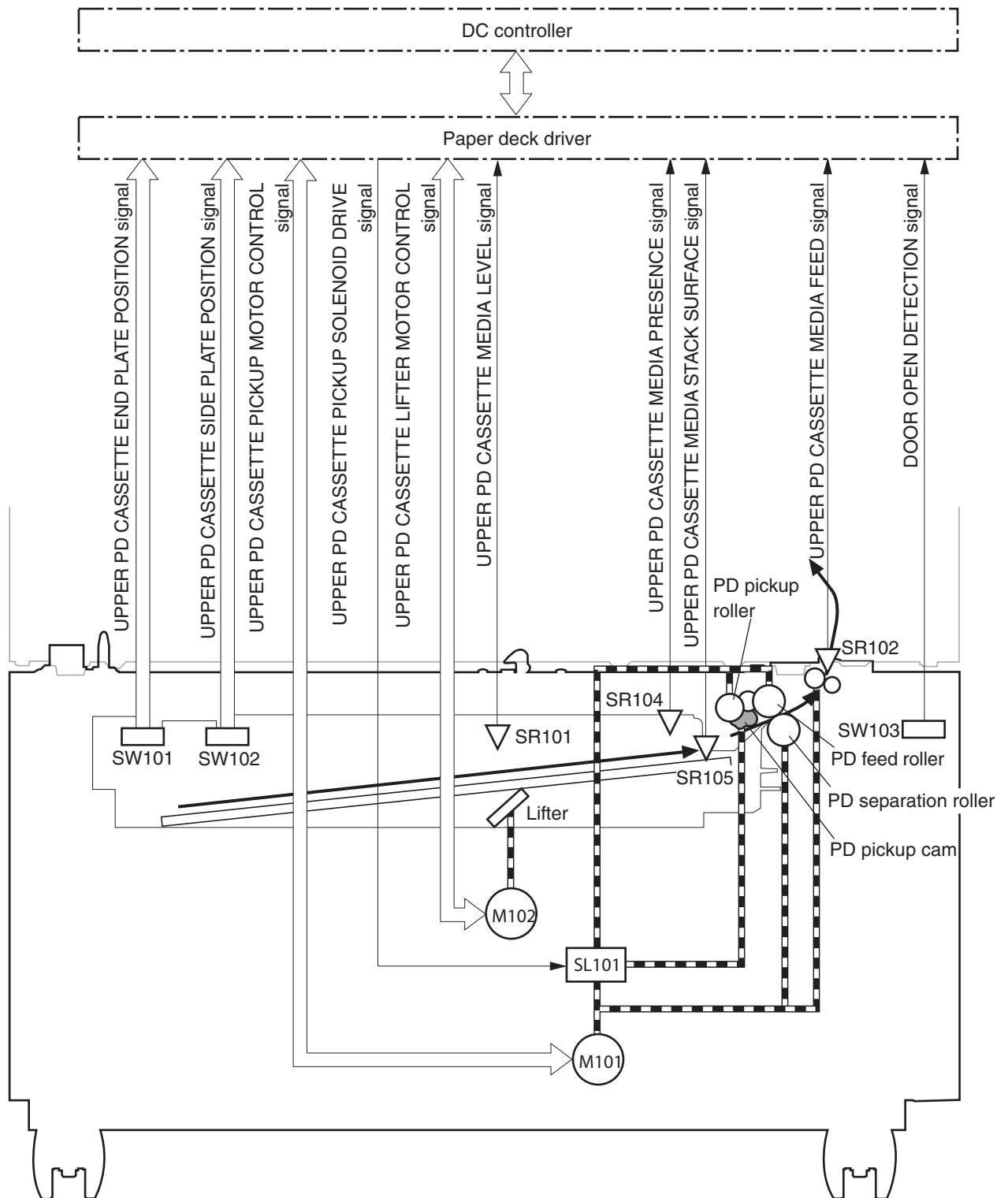
**Table 1-31 Paper feeder electrical components (continued)**

Component type	Abbreviation	Component name	Replacement assembly
Photointerrupter	SR111	Cassette 3 media-level sensor (1x500- and 3x500-sheet paper feeder)	Auto close assembly RM1-3531-000CN
	SR112	Tray 3 feed sensor (1x500- and 3x500-sheet paper feeder)	Paper pickup assembly RM2-0275-000CN
	SR113	Tray 3 paper sensor (1x500- and 3x500-sheet paper feeder)	
	SR114	Tray 3 paper surface sensor (1x500- and 3x500-sheet paper feeder)	
	SR121	Cassette 4 media-level sensor (3x500-sheet paper feeder only)	Auto close assembly RM1-3531-000CN
	SR122	Tray 4 feed sensor (3x500-sheet paper feeder only)	Paper pickup assembly RM2-0275-000CN
	SR123	Tray 4 paper sensor (3x500-sheet paper feeder only)	
	SR124	Tray 4 paper surface sensor (3x500-sheet paper feeder only)	
	SR131	Cassette 5 media-level sensor (3x500-sheet paper feeder only)	Auto close assembly RM1-3531-000CN
	SR132	Tray 5 feed sensor (3x500-sheet paper feeder only)	Paper pickup assembly RM2-0275-000CN
	SR133	Tray 5 paper sensor (3x500-sheet paper feeder only)	
	SR134	Tray 5 paper surface sensor (3x500-sheet paper feeder only)	

## Paper-feeder pickup-and-feed operation

The pickup and feed operation is the same for each of the trays.

Figure 1-60 Paper-feeder pickup-and-feed operation



The methods for all the following operations are the same as for the main cassette (Tray 2):

- Paper-size detection and cassette-presence detection
- Lift operation
- Paper-level and paper-presence detection
- Multiple feed prevention
- Jam detection

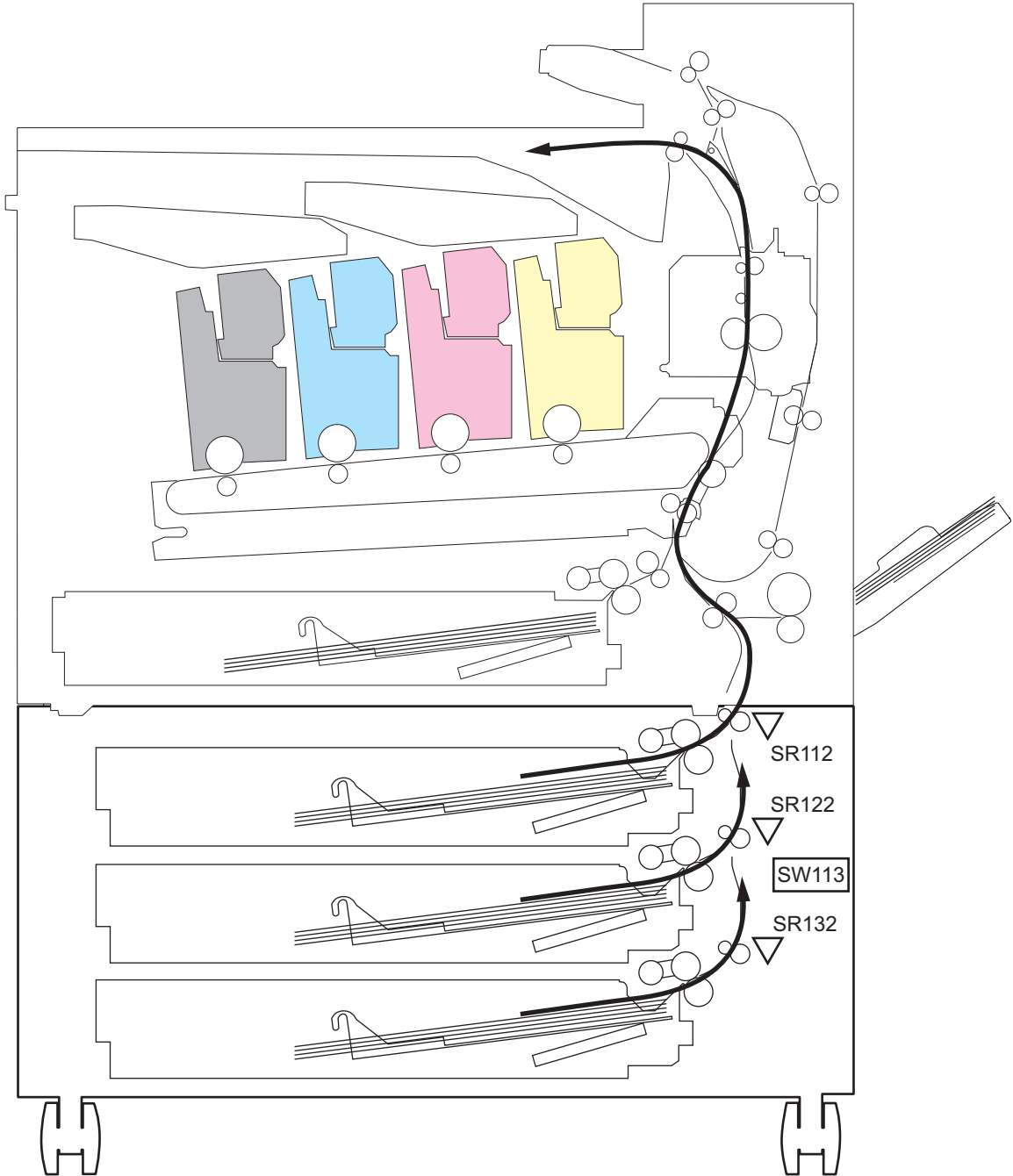
## Paper feeder jam detection

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

- Tray 3 feed sensor (SR112)
- Tray 4 feed sensor (SR122)

- Tray 5 feed sensor (SR132)
- Right door open detection switch (SW113)

**Figure 1-61** Paper feeder sensor and switch location



**Table 1-32** Paper feeder jam detection

Jams	Supported feature
No pick jam 1	Yes
No pick jam 3	Yes
No pick jam 4	Yes

**Table 1-32 Paper feeder jam detection (continued)**

<b>Jams</b>	<b>Supported feature</b>
Residual paper jam	Yes
Right door open jam	Yes

<b>Jam</b>	<b>Causes and conditions</b>
No pick jam 3	<ul style="list-style-type: none"><li>• <b>From cassette 2:</b> The cassette 1 media-feed sensor does not detect the leading edge of paper within a specified period from when the cassette 2 media-feed sensor detects the leading edge.</li><li>• <b>From cassette 3:</b> The cassette 1 media-feed sensor does not detect the leading edge of paper within a specified period from when the cassette 3 media-feed sensor detects the leading edge.</li></ul>
No pick jam 4	The MP tray (Tray 1) media-feed sensor in the product does not detect the leading edge of paper within a specified period from when the cassette 1 media-feed sensor detects the leading edge.

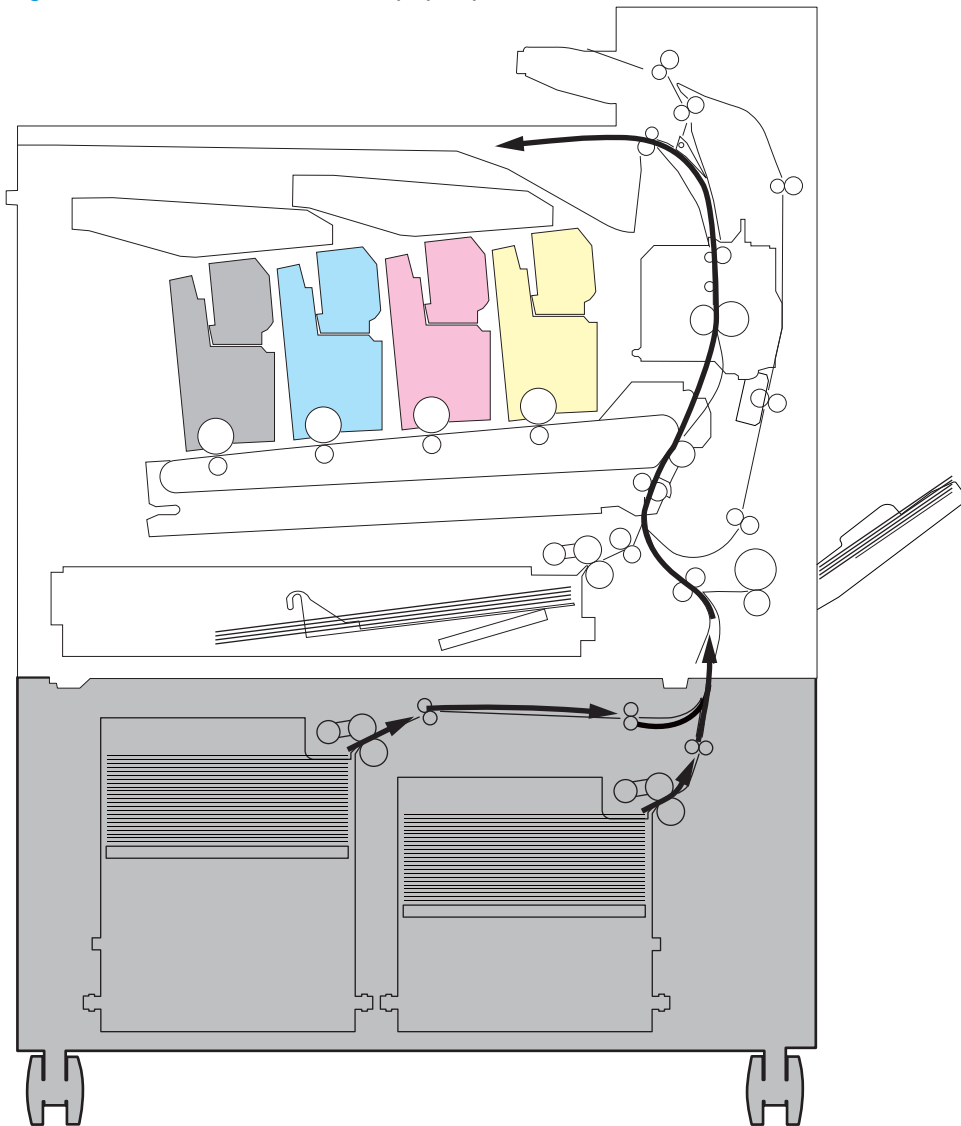
## 3,500-sheet high-capacity input (HCI) feeder

The 3,500-sheet high-capacity input (HCI) feeder is optionally installed at the bottom of the product. The 3,500-sheet paper feeder picks up one sheet of paper and feeds it to the product. The HCI controller controls the operational sequence of the paper feeder.

The HCI also detects the presence of a cassette by monitoring the switches. The HCI controller notifies the formatter through the DC controller when it determines a cassette is not installed.

The following figure shows the installation and the paper path.

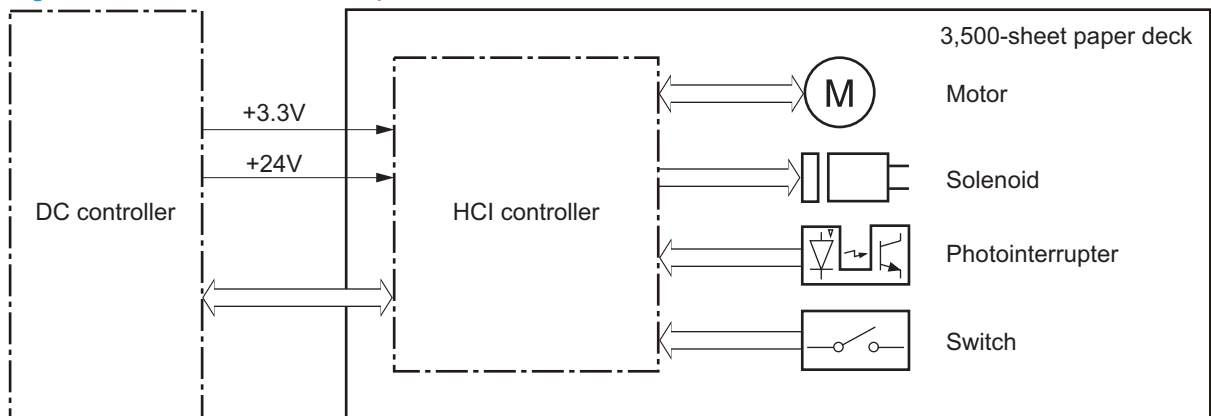
**Figure 1-62** HCI installation and paper path



## HCI electrical components

The following figure shows the signal flow of the HCI controller.

**Figure 1-63** HCI electrical components



**Table 1-33** HCI electrical components

Component type	Abbreviation	Component name	Replacement assembly
Motor	M3301	Tray 3 pickup motor	Motor, DC stepping RK2-1331-000CN
	M3302	Tray 3 lifter motor	Lifter drive assembly
	M3303	Tray 4 lifter motor	RM1-8879-000CN
	M3304	Tray 4 pickup motor	Motor, DC stepping RK2-1331-000CN
Solenoid	SL3301	Tray 3 pickup solenoid	Paper pickup assembly right RM1-8869-000CN
	SL3302	Tray 4 pickup solenoid	Paper pickup assembly left RM1-8876-000CN
Switch	SW3301	Right door open/closed switch	Switch button WC2-5512-000CN
	SW3302	Tray 3 open/closed switch	Auto close assembly
	SW3303	Tray 4 open detection switch	RM1-8880-000CN



**Table 1-33 HCI electrical components (continued)**

Component type	Abbreviation	Component name	Replacement assembly
Photointerrupter	PS3101	Tray 3 lift-up media-surface sensor	Paper pickup assembly right
	PS3102	Tray 3 paper surface sensor	RM1-8869-000CN
	PS3103	Tray 3 paper sensor	
	PS3201	Tray 4 lift-up media-surface sensor	Paper pickup assembly left
	PS3202	Tray 4 paper surface sensor	RM1-8876-000CN
	PS3203	Tray 4 paper sensor	
	PS3301	HCI feed sensor	Merge paper feed assembly RM2-0270-000CN
	PS3302	Tray 3 feed sensor	Paper pickup assembly right RM1-8869-000CN
	PS3303	Tray 3 paper size sensor	Auto close assembly
	PS3304	Tray 4 paper size sensor	RM1-8880-000CN
	PS3305	Tray 4 feed sensor	Paper pickup assembly left RM1-8876-000CN
	PS3306	HCI inner flag sensor	Paper pickup assembly left RM1-8876-000CN
	PS3308	Tray 3 media-level sensor	Media level sensor
	PS3309	Tray 4 media-level sensor	RM1-9579-000CN

## HCI motor control

The 3,500-sheet high-capacity input (HCI) has four motors for the paper-feed and cassette lift-up.

**Table 1-34 HCI electrical components**

Component name	Components driven
M3301 Tray 3 pickup motor	Pickup roller, separation roller, and feed roller for right cassette
M3302 Tray 3 lifter motor	Lifter for right cassette
M3303 Tray 4 lifter motor	Lifter for left cassette
M3304 Tray 4 pickup motor	Pickup roller, separation roller, and feed roller for left cassette

## HCI motor failure detection

The HCI controller determines the following motor failures.

**Table 1-35** HCI motor failures

<b>Failure detection function</b>	<b>Supported feature</b>
Tray 3 pickup motor failure detection	No
Tray 3 lifter motor failure detection	Yes
Tray 4 lifter motor failure detection	Yes
Tray 4 pickup motor failure detection	No

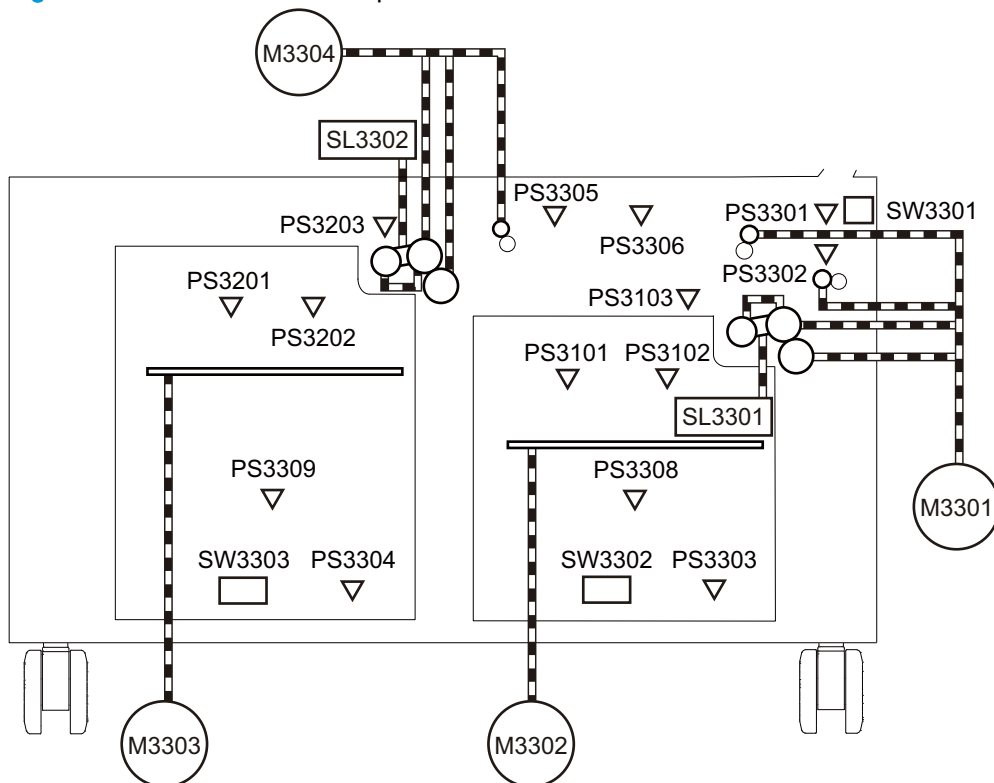
## HCI pickup-and-feed operation

The 3,500-sheet high-capacity input (HCI) feeder picks up one sheet of paper in the paper feeder cassette and feeds it to the product.

## HCI electrical components

The 3,500-sheet high-capacity input (HCI) feeder has two cassettes, and each of them operates in the same manner.

**Figure 1-64** HCI electrical components



**Table 1-36** HCI electrical components

Abbreviation	Component name	Signal
M3301	Tray 3 pickup motor	HCI RIGHT CASSETTE PICKUP MOTOR CONTROL
M3302	Tray 3 lifter motor	HCI RIGHT CASSETTE LIFTER MOTOR CONTROL
M3303	Tray 4 lifter motor	HCI LEFT CASSETTE LIFTER MOTOR CONTROL
M3304	Tray 4 pickup motor	HCI LEFT CASSETTE PICKUP MOTOR CONTROL
SL3301	Tray 3 pickup solenoid	HCI RIGHT CASSETTE PICKUP SOLENOID
SL3302	Tray 4 pickup solenoid	HCI LEFT CASSETTE PICKUP SOLENOID
CL3301	Tray 3 pickup clutch	HCI RIGHT CASSETTE PICKUP CLUTCH
CL3302	Tray 4 pickup clutch	HCI LEFT CASSETTE PICKUP CLUTCH
SW3301	Right door open detection switch	HCI RIGHT DOOR OPEN DETECTION
SW3302	Tray 3 open detection switch	HCI RIGHT CASSETTE OPEN DETECTION

**Table 1-36 HCI electrical components (continued)**

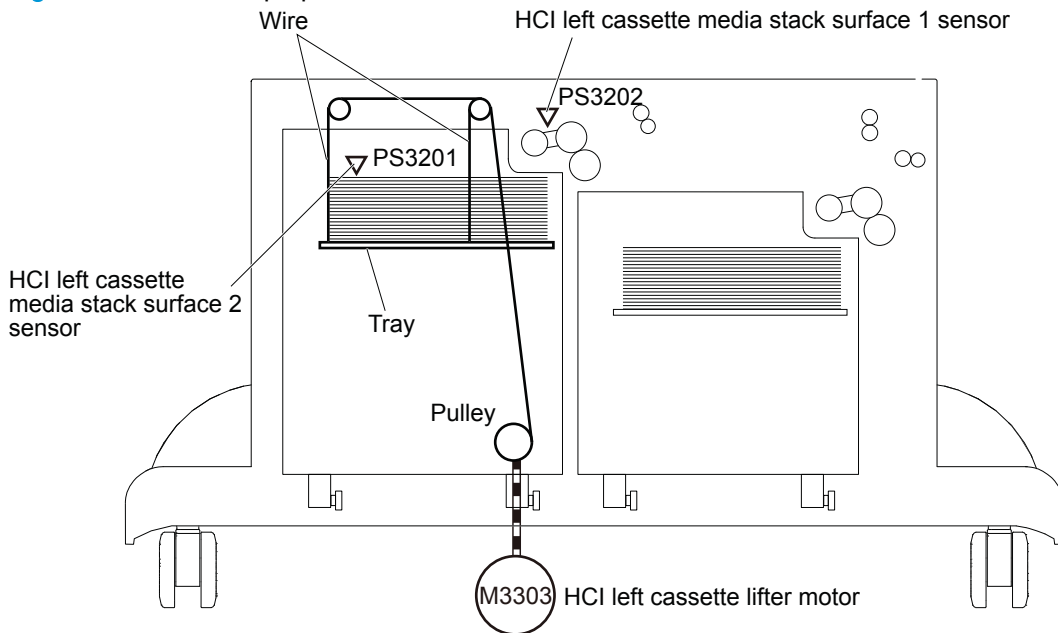
<b>Abbreviation</b>	<b>Component name</b>	<b>Signal</b>
SW3303	Tray 4 open detection switch	HCI LEFT CASSETTE OPEN DETECTION
PS3101	Tray 3 lift-up media-surface sensor	HCI RIGHT CASSETTE MEDIA STACK SURFACE 2
PS3102	Tray 3 paper surface sensor	HCI RIGHT CASSETTE MEDIA STACK SURFACE 1
PS3103	Tray 3 paper sensor	HCI RIGHT CASSETTE MEDIA OUT
PS3201	Tray 4 lift-up media-surface sensor	HCI LEFT CASSETTE MEDIA STACK SURFACE 2
PS3202	Tray 4 paper surface sensor	HCI LEFT CASSETTE MEDIA STACK SURFACE 1
PS3203	Tray 4 paper sensor	HCI LEFT CASSETTE MEDIA OUT
PS3301	HCI feed sensor	HCI MEDIA FEED
PS3302	Tray 3 feed sensor	HCI RIGHT CASSETTE MEDIA FEED
PS3303	Tray 3 paper size sensor	HCI RIGHT CASSETTE MEDIA SIZE
PS3304	Tray 4 paper size sensor	HCI LEFT CASSETTE MEDIA SIZE
PS3305	Tray 4 feed sensor	HCI LEFT CASSETTE MEDIA FEED
PS3306	HCI inner flag sensor	HCI LONG EDGE FEED GUIDE OPEN DETECTION
PS3308	Tray 3 media-level sensor	HCI RIGHT CASSETTE MEDIA LEVEL
PS3309	Tray 4 media-level sensor	HCI LEFT CASSETTE MEDIA LEVEL

## HCI lift-up operation

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

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

**Figure 1-65** 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. The tray moves up.
2. The HCI cassette lifter motor stops when the HCI cassette media stack surface sensor detects the paper surface.
3. The HCI cassette lifter motor rotates again when the HCI cassette media stack surface 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-size detection and cassette-presence detection

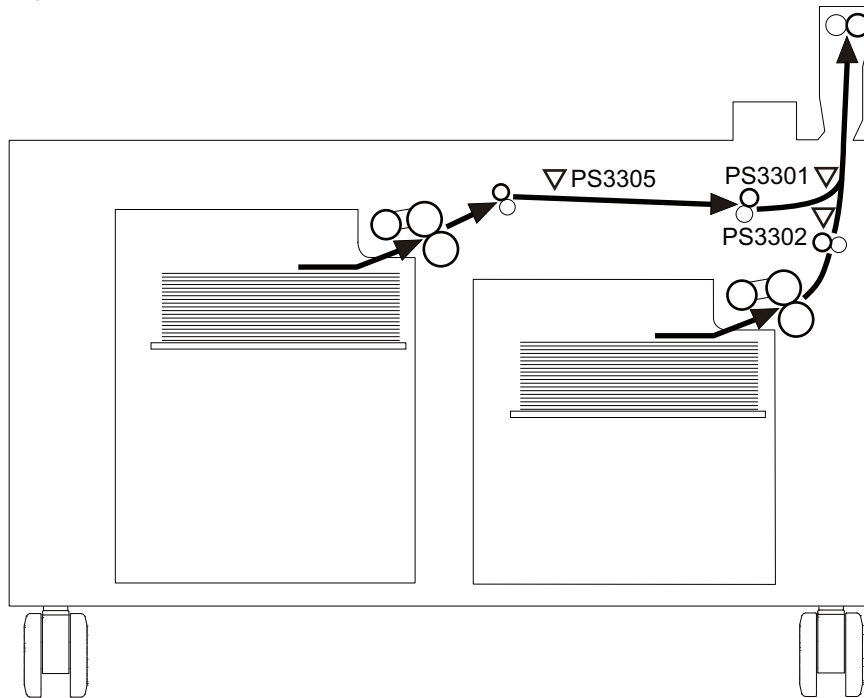
The HCI controller detects whether the paper loaded in the cassette is A4-R or Letter-R size by monitoring the cassette media-size sensors and notifies the formatter through the DC controller. The HCI controller also detects the presence of the cassette by monitoring the cassette open detection switches and notifies the formatter through the DC controller. These detections are not executed during Sleep mode.

## HCI jam detection

The 3,500-sheet high-capacity input (HCI) feeder uses the following sensors to detect the presence of the paper and to check whether the paper is being fed correctly or has jammed:

- HCI feed sensor (PS3301)
- Tray 3 feed sensor (PS3302)
- Tray 4 feed sensor (PS3305)

Figure 1-66 HCI jam sensor locations



Jam	Causes and conditions
HCI no pick jam 1	<ul style="list-style-type: none"> <li>• <b>From right cassette</b> The right cassette media-feed sensor does not detect the leading edge of paper within a specified period from when the right cassette pickup solenoid is turned on.</li> <li>• <b>From left cassette</b> The left cassette media-feed sensor does not detect the leading edge of paper within a specified period from when the left cassette pickup solenoid is turned on.</li> </ul>
HCI no pick jam 3	<ul style="list-style-type: none"> <li>• <b>From right cassette</b> The media-feed sensor does not detect the leading edge of paper within a specified period from when the right cassette media-feed sensor detects the leading edge.</li> <li>• <b>From left cassette</b> The media-feed sensor does not detect the leading edge of paper within a specified period from when the left cassette media-feed sensor detects the leading edge.</li> </ul>
HCI no pick jam 4	The MP tray (Tray 1) media-feed sensor in the product does not detect the leading edge of paper within a specified period from when the media-feed sensor detects the leading edge.

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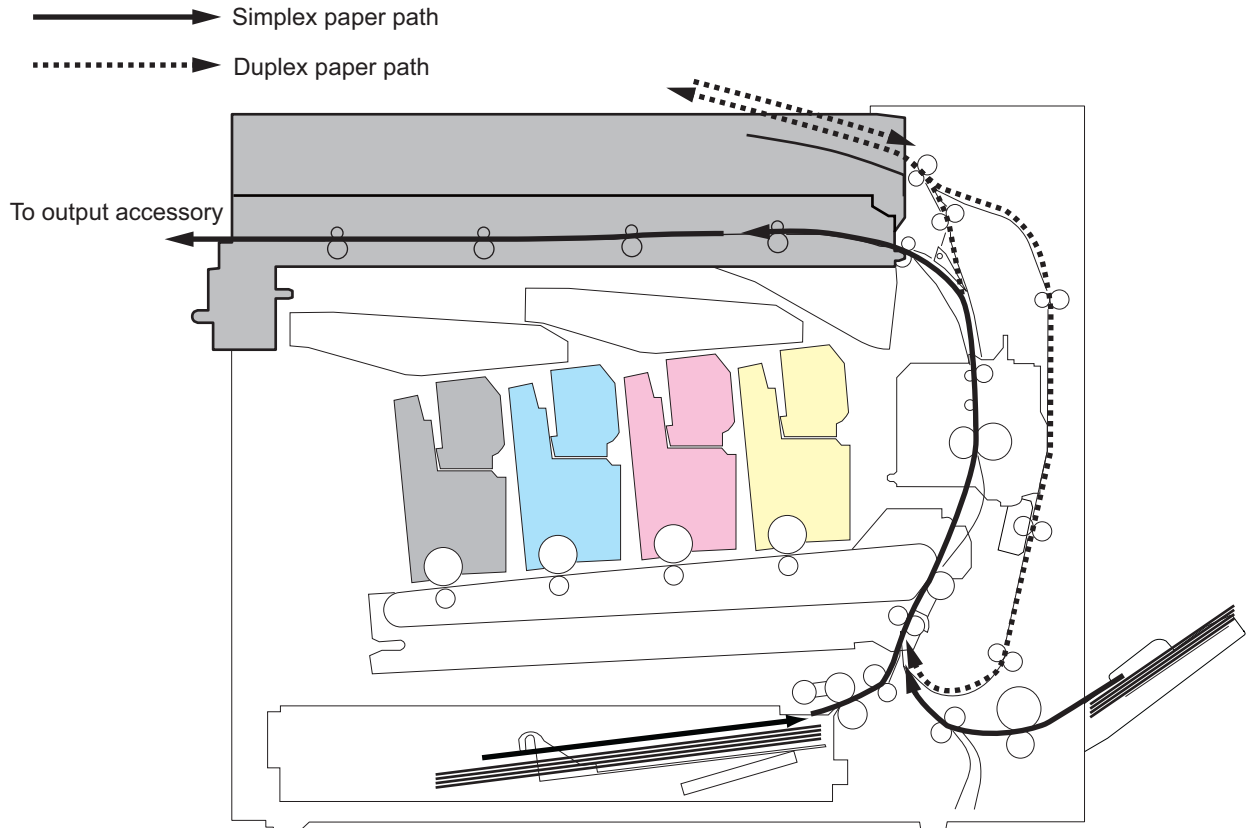
Jam	Causes and conditions
HCI Residual paper jam	Any one of the following sensors detects a paper presence when the product is turned off, when the door is closed or when the product is released from Power-save mode (Sleep mode, active off, or inactive off): <ul style="list-style-type: none"><li>• Media-feed sensor</li><li>• Right cassette media-feed sensor</li><li>• Left cassette media-feed sensor</li></ul>
HCI right door open jam	The right door open is detected during a paper feed operation.

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## Intermediate paper transportation unit

The intermediate paper transportation unit (IPTU) is optionally installed on the face-down delivery part of the product. The IPTU feeds the printed paper to the output accessory. The IPTU driver controls the operational sequence of the IPTU.

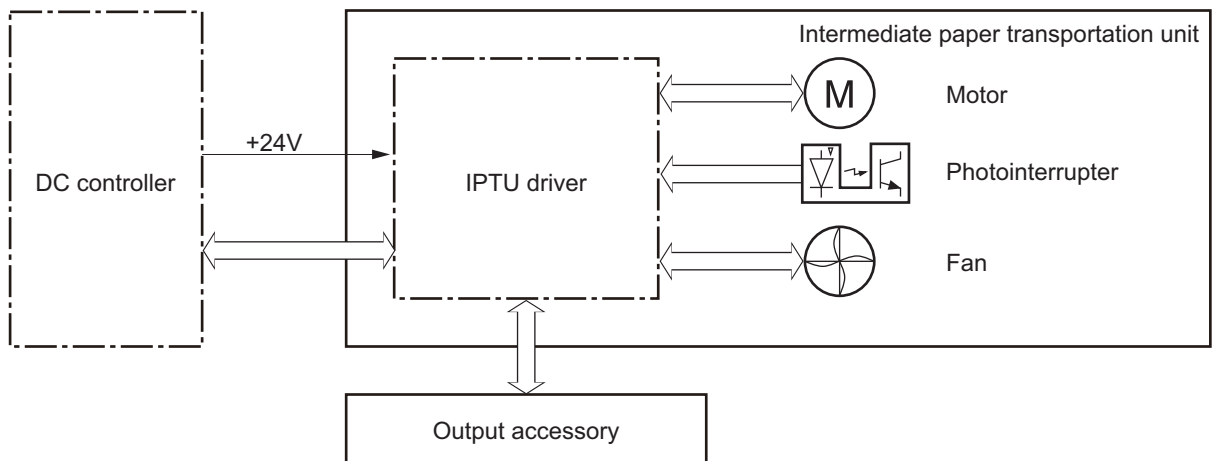
**Figure 1-67** IPTU installation and paper path



## IPTU electrical components

The following figure shows the signal flow of the IPTU driver.

**Figure 1-68** IPTU driver signal flow





**Table 1-37 IPTU electrical components**

Component type	Abbreviation	Component name	Replacement assembly
Motor	M201	Feed motor 2	Motor, DC stepping
	M202	Feed motor 1	RK2-1320-000CN
Fan	FM201	Feed area fan	Fan
			RM1-4394-000CN
Photointerrupter	SR201	IPTU feed sensor 3	Lower guide assembly (IPTU)
	SR202	IPTU feed sensor 2	
	SR203	ITPU feed sensor 1	RM2-5057-000CN
	SR204	IPTU door open/close sensor	

## IPTU motor control

The IPTU has two motors for the paper-feed.

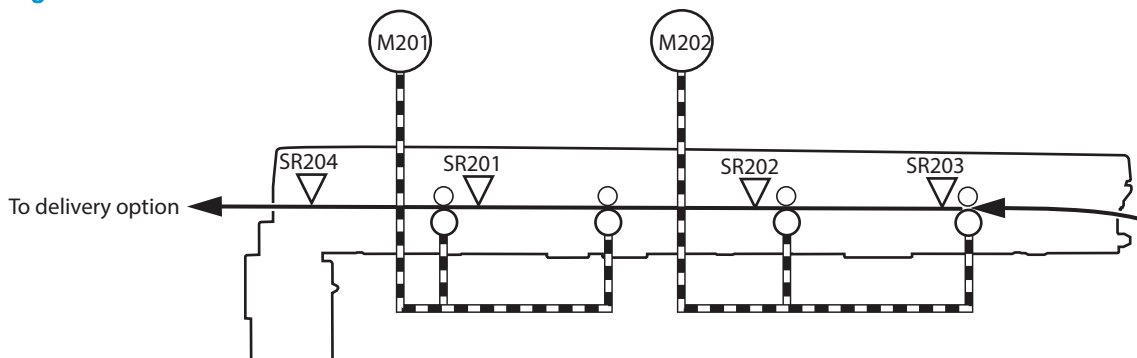
**Table 1-38 IPTU motor specifications**

Component name	Component driven
M201 Feed motor 2	Feed roller
M202 Feed motor 1	Feed roller

## Feed operation

The paper is delivered to the finishing accessory through the IPTU.

**Figure 1-69 Motors and sensors of the IPTU**



Component name	Signal	Driver
IPTU feed motor 2 M201	IPTU feed motor 2 control	IPTU driver
IPTU feed motor 1 M202	IPTU feed motor 1 control signal	IPTU driver
IPTU media feed sensor 3 SR201	IPTU media feed 3 signal	IPTU driver
IPTU media feed sensor 2 SR202	IPTU media feed 2 signal	IPTU driver

Component name	Signal	Driver
IPTU media feed sensor 1 SR203	IPTU media feed 1 signal	IPTU driver
IPTU door open/close sensor SR204	IPTU door open detection signal	IPTU driver

### IPTU sequence

1. The paper is fed into the IPTU after fusing.
2. The DC controller sends a drive command to the IPTU driver after the fusing delivery media feed sensor detects the leading edge of the paper.
3. When it receives a command, the IPTU driver drives the IPTU feed motors to rotate the PD media feed rollers.
4. The IPTU feed rollers feed the paper to the accessory.

### IPTU motor failure detection

The IPTU driver does not detect the motor failures. A jam is notified when the feed motors have failed.

### IPTU fan control

The IPTU has one fan for preventing the temperature from rising in the IPTU.

**Table 1-39 IPTU fan specifications**

Component name	Cooling area	Type	Speed
FM201    Feed area fan	Inside of the IPTU	Intake	Full

### IPTU fan failure detection

The IPTU driver determines the following fan failure.

**Table 1-40 IPTU fan failure**

Failure detection function	Supported feature
Feed area fan failure detection	Yes

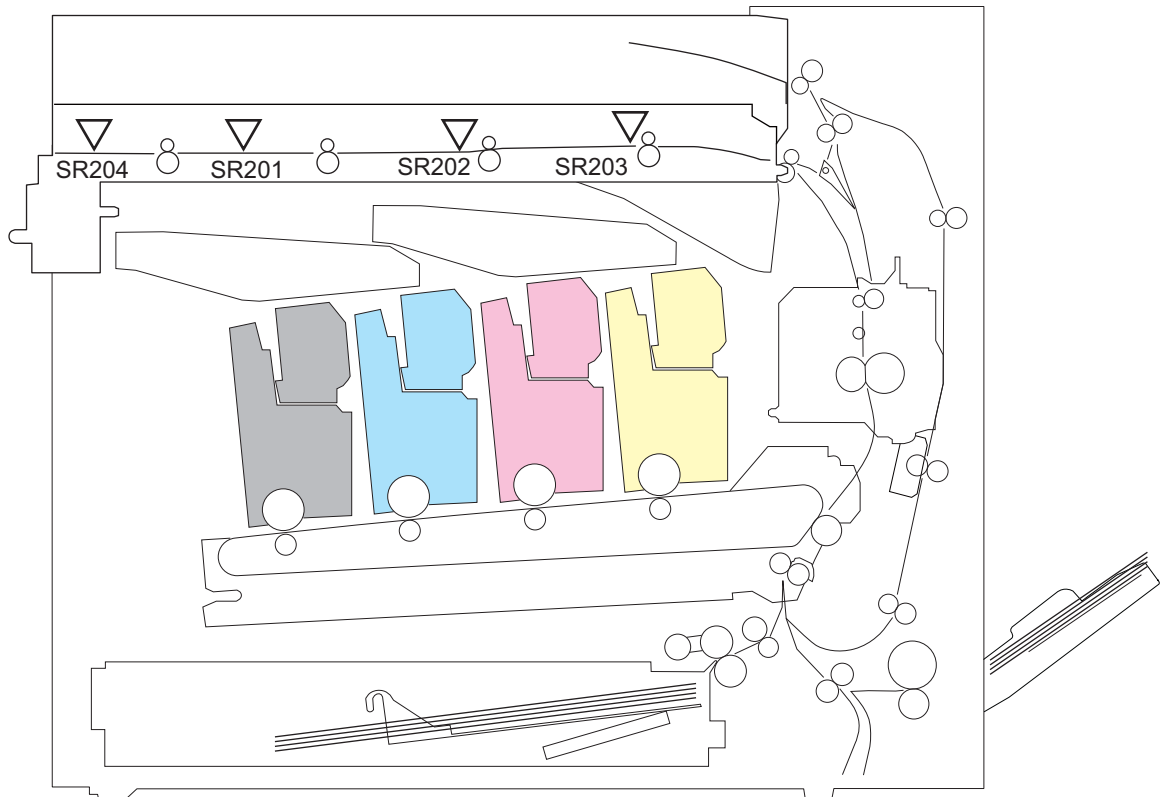
The DC controller determines a fan failure and notifies the formatter when the feed area fan locks for a specified period from when it starts up.

## IPTU jam detection

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

- IPTU feed sensor 1 (SR203)
- IPTU feed sensor 2 (SR202)
- IPTU feed sensor 3 (SR201)
- IPTU door open/close sensor (SR204)

**Figure 1-70** IPTU jam detection sensors



The IPTU detects the following jams.

**Table 1-41** IPTU jam detection

Jam	Supported feature
Delivery delay jam 1	Yes
Delivery delay jam 2	Yes
Delivery stay jam 1	Yes
Residual paper jam	Yes
Door open jam	Yes

## Stapler/stacker and stapler/stacker with hole punch

The stapler/stacker is optionally installed at side of the product. The stapler/stacker delivers the printed paper directly to the output bin or delivers the set of printed paper after stapling to the output bin. The stapler/stacker with hole puncher assembly has the hole punching function in addition to the standard stapler/stacker function. The stacker controller controls the operational sequence of the stapler/stacker. The stacker controller and the hole punch controller control the operational sequence of the stapler/stacker with hole puncher assembly.

**Figure 1-71** Staple/stacker installation and paper path

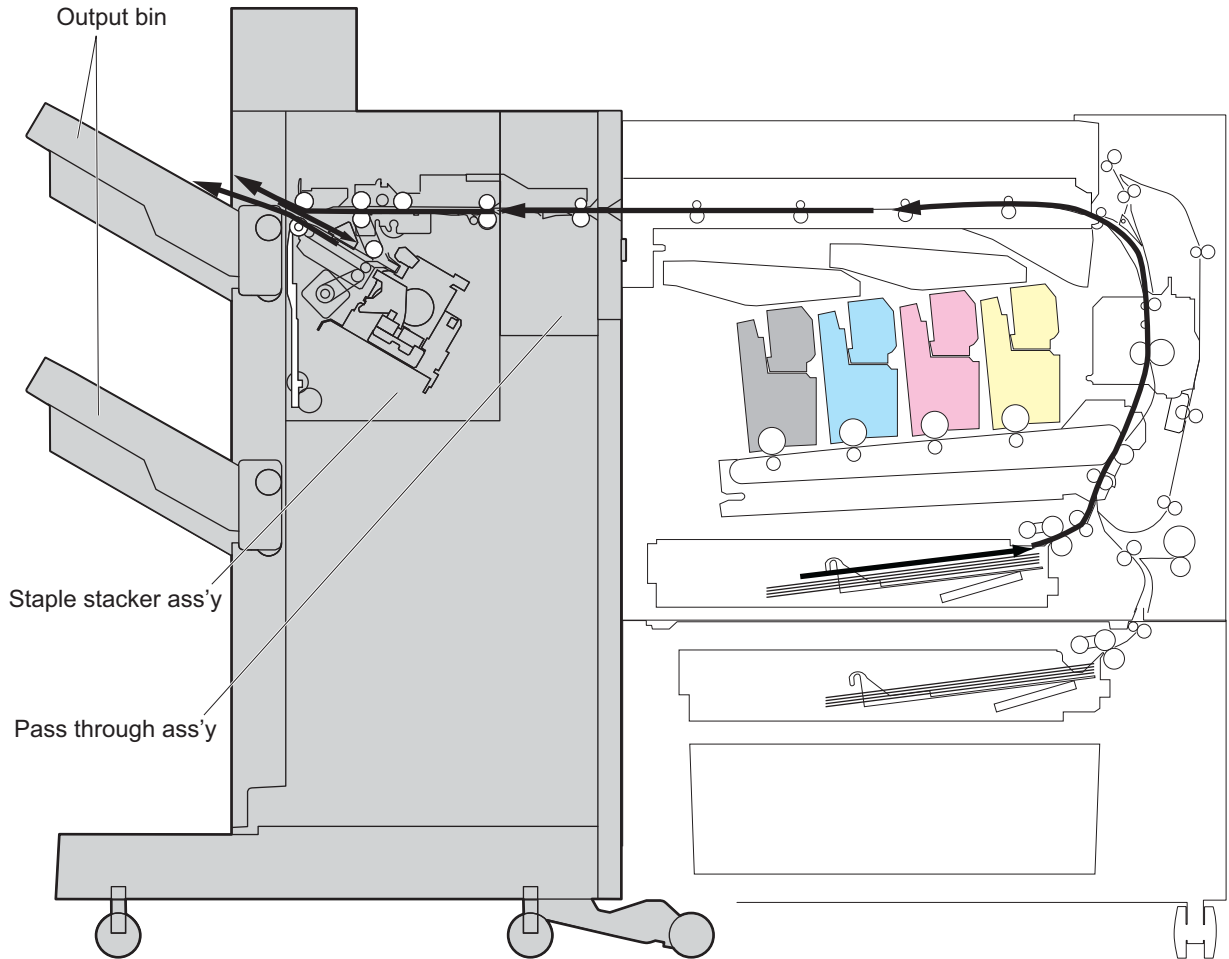
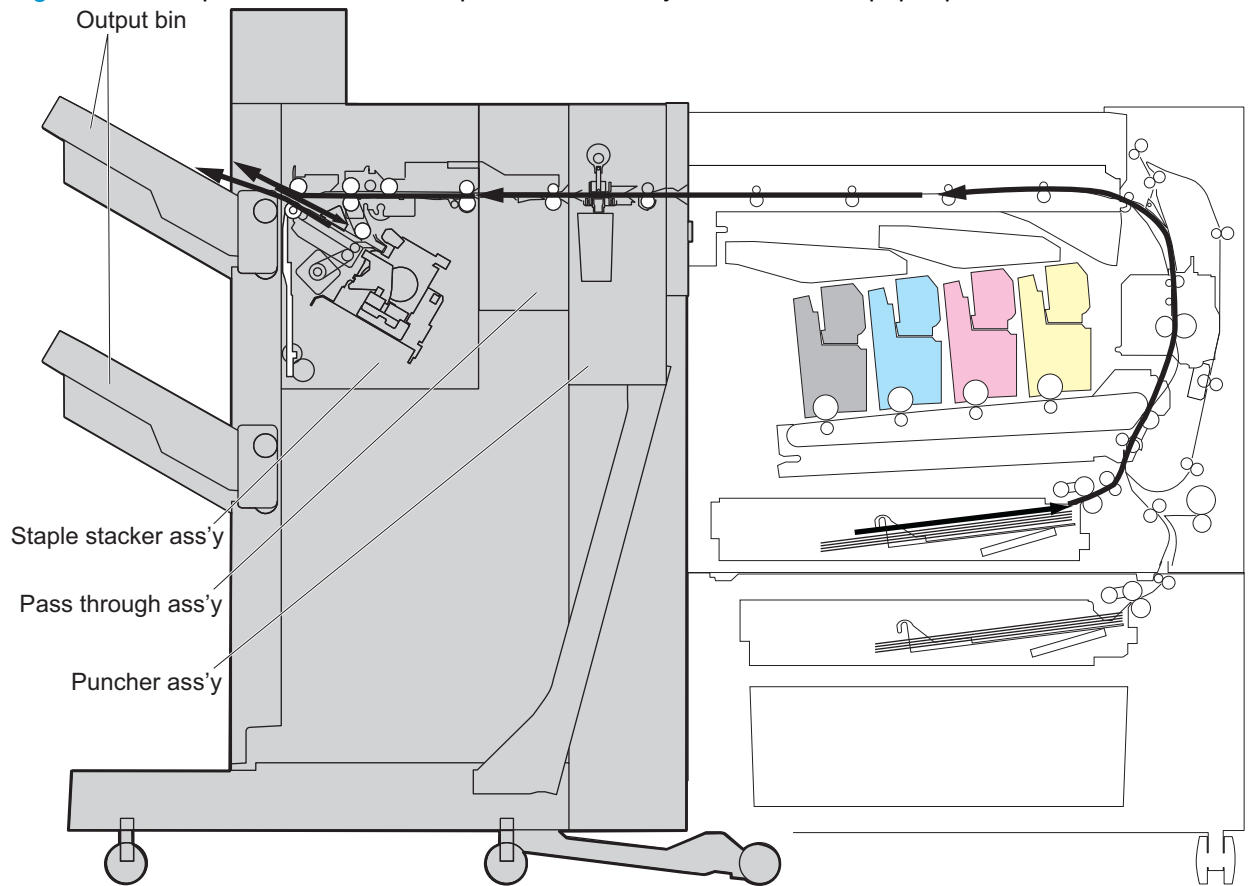


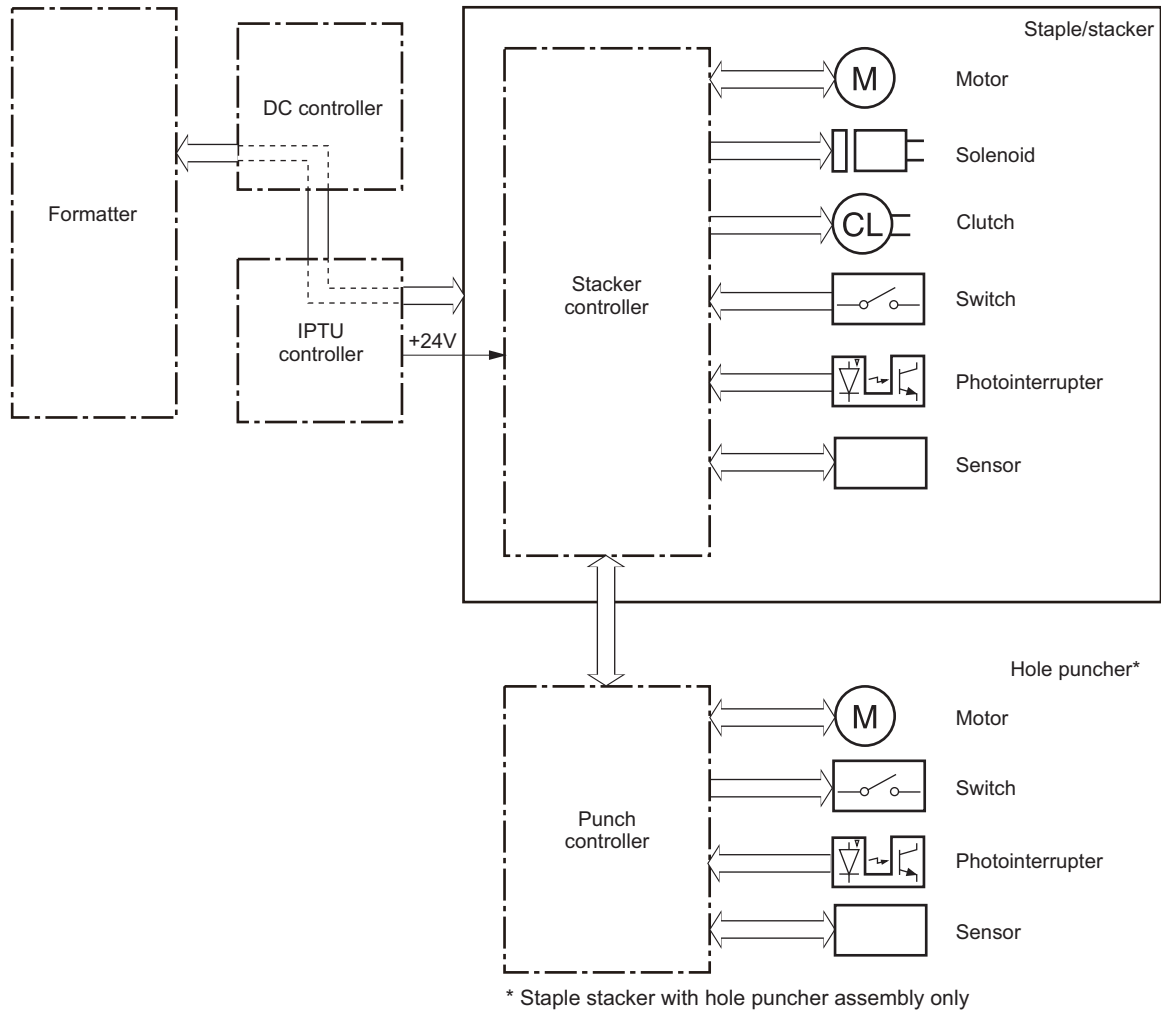
Figure 1-72 Stapler/stacker with hole puncher assembly installation and paper path



## Stapler/stacker electrical components

The following figure shows the signal flow of the stacker controller.

**Figure 1-73** Stapler/stacker controller signal flow



**Table 1-42 Stapler/stacker electrical components (1 of 2)**

Component type	Abbreviation	Component name	Replacement assembly
Motor	M41	Staple motor	Staple assembly 4G3-0938-000CN
	M61	Hole punch motor (Stapler/stacker with puncher assembly only)	Hole punch assembly A2W84-67901 (2/3 punch)
	M62	Side registration motor (Stapler/stacker with puncher assembly only)	CZ999-67902 (2/4 punch)
	M63	Hole punch feed motor (Stapler/stacker with hole puncher assembly only)	
	M101	Inlet motor	Paper feed motor assembly FM0-1889-000CN
	M102	Stack ejection motor	Stack ejection motor 4G3-0769-000CN
	M103	Front alignment plate motor	Operation tray assembly
	M104	Rear alignment plate motor	RM2-5309-000CN
	M105	Stapler mobility motor	Staple subassembly 4G3-0939-000CN
	M106	Swing motor	Press motor assembly FM2-1409-000CN
	M107	Output bin 1 shift motor	Stack upper tray assembly RM2-5324-000CN
	M108	Output bin 2 shift motor	Stack lower tray assembly RM2-5339-000CN
	M109	Trailing edge assist motor	Operation tray assembly
	M110	Gear change motor	RM2-5309-000CN
	M113	Saddle inlet motor	Paper pass assembly (stapler/stacker and Stapler/stacker with hole punch) RM2-5334-000CN Saddle motor assembly (booklet maker and booklet maker with hole punch) FM2-0737-000CN

**Table 1-42 Stapler/stacker electrical components (1 of 2) (continued)**

Component type	Abbreviation	Component name	Replacement assembly
Solenoid	SL101	Inlet roller alienation solenoid	Upper entrance guide assembly RM2-6024-000CN
	SL102	Buffer roller alienation solenoid	Upper crossmember assembly
	SL103	Delivery roller alienation solenoid	FM0-1882-000CN
	SL104	Buffer trailing edge retainer solenoid	Solenoid FH6-5100-000CN
Clutch	CL101	Shutter open-close clutch	Clutch, electromagnetic
	CL102	Stack ejection lower roller clutch	4H3-0370-000CN
Switch	MSW61	Top door open detection switch (Stapler/stacker with hole puncher assembly only)	2/3 hole punch assembly RM2-5354-000CN
			2/4 hole punch assembly RM2-5355-000CN
			2/3 hole punch assembly RM2-5354-000CN
	MSW62	Front door open detection switch (Stapler/stacker with hole puncher assembly only)	2/4 hole punch assembly RM2-5355-000CN
			2/3 hole punch assembly RM2-5354-000CN
			2/4 hole punch assembly RM2-5355-000CN
	MSW101	Front cover close detection switch	Sensor switch assembly FM2-1417-000CN
	MSW102	Swing guide open detection switch	Upper crossmember assembly FM0-1882-000CN
MSW103	Output bin 1 close detection switch	Stack upper tray assembly 4G3-0938-000CN	
MSW104	Staple safety switch	Upper crossmember assembly FM0-1882-000CN	



**Table 1-42 Stapler/stacker electrical components (1 of 2) (continued)**

Component type	Abbreviation	Component name	Replacement assembly
Photointerrupter  See <a href="#">Table 1-43 Stapler/stacker electrical components (2 of 2)</a> on page 120 for additional photointerrupters.	PI61	Side registration home position sensor (Stapler/stacker with hole puncher assembly only)	2/3 hole punch assembly RM2-5354-000CN 2/4 hole punch assembly RM2-5355-000CN
	PI62	Hole punch motor clock sensor (Stapler/stacker with hole puncher assembly only)	2/3 hole punch assembly RM2-5354-000CN 2/4 hole punch assembly RM2-5355-000CN
	PI63	Hole punch home position sensor (Stapler/stacker with hole puncher assembly only)	2/3 hole punch assembly RM2-5354-000CN 2/4 hole punch assembly RM2-5355-000CN
	PI101	Top cover open detection sensor	Paper feed motor assembly FM0-1889-000CN
	PI102	Front cover open detection sensor	Sensor switch assembly FM2-1417-000CN
	PI103	Inlet sensor	Entrance sensor bracket assembly FM2-0717-000CN
	PI104	Paper path sensor	Return roller assembly FM0-2403-000CN
	PI105	Swing guide home position sensor	Upper crossmember assembly FM0-1882-000CN
	PI106	Front alignment plate home position sensor	Operation tray assembly RM2-5309-000CN
	PI107	Rear alignment plate home position sensor	
	PI108	Processing tray media-presence sensor	
PI109	Trailing edge assist home position sensor		
PI110	Staple shift home position sensor	Stapler assembly 4G3-0938-000CN	
PI111	Output bin 1 media-presence sensor	Stack upper tray assembly 4G3-0938-000CN	

**Table 1-42 Stapler/stacker electrical components (1 of 2) (continued)**

Component type	Abbreviation	Component name	Replacement assembly
Sensor PCA	-	Output bin 1 shift area sensor PCA	
	-	Output bin 2 shift area sensor PCA	
	-	LED PCA (Stapler/stacker with hole puncher assembly only)	
	-	Photosensor PCA (Stapler/stacker with hole puncher assembly only)	
	-	Hole punch chip box full sensor PCA (Stapler/stacker with hole puncher assembly only)	

**Table 1-43 Stapler/stacker electrical components (2 of 2)**

Component type	Abbreviation	Component name	Replacement assembly
Photointerrupter continued	PI112	Output bin 2 media-presence sensor	Stack lower tray assembly RM2-5339-000CN
	PI113	Shutter home position sensor	Shutter HP assembly FM2-1401-000CN
	PI114	Output bin 1 media-surface sensor	Paper-face sensor assembly
	PI115	Output bin 2 media-surface sensor 1	4G3-0934-000CN
	PI116	Stapler alignment interference sensor	Staple subassembly 4G3-0939-000CN
	PI120	Output bin 2 media-surface sensor 2 (newly added electrical component)	Photointerrupter WG8-5593-000CN
	PI123	Swing height sensor (newly added electrical component)	Swing guide assembly RM2-5307-000CN

## Stapler/stacker motor control

The stapler/stacker with hole puncher assembly has an additional three motors in the hole puncher assembly.

**Table 1-44 Stapler/stacker motor control**

Abbreviation	Component name	Component driven
M61	Hole punch motor	Hole punch assembly
M62	Hole punch feed motor	Hole punch feed roller
M63	Side registration motor	Hole punch slide assembly

## Stapler/stacker motor failure detection

The stacker controller determines the following motor failures.

**Table 1-45 Stapler/stacker motor failure detection**

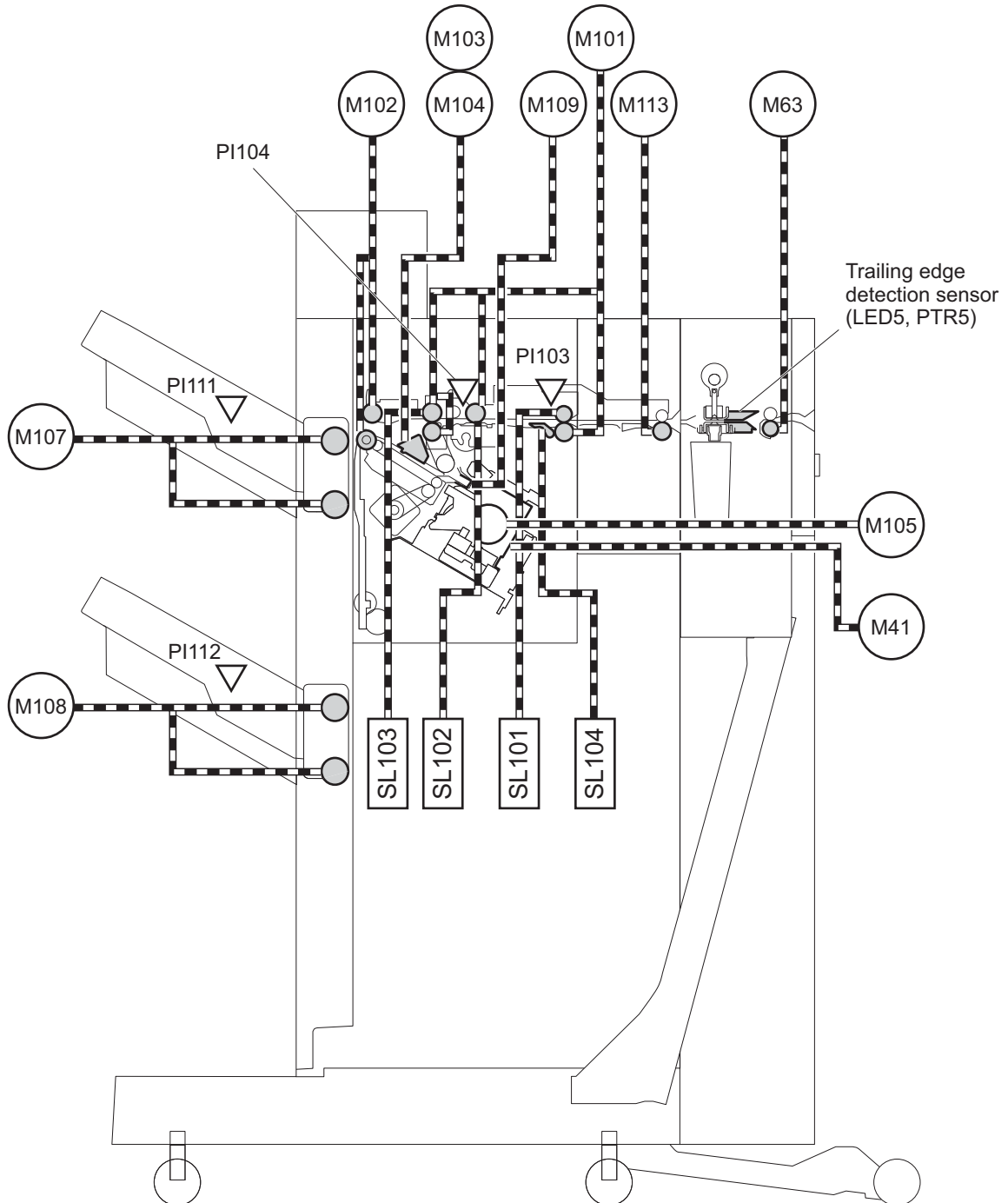
Failure detection function	Supported feature
Hole punch motor failure detection	Yes
Hole punch feed motor failure detection	No
Side registration motor failure detection	Yes

A jam is sent to the formatter if the hole punch feed motor fails.

## Stapler/stacker feed-and-delivery operation

The following figure is a diagram of the electrical components for the feed-and-delivery operation of the stapler/stacker with hole puncher assembly.

**Figure 1-74** Stapler/stacker with hole puncher assembly feed-and-delivery electrical components



**Table 1-46** Stapler/stacker with hole puncher assembly feed-and-delivery electrical components

Abbreviation	Component name
M41	Staple motor

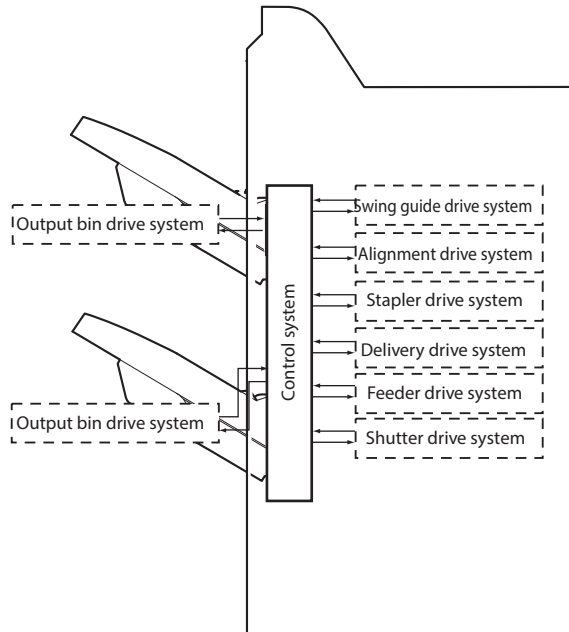
**Table 1-46 Stapler/stacker with hole puncher assembly feed-and-delivery electrical components (continued)**

<b>Abbreviation</b>	<b>Component name</b>
M63	Hole punch feed motor (stapler/stacker with hole puncher assembly only)
M101	Inlet motor
M102	Stack ejection motor
M103	Front alignment plate motor
M104	Rear alignment plate motor
M105	Stapler mobility motor
M107	Output bin 1 shift motor
M108	Output bin 2 shift motor
M109	Trailing edge assist motor
M113	Saddle inlet motor
SL101	Inlet roller alienation solenoid
SL102	Buffer roller alienation solenoid
SL103	Delivery roller alienation solenoid
SL104	Buffer trailing edge retainer solenoid
PI103	Inlet sensor
PI104	Paper path sensor
PI111	Output bin 1 media-presence sensor
PI112	Output bin 2 media-presence sensor
N/A	LED PCA (stapler/stacker with hole puncher assembly only)
N/A	Photosensor PCA (stapler/stacker with hole puncher assembly only)

## Stapler/stacker basic operation

The stapler/stacker delivers jobs from the product in several ways. The modes of delivery include simple stacking, job offset, and stapling. The stacker controller PCA controls all operations involved in these modes, according to the commands from the product.

**Figure 1-75** Basic operation of the stapler/stacker



**NOTE:** With job offset, each sheet of a job is shifted to one side in the output bin in order to keep each job separate from the others.

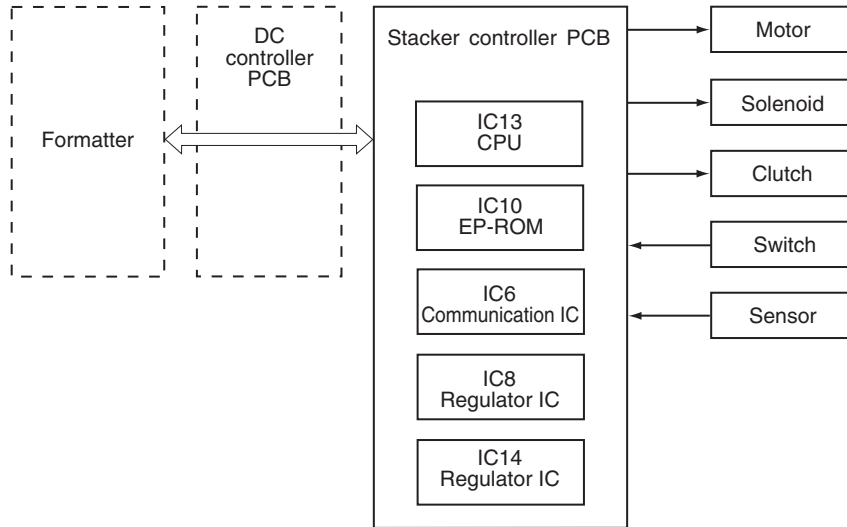
## Stapler/stacker electrical circuitry

The stacker controller PCA controls the stacker operation sequence. A 16-bit microprocessor (CPU) is installed on the stacker controller PCA to control the stacker operation sequence and controller area network (CAN) signal communication with the video controller PCA. The stacker controller PCA drives solenoids, motors, and so forth in response to the commands received from the video controller through the CAN signal communication line. In addition, the stacker controller PCA reports information about various sensors and switches to the video controller through the CAN signal communication line. Major functions of the IC chips installed on the stacker controller PCA are as follows:

- IC13 (CPU): Controls the operation sequence
- IC10 (EEP-ROM): Backs up adjustment values
- IC6 (Communication IC): Communicates with the host machine

- IC8 (Regulator IC): Generates 5 Vdc
- IC14 (Regulator IC): Generates 3.3 Vdc

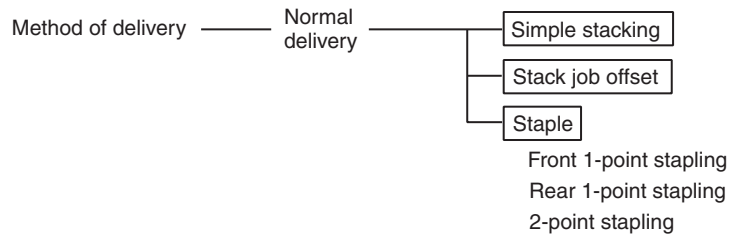
**Figure 1-76** Electrical circuitry of the stapler/stacker



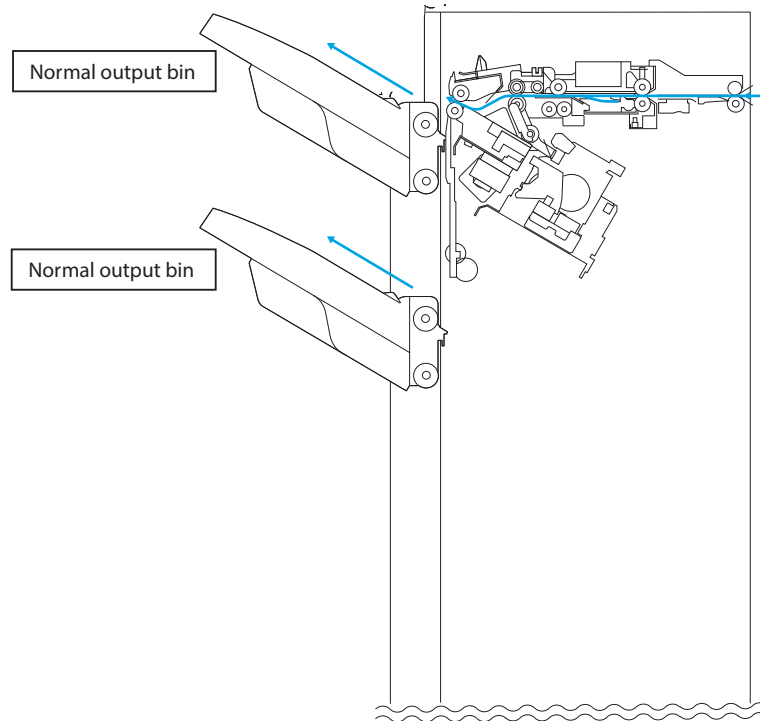
## Stapler/stacker feed drive system

Based on commands from the product, the stapler/stacker delivers jobs to the output bins in the appropriate mode: simple stacking, job offset, and stapling.

**Figure 1-77** Electrical circuitry of the stapler/stacker



**Figure 1-78** Output bins of the stapler/stacker



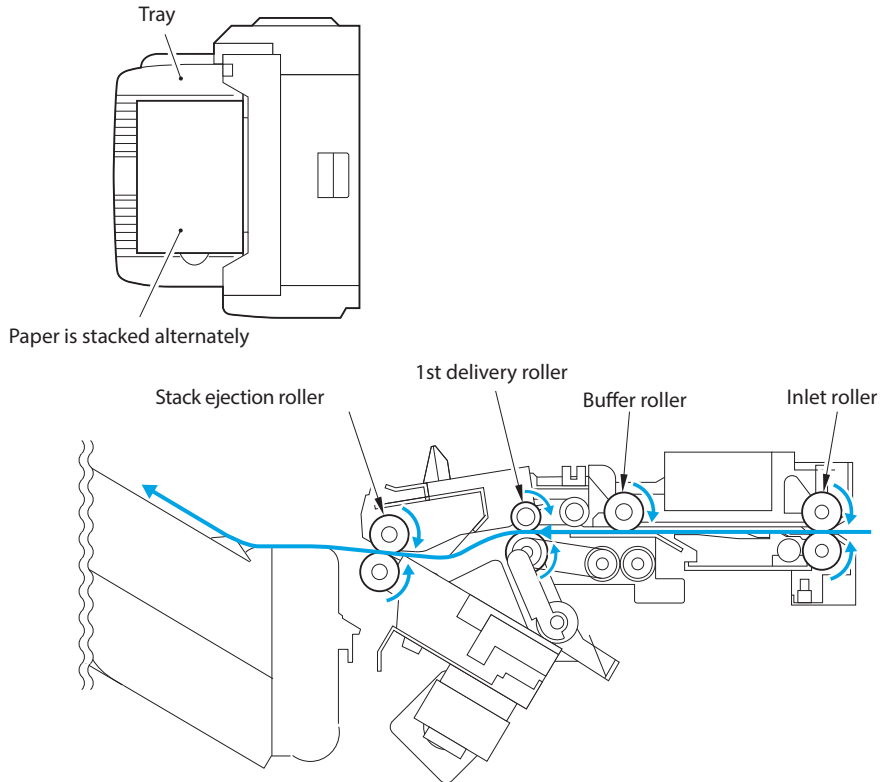


## Paper delivery path (stapler/stacker and booklet maker)

There are two paper paths to output bin 1 and output bin 2 depending on the ejection process.

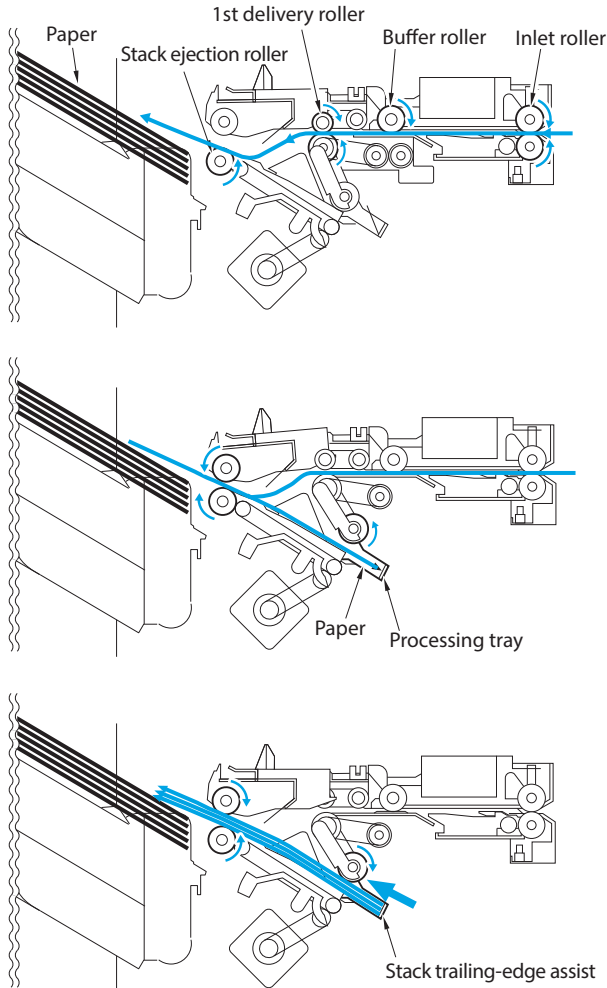
All sheets are ejected through the following path when the accessory is set to non-sort.

**Figure 1-79** Paper path when set to non-sort



When the product sorts paper size other than A4, B5, or LTR or when set to staple and sort, copies are delivered to the processing output bin for aligning and stapling and then ejected using the stack trailing-edge assist.

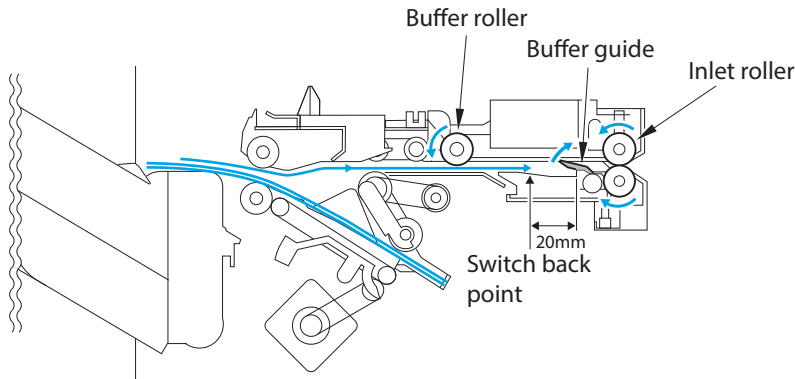
**Figure 1-80** Paper path for sizes other than A4, B5, or LTR



With A4, B5, or LTR paper sizes, two sheets of paper feed into the buffer (two or three sheets if 2-point stapling). The sheets are then aligned and stapled in the processing output bin and ejected. While stapling or offset is performed, copies are simultaneously ejected, delivered to the buffer, and stacked in the processing output bin. Copies are received continuously from the product. The stack delivered from the buffer is ejected to the processing output bin, and the stack processed in the processing output bin is ejected to the output bin. Simultaneous stack ejection is described below for two A4 copies between stacks when the equipment is set to sort.

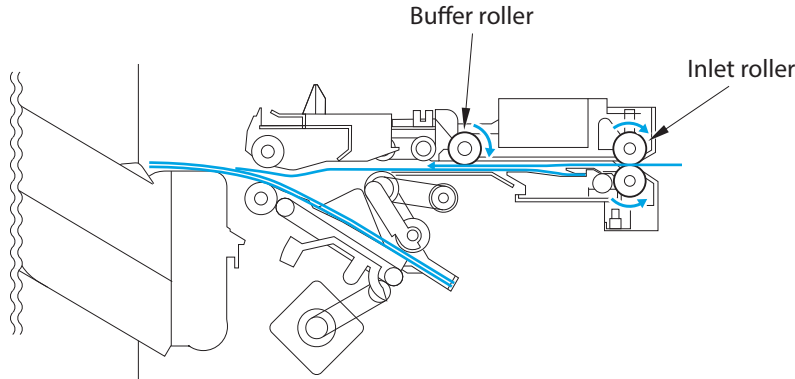
1. When the first paper reaches the switchback point, it is sent to the buffer unit, and the buffer guide holds the trailing edge of the paper.

**Figure 1-81** Paper path (1 of 5)



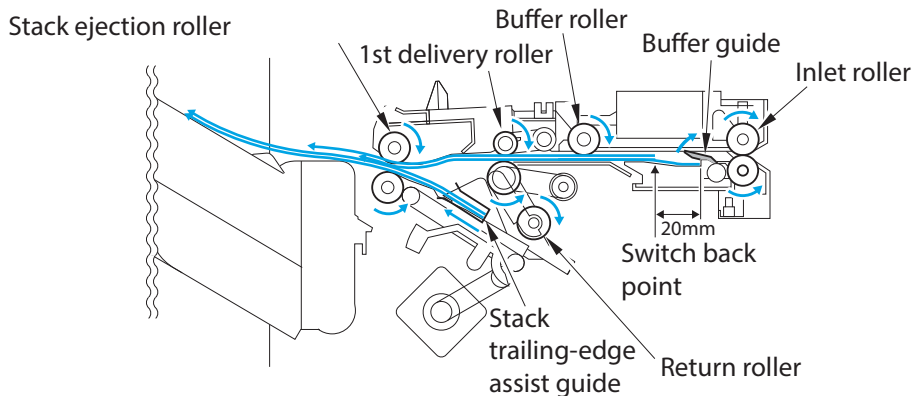
2. When the first sheet arrives at the buffer, the second sheet is sent from the product.

**Figure 1-82** Paper path (2 of 5)



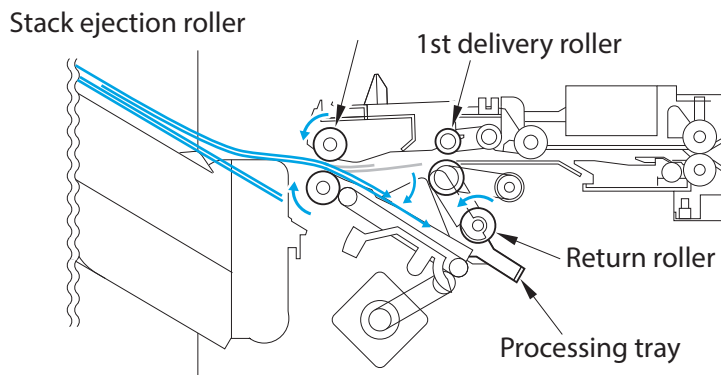
3. The first delivery roller descends and works with the stack-delivery roller to deliver the first and second sheet to the processing output bin. At the same time, the return roller and stack trailing-edge assist send the stack in the processing output bin to the output bin.

**Figure 1-83** Paper path (3 of 5)



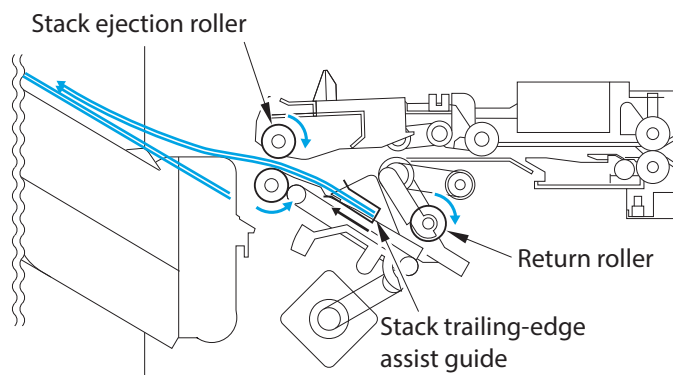
- When the stack in the processing output bin is sent to the delivery output bin and the trailing edge of the first and second paper exits the first delivery roller, the stack-delivery roller and return roller deliver the first and second sheet to the processing output bin.

**Figure 1-84** Paper path (4 of 5)



- The first and second paper delivered to the processing output bin are aligned and then delivered to the output bin.

**Figure 1-85** Paper path (5 of 5)



## Stack operation

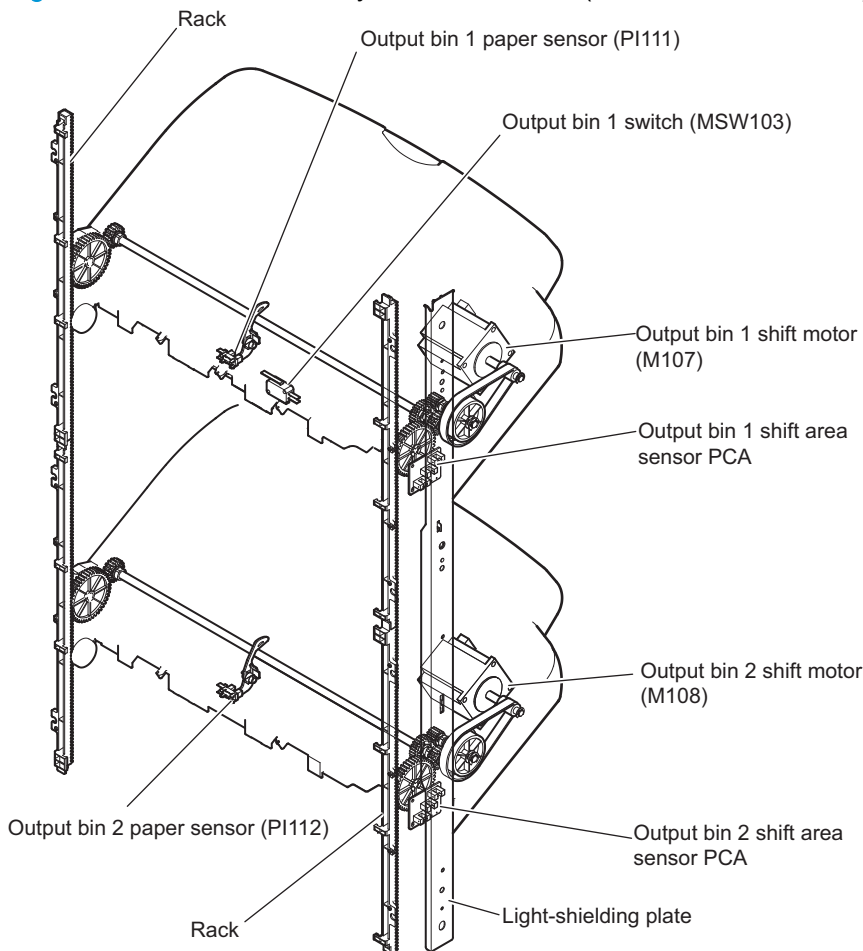
### Output bin operation

This accessory has an upper output bin (output-bin 1) and a lower output bin (output-bin 2).

- The output-bin-1-shift motor (M107) and output-bin-2-shift motor (M108) move output-bin 1 and output-bin 2 up and down independently.
- The output-bin-1 paper sensor (PI111) and output-bin-2 paper sensor (PI112) detect paper stacked on the output bin.
- The output-bin-1 paper-surface sensor (PI141) and output-bin-2 paper-surface sensor (PI115) detect the home positions of output-bin 1 and output-bin 2.
- The home position is the top surface of the paper when paper is stacked on the output bin, or the position where the edge of the output bin is detected when no paper is stacked.
- When the power is turned on, the stacker controller PCA drives the output-bin-1-shift motor (M107) and output-bin-2-shift motor (M108) to return the output bin to home position. If already

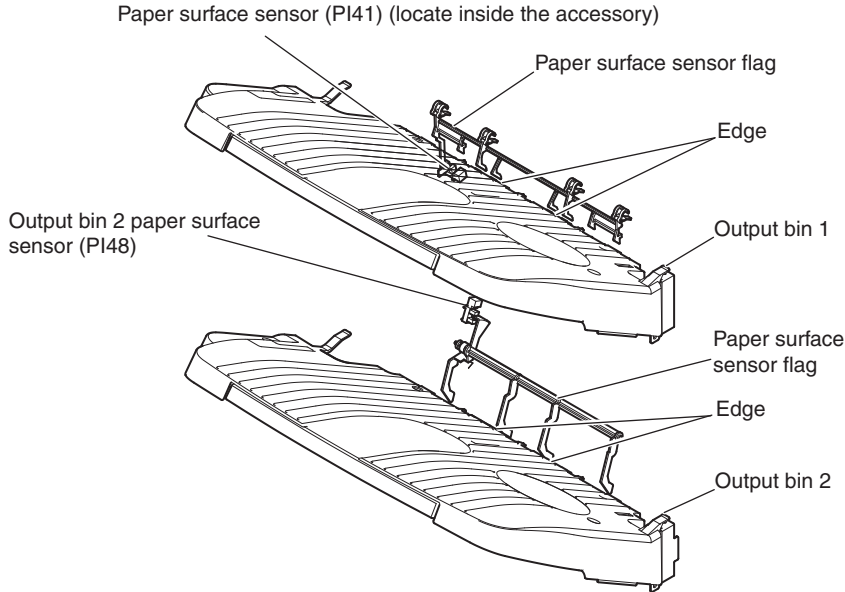
- at home position, the output bin is moved from the home position and then returned. If both output bins are at home position, this is performed for output-bin 1 and then for output-bin 2.
- If the product specifies output-bin 2, the stacker controller PCA shifts the output bin so that output-bin 2 is at the delivery port. When paper is stacked on the output bin, a prescribed number of pulses drive the output-bin-1-shift motor (M107) or output-bin-2-shift motor (M108) to lower the output bin. Then the output bin returns to home position to prepare for the next stack.
  - The upper and lower limits of the output bin are detected by three area sensors (PS981, PS982, and PS983) on the output-bin-1- and output-bin-2-shift area sensor PCA.
  - The stacker controller PCA stops driving the output-bin-1-shift motor (M107) and output-bin-2-shift motor (M108) when it detects the upper or lower limit of the output bin. Also, the on/off combinations of the area sensors (PS981, PS982, PS983) are used to detect over-stacking according to the stack height for large-size and mixed stacking.
  - The stacker controller PCA stops supplying +24 Vdc to the output-bin-1-shift motor (M107) and stops the stacker operation when the output-bin-1 switch (MSW103) turns on.

**Figure 1-86** Items detected by the area sensors (PS981, PS982, PS983)



**NOTE:** PI111 is located on output-bin 1. PI112 is located on output-bin 2.

**Figure 1-87** Output-bin components



When the output bin capacity is reached, the ON/OFF combinations of the area sensors (PS981, PS982 and PS983) are used to determine an over-stacking condition. Area sensor conditions are as follows:

**Table 1-47** Stapler/stacker output bin 1 shift area sensor PCA

Detection item	Output bin 1 shift area sensor PCA		
	Area sensor 1	Area sensor 2	Area sensor 3
	(PS983)	(PS982)	(PS981)
Output bin 1 upper limit	ON	OFF	OFF
Stack count 650 sheets exceeded	ON	ON	ON
Stack count 1,300 sheets exceeded	ON	ON	ON
Output bin 1 lower limit	ON	ON	OFF

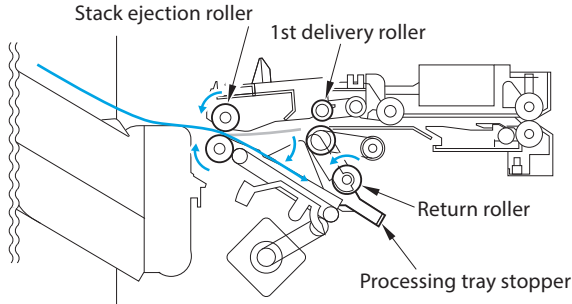
**Table 1-48** Stapler/stacker output bin 2 shift area sensor PCA

Detection item	Output bin 2 shift area sensor PCA		
	Area sensor 1	Area sensor 2	Area sensor 3
	(PS983)	(PS982)	(PS981)
Output bin 2 upper limit	ON	OFF	ON
Stack count 650 sheets exceeded	ON	ON	ON
Stack count 1,300 sheets exceeded	OFF	ON	ON
Stack count 1,700 sheets exceeded	OFF	OFF	ON
Output bin 2 lower limit	OFF	ON	OFF

## Process output bin paper-stacking operation

When the trailing edge of the paper exits the first delivery roller, the sheet is delivered to the processing output bin by the stack-delivery roller and return roller and then pushed against the processing output-bin stopper.

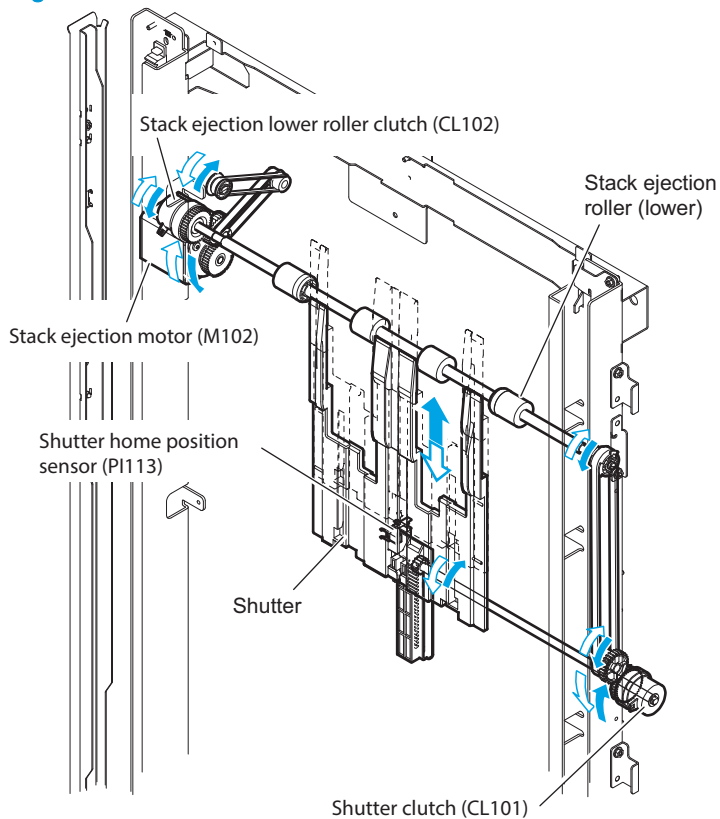
**Figure 1-88** Process output bin



## Shutter operation

To prevent the delivery section from catching stacked paper in output-bin 1 when it passes, a shutter is provided at the delivery section. The shutter closes when output-bin 1 passes, even when no paper is stacked. When the shutter clutch (CL101) and stack-ejection lower-roller clutch (CL102) are on, the shutter moves up (closes) when the stack-ejection motor (M102) turns forward and moves down (open, delivery enabled), which occurs when the motor turns backward. The shutter home-position sensor (PI113) detects the opening and closing of the shutter.

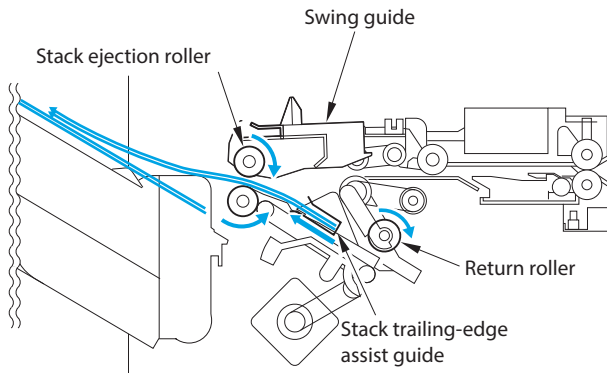
**Figure 1-89** Shutter location



## Stack delivery operation

The stack is ejected each time 2-4 large sheets or 2-6 small sheets are offset on the processing output bin. The swing motor turns and the swing guide descends causing the upper and lower stack-delivery rollers to hold the stack. The stack-delivery motor turns the stack-delivery roller and return roller. At the same time, the stack trailing-edge assist motor starts the stack trailing-edge assist guide, and the stack held by the stack-delivery rollers is moved forward. When the stack trailing-edge assist motor reverses, the stack trailing-edge assist guide returns to home position. The stack-delivery motor then ejects the stack with the upper and lower stack-delivery rollers.

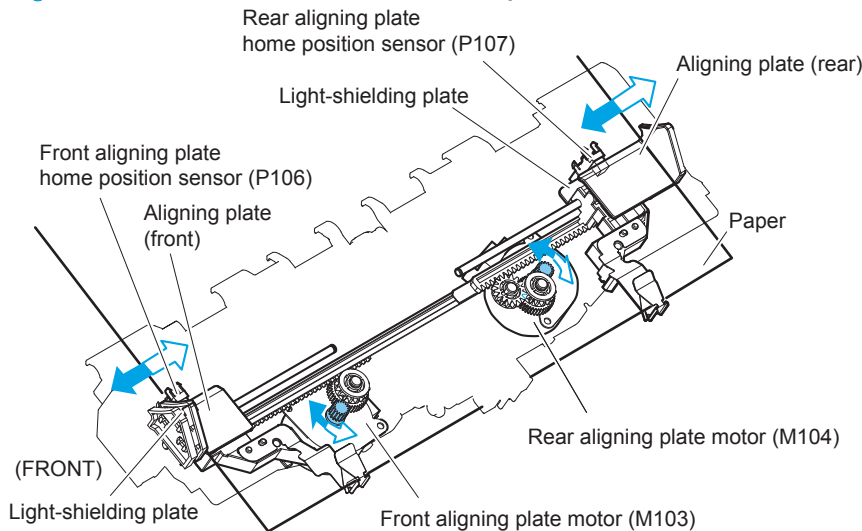
**Figure 1-90** Stack delivery



## Offset operation

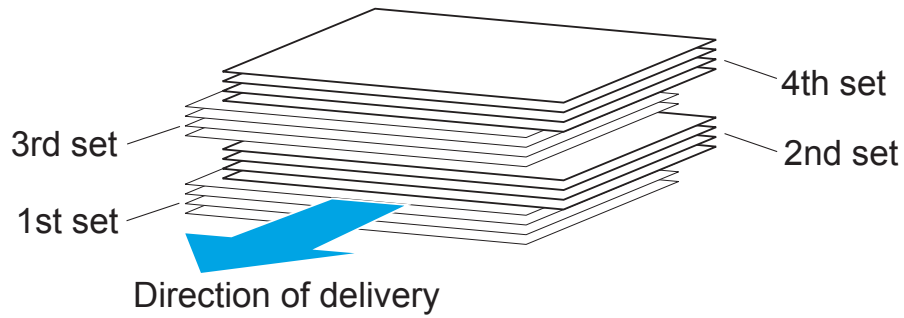
The job-offset operation offsets the paper stack to the front or rear when ejecting to sort the paper stack. The forward/backward movement of the sheet delivered to the processing output bin is controlled by the front-aligning plate and rear-aligning plate. The aligned copies are stapled or ejected according to the signal from the product. When the power is turned on, the stacker controller PCA drives the aligning plate front motor (M103) and aligning-plate rear motor (M104) to return the two aligning plates to the home position. The name and function of motors and sensors used by the stack job-offset function are shown below.

**Figure 1-91** Motors and sensors for stack job offset

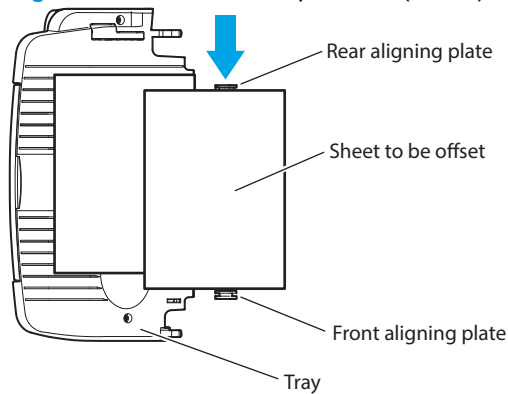




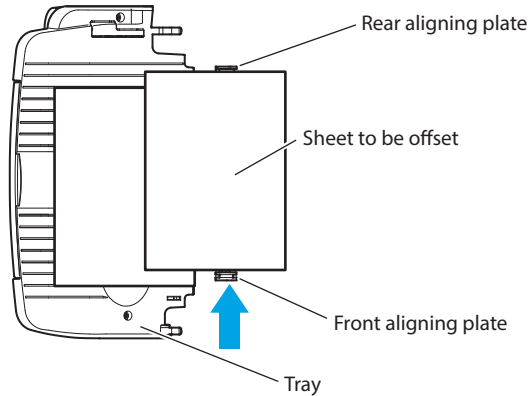
**Figure 1-92** Stack job offset example  
Results Delivering 4 sets



**Figure 1-93** Job offset operation (1 of 2)



**Figure 1-94** Job offset operation (2 of 2)



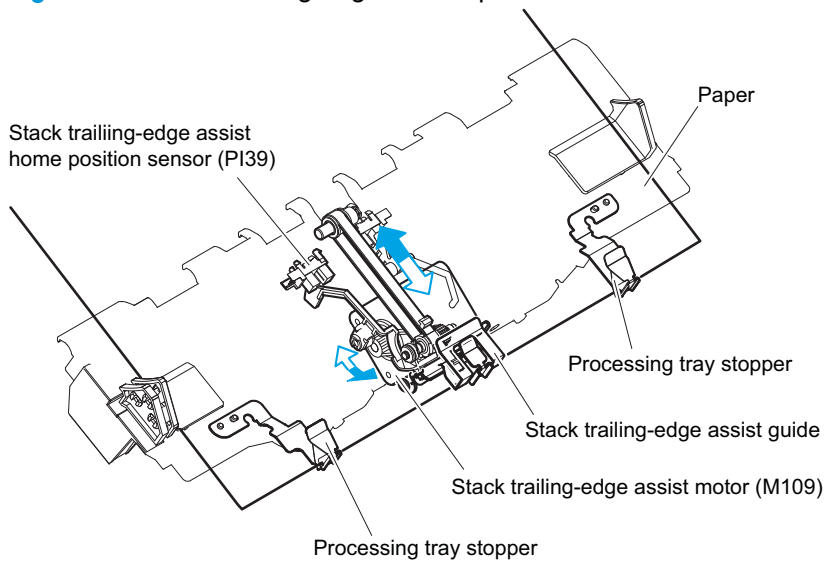
**Table 1-49** Motors for the stack job offset

Motor	Function
Front-aligning-plate motor (M103)	Aligns paper in the processing output bin to the front
Rear-aligning-plate motor (M104)	Aligns paper in the processing output bin to the rear
Swing motor (M106)	Moves the swing guide up/down
Stack trailing-edge assist motor (M109)	Carry the stack end during stack ejection

## Stack trailing-edge assist operation

To improve stacking performance when ejecting jobs delivered to the processing output bin, a stack trailing-edge assist guide supports the back of the stack during stack ejection.

**Figure 1-95** Stack trailing-edge assist operation

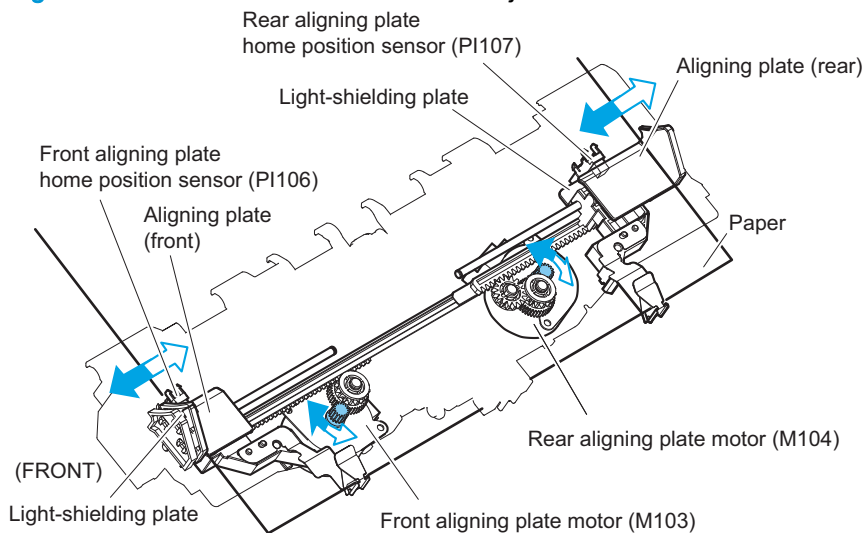


## Intermediate-process output-bin assembly

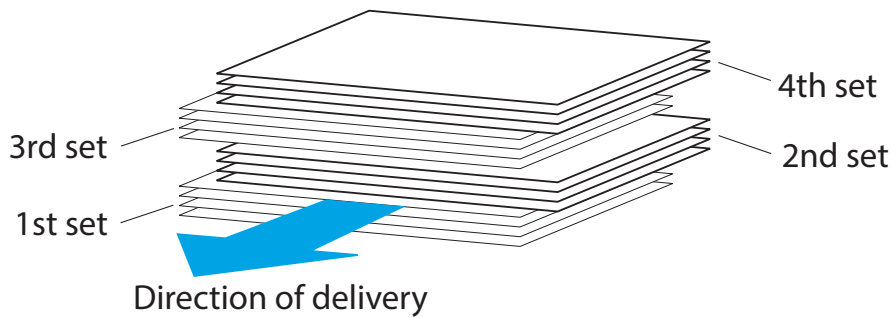
### Stack job offset

The job-offset operation offsets the paper stack to the front or rear when ejecting to sort the paper stack. The forward/backward movement of the sheet delivered to the processing output bin is controlled by the front-aligning plate and rear-aligning plate. The aligned copies are stapled or ejected according to the signal from the product. When the power is turned on, the stacker controller PCA drives the aligning-plate front motor (M103) and aligning-plate rear motor (M104) to return the two aligning plates to home position. The name and function of motors and sensors used by the stack job-offset function are shown below.

**Figure 1-96** Motors and sensors for stack job offset



**Figure 1-97** Stack job offset example  
Results Delivering 4 sets



**Table 1-50** Motors for the stack job offset

Motor	Function
Front-aligning-plate motor (M103)	Aligns paper in the processing output bin to the front
Rear-aligning-plate motor (M104)	Aligns paper in the processing output bin to the rear
Swing motor (M106)	Moves the swing guide up/down
Stack trailing-edge assist motor (M109)	Carry the stack end during stack ejection

**Table 1-51** Sensors for the stack job offset

Sensor	Function
Swing-guide home-position (HP) sensor (PI105)	Detects the swing guide home position
Front-aligning-plate HP sensor (PI106)	Detects the aligning plate front-home position
Rear-aligning-plate HP sensor (PI107)	Detects the aligning plate rear-home position
Stack trailing-edge assist HP sensor (PI109)	Detects the stack trailing-edge assist home-position

## Stapler/stacker delivery modes

The stapler/stacker supports the following delivery modes.

**Table 1-52** Stapler/stacker delivery modes

Feed	Staple	Punch	Offset	Supported feature
Face-down	N	N/A	N	Yes
Face-down	N	N/A	Y	Yes
Face-down	Y	N/A	N	Yes
Face-down	Y	N/A	Y	No

## Stapler/stacker with hole puncher assembly delivery modes

The stapler/stacker with hole puncher assembly supports the following delivery modes.

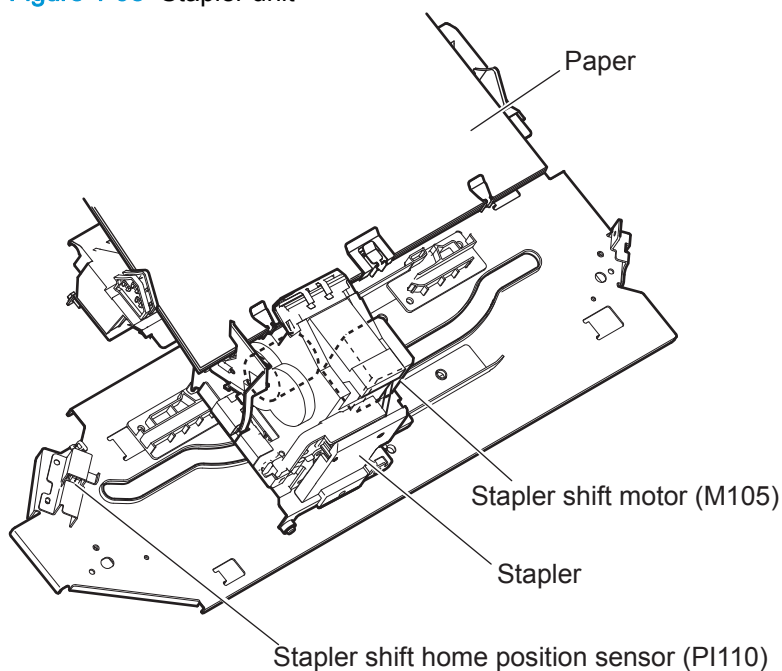
**Table 1-53** Stapler/stacker with hole puncher assembly delivery modes

Feed	Staple	Punch	Offset	Supported feature
Face-down	N	N	N	Yes
Face-down	N	N	Y	Yes
Face-down	Y	N	N	Yes
Face-down	Y	N	Y	No
Face-down	N	Y	N	Yes
Face-down	N	Y	Y	Yes
Face-down	Y	Y	N	Yes
Face-down	Y	Y	Y	No

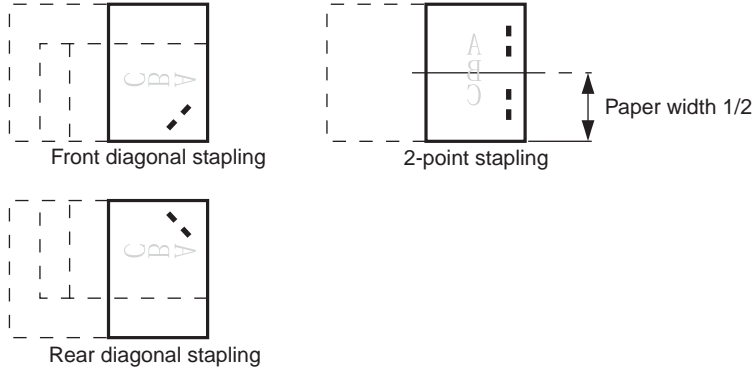
## Staple operation

The stapling operation staples the prescribed number of copies with the stapler unit. The staple position depends on the staple mode and paper size. The stapler-shift home-position sensor (PI110) detects whether the stapler unit is at the home position. The stapler unit is equipped with a stapler-alignment interference sensor (PI116). The staple motor (M41) operation is prohibited when the stapler-alignment interference sensor (PI46) is on. This prevents stapling at the stopper and damaging the stopper when the stapler-shift motor (M105) is incorrectly adjusted. When the power is turned on, the stacker controller PCA drives the stapler-shift motor (M105) to return the stapler unit to home position. If the stapler unit is already at home position, it waits in that state.

**Figure 1-98** Stapler unit



**Figure 1-99** Staple location



**Table 1-54** Sensors used in stapling

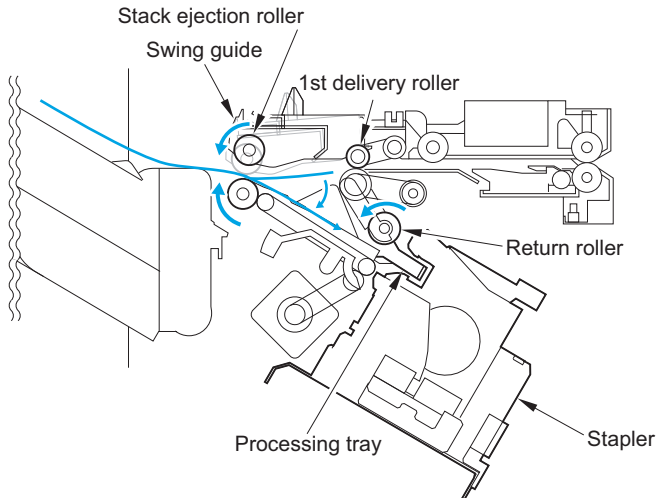
Abbreviation	Sensor	Connector	Function	Remarks
PI110	Stapler-shift home position sensor	J6B-7	Detects the home position for the stapler moving back and forth	
PI116	Stapler-alignment interference sensor	J5-3	Staple prohibited area detection	
N/A	Stapler home-position sensor	J5-5	Detects the home position for the stapling operation	In the stapler
N/A	Staple edging sensor	J5-6	Detects the staple top position	In the stapler
N/A	Staple sensor	J5-7	Detects presence or absence of staples in the cartridge	In the stapler

**Table 1-55** Motors used in stapling

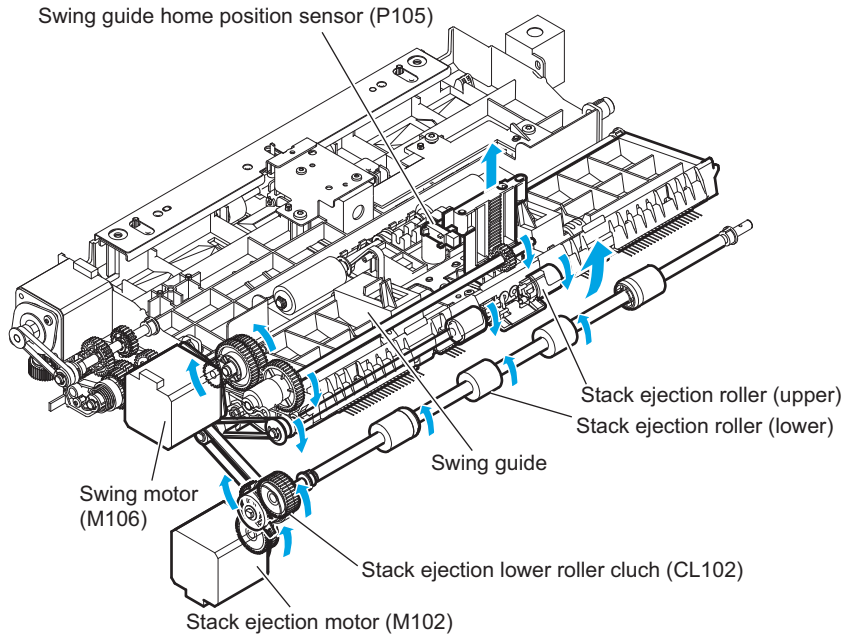
Abbreviation	Component name	Function
M105	Stapler-shift motor	Moves the stapler
M41	Staple motor	Performs the stapling operation

The stacker controller PCA moves the stapler according to the specified stapling position. When the rear of the first sheet passes the first delivery roller, the stacker controller PCA stops the stack-delivery motor (M102) and then rotates it in reverse. The stack-delivery motor rotates the stack-delivery roller and return roller and delivers the paper to the processing output bin. The paper in the processing output bin is detected by the processing-output-bin paper sensor (PI108). When the paper is delivered to the processing output bin, the swing motor (M106) starts and raises the swing guide. When the swing-guide home-position sensor (PI105) detects the rising of the swing guide, the swing-guide motor stops and holds the swing guide at the raised position. After the processing-output-bin paper sensor detects the paper, the aligning motor (M103/M104) starts and aligns the paper.

**Figure 1-100** Paper path for stapling

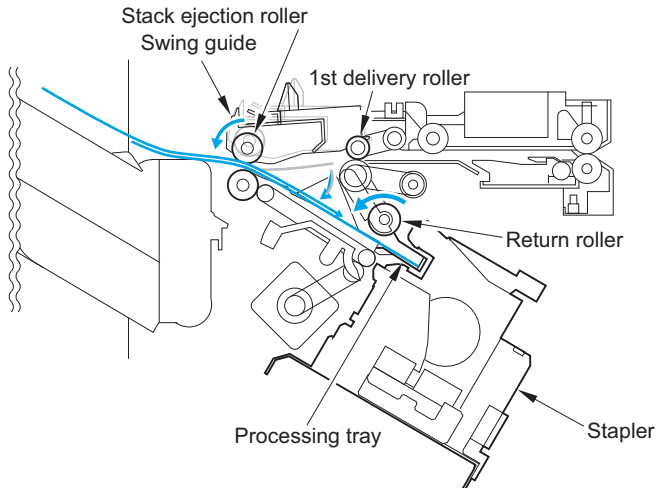


**Figure 1-101** Rollers and sensors for stapling



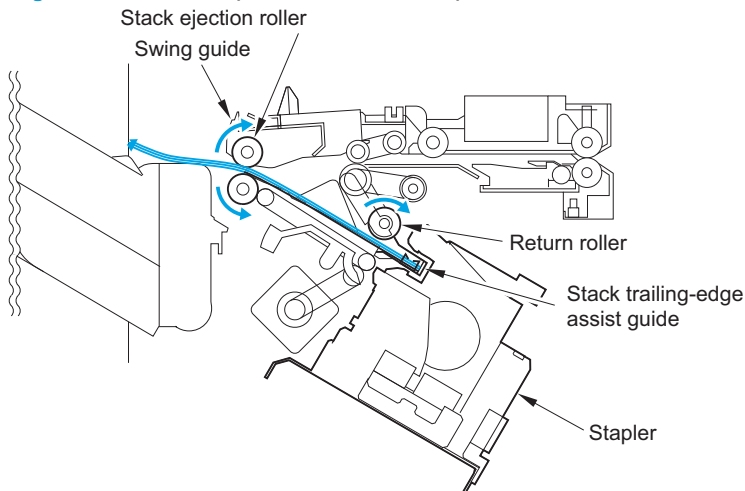
The stacker controller PCA starts the swing motor (M106) and lowers the swing guide when the rear of the second paper passes the first delivery roller. The stack-delivery motor is reversed. The stack-delivery motor rotates the stack-delivery roller (upper) and return roller and sends the paper to the processing output bin. At this point, the stack-delivery roller (lower) does not rotate because the stack-ejection lower roller clutch (CL102) is disengaged. The output-bin paper sensor (PI108) detects the processing-output bin paper sensor (PI108). When the paper is delivered to the processing output bin, the swing motor (M106) starts and raises the swing guide. When the swing-guide home-position sensor (PI105) detects the rising of the swing guide, the swing-guide motor stops and holds the swing guide at the raised position. After the processing-output-bin paper sensor detects the paper, the aligning motor (M103/M104) starts and aligns the paper.

**Figure 1-102 Staple paper path**



When the last sheet is aligned, the stacker controller PCA moves the aligning plate to the alignment position with the aligning motor (M103/M104) (the paper is held by the aligning plate). Then the stacker controller PCA staples at the specified staple position. After stapling, the stacker controller PCA starts the swing motor (M106) and lowers the swing guide. Then the stack is ejected by the stack-delivery roller, return roller, and stack trailing-edge assist guide.

**Figure 1-103 Shift process for the staple unit**



The stapler motor (M41) rotates the cam one turn for stapling. The stapler home-position sensor detects the home position of the cam. The macro computer (IC13) on the stacker controller PCA controls the forward and reverse rotation of the staple motor. When the stapler home-position sensor is off, the stacker controller PCA rotates the stapler motor in the forward direction until the sensor turns on, allowing the staple cam to return to the original position. The staple sensor detects the presence or absence of a staple cartridge in the machine and the presence or absence of staples in the cartridge. The staple edging sensor determines whether staples are pushed up to the top of the staple cartridge. For safety, the stacker controller circuit does not drive the staple motor (M41) unless the staple safety switch (MSW103) is on.

Figure 1-104 Stapling operation (1 of 2)

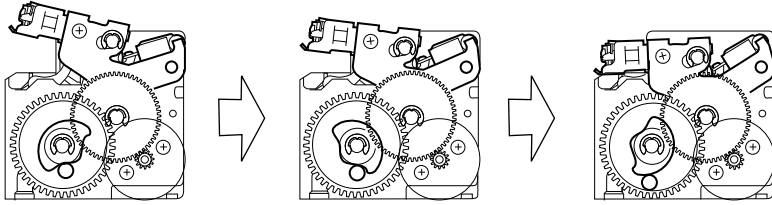
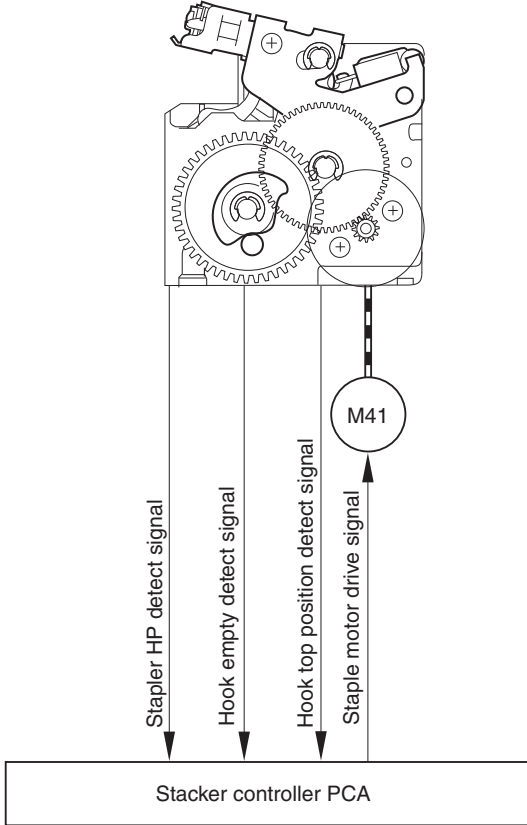


Figure 1-105 Stapling operation (2 of 2)

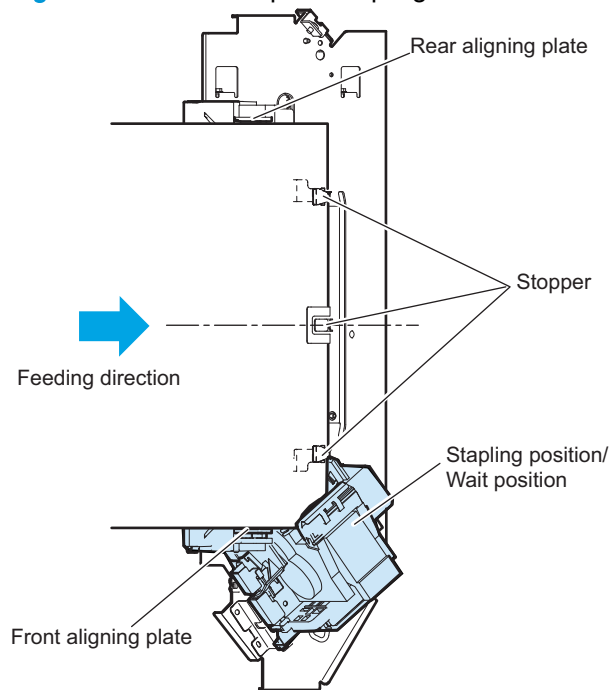




## Shift the stapler unit

The stapler-shift motor (M105) shifts the stapler unit. The stapler-shift home-position sensor (PI110) detects the home position. When there is a staple command from the product, the stapler shifts to the staple ready position, which depends on the stapling position and paper size. The stapler unit waits at the following points when staple mode is selected.

**Figure 1-106** Front 1-point stapling



**Figure 1-107** Rear 1-point stapling

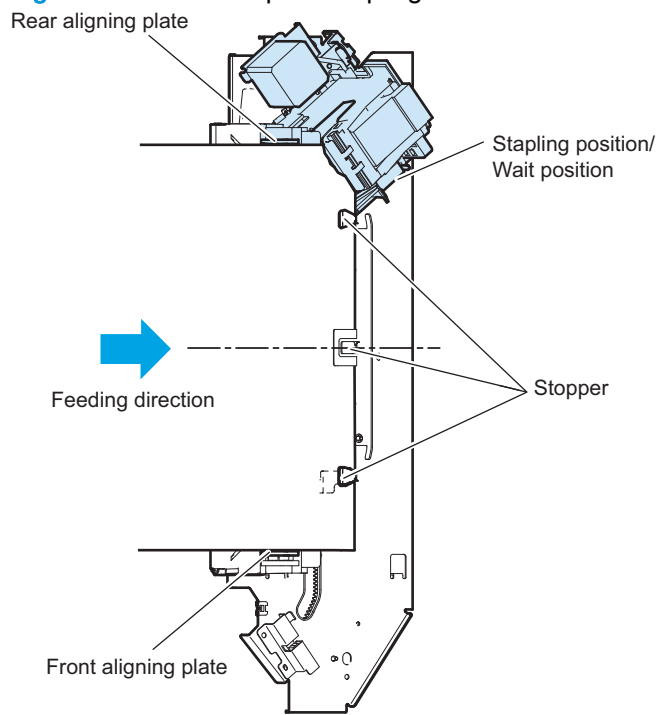
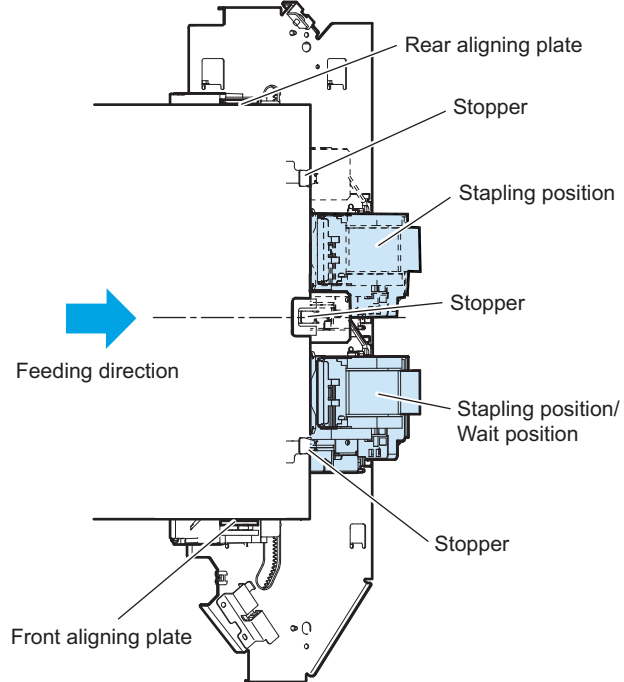


Figure 1-108 2-point stapling



## Hole puncher assembly

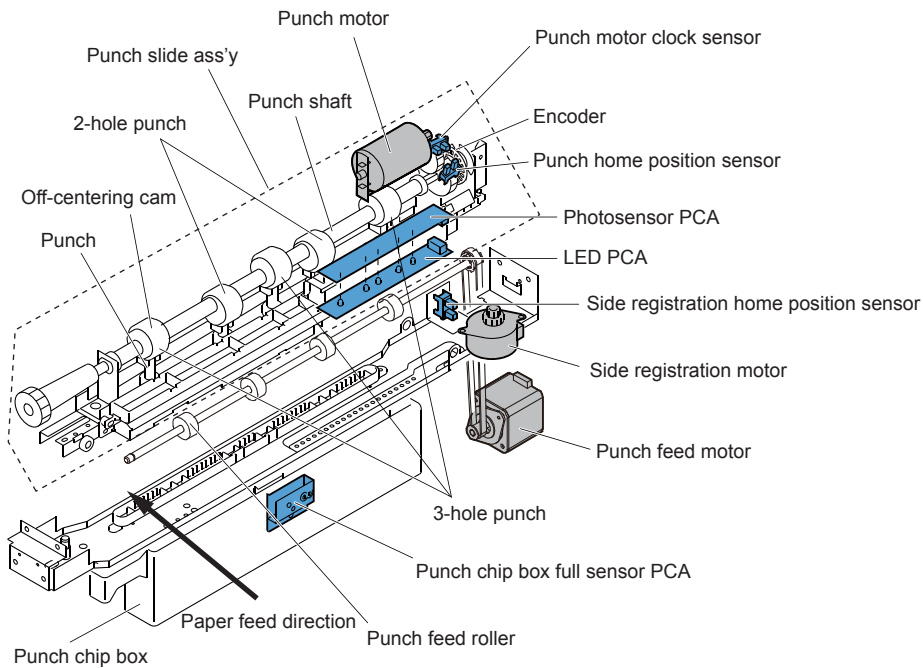
The stapler/stacker with hole puncher assembly has either one of the 2-hole/3-hole puncher assembly or 2-hole/4-hole puncher assembly so that it operates two types of hole punching functions.

The puncher assembly has following two functions:

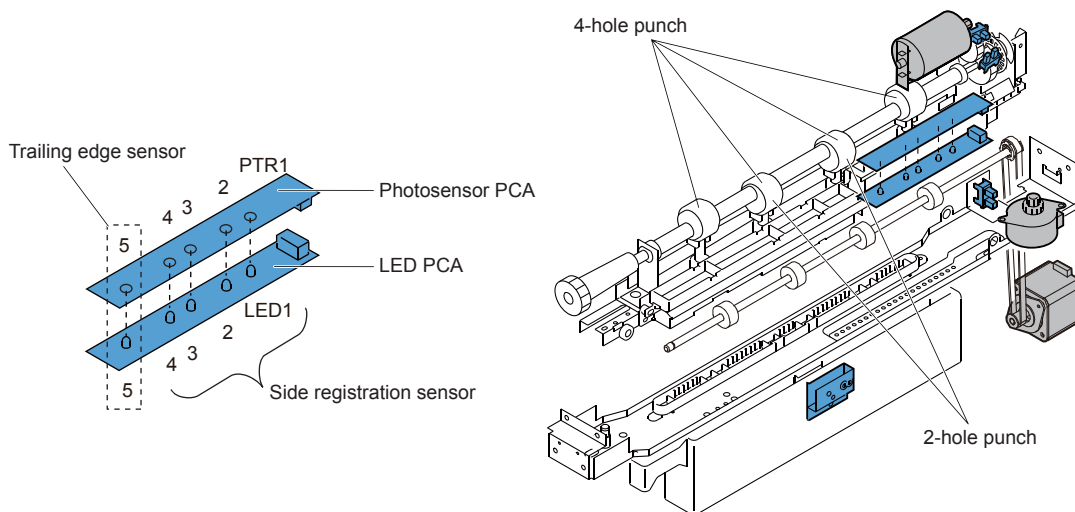
- Side registration operation
- Hole punching operation (2-hole/3-hole or 2-hole/4-hole)

**Figure 1-109** Hole puncher assembly

2-hole/3-hole puncher assembly



2-hole/4-hole puncher assembly



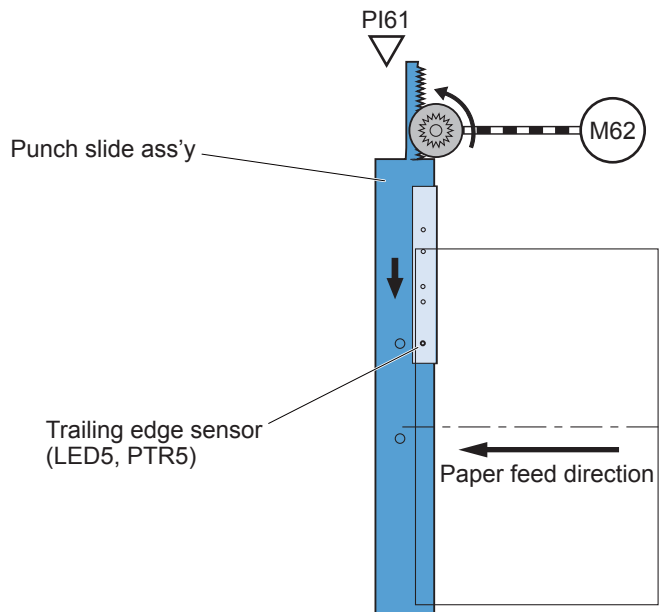
## Side registration operation

The side registration operation detects the trailing edge of paper by the side registration sensor and trailing edge sensor, and moves the hole punch slide assembly to the proper punching position according to the paper size.

The side registration sensor and the trailing edge sensor consist of 5 sets of sensors on the paper path of the hole puncher assembly inlet. The photo sensors are located upper side and the LEDs are located lower side so that the paper passes through between them.

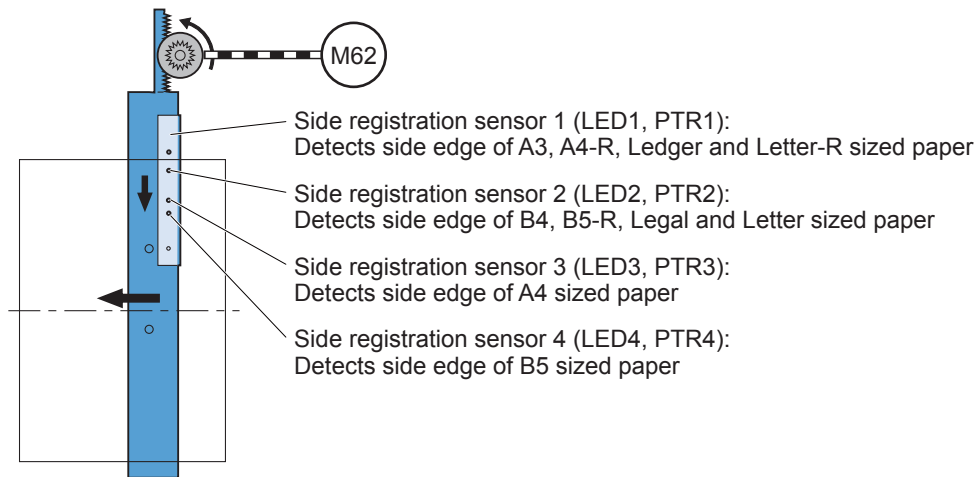
Operational sequence of the side registration operation is as follows:

1. When the trailing edge sensor detects the leading edge of paper, the hole punch controller drives the side registration motor so that the hole punch slide assembly moves toward front side of the stapler/stacker from its home position.

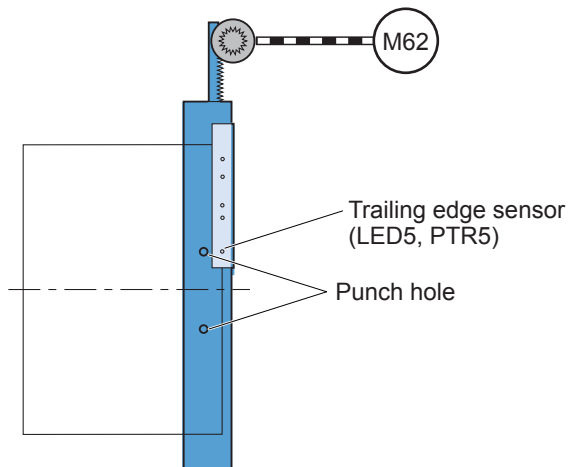


2. The side registration sensor detects the side edge of paper according to the MEDIA SIZE signal sent from the product.

- The hole punch controller drives the side registration motor so that the hole punch slide assembly moves further toward front side of the stapler/stacker to its specified position.



- When the trailing edge sensor detects the trailing edge of paper, the hole punch controller stops the hole punch feed motor accordingly the paper stops.
- The punch controller drives the punch motor to punch holes in the paper.



- When the hole punching operation is completed, the hole punch controller drives the hole punch feed motor and reverses the side registration motor so that the hole punch slide assembly moves back to its home position.

If the following paper requires the punching operation, the hole punch slide assembly moves back to its home position every paper and step 1 to 6 are repeated.

### Hole punching operation (2-hole/3-hole puncher assembly)

The 2-hole/3-hole puncher assembly punches 2 holes or 3 holes in the trailing edge of paper. Five off-centering cams are on the hole punch shaft; two off-centering cams with punch for 2-hole punching and three off-centering cams with punch for 3-hole punching.

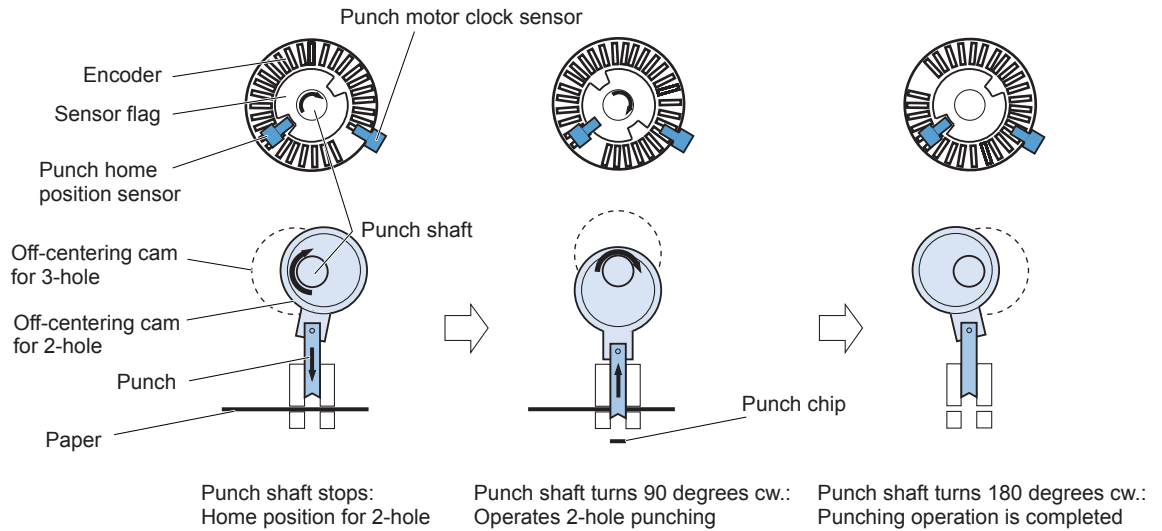
The sensor flag is also on the hole punch shaft, and the hole punch home position sensor detects the home position of hole punch shaft. The hole punch home position for 3-hole punching is shifted 180 degrees from the hole punch home position for 2-hole punching. When the hole punch shaft is at home position, the hole punch home position sensor is turned on. The hole punch motor clock sensor

counts the clock pulse of hole punch motor by the encoder on the shaft so that the hole punch controller stops the hole punch motor at its home position. Accordingly, the hole punch shaft stops at either home position for 2-hole punching or 3-hole punching. A hole punching is operated by turning the hole punch shaft 180 degrees from its home position. The hole punch chips are collected into the hole punch chip box. The hole punch chip box full sensor detects if the box is filled with punch chips.

Operational sequence of the hole punching operation for 2-hole punching in 2 sheets of paper is as follows:

1. The hole punch controller drives the hole punch motor to rotate the hole punch shaft 180 degrees clockwise.
2. The hole punch home position sensor turns on and the hole punching operation in the first sheet is completed.

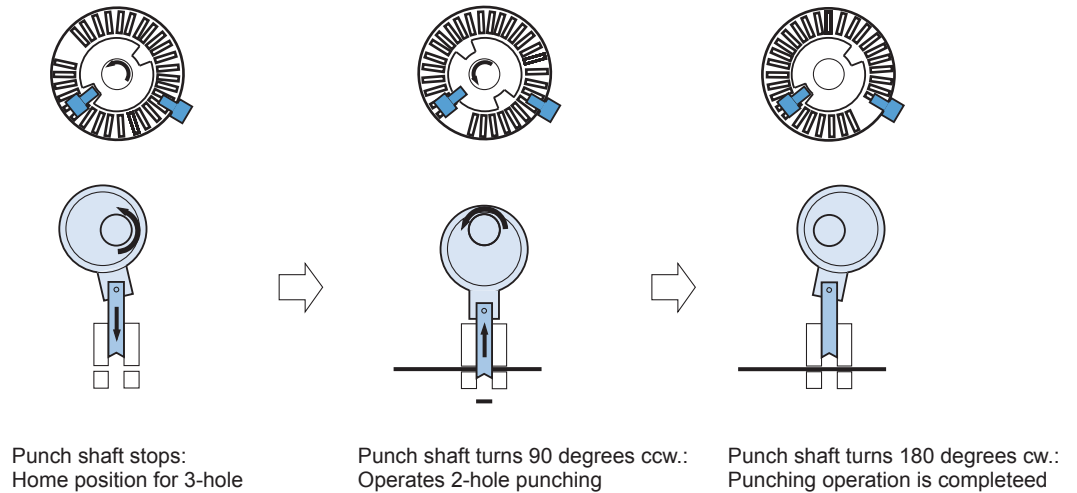
Punch a hole in the first sheet



3. The hole punch controller drives the hole punch motor to rotate the hole punch shaft 180 degrees counter clockwise.

- The hole punch home position sensor turns on and the hole punching operation in the second sheet is completed.

Punch a hole in the second sheet



When operating 3-hole punching in 2 sheets of paper, the hole punch shaft for 3-hole punching is rotated 180 degrees counter clockwise from its home position and then 180 degrees clockwise.

#### Hole punching operation (2-hole/4-hole hole puncher assembly)

The 2-hole/4-hole puncher assembly punches 2 holes or 4 holes in the trailing edge of paper. Four off-centering cams are on the punch shaft; two off-centering cams with punch for 2-hole punching and two off-centering cams with punch for outside 4-hole punching. The sensor flag is also on the hole punch shaft, and the hole punch home position sensor detects the home position of the hole punch shaft. When the hole punch shaft is at home position, the hole punch home position sensor is turned on. The hole punch motor clock sensor counts the clock pulse of hole punch motor by the encoder on the shaft so that the hole punch controller stops the punch motor at its home position. Accordingly the hole punch shaft stops at either home position for 2-hole punching or 4-hole punching. A punching of 2-hole is operated by turning the hole punch shaft 180 degrees from its home position. A punching of 4-hole is operated by turning the hole punch shaft 360 degrees from its home position first to punch inside 2 holes and then outside 2 holes. The hole punch chips are collected into the punch chip box. The punch chip box full sensor detects if the box is filled with hole punch chips.

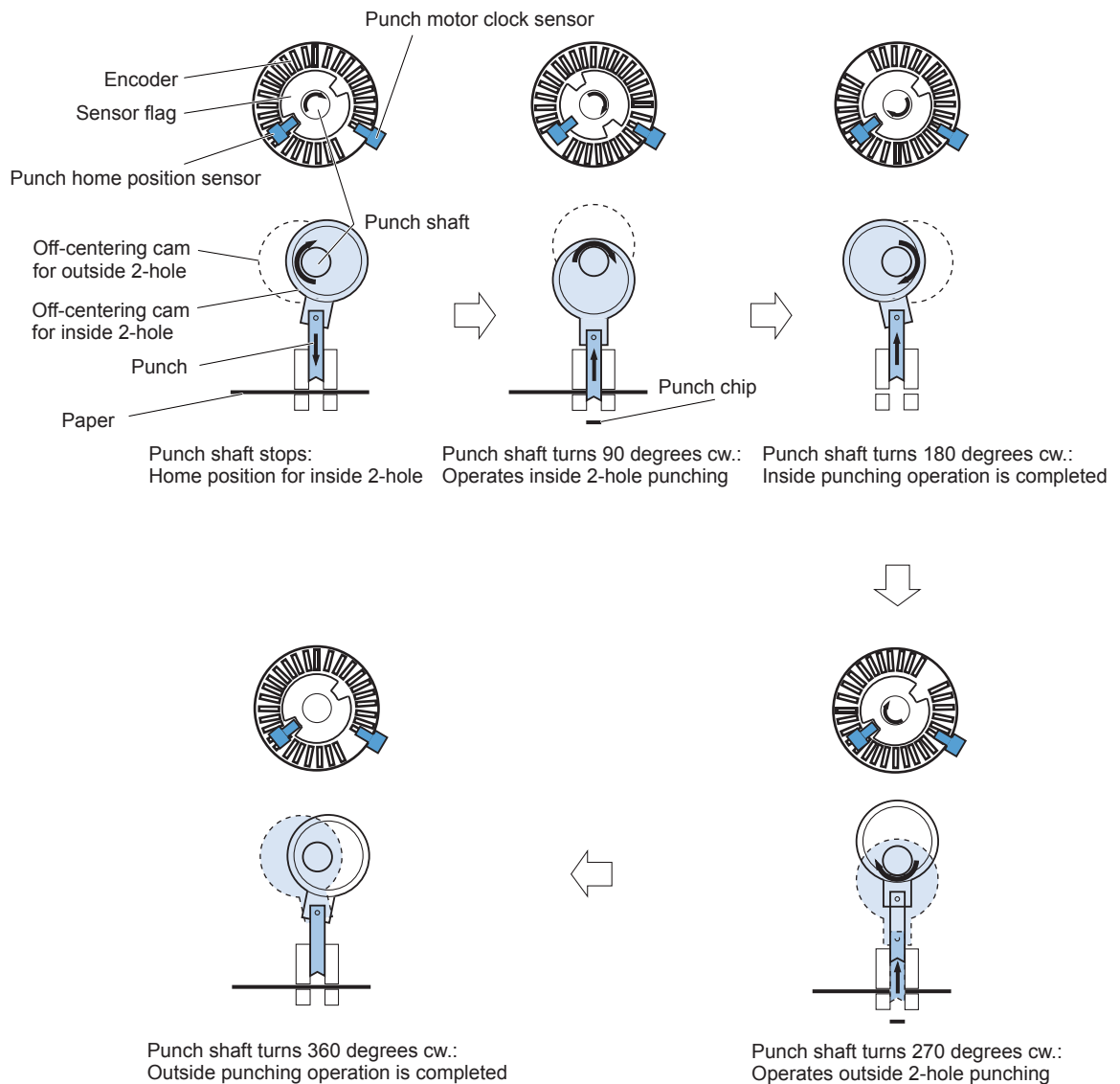
Operational sequence of the hole punching operation for 4-hole punching in a sheet of paper is as follows:

- The hole punch controller drives the hole punch motor to rotate the hole punch shaft 90 degrees clockwise.
- Inside 2 holes punching is operated.
- The hole punch controller drives the hole punch motor to rotate the hole punch shaft 180 degrees clockwise.
- The hole punch home position sensor turns on and inside 2 holes punching operation is completed.
- The hole punch controller drives the hole punch motor to rotate the punch shaft 270 degrees clockwise.

6. Outside 2 holes punching is operated.
7. The hole punch controller drives the punch motor to rotate the hole punch shaft 360 degrees clockwise.
8. The hole punch home position sensor turns on and outside 2 holes punching operation is completed.

**Figure 1-110** Operation of 4-hole punching

Operation of 4-hole punchin>





## Stapler/stacker additional functions

The stapler/stacker has the following additional pickup, feed and delivery functions.

**Table 1-56 Stapler/stacker additional pickup, feed and delivery functions**

Function	Supported feature
Swing height detection control	Yes
Registration shutter skew correction function (stapler/stacker with hole puncher assembly only)	Yes
Side registration detection (stapler/stacker with puncher assembly only)	Yes
Hole punch operation with unshared hole punch (2-hole/3-hole) function (stapler/stacker with hole puncher assembly only)	Yes
Hole punch operation with shared hole punch (2-hole/4-hole) function (stapler/stacker with hole puncher assembly only)	Yes
Hole punch home position detection (stapler/stacker with hole puncher assembly only)	Yes
Hole punch chip box full detection (stapler/stacker with hole puncher assembly only)	Yes

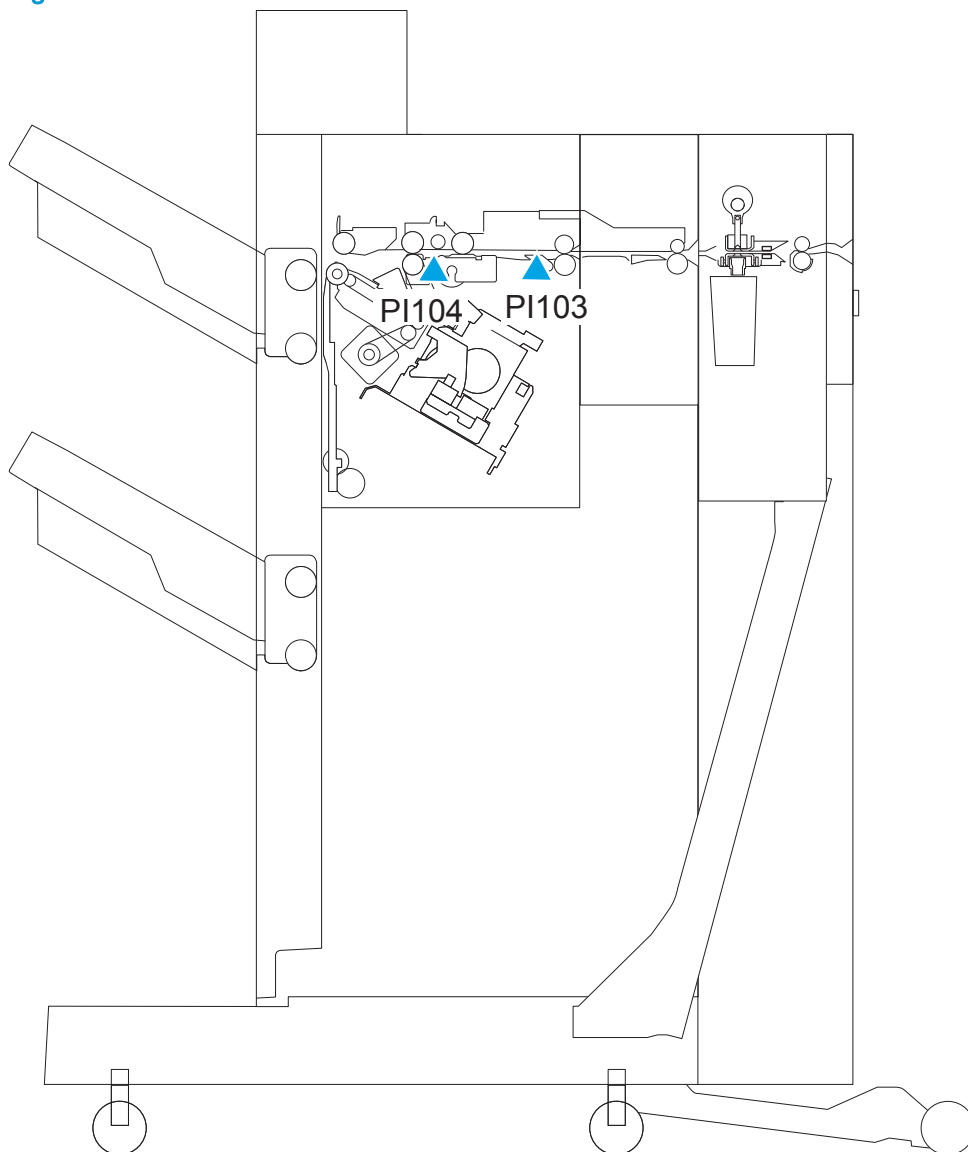
## Stapler/stacker jam detection

The following sensors detect paper and determine whether paper is delivered properly.

- Stacking paper-path-entry sensor (PI103)
- Stacking paper-path-delivery sensor (PI104)

A jam is identified by checking whether paper is present at each sensor at the timing programmed in the memory of the microcomputer (CPU) on the stacker controller PCA. When the CPU identifies a jam, it suspends the stacker's delivery operation and informs the product of the jam. When all doors are closed after the paper jam is removed, the stacker use the two sensors (stacking paper-path-entry sensor and stacking paper-path-delivery sensor) to check for further jams. If the sensors detect paper, the stacker determines that the paper jam has not been removed and sends another jam removal signal to the product.

Figure 1-111 Jam detection sensors

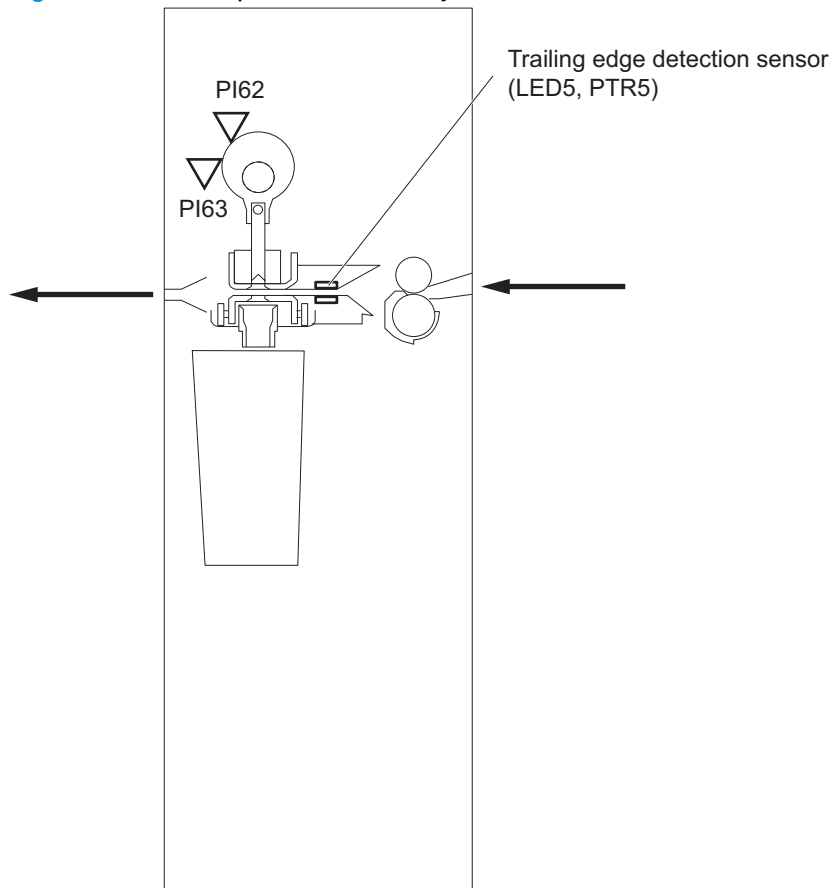


## Hole puncher assembly jam detection

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

- Hole punch home position sensor (PI63)
- Hole punch motor clock sensor (PI62)
- Trailing edge detection sensor (LED5, PTR5)

**Figure 1-112** Hole puncher assembly sensor location



The stapler/stacker detects the following additional jams.

**Table 1-57** Staple/stacker jam detection

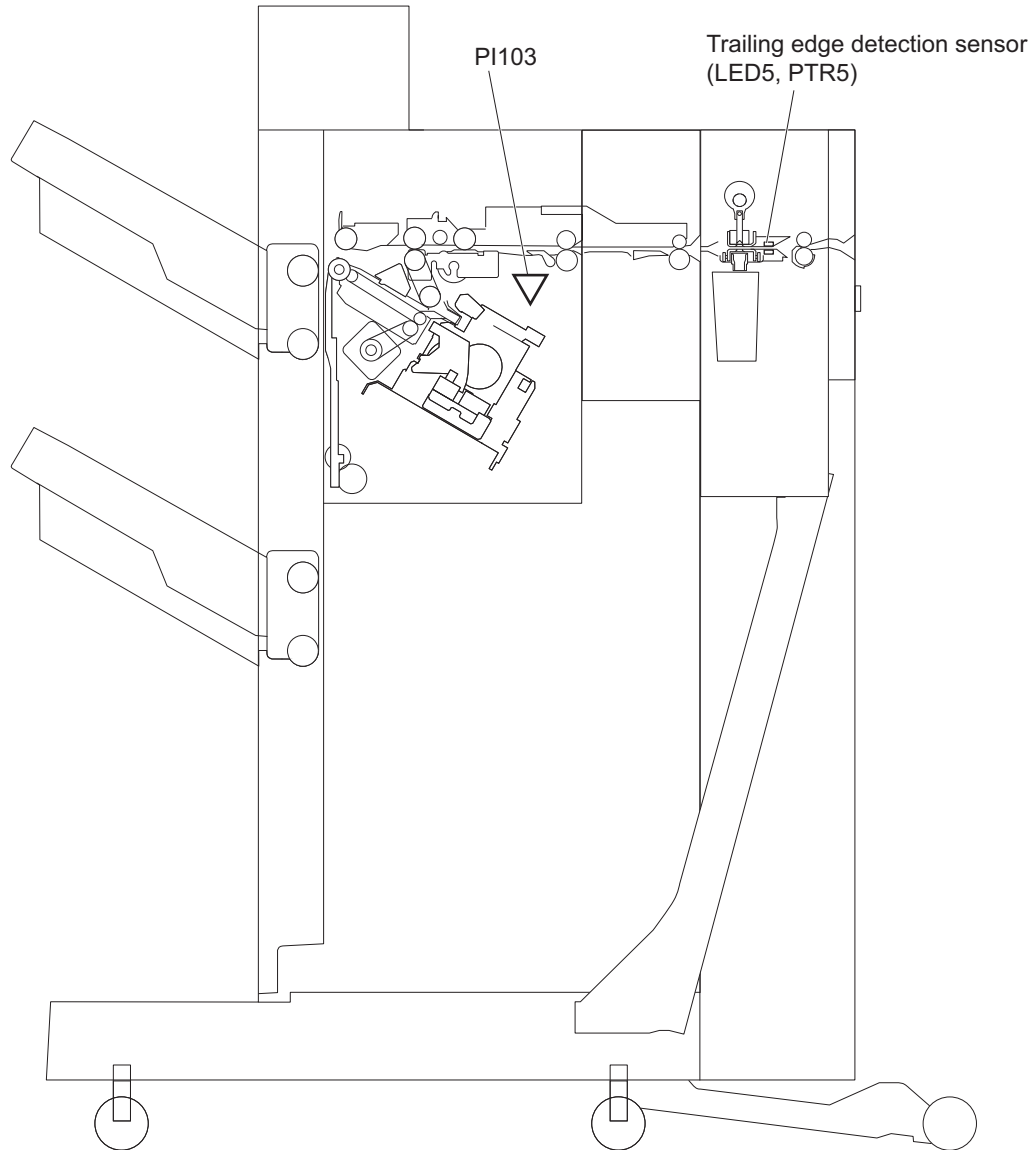
Function	Supported feature
Hole punch path delay jam	Yes
Hole punch path stay jam	Yes
Hole punching jam	Yes
Residual paper jam (puncher assembly)	Yes

## Stapler/stacker assembly jam detection

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

- Inlet sensor (PI103)
- Trailing edge detection sensor (LED5, PTR5, hole puncher assembly)

**Figure 1-113** Stapler/stacker jam sensor location




## Stapler/stacker assembly inlet delay jam

Jam	Causes and conditions
When hole punching is not operating	The inlet sensor does not detect the leading edge of paper within a specified period from when the stacker controller receives the DELIVERY signal from the product.
When hole punching is operating	The inlet sensor does not detect the leading edge of paper within a specified period of time from when the trailing edge detection sensor detects the leading edge.

## Booklet maker and booklet maker with hole punch

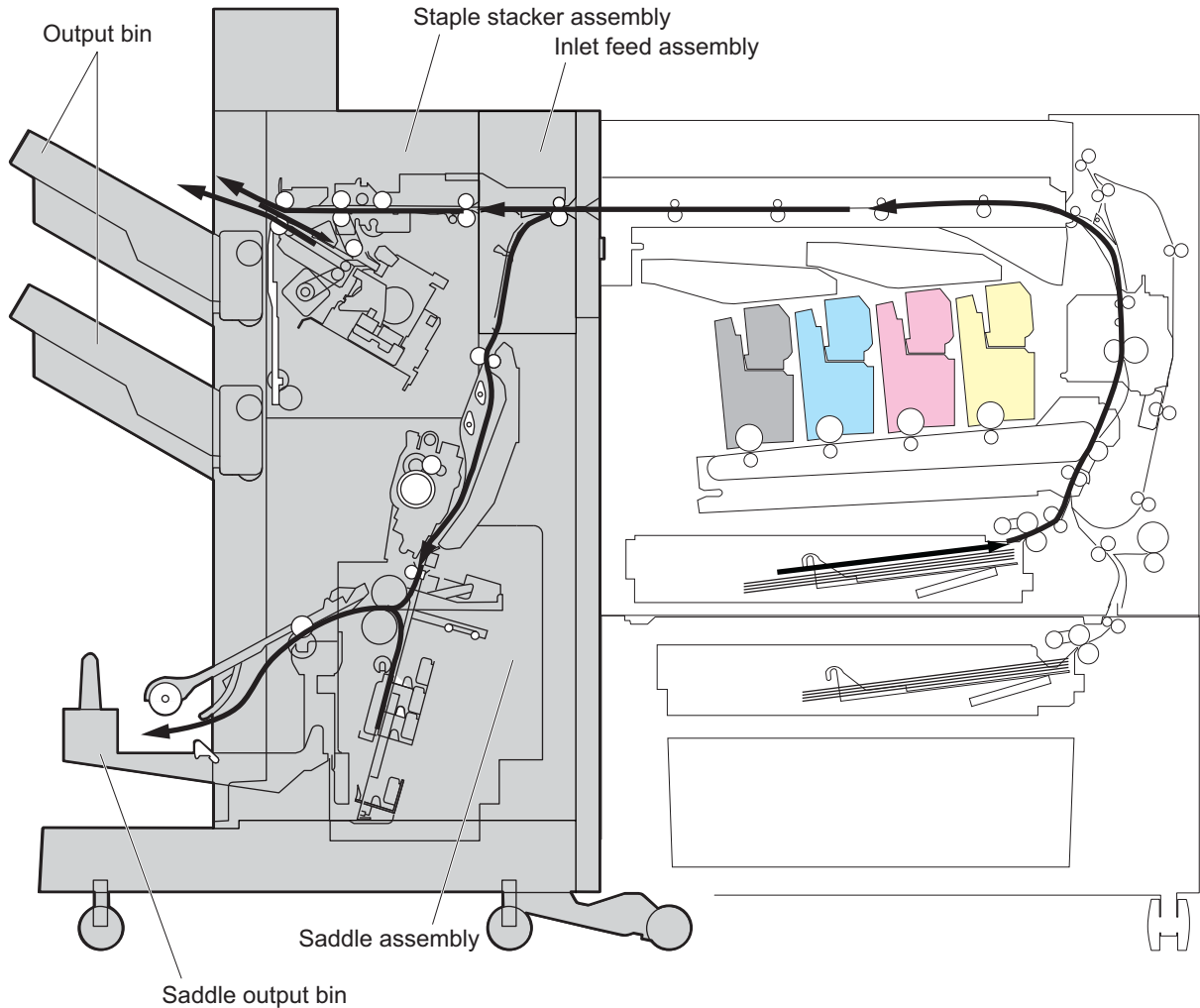
The booklet maker is optionally installed at the side of the product. The booklet maker with hole puncher assembly has the hole punching function in addition to the standard stapler/stacker function. The booklet maker delivers the printed paper as follows:

- To the output bin.
- To the output bin, after stapling.
- To the saddle output bin, after saddle-stitching and double-folding.

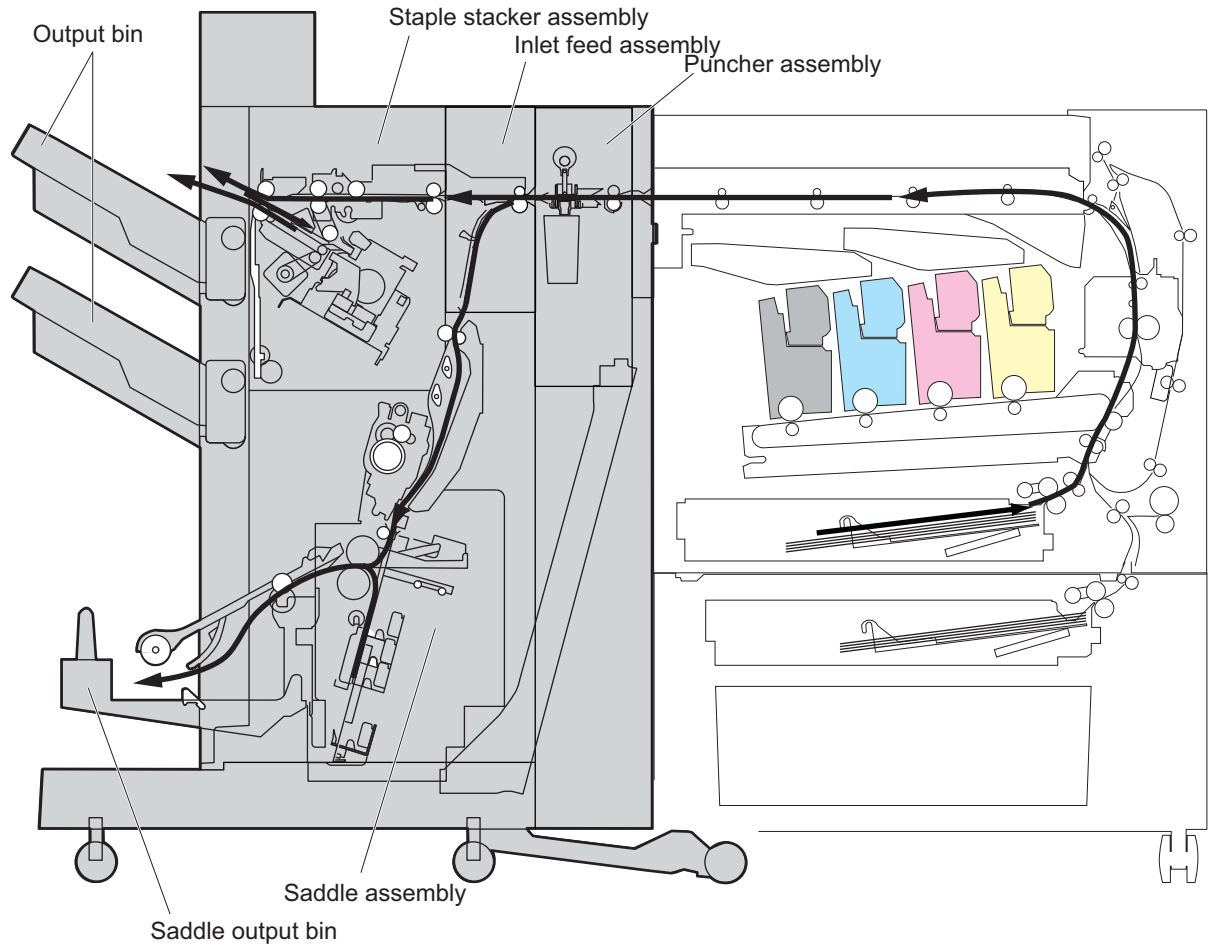
 **NOTE:** The saddle function (saddle-stitching or saddle output bin delivery) does not apply to hole-punched paper.

The stacker controller and the saddle stitcher controller control the operational sequence of the booklet maker. The stacker controller, saddle stitcher controller, and hole punch controller control the operational sequence of the booklet maker with the hole puncher assembly.

**Figure 1-114** Booklet maker installation and paper path



**Figure 1-115** Booklet maker with hole puncher assembly installation and paper path



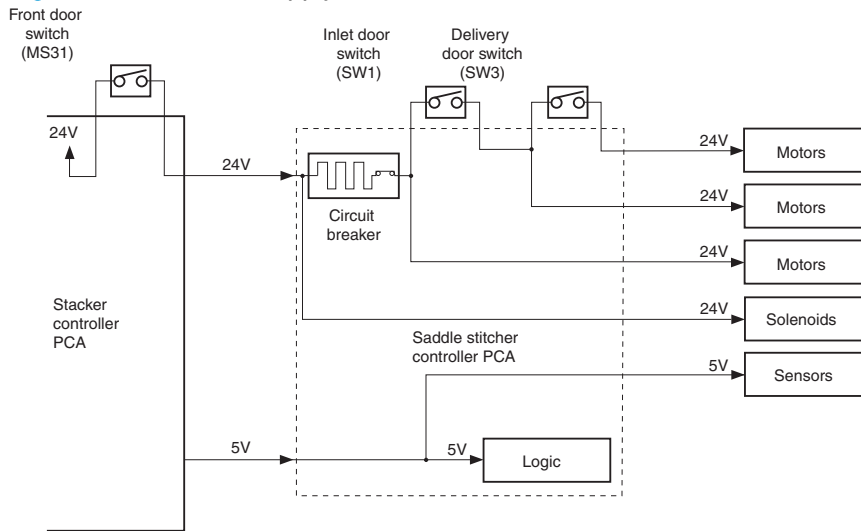
## Booklet maker power supply

The stacker unit and booklet maker unit use both 5 Vdc and 24 Vdc power.

### Stacker unit power supply route

When power is turned on, 5 Vdc and 24 Vdc are supplied from the product to the stacker controller PCA. The 24 Vdc power drives the motor, solenoid, and so on. The 5 Vdc power drives sensors, IC chips on the stacker controller PCA, and so on. Both 5 Vdc and 24 Vdc are also supplied from the stacker controller PCA to the saddle-stitcher controller PCA. The 24 Vdc power for the motor drive is shut down when the front door switch (MSW101) is open. A block diagram of the power supply is shown as follows.

**Figure 1-116** Power-supply route for the stacker unit



### Stacker unit protective function

The 24 Vdc has a fuse or motor driver with over-current protection.

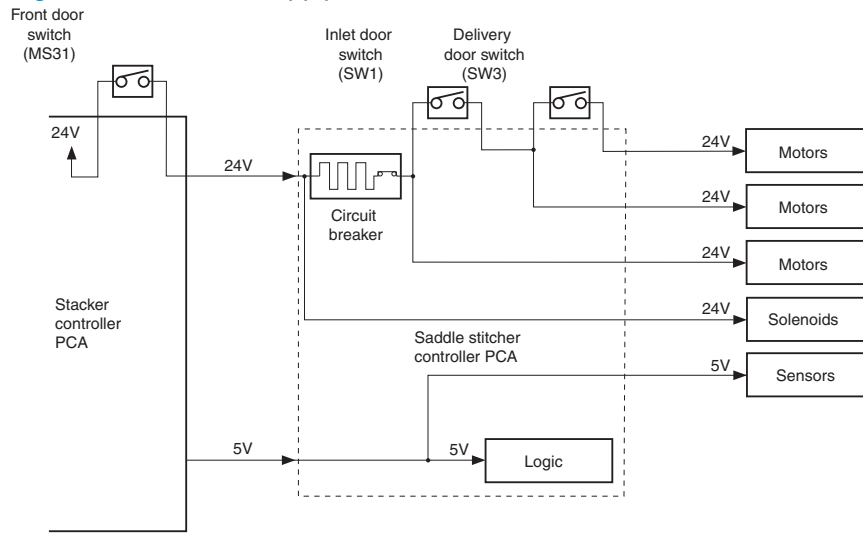
### Booklet maker unit power-supply route

When the power to the product is turned on and the door is closed, 24 Vdc and 5 Vdc are supplied from the stacker-controller PCA as saddle stitcher power. The 24 Vdc power supply to solenoids is supplied from the stacker controller PCA without passing through protection mechanisms such as microswitches. The 5 Vdc power drives sensors and IC chips on the stacker controller PCA. The 24



Vdc power supply to motors is interrupted if either of the door switches on the booklet maker unit in an open condition (doors opened).

**Figure 1-117** Power supply route for the booklet maker unit



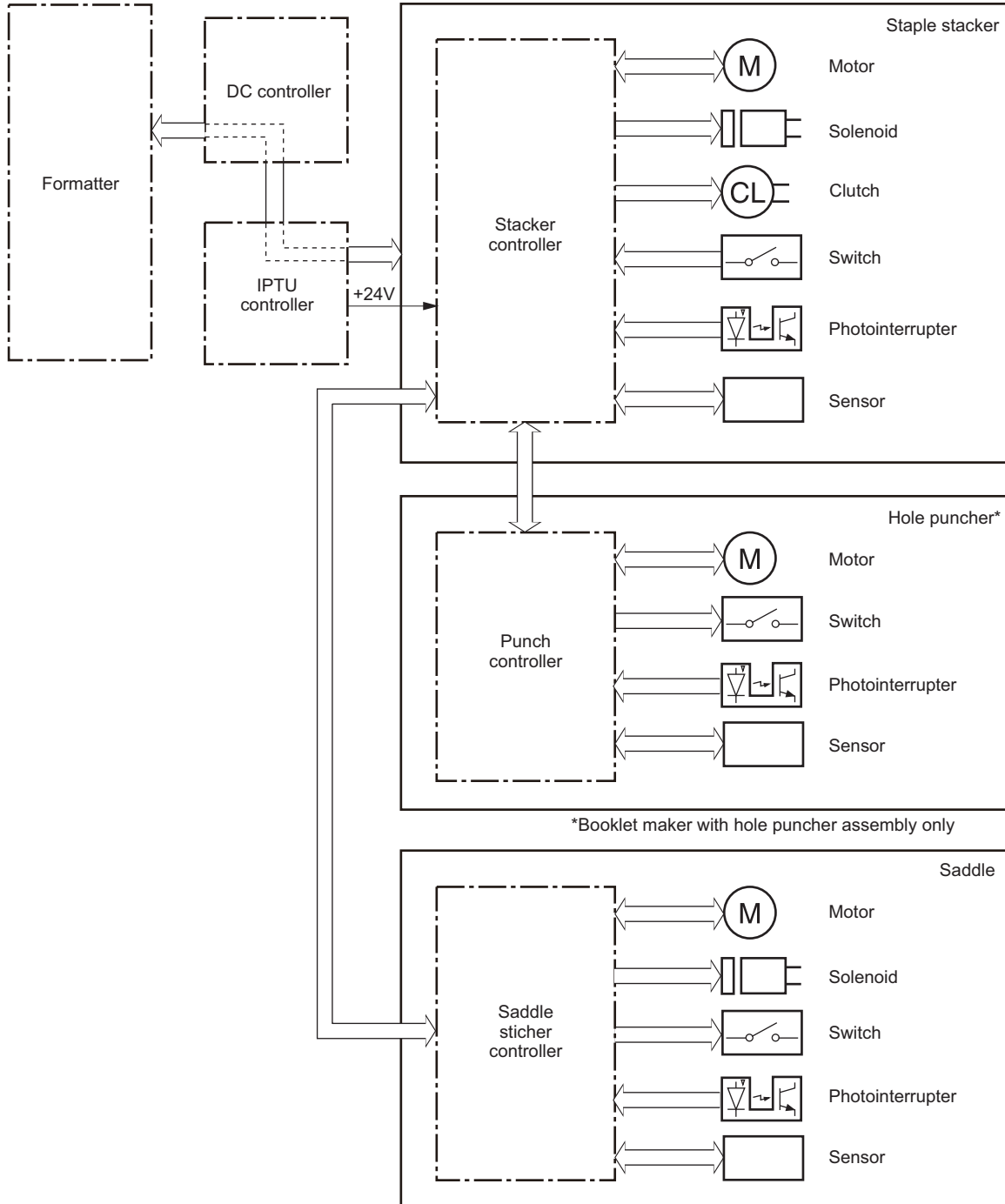
### Booklet maker unit protective function

The 24 Vdc power supply for motors and solenoids comes with a circuit breaker (CB1). The 24 Vdc power supply for the guide motor (M3), the alignment motor (M5), and the paper-positioning plate motor (M4) comes with a fuse designed to interrupt power when there is too much current.

## Booklet maker electrical components

The following figure shows the electrical components for both the stapler/stacker assembly and hole puncher assembly.

**Figure 1-118** Booklet maker signal flow of the stacker, hole punch, and saddle sticher controllers



**Table 1-58 Saddle stitcher electrical components (1 of 2)**

<b>Component type</b>	<b>Abbreviation</b>	<b>Component name</b>	<b>Replacement assembly</b>
Motor	M1	Feed motor	Saddle feed motor assembly 4G3-1933-000CN
	M2	Paper folding motor	Motor mount assembly FM0-1686-000CN
	M3	Guide motor	Guide motor assembly 4G3-0725-000CN
	M4	Paper positioning plate motor	Inner side plate assembly 4G3-0671-000CN
	M5	Alignment motor	Motor, DC stepping 4K-1103-000CN
	M6	Stitch motor (rear)	Saddle stapler assembly 4G3-2721-000CN
	M7	Stitch motor (front)	Saddle stapler assembly 4G3-2721-000CN
	M8	Paper pushing plate motor	Motor mount assembly FM0-1686-000CN
Solenoid	SL1	Flapper solenoid 1	Upper flapper arm assembly FM0-1885-000CN
	SL2	Flapper solenoid 2	Lower flapper arm assembly FM0-1886-000CN
	SL4	Feed plate alienation solenoid	Intermediate solenoid 4G3-0676-000CN
	SL5	Saddle inlet solenoid	Saddle paper feed assembly RM2-5351-000CN

**Table 1-58 Saddle stitcher electrical components (1 of 2) (continued)**

<b>Component type</b>	<b>Abbreviation</b>	<b>Component name</b>	<b>Replacement assembly</b>
Switch	MSW3	Delivery door open detection switch	Delivery switch mount assembly RM2-5633-000CN
	SW4	Stapler presence switch (rear)	Saddle stapler assembly 4G3-2721-000CN
	SW5	Stitch home position switch (rear)	Saddle stapler assembly 4G3-2721-000CN
	SW6	Stapler presence switch (front)	Saddle stapler assembly 4G3-2721-000CN
	SW7	Stitch home position switch (front)	Saddle stapler assembly 4G3-2721-000CN

**Table 1-58 Saddle stitcher electrical components (1 of 2) (continued)**

Component type	Abbreviation	Component name	Replacement assembly
Photointerrupter  See <a href="#">Table 1-59 Saddle stitcher electrical components (2 of 2)</a> on page 164 for additional photointerrupters.	PI1	Paper pushing plate motor clock sensor	Motor mount assembly FM0-1686-000CN
	PI3	Delivery cover open detection sensor	Delivery switch mount assembly RM2-5633-000CN
	PI4	Paper folding motor clock sensor	Motor mount assembly FM0-1686-000CN
	PI5	Alignment plate home position sensor	Photointerrupter WG8-5593-000CN
	PI6	Saddle output bin media-presence sensor	Saddle tray assembly RM2-5318-000CN
	PI7	Paper positioning plate home position sensor	Photointerrupter WG8-5593-000CN
	PI8	Paper positioning plate media-presence sensor	Inner side plate assembly 4G3-0671-000CN
	PI9	Inlet cover open detection sensor	Photointerrupter WG8-5593-000CN
	PI11	Delivery sensor	Saddle assembly  <b>NOTE:</b> This assembly is not orderable. If this sensor fails, escalate the problem to your Global Business unit.
	PI12	Crescent roller phase sensor	Photointerrupter WG8-5593-000CN
	PI13	Guide home position sensor	Guide sensor assembly FM6-2283-000CN
	PI14	Paper pushing plate home position sensor	Photointerrupter WG8-5593-000CN
	PI15	Paper pushing plate leading edge position sensor	Photointerrupter WG8-5593-000CN
	PI16	Stitcher assembly storage sensor	Photointerrupter WG8-5593-000CN

**Table 1-59 Saddle stitcher electrical components (2 of 2)**

Component type	Abbreviation	Component name	Replacement assembly
Photointerrupter continued	PI17	Paper path feed sensor	Lower slide rail assembly FM2-1638-000CN
	PI18	Feed sensor 1	Rear end sensor assembly
	PI19	Feed sensor 2	FM2-0763-000CN
	PI20	Feed sensor 3	
	PI21	Paper folding home position sensor	Photointerrupter WG8-5593-000CN
	PI22	Saddle inlet sensor	Entrance sensor bracket assembly FM2-0717-000CN

## Booklet maker motor control

The booklet maker with puncher assembly has three additional motors in the puncher assembly.

**Table 1-60 Booklet maker motor specifications**

Component name	Components driven
M61      Hole punch motor	Hole punch assembly
M62      Hole punch feed motor	Hole punch feed roller
M63      Side registration motor	Hole punch slide assembly

## Booklet maker motor failure detection

The stacker controller determines the following motor failures.

**Table 1-61 Booklet maker motor failures**

Failure detection function	Supported feature
Hole punch motor failure detection	Yes
Hole punch feed motor failure detection	No
Side registration motor failure detection	Yes

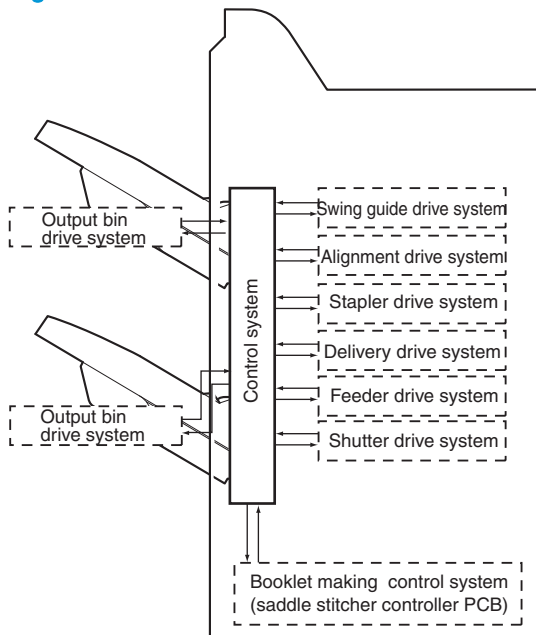
# Booklet maker feed-and-delivery operation

## Basic operation

### Stacker unit basic operation

The stacker unit processes simple stacking, job offset, and stapling. The stacker controller PCA controls all operations involved in these modes, according to the commands from the product. Jobs from the product can also be routed for booklet making.

Figure 1-119 Stacker unit basics



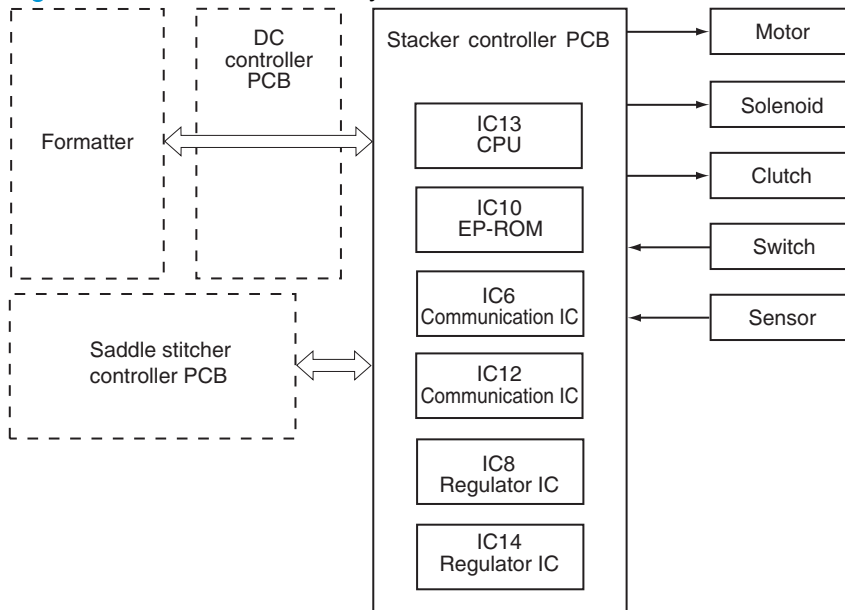
### Stacker unit electrical security

A 16-bit microprocessor (CPU) is installed on the stacker controller PCA to control the stacker operation sequence and CAN signal communication with the video controller PCA. The stacker controller PCA drives solenoids, motors, and so forth in response to the commands received from the video controller through the CAN signal communication line. In addition, the stacker controller PCA reports information about various sensors and switches to the video controller through the CAN signal communication line. Major functions of the IC chips installed on the stacker controller PCA are as follows:

- IC13 (CPU): Controls the operation sequence
- IC10 (EEP-ROM): Backs up adjustment values
- IC6 (Communication IC): Communicates with the host machine
- IC12 (communication IC): Communicates with the saddle stitcher unit

- IC8 (Regulator IC): Generates 5 Vdc
- IC14 (Regulator IC) : Generates 3.3 Vdc

**Figure 1-120** Electrical circuitry of the stacker unit

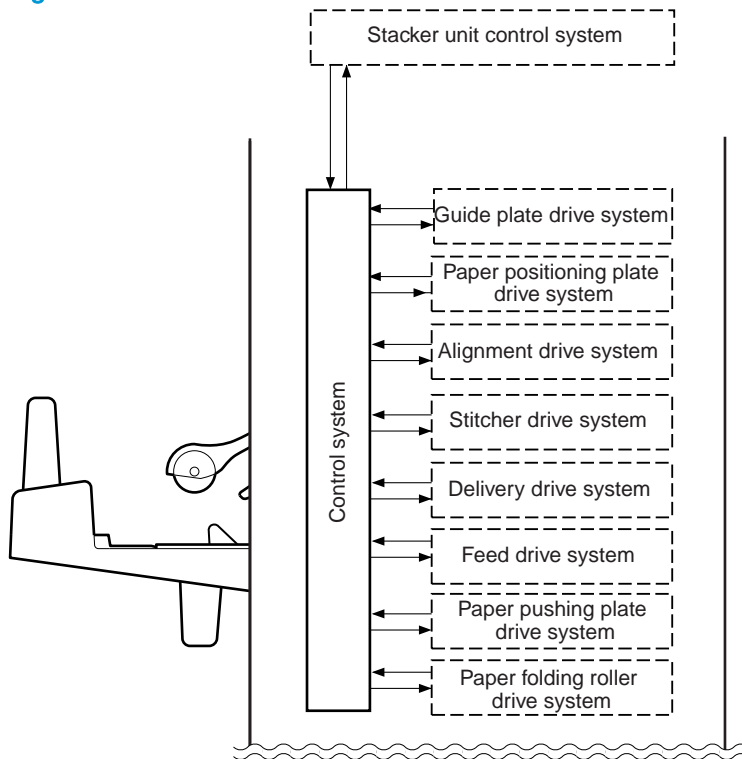




## Booklet maker unit basic operation

The booklet maker unit staples and folds stacks of paper delivered from the stacker unit. The product sends commands via the stacker to the saddle stitcher controller PCA, which controls these operations.

**Figure 1-121** Booklet maker unit basics

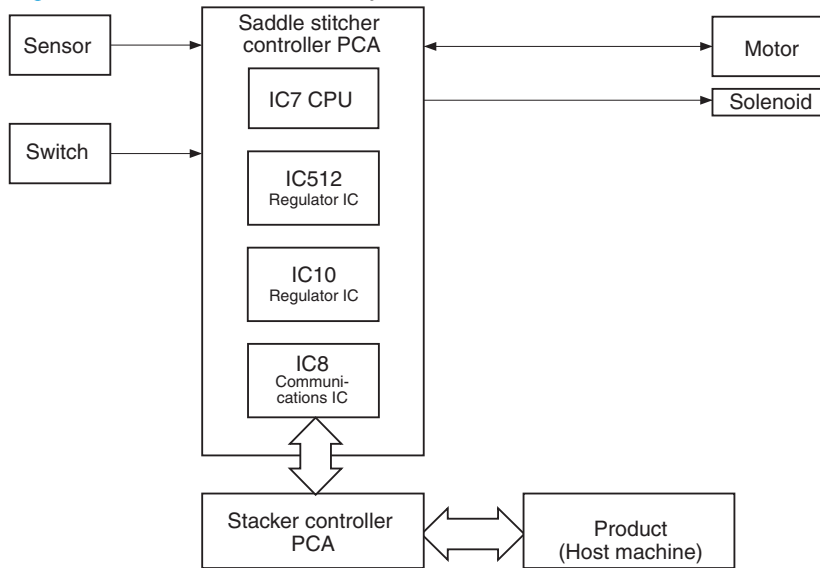


## Booklet maker unit electrical circuitry

The saddle-stitcher controller PCA has a microprocessor that controls the sequence of operations and that handles serial communications with the stacker controller PCA. This includes driving solenoids and motors in response to the commands from the stacker controller PCA. The saddle-stitcher controller PCA is also used to communicate the state of various sensors and switches to the stacker controller PCA. The functions of the major ICs mounted on the saddle stitcher controller PCA are as follows:

- IC7 (CPU): Controls the sequence of operations. Contains the sequence program
- IC8 (communications IC): Communicates with the finisher unit
- IC512 (regulator IC): Generates 5 Vdc
- IC10 (regulator IC): Communicates with the product

**Figure 1-122** Electrical circuitry for the booklet maker unit



## Feed drive system

The stacker unit stacks paper delivered from the product, offsets stack jobs, and staples and delivers paper to the outputs according to commands from the product. The booklet maker unit carries, aligns, and stitches paper delivered from the product, and then feeds the resulting stack. After these operations, the booklet maker unit folds the stacks of paper and delivers them to the booklet-maker-unit output bin. The delivery methods are shown in the following figure.

**Figure 1-123** Feed drive for the stacker unit

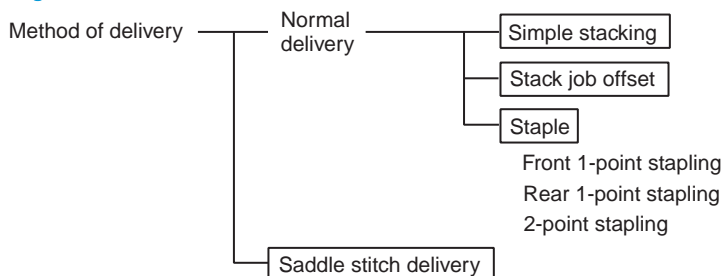
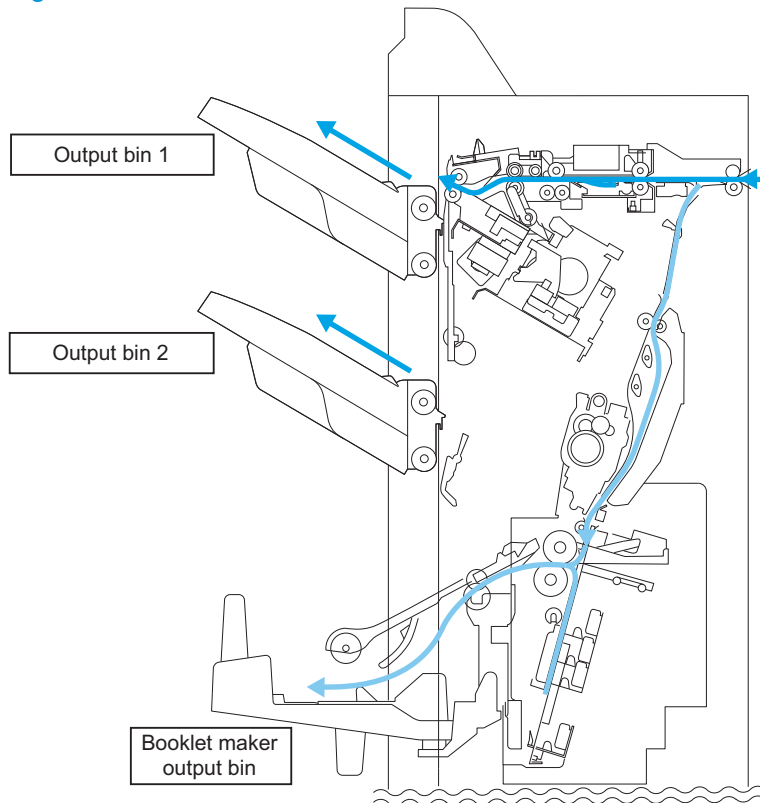


Figure 1-124 Feed drive for the booklet maker unit



### Stacker-unit control system

The paper sent from the product is delivered to the output bin or the processing tray according to the type of job. Job offset or stapling is performed on paper delivered to the output bin according to the instructions from the product. When paper ejects from the processing tray, a stack trailing-edge assist guide is used in addition to the stack-ejection roller to eject the stack. The inlet motor (M101), stack-ejection motor (M102), and stack trailing-edge assist motor (M109) are step motors. The microcomputer (CPU) in the stacker controller PCA rotates these motors forward or backward. The following two sensors in the paper delivery path detect the arrival or passing of paper:

- Stacking paper-path-entry sensor (PI103)
- Stacking paper-path-delivery sensor (PI104)

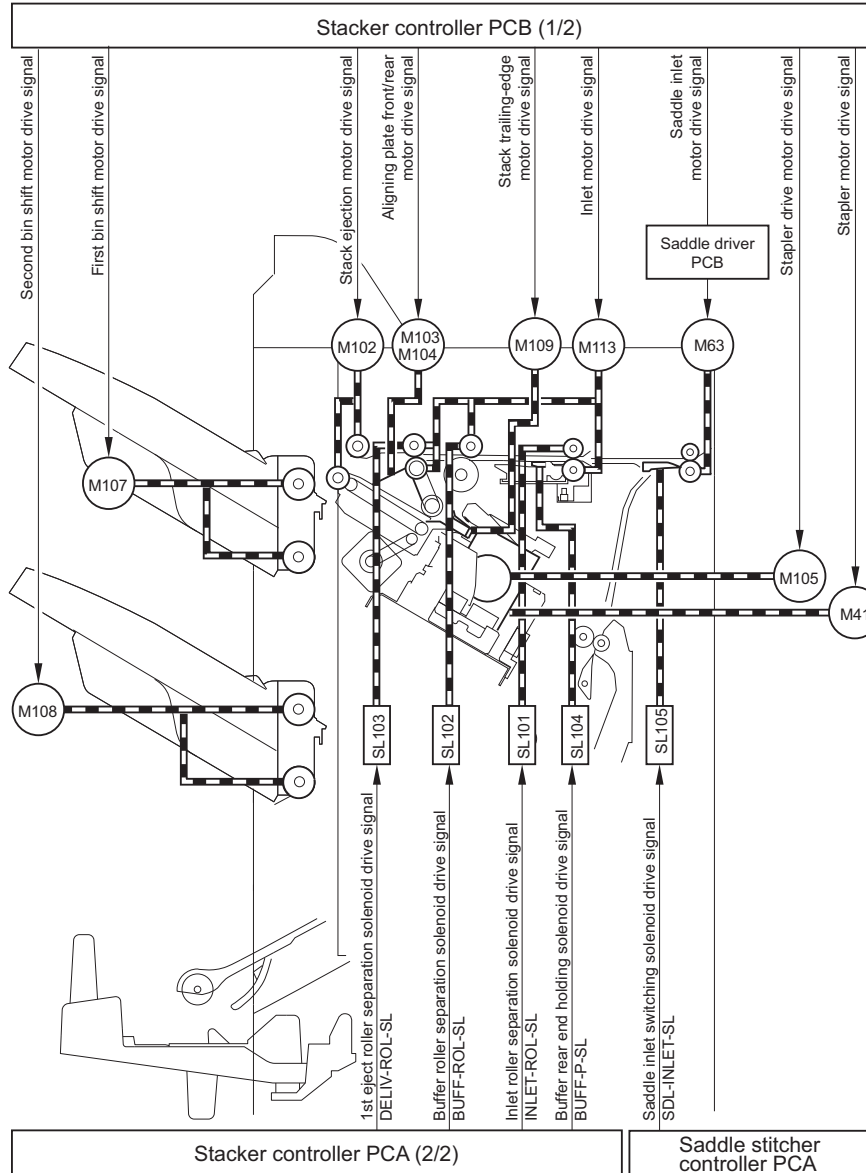
Each output bin also has sensors to detect the presence of paper on the bin:

- First output-bin paper sensor (PI111)
- Second output-bin paper sensor (PI112)

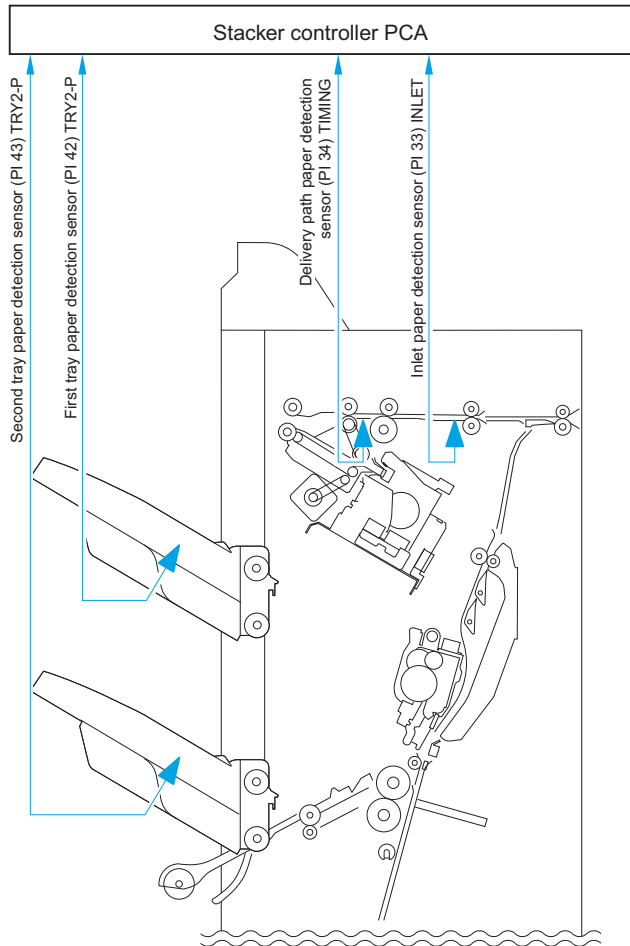
If the sheet does not reach or pass each sensor within the prescribed time, the stacker controller PCA determines that a jam has occurred and stops the operation. It then notifies the product that a jam has occurred. After the jam is cleared and the doors are closed, the stacker unit checks whether the sheet is detected by the stacking paper path entry sensor or stacking paper path delivery sensor. If

the sensors detect a sheet of paper, the stacker unit determines that the jam is not cleared and re-sends the jam processing signal to the product.

**Figure 1-125** Components of the stacker unit control system (1 of 2)



**Figure 1-126** Components of the stacker unit control system (2 of 2)



### Booklet-maker-unit control system

- The paper-output mechanism keeps paper from the stacker unit in place for stapling and folding.
- The No. 1 flapper and the No. 2 flapper of the paper inlet configure the paper path to fit the paper size.
- The paper-positioning plate is kept at a predetermined location to fit the paper size.
- The paper-positioning-plate motor (M4) drives the paper-positioning plate. The position of the plate is identified by the number of motor pulses coming from the paper-positioning-plate home position sensor (PI7).
- The feed rollers and the crescent roller handle paper are moved by the inlet roller and held in a predetermined position.
- The feed plate moves paper through the accessory by coming into contact with or moving away from paper as needed.
- The alignment plates order the stack when paper is output. The alignment motor (M5) drives the alignment plates. The position of the alignment motor (M5) is identified by the number of motor pulses sent from the alignment-plate home-position sensor (PI5).

- The guide plate covers the folding rollers to prevent interference between paper and the paper folding rollers when paper is output. The guide plate moves down to expose the paper-folding rollers before the paper is folded.
- The inlet has three paper sensors (PI18, PI19, PI20) that are each suited to specific paper sizes.
- The paper-positioning plate has a paper-positioning-plate paper sensor (PI8).

Figure 1-127 Components of the booklet-maker-unit control system

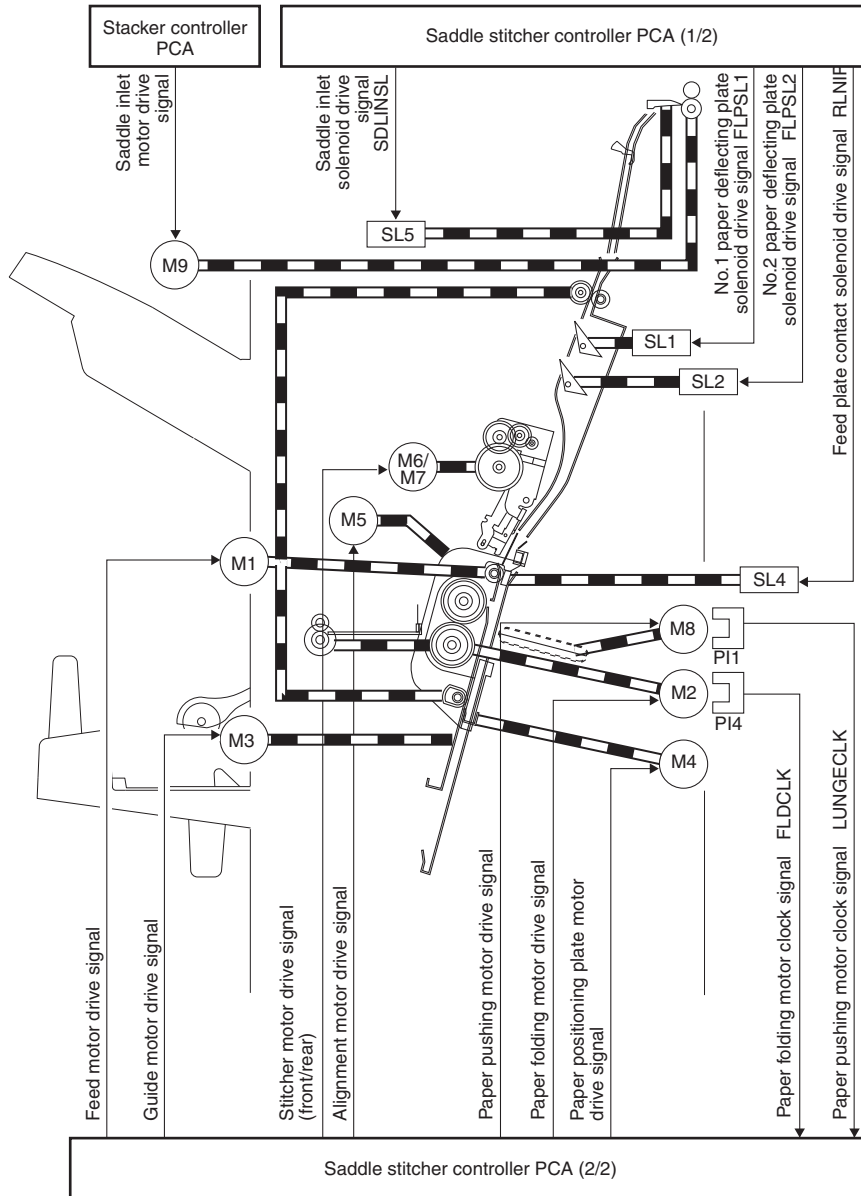
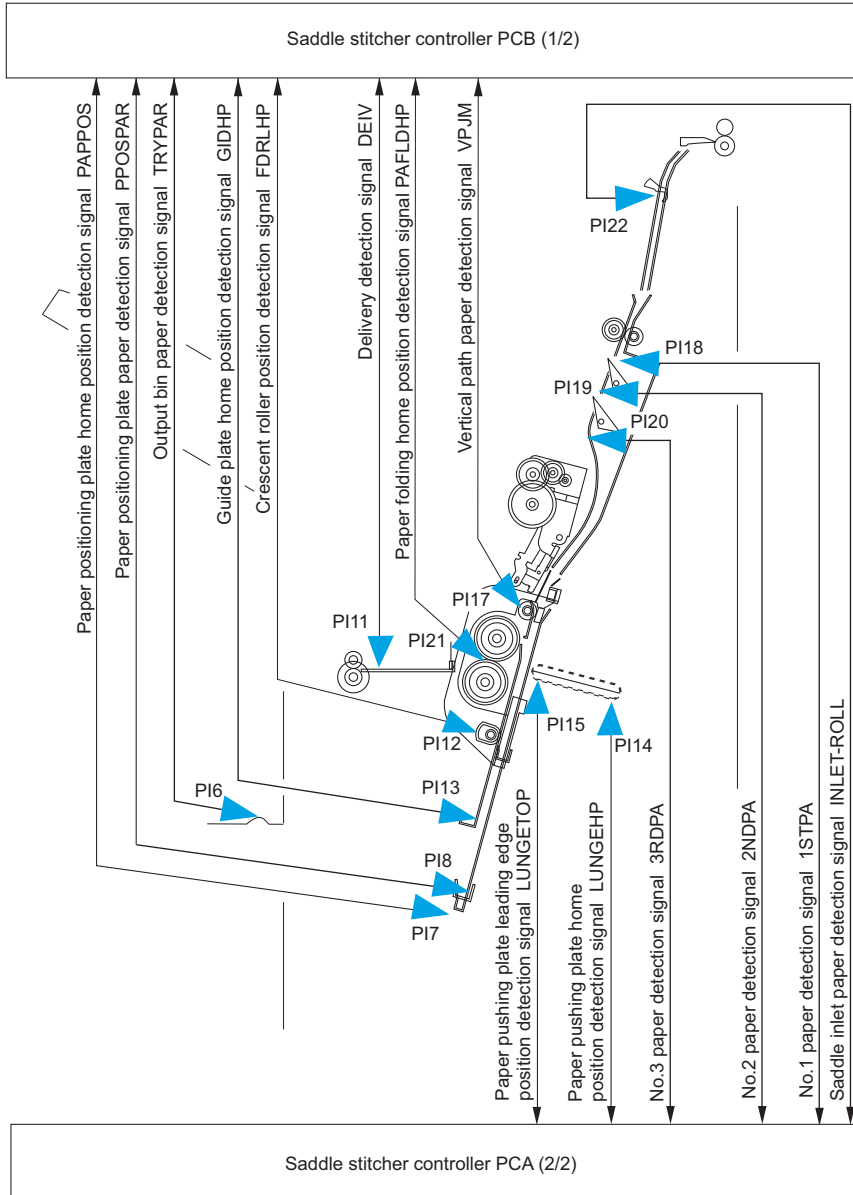


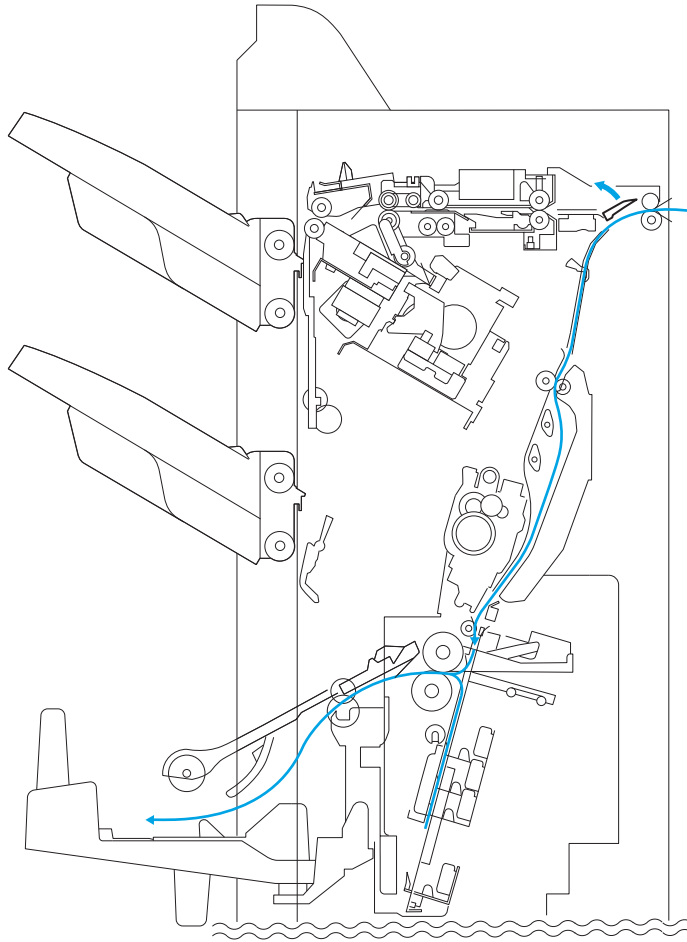
Figure 1-128 Components of the booklet-maker control system



## Booklet maker paper delivery path

The saddle-stitcher flapper routes paper from the product to the booklet maker unit. The booklet maker unit staples, folds, and then delivers the paper to the booklet-maker-unit output bin.

**Figure 1-129** Booklet-maker-unit paper path

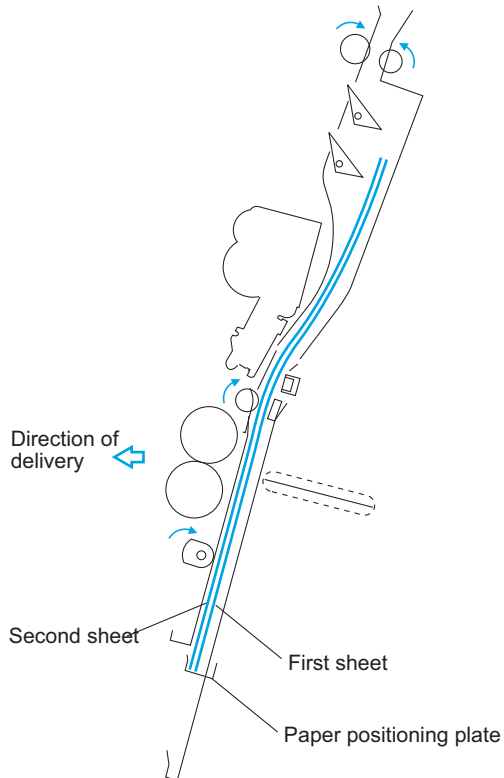




## Booklet maker basic operation

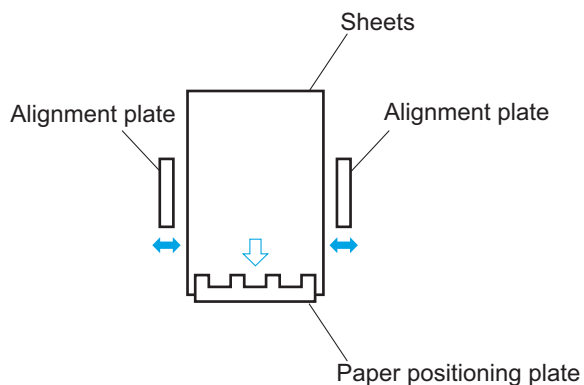
- When receiving paper from the stacker unit, the booklet maker unit outputs paper in a vertical orientation to a vertical path.
- Two paper-deflecting plates configure the path.
- The paper-positioning plate sets the position of the paper so that the center of the stack matches the stapling/folding position.
- Subsequent paper is output closer to the delivery slot. The volume of paper that can be output is 15 sheets (maximum of 14 sheets of 80 g/m<sup>2</sup> + 1 sheet of 250 g/m<sup>2</sup>).

Figure 1-130 Paper delivery for booklet maker



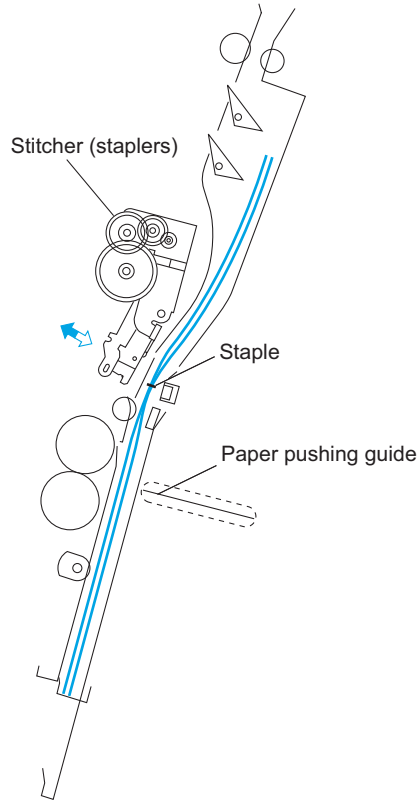
The alignment plates put paper in order when it is output to the vertical-path assembly. Mounted at the edge of the vertical path assembly, alignment plates also prepare the stack for delivery after stapling.

Figure 1-131 Alignment plates



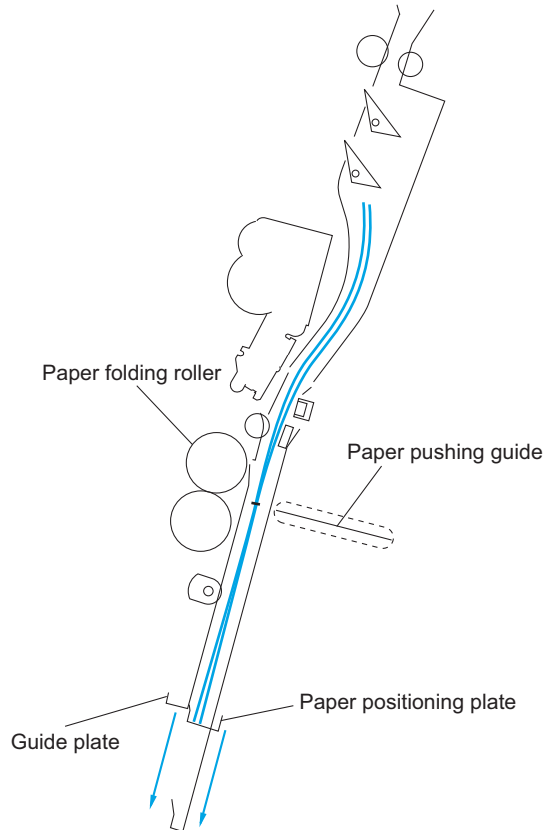
When all the paper has been output, the two stitchers staple the stack. The stitchers face the center of a stack and alternate to prevent the paper from wrinkling and to limit the load on the power supply. If only one sheet arrives, stitching does not take place and the next operation (stack feeding) occurs.

**Figure 1-132** Stitching the stack



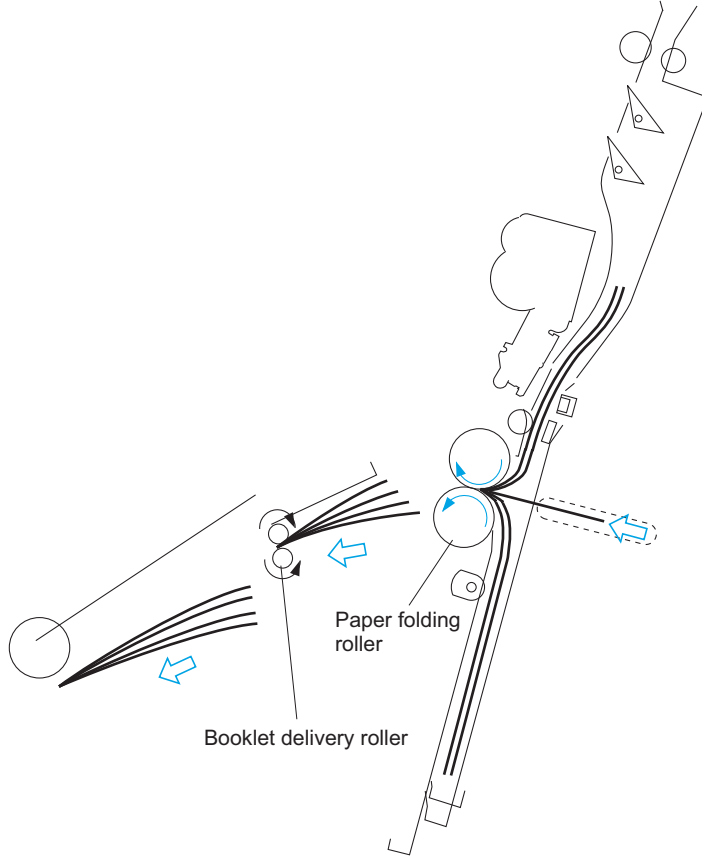
The booklet maker unit folds the stitched stack, and then feeds it to where the stapling position matches the height of the paper-pushing plate and the paper-folding roller nip. The paper-positioning plate moves the stack forward and the guide plate descends so that the paper-folding rollers directly face the stack.

**Figure 1-133** Position the stack



The paper-positioning plate moves the stack to the paper-folding rollers that hold the stack at its center and fold it. The paper-folding rollers and delivery roller then output the stack to the output bin.

**Figure 1-134** Fold and deliver the stack



### Booklet maker control of the inlet flappers

The two flappers mounted at the paper inlet configure the feed path according to paper size. The flappers detect the trailing edge of the paper and prevent the trailing paper from butting against the top of the existing stack. The following table shows the relationship between sensors and paper sizes.

**Table 1-62** Sensors and paper sizes

Sensor	A3/279 mm x 432 mm (11 x 17)	B4/LGL	A4R/LTRR
No.1 paper sensor (PI18)	Used	Used	Used
No.2 paper sensor (PI19)	Not used	Used	Used
No.3 paper sensor (PI20)	Not used	Not used	Used

Each flapper is driven by its own solenoid. The following table shows the relationship between solenoids and paper sizes.

**Table 1-63 Solenoids and paper sizes**

Sensor	A3/279 mm x 432 mm (11 x 17)	B4/LGL	A4R/LTRR
No.1 paper-deflecting solenoid (SL1)	off	on	on
No.2 paper-deflecting solenoid (SL2)	off	off	on

**Figure 1-135 A3/279 mm x 432 mm (11 x 17 in) paper path (3 sheets)**

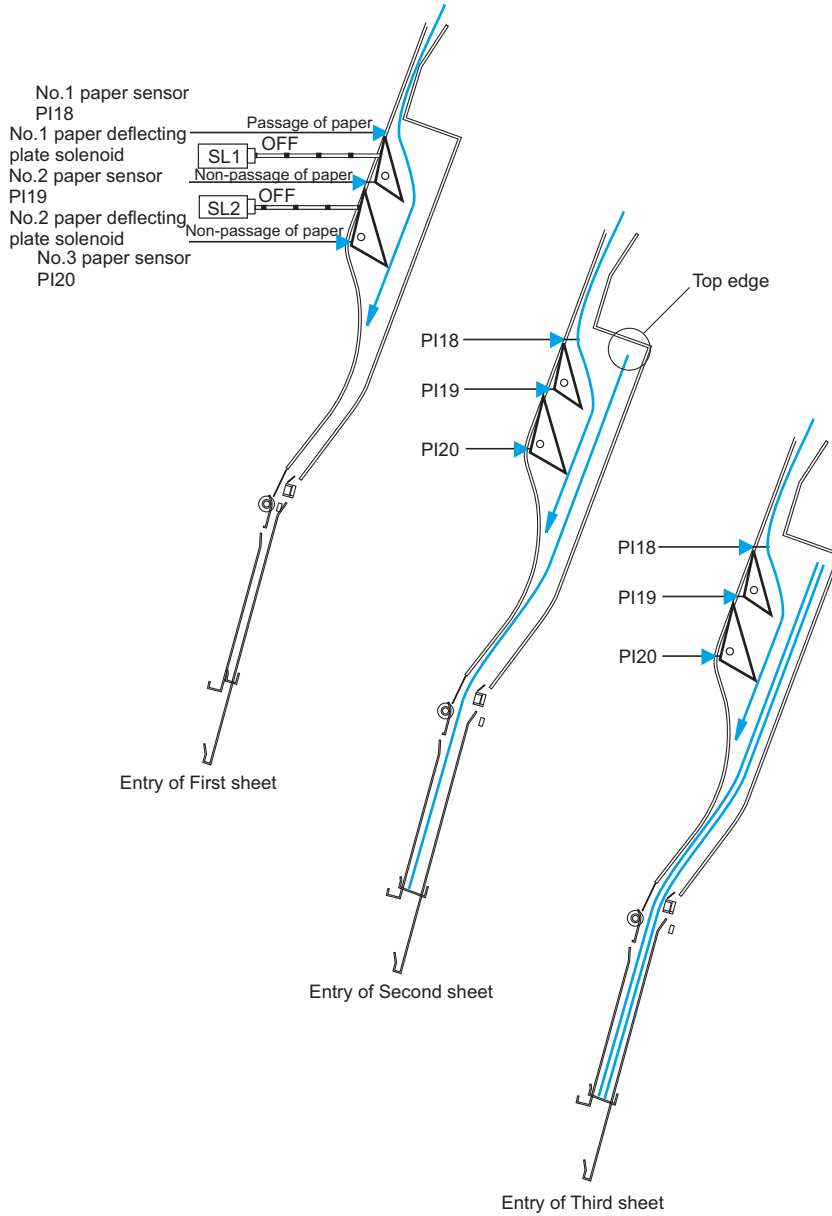
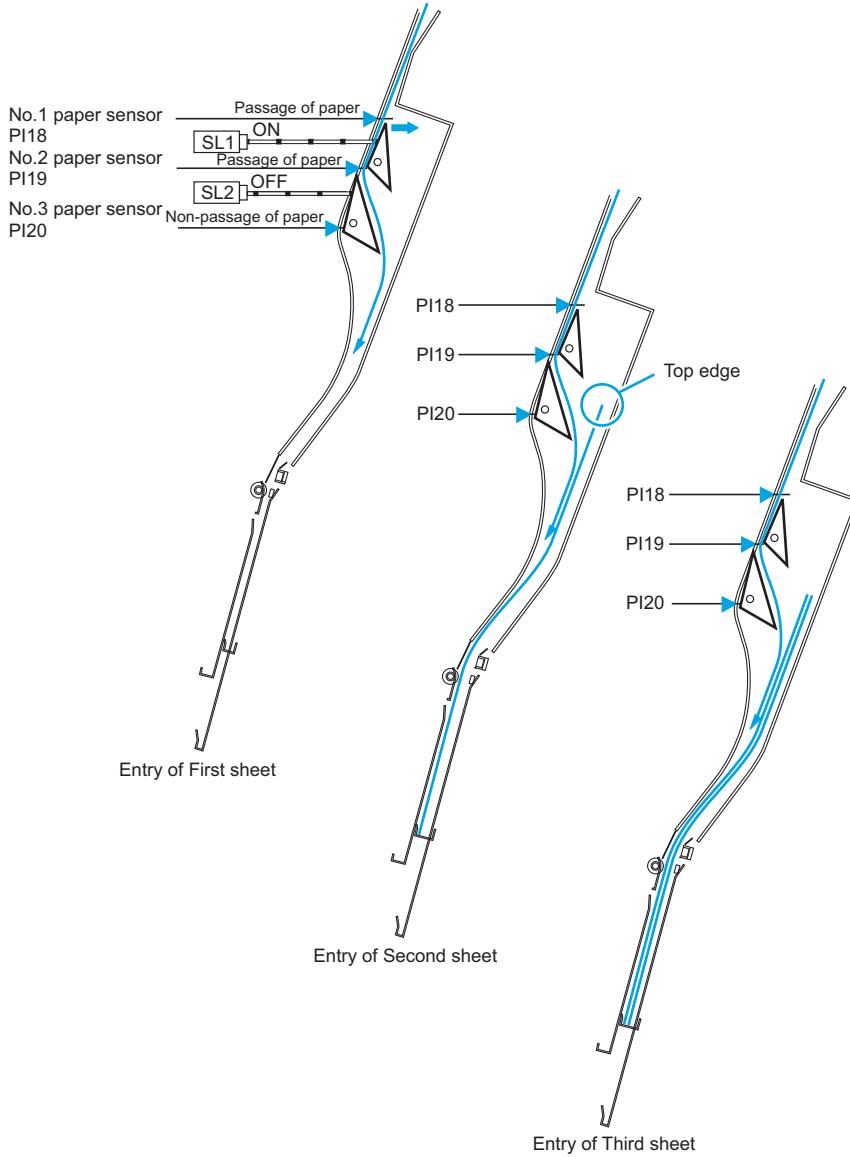
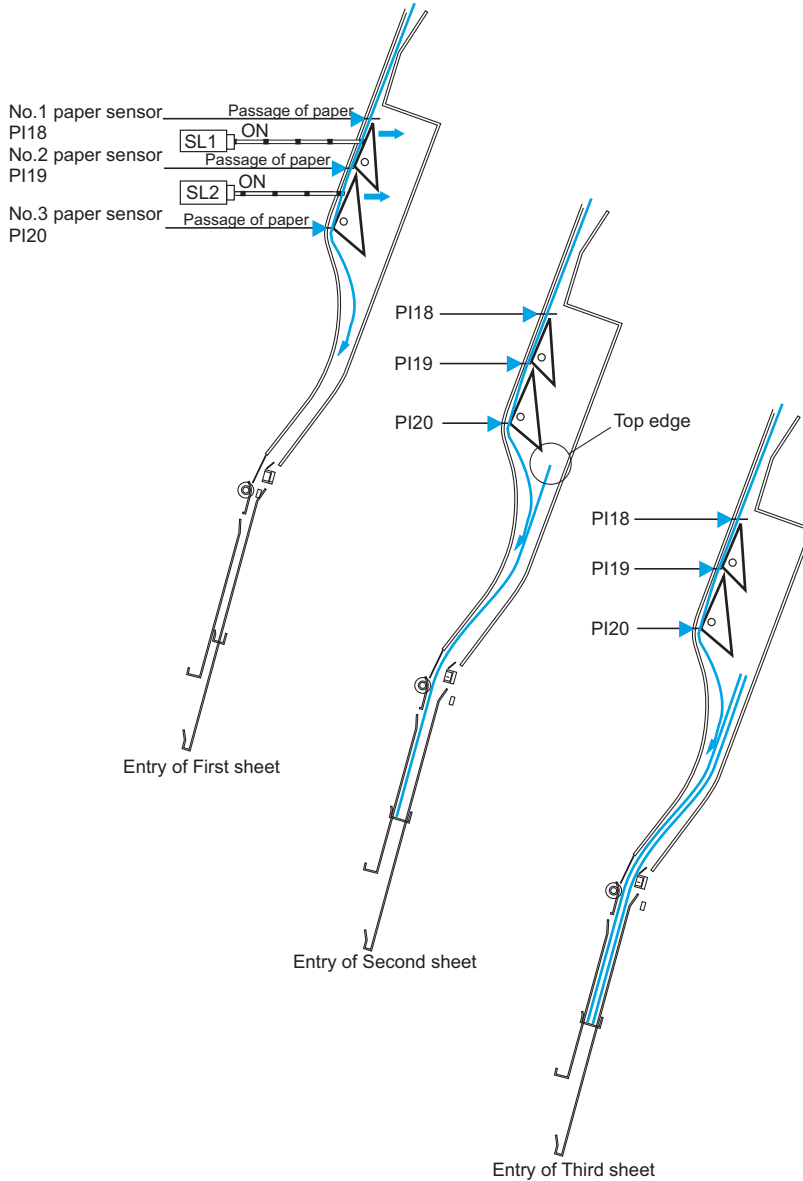


Figure 1-136 B4/LGL paper path (3 sheets)



**Figure 1-137** A4R/LTRR Paper Path (3 sheets)

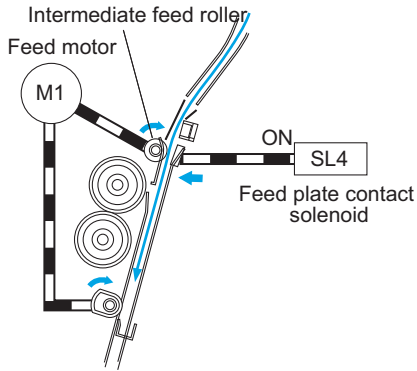


### Booklet maker control of paper movement

- When the leading edge of the paper has passed the inlet flapper, the intermediate-feed roller and the crescent roller start to move the paper forward.
- When the leading edge of the paper reaches the intermediate-feed roller, the feed-plate-contact solenoid (SL4) causes the roller to contact the path bed and move the paper forward. When the leading edge of the paper reaches the paper-positioning plate, contact is broken.
- When the leading edge of the first sheet reaches the paper-positioning plate, the paper-positioning-plate paper sensor (PI8) turns on. Subsequent sheets will not be checked because the first sheet will still be over the sensor.

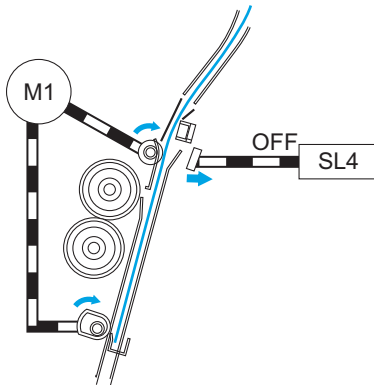
- The crescent roller rotates while sheets are output, pushing the leading edge of each sheet against the paper-positioning plate and keeping the leading edge of the stack in order.
  - The alignment motor (M5) drives the alignment plates for each sheet to keep both the left and right edges of the sheet in order.
1. The solenoid turns on while paper is being moved so that the feed plate comes into contact with the page.

**Figure 1-138** Paper movement (1 of 3)



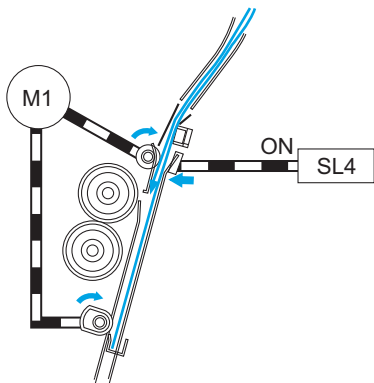
2. The solenoid turns off when the paper touches the paper-positioning plate. The feed motor continues to rotate.

**Figure 1-139** Paper movement (2 of 3)



3. The solenoid turns on when the next sheet arrives, and the feed plate comes into contact with the page.

**Figure 1-140** Paper movement (3 of 3)



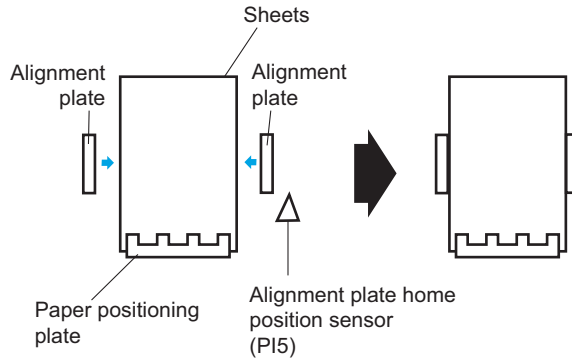


## Booklet maker alignment of paper

The alignment motor (M5) drives the alignment plates each time paper is output, putting both left and right edges of the sheet in order. The alignment-plate motor is a four-phase stepping motor. The position of the alignment plate is identified by the number of motor pulses from the alignment-plate home-position sensor (PI5). The saddle-stitching mechanism operates on two sheets as follows.

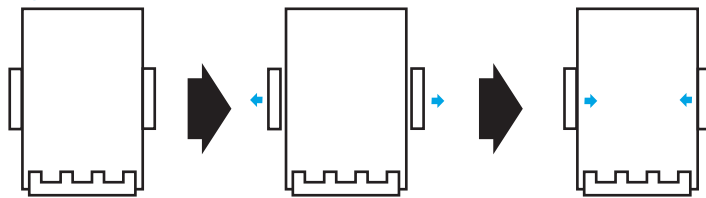
1. When the first sheet is output, the alignment plates touch the left and right edges of the stack (first alignment). The alignment plates leave the home position in advance and wait at points 10 mm from the edges of the stack.

**Figure 1-141** Paper alignment (1 of 8)



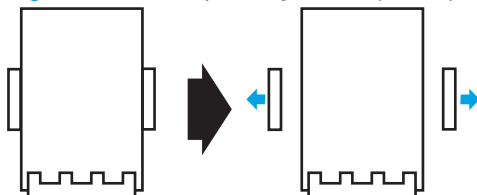
2. The alignment plates move away from the stack and then return (Second alignment).

**Figure 1-142** Paper alignment (2 of 8)



3. The alignment plates move 10 mm from the edge of the stack.

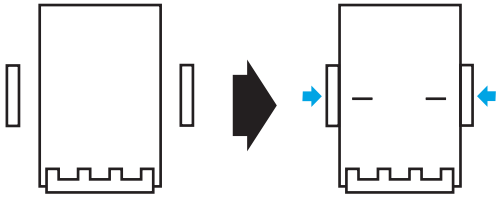
**Figure 1-143** Paper alignment (3 of 8)



4. When the stack arrives, steps 1 through 3 repeat.

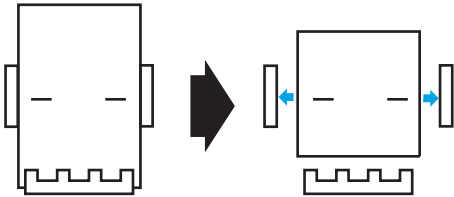
5. The alignment plates return to the stack and stitching takes place.

Figure 1-144 Paper alignment (4 of 8)



6. The alignment plates move 10 mm from the edges of the stack and folding and delivery takes place.

Figure 1-145 Paper alignment (5 of 8)



7. When the first sheet of the following stack reaches the No. 1 paper sensor, the guide moves to 10 mm from the edge of the stack for the next alignment.

Figure 1-146 Paper alignment (6 of 8)

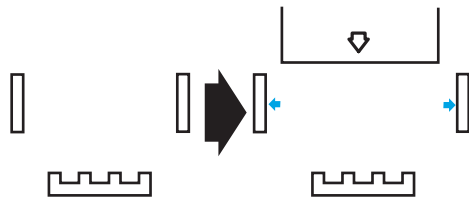


Figure 1-147 Paper alignment (7 of 8)

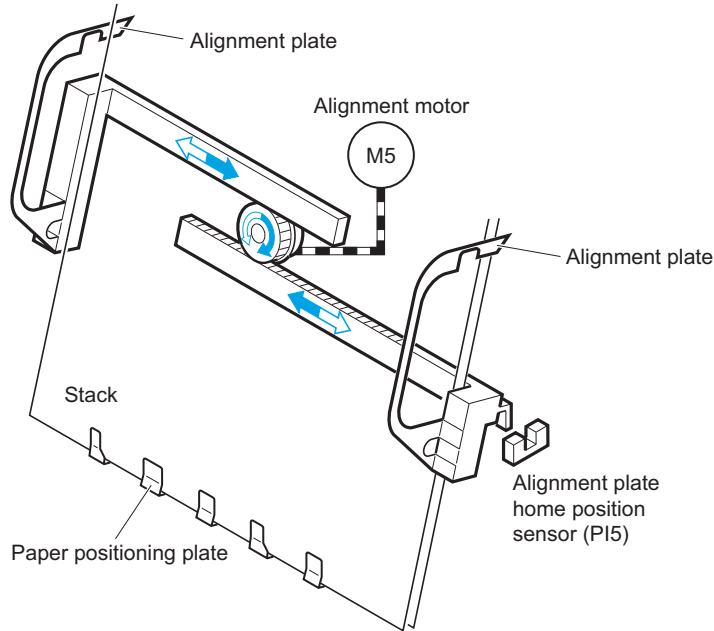
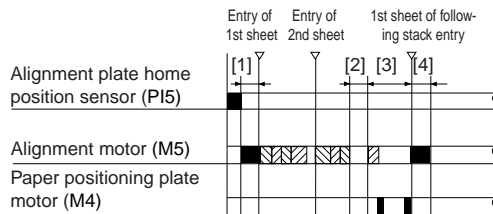


Figure 1-148 Paper alignment (8 of 8)

In case of 2 sheets:



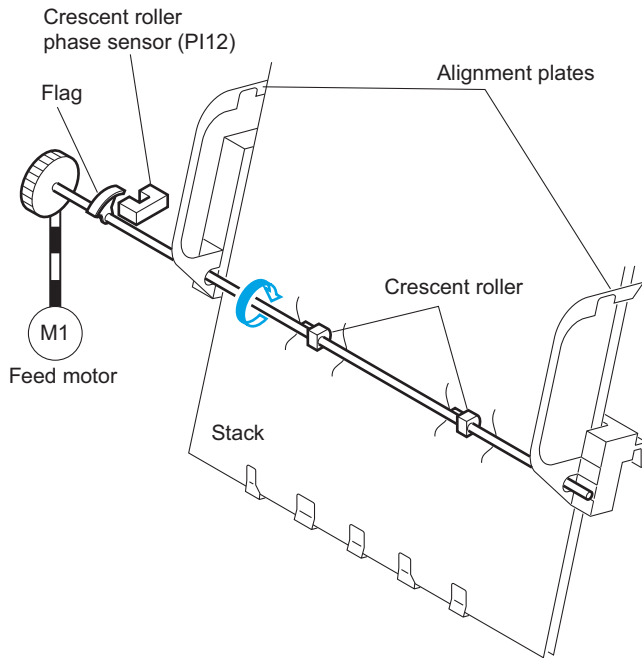
▨ : Alignment ▩ : Escape

- [1]: Move to wait position
- [2]: Stapling period
- [3]: Paper folding/delivery period
- [4]: Move to following stack size wait position

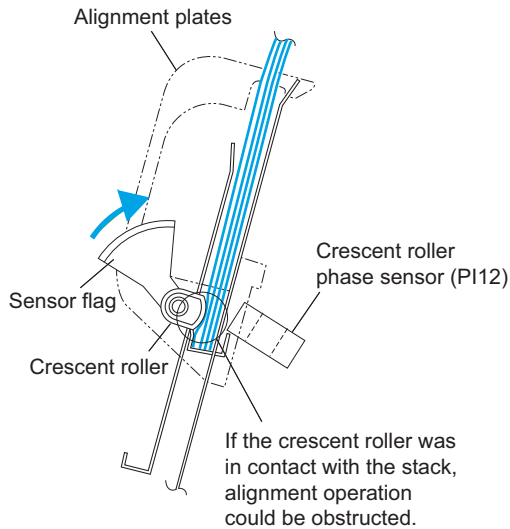
## Booklet maker control of the crescent roller

During alignment, the crescent roller can create friction against the roller causing the stack to move incorrectly. To prevent this problem, the crescent-roller phase sensor (PI12) identifies the phase of the crescent roller to determine the timing of alignment. The flag for the crescent-roller phase sensor is mounted to the crescent-roller shaft. The roller shaft rotates, turning the sensor on and off. Operation of the alignment plates corresponds with the change in the state of the sensor.

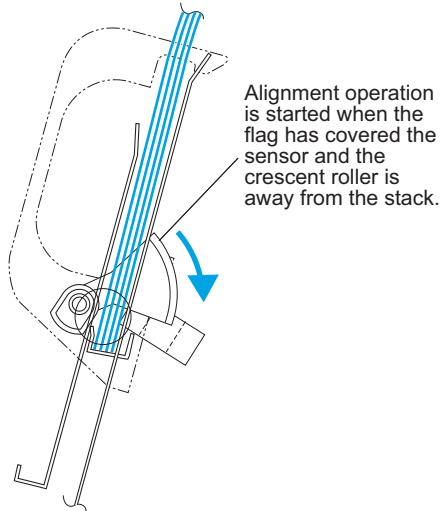
**Figure 1-149** Crescent-roller process (1 of 4)



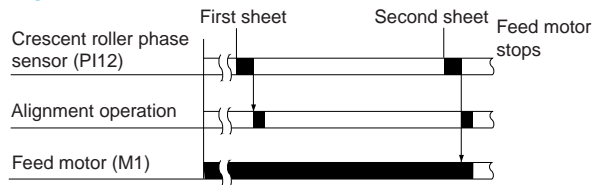
**Figure 1-150** Crescent-roller process (2 of 4)



**Figure 1-151** Crescent-roller process (3 of 4)



**Figure 1-152** Crescent-roller process (4 of 4)



## Booklet maker folding

The paper-folding mechanism includes a guide plate, paper-folding rollers, paper-pushing plate, and paper-positioning plate. The guide plate covers the folding rollers to prevent sheets from contacting the folding rollers during output. Before folding, the guide plate descends, allowing the folding rollers to operate. The following tables show the names and the functions of the motors and sensors used by the paper folding mechanism.

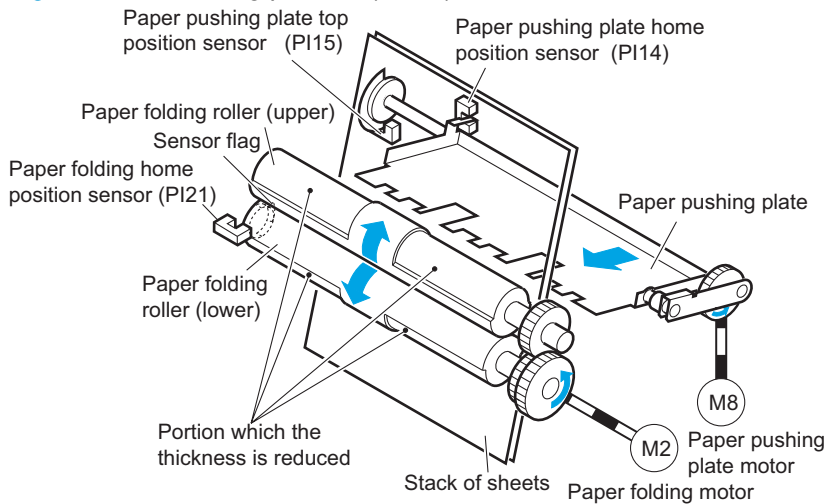
Motor	Function
Paper-folding motor (M2)	Drives the folding roller
Paper-pushing-plate motor (M8)	Drives the paper-pushing plate

Sensor	Function
Paper-pushing-plate-motor clock sensor (P11)	Detects the paper-pushing-plate-motor clock
Paper-folding-motor clock sensor (P14)	Detects the paper-folding-motor clock
Output-bin paper sensor (P16)	Detects the presence/absence of a stack of sheets in the saddle output bin
Delivery sensor (P111)	Detects the paper delivery
Paper-pushing-plate home-position sensor (P114)	Detects the paper pushing plate leading edge position
Vertical-path paper sensor (P117)	Detects the presence/absence of paper after removal of a jam
Paper-folding home-position sensor (P121)	Detects the paper-folding home position

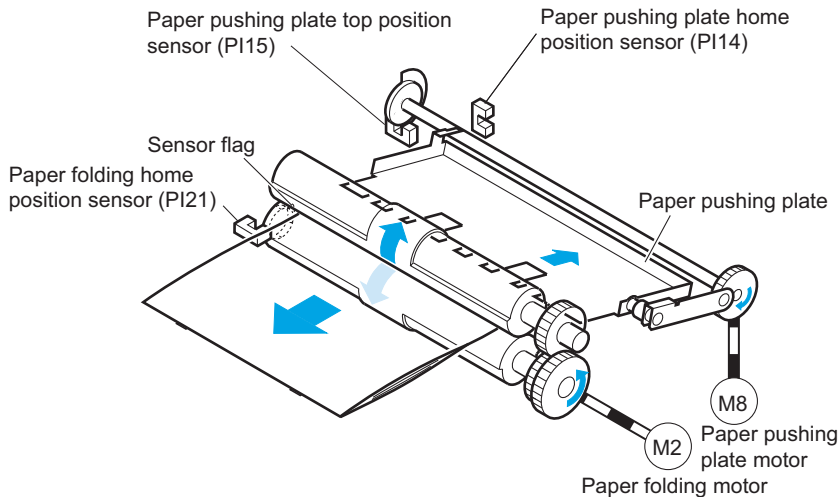
## Booklet maker fold the stack

The paper-pushing plate pushes the center of the stack to the roller-contact section and waits at the leading-edge position until the stack is taken by the paper-folding roller. When the paper-folding roller has gripped the stack, the paper-pushing-plate motor rotates, returning the paper-pushing plate to its home position. The paper-folding roller draws the stack until the delivery roller moves it to the output bin. The thickness of the paper-folding rollers is reduced at the upper half of the periphery but maintained in the center area and at the lower half of the periphery. At the lower half of the periphery where the thickness is not reduced, the paper-folding roller (upper) and the paper-folding roller (lower) contact each other tightly, and paper starts to be folded at this position. The upper and lower rollers feed paper while folding it and stop at the folding position. At the upper half of the periphery where the thickness is reduced, the upper and lower paper-folding rollers do not contact each other except at the center, so they only feed the paper to prevent paper from being wrinkled. The paper-folding start and stop positions are controlled by the number of motor pulses delivered from the paper-folding home-position sensor (P121).

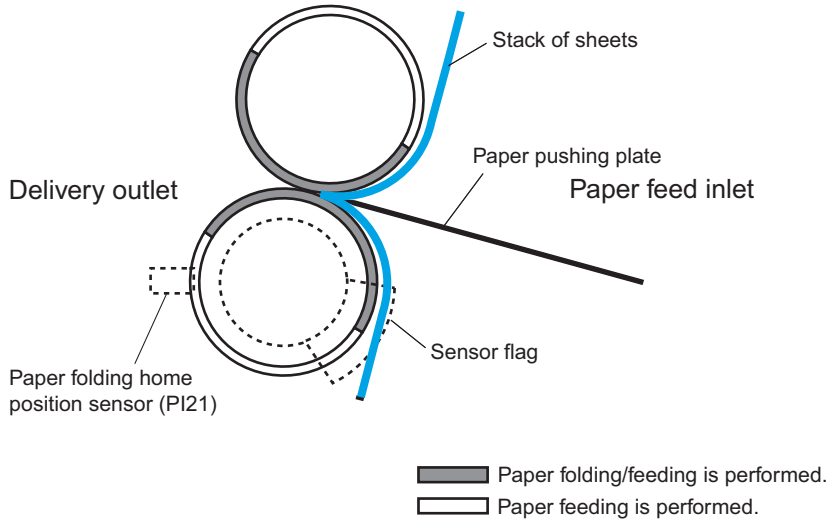
**Figure 1-153** Folding position (1 of 5)



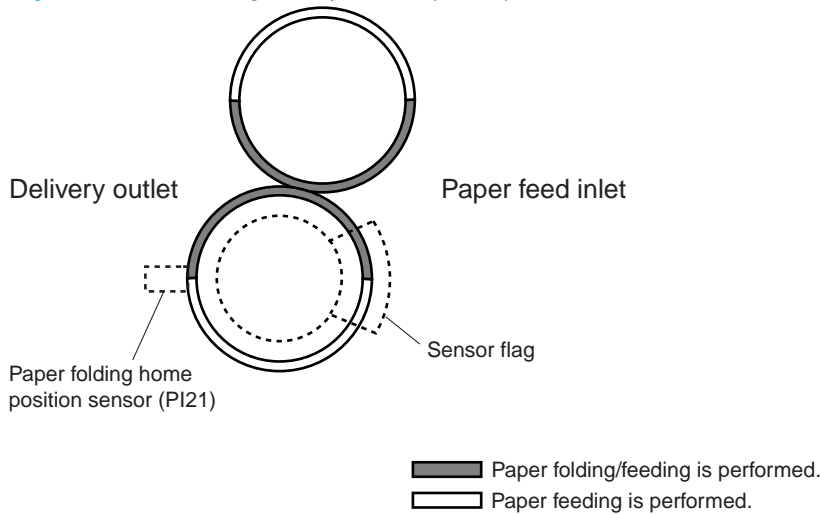
**Figure 1-154** Folding process (2 of 5)



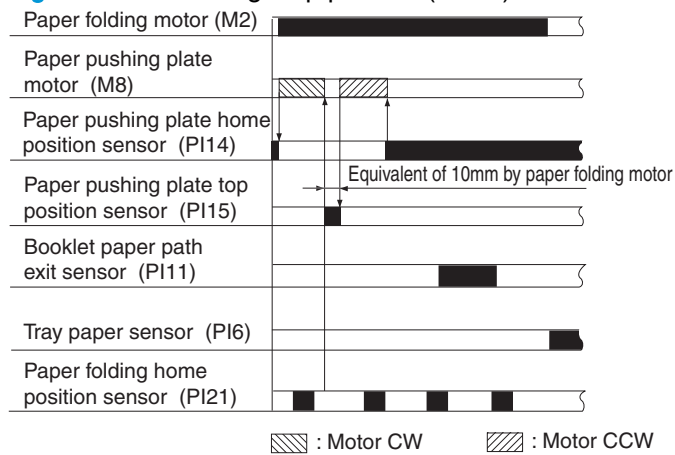
**Figure 1-155** Folding start position (3 of 5)



**Figure 1-156** Folding start position (4 of 5)



**Figure 1-157** Folding stop position (5 of 5)

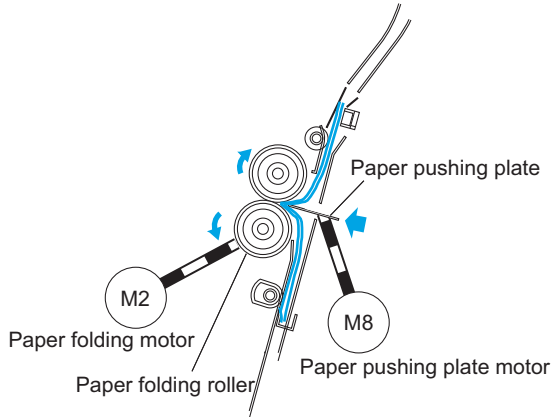


## Booklet maker double folding a stack

A stack of 10 or more A4R or LTRR sheets is folded twice.

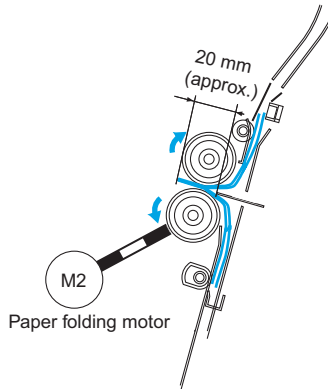
1. The paper-pushing plate pushes the stack to the paper-folding rollers.

**Figure 1-158** Double-folding process (1 of 5)



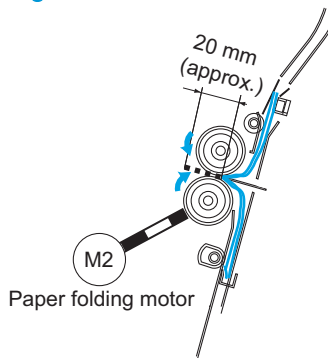
2. The paper-folding rollers grip the stack.

**Figure 1-159** Double-folding process (2 of 5)



3. The paper-folding rollers rotate in reverse, pushing the stack backward 20 mm (reverse feeding).

**Figure 1-160** Double-folding process (3 of 5)





- The paper-folding rollers rotate forward to push the stack forward. The paper-pushing plate returns to its home position.

Figure 1-161 Double-folding process (4 of 5)

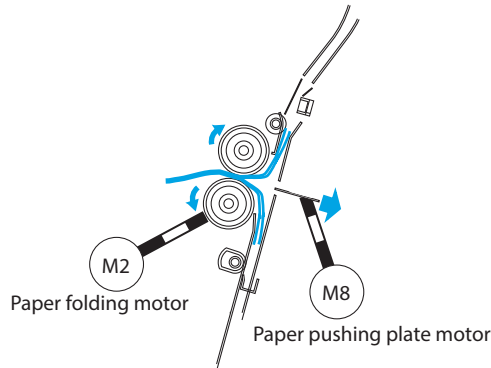
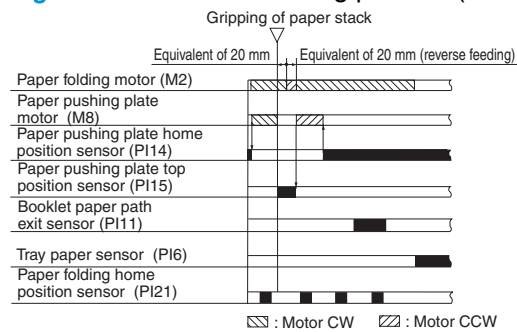


Figure 1-162 Double-folding process (5 of 5)

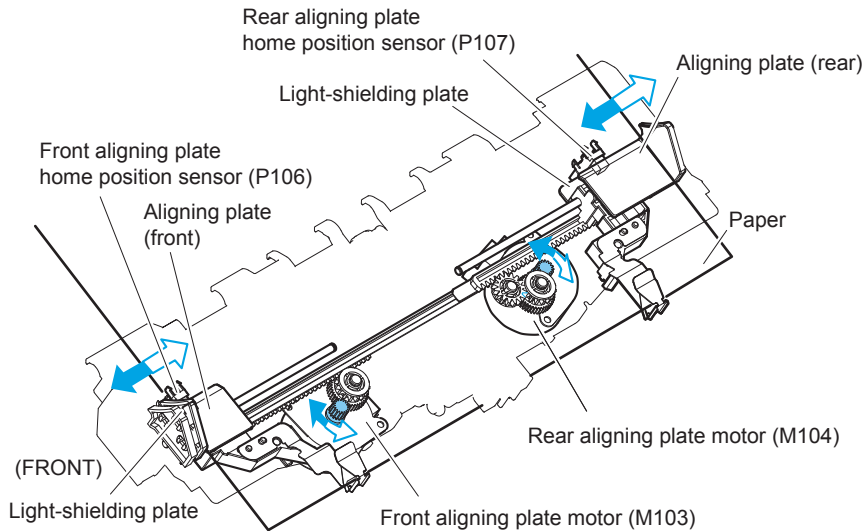


## Booklet maker intermediate-process-tray assembly

### Stack job offset

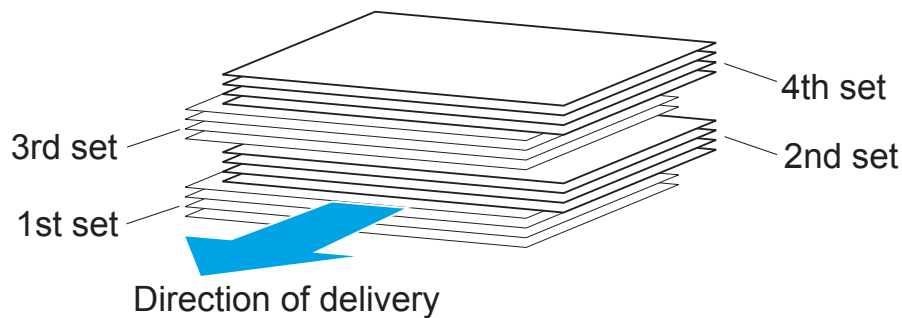
The job-offset operation offsets the paper stack to the front or rear when ejecting to sort the paper stack. The forward/backward movement of the sheet delivered to the processing output bin is controlled by the front-aligning plate and rear-aligning plate. The aligned copies are stapled or ejected according to the signal from the product. When the power is turned on, the stacker controller PCA drives the aligning plate front motor (M103) and aligning-plate rear motor (M104) to return the two aligning plates to the home position. The name and function of motors and sensors used by the stack job-offset function are shown below.

**Figure 1-163** Motors and sensors for stack job offset

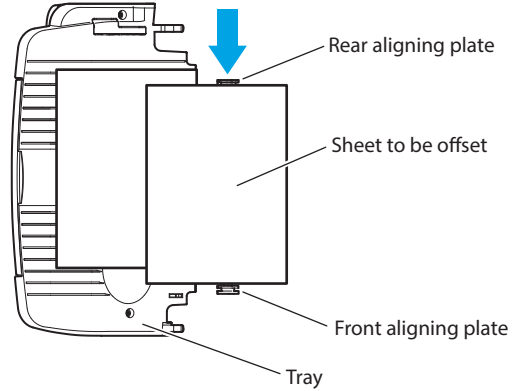


**Figure 1-164** Stack job offset example

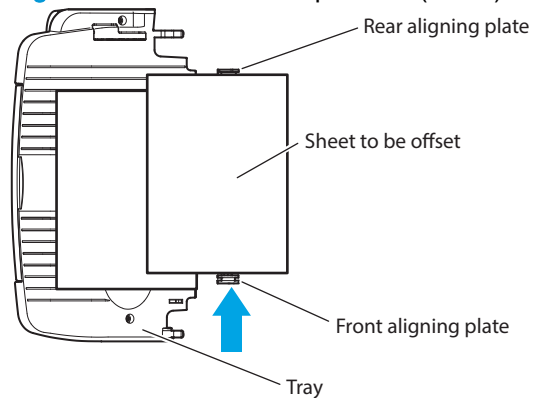
Results Delivering 4 sets



**Figure 1-165** Job offset operation (1 of 2)



**Figure 1-166** Job offset operation (2 of 2)



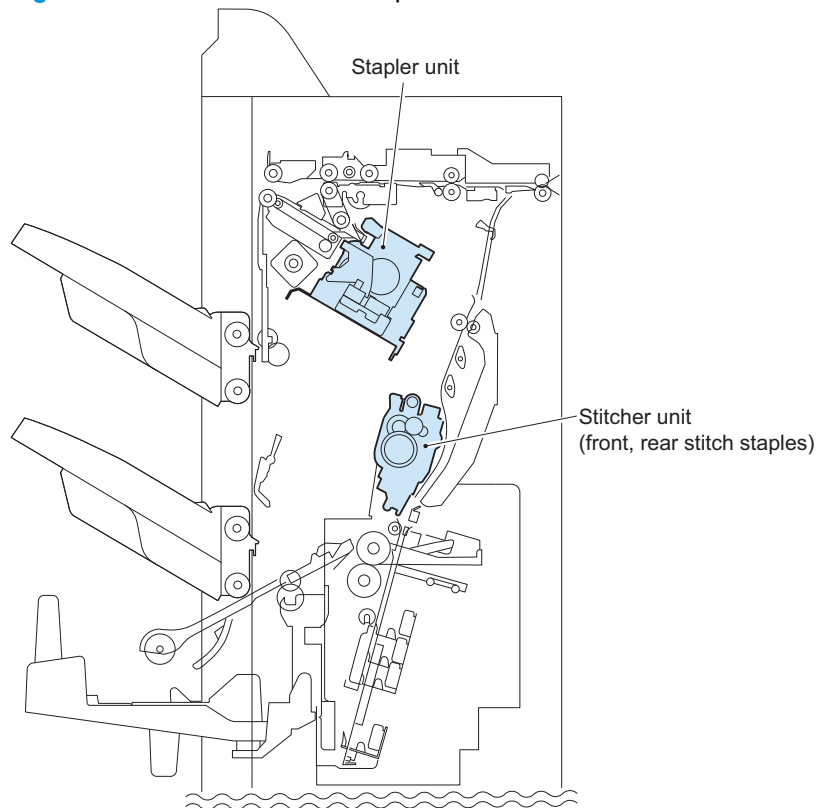
**Table 1-64** Motors for the stack job offset

Motor	Function
Front-aligning-plate motor (M103)	Aligns paper in the processing output bin to the front
Rear-aligning-plate motor (M104)	Aligns paper in the processing output bin to the rear
Swing motor (M106)	Moves the swing guide up/down
Stack trailing-edge assist motor (M109)	Carry the stack end during stack ejection

## Booklet maker staple operation

The stacker unit provides 1-point front stapling, 1-point rear stapling, and 2-point stapling. The booklet stapler provides 2-point center stapling.

**Figure 1-167** Location of the staplers

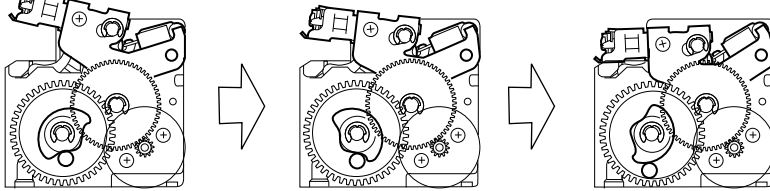


### Stapler unit

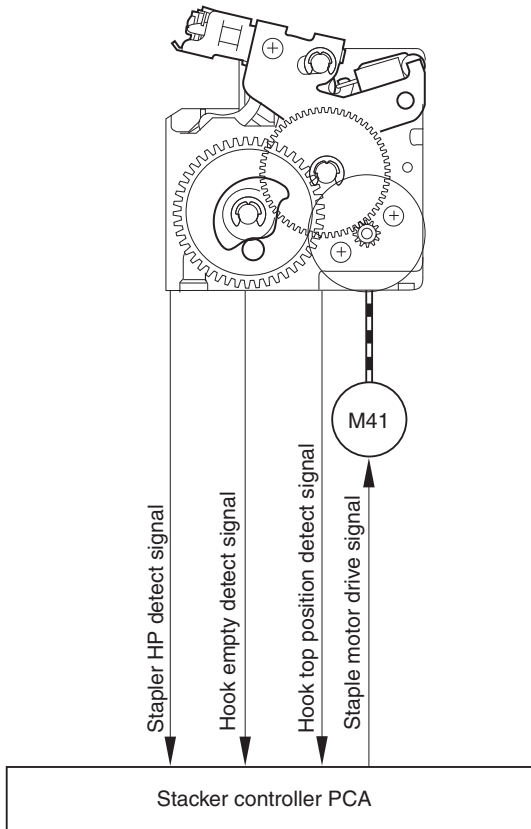
- The staple motor (M41) rotates the cam one turn for stapling. The macro computer (IC101) on the stacker controller PCA controls the motor.
- The staple home-position sensor detects the home position of the cam. When the staple home-position sensor is off, the stacker controller PCA rotates the staple motor forward until the sensor turns on, moving the staple cam to its original position.
- The staple sensor detects presence of a staple cartridge and of staples in the cartridge.

- The staple-edging sensor determines whether staples are pushed to the top of the staple cartridge.
- For safety, the stacker-controller circuit does not drive the staple motor (M41) unless the staple safety switch (MS34) is turned on.

**Figure 1-168** Stapling operation (1 of 2)



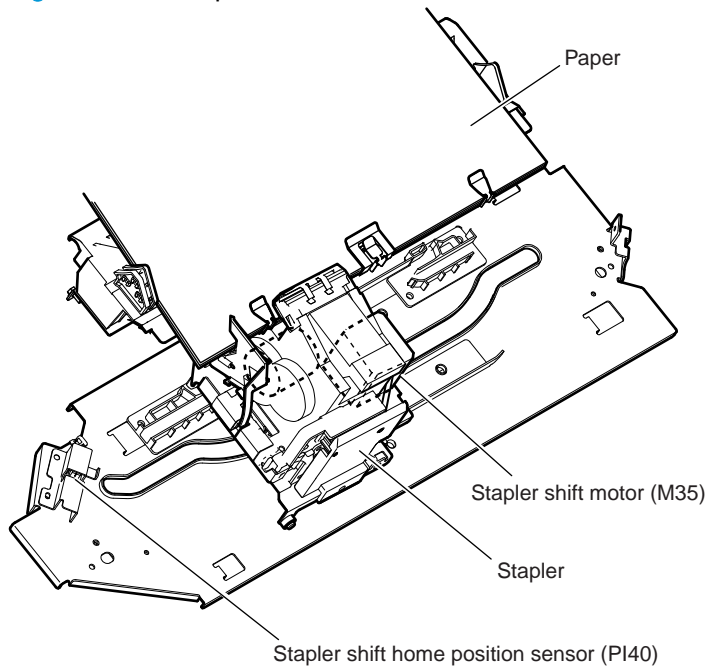
**Figure 1-169** Stapling operation (2 of 2)



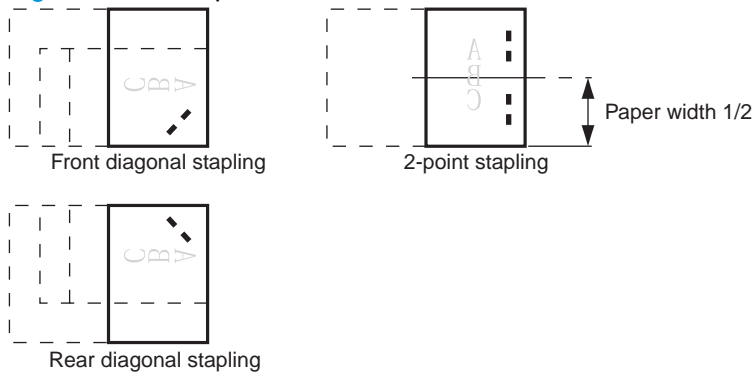
## Stapling operation

The stapling operation staples the prescribed number of copies with the stapler unit. The staple position depends on the staple mode and paper size. The stapler-shift home-position sensor (PI40) detects whether the stapler unit is at the home position. The stapler unit is equipped with a stapler-alignment interference sensor (PI46). The staple motor (M41) operation is prohibited when the stapler-alignment interference sensor (PI46) is on. This prevents stapling at the stopper and damaging the stopper when the stapler-shift motor (M105) is incorrectly adjusted. When the power is turned on, the stacker controller PCA drives the stapler-shift motor (M105) to return the stapler unit to home position. If the stapler unit is already at home position, it waits in that state.

**Figure 1-170** Stapler unit



**Figure 1-171** Staple location



**Table 1-65** Sensors used in stapling

Sensor	Symbol	Connector	Function	Remarks
Stapler-shift home-position sensor	PI40	J721B-6	Detects the home position for the stapler moving back and forth	
Stapler-alignment interference sensor	PI46	J717-3	Staple prohibited area detection	

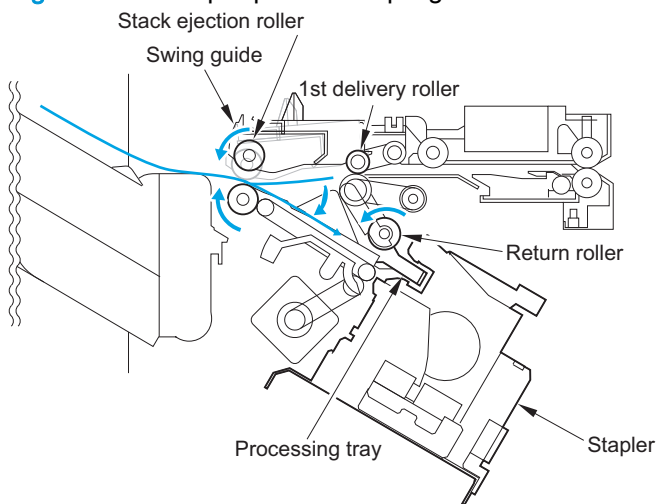
**Table 1-65 Sensors used in stapling (continued)**

Sensor	Symbol	Connector	Function	Remarks
Stapler home-position sensor		J717-5	Detects the home position for the stapling operation	In the stapler
Staple edging sensor		J717-6	Detects the staple top position	In the stapler
Staple sensor		J717-7	Detects presence or absence of staples in the cartridge	In the stapler

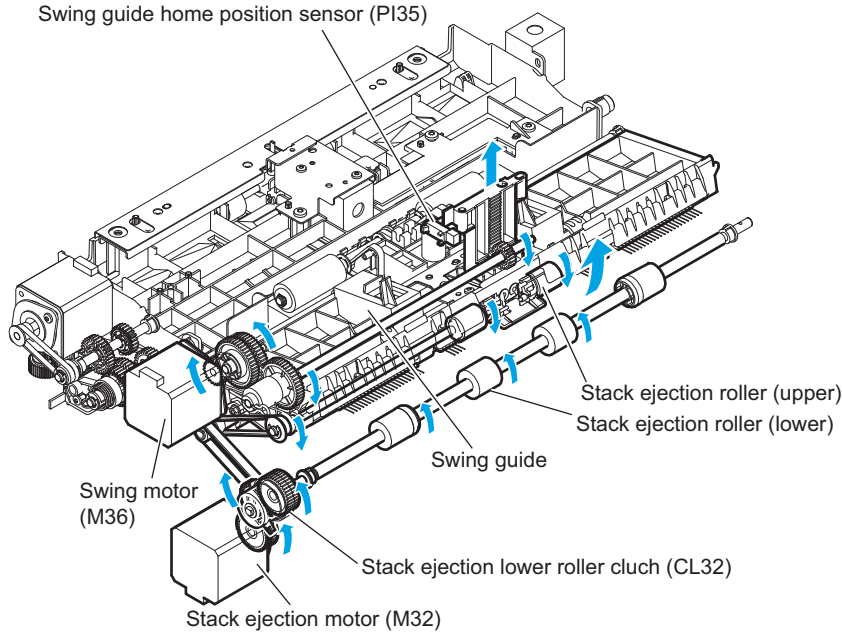
**Table 1-66 Motors used in stapling**

Function	Motor	Symbol	Remarks
Moves the stapler	Stapler-shift motor	M105	
Performs the stapling operation	Staple motor	M41	

The stacker controller PCA moves the stapler according to the specified stapling position. When the rear of the first sheet passes the first delivery roller, the stacker controller PCA stops the stack-delivery motor (M102) and then rotates it in reverse. The stack-delivery motor rotates the stack-delivery roller and return roller and delivers the paper to the processing output bin. The paper in the processing output bin is detected by the processing-output-bin paper sensor (PI38). When the paper is delivered to the processing output bin, the swing motor (M106) starts and raises the swing guide. When the swing-guide home-position sensor (PI35) detects the rising of the swing guide, the swing-guide motor stops and holds the swing guide at the raised position. After the processing-output-bin paper sensor detects the paper, the aligning motor (M103/M104) starts and aligns the paper.

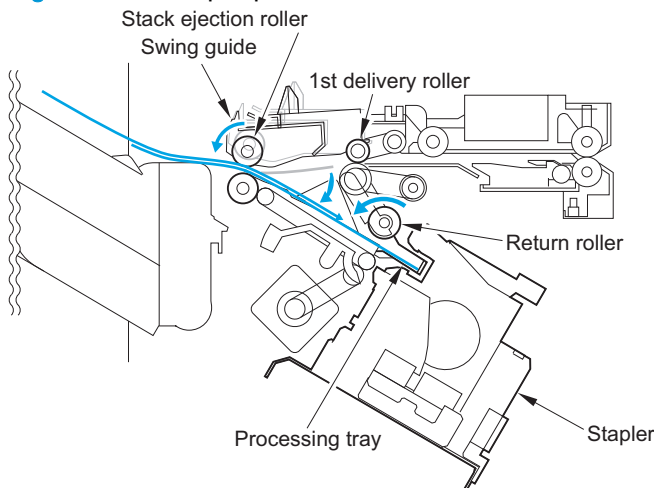
**Figure 1-172 Paper path for stapling**

**Figure 1-173** Rollers and sensors for stapling



The stacker controller PCA starts the swing motor (M106) and lowers the swing guide when the rear of the second paper passes the first delivery roller. The stack-delivery motor is reversed. The stack-delivery motor rotates the stack-delivery roller (upper) and return roller and sends the paper to the processing output bin. At this point, the stack-delivery roller (lower) does not rotate because the stack-ejection lower-roller clutch (CL32) is disengaged. The output-bin paper sensor (PI38) detects the processing-output-bin paper sensor (P138). When the paper is delivered to the processing output bin, the swing motor (M106) starts and raises the swing guide. When the swing-guide home-position sensor (PI35) detects the rising of the swing guide, the swing-guide motor stops and holds the swing guide at the raised position. After the processing-output-bin paper sensor detects the paper, the aligning motor (M103/M104) starts and aligns the paper.

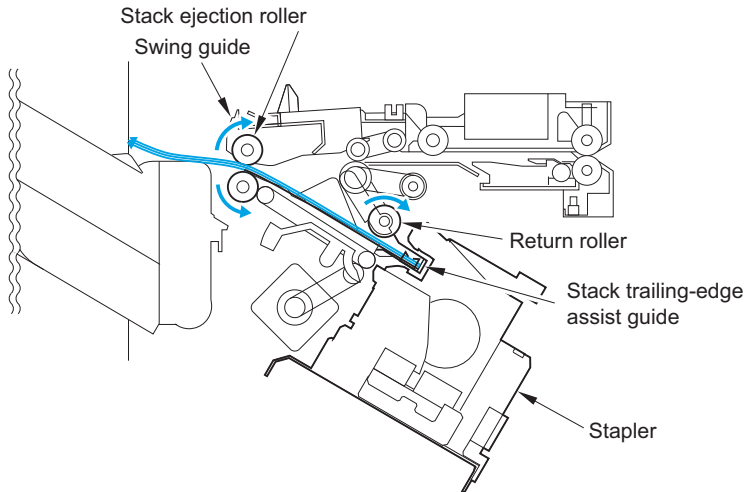
**Figure 1-174** Paper path



When the last sheet is aligned, the stacker controller PCA moves the aligning plate to the alignment position with the aligning motor (M103/M104) (the paper is held by the aligning plate). Then the stacker controller PCA staples at the specified staple position. After stapling, the stacker controller PCA starts the swing motor (M106) and lowers the swing guide. Then the stack is ejected by the stack-delivery roller, return roller, and stack trailing-edge assist guide.



**Figure 1-175** Shift process for the staple unit



## Staple unit

The stapler motor (M41) rotates the cam one turn for stapling. The stapler home-position sensor detects the home position of the cam. The macro computer (IC13) on the stacker controller PCA controls the forward and reverse rotation of the stapler motor. When the stapler home-position sensor is off, the stacker controller PCA rotates the stapler motor in the forward direction until the sensor turns on, allowing the staple cam to return to the original position. The staple sensor is used to detect the presence or absence of a staple cartridge in the machine and the presence or absence of staples in the cartridge. The staple edging sensor determines whether staples are pushed up to the top of the staple cartridge. For safety, the stacker controller circuit does not drive the stapler motor (M41) unless the staple safety switch (MS34) is on.

**Figure 1-176** Stapling operation (1 of 2)

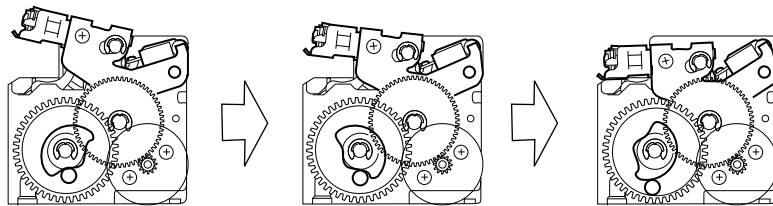
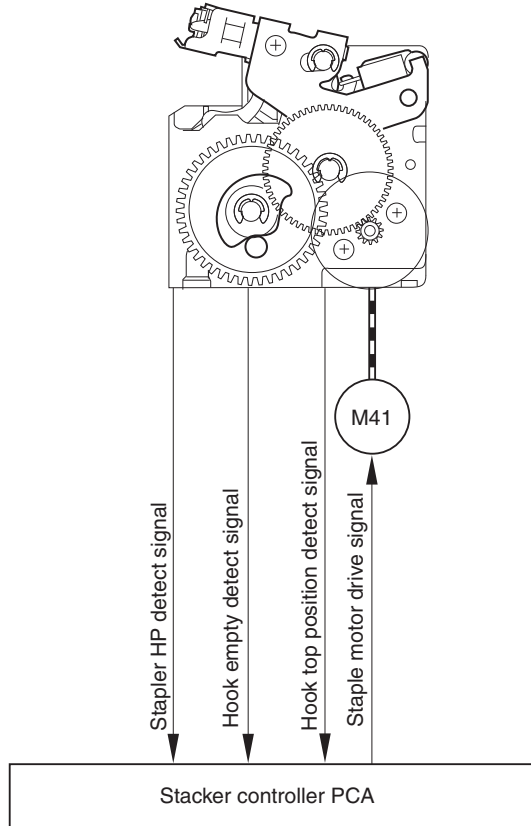


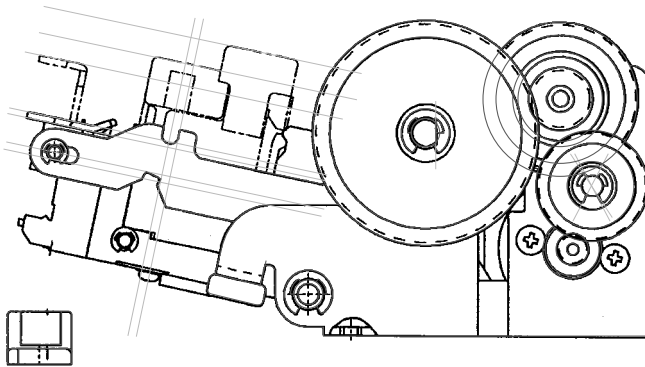
Figure 1-177 Stapling operation (2 of 2)



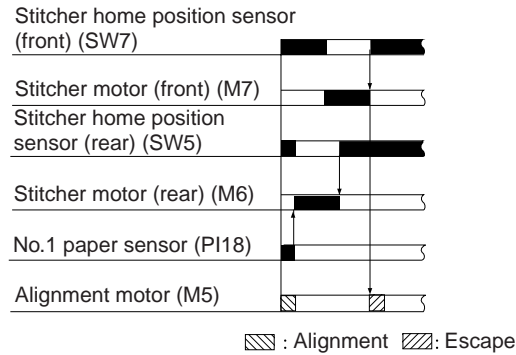
### Stitcher (stapler) unit

The stitcher base unit includes two stitchers and stitcher bases. The stitchers are fixed in position and do not slide or swing. Stitching begins when the stitcher motor (M7, M6) drives the rotary cam. The front and rear stitcher units operate with a time delay to prevent wrinkling of paper and to limit the load applied to the power supply. The stitcher home-position sensor (SW7, SW5) monitors the movement of the rotary cam and allows identification of individual stitcher operations. The staple sensor (SW6, SW4) detects the presence or absence of staples inside the staple cartridge. The alignment plates keep both edges of the stack in place while stitching takes place.

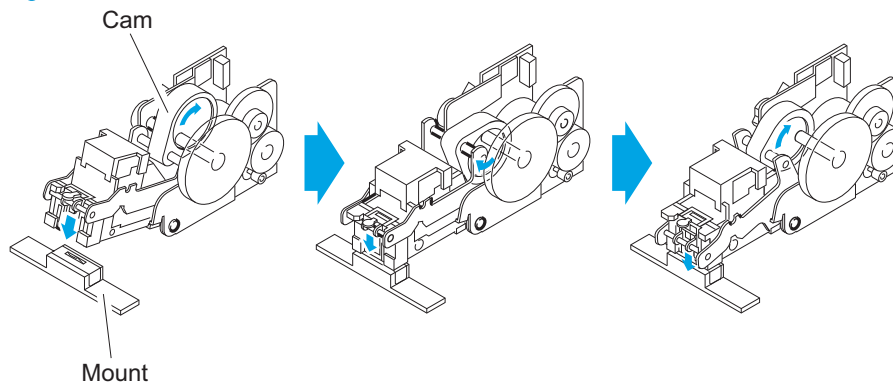
Figure 1-178 Stitcher unit



**Figure 1-179** Sequence of stitching



**Figure 1-180** Rotation of the cam



## Booklet maker stack operation

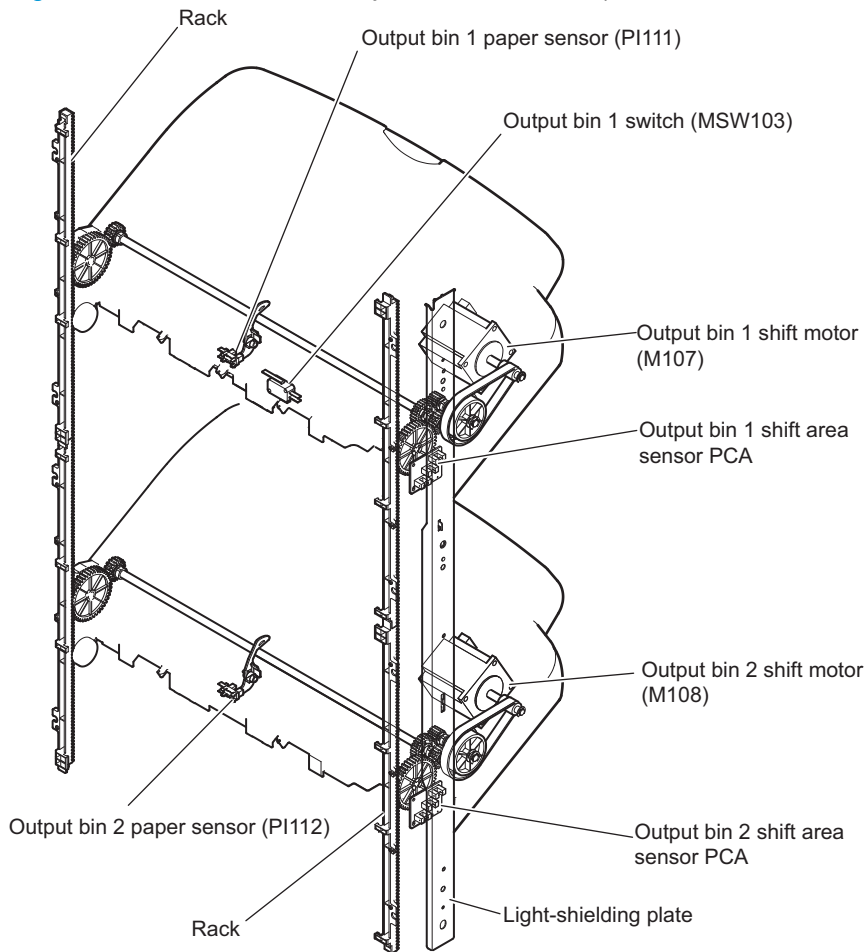
### Output bin operation

This accessory has an upper output bin (output-bin 1) and a lower output bin (output-bin 2).

- The output-bin-1-shift motor (M107) and output-bin-2-shift motor (M108) move output-bin 1 and output-bin 2 up and down independently.
- The output-bin-1 paper sensor (PI111) and output-bin-2 paper sensor (PI112) detect paper stacked on the output bin.
- The output-bin-1 paper-surface sensor (PI141) and output-bin-2 paper-surface sensor (PI115) detect the home positions of output-bin 1 and output-bin 2.
- The home position is the top surface of the paper when paper is stacked on the output bin, or the position where the edge of the output bin is detected when no paper is stacked.
- When the power is turned on, the stacker controller PCA drives the output-bin-1-shift motor (M107) and output-bin-2-shift motor (M108) to return the output bin to home position. If already at home position, the output bin is moved from the home position and then returned. If both output bins are at home position, this is performed for output-bin 1 and then for output-bin 2.
- If the product specifies output-bin 2, the stacker controller PCA shifts the output bin so that output-bin 2 is at the delivery port. When paper is stacked on the output bin, a prescribed number of pulses drive the output-bin-1-shift motor (M107) or output-bin-2-shift motor (M108) to lower the output bin. Then the output bin returns to home position to prepare for the next stack.

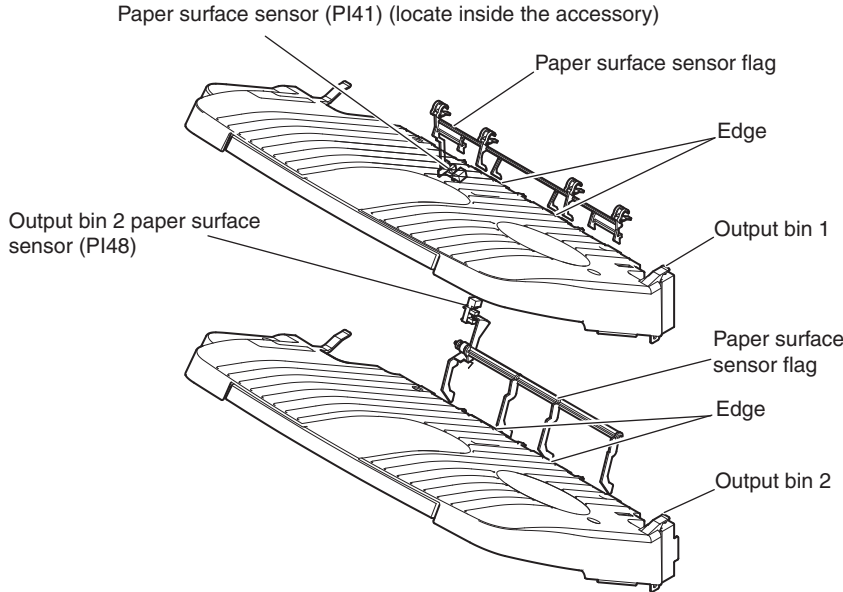
- The upper and lower limits of the output bin are detected by three area sensors (PS981, PS982, and PS983) on the output-bin-1- and output-bin-2-shift area sensor PCA.
- The stacker controller PCA stops driving the output-bin-1-shift motor (M107) and output-bin-2-shift motor (M108) when it detects the upper or lower limit of the output bin. Also, the on/off combinations of the area sensors (PS981, PS982, PS983) are used to detect over-stacking according to the stack height for large-size and mixed stacking.
- The stacker controller PCA stops supplying +24 Vdc to the output-bin-1-shift motor (M107) and stops the stacker operation when the output-bin-1 switch (MSW103) turns on.

**Figure 1-181** Items detected by the area sensors (PS981, PS982, PS983)



**NOTE:** PI111 is located on output-bin 1. PI112 is located on output-bin 2.

**Figure 1-182** Output-bin components



When the output bin capacity is reached, the ON/OFF combinations of the area sensors (PS981, PS982 and PS983) are used to determine an over-stacking condition. Area sensor conditions are as follows:

**Table 1-67** Stapler/stacker output bin 1shift area sensor PCA

Detection item	Output bin 1shift area sensor PCA		
	Area sensor 1	Area sensor 2	Area sensor 3
	(PS983)	(PS982)	(PS981)
Output bin 1 upper limit	ON	OFF	OFF
Stack count 650 sheets exceeded	ON	ON	ON
Stack count 1,300 sheets exceeded	ON	ON	ON
Output bin 1 lower limit	ON	ON	OFF

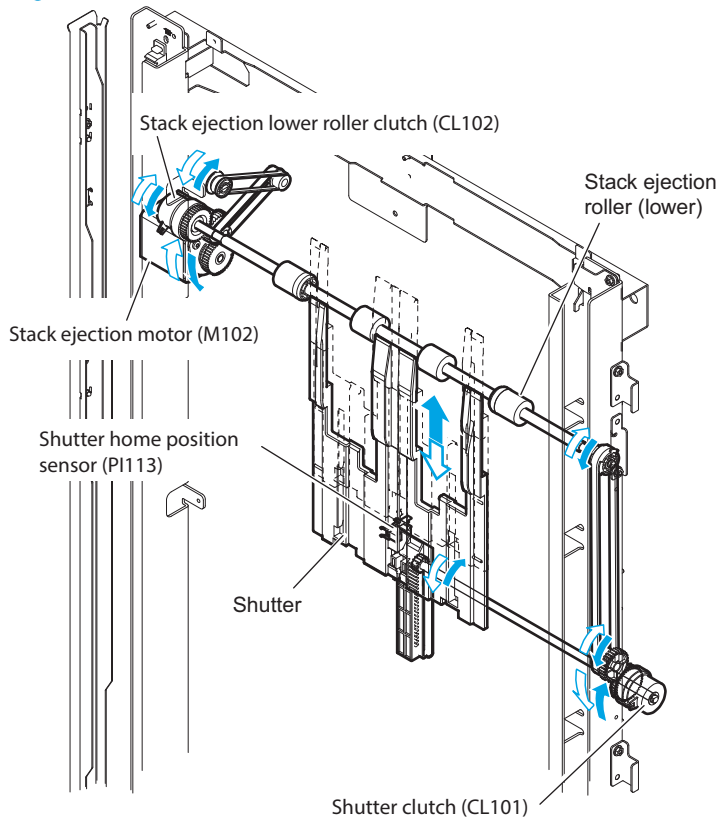
**Table 1-68** Stapler/stacker output bin 2shift area sensor PCA

Detection item	Output bin 2shift area sensor PCA		
	Area sensor 1	Area sensor 2	Area sensor 3
	(PS983)	(PS982)	(PS981)
Output bin 2 upper limit	ON	OFF	ON
Stack count 650 sheets exceeded	ON	ON	ON
Stack count 1,300 sheets exceeded	OFF	ON	ON
Stack count 1,700 sheets exceeded	OFF	OFF	ON
Output bin 2 lower limit	OFF	ON	OFF

## Shutter operation

To prevent the delivery section from catching stacked paper in output-bin 1 when it passes, a shutter is provided at the delivery section. The shutter closes when output-bin 1 passes, even when no paper is stacked. When the shutter clutch (CL31) and stack-ejection lower-roller clutch (CL32) are on, the shutter moves up (closes) when the stack-ejection motor (M102) turns forward and moves down (open, delivery enabled), which occurs when the motor turns backward. The shutter home-position sensor (PI113) detects the opening and closing of the shutter.

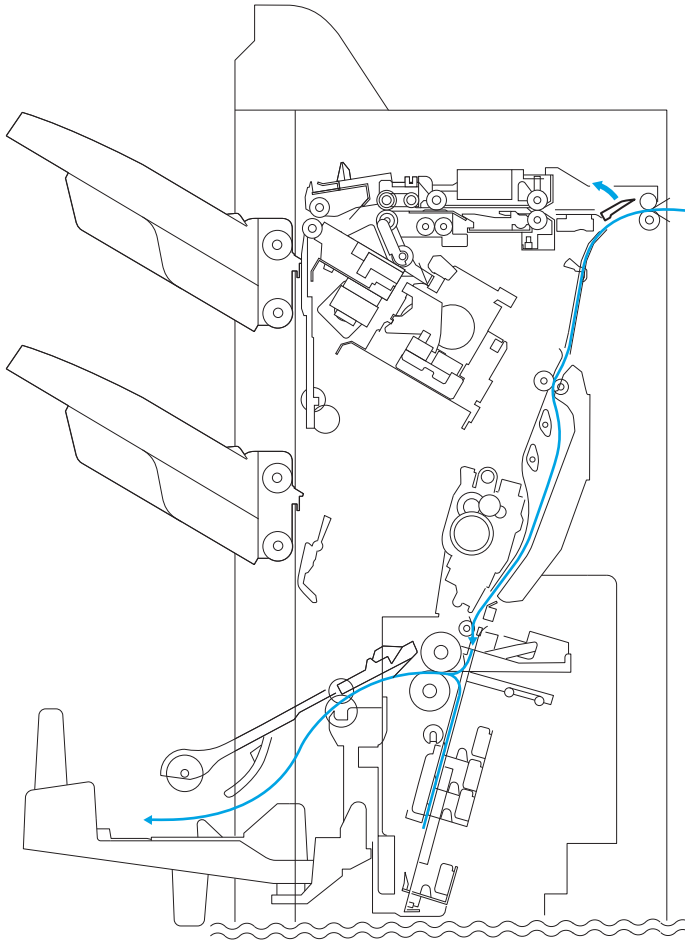
**Figure 1-183** Shutter location



## Booklet maker paper-delivery path

The saddle-stitcher flapper routes paper from the product to the booklet maker unit. The booklet maker unit staples, folds, and then delivers the paper to the booklet-maker-unit output bin.

**Figure 1-184** Booklet-maker-unit paper path



## Booklet maker delivery modes

**Table 1-69** Booklet maker delivery modes

Feed	Staple/Saddle	Punch	Offset	Supported feature
Face-down	N	N/A	N	Yes
Face-down	N	N/A	Y	Yes
Face-down	Staple	N/A	N	Yes
Face-down	Staple	N/A	Y	No
Face-down	Saddle	N/A	N	Yes

## Booklet maker with hole puncher assembly delivery modes

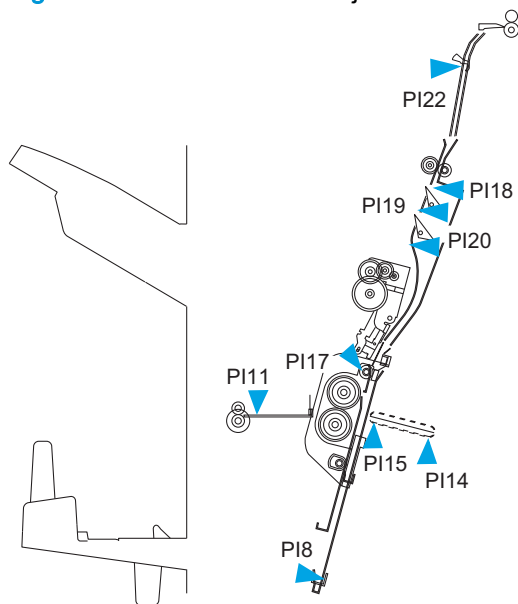
**Table 1-70** Booklet maker with hole puncher assembly delivery modes

Feed	Staple/Saddle	Punch	Offset	Supported feature
Face-down	N	N	N	Yes
Face-down	N	N	Y	Yes
Face-down	Staple	N	N	Yes
Face-down	Staple	N	Y	No
Face-down	Staple	Y	N	Yes
Face-down	Staple	Y	Y	No
Face-down	Saddle	N	N	Yes
Face-down	Saddle	Y	N	No

## Booklet maker jam detection

The saddle sticher unit identifies a jam, and sends the jam signal to the product. When all doors are closed after the jam is removed, the saddle sticher unit checks whether the vertical-path paper sensor (PI17) has detected the presence of paper. If the sensor has detected paper, the unit identifies the condition as being a faulty jam removal and sends the jam signal to the product once again.

**Figure 1-185** Booklet maker jams





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## 2 Solve problems

- [Solve problems checklist](#)
- [Menu map](#)
- [Preboot menu options](#)
- [Current settings pages](#)
- [Troubleshooting process](#)
- [Tools for troubleshooting](#)
- [Clear jams](#)
- [Paper feeds incorrectly or becomes jammed](#)
- [Use manual print modes](#)
- [Solve image quality problems](#)
- [Clean the product](#)
- [Solve performance problems](#)
- [Solve connectivity problems](#)
- [Service mode functions](#)
- [Solve fax problems \(M880\)](#)
- [Product upgrades](#)

## Solve problems checklist

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

1. If the control panel is blank or black, 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.

If the control panel is not responding to touch, or if it appears black or blank, look for the following conditions.



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**NOTE:** The following conditions indicate that the product has halted while in Sleep mode.

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- The control-panel home button LED is illuminated.
  - The power-switch LED flashes once every three to five seconds.
  - The product does not exit Sleep mode when a page is placed in the document feeder (MFP model only).
  - The product does not exit Sleep mode when the document feeder is opened to place a page on the scanner flatbed (MFP model only).
- a. If the product appears to be halted while in Sleep mode, do not replace the control panel. Update the firmware to the FutureSmart 2 SP2 version.



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**NOTE:** Several firmware enhancements have been incorporated this version of firmware to prevent the product from halting while in Sleep mode.

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- b. If the firmware upgrade fails to resolve the problem, and the product still halts while in Sleep mode, elevate the case after collecting the following info:
  - Try printing to the product from a host computer. Does the product print a page?
  - Can you access the product HP Embedded Web Server (EWS)?
  - Turn the product power off, and then on again. Collect the product Diagnostic File.
- c. If the product is not halted while in Sleep mode, verify that the control panel is correctly functioning by accessing the control panel diagnostics (see the Control-panel tests in the Component tests section of the product problem solving manual).

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

- Turn the product power off.
- Reseat the cable connections on the bottom of the control-panel assembly.

- Remove, and then reseal the formatter PCA.
  - Turn the product power on, and then check for functionality of the control-panel.
- d. If the error persists, replace the control-panel assembly.
2. The control panel should indicate a **Ready**, **Paused**, or **Sleep mode on** status. If an error message displays, resolve the error.
- Use the Power-on checks section in the product troubleshooting service manual to solve the problem
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. Make sure that the selected paper size and type meet HP 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, the product hardware is working. The problem is with the computer you are using, with the print driver, or with the program.
6. Print a supplies status page and then check that the maintenance items below are not at their end-of-life.



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**TIP:** If a maintenance item needs to be replaced, order the part number provided below.

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- 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](#)
  - [Supplies Status Page](#)
- c. Touch the [Print](#) button to print the page, and then check the following maintenance items:
- Maintenance kit 110V/220V (includes the fuser, pickup and feed rollers, and secondary transfer roller); estimated life: 200,000 pages
    - 110V C2H67A
    - 220V C2H57A
  - Fuser kit
    - 110V C1N54A
    - 220V C1N58A
  - ADF roller maintenance kit; estimated life: 100,000 pages
    - D1P70A
7. 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/support/colorljM855](http://www.hp.com/support/colorljM855) or [www.hp.com/support/colorjflowMFPM880](http://www.hp.com/support/colorjflowMFPM880) .
8. Print a short document from a different program that has worked in the past. If this solution works, the problem is with the program. If this solution does not work (the document does not print), complete these steps:
- a. Try printing the job from another computer that has the 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

Print a report of the complete [Administration](#) menu to more easily navigate to the settings needed.

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.

 **TIP:** You can also wait for the HP logo to move to the center of the control-panel display, and then 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
<a href="#">Continue</a>				Selecting the <a href="#">Continue</a> item exits the <a href="#">Preboot</a> 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 <a href="#">Continue</a> ).  If the user navigates to another menu, the timeout does not apply.
<a href="#">Sign In</a>				Enter the administrator PIN or service PIN if one is required to open the <a href="#">Preboot</a> 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 <a href="#">Administrator</a> submenus.</p> <p>If authentication is required (and the user is not already signed in) the <a href="#">Sign In</a> prompt displays. The user is required to sign in.</p>
	Download	<a href="#">Network</a> <a href="#">USB</a> <a href="#">USB</a> <a href="#">Thumbdrive</a>		<p>This item initiates a preboot firmware download process. A USB drive 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><b>CAUTION:</b> Selecting the <a href="#">Format Disk</a> item removes <b>all</b> data.</p> <p>A delete confirmation prompt is <b>not</b> provided.</p> <p>The system is <b>not</b> bootable after this action and a <b>99.09.67</b> error displays on the control panel. A firmware download must be performed to return the system to a bootable state.</p>
	Partial Clean			<p>This item reinitializes the disk (removing all data except the firmware repository where the master firmware bundle is downloaded and saved).</p> <p><b>CAUTION:</b> Selecting the <a href="#">Partial Clean</a> item removes <b>all</b> data except the firmware repository.</p> <p>A delete confirmation prompt is <b>not</b> 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 <a href="#">Clear Password</a> item to remove a password from the <a href="#">Administrator</a> menu. Before the password is actually cleared, a message will be shown asking to confirm that the password should be cleared. Press the <b>OK</b> button to confirm the action.</p> <p>When the confirmation prompt displays, press the <b>OK</b> button to clear the password.</p>

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

Menu option	First level	Second level	Third level	Description
Administrator  continued	Manage Disk	Clear disk		Select the <b>Clear disk</b> 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 <b>99.09.68</b> error is displayed.
		Lock Disk		Select the <b>Lock Disk</b> 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 <b>Leave Unlocked</b> 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 <b>Clear Disk Pwd</b> item to continue using the non-secure disk and clear the password associated with the yet-to-be installed secure disk.  <b>CAUTION:</b> Data on the missing secure disk will be permanently inaccessible.
		Retain Password		Select the <b>Retain Password</b> 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 <b>Secure Erase</b> item to erase all of the data on the disk and unlock it if required.  This might take a long time.  <b>NOTE:</b> The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one-pass overwrite, which erases the entire disk including firmware. The disk remains an encrypted disk.
			Erase/Unlock	Select the <b>Erase/Unlock</b> 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.  <b>NOTE:</b> The system will be unusable until the system files are reinstalled. It erases the encryption key. The encryption key is erased, so the disk becomes a non-encrypted disk.
			Get Status	This item provides disk status information if any is available.



**Table 2-3 Preboot menu options (3 of 6)**

Menu option	First level	Second level	Third level	Description
Administrator	Manage Disk	Internal Device		Select the <a href="#">Internal Device</a> item to erase the internal device or get a status about the internal device.
continued	continued		<a href="#">Secure Erase</a>	Select the <a href="#">Secure Erase</a> item to erase all of the data on the disk and unlock it if required.  This might take a long time.  <b>NOTE:</b> The system will be unusable until the system files are reinstalled. The ATA secure-erase command erases the entire disk, including firmware. The disk remains an encrypted disk.
			<a href="#">Erase/Unlock</a>	Select the <a href="#">Erase/Unlock</a> item to cryptographically erase all of the data on disk and unlock the disk to allow the user to gain access to it from any product.  <b>NOTE:</b> The system will be unusable until the system files are reinstalled. The HP High Performance Secure Hard Disk is erased.
			<a href="#">Get Status</a>	This item provides disk status information if any is available.
		<a href="#">External Device</a>		Select the <a href="#">External Device</a> item to erase the internal device or get status about the internal device.
			<a href="#">Secure Erase</a>	Select the <a href="#">Secure Erase</a> item to erase all of the data on the disk and unlock it if required.  This might take a long time.  <b>NOTE:</b> The system will be unusable until the system files are reinstalled.  The ATA secure-erase command erases the entire disk, including firmware. The disk remains an encrypted disk.
			<a href="#">Erase/Unlock</a>	Select the <a href="#">Erase/Unlock</a> item to cryptographically erase all of the data on disk and unlock the disk to allow a user to gain access to it from any product.  <b>NOTE:</b> The system will be unusable until the system files are reinstalled. The encryption key is erased, so the disk becomes a non-encrypted disk.
			<a href="#">Get Status</a>	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 <a href="#">Configure LAN</a> item to set up the network settings for the <a href="#">Preboot</a> menu firmware upgrade.  The network can be configured to obtain the network settings from a DHCP server or as static.
		<a href="#">IP Mode [DHCP]</a>		Use this item for automatic IP address acquisition from the DHCP server.
		<a href="#">IP Mode [STATIC]</a>		Use this item to manually assign the network addresses.
			<a href="#">IP Address</a>	Use this item to manually enter the IP addresses.
			<a href="#">Subnet Mask</a>	Use this item to manually enter the subnet mask.
			<a href="#">Default Gateway</a>	Use this item to manually enter the default gateway.
			<a href="#">Save</a>	Select the <a href="#">Save</a> 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	<a href="#">Startup Options</a>			Select the <a href="#">Startup Options</a> item to specify options that can be set for the next time the product is turned on and initializes to the <b>Ready</b> state.
		<a href="#">Show Revision</a>		<b>Not currently functional:</b> Select the <a href="#">Show Revision</a> item to allow the product to initialize and show the firmware version when the product reaches the <b>Ready</b> state.  Once the product power is turned on the next time, the <a href="#">Show Revision</a> item is unchecked so that the firmware revision is not shown.
		<a href="#">Cold Reset</a>		Select the <a href="#">Cold Reset</a> item to clear the IP address and all customer settings. (This item also returns all settings to factory defaults.)  <b>NOTE:</b> Items in the <a href="#">Service</a> menu are not reset.
		<a href="#">Skip Disk Load</a>		Select the <a href="#">Skip Disk Load</a> item to disable installed third-party applications.
		<a href="#">Skip Cal</a>		Select the <a href="#">Skip Cal</a> item to initialize the product the next time the power is turned on without calibrating.
		<a href="#">Lock Service</a>		<b>CAUTION:</b> Select the <a href="#">Lock Service</a> item to lock the <a href="#">Service</a> menu access (both in the <a href="#">Preboot</a> menu and the <a href="#">Device Maintenance</a> menu).  Service personnel must have the administrator remove the <a href="#">Lock Service</a> setting before they can open the <a href="#">Service</a> menu.
		<a href="#">Skip FSCK</a>		Select the <a href="#">Skip FSCK</a> 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><b>Not currently functional:</b> 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 <a href="#">Embedded Jetdirect Off</a> 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 <a href="#">WiFi Accessory</a> 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	Diagnostic items are useful for troubleshooting formatter problems. Use the options below the <a href="#">Do Not Run</a> item to help troubleshoot formatter problems.
			Short	
			Long	
		Disk	Do Not Run	
			Short	
			Long	
			Optimized	
			Raw	
			Smart	
		ICB		
		CPB		
		Interconnect Run Selected		
	Remote Admin	Start Telnet		The <a href="#">Remote Admin</a> item allows a service technician to gain access to the product remotely to troubleshoot issues.
		Stop Telnet		
		Refresh IP		

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

Menu option	First level	Second level	Third level	Description
	System Triage	Copy Logs		If you cannot print the error logs, the <a href="#">System Triage</a> 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 personal identification number (PIN) for this product (see the service mode functions section in the product troubleshooting manual). If the product does not reach the <b>Ready</b> state, you can use this item to print the error logs. The logs can be copied to a USB drive 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			This item is for factory use only.  <b>WARNING!</b> HP recommends that field service personnel do not access, or use this item. This item is for factory use only.

## 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 <b>Power on</b>	Is the product on and does a readable message display?		Follow the power-on troubleshooting checks. See <a href="#">Power subsystem on page 221</a> .
	Yes ↓	No →	After the control-panel display is functional, see step 2.
2 <b>Control-panel messages</b>	Does the message <b>Ready</b> display on the control panel?		After the errors have been corrected, go to step 3.
	Yes ↓	No →	
3 <b>Event log</b>	Open the <a href="#">Troubleshooting</a> 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 →	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.  After successfully printing and evaluating the event log, see step 4.

**Table 2-7 Troubleshooting flowchart (continued)**

<b>4</b> Information pages	Open the <a href="#">Reports</a> menu and print the configuration pages to verify that all the accessories are installed.		If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it.  After evaluating the configuration pages, see step 5.
	Are all the accessories installed?		
	Yes ↓	No →	
<b>5</b> 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 →	
<b>6</b> 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.

---

## Scanning subsystem (M880)

### 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.

## 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.

---

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

---

 **TIP:** To diagnose control panel problems, see [Control panel diagnostic flowcharts on page 226](#).

---

### Open diagnostic mode


- Tilt the control panel forward. On the back side of the control panel, remove the round black-rubber cover near the center of the control panel, and then press the button inside the hole to access the diagnostic mode.

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.



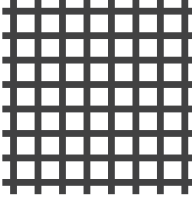



## Exit diagnostic mode




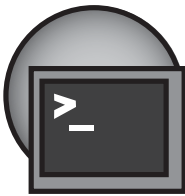
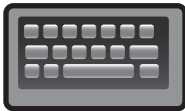
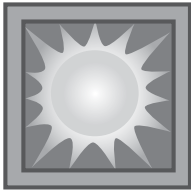
Do one of the following:

- Touch the **Cancel**  button.
- Wait 20 seconds. The control panel will return to the **Home** screen.

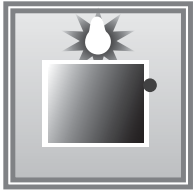






**Table 2-8** Control panel diagnostic functions

Item	Description	Remarks
 <p>Cancel button</p>	Exits a test	
 <p>Keypad</p>	Selects test settings in some of the test windows	
 <p>Red-grid touch test</p>	Verifies that all areas respond to a touch	<p>Use this item to check the accuracy of the touch screen.</p> <p>Use a finger or 3 mm (.118 in) conductive stylus to trace between the grid lines to check the accuracy of the touchscreen calibration.</p> <p><b>NOTE:</b> The gap between the grid lines is 6 mm (.236 in).</p> <p>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).</p>
 <p>Calibration touch test</p>	Checks calibration	<p>Use this item to determine if the touchscreen calibration is within the acceptable range.</p> <p>When selected, ten target points (and the X and Y coordinates of the position of the target point) display on the screen.</p> <p>Touching a target causes the X and Y coordinate of that target to appear in the middle of the touchscreen (above the cancel button).</p> <p><b>NOTE:</b> The product automatically calibrates the touchscreen. A manual touchscreen calibration procedure is not available for this product.</p>

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

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

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

Item	Description	Remarks
 A square icon with a grey border. Inside, there is a white light bulb at the top, a black square in the middle, and a small black dot on the right side of the black square.	Checks the ambient light sensor	Use this item to test the ambient-light sensor functionality.  <ol style="list-style-type: none"><li>1. Touch the icon.</li><li>2. Shine a flashlight at the control panel to the left of, and down about 25.4 mm (1 in,) from the Home  button.</li><li>3. The numbers displayed below the icon should be any value other than zero.</li></ol>
Ambient-light sensor test	Tests the Home  button	Use this item to test the Home  button LED and switch functionality.  <ol style="list-style-type: none"><li>1. Touch the icon.</li><li>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.</li></ol>
 A black silhouette of a house with a white outline of the roof and a white archway at the bottom.	Home  button test	

## Control panel diagnostic flowcharts



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**TIP:** Tilt the control panel forward. On the back side of the control panel, remove the round black-rubber cover near the center of the control panel, and then press the button inside the hole to access the diagnostic mode.

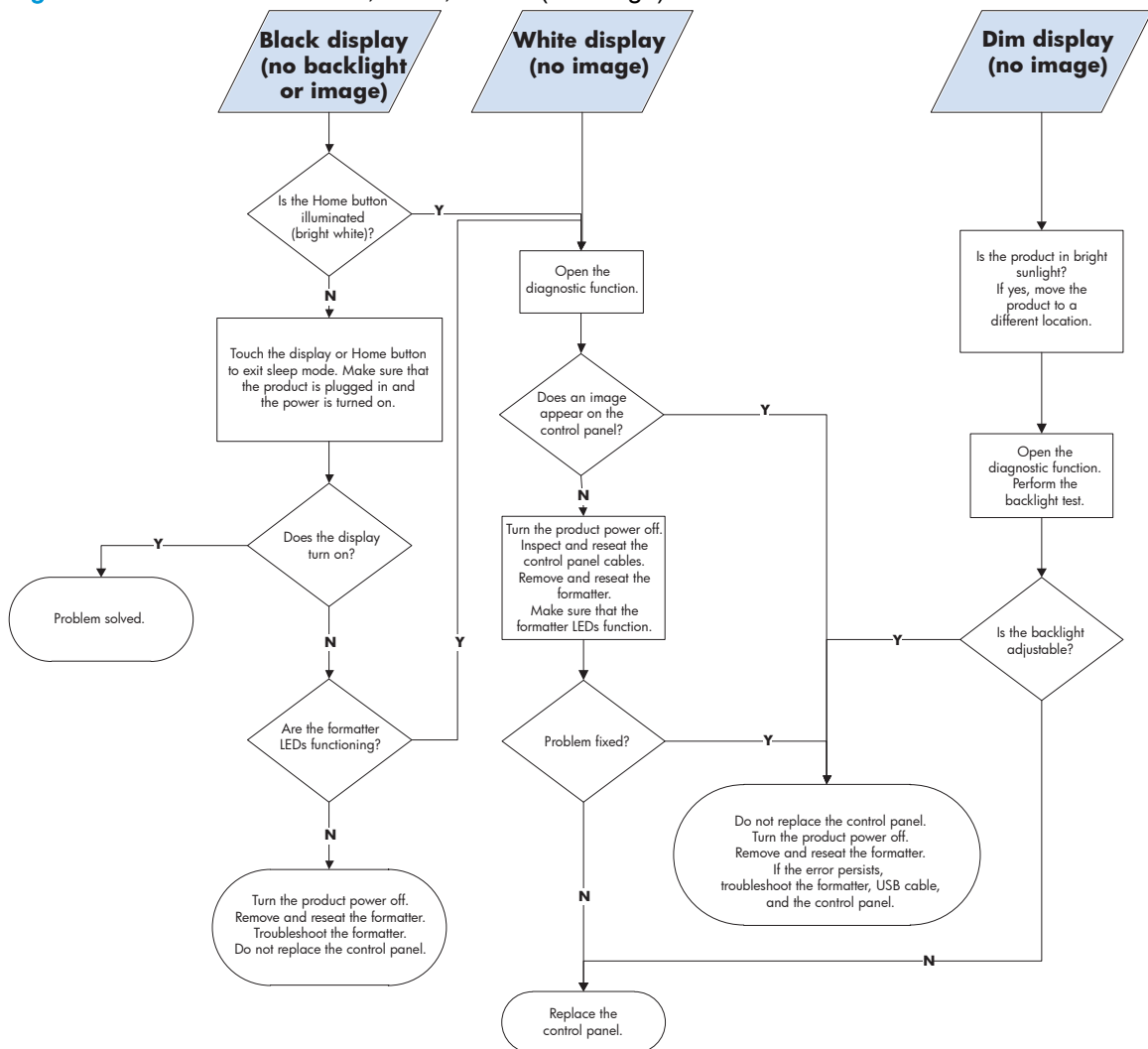
---

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


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

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

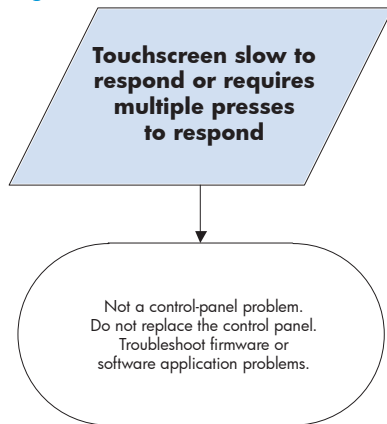
Figure 2-1 Touchscreen blank, white, or dim (no image)



## Touchscreen is slow to respond or requires multiple presses to respond

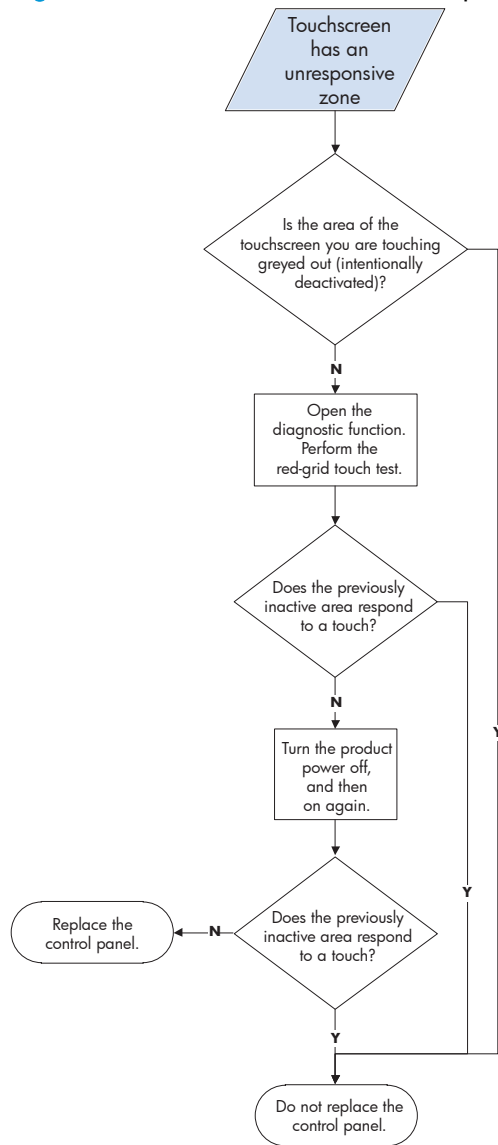
 **TIP:** Use the red-grid touch test to verify that all areas of the touchscreen are correctly functioning. See [Table 2-8 Control panel diagnostic functions on page 223](#).

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



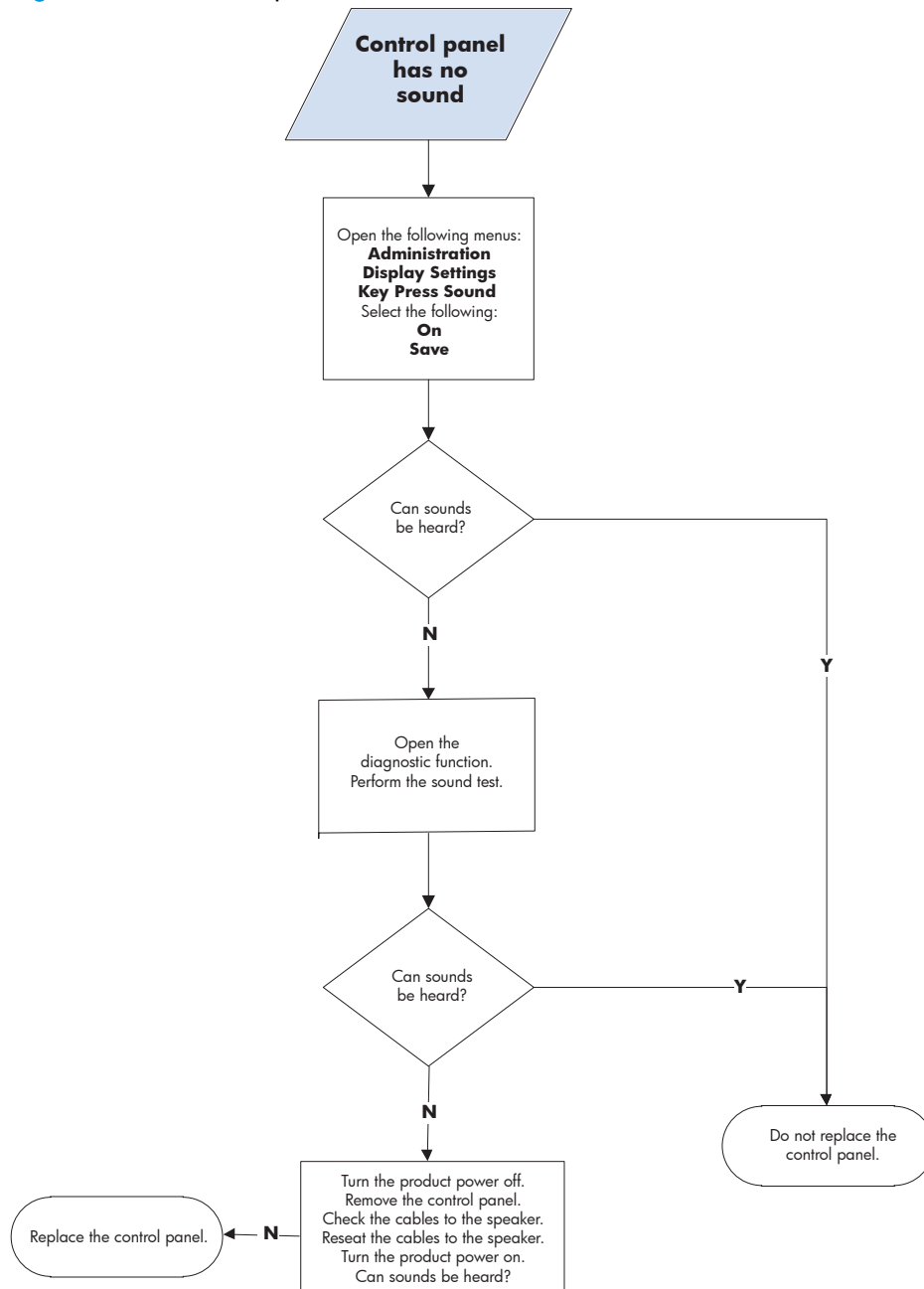
## Touchscreen has an unresponsive zone

Figure 2-3 Touchscreen has an unresponsive zone



## No control panel sound

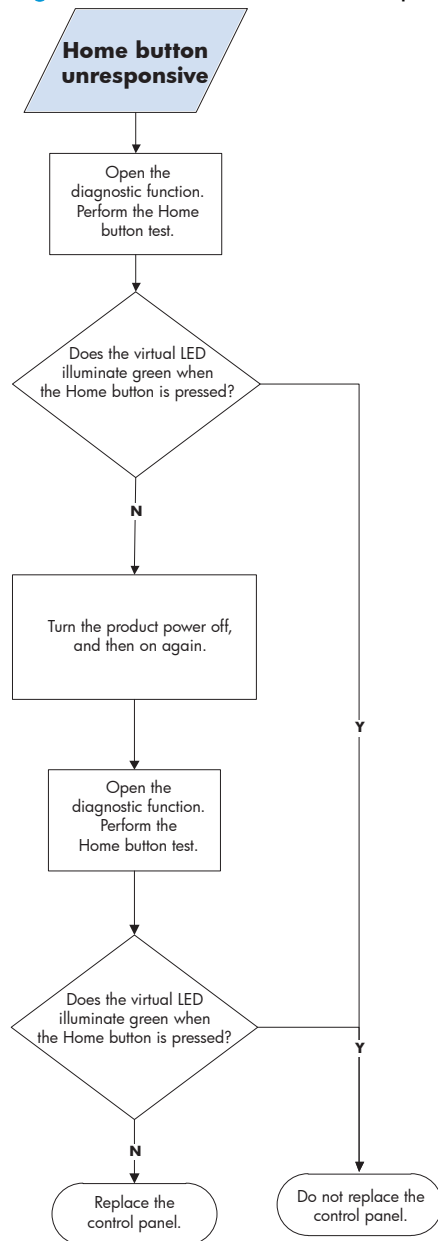
Figure 2-4 No control panel sound





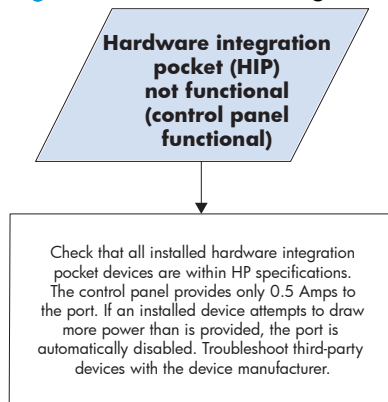
## Home button is unresponsive

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)



# Tools for troubleshooting

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

HP recommends that you provide enough space around the product to ensure there is sufficient space to open doors and covers, provide proper ventilation, and for service personnel to remove covers and internal assemblies.

**Table 2-9 Product environment spacing**

Item	Recommended spacing
From the left-side or right-side of the product, input accessory, or finishing accessory to an obstruction	430 mm (17 in) to 760 mm (30 in)
From the front-side of the product, input accessory, or finishing accessory to an obstruction	610 mm (24 in) to 1010 mm (40 in)
From the back-side of the product, input accessory, or finishing accessory to an obstruction	460 mm (18 in) to 760 mm (30 in)


## Individual component diagnostics

### LED diagnostics

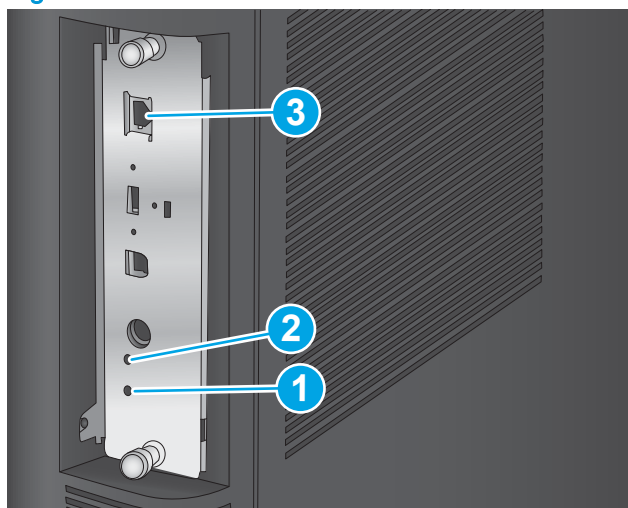
LED, engine, and individual diagnostics can identify and troubleshoot product problems.

#### Understand lights on the formatter

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

 **NOTE:** The formatter for the M855 product is shown in the figure below, but the LEDs are in the same position for the M880 product.

**Figure 2-7 LEDs**




1 Heartbeat LED

2	Connectivity LED
3	HP Jetdirect LEDs


## Connectivity LED

The connectivity 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 connectivity 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 connectivity 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 [Connectivity LED, product initialization on page 234](#). When the product is in **Ready** mode, see [Connectivity LED, product operational on page 237](#).

### Connectivity LED, product initialization

The following table describes the connectivity LED operation while the product is executing the firmware boot process.

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

If after initialization, the connectivity LED is not solid green, see [Connectivity LED, product operational on page 237](#).

**Table 2-10 Connectivity LED, product initialization**

Product initializing state	Connectivity LED, normal state	Connectivity 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"> <li>• Duration should be 1 second or less</li> </ul>	Red, solid <ul style="list-style-type: none"> <li>• Firmware error: problem finding hardware and booting the serial peripheral interface flash memory               <ul style="list-style-type: none"> <li>◦ Boot process halted</li> </ul> </li> </ul> Replace the formatter.

**Table 2-10 Connectivity LED, product initialization (continued)**

Product initializing state	Connectivity LED, normal state	Connectivity LED, error state
Serial peripheral interface (SPI) flash memory boot	Green, solid	<p>Red, solid</p> <ul style="list-style-type: none"> <li>• Firmware error; problem corrupt or missing SPI flash memory                             <ul style="list-style-type: none"> <li>◦ Boot process halted</li> </ul> </li> </ul> <p>Replace the formatter.</p>
HW checks on board DRAM	Green, solid	<p>Red, solid</p> <ul style="list-style-type: none"> <li>• Power on self check failure                             <ul style="list-style-type: none"> <li>◦ Boot process halted</li> </ul> </li> </ul> <p>Replace the formatter.</p>
Control panel connection initializes	<p>Green, solid</p> <p><b>NOTE:</b> Control panel communication successful. If an error occurs, a message should appear on the control-panel display.</p>	<p>Yellow, fast flash</p> <ul style="list-style-type: none"> <li>• Formatter to control panel connection failed                             <ul style="list-style-type: none"> <li>◦ Boot process continues</li> </ul> </li> </ul> <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	<p>Red, solid</p> <ul style="list-style-type: none"> <li>• Diagnostic failure                             <ul style="list-style-type: none"> <li>◦ Follow diagnostic instructions</li> </ul> </li> </ul> <p>Turn the power off, and then on again to restart the initialization process.</p>
Accessing disk for firmware image	<p>Green, solid</p> <p><b>NOTE:</b> If applicable, disk error messages appear on the control-panel display.</p>	<p>Yellow, fast flash</p> <ul style="list-style-type: none"> <li>• Control panel not connected</li> </ul>
Firmware boot	<p>Green, solid</p> <p><b>NOTE:</b> If applicable, error messages appear on the control-panel display.</p>	<p>Yellow, fast flash</p> <ul style="list-style-type: none"> <li>• Control panel not connected</li> </ul>
Product operational	<p>Green, heartbeat blink</p> <p><b>NOTE:</b> If applicable, error messages appear on the control-panel display.</p>	<p>Yellow, fast flash</p> <ul style="list-style-type: none"> <li>• Control panel not connected</li> </ul>

**Table 2-10** Connectivity LED, product initialization (continued)

Product initializing state	Connectivity LED, normal state	Connectivity LED, error state
49.XX.YY error or initialization freezes	Not applicable	<p>LED off</p> <p><b>NOTE:</b> An error message (for example, 49.XX.YY) might appear on the control-panel display.</p> <p>Eventually a formatter connection missing message will appear.</p> <p>Turn the power off, and then on again to restart the initialization process.</p> <p>If the error persists, perform a firmware upgrade.</p>
Control panel connection interrupted after the product is operational	Not applicable	<p>Yellow, fast flash</p> <ul style="list-style-type: none"> <li>Control panel not connected</li> </ul>
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

## Connectivity LED, product operational

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

**Table 2-11** Connectivity LED, product operational

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

## Heartbeat LED

The heartbeat 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 heartbeat 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

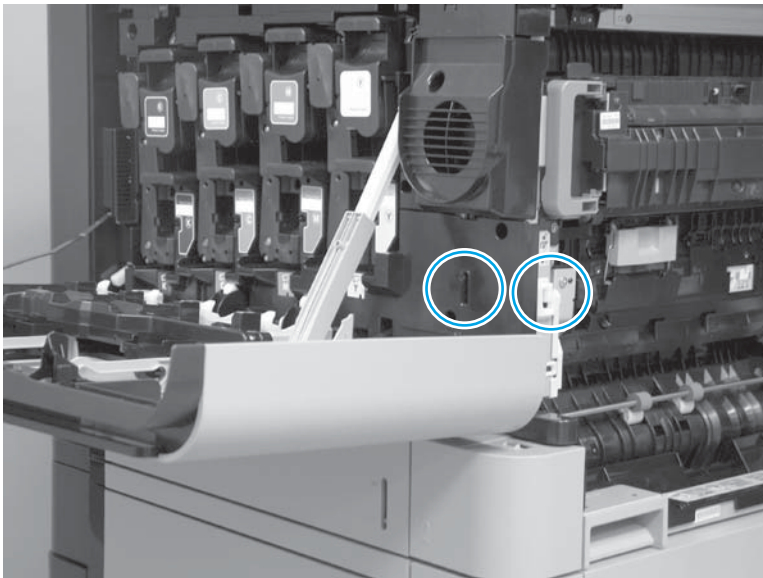
Different tests can be used to isolate different types of issues. For assembly or noise isolation, you can run the diagnostic test when the front and upper-right doors are open. To operate the product with the doors open, the door switch levers must be depressed to simulate a closed-door position.

**⚠ 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 folded piece of paper into the front door and right door sensor slots, and then 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





## Disable cartridge check

Use this diagnostic test to print internal pages or send an external job to the product when the toner cartridge is 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 the toner cartridge.



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

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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.

 **NOTE:** The engine test only uses 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:

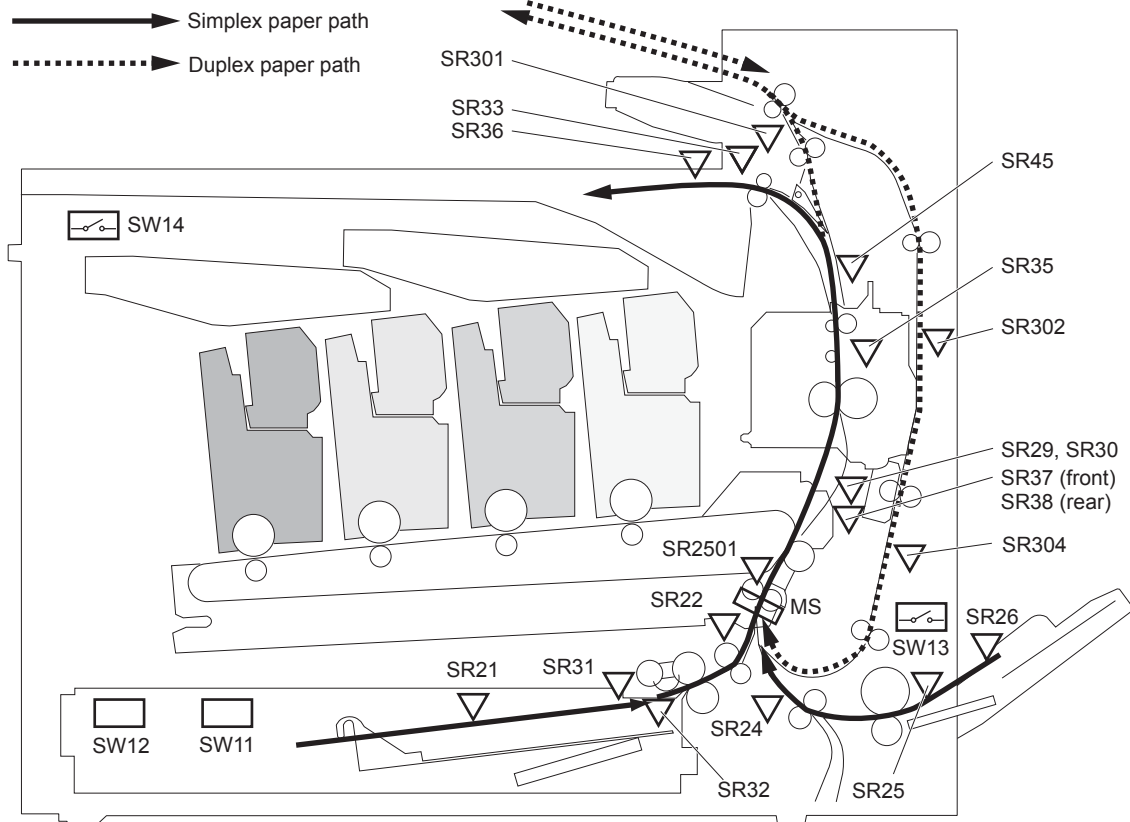
- [Troubleshooting](#)
- [Diagnostic Tests](#)
- [Paper Path Test](#)

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.

**Figure 2-10** Paper path sensor locations (product base)



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 2-12 Paper-path sensors diagnostic tests**

Sensor name	Sensor/Switch number	Replacement part number	Descriptions
ITB alienation sensor	SR18	RM2-7026-000CN	Color plane registration (CPR) sensor assembly
Developer alienation sensor	SR19 SR20	RM2-5051-000CN	Shutter gear holder assembly
Tray 2 media level sensor	SR21	RM1-3222-000CN	Lifter drive assembly
Tray 2 feed sensor	SR22	RM1-9599-000CN	Cassette paper pickup assembly
Tray 1 feed sensor	SR24	RM1-9615-000CN	MP (Tray 1) guide assembly
Fuser pressure release sensor	SR28	C1N54-67901 (110V) C1N58-67901 (220V)	Fuser
Fuser loop 1 and 2 sensors	SR29 SR30	RM1-9621-000CN	Registration secondary transfer assembly
Output bin full sensor	SR33	RM1-9841-000CN	Face-down delivery assembly
Fuser output sensor 1	SR35	RM1-6940-000CN	Right sub door assembly
Output media width sensor	SR36	RM1-9841-000CN	Face-down delivery assembly
Fuser front width sensor	SR37	RM1-9621-000CN	Registration secondary transfer assembly
Fuser rear width sensor	SR38	RM1-9621-000CN	Registration secondary transfer assembly
Fuser output sensor 2	SR45	RM1-6940-000CN	Right sub door assembly
Tray 3 feed sensor	SR112	RM2-0275-000CN	Paper pickup assembly (1x500- or 3x500-sheet feeder)
Tray 4 feed sensor	SR122	RM2-0275-000CN	Paper pickup assembly (3x500-sheet feeder)
Tray 5 feed sensor	SR132	RM2-0275-000CN	Paper pickup assembly (3x500-sheet feeder)
ITPU feed 3 sensor	SR201	RM2-5057-000CN	Lower guide assembly (IPTU)
ITPU feed 2 sensor	SR202	RM2-5057-000CN	Lower guide assembly (IPTU)
ITPU feed 1 sensor	SR203	RM2-5057-000CN	Lower guide assembly (IPTU)
Duplex switchback sensor	SR301	RM2-0291-000CN (M855) RM2-5061-000CN (M880)	Duplex reverse assembly
Developer delivery sensor	SR302	RM1-9640-000CN	Right sub door assembly
Color sensor (M855 only)	SR303	RM2-5045-000CN	Duplex feed assembly
Duplex refeed sensor	SR304	RM1-9640-000CN	Right sub door assembly
Registration sensor	MS	A2W77-67901	ITB assembly
HCI feed sensor	PS3301	RM2-0270-000CN	Merge paper feed assembly

**Table 2-12 Paper-path sensors diagnostic tests (continued)**

Sensor name	Sensor/Switch number	Replacement part number	Descriptions
Tray 3 feed sensor	PS3302	RM1-8869-000CN	Paper pickup assembly right (HCI)
Tray 4 feed sensor	PS3305	RM1-8876-000CN	Paper pickup assembly left (HCI)

## Manual sensor and tray/bin manual sensor tests

Use these diagnostic tests to manually test the product sensors and 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 and closing the front door increments the [SW14 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 2-13 Manual sensor diagnostic tests**

Sensor or switch	Replacement Part number	Description
SW13	Right door open/close RM2-7035-000CN	Right door open/closed switch
SW14	Right door open/close RM2-7035-000CN	Front door open/closed switch
SW3301	Switch button WC2-5512-000CN	Lower right door 1 switch (HCI)
SW3302	Auto close RM1-8880-000CN	Tray 4 cassette open/close switch (HCI)
SW3303	Auto close RM1-8880-000CN	Tray 5 cassette open/close switch (HCI)
SR13	Registration secondary transfer assembly RM1-9621-000CN	T2 door open/close sensor
SR21	Lifter drive assembly RM1-3222-000CN	Tray 2 media level sensor
SR22	Cassette paper pickup assembly RM1-9599-000CN	Tray 2 feed sensor
SR24	MP (Tray 1) guide assembly RM1-9615-000CN	Tray 1 feed sensor
SR28	Fuser C1N54-67901 (110V) C1N58-67901 (220V)	Fuser pressure release sensor
SR29 SR30	Registration secondary transfer assembly RM1-9621-000CN	Fuser loop 1 and 2 sensors
SR33	Face-down delivery assembly RM1-9841-000CN	Output bin full sensor
SR34	Fuser drive assembly RM1-9606-000CN	Fuser flap open/close sensor
SR35	Right sub door assembly RM1-6940-000CN	Fuser output sensor 1
SR36	Face-down delivery assembly RM1-9841-000CN	Output media width sensor

**Table 2-13 Manual sensor diagnostic tests (continued)**

Sensor or switch	Replacement Part number	Description
SR37	Registration secondary transfer assembly RM1-9621-000CN	Fuser front width sensor
SR38	Registration secondary transfer assembly RM1-9621-000CN	Fuser rear width sensor
SR45	Right sub door assembly RM1-9640-000CN	Fuser output sensor 2
SR112	Paper pickup assembly RM2-0275-000CN	Tray 3 feed sensor (1x500- or 3x500-sheet feeder)
SR122	Paper pickup assembly RM2-0275-000CN	Tray 4 feed sensor (3x500-sheet feeder)
SR132	Paper pickup assembly RM2-0275-000CN	Tray 5 feed sensor (3x500-sheet feeder)
SR201	Lower guide assembly (IPTU) RM2-5057-000CN	IPTU feed 3 sensor
SR202	Lower guide assembly (IPTU) RM2-5057-000CN	IPTU feed 2 sensor
SR203	Lower guide assembly (IPTU) RM2-5057-000CN	IPTU feed 1 sensor
SR204	Lower guide assembly (IPTU) RM2-5057-000CN	ITPU door open/close sensor
SR302	Right sub door assembly RM1-9640-000CN	Developer delivery sensor
SR304	Right sub door assembly RM1-9640-000CN	Duplex refeed sensor
MS	ITB assembly A2W77-67901	Registration sensor
PS3103	Paper pickup assembly right (HCI) RM1-8869-000CN	Tray 3 paper sensor (HCI)
PS3102	Paper pickup assembly right (HCI) RM1-8869-000CN	Tray 3 paper surface sensor (HCI)
PS3203	Paper pickup assembly left (HCI) RM1-8876-000CN	Tray 4 paper sensor (HCI)

**Table 2-13 Manual sensor diagnostic tests (continued)**

Sensor or switch	Replacement Part number	Description
PS3202	Paper pickup assembly left (HCI) RM1-8876-000CN	Tray 4 paper surface sensor (HCI)
PS3301	Merge paper feed assembly RM2-0270-000CN	HCI feed sensor
PS3302	Paper pickup assembly right (HCI) RM1-8869-000CN	Tray 3 feed sensor (HCI)
PS3303	Auto close (HCI) RM1-8880-000CN	Tray 3 paper size sensor (HCI)
PS3304	Auto close (HCI) RM1-8880-000CN	Tray 4 paper size sensor (HCI)
PS3305	Paper pickup assembly left (HCI) RM1-8876-000CN	Tray 4 feed sensor (HCI)



## 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 2-14** Tray/bin manual sensors

Sensor or switch name	Replacement part number	Descriptions
SW11	Lifter drive assembly RM1-3222-000CN	Tray 2 paper size switch
SW112	Auto close assembly RM1-3531-000CN	Tray 3 paper size switch (1x500- or 3x500-sheet feeder)
SW122	Auto close assembly RM1-3531-000CN	Tray 4 paper size switch (3x500-sheet feeder)
SW132	Auto close assembly RM1-3531-000CN	Tray 5 paper size switch (3x500-sheet feeder)

**Table 2-14 Tray/bin manual sensors (continued)**

Sensor or switch name	Replacement part number	Descriptions
SW3301	Switch button WC2-5512-000CN	Lower right door 1 switch (HCI)
SW3302	Auto close (HCI) RM1-8880-000CN	Tray 4 cassette open/close switch (HCI)
SW3308	Auto close (HCI) RM1-8880-000CN	Tray 5 cassette open/close switch (HCI)
SR22	Cassette paper pickup assembly RM1-9599-000CN	Tray 2 feed sensor
SR24	MP (Tray 1) guide assembly RM1-9615-000CN	Tray 1 feed sensor
SR25	MP (Tray 1) paper pickup assembly RM1-9644-000CN	Tray 1 paper sensor
SR31	Cassette paper pickup assembly RM1-9599-000CN	Tray 2 paper sensor
SR32	Cassette paper pickup assembly RM1-9599-000CN	Tray 2 paper surface sensor
SR33	Face-down delivery tray assembly RM1-9841-000N	Output bin full sensor
SR112	Paper pickup assembly RM2-0275-000CN	Tray 3 feed sensor (1x500- or 3x500-sheet feeder)
SR113	Paper pickup assembly RM2-0275-000CN	Tray 3 paper sensor (1x500- or 3x500-sheet feeder)
SR114	Paper pickup assembly RM2-0275-000CN	Tray 3 paper surface sensor (1x500- or 3x500-sheet feeder)
SR122	Paper pickup assembly RM2-0275-000CN	Tray 4 feed sensor (3x500-sheet feeder)
SR123	Paper pickup assembly RM2-0275-000CN	Tray 4 paper sensor (1x500- or 3x500-sheet feeder)
SR124	Paper pickup assembly RM2-0275-000CN	Tray 4 paper surface sensor (1x500- or 3x500-sheet feeder)
SR132	Paper pickup assembly RM2-0275-000CN	Tray 5 feed sensor (3x500-sheet feeder)

**Table 2-14 Tray/bin manual sensors (continued)**

Sensor or switch name	Replacement part number	Descriptions
SR133	Paper pickup assembly RM2-0275-000CN	Tray 5 paper sensor (3x500-sheet feeder)
SR134	Paper pickup assembly RM2-0275-000CN	Tray 5 paper surface sensor (3x500-sheet feeder)
PS3101	Paper pickup assembly right (HCI) RM1-8869-000CN	Tray 3 paper surface sensor (HCI)
PS3102	Paper pickup assembly right (HCI) RM1-8869-000CN	Tray 3 paper surface sensor (HCI)
PS3103	Paper pickup assembly right (HCI) RM1-8869-000CN	Tray 3 paper sensor (HCI)
PS3203	Paper pickup assembly left (HCI) RM1-8876-000CN	Tray 4 paper sensor (HCI)
PS3202	Paper pickup assembly left (HCI) RM1-8876-000CN	Tray 4 paper surface sensor (HCI)
PS3301	Merge paper feed assembly RM2-0270-000CN	HCI feed sensor
PS3302	Paper pickup assembly right (HCI) RM1-8869-000CN	Tray 3 feed sensor (HCI)
PS3303	Auto close (HCI) RM1-8880-000CN	Tray 3 paper size sensor (HCI)
PS3304	Auto close (HCI) RM1-8880-000CN	Tray 4 paper size sensor (HCI)
PS3305	Paper pickup assembly left (HCI) RM1-8876-000CN	Tray 4 feed sensor (HCI)
PS3306	Paper pickup assembly left (HCI) RM1-8876-000CN	HCI inner flag sensor

## 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](#)
  - [Print/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.



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**NOTE:** If a jam message displays on the control panel during testing, activate the door switch.

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## 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 troubleshooting 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 2-15** Component test details

Component test	Item tested	Replacement part number	Comments
<a href="#">Drum motors</a>	M12	RM1-9614-000CN	Remove the image drums to perform this test.
	M13	DC motor assemblies	Activates the motors at a specific speed for 10 seconds.
	M14		
	M15		
<a href="#">Toner motors</a>	M21	RK2-4814-000CN	Remove the toner cartridges to perform this test.
	M22	DC motor assemblies	Activates the specified motor at a specific speed for 10 seconds.
<a href="#">Fuser motor</a>	M11	RM1-4519-000CN DC motor assembly	Activates the specified motor at a specific speed for 10 seconds.
<a href="#">Alienation motor</a>	M20	RM1-3280-000CN ITB Alienation drive assembly	Activates the specified motor at a specific speed for 10 seconds.
<a href="#">ITB contact alienation motor</a>	M10	RM1-4519-000CN DC motor assembly	Activates the specified motor at a specific speed for 10 seconds.
<a href="#">IPTU drive motor</a>	M201	RK2-1320-000CN	Activates the specified motor at a specific speed for 10 seconds.
	M202	DC motor assemblies	
<a href="#">Tray N pickup motor</a>	M5	RM1-9843-000CN MP drive assembly	Activates the specified motor at a specific speed for 10 seconds.
Tray N pickup motor	NA	RM1-3222-000CN Tray 2 lifter drive assembly	Activates the specified motor at a specific speed for 10 seconds.

**Table 2-15 Component test details (continued)**


Component test	Item tested	Replacement part number	Comments
Tray N pickup motor	NA	RM1-9599-000CN Tray 2 paper pickup assembly	Activates the specified motor at a specific speed for 10 seconds.
Tray N pickup motor	NA	RM2-0275-000CN Tray 3 (1x500) paper pickup assembly	Activates the specified motor at a specific speed for 10 seconds.
Tray N pickup motor	NA	RM2-0275-000CN Trays 3-5 (3x500) paper pickup assembly	Activates the specified motor at a specific speed for 10 seconds.
Tray N pickup motor	M112	RK2-1331-000CN Tray 3 (1x500) motor stepping, DC	Activates the specified motor at a specific speed for 10 seconds.
Tray N pickup motor	M113	RK2-1331-000CN Tray 4 (3x500) motor stepping, DC	Activates the specified motor at a specific speed for 10 seconds.
Tray N pickup motor	M114	RK2-1331-000CN Tray 5 (3x500) motor stepping, DC	Activates the specified motor at a specific speed for 10 seconds.
Duplex switchback motor	M302	RM2-0291-000CN (M855) RM2-5061-000CN (M880) Duplex reverse Assembly	Activates the specified motor at a specific speed for 10 seconds.
Duplex feed motor	M303	RM2-0291-000CN (M855) RM2-5061-000CN (M880) Duplex reverse Assembly	Activates the specified motor at a specific speed for 10 seconds.
Duplex re-pickup motor	M301	RM2-5045-000CN (M855) RM2-9646-000CN (M880) Duplex feed assembly	Activates the specified motor at a specific speed for 10 seconds.
Tray 1 pickup solenoid	SL2	RM1-9644-000CN MP Tray pickup assembly	Activates the specified solenoid for 10 seconds.
Tray 2 pickup solenoid	SL1	RM1-9599-000CN Cassette paper pickup assembly	Activates the specified solenoid for 10 seconds.
Tray 3-5 pickup solenoids	SL111 SL121 SL131	RM2-0275-000CN Tray 3-X paper pickup assembly	Activates the specified solenoids for 10 seconds.
Y/M laser/scanner motor	M1	RM1-5176-000CN Scanner Motor Y/M	Activates the specified motor for 10 seconds.

**Table 2-15** Component test details (continued)

Component test	Item tested	Replacement part number	Comments
C/K laser/scanner motor	M2	RM1-5176-000CN Scanner Motor C/K	Activates the specified motor for 10 seconds.
Repeat	NA	NA	Options: On Off

## Finishing accessory component test

Use the procedures in this section to diagnose problems with the finishing accessories. During the test, the finishing accessory is isolated and does not communicate with the product engine.

 **IMPORTANT:** Before you configure the dual-inline-package switches (DIPSW) on a PCA to perform a test, you must turn the power off. You do not have to turn the power off again before changing the DIPSW settings to perform other tests—as long as the subsequent tests are performed using the same DIPSW.

However, if subsequent tests involve setting a different DIPSW on a different PCA other than the one used to perform the first test, you must turn the product power off before changing the DIPSW settings.


For example:

1. Turn the product power off.
  2. Set DPSW4 on the *main controller PCA*.
  3. Perform the test.
  4. Turn the product power off.
  5. Set DPSW on the *punch controller PCA*.
  6. Perform the test.
-




## Access the finishing accessory controller PCAs

### Access the main controller PCA

 **CAUTION:**  ESD sensitive component.

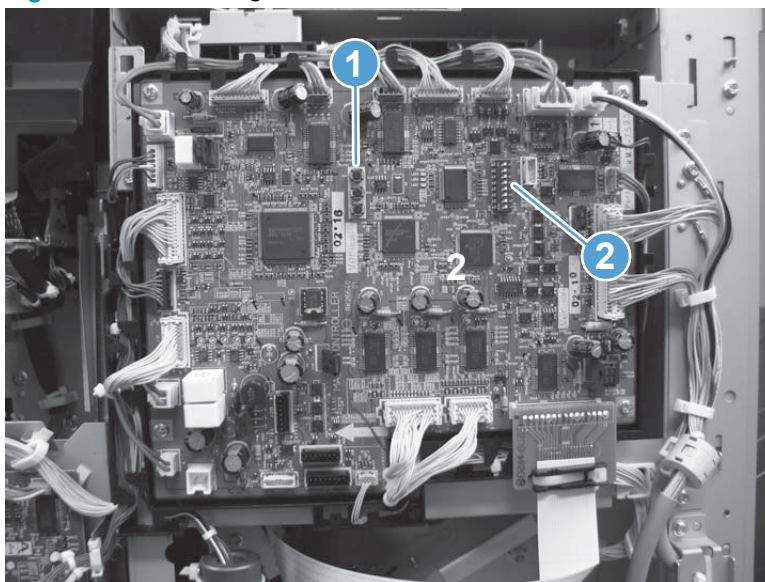
For specific instructions about removing the following covers to access the main controller PCA, see the product repair manual.

1. Remove the following assemblies:
  - Bin cable cover
  - Open/closed stepped cover
  - Upper stepped cover
  - Lower stepped cover
  - Rear cover
2. Locate the following controller PCA switches:
  - SW3 (callout 1)
  - DIPSW4 (callout 2)

 **NOTE:** The DIPSW4 has eight electronic switches that can be set to either the ON or OFF position. The controller PCA is marked ON and OFF to show the current switch position.

For normal operation of the finishing accessory, all of the DIPSW4 switches must be in the OFF position. Always return the DIPSW4 switches to the factory setting when you are finished testing an accessory.

**Figure 2-11** Finishing controller PCA switches




## Access the saddle controller PCA

**CAUTION:**  ESD sensitive component.

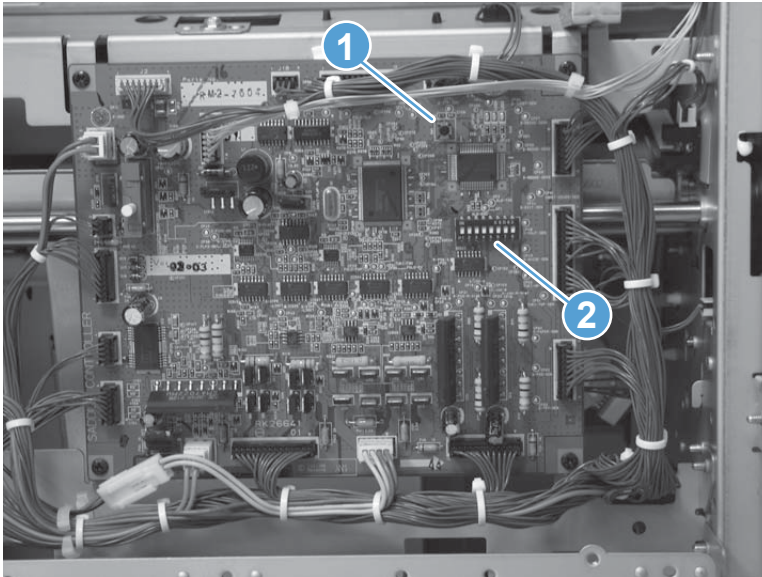
For specific instructions about removing the following covers to access the saddle controller PCA, see the product repair manual.

1. Remove the following assemblies:
  - Rear cover
  - Rear cover (BM PCA)
2. Locate the following controller PCA switches:
  - SW1 (callout 1)
  - DIPSW (callout 2)

 **NOTE:** The DIPSW has eight electronic switches that can be set to either the ON or OFF position. The DIPSW is marked ON to show the current switch position.

For normal operation of the finishing accessory, all of the DIPSW switches must be in the OFF position. Always return the DIPSW switches to the factory setting when you are finished testing an accessory.

**Figure 2-12** Booklet maker (BM) saddle controller PCA switches



## Access the punch controller PCA

**CAUTION:**  ESD sensitive component.


For specific instructions about removing the following covers to access the saddle controller PCA, see the product repair manual.

1. Remove the following assemblies:

- Bin cable cover
- Open/closed stepped cover
- Upper stepped cover
- Lower stepped cover
- Rear cover

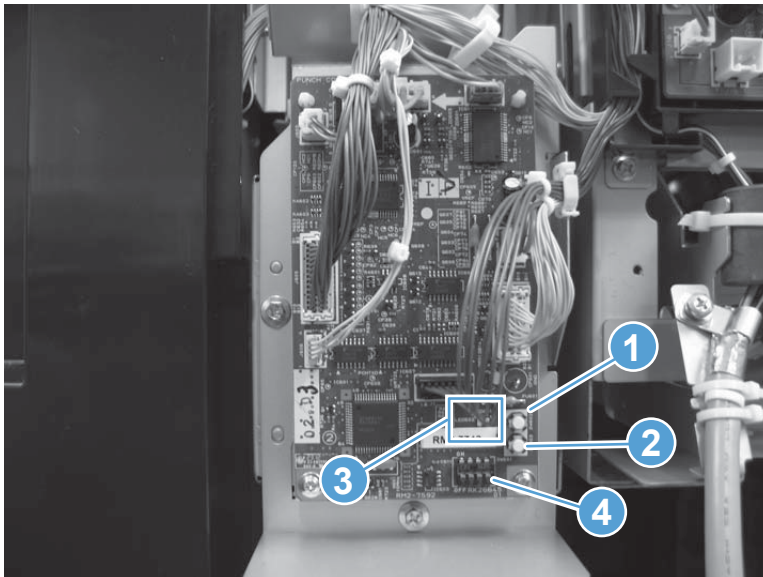
2. Locate the following controller PCA switches and LEDs:

- SW602 (callout 1)
- SW603 (callout 2)
- LED601 and LED602 (callout 3)
- DIPSW (callout 4)

 **NOTE:** The DIPSW has four electronic switches that can be set to either the ON or OFF position. The DIPSW is marked ON to show the current switch position.

For normal operation of the finishing accessory, all of the DIPSW switches must be in the OFF position. Always return the DIPSW switches to the factory setting when you are finished testing an accessory.

**Figure 2-13** Stapler/stacker with hole punch (SSHP) punch controller PCA switches



## Finishing accessory function tests

Use the procedures in this section to diagnose problems with the stapler/stacker (SS), stapler/stacker with hole punch (SSHP), or booklet maker (BM) assemblies.

- [Pre-alignment plate motor test \(operation tray assembly\)](#)
- [Post-alignment plate motor test \(operation tray assembly\)](#)
- [Swing guide motor test \(press motor assembly\)](#)
- [Staple subassembly to staple position test \(Stapler mount shift assembly\)](#)
- [Staple subassembly motor test](#)
- [Stacker entrance motor test \(paper feed motor assembly\)](#)
- [Stapled job output motor test \(stack ejection motor assembly\)](#)
- [Trailing edge assist motor test \(operation tray assembly\)](#)
- [Stacker solenoid test \(upper crossmember assembly\)](#)
- [Stacker clutch test \(electromagnetic clutch\)](#)
- [Shutter assembly test \(stack ejection motor assembly\)](#)
- [First tray test \(stack upper tray assembly\)](#)
- [Secondary tray test \(stack lower tray assembly\)](#)
- [Saddle entrance motor or punch feed roller motor test \(saddle feed motor\)](#)
- [Returning roller test \(stack ejection assembly\)](#)
- [Booklet maker solenoid test](#)
- [Saddle \(booklet\) feed motor test](#)
- [Paper folding motor test](#)
- [Jogger plate motor test](#)
- [Saddle \(booklet\) aging test](#)
- [Saddle \(booklet\) alignment plate test](#)
- [Paper position plate test](#)
- [Guide plate test](#)
- [Punch aging test](#)
- [Punch side registration test](#)
- [Punch motor test](#)

## Pre-alignment plate motor test (operation tray assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 8 OFF
3. Turn the product power on.
4. On the main controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The pre-alignment plate moves to the home position—unless it is already in the home position.
  - **Second press of SW3:** The pre-alignment plate moves to the A4 landscape position—if it was in the home position.
  - **Third press of SW3:** The pre-alignment plate moves from to the A4 portrait position—if it was in the A4 landscape position.



---

**NOTE:** Press and hold down SW3 to continuously move the pre-alignment plate from position to position.

---

5. If the pre-alignment plate correctly functions, press and release SW3 until the plate is in the home position.
6. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the pre-alignment plate is in the home position before continuing.

---

7. If the pre-alignment plate fails the test, replace the operation tray assembly (RM2-5309-000CN).



---


**TIP:** Also test the jogger and tray alignment.

---

## Post-alignment plate motor test (operation tray assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 7 OFF
  - Switch 8 ON
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The post-alignment plate moves to the home position—unless it is already in the home position.
  - **Second press of SW3:** The post-alignment plate moves to the A4 landscape position—if it was in the home position.
  - **Third press of SW3:** The post-alignment plate moves from to the A4 portrait position—if it was in the A4 landscape position.


---

 **NOTE:** Press and hold down SW3 to continuously move the post-alignment plate from position to position.

---

5. If the post-alignment plate correctly functions, press and release SW3 until the plate is in the home position.
6. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.


---

 **TIP:** If you are going to perform another test, skip this step and skip this step and go to the next test—make sure that the post-alignment plate is in the home position before continuing.

---

7. If the post-alignment plate fails the test, replace the operation tray assembly (RM2-5309-000CN).

---


 **TIP:** Also test the jogger and tray alignment.

---

## Swing guide motor test (press motor assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 6 OFF
  - Switch 7 ON
  - Switch 8 OFF
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The swing guide moves to the closed position—unless it is already in the close position.
  - **Second press of SW3:** The swing guide moves to the open position—unless it is already in the open position.


---

 **NOTE:** Press and hold down SW3 to continuously move the swing guide from position to position.

---

5. If the swing guide correctly functions, press and release SW3 until the swing guide is in the close position.
6. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.

---


 **TIP:** If you are going to perform another test, skip this step and skip this step and go to the next test—make sure that the swing guide is in the close position before continuing.

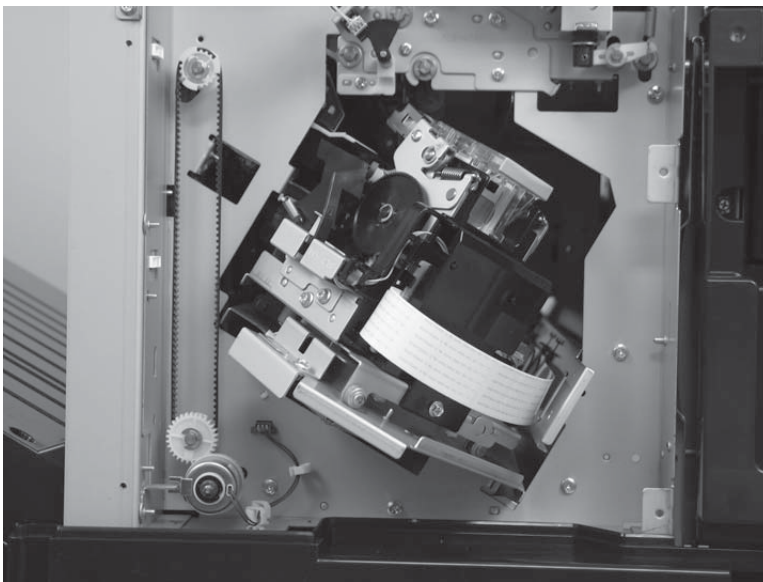
---

7. If the swing guide fails the test, replace the press motor assembly (FM2-1409-000CN)


## Staple subassembly to staple position test (Stapler mount shift assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 6 OFF
  - Switch 7 and switch 8 ON
3. Locate the staple subassembly.

 **NOTE:** For clarity, the figure below shows the inner upper cover removed. This cover does not need to be removed to perform this test.



4. Turn the product power on.
5. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The staple subassembly moves to the home position—unless it is already in the home position (as shown in the figure above).
  - **Second press of SW3:** The staple subassembly moves to the rear position—unless it is already in the rear position.

 **NOTE:** Press and hold down SW3 to continuously move the staple subassembly from position to position.

6. If the staple subassembly correctly functions, press and release SW3 until the staple subassembly is in the home position.



7. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.



**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the staple subassembly is in the home position before continuing.

8. If the staple subassembly fails the test, replace the staple subassembly (4G3-0939-0000CN).

## Staple subassembly motor test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 5 OFF
  - Switch 6 ON
  - Switch 7 and switch 8 OFF
3. Remove the staple cartridge from the staple subassembly.
4. Turn the product power on.
5. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The staple subassembly clinches a staple.



**NOTE:** Press and hold down SW3 to cause the staple subassembly to continuously clinch the staple.

---

6. Reinstall the staple cartridge from the staple subassembly.
7. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.



**TIP:** If you are going to perform another test, skip this step and go to the next test.

---

8. If the staple subassembly motor fails the test, replace the staple subassembly (4G3-0939-0000CN).

## Stacker entrance motor test (paper feed motor assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 5 OFF
  - Switch 6 ON
  - Switch 7 OFF
  - Switch 8 ON
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The stacker entrance guide motor rotates—listen for the motor to rotate.
  - **Second press of SW3:** The stacker entrance guide motor stops.



---

**NOTE:** Press and hold down SW3 to cause the stacker entrance guide motor to repeatedly rotate and then stop.

---

5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the stacker entrance guide motor is stopped before continuing.

---

6. If the stacker entrance guide motor fails the test, replace the paper feed motor assembly (FM0-1889-000CN).

## Stapled job output motor test (stack ejection motor assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 4 OFF
  - Switch 5 ON
  - Switch 6 and switch 7 OFF
  - Switch 8 ON
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The stapled job output motor rotates—listen for the motor to rotate.
  - **Second press of SW3:** The stapled job output motor stops.



---

**NOTE:** Press and hold down SW3 to cause the stapled job output motor to repeatedly rotate and then stop.

---

5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.





---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the stapled job output motor is stopped before continuing.

---

6. If the stapled job output motor fails the test, replace the stack ejection motor assembly (4G3-0769-000CN).


## Trailing edge assist motor test (operation tray assembly)

1. Do one of the following:
    - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
    - If you are continuing from a previous main controller PCA test, go to step 2.
  2. On the main controller PCA, set DIPSW4 to the following settings:
    - Switch 1 ON
    - Switch 2 through switch 4 OFF
    - Switch 5 ON
    - Switch 6 OFF
    - Switch 7 and switch 8 ON
  3. Turn the product power on.
  4. On the controller PCA, press and release SW3, and then observe the following:
    - **First press of SW3:** The trailing assist assembly moves to the home position—unless it is already in the home position.
    - **Second press of SW3:** The trailing assist assembly moves to the forward position—unless it is already in the forward position.
- 
-  **NOTE:** Press and hold down SW3 to continuously move the trailing assist assembly from position to position.
- 
5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.
- 
-  **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the trailing assist assembly is in the home position before continuing.
- 
6. If the trailing assist motor fails the test, replace the operation tray assembly (RM2-5309-000CN).

## Stacker solenoid test (upper crossmember assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 4 OFF
  - Switch 5 and switch 6 ON
  - Switch 7 and switch 8 OFF
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The entrance roller alienation solenoid activates for 500ms (milliseconds), and then deactivates—listen for the solenoid to activate, and then deactivate.
  - **Second press of SW3:** The buffer roller alienation solenoid activates for 500ms, and then deactivates—listen for the solenoid to activate, and then deactivate.
  - **Third press of SW3:** The primary output roller alienation solenoid activates for 500ms, and then deactivates—listen for the solenoid to activate, and then deactivate.
  - **Fourth press of SW3:** The buffer trailing edge solenoid activates for 500ms, and then deactivates—listen for the solenoid to activate, and then deactivate.


---

 **NOTE:** Press and hold down SW3 to cause the solenoids to repeatedly activate, and then deactivate—in the order listed above.

---

5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.

---

 **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the solenoids are deactivated before continuing.


---

6. If a solenoid fails the test, replace the upper crossmember assembly (FM0-1882-000CN).

## Stacker clutch test (electromagnetic clutch)


1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 4 OFF
  - Switch 5 and switch 6 ON
  - Switch 7 OFF
  - Switch 8 ON
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The lower stack ejection roller clutch activates for 500ms (milliseconds), and then deactivates—listen for the clutch to activate, and then deactivate.
  - **Second press of SW3:** The shutter open/close clutch activates for 500ms, and then deactivates—listen for the clutch to activate, and then deactivate.

---

 **NOTE:** Press and hold down SW3 to cause the clutches to repeatedly activate, and then deactivate—in the order listed above.

---
5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.

---

 **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the clutches are deactivated before continuing.

---
6. If a clutch fails the test, replace the electromagnetic clutch (4H3-0370-000CN).

## Shutter assembly test (stack ejection motor assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 4 OFF
  - Switch 5, switch 6, and switch 7 ON
  - Switch 8 OFF
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The shutter assembly moves to the home position—unless it is already in the home position.
  - **Second press of SW3:** The shutter assembly moves to the close position—unless it is already in the close position.



**NOTE:** Press and hold down SW3 to continuously move the shutter assembly from position to position.

---

5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.



**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the shutter assembly is in the home position before continuing.

---


6. If the shutter assembly fails the test, replace the stack ejection motor assembly (4G3-0769-000CN).



## First tray test (stack upper tray assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 and switch 3 OFF
  - Switch 4 ON
  - Switch 5 through switch 8 OFF
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:


---

 **CAUTION:** *Immediately* unplug the product power cord if you hear any abnormal sounds when the bins are moving.

---

- **First press of SW3:** The stack upper and lower output bins move to the paper out position for the upper output bin position.
- **Second press of SW3:** The stack upper output bin moves to the detecting bin surface position.


---

 **NOTE:** Press and hold down SW3 to repeat moving the stack upper output bin to the detecting bin surface position.

---

5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.

---

 **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the bin has stopped moving before continuing.


---

6. If the stack upper tray assembly test fails, replace the stack upper tray assembly (RM2-5324-000CN).

## Secondary tray test (stack lower tray assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 4 OFF
  - Switch 5 through switch 8 ON
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:


---

 **CAUTION:** *Immediately* unplug the product power cord if you hear any abnormal sounds when the bins are moving.

---

- **First press of SW3:** The stack upper and lower output bins move to the paper out position for the lower output bin position.
- **Second press of SW3:** The stack lower output bin moves to the detecting bin surface position.


---

 **NOTE:** Press and hold down SW3 to repeat moving the stack lower output bin to the detecting bin surface position.

---

5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.



---

 **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the bin has stopped moving before continuing.

---

6. If the stack lower tray assembly fails the test, replace the stack lower tray assembly (RM2-5339-000CN).


## Saddle entrance motor or punch feed roller motor test (saddle feed motor)

1. Do one of the following:
    - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
    - If you are continuing from a previous main controller PCA test, go to step 2.
  2. On the main controller PCA, set DIPSW4 to the following settings:
    - Switch 1 ON
    - Switch 2 and switch 3 OFF
    - Switch 4 ON
    - Switch 5 OFF
    - Switch 6 ON
    - Switch 7 and switch 8 OFF
  3. Turn the product power on.
  4. On the controller PCA, press and release SW3, and then observe the following:
    - **First press of SW3:** The saddle entrance motor or punch feed roller motor rotates—listen for the motor to rotate.
    - **Second press of SW3:** The saddle entrance motor or punch feed roller motor stops.
- 
-  **NOTE:** Press and hold down SW3 to cause the saddle entrance motor or punch feed roller motor to repeatedly rotate and then stop.
- 
5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.
-  **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the saddle entrance motor or punch feed roller motor stops before continuing.
- 
6. If the motor fails the test, replace the saddle feed motor assembly (4G3-1933-000CN).


## Returning roller test (stack ejection assembly)

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous main controller PCA test, go to step 2.
2. On the main controller PCA, set DIPSW4 to the following settings:
  - Switch 1 ON
  - Switch 2 OFF
  - Switch 3 ON
  - Switch 4 OFF
  - Switch 5 and switch 6 ON
  - Switch 7 OFF
  - Switch 8 ON
3. Turn the product power on.
4. On the controller PCA, press and release SW3, and then observe the following:
  - **First press of SW3:** The swing guide is open, the stapled job output motor rotates, and the returning roller rotates—listen for the motor to rotate.
  - **Second press of SW3:** The stapled job output motor and returning roller stop, and the swing guide is closed.

---

 **NOTE:** Press and hold down SW3 to repeatedly cause the swing guide to open and close, and the stapled job output motor and the returning roller to rotate and stop.

---
5. Turn the product power off, and then return all of the DIPSW4 switches to the OFF setting.

 **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the swing guide is closed, and that the stapled job output motor and the returning roller are stopped before continuing.

---
6. If the returning roller fails the test, replace the return roller assembly (FM0-2403-000CN).

## Booklet maker solenoid test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 through switch 3 OFF
  - Switch 4 ON
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The primary paper deflector solenoid activates—listen for the solenoid to activate.
  - **Second press of SW1:** The primary paper deflector solenoid deactivates—listen for the solenoid to deactivate.
  - **Third press of SW1:** The secondary paper deflector solenoid activates—listen for the solenoid to activate.
  - **Fourth press of SW1:** The secondary paper deflector solenoid deactivates—listen for the solenoid to deactivate.
  - **Fifth press of SW1:** The feed plate solenoid activates—listen for the solenoid to activate.
  - **Sixth press of SW1:** The feed plate solenoid deactivates—listen for the solenoid to deactivate.
  - **Seventh press of SW1:** The booklet entrance solenoid activates—listen for the solenoid to activate.
  - **Eighth press of SW1:** The booklet entrance solenoid deactivates—listen for the solenoid to deactivate.



---

**NOTE:** Press and hold down SW1 to cause the solenoids to repeatedly activate, and then deactivate—in the order listed above.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the solenoids are deactivated before continuing.

---

6. If a solenoid fails the test, replace the appropriate solenoid.
  - SL1 flapper solenoid 1
  - SL2 flapper solenoid 2
  - SL4 intermediate solenoid assembly
  - SL5 saddle inlet solenoid

## Saddle (booklet) feed motor test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 OFF
  - Switch 2 ON
  - Switch 3 and switch 4 OFF
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The saddle feed motor rotates at a slow rate—130 mm/sec (5.12 in/sec). Listen for the motor to slowly rotate.
  - **Second press of SW1:** The saddle feed motor rotates at a fast rate—200 mm/sec (7.87 in/sec). Listen for the motor to increase rotation speed.
  - **Third press of SW1:** The saddle feed motor stops.



---

**NOTE:** Press and hold down SW1 to cause the motor to repeatedly rotate, and then stop.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the motor is stopped before continuing.

---

6. If the motor fails the test, replace the saddle motor assembly (FM2-0737-000CN).

## Paper folding motor test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 OFF
  - Switch 2 ON
  - Switch 3 OFF
  - Switch 4 ON
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The paper folding motor rotates in the feed direction—listen for the motor to rotate.
  - **Second press of SW1:** After a 100 millisecond delay, the paper folding motor rotates in the reverse direction—listen for a pause, and then for the motor to rotate.
  - **Third press of SW1:** The paper folding motor stops.



---

**NOTE:** Press and hold down SW1 to cause the motor to repeatedly rotate, pause, reverse direction, and then stop.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the motor is stopped before continuing.

---

6. If the motor fails the test, replace the motor mount assembly (FM0-1686-000CN).

## Jogger plate motor test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 OFF
  - Switch 2 through switch 4 ON
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The jogger plate moves to the push position—listen for the motor to rotate.
  - **Second press of SW1:** The jogger plate moves to the home position—listen for the motor to rotate.



---

**NOTE:** Press and hold down SW1 to cause the plate to move from position to position.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the motor is stopped before continuing.

---

6. If the motor fails the test, replace the motor mount assembly (FM0-1686-000CN).



## Saddle (booklet) aging test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 4 OFF
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The following aging sequence begins and continues until SW1 is pressed and released again:
    - a. The paper folding motor rotates.
    - b. The booklet feeder motor rotates.
    - c. The jogger plate moves.
    - d. The booklet alignment plate moves to the A3-P alignment position.
    - e. The booklet alignment plate moves to the A4-P alignment position.
    - f. The paper position plate moves to the LDR-P staple position.
    - g. The paper position plate moves to the LDR-P folding position.
    - h. The paper position plate moves to the LTR-P staple position.
    - i. The paper position plate moves to the LTR-P folding position.
    - j. The guide plate moves to the up position, and then to the down position.
    - k. The booklet feeder motor stops.
    - l. All of the saddle assembly solenoids activate, and then deactivate.
  - **Second press of SW1:** The aging sequence above stops.



---

**NOTE:** Press and hold down SW1 to continuously repeat and then stop the aging sequence above.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the aging sequence is stopped before continuing.

---

6. If the aging sequence fails the test, determine which assembly failed during the process (see the list below), and then replace the defective assembly.

- Feed
- Folding
- Jogger movement
- Alignment
- Stapler movement
- Guide open/close

## Saddle (booklet) alignment plate test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 ON
  - Switch 2 and switch 3 OFF
  - Switch 4 ON
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The booklet alignment plate moves to the home position—listen for the plate to move.
  - **Second press of SW1:** The booklet alignment plate moves to the A4-P pre-position—listen for the plate to move.
  - **Third press of SW1:** The booklet alignment plate moves to the A4-P alignment position—listen for the plate to move.



---

**NOTE:** Press and hold down SW1 to cause the plate to move from position to position.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the plate is in the home position before continuing.


---

6. If the plate fails the test, replace the motor (M5).

## Paper position plate test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 ON
  - Switch 2 OFF
  - Switch 3 ON
  - Switch 4 OFF
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The paper position plate moves to the home position—listen for the plate to move.
  - **Second press of SW1:** The booklet alignment plate moves to the A4-P folding position—listen for the plate to move.
  - **Third press of SW1:** The booklet alignment plate moves to the A4-P staple position—listen for the plate to move.


---

 **NOTE:** Press and hold down SW1 to cause the plate to move from position to position.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.

---

 **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the plate is in the home position before continuing.

---

6. If the plate fails the test, replace the inner side plate assembly (4G3-0671-000CN).

## Guide plate test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous saddle controller PCA test, go to step 2.
2. On the saddle controller PCA, set DIPSW to the following settings:
  - Switch 1 ON
  - Switch 2 OFF
  - Switch 3 and switch 4 ON
  - Switch 5 through switch 8 not used
3. Turn the product power on.
4. On the saddle controller PCA, press and release SW1, and then observe the following:
  - **First press of SW1:** The guide plate moves to the down position—listen for the plate to move.
  - **Second press of SW1:** The guide plate moves to the up position—listen for the plate to move.



---

**NOTE:** Press and hold down SW1 to cause the plate to move from position to position.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.



---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the plate is in the home position before continuing.

---

6. If the plate fails the test, replace the guide motor assembly (4G3-0725-000CN).

## Punch aging test

1. Do one of the following:
  - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
  - If you are continuing from a previous punch controller PCA test, go to step 2.
2. On the punch controller PCA, set DIPSW to the following settings:
  - Switch 1 ON
  - Switch 2 through switch 4 OFF
3. Turn the product power on.
4. On the punch controller PCA, press and release SW602, and then observe the following:
  - **First press of SW602:** The following aging sequence begins and continues until SW1 is pressed and released again:
    - a. The punch motor initializes.
    - b. The punch side registration motor initializes.
    - c. The punch moves to the inside position.
    - d. The punch operation begins.
    - e. The punch moves to its initial position.
    - f. The sequence starts again with step c.
  - **Second press of SW1:** The aging sequence above stops.



---

**NOTE:** Press and hold down SW602 to continuously repeat the aging sequence steps a and b above.

---

5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.




---

**TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the punch is in the home (front) position before continuing.


---

6. If the aging sequence fails the test, replace the saddle stapler assembly (4G3-2721-000CN).

## Punch side registration test

1. Do one of the following:
    - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
    - If you are continuing from a previous punch controller PCA test, go to step 2.
  2. On the punch controller PCA, set DIPSW to the following settings:
    - Switch 1 OFF
    - Switch 2 ON
    - Switch 3 and switch 4 OFF
  3. Turn the product power on.
  4. On the punch controller PCA, locate LED601 and LED602, and then observe the following:
    - Ready state
      - LED601 off
      - LED602 flashing
    - Press SW603 to move the punch to the center position.
      - LED601 and LED602 alternate flashing
    - Press SW603 to stop the LEDs from flashing.
      - LED601 off
      - LED602 flashing
    - Press SW602 to move the punch to the home (front) position.
      - LED601 and LED602 alternate flashing
    - Press SW602 to stop the LEDs from flashing and return to the ready state.
      - LED601 is off
      - LED602 is flashing
  5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.
- 
-  **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the punch is in the home (front) position before continuing.
- 
6. If the punch side registration fails the test, replace the staple assembly (4G3-0938-000CN).

## Punch motor test

1. Do one of the following:
    - If this is the first test you are performing, turn the product power off, remove all paper, and then make sure that all doors and trays are closed.
    - If you are continuing from a previous punch controller PCA test, go to step 2.
  2. On the punch controller PCA, set DIPSW to the following settings:
    - Switch 1 ON
    - Switch 2 ON
    - Switch 3 and switch 4 OFF
  3. Turn the product power on.
  4. On the punch controller PCA, locate LED601 and LED602, and then observe the following:
    - Ready state
      - LED601 off
      - LED602 flashing
    - Press SW602 (for a 3-hole or 4-hole punch) or SW603 (for a 2-hole punch) to activate the punch operation (drills go up and down).
      - LED601 and LED602 alternate flashing
    - Press SW602 (for a 3-hole or 4-hole punch) or SW603 (for a 2-hole punch) to stop the LEDs from flashing.
      - LED601 is off
      - LED602 is flashing
  5. Turn the product power off, and then return all of the DIPSW switches to the OFF setting.
- 
-  **TIP:** If you are going to perform another test, skip this step and go to the next test—make sure that the drills have stopped moving before continuing.
- 
6. If the punch side registration fails the test, replace the hole punch assembly.
    - 2/3 hole punch assembly  
A2W84-67902
    - 2/4 hole punch assembly  
CZ999-67901



## Scanner tests M880

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 and closing 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](#)

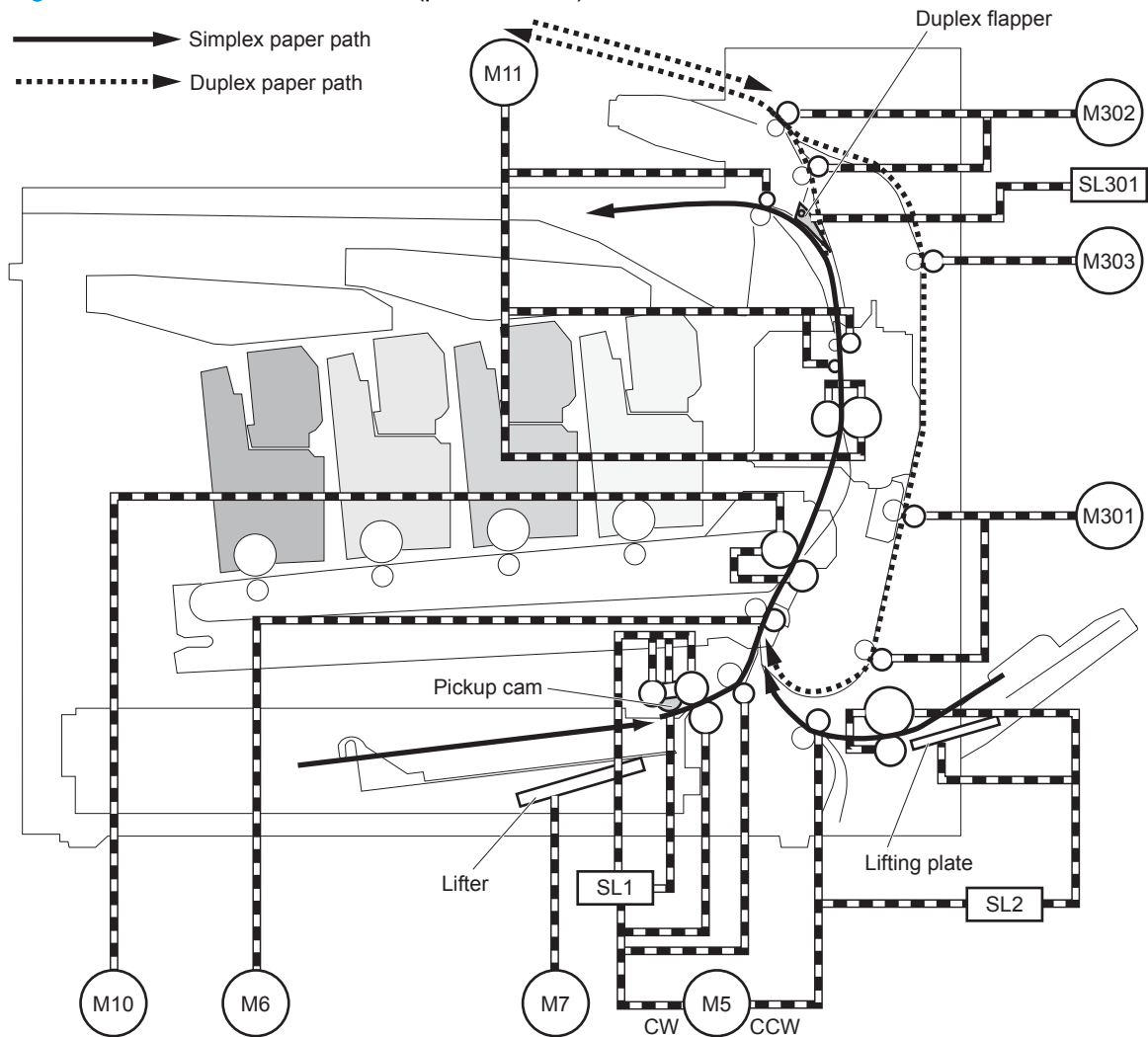
- ADF slider 3
- ADF jam cover
- ADF paper path deskew
- ADF paper path pick success
- Paper path sensor 1 (unreachable)
- Flatbed Y (length) short
- Flatbed Y (length) long
- Flatbed cover

## Diagrams

- [Block diagrams](#)
- [Location of connectors](#)
- [Plug/jack locations](#)
- [Locations of major components](#)
- [General timing chart](#)
- [Circuit diagrams](#)

## Block diagrams

**Figure 2-14** Motors and solenoids (product base)



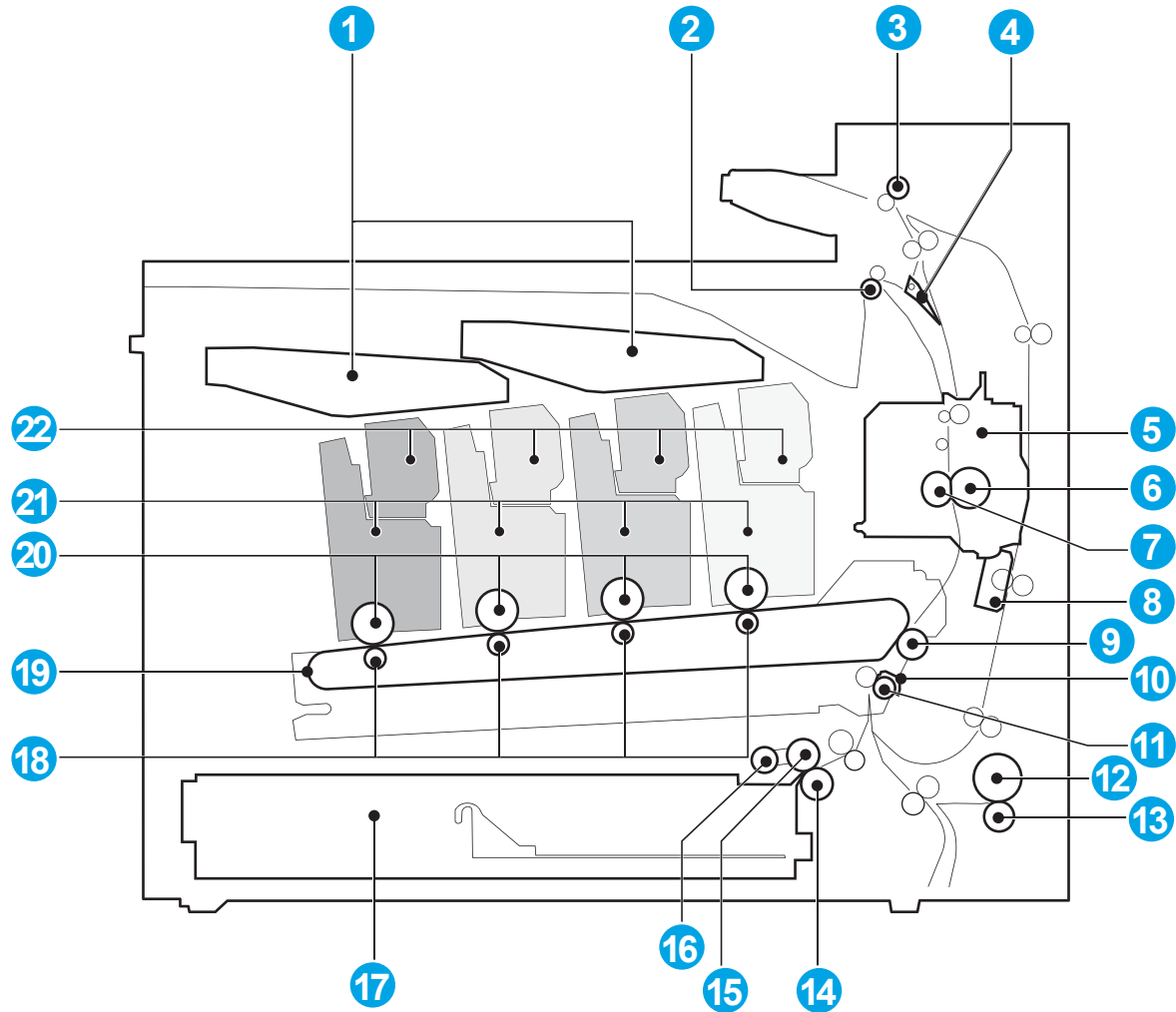
**Table 2-16** Motors and solenoids (product base)

Item	Description	Item	Description
M5	Pickup motor	M302	Duplex switchback motor
M6	Registration motor	M303	Duplex feed motor

**Table 2-16 Motors and solenoids (product base) (continued)**

Item	Description	Item	Description
M7	Cassette lifter motor	STM2501	Tray 1 pickup motor
M10	ITB motor	SL1	Cassette pickup solenoid
M11	Fuser motor	SL2	Multipurpose tray (Tray 1) pickup solenoid
M301	Duplex re-pickup motor	SL301	Duplex flapper solenoid

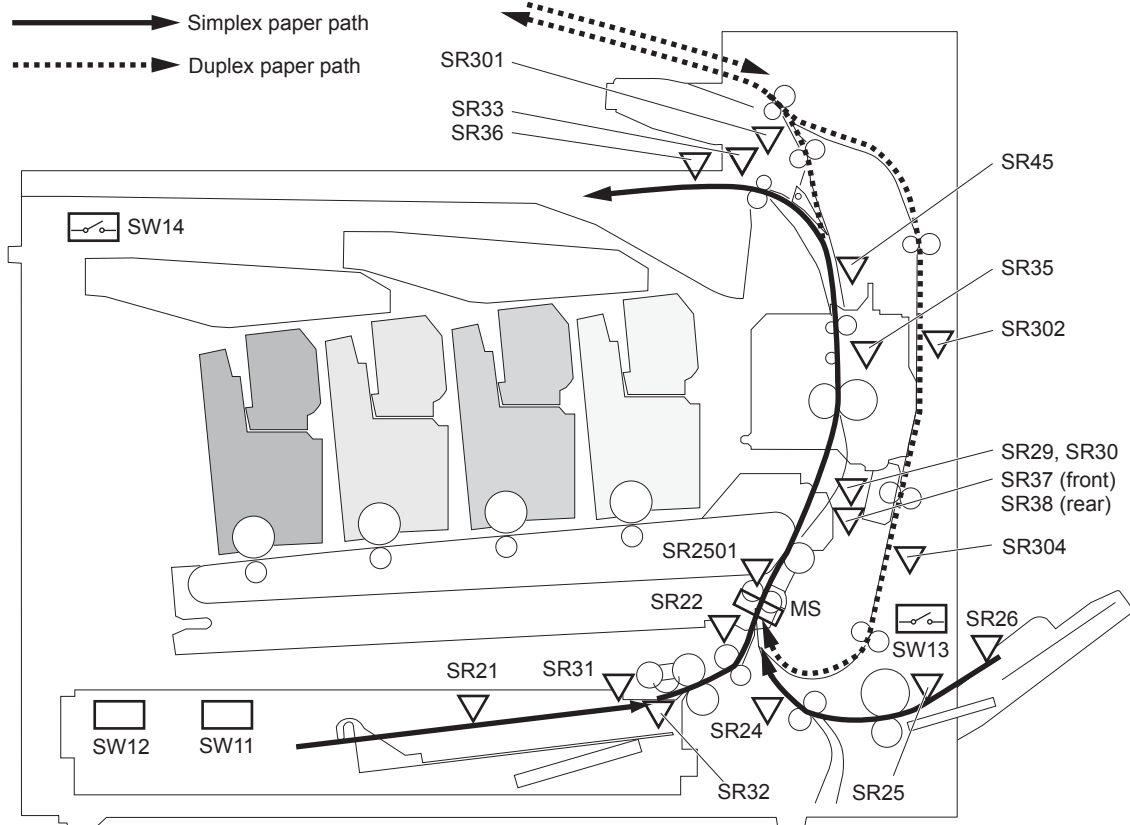
**Figure 2-15 Rollers and main assemblies (product base)**



Item	Description	Item	Description
1	Laser/scanner assembly	12	Multipurpose tray (Tray 1) pickup roller
2	Delivery roller	13	Multipurpose tray (Tray 1) separation roller
3	Duplex switchback roller	14	Cassette separation roller
4	Duplex flapper	15	Cassette feed roller
5	Fuser	16	Cassette pickup roller

Item	Description	Item	Description
6	Pressure roller	17	Cassette
7	Fuser sleeve	18	Transfer (T1) roller
8	Color sensor (M855 only)	19	ITB
9	Secondary transfer (T2) roller	20	Photo sensitive drum
10	Registration shutter	21	Process cartridge
11	Registration roller	22	Toner cartridge

**Figure 2-16** Switches and sensors (product base)



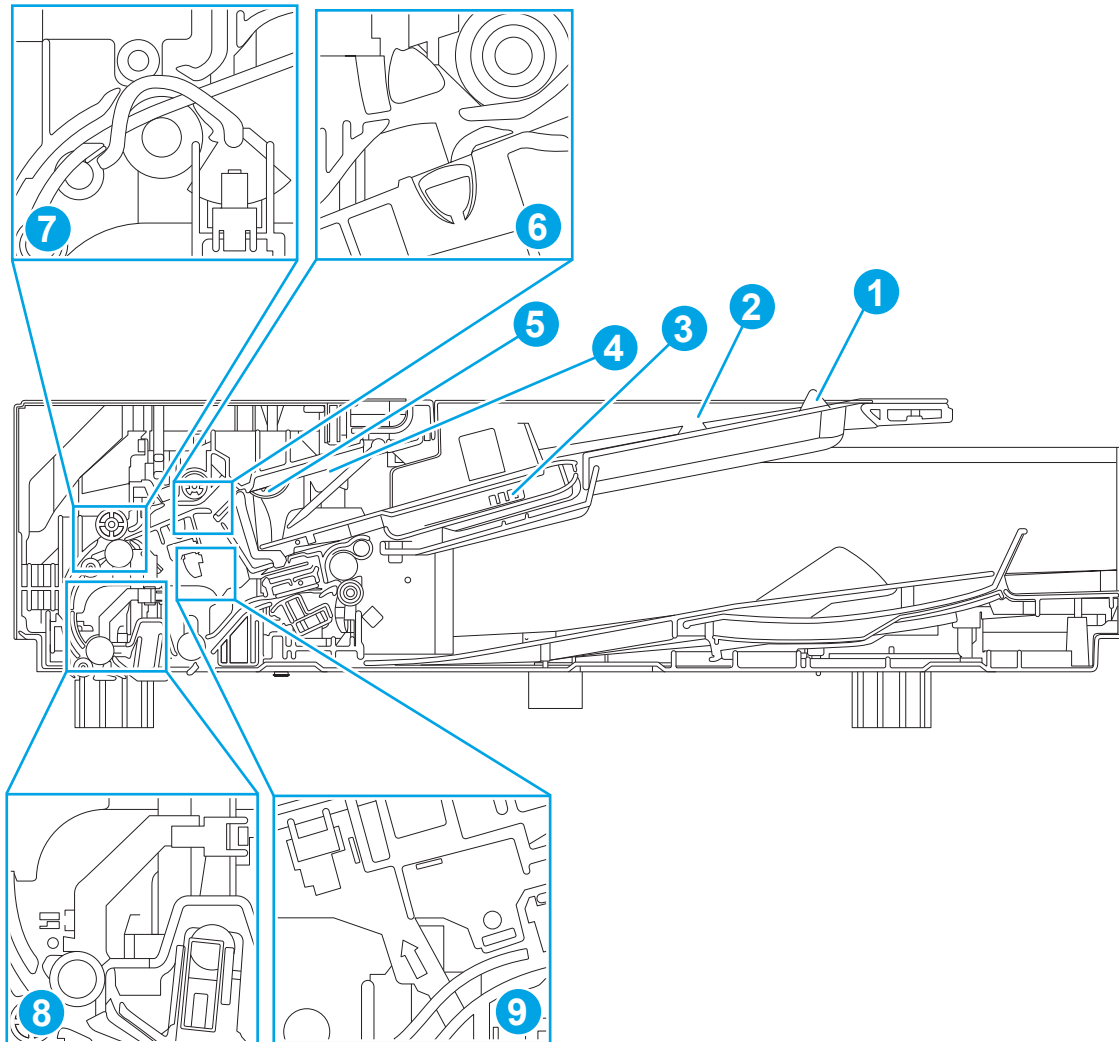
**Table 2-17** Switches and sensors (product base)

Item	Description	Item	Description
SW11	Tray 2 paper size switch	SR32	Tray 2 paper surface sensor
SW12	Tray 2 media trailing edge switch	SR33	Output bin full sensor
SW13	Right door open/closed switch	SR35	Fuser output sensor 1
SW14	Front door open/closed switch	SR36	Output media width sensor
SR21	Tray 2 media-level sensor	SR37	Fuser front width sensor
SR22	Tray 2 feed sensor	SR38	Fuser rear width sensor
SR24	Tray 1 feed sensor	SR45	Fuser output sensor 2

**Table 2-17** Switches and sensors (product base) (continued)

Item	Description	Item	Description
SR25	Tray 1 paper sensor	SR301	Duplex switchback sensor
SR26	Multipurpose tray (Tray 1) last-media sensor	SR302	Developer delivery sensor
SR29	Fuser loop sensor 1	SR304	Duplex refeed sensor
SR30	Fuser loop sensor 2	SR2501	TOP sensor
SR31	Tray 2 paper sensor	MS	Registration sensor

**Figure 2-17** Document feeder sensors (M880 only)



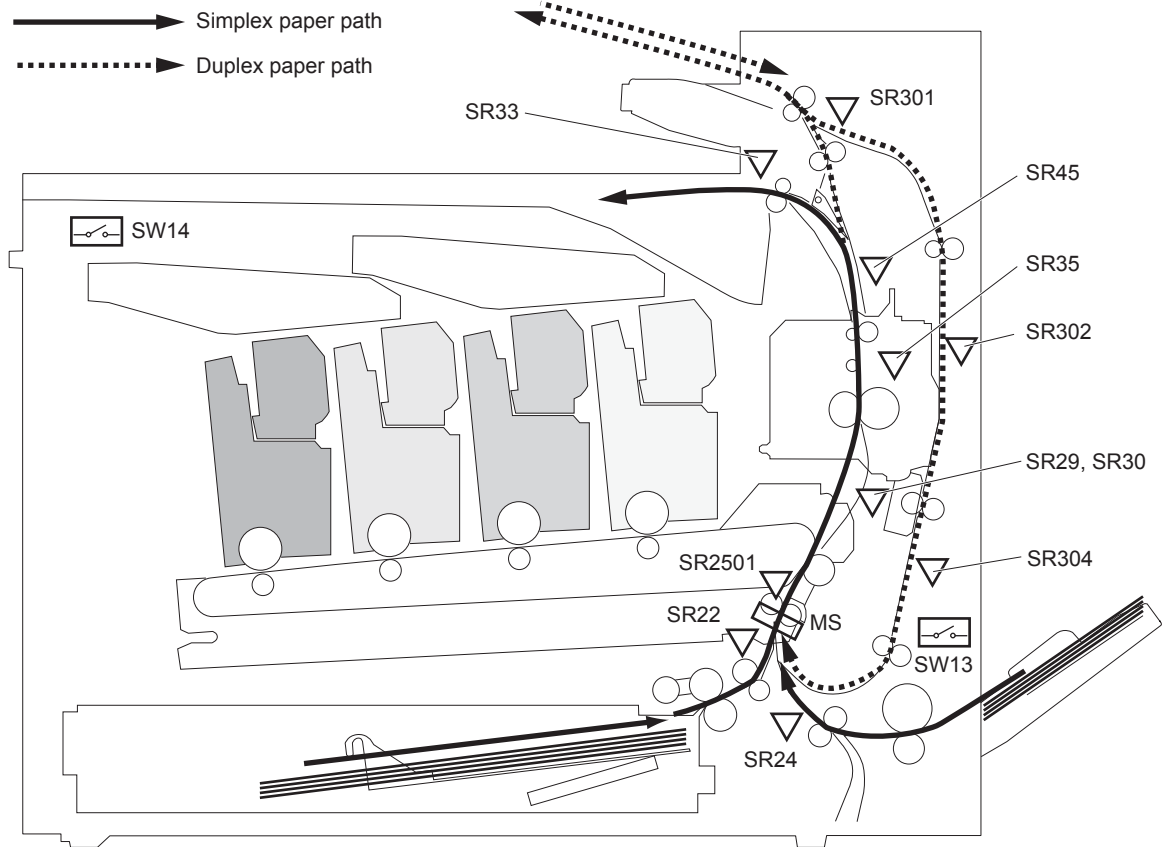
**Table 2-18** Document feeder sensors

Item number	Component name	Description
1	Sensor, legal	Detects whether there is a legal-size original.
2	Sensor, portrait/landscape	Detects whether there is a portrait-size or landscape-size original.

**Table 2-18 Document feeder sensors (continued)**

Item number	Component name	Description
3	Sensor, media width	
4	Sensor, stack height	
5	Sensor, paper presence	Detects whether a document is present in the document feeder. If paper is present in the document feeder when copies are made, the product scans the document using the document feeder. If no paper is present when copies are made, the product scans the document using the scanner glass.
6	Sensor, ultrasonic	Uses ultrasonic sound to detect a multi-page paper feed.  <b>NOTE:</b> This sensor also functions as the pick success sensor.
7	Sensor, deskew	Detects the top of the page as it approaches the back-side scan module during e-duplex copy jobs.
8	Sensor, prescan1	For an e-duplex copy job (HP EveryPage), this sensor is used to activate the front-side scan module (this component is in the scanner base) and the front-side background selector (this component is in the document feeder) if needed.
9	Sensor, prescan2	For an e-duplex copy job, this sensor is used to activate the backside scan module and the backside background selector if needed (these components are in the document feeder) .

**Figure 2-18** Jam sensors and switches (product base)

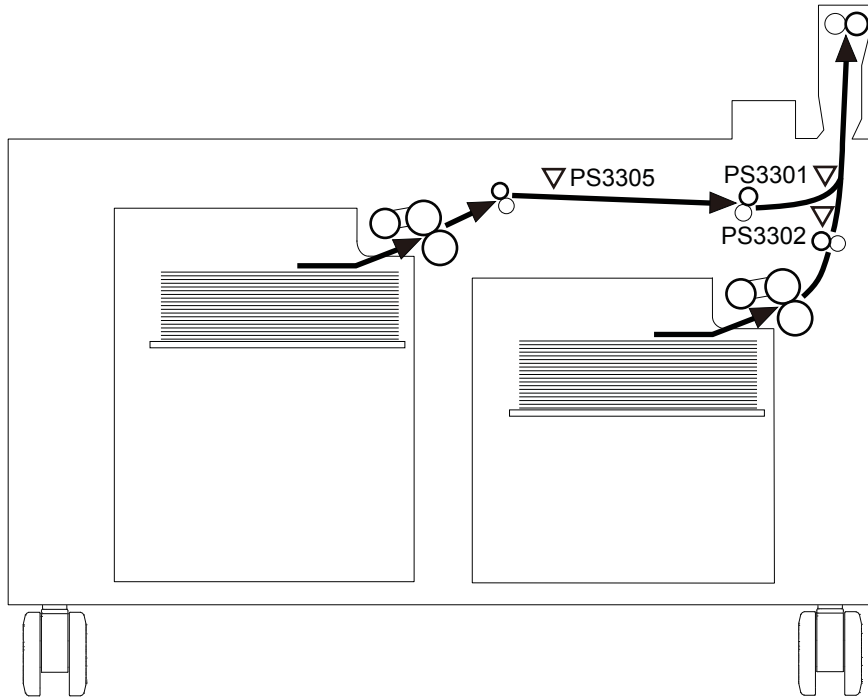


**Table 2-19** Jam sensors and switches (product base)

Item	Description	Item	Description
SR22	Tray 2 feed sensor	SR33	Output bin full sensor
SR24	Tray 1 feed sensor	SR301	Duplex switchback sensor
SR2501	TOP sensor	SR302	Developer delivery sensor
SR29	Fuser loop sensor 1	SR304	Duplex refeed sensor
SR30	Fuser loop sensor 2	MS	Registration sensor
SR35	Fuser output sensor 1	SW13	Right door open/closed switch
SR45	Fuser output sensor 2	SW14	Front door open/closed switch



**Figure 2-19** High-capacity input (HCI) feeder jam sensors



**Table 2-20** High-capacity input (HCI) feeder jam sensors

Item	Description
PS3301	HCI feed sensor
PS3302	Tray 3 feed sensor
PS3305	Tray 4 feed sensor

Figure 2-20 High-capacity input (HCI) feeder cross section

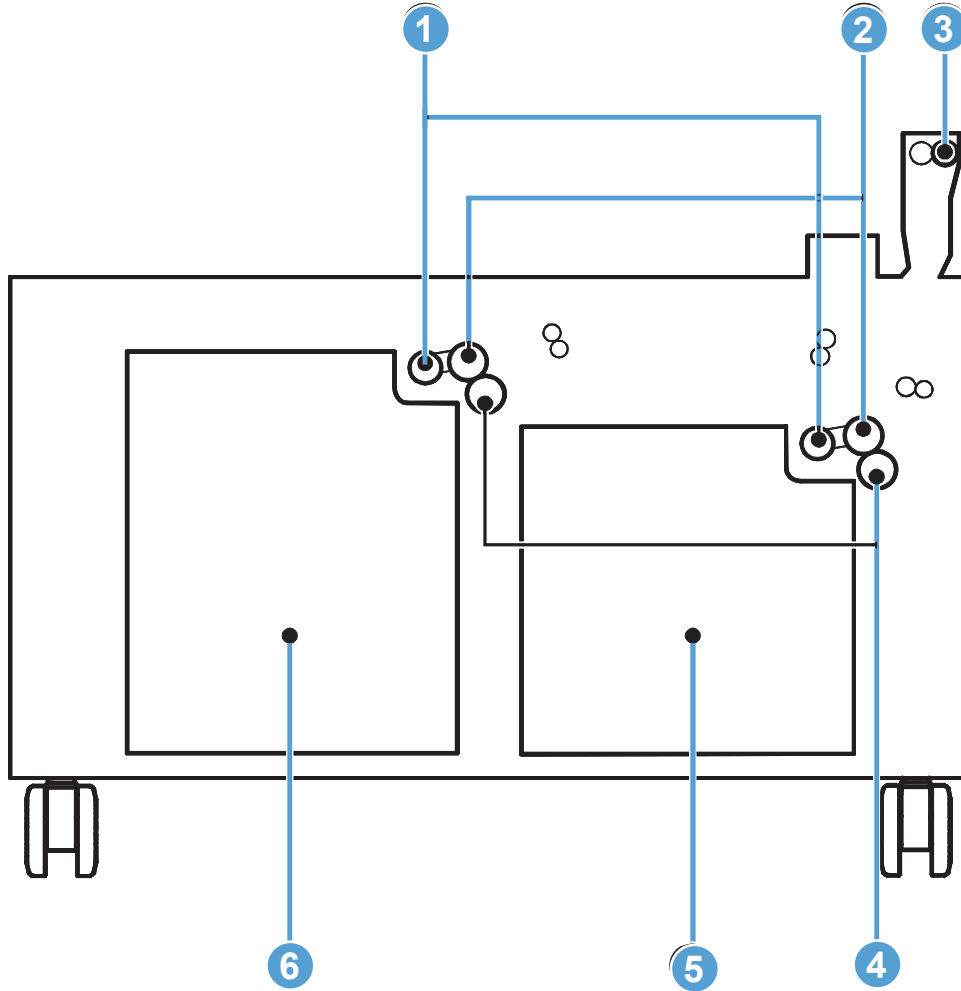
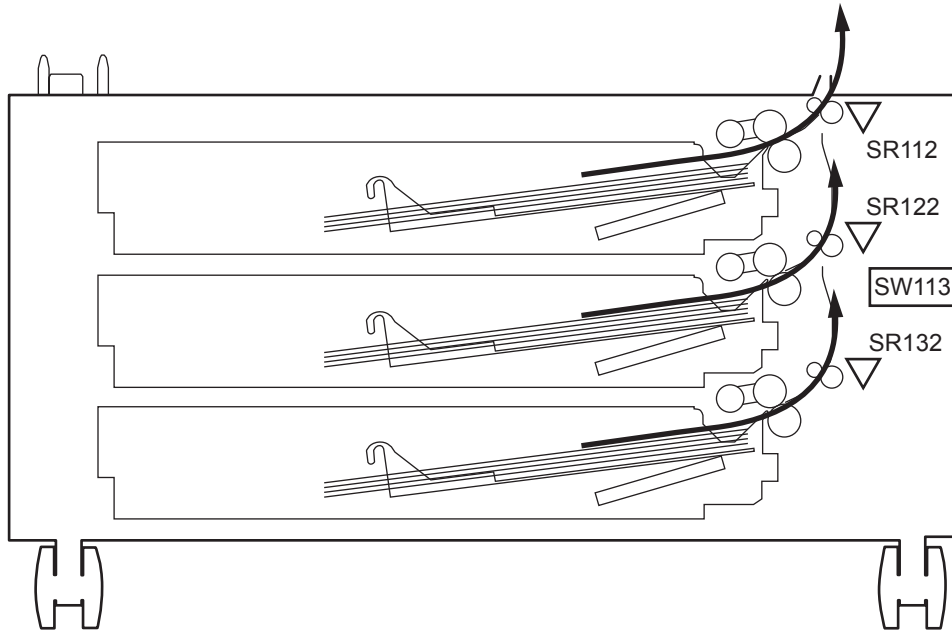


Table 2-21 High-capacity input (HCI) feeder cross section

Item	Description
1	Cassette pickup roller
2	Cassette feed roller
3	Intermediate feed roller
4	Cassette separation roller
5	Right cassette
6	Left cassette

**Figure 2-21** 1x500-sheet and 3x500-sheet paper feeder jam sensors and switch



**Table 2-22** 1x500-sheet and 3x500-sheet paper feeder jam sensors and switch

Item	Description
SR112	Tray 3 feed sensor
SR122	Tray 4 feed sensor
SR132	Tray 5 feed sensor
SW113	Right door open detection switch

Figure 2-22 Stapler/stacker (SS) cross section

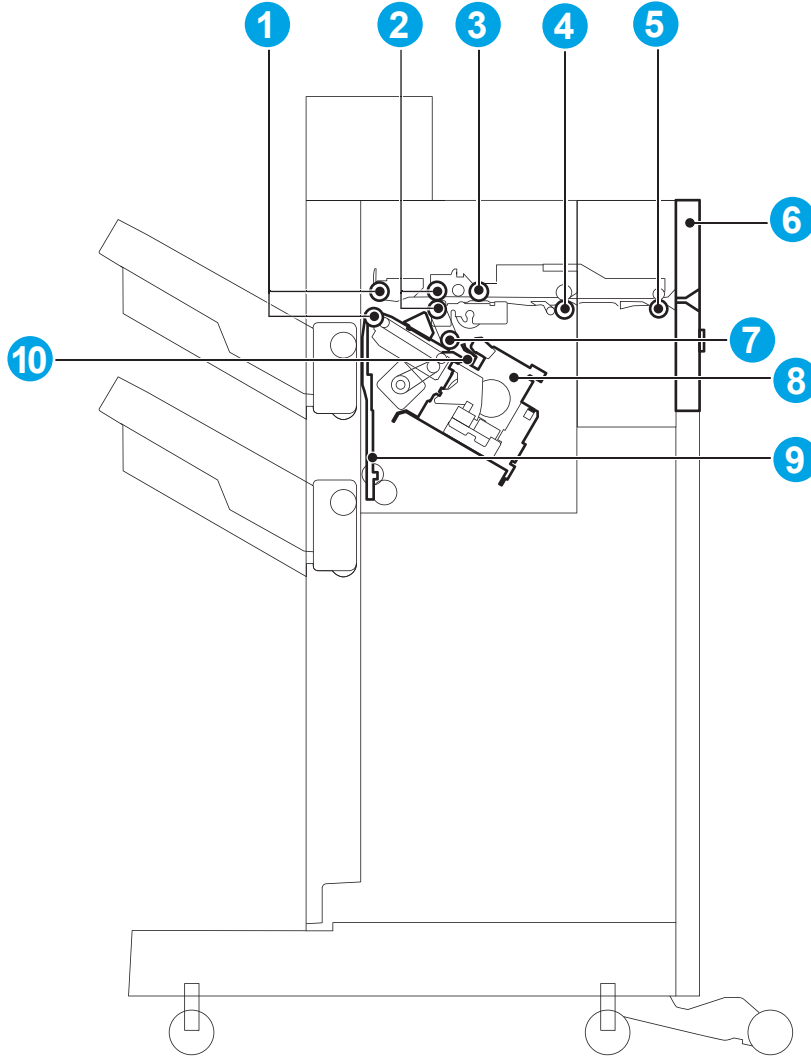
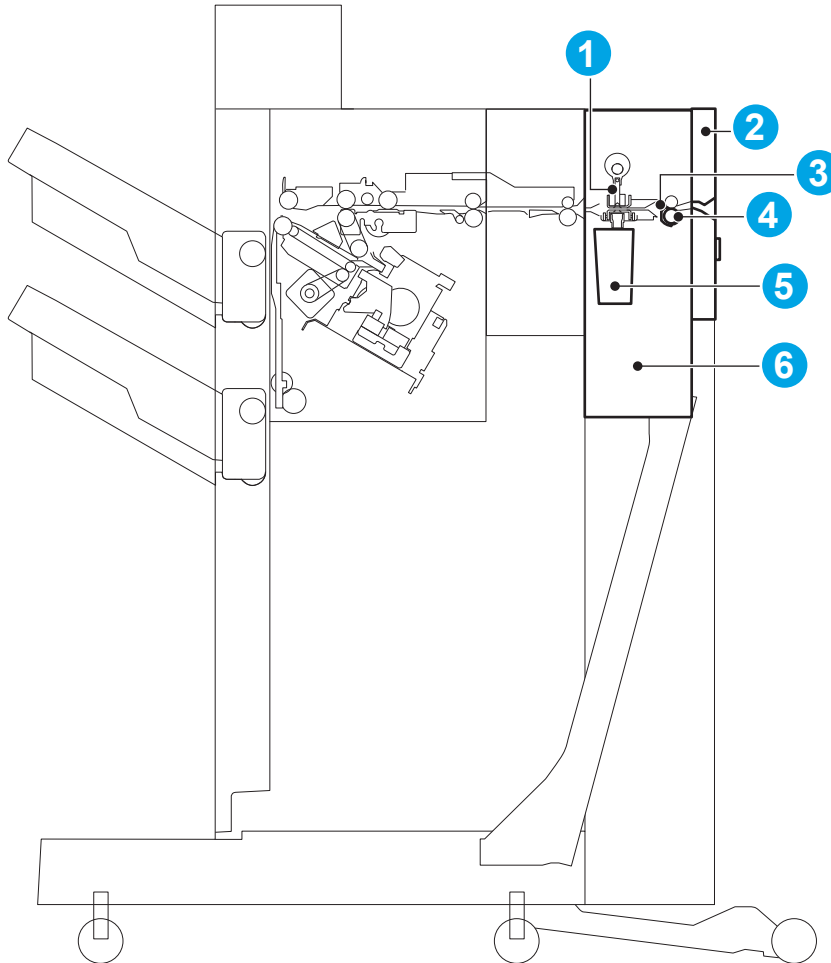


Table 2-23 Stapler/stacker (SS) cross section

Item	Description	Item	Description
1	Stack ejection roller	6	Latch assembly
2	Delivery roller	7	Return roller
3	Buffer roller	8	Stapler assembly
4	Inlet roller	9	Shutter
5	Inlet roller 1	10	Processing tray assembly

**Figure 2-23** Stapler/stacker with hole punch (SSHP) cross section



**Table 2-24** Stapler/stacker with hole punch (SSHP) cross section

Item	Description	Item	Description
1	Hole punch	4	Registration roller
2	Latch assembly	5	Hole punch chip collection box
3	Registration shutter	6	Hole punch assembly

Figure 2-24 Booklet maker (BM) cross section

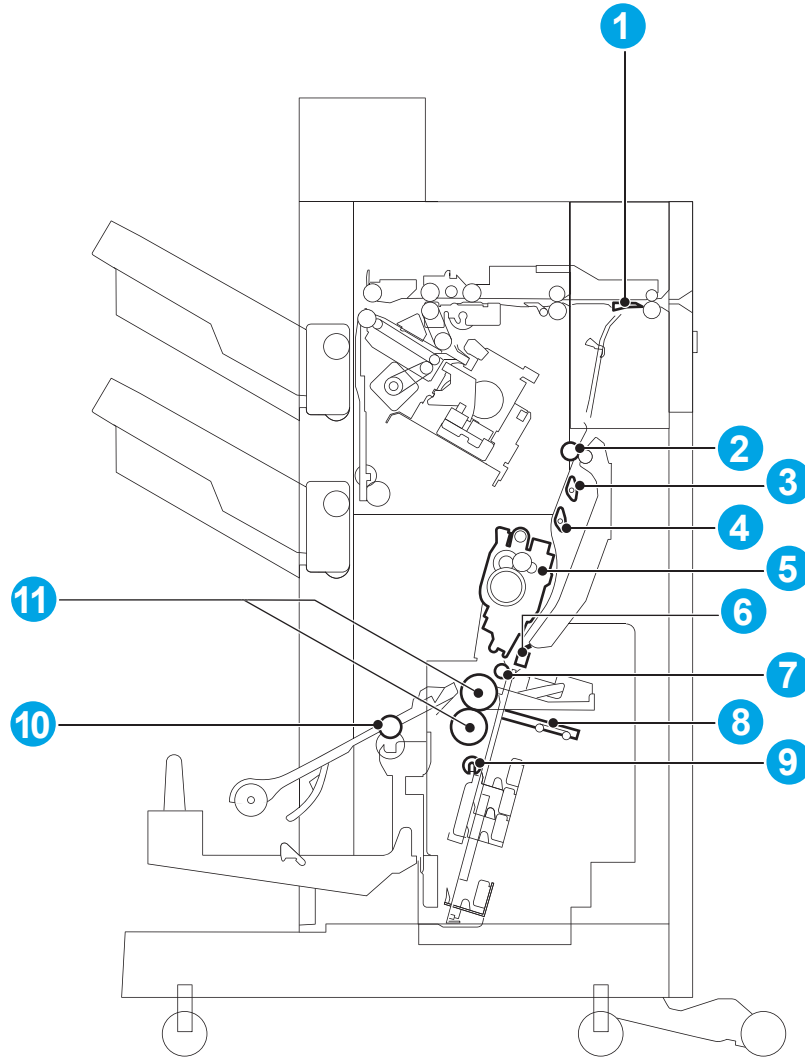
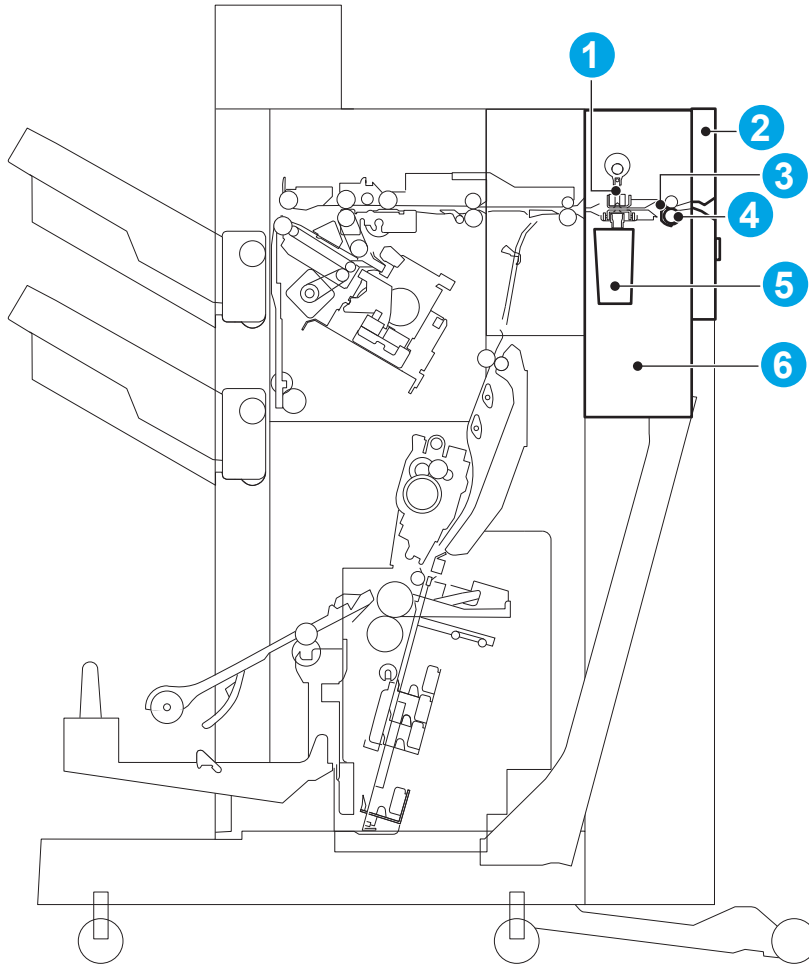


Table 2-25 Booklet maker (BM) cross section

Item	Description	Item	Description
1	Saddle stitcher flapper	7	Intermediate roller
2	Inlet roller 2	8	Paper pushing plate
3	Flapper 1	9	Crescent roller
4	Flapper 2	10	Saddle delivery roller
5	Stitcher (front, rear)	11	Paper folding roller
6	Stitcher rack		

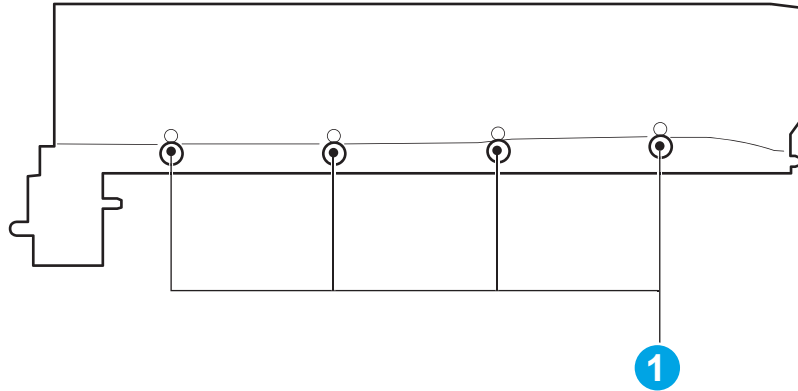
**Figure 2-25** Booklet maker with hole punch (BMHP) cross section



**Table 2-26** Booklet maker with hole punch (BMHP) cross section

Item	Description	Item	Description
1	Hole punch	4	Registration roller
2	Latch assembly	5	Hole punch chip collection box
3	Registration shutter	6	Hole punch assembly

**Figure 2-26** Intermediate paper transport unit (IPTU) cross section



**Table 2-27** Intermediate paper transport unit (IPTU) cross section

Item	Description
1	Feed roller

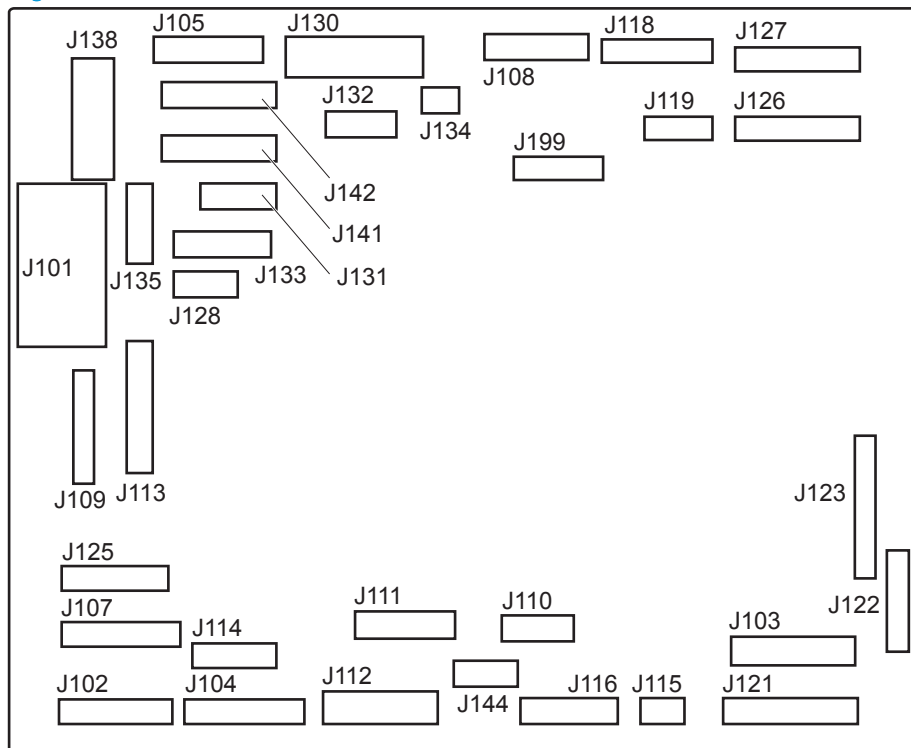


## Location of connectors

### DC controller PCA connectors

 **NOTE:** Connector J199 is not used.

**Figure 2-27** DC controller PCA connectors



**Table 2-28** DC controller PCA connectors

Item	Description	Item	Description
J101	Low-voltage power supply (LVPS)	J121	ITB seal detection LED
			Media-width sensor 1
			Media-width sensor 2
			Fuse for T2 roller assembly detection
			Loop sensor 1
			Loop sensor 2
			Fuser home position sensor
			Right door open detection switch
J102	Low-voltage power supply (LVPS)	J122	High-voltage power supply (HVPS) B

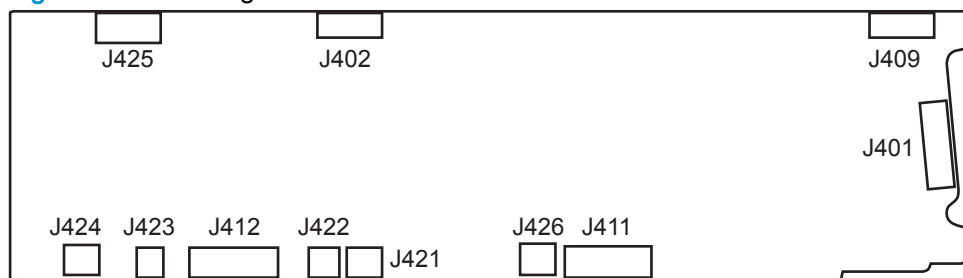
**Table 2-28 DC controller PCA connectors (continued)**

Item	Description	Item	Description
J103	VOC fan Cartridge front area cooling fan Delivery fan Interlock switch 1 Interlock switch 2 Main switch	J123	Controller PCA
J104	High-voltage power supply (HVPS) A	J125	Fuser edge area cooling fan (front/rear) Fuser shutter home position sensor (front/rear) T2 assembly cover open detection sensor
J105	ITB motor Fuser motor	J126	Laser BD PCA (Y/M)
J210	High-voltage power supply (HVPS)	J127	Laser BD PCA (C/K)
J107	Fuser PCA	J128	Duplex switchback assembly
J108	Face-down bin media-full sensor Media-width sensor 3 Fuser cover open detection sensor Fuser delivery sensor 1 Fuser delivery sensor 2 Duplex feed sensor Duplex reverse assembly	J130	Scanner thermistor 1 Scanner thermistor 2 Toner cartridge presence sensor (Y/M/C/K) Scanner motor (Y/M) Scanner motor (C/K) Intermediate paper transportation unit (IPTU)
J109	Cartridge driver PCA	J131	Toner-replenishment solenoid (Y/M) Developer home position sensor (Y/M) Toner-replenishment motor rotation sensor (Y/M)
J110	Cassette pickup solenoid Tray 2 media-feed sensor Tray 2 media-presence sensor Tray 2 media-surface sensor	J132	Fuser fan Cartridge fan (Y/M) Cartridge fan (C/K)
J111	Multipurpose tray (Tray 1) media-feed sensor Pickup motor Registration motor	J133	Duplex switchback assembly

**Table 2-28 DC controller PCA connectors (continued)**

Item	Description	Item	Description
J112	Tray 2 media-width switch Tray 2 media trailing edge switch Tray 2 media-level sensor Cassette lifter motor	J134	Laser scanner fan
J113	Pre-exposure LED (Y/M/C/K) Drum home position sensor (Y/M/C/K)	J135	Toner-replenishment solenoid (C/K) Developer home position sensor (C/K) Toner-replenishment motor rotation sensor (C/K)
J114	Input accessory	J138	Drum motor (Y/M/C/K)
J115	Environment sensor	J141	Cartridge driver PCA
J116	ITB	J142	Cartridge driver PCA
J118	Color-plane registration sensor assembly (center/rear)	J144	Multipurpose tray (Tray 1) media-presence sensor Multipurpose tray (Tray 1) last-media sensor Multipurpose tray (Tray 1) pickup solenoid
J119	Front door open detection switch Color-plane registration sensor assembly (front)	J199	Not used

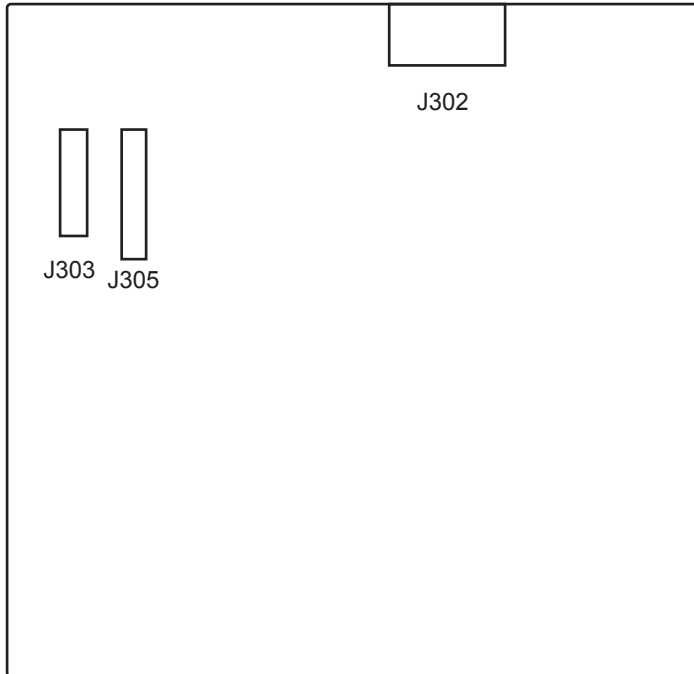
**Figure 2-28 Cartridge driver PCA connectors**



**Table 2-29 Cartridge driver PCA connectors**

Item	Description	Item	Description
J401	DC controller PCA	J422	Developer alienation motor (C/K)
J402	Cartridge I/F PCA (Y/M)	J423	ITB home position sensor
J403	Cartridge I/F PCA (C/K)	J424	Fuser shutter motor
J411	DC controller PCA	J425	Developer alienation motor (Y/M) Toner-replenishment motor (Y/M)
J412	DC controller PCA	J246	Toner-replenishment motor (C/K)
J421	T1 roller alienation motor		

**Figure 2-29** Fuser PCA connectors

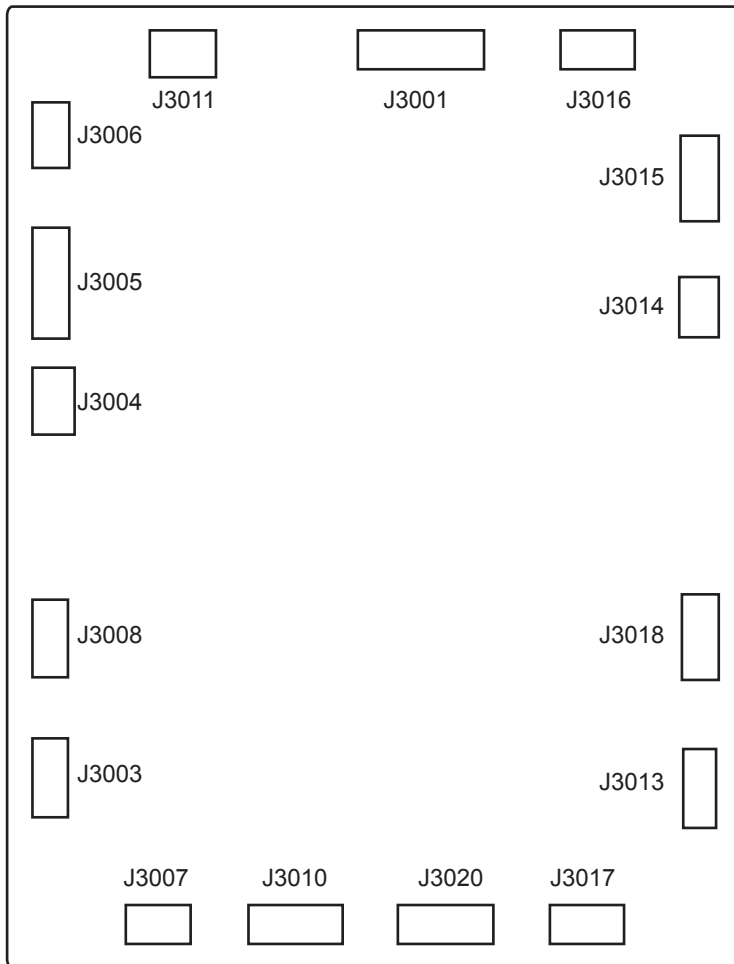


**Table 2-30** Fuser PCA connectors

Item	Description
J302	Fuser
J303	Fuser
J305	DC controller PCA

## High-capacity input (HCI) feeder controller PCA connectors

**Figure 2-30** High-capacity input (HCI) feeder controller PCA connectors



**Table 2-31** High-capacity input (HCI) feeder controller PCA connectors

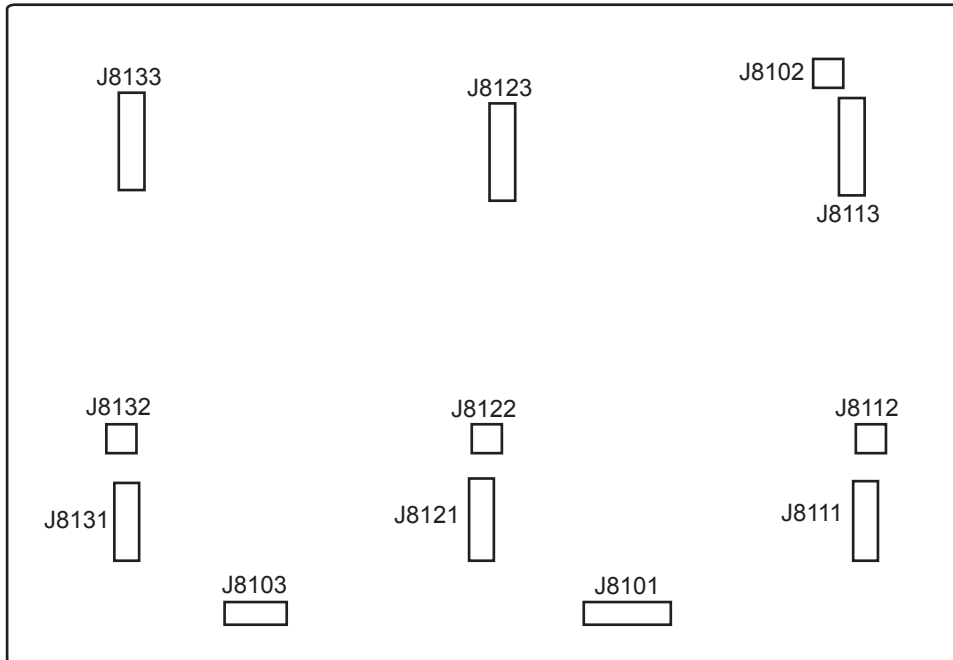
Item	Description	Item	Description
J3001	DC controller PCA	J3011	Not used
J3003	Right cassette lifter motor	J3013	Left cassette lifter motor
J3004	Right cassette pickup motor	J3014	Left cassette pickup motor
J3005	Right cassette lift-up media-surface sensor	J3015	Left cassette lift-up media-surface sensor
	Right cassette pickup coordinate media surface sensor		Left cassette pickup coordinate media surface sensor
	Right cassette media-presence sensor		Left cassette media-presence sensor
	Right cassette media feed sensor		Left cassette pickup solenoid
	Right cassette pickup solenoid		
J3006	Media feed sensor	J3016	Left cassette media feed sensor
	Right door open detection switch		Side feed guide open detection sensor

**Table 2-31** High-capacity input (HCI) feeder controller PCA connectors (continued)

Item	Description	Item	Description
J3007	Right cassette media-size sensor	J3017	Left cassette media-size sensor
	Right cassette open detection sensor		Left cassette open detection sensor
J3008	Right cassette media-level sensor	J3018	Left cassette media-level sensor
J3010	Not used	J3020	Not used

## 1x500-sheet and 3x500-sheet paper feeder controller PCA connectors

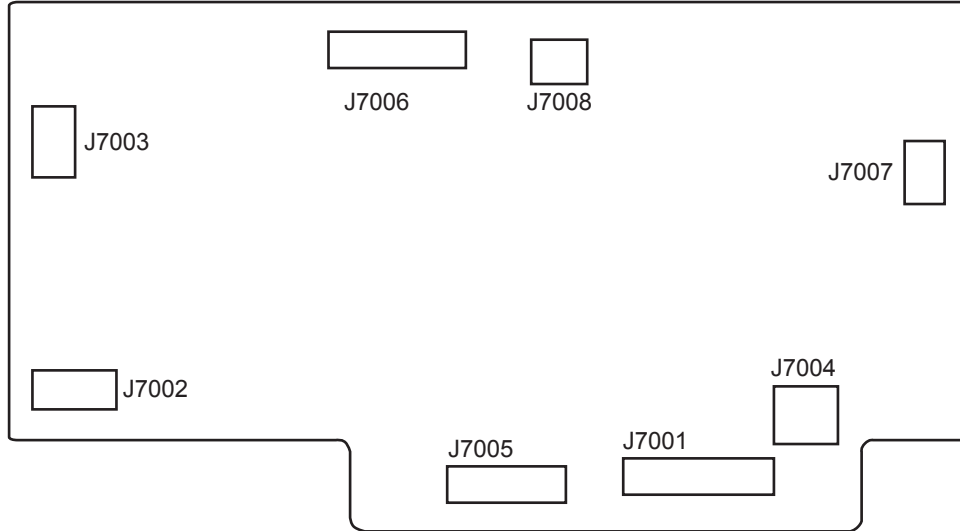
**Figure 2-31** 1x500-sheet and 3x500-sheet paper feeder controller PCA connectors



**Table 2-32** 1x500-sheet and 3x500-sheet paper feeder controller PCA connectors

Item	Description	Item	Description
J8101	DC controller PCA	J8121	Tray 4 media-level sensor Tray 4 media-width switch Tray 4 media trailing edge switch
J8102	Right door open detection switch	J8122	Cassette 4 lifter motor
J8103	Not used	J8123	Tray 4 media-feed sensor Tray 4 media-presence sensor Tray 4 media-surface sensor Cassette 4 pickup solenoid Cassette 4 pickup motor
J8111	Tray 3 media-level sensor Tray 3 media-width switch Tray 3 media trailing edge switch	J8131	Tray 5 media-level sensor Tray 5 media-width switch Tray 3 media trailing edge switch
J8112	Cassette 3 lifter motor	J8132	Cassette 5 lifter motor
J8113	Tray 3 media-feed sensor Tray 3 media-presence sensor Tray 3 media-surface sensor Cassette 3 pickup solenoid Cassette 3 pickup motor	J8133	Tray 5 media-feed sensor Tray 5 media-presence sensor Tray 5 media-surface sensor Cassette 5 pickup solenoid Cassette 5 pickup motor

**Figure 2-32** Intermediate paper transport unit (ITPU) driver PCA connectors



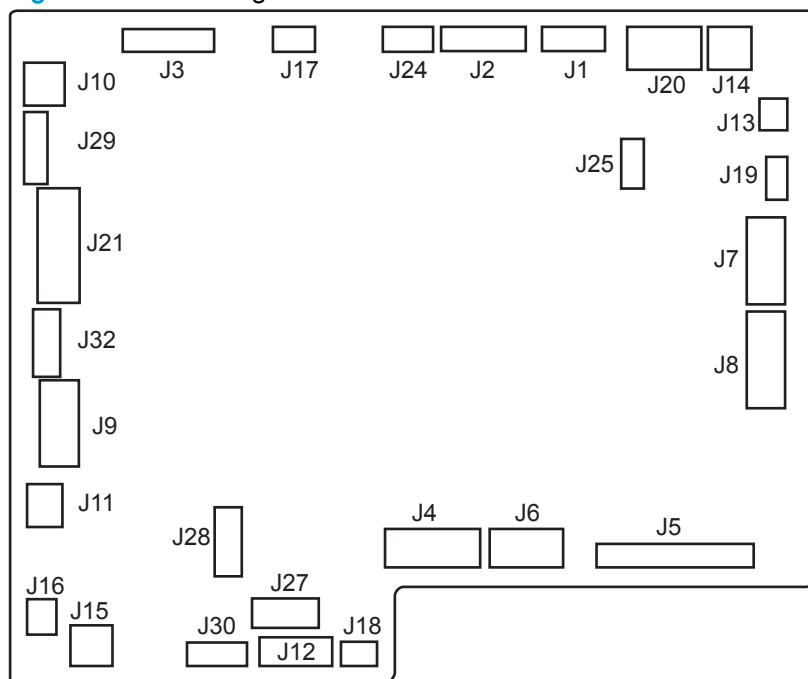
**Table 2-33** Intermediate paper transport unit (ITPU) driver PCA connectors

Item	Description	Item	Description
J7001	DC controller PCA	J7005	Output accessory
J7002	Not used	J7006	Feed sensor 3 Feed sensor 2 Feed sensor 1 Hole punch home position sensor
J7003	Feed motor 1	J7007	Feed motor 2
J7004	Output accessory	J7008	Feed area fan



## Finishing accessories PCA connectors

**Figure 2-33** Finishing accessories main controller PCA connectors



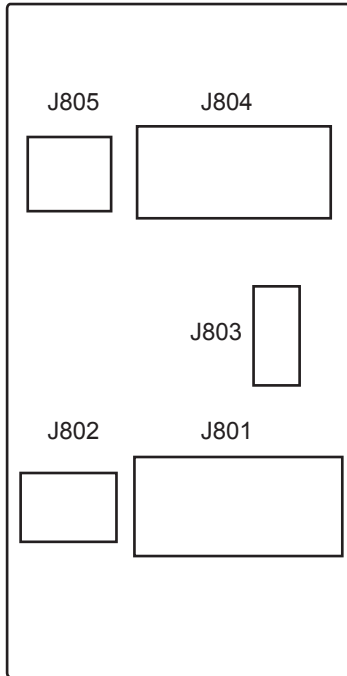
**Table 2-34** Finishing accessories main controller PCA connectors

Item	Description	Item	Description
J1	Buffer trailing edge retainer solenoid Output bin 1 delivery roller alienation solenoid Buffer roller alienation solenoid Inlet roller alienation solenoid	J15	Saddle controller
J2	Swing guide home position sensor Paper path sensor Front door open-close detection sensor Swing height sensor	J16	Common media feed PCA
J3	Top door open-close detection sensor Inlet sensor	J17	Inlet motor
J4	Trailing edge assist motor Rear alignment plate motor Front alignment plate motor Trailing edge assist home position sensor Rear alignment plate home position sensor Front alignment plate home position sensor Tray paper sensor	J18	Output bin 2 media-surface sensor 2

**Table 2-34** Finishing accessories main controller PCA connectors (continued)

Item	Description	Item	Description
J5	Stapler PCA 1	J19	Stack ejection motor
J6	Output bin 2 media-surface sensor 1 Output bin 1 media-surface sensor Shutter home position sensor Stapler shift home position sensor Shutter open-close clutch	J20	Staple safety switch Swing guide open detection switch
J7	Output bin 1 shift motor Output bin 1 shift area sensor PCA Output bin 1 media-presence sensor	J21	Not used
J8	Output bin 2 shift motor Output bin 2 shift area sensor PCA Output bin 2 media-presence sensor	J24	Swing motor
J9	Saddle inlet motor Punch controller	J25	Not used
J10	Front door open detection switch	J27	Not used
J11	Intermediate feed unit	J28	Not used
J12	Saddle controller	J29	Not used
J13	Lower stack ejection roller clutch	J30	Saddle controller
J14	Output tray 1 close detection switch	J32	Not used

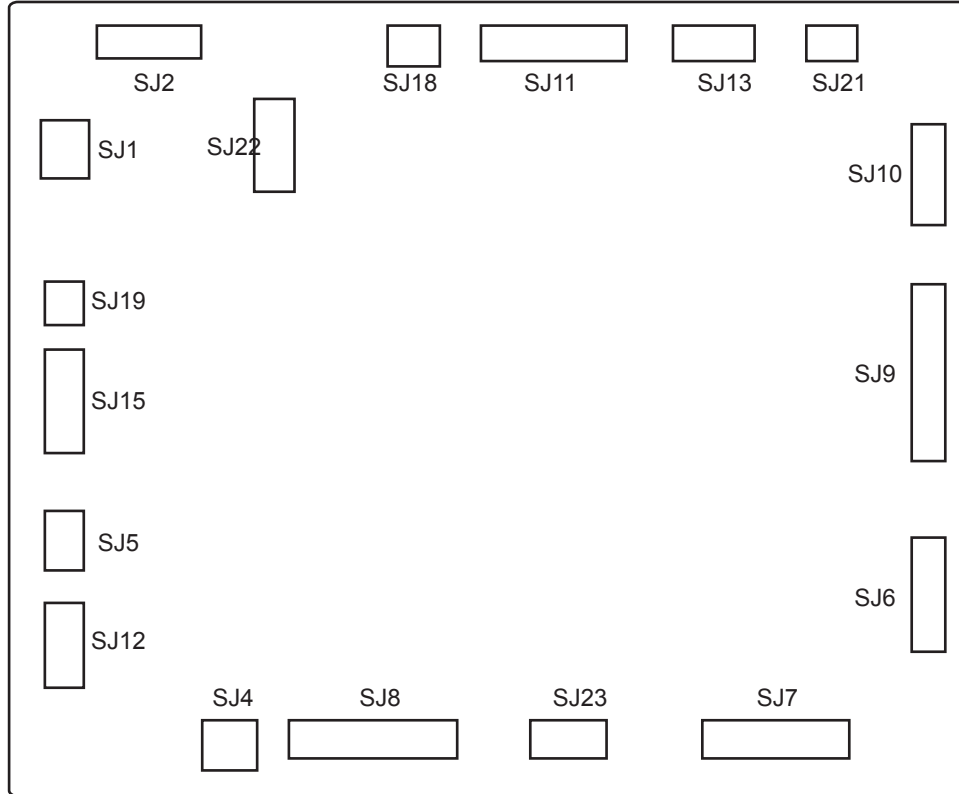
**Figure 2-34** Common driver PCA connectors



**Table 2-35** Common driver PCA connectors

Item	Description	Item	Description
J801	Stacker controller PCA	J804	Hole punch controller PCA
J802	Stacker controller PCA	J805	Hole punch controller PCA Side registration home position sensor
J803	Saddle inlet motor		

**Figure 2-35** Saddle sticher controller PCA connectors (BM and BMHP)



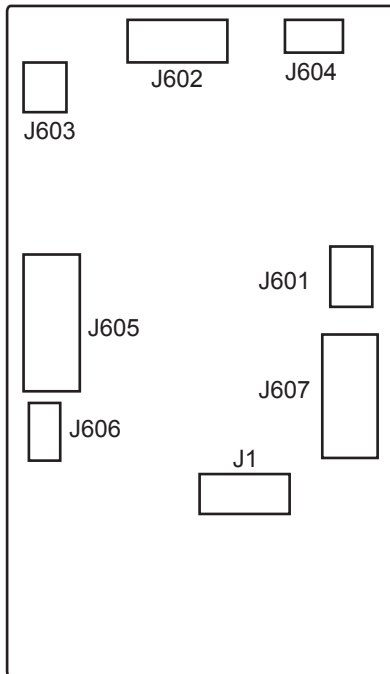
**Table 2-36** Saddle sticher controller PCA connectors (BM and BMHP)

Item	Description	Item	Description
SJ1	Stacker controller PCA	SJ11	Paper pushing plate motor clock sensor Delivery cover open detection sensor Paper folding motor clock sensor Alignment plate home position sensor
SJ2	Stacker controller PCA	SJ12	Guide motor
SJ4	Delivery door open detection switch	SJ13	Stitcher assembly storage sensor Vertical paper path feed sensor
SJ5	Feed motor	SJ15	Flapper solenoid 1 Flapper solenoid 2 Feed plate alienation sensor
SJ6	Paper positioning plate media-presence sensor Paper positioning plate home position sensor Saddle output bin media-presence sensor	SJ18	Paper folding home position sensor
SJ7	Paper positioning plate motor Alignment motor	SJ19	Saddle inlet solenoid
SJ8	Stitcher assembly (front/rear)	SJ21	Saddle inlet sensor

**Table 2-36 Saddle stitcher controller PCA connectors (BM and BMHP) (continued)**

Item	Description	Item	Description
SJ9	Delivery sensor Crescent roller phase sensor Guide home position sensor Paper pushing plate home position sensor Paper pushing plate leading edge position sensor	SJ22	Stacker controller PCA
SJ10	Paper sensor PCA	SJ23	Paper folding motor Paper pushing plate motor

**Figure 2-36 Hole punch controller PCA connectors (SSHP and BMHP)**



**Table 2-37 Hole punch controller PCA connectors (SSHP and BMHP)**

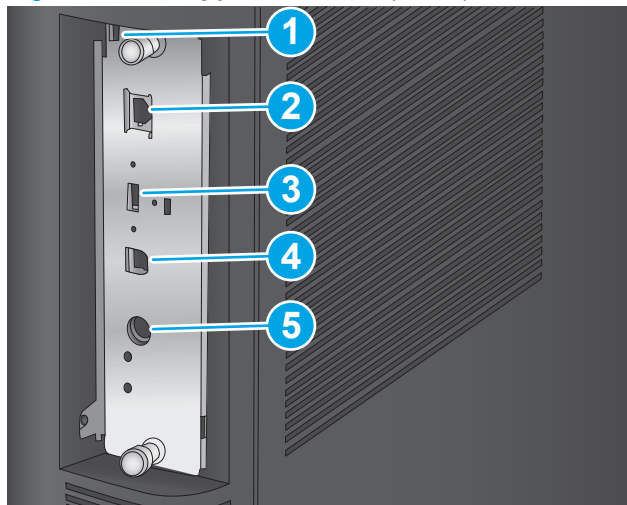
Item	Description	Item	Description
J1	Stacker controller PCA	J604	Hole punch feed motor
J601	Common driver PCA	J605	Side registration motor Side registration home position sensor Hole punch motor clock sensor Hole punch home position sensor LED PCA Photosensor PCA

**Table 2-37** Hole punch controller PCA connectors (SSHP and BMHP) (continued)

Item	Description	Item	Description
J602	Top door open detection switch Front door open detection switch	J606	Hole punch chip box full sensor PCA
J603	Hole punch motor	J607	Common driver PCA

## Plug/jack locations

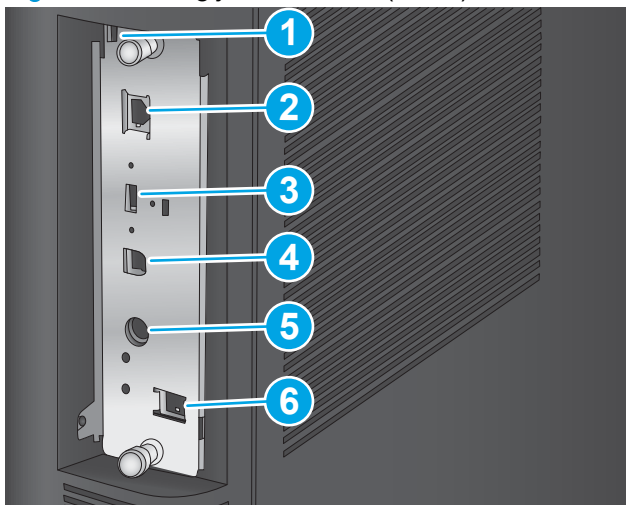
**Figure 2-37** Plug/jack locations (M855)



**Table 2-38** Plug/jack locations (M855)

Item	Description
1	Slot for a cable-type security lock
2	Local area network (LAN) Ethernet (RJ-45) network port
3	USB port for connecting external USB devices (this port might be covered)
4	Hi-Speed USB 2.0 printing port
	<b>NOTE:</b> For Easy-access USB printing, use the USB port near the control panel.
5	Foreign interface harness (for connecting third-party devices)

**Figure 2-38** Plug/jack locations (M880)



**Table 2-39** Plug/jack locations (M880)

Item	Description
1	Slot for connecting a cable-type security lock
2	Local area network (LAN) Ethernet (RJ-45) network port
3	USB port for connecting external USB devices (this port might be covered)
4	Hi-Speed USB 2.0 printing port
	<b>NOTE:</b> For Easy-access USB printing, use the USB port near the control panel.
5	Foreign interface harness (for connecting third-party devices)
6	Fax port (fax models only)

## Locations of major components

Use the diagrams to locate components.

### Base product

Figure 2-39 M880 product integrated scanner assembly (ISA)

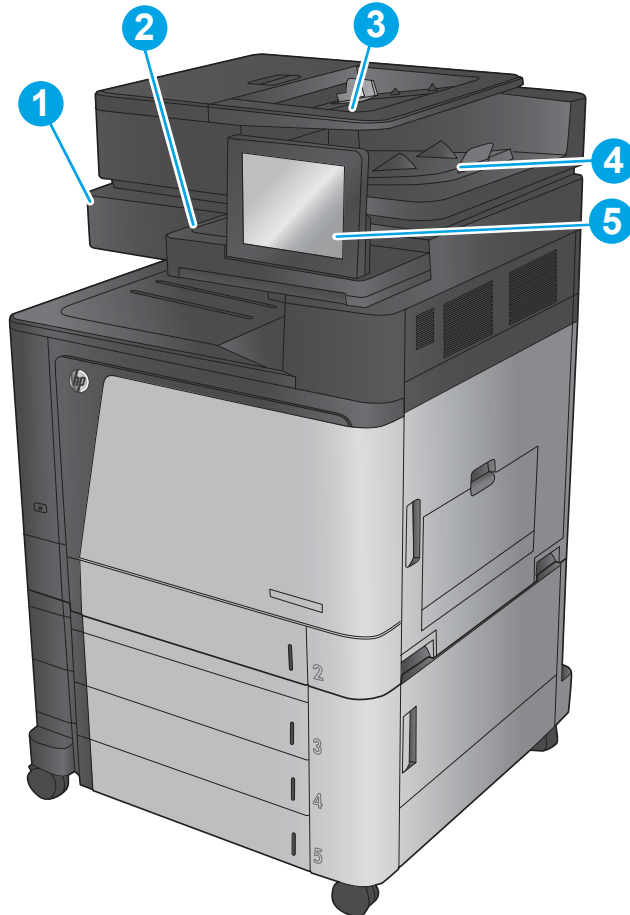


Table 2-40 M880 product integrated scanner assembly (ISA)

Item	Description	Item	Description
1	Scanner assembly	4	ADF output bin
2	Hardware Integration Pocket (HIP) cover	5	Control-panel assembly
3	Automatic document feeder (ADF)		



Figure 2-40 Base product covers M855

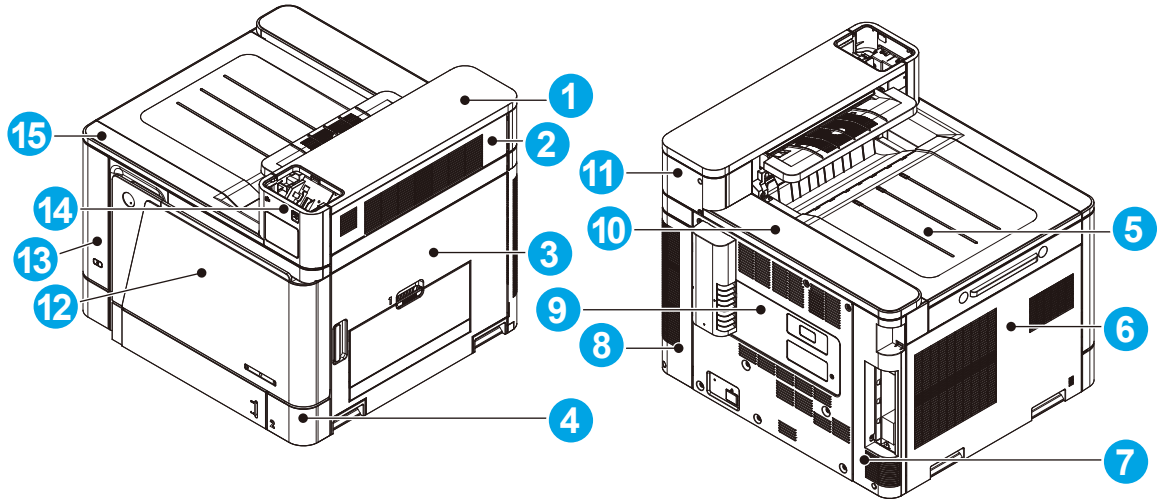


Table 2-41 Base product covers M855

Item	Description	Item	Description
1	Right upper cover	9	Rear cover
2	Switchback cover	10	Rear top cover
3	Right door assembly	11	Right upper rear cover
4	Lower right cover	12	Front door assembly
5	Face-down bin	13	Left front cover
6	Left cover	14	Right upper front cover
7	Left rear cover	15	Front top cover
8	Right rear cover		

Figure 2-41 Base product covers M880

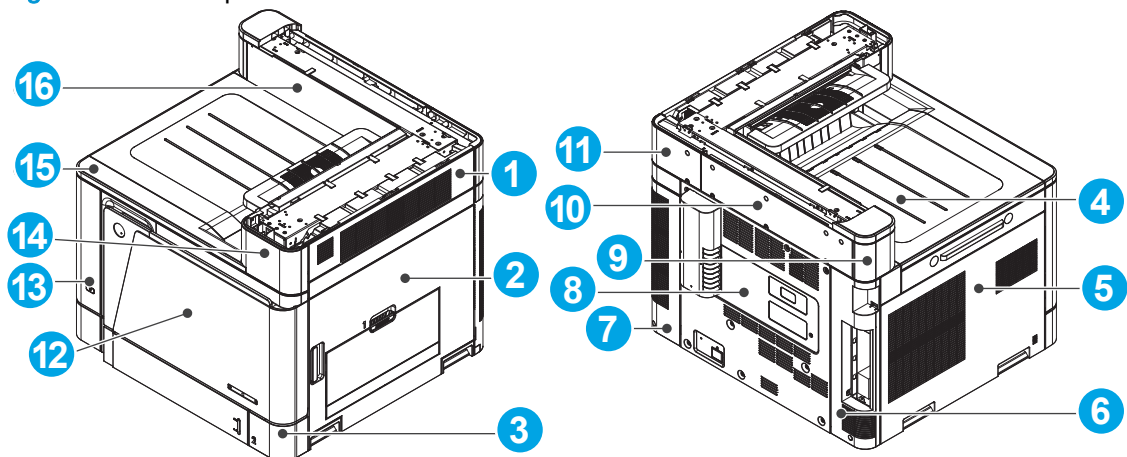


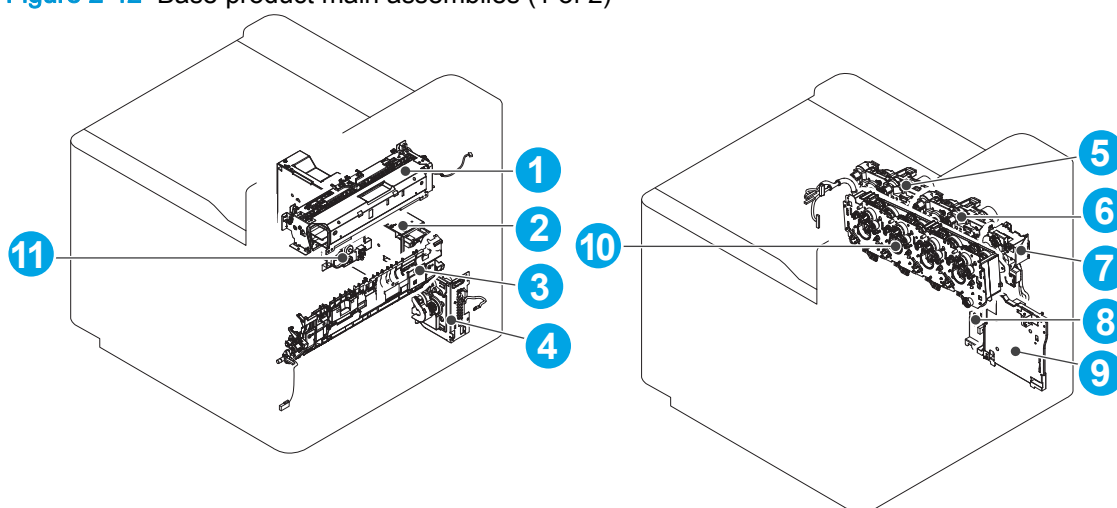
Table 2-42 Base product covers M880

Item	Description	Item	Description
1	Switchback cover	9	Left upper rear cover

**Table 2-42 Base product covers M880 (continued)**

Item	Description	Item	Description
2	Right door assembly	10	Rear upper rear cover
3	Lower right cover	11	Right upper rear cover
4	Face-down bin	12	Front door assembly
5	Left cover	13	Left front cover
6	Left rear cover	14	Right upper front cover
7	Right rear cover	15	Front top cover
8	Rear cover	16	Rear upper front cover

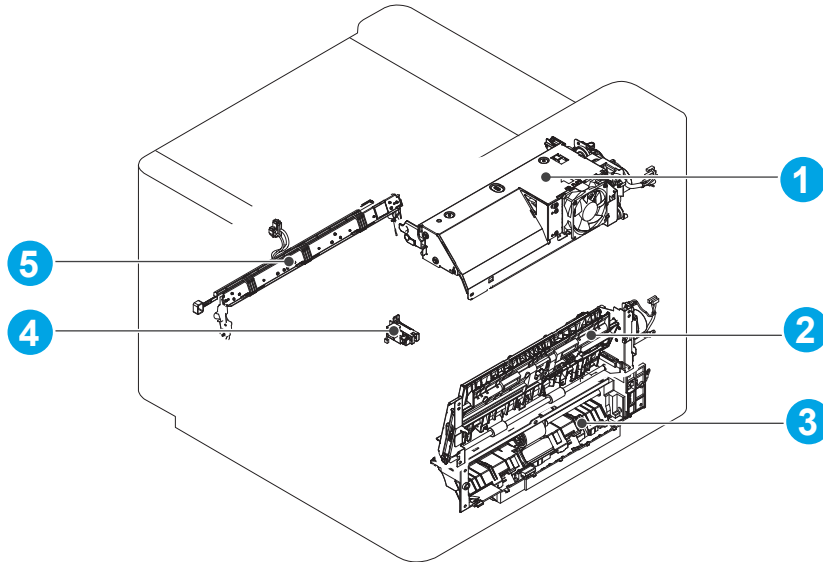
**Figure 2-42 Base product main assemblies (1 of 2)**



**Table 2-43 Base product main assemblies (1 of 2)**

Item	Description	Item	Description
1	Face-down delivery assembly	7	Fuser drive assembly
2	Low-voltage power supply (LVPS)	8	ITB alienation drive assembly
3	Secondary transfer (T2) assembly	9	Fuser PCA
4	Multipurpose tray (Tray 1) drive assembly	10	Main drive assembly
5	Toner cartridge drive assembly (C/K)	11	Shutter gear holder assembly
6	Toner cartridge drive assembly (Y/M)		

**Figure 2-43** Base product main assemblies (2 of 2)

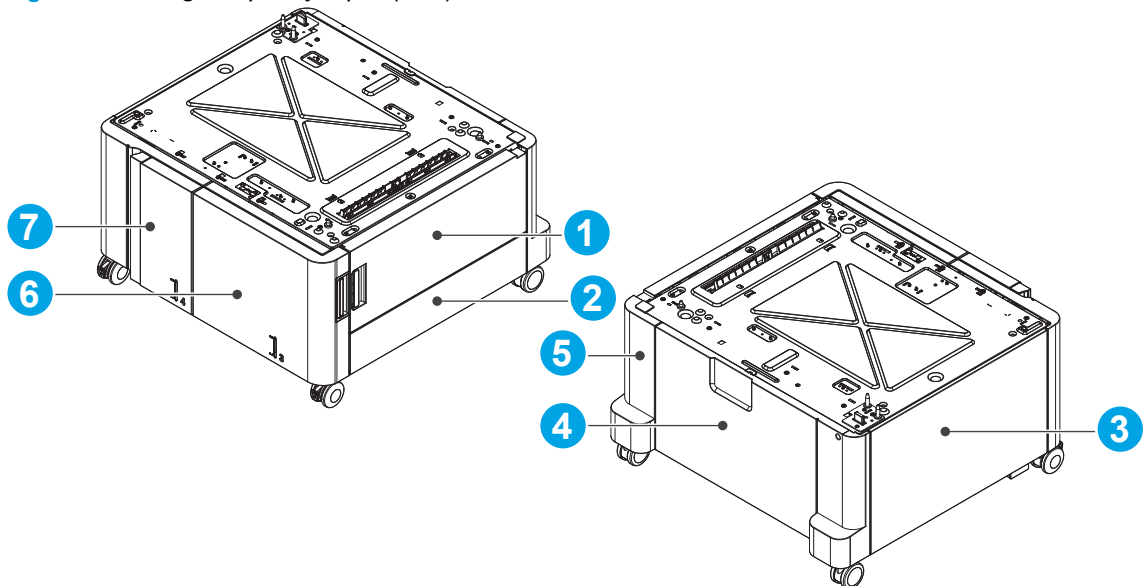


**Table 2-44** Base product main assemblies (2 of 2)

Item	Description	Item	Description
1	Duplex reverse assembly	4	Fuser home position sensor assembly
2	Duplexing feed assembly	5	Color-plane registration sensor assembly
3	Multipurpose tray (Tray 1) pickup assembly		

### High-capacity input (HCI) feeder

**Figure 2-44** High-capacity input (HCI) feeder covers



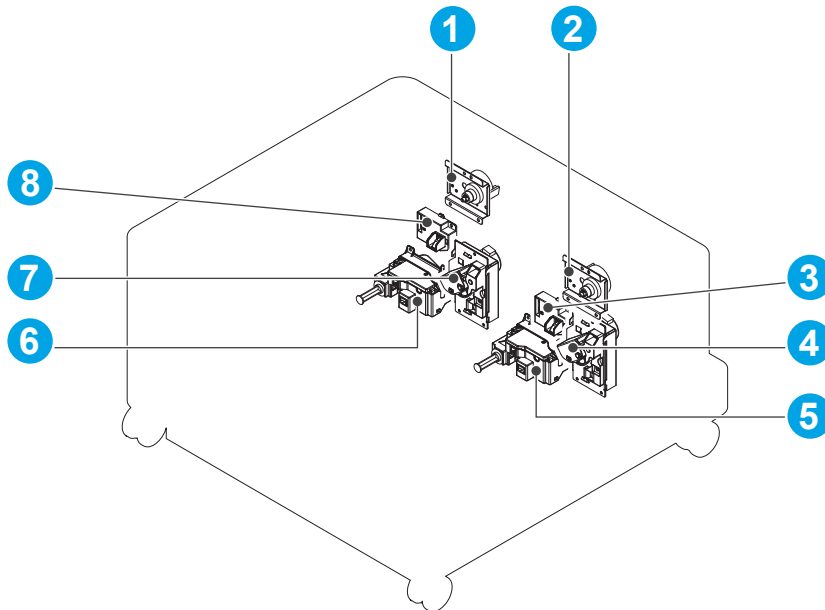
**Table 2-45** High-capacity input (HCI) feeder covers

Item	Description	Item	Description
1	Right door assembly	5	Right rear cover

**Table 2-45** High-capacity input (HCI) feeder covers (continued)

Item	Description	Item	Description
2	Right lower cover	6	Right cassette
3	Left cover	7	Left cassette
4	Rear cover		

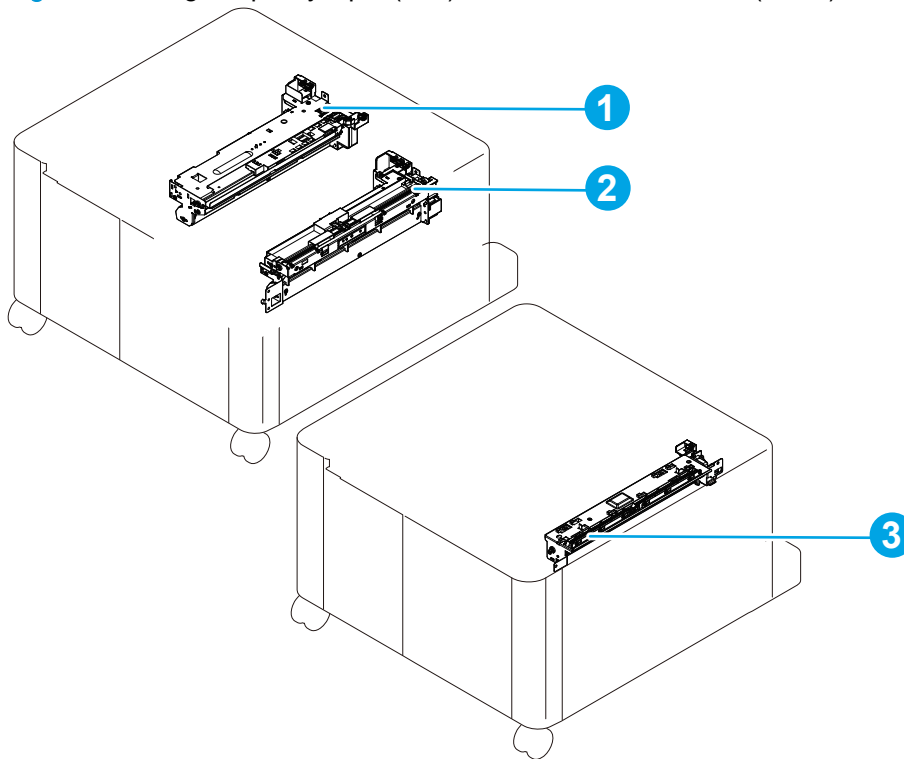
**Figure 2-45** High-capacity input (HCI) feeder main assemblies (1 of 3)



**Table 2-46** High-capacity input (HCI) feeder main assemblies (1 of 3)

Item	Description	Item	Description
1	Left cassette pickup drive assembly	5	Right cassette automatic close assembly
2	Right cassette pickup drive assembly	6	Left cassette automatic close assembly
3	Right cassette media-level sensor assembly	7	Left cassette lifter drive assembly
4	Right cassette lifter drive assembly	8	Left cassette media-level sensor assembly

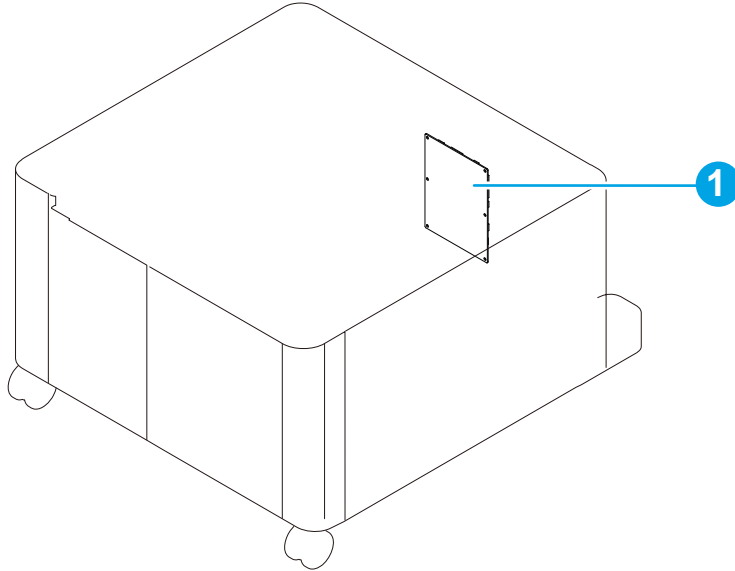
**Figure 2-46** High-capacity input (HCI) feeder main assemblies (2 of 3)



**Table 2-47** High-capacity input (HCI) feeder main assemblies (2 of 3)

Item	Description	Item	Description
1	Left tray pickup assembly	3	Merge assembly
2	Right tray pickup assembly		

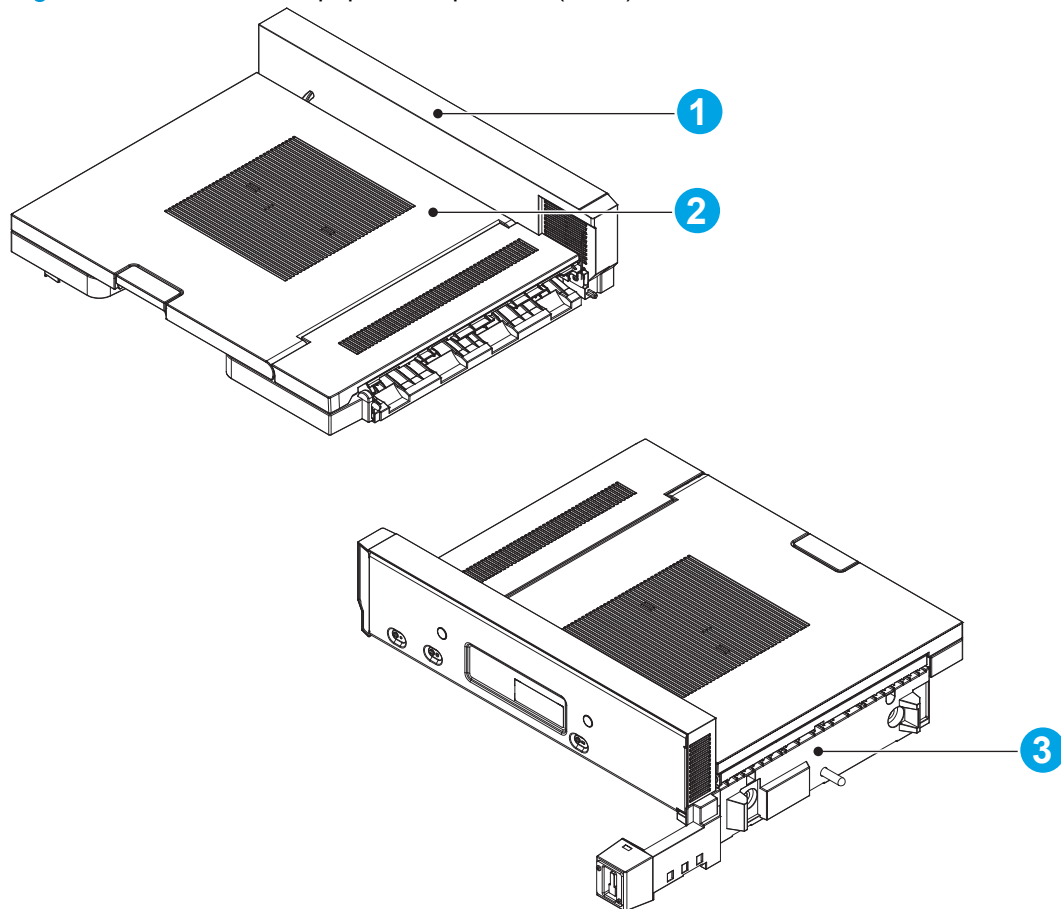
**Figure 2-47** High-capacity input (HCI) feeder main assemblies (3 of 3)



**Table 2-48** High-capacity input (HCI) feeder main assemblies (3 of 3)

Item	Description
1	HCI controller PCA

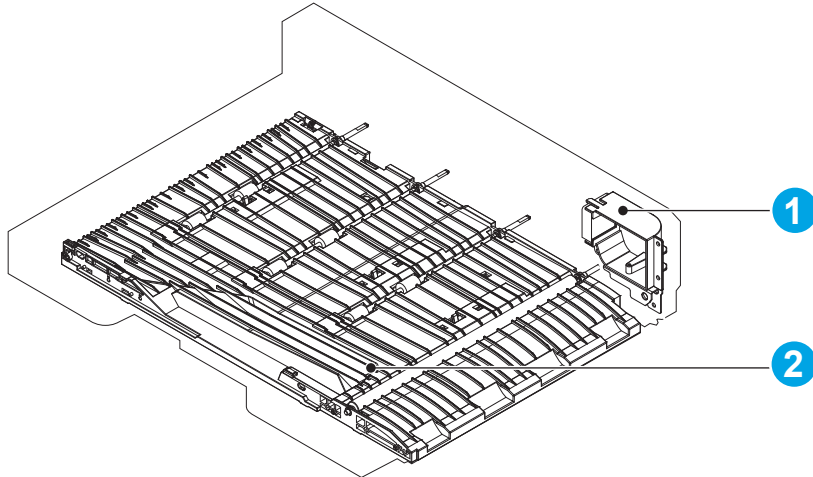
**Figure 2-48** Intermediate paper transport unit (IPTU) covers



**Table 2-49** Intermediate paper transport unit (IPTU) covers

Item	Description
1	Side panel assembly
2	Upper guide assembly
3	Finisher lock assembly

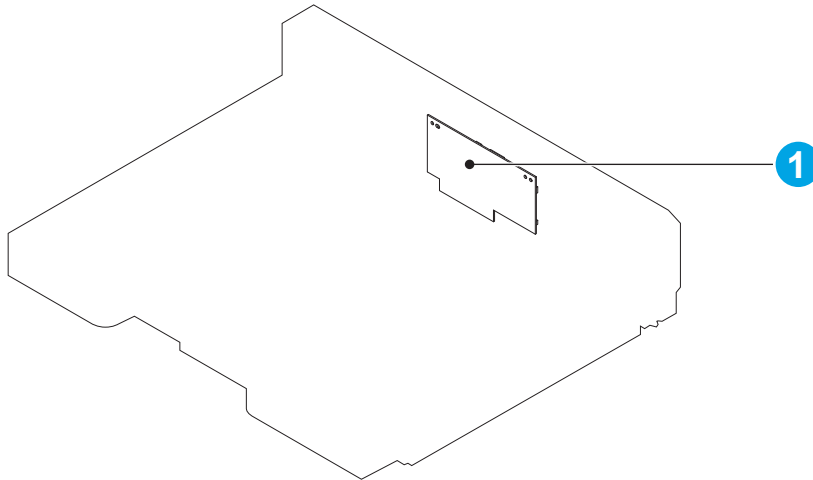
**Figure 2-49** Intermediate paper transport unit (IPTU) main assemblies



**Table 2-50** Intermediate paper transport unit (IPTU) main assemblies

Item	Description
1	IPTU fan assembly
2	Lower guide assembly

**Figure 2-50** Intermediate paper transport unit (IPTU) PCA



**Table 2-51** Intermediate paper transport unit (IPTU) PCA

Item	Description
1	IPTU driver PCA



## Finishing accessories

Figure 2-51 Stapler/stacker (SS) covers

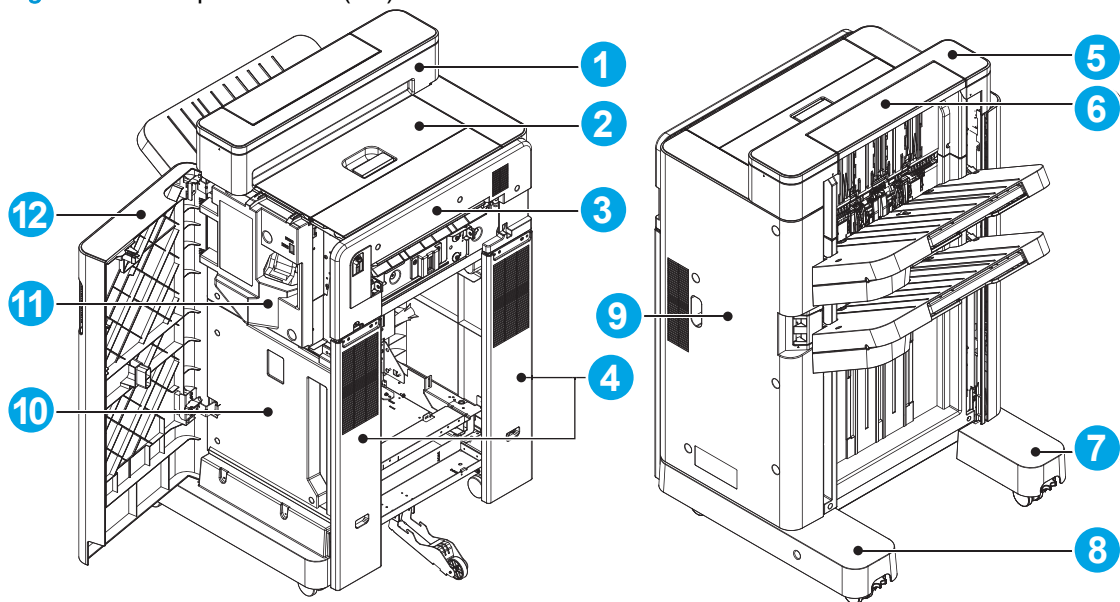


Table 2-52 Stapler/stacker (SS) covers

Item	Description	Item	Description
1	Step lower cover	7	Front foot cover
2	Top door assembly	8	Rear foot cover
3	Latch assembly	9	Rear cover
4	Latch lower cover	10	Inner lower cover
5	Step top cover	11	Inner upper cover assembly
6	Open-close step cover	12	Front door assembly

Figure 2-52 Stapler/stacker with hole punch (SSHP) covers

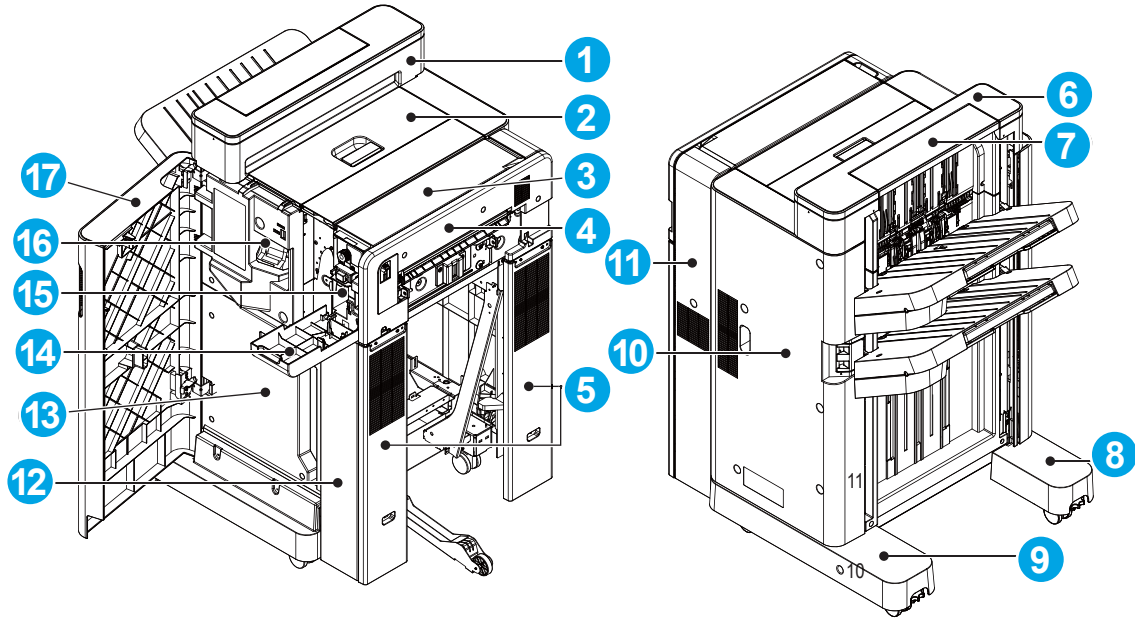


Table 2-53 Stapler/stacker with hole punch (SSHP) covers

Item	Description	Item	Description
1	Step lower cover	10	Rear cover
2	Top door assembly	11	Punch rear cover
3	Punch top cover	12	Punch lower cover
4	Latch assembly	13	Inner lower cover
5	Latch lower cover	14	Punch front cover
6	Step top cover	15	Punch inner cover assembly
7	Open-close step cover	16	Inner upper cover assembly
8	Front foot cover	17	Front door assembly
9	Rear foot cover		

Figure 2-53 Booklet maker (BM) covers

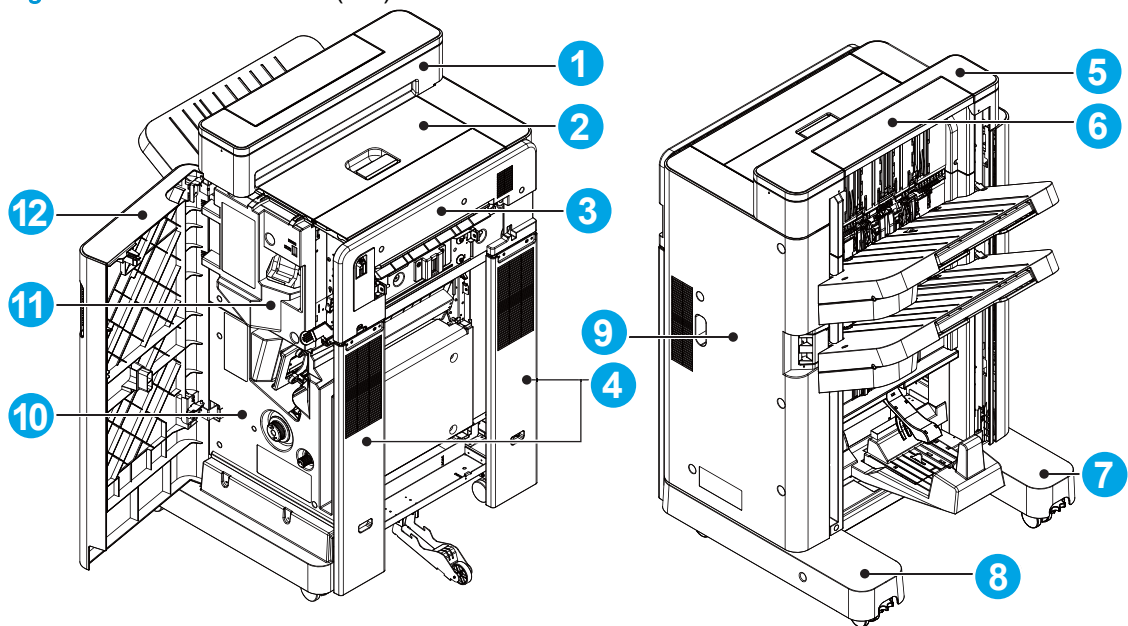


Table 2-54 Booklet maker (BM) covers

Item	Description	Item	Description
1	Step lower cover	7	Front foot cover
2	Top door assembly	8	Rear foot cover
3	Latch assembly	9	Rear cover
4	Latch lower cover	10	Inner lower cover assembly
5	Step top cover	11	Inner upper cover assembly
6	Open-close step cover	12	Front door assembly

Figure 2-54 Booklet maker with hole punch (BMHP) covers

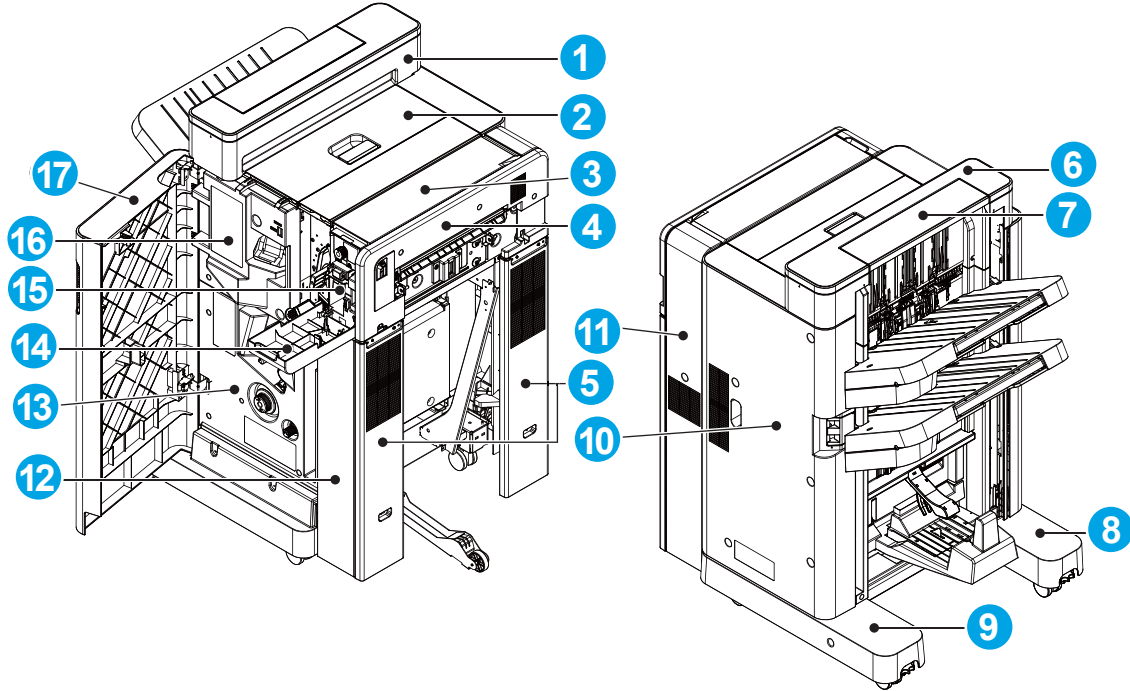
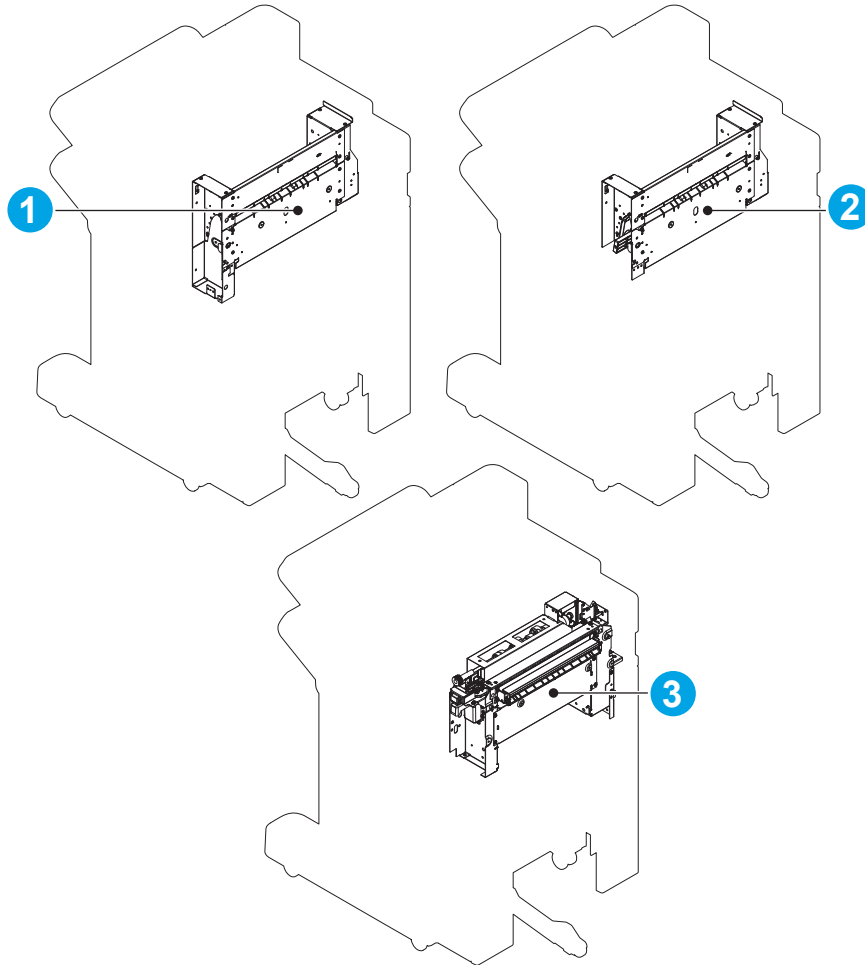


Table 2-55 Booklet maker with hole punch (BMHP) covers

Item	Description	Item	Description
1	Step lower cover	10	Rear cover
2	Top door assembly	11	Punch rear cover
3	Punch top cover	12	Punch lower cover
4	Latch assembly	13	Inner lower cover assembly
5	Latch lower cover	14	Punch front cover
6	Step top cover	15	Punch inner cover assembly
7	Open-close step cover	16	Inner upper cover assembly
8	Front foot cover	17	Front door assembly
9	Rear foot cover		

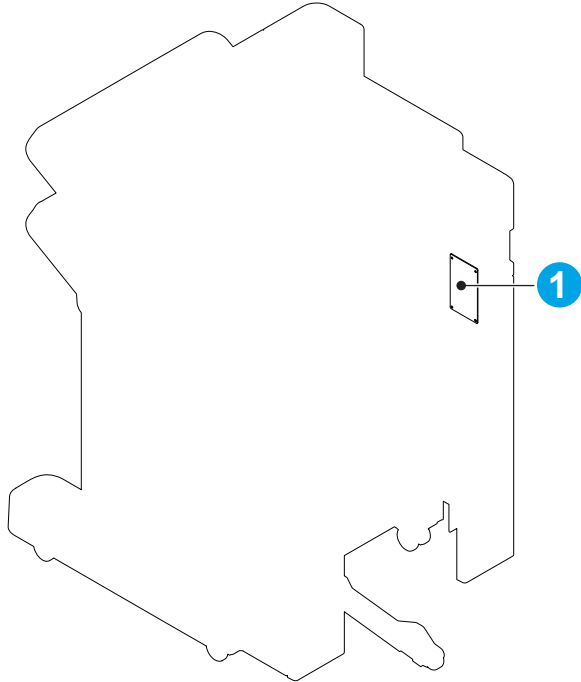
**Figure 2-55** Finishing accessories main assemblies



**Table 2-56** Finishing accessories main assemblies

Item	Description
1	Pass through assembly <b>NOTE:</b> For the SS and SSHP accessories.
2	Saddle feed assembly <b>NOTE:</b> For the BM and BMHP accessories.
3	Hole punch assembly <b>NOTE:</b> For the SSHP and BMHP accessories.

**Figure 2-56** Finishing accessories PCA



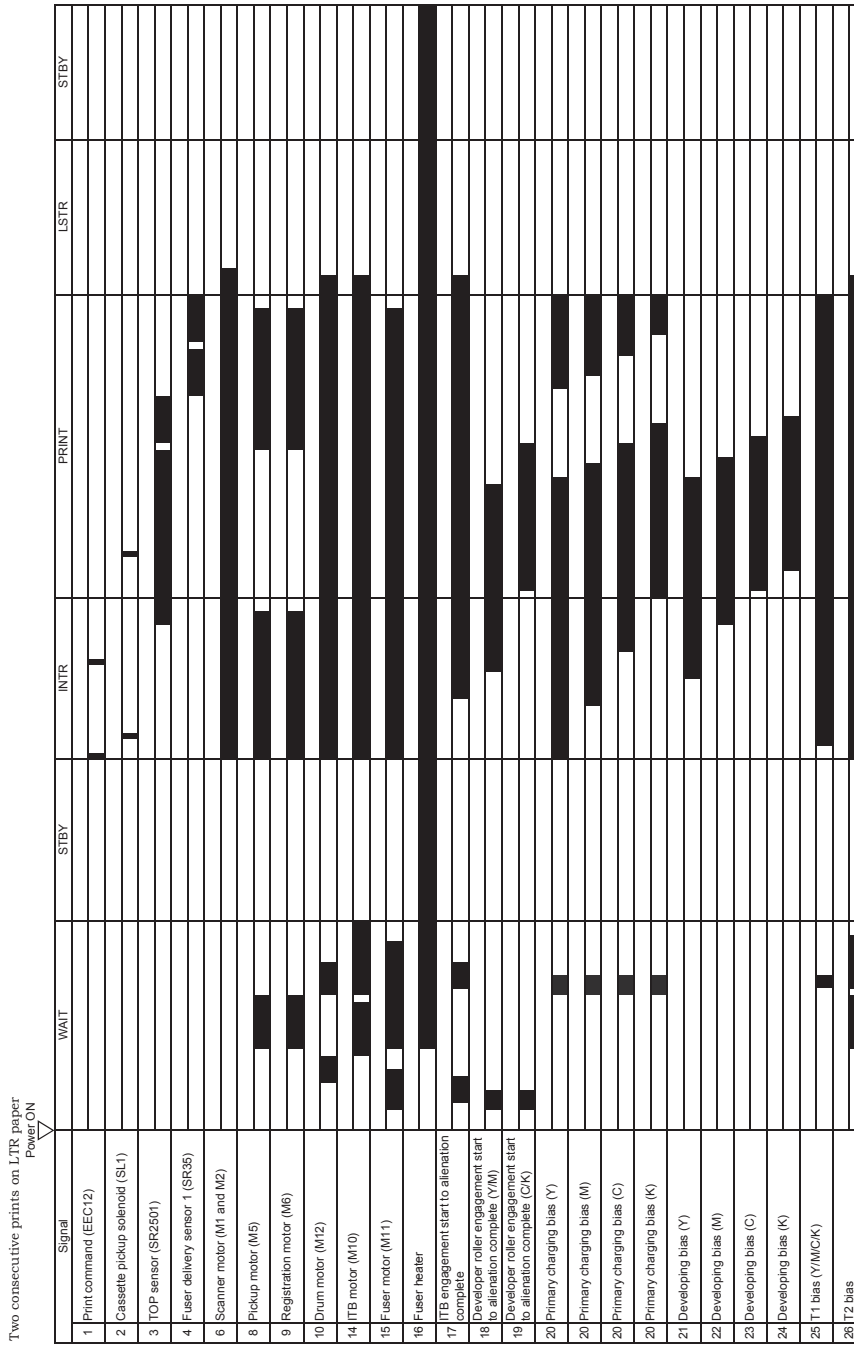
**Table 2-57** Finishing accessories PCA

Item	Description
1	Hole punch controller PCA

**NOTE:** For the SSHP and BMHP accessories.

# General timing chart

Figure 2-57 General timing chart (1 of 2)







# Circuit diagrams

Figure 2-59 General circuit diagram, product base M855 (1 of 4)

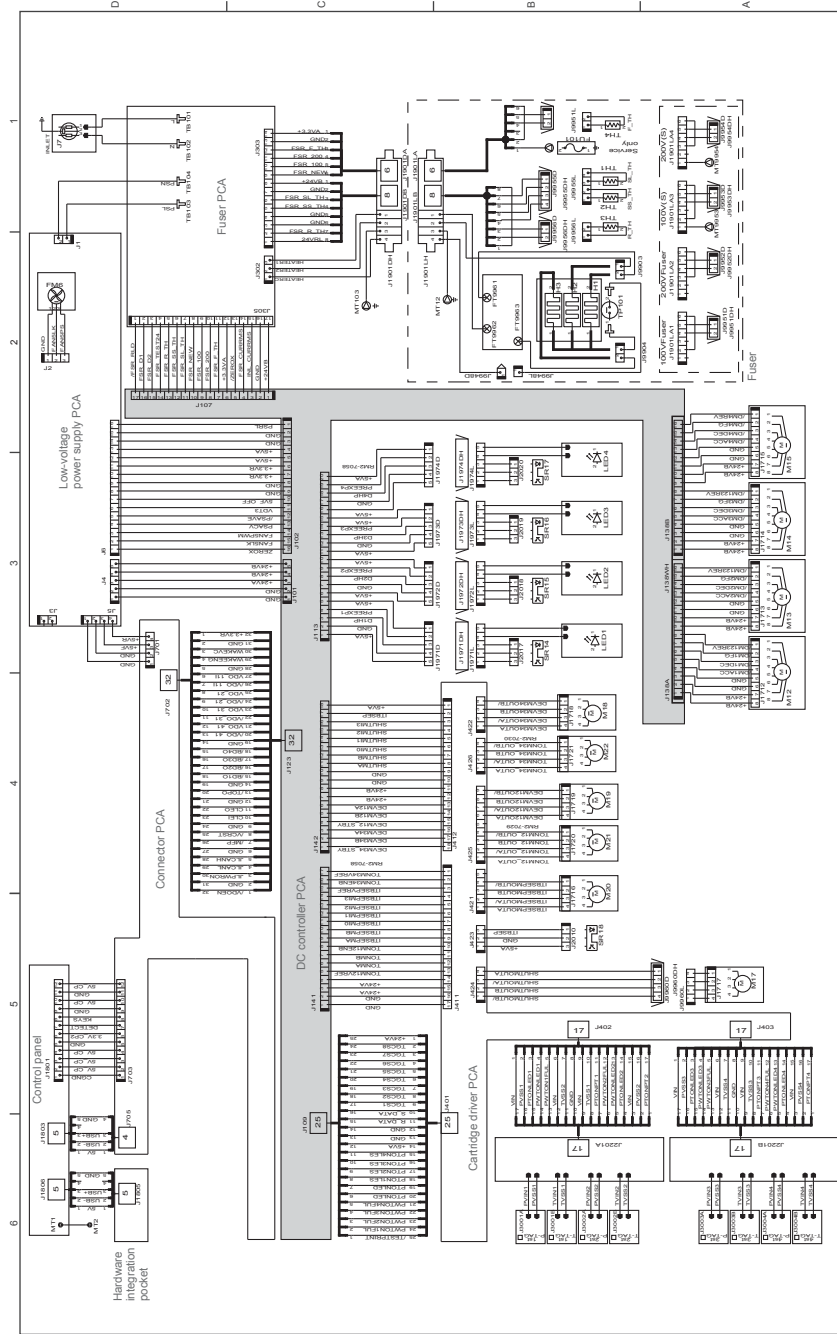


Figure 2-60 General circuit diagram, product base M855 (2 of 4)

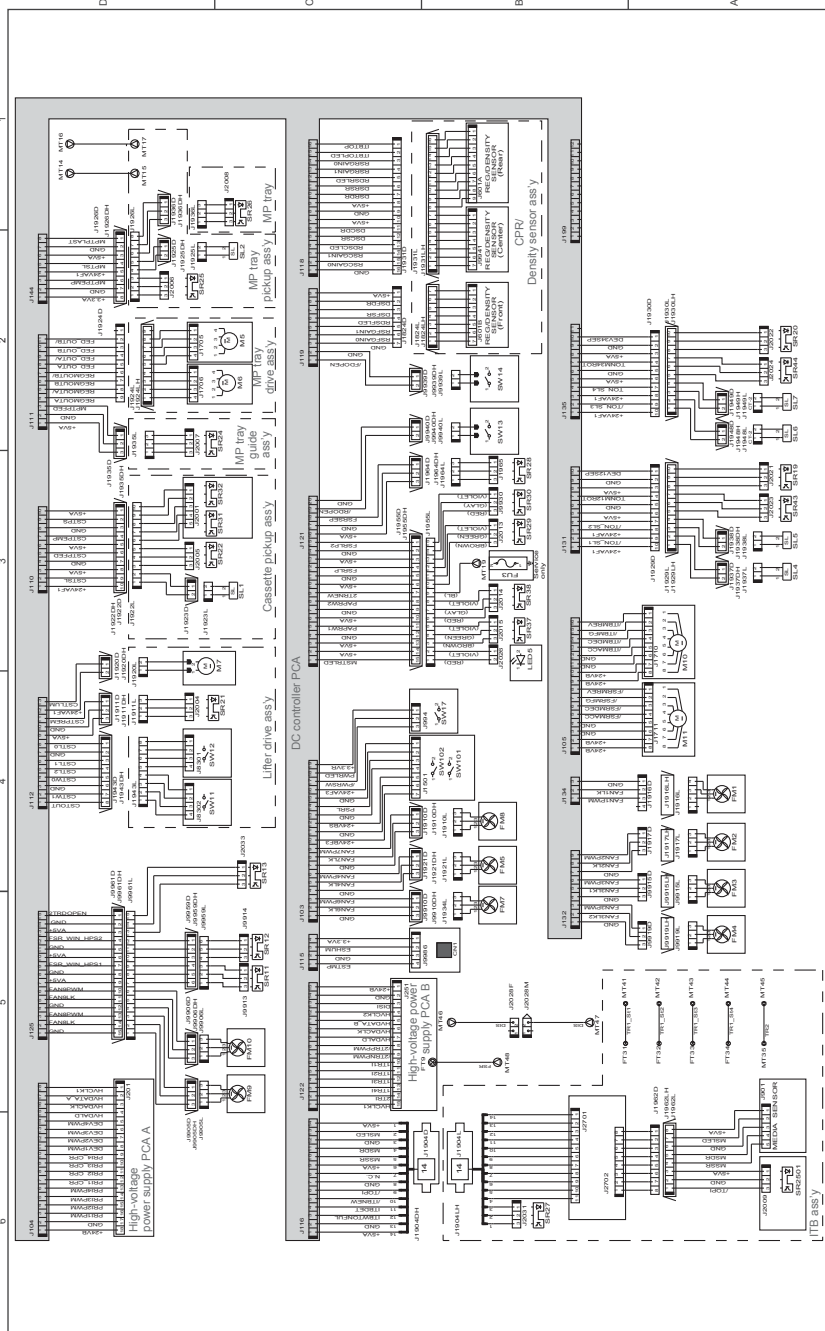




Figure 2-62 General circuit diagram, product base M855 (4 of 4)

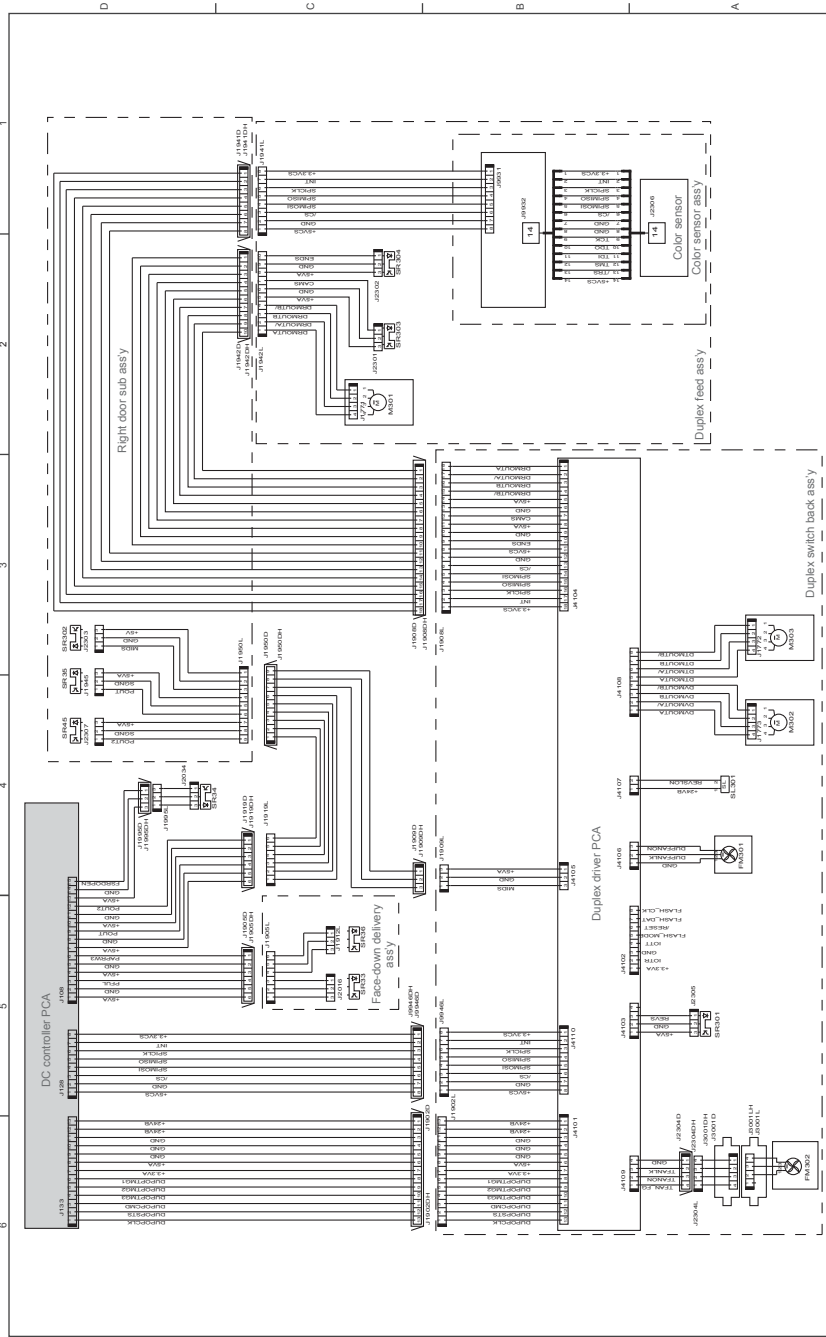


Figure 2-63 General circuit diagram, product base M880 (1 of 4)

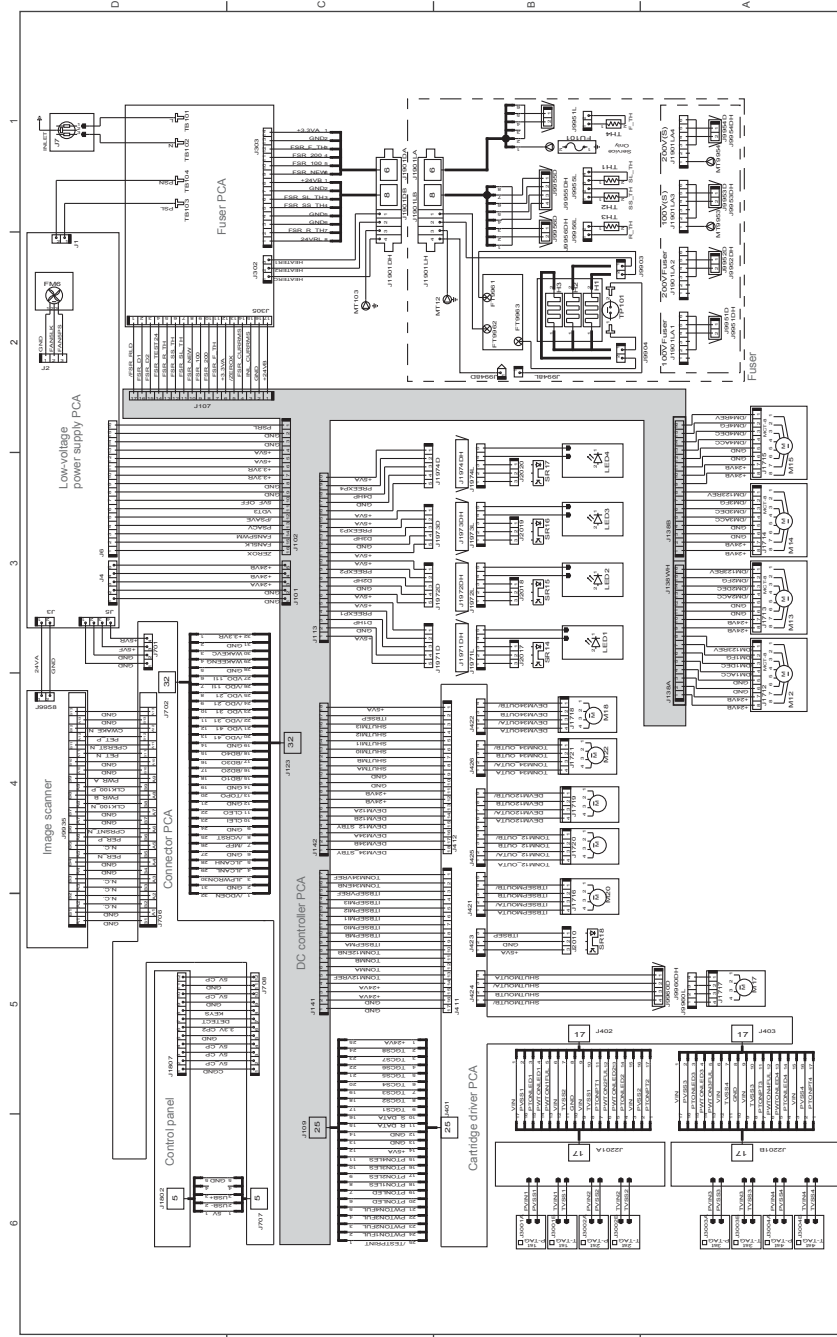


Figure 2-64 General circuit diagram, product base M880 (2 of 4)

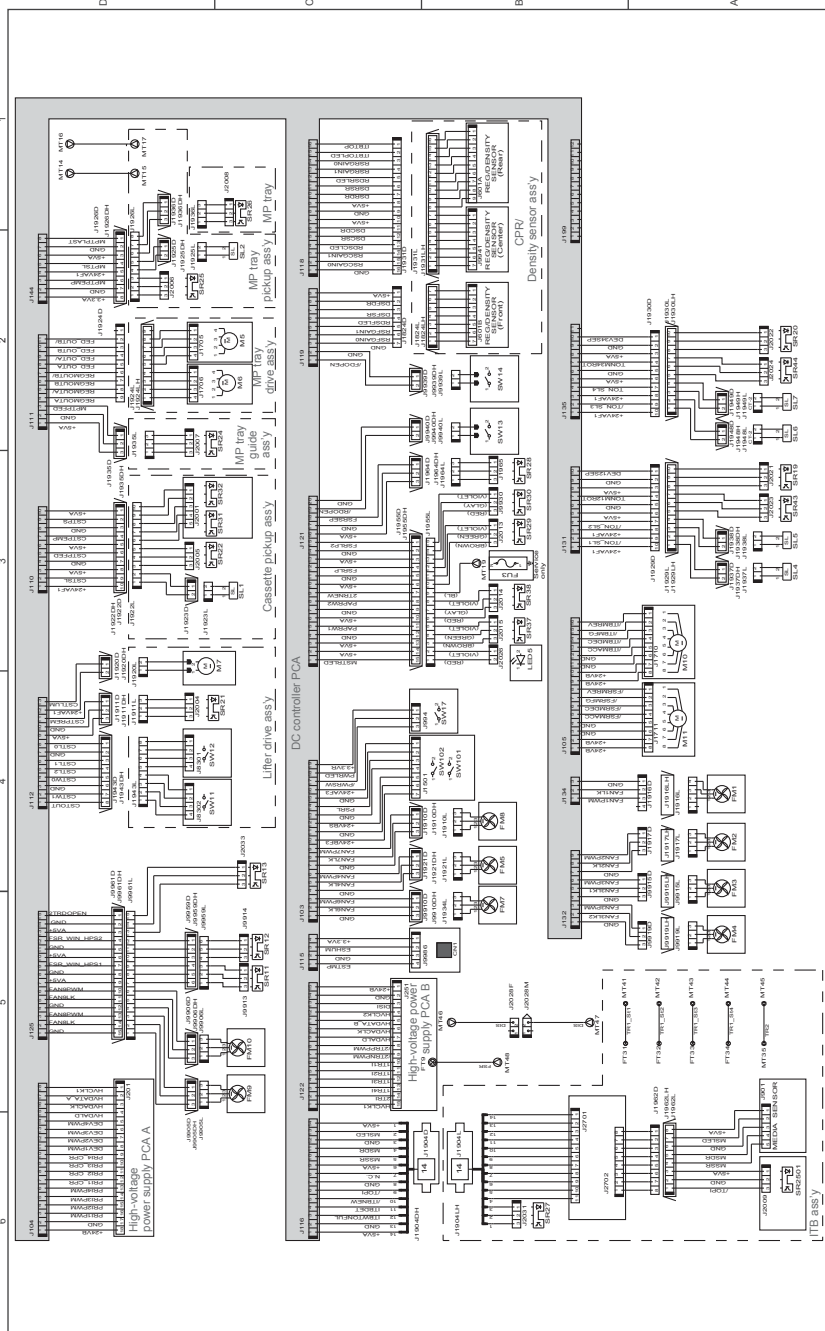


Figure 2-65 General circuit diagram, product base M880 (3 of 4)

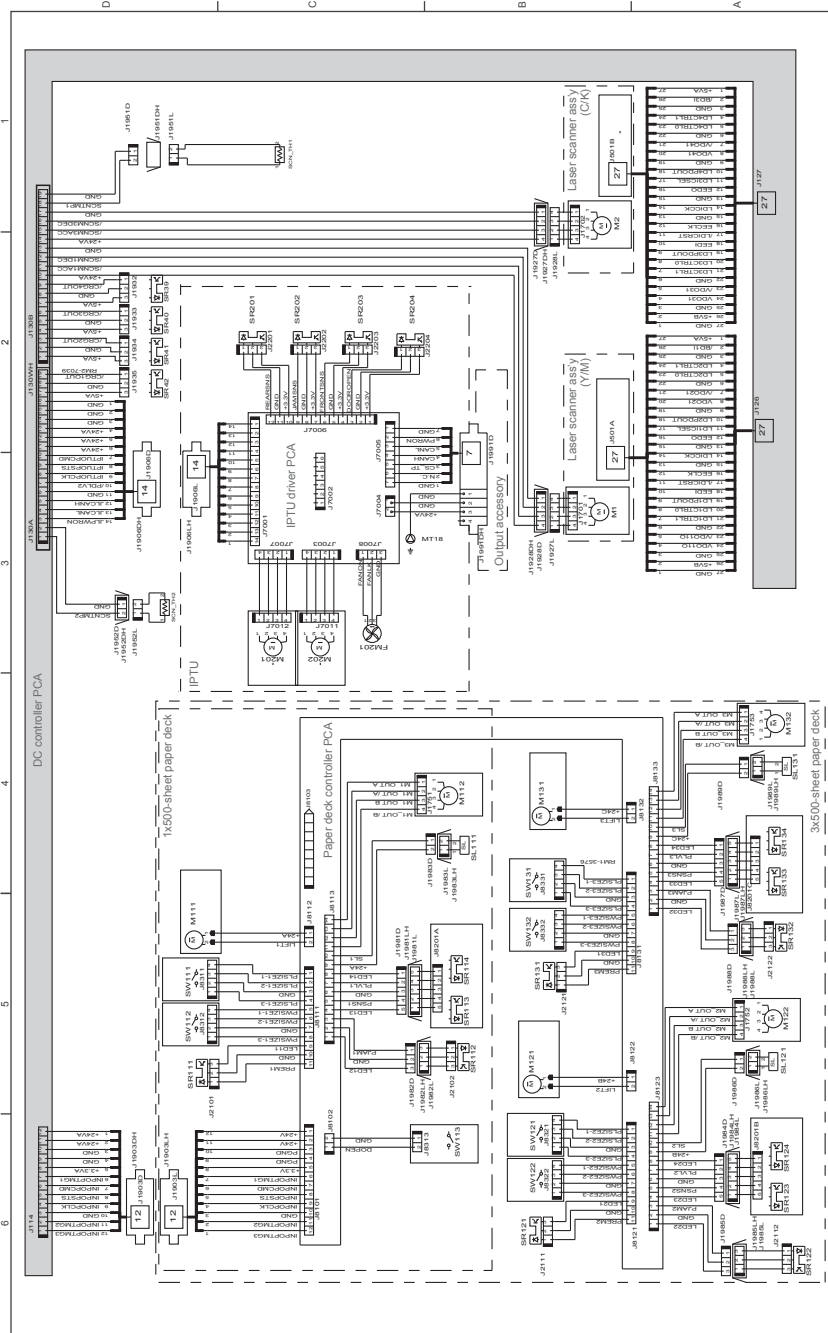


Figure 2-66 General circuit diagram, product base M880 (4 of 4)

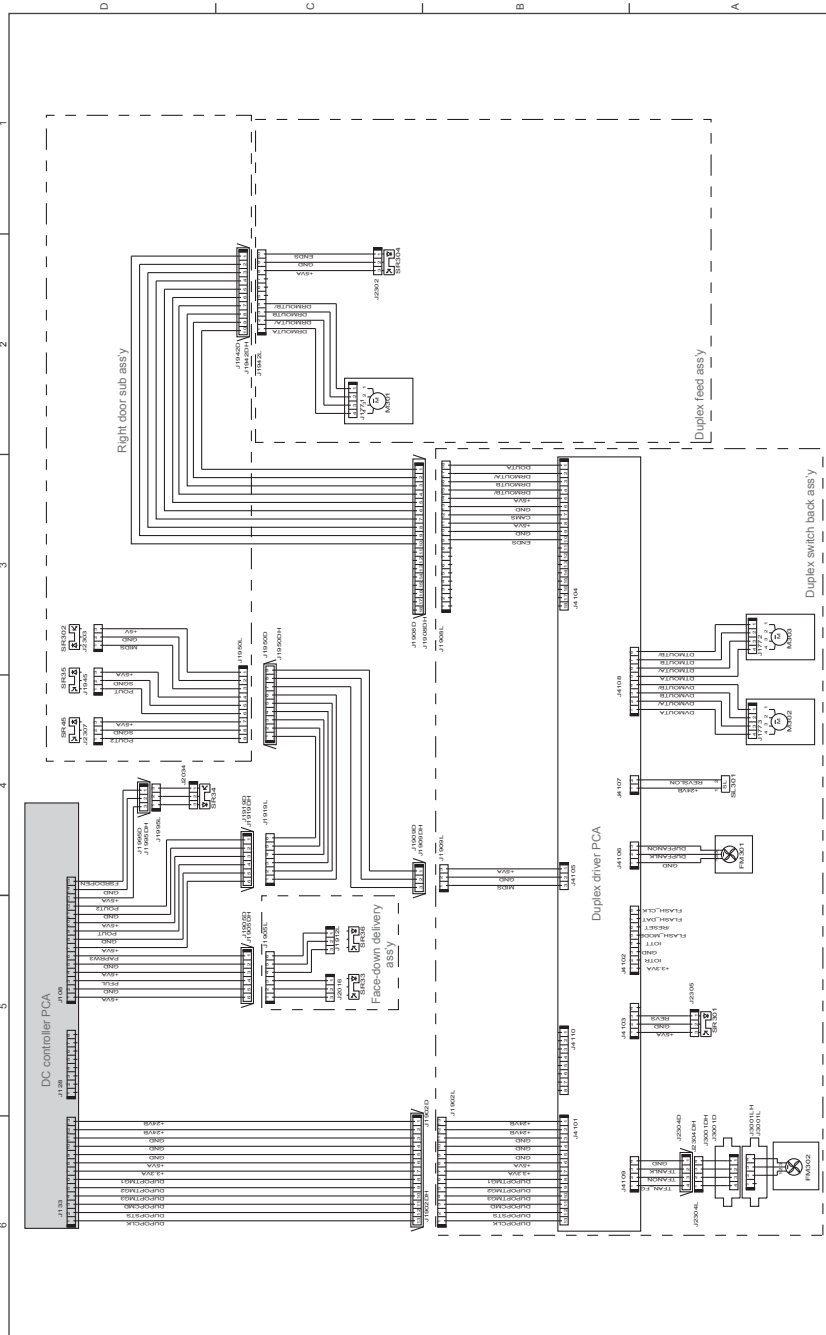




Figure 2-67 General circuit diagram, high-capacity input (HCI) feeder

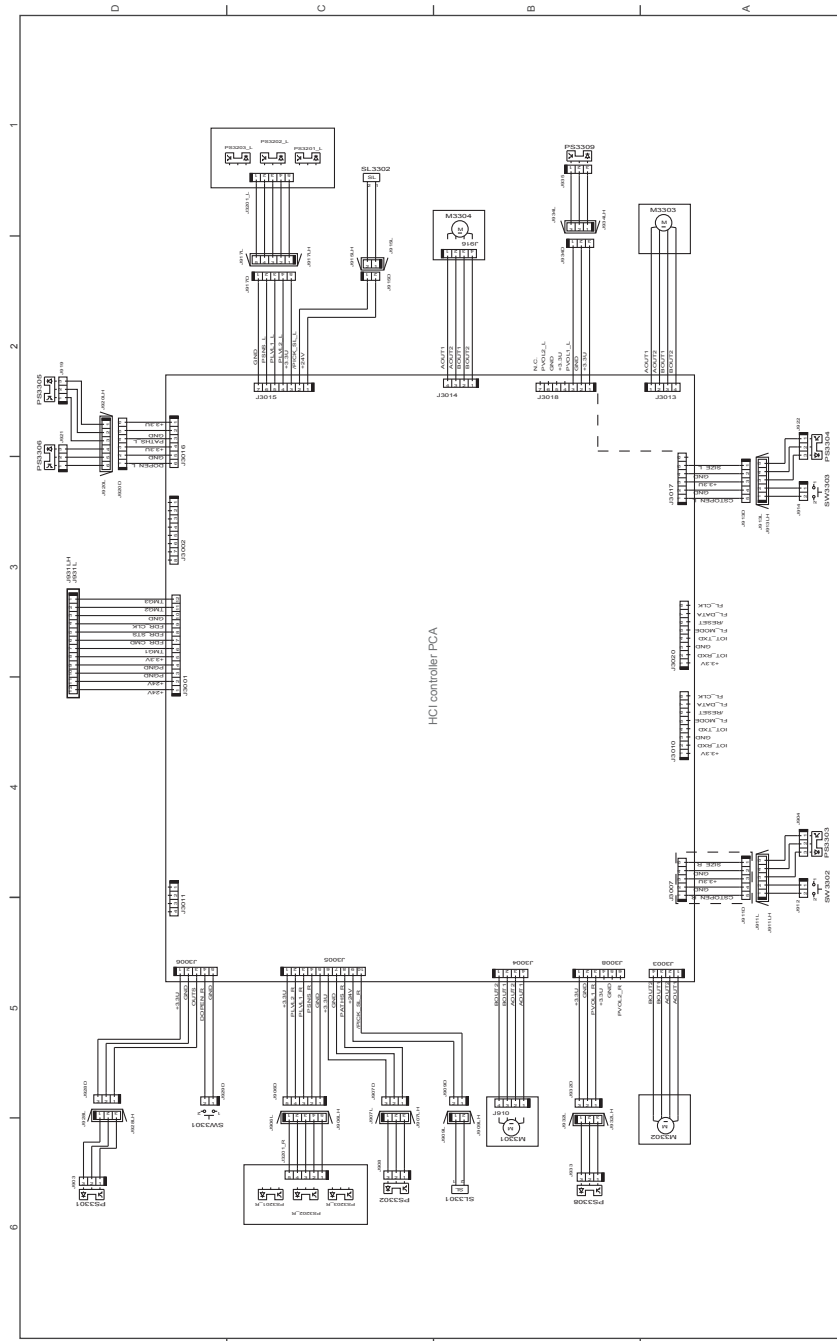


Figure 2-68 General circuit diagram, finishing accessories (1 of 5)

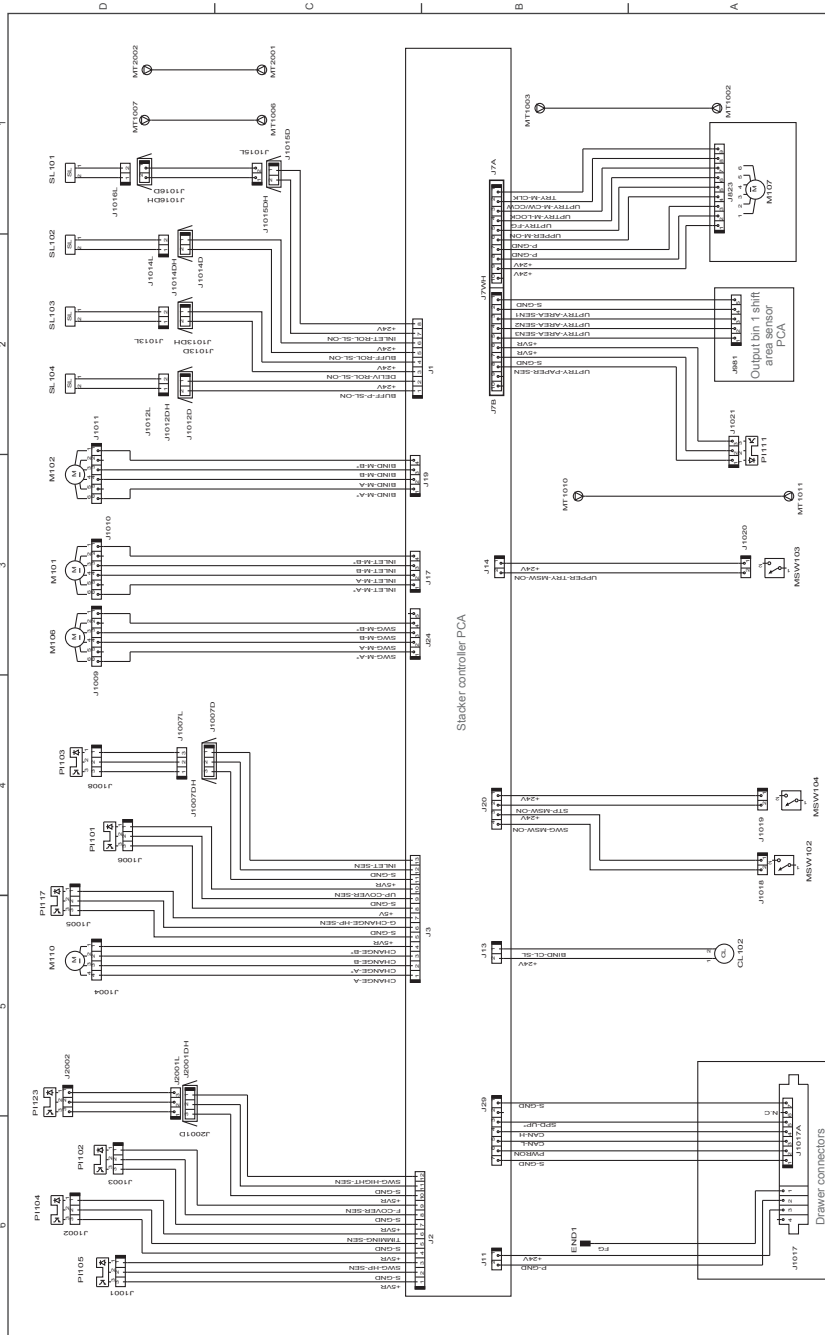


Figure 2-69 General circuit diagram, finishing accessories (2 of 5)

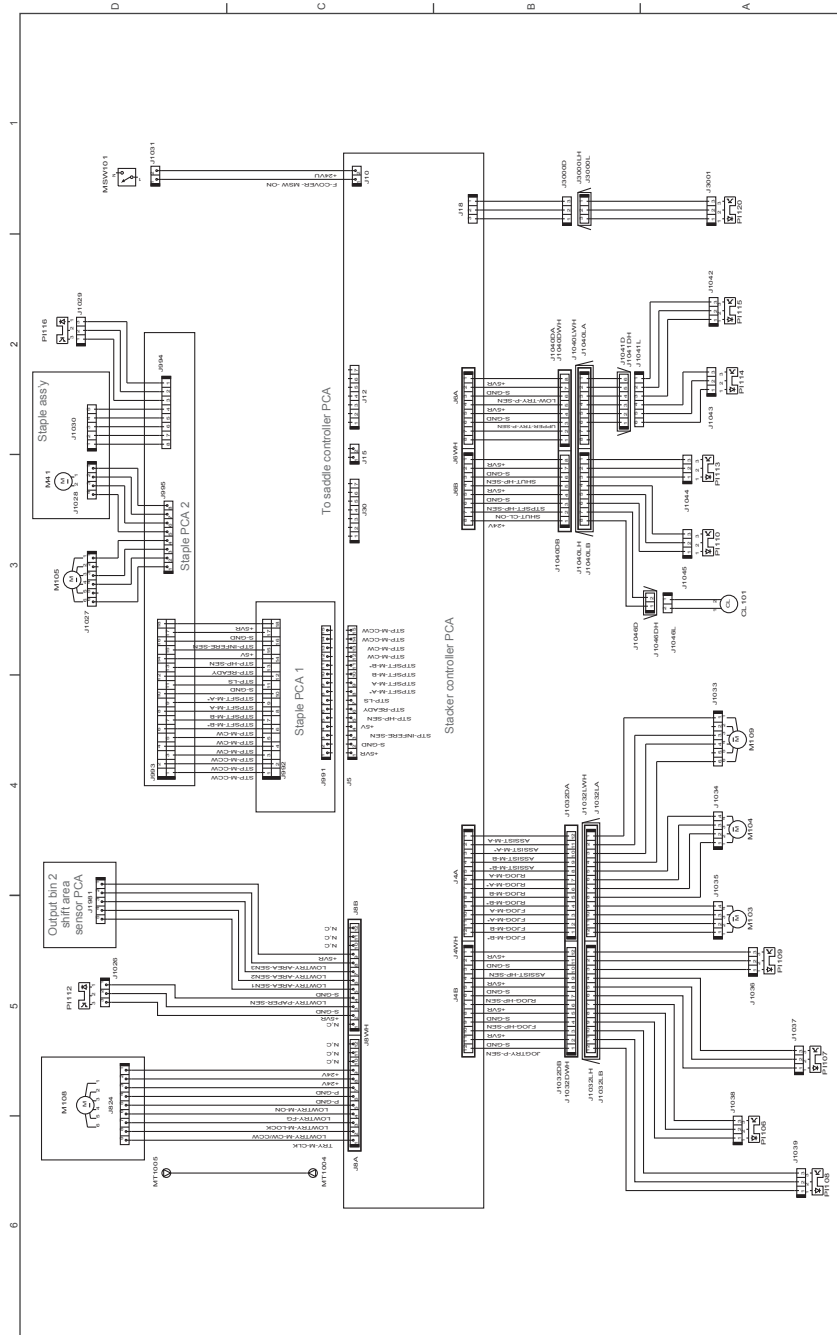


Figure 2-70 General circuit diagram, finishing accessories (3 of 5)

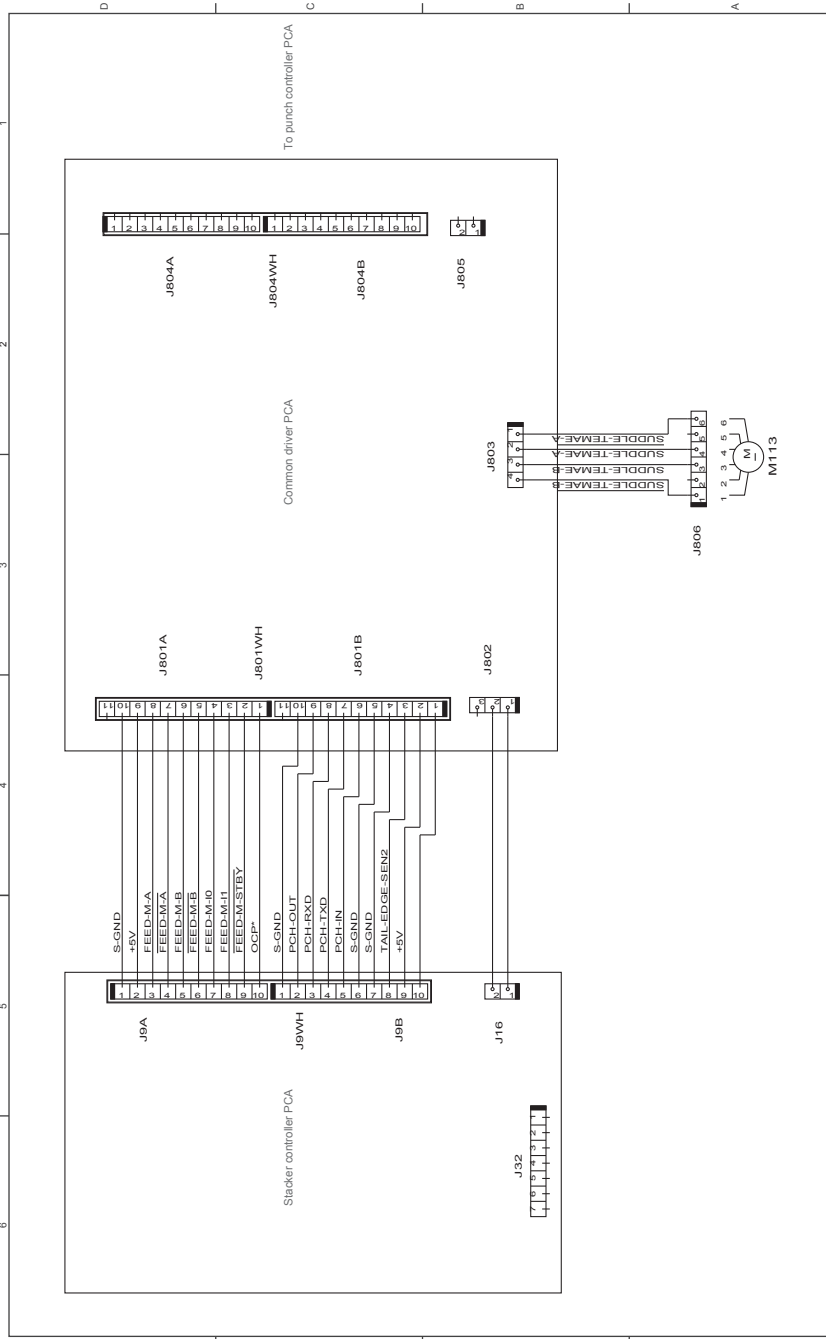
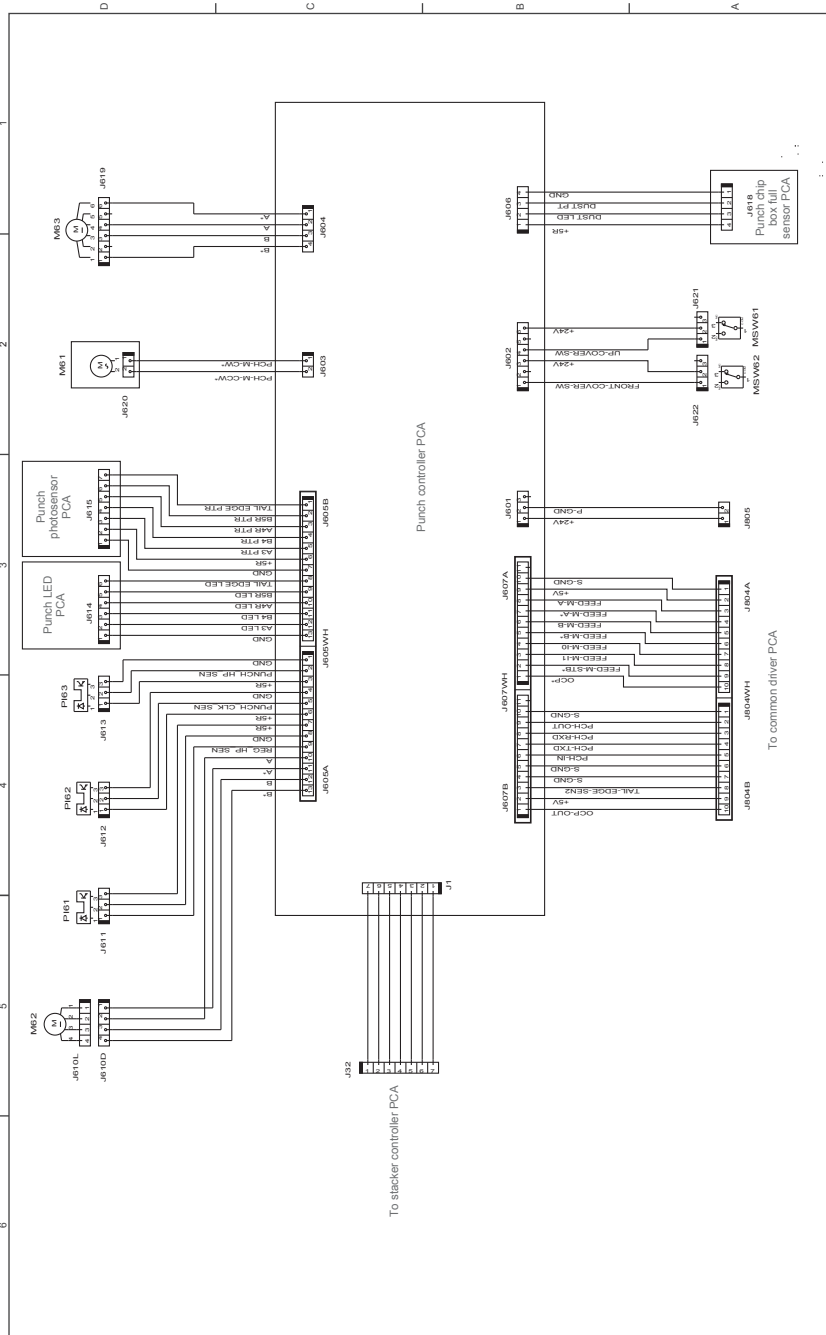




Figure 2-72 General circuit diagram, finishing accessories (5 of 5)



## Internal print-quality test pages

### Print-quality troubleshooting pages

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

 **NOTE:** To get further assistance in print-quality troubleshooting, go to [www.hp.com/support/colorljM855](http://www.hp.com/support/colorljM855) or [www.hp.com/support/colorljflowMFPM880](http://www.hp.com/support/colorljflowMFPM880) and select PQ Troubleshooting Tools.

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 a print-quality troubleshooting procedure page and a black print-quality troubleshooting page.

Follow the instructions on the print-quality troubleshooting procedure page.

**Figure 2-73** Print-quality troubleshooting procedure page



Figure 2-74 Yellow print-quality troubleshooting page

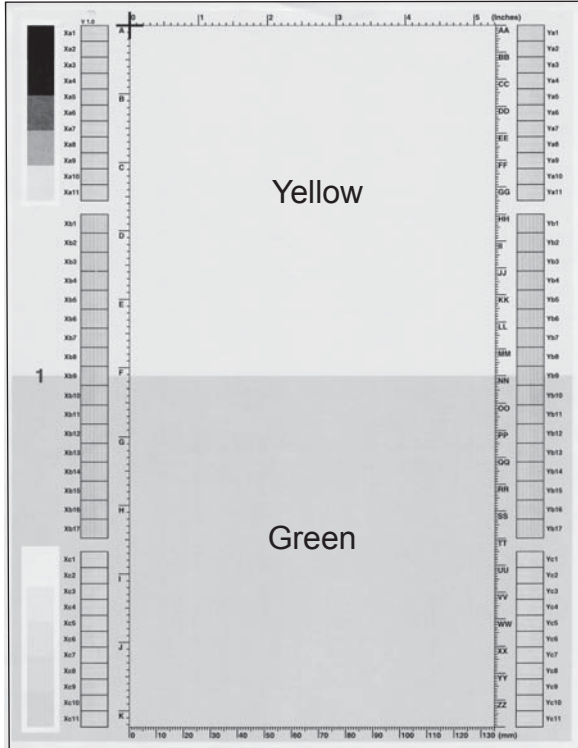
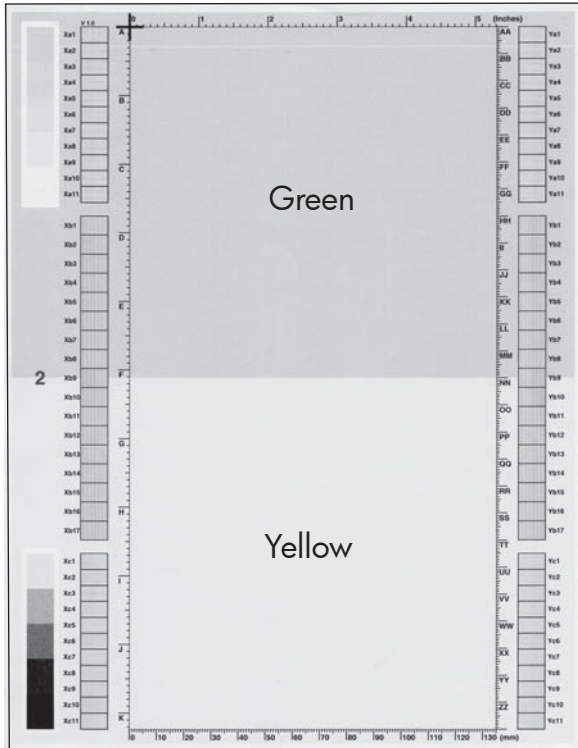


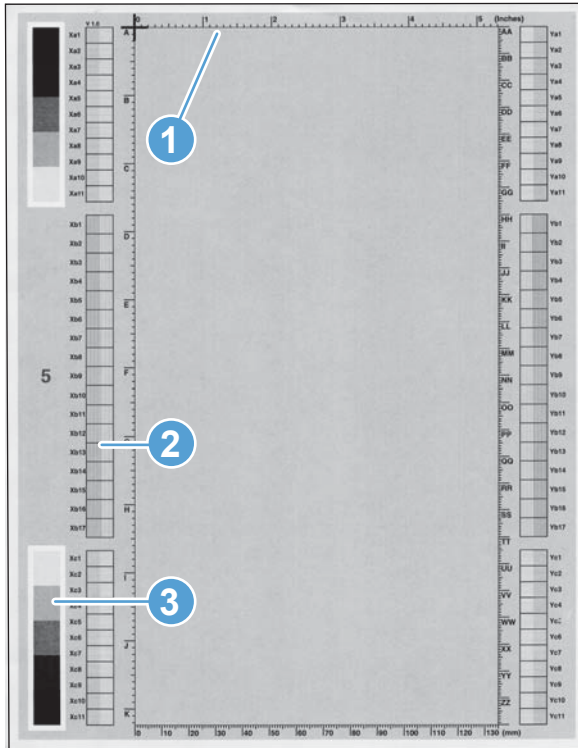
Figure 2-75 Yellow comparison page



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 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 2-76** Black print-quality troubleshooting page



1. Grids

The grids are in inches and millimeters. They are labeled with letters and numbers so that defects can be described by position and by distance between repeats.

2. Color plane registration (CPR) bars

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.

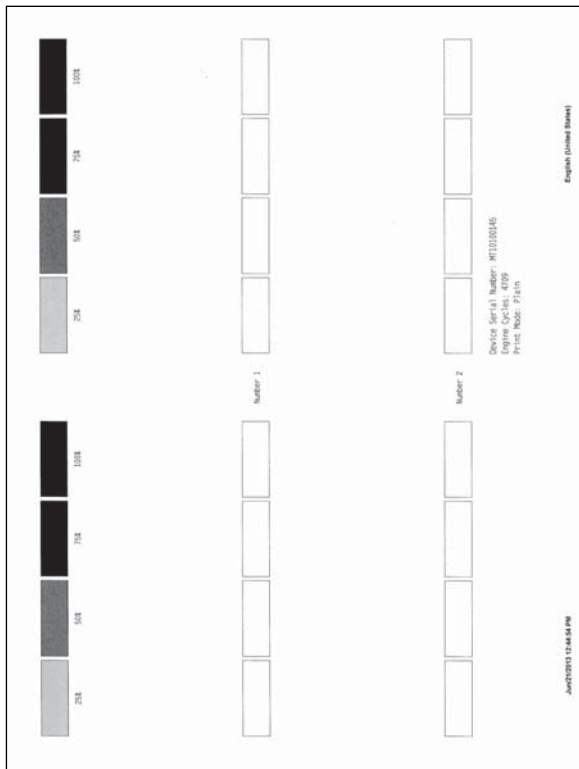
3. Color ramp patches

Used to detect offset for the OPC or developer in the image drum or offset in the fuser.

## Fuser test page

Use the fuser test page to evaluate problems with fuser 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](#)
  - [Fuser Test Page](#)
3. Touch the [Print](#) button.



## 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.

## Enable and configure auto cleaning

Use the procedure in this section to enable and configure the automatic cleaning function.

### To enable the auto cleaning function

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](#)
  - [Auto Cleaning](#)
3. Select the [Enable](#) item, and then touch the [Save](#) button.

### To configure the auto cleaning function

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](#)
3. Open one the following menus:
  - [Cleaning Interval](#)  
Default setting: 1000 pages
  - [Auto Cleaning Size](#)  
Default setting: Letter
4. After selection an option item, touch the [Save](#) 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 [Home](#) 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.

 **NOTE:** The [View](#) button is available only on the M880 product.

**Figure 2-77** Configuration page

**Configuration Page**
**HP Laserjet M855**
Page 1

**1 Device Information**

Product Name: HP Laserjet M855  
 Device Name: HP Laserjet M855  
 Model Number: CZ245A  
 DC Controller Version: 6.117  
 Tray 1 Version: 3.103  
 Duplex Unit Version: 2.103  
 HCL Tray Version: 3.101  
 Device Serial Number: MT10100145  
 Formatter Number: WT001D1  
 Firmware Version: FutureSmart 3 Beta  
 (2354063\_383867)  
 Firmware Revision: 2354063\_383867  
 Firmware Datecode: 20130424  
 Service ID: 23142  
 PS Wait Time-out: 300 seconds  
 Engine Cycles\*: 4661  
 \*Not weighted for billing

**2 Installed Personalities and Options**

PCL: 20010402  
 PCLXL: 20010402  
 POSTSCRIPT: 20010402  
 PDF: 20050131  
 AirPrint: 2040201  
 Internal Disk: Hard Disk: Enabled  
 Serial Number: W0V5Q49  
 Model: HP Secure Hard Disk  
 Capacity: 305245 MB  
 Hard Disk Encryption Status: Drive is not yet  
 encrypted.  
 Embedded HP JetDirect J8028E: 10.10.48.33

**3 HP Web Services**

HP Web Services: Disabled  
 ePrint: Disabled

**4 Memory**

Total RAM: 1024 MB

**5 Event Log**

Number of Entries in Use: 4  
 Three Most Recent Entries:


Number	Cycles	Event
4	4543	10.99.40
3	4508	10.99.40
2	0	10.00.15

**6 Security**

Hard Disk Encryption Status:  
 Internal Disk: Drive is not yet encrypted.  
 Job Data Encryption Status: Encrypted  
 Job Data Persistence: Persistent (not volatile)  
 File Erase Mode: Non-Secure Fast Erase (No  
 overwrite)  
 Control Panel Password: Disabled  
 Support Key: FCC4-RAWB-D9YN  
 Host USB plug and play: Enabled  
 Device USB: Enabled

**7 Paper Trays and Options**

Default Paper Size: Letter  
 Tray 1 Size: Any Size  
 Tray 1 Type: Any Type  
 Tray 2 Size: Ledger (11x17)  
 Tray 2 Type: Plain  
 Tray 3 Size: Legal  
 Tray 3 Type: Plain  
 Tray 4 Size: Letter  
 Tray 4 Type: Plain  
 Tray 5 Size: Letter  
 Tray 5 Type: Plain  
 Duplex Unit:  
 Device Name: HP LaserJet Stapler Stacker and 2/3  
 Hole Puncher Mailbox  
 Model: CZ995A  
 Manufacturer: HEWLETT PACKARD  
 Firmware Revision: MT02.04.02.28.02.39  
 1: Output Bin 1, 300 Sheets, Standard bin  
 1: Output Bin 2, 1300 Sheets, Upper-left bin  
 2: Output Bin 3, 1700 Sheets, Lower-left bin

Jun/21/2013 9:19:55 AM

English (United States)

<b>1</b>	Device information
<b>2</b>	Installed personalities and options
<b>3</b>	HP Web services
<b>4</b>	Memory
<b>5</b>	Event log

6	Security
7	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 2-78** HP embedded Jetdirect page

**Embedded Jetdirect Page**
**HP Laserjet M855**
Page 1

```

----- General Information -----
Status: I/O Card Ready
Model Number: J8028E
Hardware Address: 38EAA76EA7DA
Firmware Version: JD123500237
LAA: 38EAA76EA7DA
Port Config: 1000T FULL
Auto Negotiation: On
Manufacturing ID: 5319531900****
Date Manufactured: 05/2013
WS Registration: Not Registered

ePrint: Not Applicable
Email: Not Applicable

----- Security Settings -----
B02.IX: Not Specified
IPsec: Disabled
Secure Web: HTTPS Required
Cert Expires: 2018-05-01 00:00 UTC
SNMP Versions: 1.2
SNMP Set Cnty Name: Not Specified
SNMP Get Cnty Name: Not Specified/Default
Access List: Not Specified

Admin Password: Not Specified
Announcement Agent: Failed

----- Network Statistics -----
Total Packets Received: 745342
Unicast Packets Received: 35362
Bad Packets Received: 0
Framing Errors Received: 0
Total Packets Transmitted: 61110
Unsendable Packets: 0
Transmit Collisions: 0
Transmit Late Collisions: 0
Last Wake:
00016298000000000000000000000000
00000000000000000000000000000000
00000000000000000000000000000002

----- TCP/IP -----
IPv4: Enabled
IPv6: Enabled
Host Name: NP16EA7DA
IPv4 Domain Name: aquent.int
IPv6 Domain Name: Not Specified
Primary DNS Server: 10.10.58.209
Secondary DNS Server: 10.10.58.210
DNS(IPv6): Not Specified
WINS Server: 10.10.58.209
Idle Timeout: 270 sec

----- IPv4 -----
Status: Ready

IP Address: 10.10.48.33
Subnet Mask: 255.255.255.0
Default Gateway: 10.10.48.1
Config By: Manual
BOOTP/DHCP Server: Not Specified
TFTP Server: Not Specified
Bonjour Service Name: HP LaserJet M806 [6EA7DA]

----- IPv6 -----
Status: Ready

Link-Local: fe80::3aea:a7ff:fe6e:a7da
Stateless: Not Configured
DHCPv6: Not Configured
Manual: Manual
Not Configured

```

Jun21/2013 9:19:55 AM
English (United States)

1	<b>General Information</b> indicates the product status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2	<b>Security Settings</b> information

3	<b>Network Statistics</b> indicates the total packets received, unicast packets received, bad packets received, framing errors received, total packets transmitted, unsendable packets, transmit collisions, and transmit late collisions.
4	<b>TCP/IP</b> information, including the IP address
5	<b>IPv4</b> information
6	<b>IPv6</b> information

## 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 2-58** Important information on the configuration pages

Type of information	Specific information	Configuration page
<b>Firmware date codes</b>  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."
<b>Accessories and internal storage</b>  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.	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."
Finishing accessories	Installed finishing accessory type	Look on the main configuration page, under "Paper Trays and Options."
<b>Engine cycles and event logs</b>  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 <a href="#">Diagnostics</a> menu.	Engine cycles	Look on the main configuration page, under "Device Information."
	Event log information	Event log information



## 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](#)
3. Touch the [View](#) button to view the information on the control panel, or touch the [Print](#) button to print the pages.



**NOTE:** The [View](#) button is available only on the M880 product.

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## Print-quality troubleshooting tools

### Repetitive defects ruler

Use a ruler to measure occurrences of repetitive image defects to help solve image-quality problems. Place the ruler next to the first occurrence of the defect on the page. Find the distance between identical defects and use the table below to identify the component that is causing the defect.

Distance between defects	Product components that cause the defect
41 mm	Primary charging roller <sup>1</sup>
47 mm	Developing roller <sup>1</sup>
50 mm	Registration roller
73 mm	Secondary transfer (T2) roller
75 mm	Fuser sleeve
94 mm	Pressure roller and/or Photosensitive drum <sup>1</sup>

<sup>1</sup> The primary charging roller, photosensitive drum, and developing roller cannot be cleaned because they are internal assemblies in the toner cartridge. If one of these assemblies is causing the defect, replace the toner cartridge.

### 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 2-59** Reports menu

First level	Second level	Values	Description
Configuration/Status Pages	Administration Menu Map	Print	Shows a map of the entire <a href="#">Administration</a> 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 from 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	
	Web Services Status Page	Print	Shows the detected Web Services for the product.
		View	

**Table 2-59 Reports menu (continued)**

First level	Second level	Values	Description
Fax Reports (M880 only)	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 2-60** 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 <a href="#">Date/Time Settings</a> menu to specify the date and time and to configure date/time settings.
				MMM/DD/YYYY	
			YYYY/MMM/DD		
		Time Format		12 hour (AM/PM)	Select the format that the 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 <a href="#">Adjust for Daylight Savings</a> box.

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description	
Energy Settings M880 product	Sleep Schedule	A list of scheduled events displays.		+ (Add)	Use to configure the product to automatically wake up or go to sleep at specific times on specific days. Using this feature saves energy.  <b>NOTE:</b> You must configure the date and time settings before you can use this feature.	
				Edit		
				Delete		
			Event Type	Wake		Select whether to add or edit a <b>Wake</b> event or a <b>Sleep</b> event, and then select the time and the days for the wake or sleep event.
				Sleep		
				Event Time		
	Event Days	Select days of the week from a list.				
Energy Settings M855 product	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 or Auto Off mode. Use the arrow buttons on the control panel to increase or decrease the number of minutes.	
		Wake/Auto On to These Events		All Events* Network port Power button only		
		Sleep/Auto Off Timer		Enabled* Disabled	Enable or disable the product sleep or auto off function.	
		Sleep Mode/Auto Off After		Range: 1 to 120 minutes Default = 60 minutes	Set the number of minutes after which the product enters Sleep or Auto Off mode. Use the arrow buttons on the control panel to increase or decrease the number of minutes.	

**Table 2-60 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><b>Default:</b> 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 2-60 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.  <b>Default:</b> Resets all the color-density settings to the factory default values.
	Image Registration	Adjust Tray <X>	Print Test Page		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.  Use the <b>Adjust Tray &lt;X&gt;</b> 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.  Use the <b>Print Test Page</b> 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.



**Table 2-60 General Settings menu (continued)**

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

**Table 2-60 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 <b>Auto Sense Mode</b> feature to configure which paper types the product should automatically sense. The following settings are available:</p> <p><b>Full sensing:</b> Use this setting if you don't want media type misprints and can accept slower performance and possible decreased cartridge life.</p> <p><b>Expanded sensing:</b> The product senses only the first page and assumes the rest of the pages are the same type.</p> <p><b>Transparency Only:</b> 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 <b>Auto Sense Mode</b> option for Tray 1 and Tray 2, the <b>&lt;x&gt;</b> 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 <b>Print Mode</b> setting is usually the first thing to try to resolve print-quality problems. Problems can include toner not sticking well to the page, a faint image of the page repeated on the same or following page, incorrect gloss level, etc.</p>

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
			Resistance Mode	Normal Up Down	Use this setting to correct print quality problems in low-humidity environments and highly resistive paper. Use the <b>Up</b> option to solve print quality problems that are related to poor toner-transfer. Use the <b>Down</b> option in the event that small, "pin-hole" defects occur.
			Humidity Mode	Normal	Use this setting to correct print quality problems in high humidity environments. Use the alternate settings if you are in a high humidity environment and you are seeing problems with low toner density on the first page of a job.
		M880 only	Alternate 1		
			Alternate 2		
			Alternate 3		
			Line Detail	Normal	
		M880 only	Alternate 1		
			Off		
			Separation Mode	Normal*	Use the <b>Alternate</b> setting when you are having problems with light-weight paper during duplex print jobs.
		M855 only	Alternate		
			Pre-Rotation Mode	Off	
		M855 only	On*		
			Fuser Temp Mode	Up	Use this feature to eliminate ghost images on printed pages.
		M855 only	Down		
			Normal*		
			Paper Curl Mode	Normal*	Use this setting to reduce paper curl in print jobs.
		M855 only	Alternate 1		
			Alternate 2		
			Alternate 3		

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	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, heavyweight paper 129-216 g/m2 (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 M880 only		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.
		Line Detail M855 only		Normal* Alternate 1 Off	Use this setting if you have scattered lines in printed pages.

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		Tray 1		Normal* Alternate	Affects how often the product performs an internal cleaning procedure. Use the <a href="#">Alternate</a> 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 <a href="#">Alternate 1</a> setting if you are seeing a shaded background on the entire page. Use the <a href="#">Alternate 2</a> setting if you are seeing thin vertical lines on the background. The <a href="#">Alternate 3</a> setting applies the <a href="#">Alternate 1</a> setting and the <a href="#">Alternate 2</a> setting at the same time. Use this setting if the first two settings do not correct the problem.

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		Uniformity control		<a href="#">Normal*</a> <a href="#">Alternate 1</a> <a href="#">Alternate 2</a> <a href="#">Alternate 3</a>	<p>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 <a href="#">Alternate 1</a> setting increases the T1 transfer bias and can be used for any media type. The <a href="#">Alternate 2</a> 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 <a href="#">Alternate 3</a> setting applies the <a href="#">Alternate 1</a> setting and the <a href="#">Alternate 2</a> setting at the same time. Use this setting if the first two settings do not correct the problem.</p>
		Tracking control		<a href="#">On*</a> <a href="#">Off</a>	<p>Normally, this setting should be set to <a href="#">On</a>. Tracking control algorithm is turned ON/OFF. It is not expected that the customer will ever need to change this setting.</p>
		Registration		<a href="#">Normal*</a> <a href="#">Alternate</a>	<p>Use this setting if you are having trouble with color-planes shifting or overlapping on the page. Use the <a href="#">Alternate</a> setting if you are seeing color mis-registration problems.</p>

**Table 2-60 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 <a href="#">Alternate 1</a> setting reduces the T1 bias and should be used when re-transfer occurs. The <a href="#">Alternate 2</a> setting increases the inter-page gap. Using this setting reduces throughput and might decrease the print-cartridge life. The <a href="#">Alternate 3</a> setting applies the <a href="#">Alternate 1</a> setting and the <a href="#">Alternate 2</a> 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 <a href="#">Adjust Paper Types</a> setting and the <a href="#">Print Mode</a> setting are correct for the type of paper you are using. If you continue to see ghost images on your print jobs, set the <a href="#">Fuser Temp</a> feature to the <a href="#">Alternate</a> setting.
		Restore Optimize			Use to return all the settings in the <a href="#">Optimize</a> menu to the factory-default values.

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	Resolution			Image Ret 3600 61200 x 1200dpi	Sets the resolution at which the product prints.
	Edge control			Off Light Normal* Maximum	<p>This setting determines how edges are rendered. <b>Edge Control</b> has two components: adaptive half-toning and trapping. Adaptive half-toning 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><b>Off:</b> Turns off both trapping and adaptive half-toning.</p> <p><b>Light:</b> Sets trapping at a minimal level, and adaptive half-toning is on.</p> <p><b>Normal:</b> Trapping is at a medium level and adaptive half-toning is on.</p> <p><b>Maximum:</b> Trapping is at the highest level, and adaptive half-toning is on.</p>



**Table 2-60 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><b>Auto:</b> The product attempts to reprint jammed pages when sufficient memory is available. This is the default setting.</p> <p><b>Off:</b> 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><b>NOTE:</b> 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><b>On:</b> The product always reprints jammed pages. Additional memory is allocated to store the last few pages printed. This might cause a decrease in overall performance.</p>
Auto Recovery				Enabled Disabled*	<p>The product attempts to reprint jammed pages when sufficient memory is available. This is the default setting.</p>

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description	
Manage Stored Jobs	Sort Stored Jobs By			Job Name*	This option allows you list the jobs either alphabetically or chronologically.	
				Date		
	Quick Copy Job Held Timeout				Off*	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.
					1 Hour	
4 Hours						
1 Day						
Quick Copy Job Storage Limit				1-100	Configure global settings for jobs that are stored in the product memory.  The <a href="#">Quick Copy Job Storage Limit</a> feature specifies the number of Quick Copy and Proof and Hold jobs that can be stored on the product. The maximum allowed value is 100.	
				Default = 32		
	Default Folder Name				Type the name for the stored jobs folder that is accessible to all users.	
Enable Retrieve from USB				Enabled	Enables the product to open a file from a USB drive.	
				Disabled*		

**Table 2-60 General Settings menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
Hold Off Print Job				<a href="#">Enabled*</a> <a href="#">Disabled</a>	Enable this feature if you want to prevent print jobs from starting while a user is initiating a copy job from the control panel. Held print jobs start printing after the copy job is finished, provided that no other copy job is in the print queue.
Restore Factory Settings				<a href="#">Address Book (M880 only)</a> <a href="#">Copy (M880 only)</a> <a href="#">Digital Send (M880 only)</a> <a href="#">E-mail (M880 only)</a> <a href="#">Fax (M880 only)</a> <a href="#">General (M880 only)</a> <a href="#">Print (M880 only)</a> <a href="#">Security (M880 only)</a> <a href="#">Cancel (M855)</a> <a href="#">Reset (M855)</a>	Use to restore all product settings to their factory defaults.

## Copy Settings menu (M880 only)

**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 2-61 Copy Settings menu (M880)**

First level	Second level	Third level	Values	Description
Copies			1-9999	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.
			Default = 1	
Sides			1-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.
			2-sided original, 2-sided output	
			1-sided original, 2-sided output	
			2-sided original, 1-sided output	
	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 2-61 Copy Settings menu (M880) (continued)**

First level	Second level	Third level	Values	Description
		2-Sided Format	<p>Book-style</p> <p>Flip-style</p> <p>Book-style original; Flip-style copy</p> <p>Flip-style original; Book-style copy</p>	<p>If you are making two-sided copies, select a 2-sided format option.</p> <p><b>Book-style:</b> The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge.</p> <p><b>Flip-style:</b> The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.</p> <p><b>Book-style original; Flip-style copy:</b> The back side of the original is printed right-side-up, but the back side of the copy is printed upside-down. Use this option when the original is bound along the left edge, but you want the copies to be bound along the top edge.</p> <p><b>Flip-style original; Book-style copy:</b> The back side of the original is printed upside-down, but the back side of the copy is printed right-side-up. Use this option when the original is bound along the top edge, but you want the copies to be bound along the left edge.</p>

**Table 2-61 Copy Settings menu (M880) (continued)**

First level	Second level	Third level	Values	Description
Color/Black			Automatically detect*	Select how the copy should be printed.
			Color	<b>Automatically detect:</b> 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.
			Black	<b>Color:</b> Prints documents in color.  <b>Black:</b> Prints documents in black and white.
Collate			Collate on (Sets in page order)*	If you are making more than one copy, select the <b>Collate on (Sets in page order)</b> option to assemble the pages in the correct order in each set of copies.  Select the <b>Collate off (Pages grouped)</b> 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.
			Collate off (Pages grouped)	
Reduce/Enlarge	Scaling		Auto*	Use to scale the size of the document up or down. Select one of the predefined percentages, or select the <b>Scaling</b> field and type a percentage between 25 and 400. The <b>Auto</b> option automatically scales the image to fit the paper size in the tray.
			100%	
			75%	
			50%	
			125%	
			150%	
			200%	
			Range X-Y (25-400%)	<b>NOTE:</b> To reduce the image, select a scaling percentage that is less than 100. To enlarge the image, select a scaling percentage that is greater than 100.

**Table 2-61 Copy Settings menu (M880) (continued)**

First level	Second level	Third level	Values	Description
	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 Automatic Tray 1: [Type], [Size] Tray <X>: [Type], [Size]	For the best color and image quality, select the appropriate paper type from the control panel menu or from the print driver.
Image Adjustment	Darkness		Select a value using the slide bar, or touch Automatic.	Use to improve the overall quality of the copy.  Adjust the <a href="#">Darkness</a> 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 <a href="#">Contrast</a> setting to increase or decrease the difference between the lightest and darkest color on the page.
	Background Cleanup		Select a value using the slide bar, or touch Automatic.	Adjust the <a href="#">Background Cleanup</a> setting if you are having trouble copying a faint image.
	Sharpness		Select a value using the slide bar, or touch Automatic.	Adjust the <a href="#">Sharpness</a> setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photographs appear smoother.
	Default			Select this to make the selected <a href="#">Image Adjustment</a> setting the default value.
Content Orientation	Orientation		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 2-61 Copy Settings menu (M880) (continued)**

First level	Second level	Third level	Values	Description
Output Bin				Automatic  Standard Bin Correct Order  Rear Bin Straightest Path
Optimize Text/Picture	Manually adjust*		Optimize For slider	Use this setting to optimize the output for a particular type of content.
			Text Printed picture Photograph	<p><b>Manually adjust:</b> Use to manually optimize the setting for each document.</p> <p><b>Printed picture:</b> Use for line drawings and preprinted images, such as magazine clippings or pages from books. If you see bands of irregular color or intensity on copies, try selecting the <a href="#">Printed picture</a> setting to improve the quality.</p> <p><b>Photograph:</b> Use for photographic prints.</p>
Pages per Sheet			One (1) Two (2) Four (4)	<p>Copies multiple pages onto one sheet of paper.</p> <p><b>NOTE:</b> Before using this screen, use the <a href="#">Content Orientation</a> screen to describe the original document orientation.</p>
	Page Order		Right, then down Down, then right	If you are printing four pages per sheet, select the page order. To print the pages in rows, select the <a href="#">Right, then down</a> option. To print the pages in columns, select the <a href="#">Down, then right</a> option.
	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 <a href="#">Add Page Borders</a> option.
Original Size			Select from a list of sizes that the product supports.	Describes the page size of the original document.



**Table 2-61 Copy Settings menu (M880) (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 <a href="#">1-sided</a> option if the original document is printed on only one side.
			2-sided	Select the <a href="#">2-sided</a> option if the original document is printed on two sides.
	Borders on Each Page			To print a border around each page, select the <a href="#">Borders on Each Page</a> 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 <a href="#">Reduce/Enlarge</a> feature to ensure that the entire page is printed on the copies. When the <a href="#">Edge-to-Edge</a> 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 <a href="#">Finish</a> option to finish the job.
			Job Build on	

## Scan/Digital Send Settings menu (M880)

**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 2-62** Scan/Digital Send Settings menu (M880)

First level	Second level	Third level	Fourth level	Values	Description
E-mail Settings	E-mail Setup	E-mail Setup Wizard			Use to configure settings that apply to sending documents through email or saving documents to a folder on the network or on a USB multi-drive.
Default Save to Network Folder Options	<b>NOTE:</b> Email Settings only				
Default Save to USB Options					
<b>NOTE:</b> The same options are available for each of these features, except where noted.					The <a href="#">E-mail Setup Wizard</a> feature configures the 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 IP address into a Web browser.

**Table 2-62 Scan/Digital Send Settings menu (M880) (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>Defines the default job options for each function. If you do not specify the job options when creating the job, the default options are used. For complete setup, go to the HP Embedded Web Server by typing the IP address of the product into a Web browser.</p> <p>Use the <a href="#">Image Preview</a> feature to scan a document and display a preview before completing the job. Select whether this feature is available on the product.</p> <p><b>Make optional:</b> The feature is optional, depending on the user who is signed in.</p> <p><b>Require preview</b> Previews are required for all users.</p> <p><b>Disable preview:</b> Previews are disabled for all users.</p>
		Default File Name			<p>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.</p>

**Table 2-62 Scan/Digital Send Settings menu (M880) (continued)**

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

**Table 2-62 Scan/Digital Send Settings menu (M880) (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, or a mixture.</p> <p><b>Manually adjust:</b> Use to manually optimize the setting for text or for pictures.</p> <p><b>Text:</b> Use to optimize the text portion of the copy when text and/or pictures are on the original.</p> <p><b>Printed picture:</b> Use for line drawings and preprinted images, such as magazine clippings or pages from books.</p> <p><b>Photograph:</b> Best suited for making copies of printed pictures.</p>
		Output Quality		High (large file)  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 2-62 Scan/Digital Send Settings menu (M880) (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 <a href="#">Orientation</a> setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the 2-sided format that matches the original document.
			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 <a href="#">Orientation</a> area, select whether the original document has a portrait or landscape orientation.

**Table 2-62 Scan/Digital Send Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
			2-Sided Format	Book-style Flip-style	<p><b>Book-style:</b> The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge.</p> <p><b>Flip-style:</b> The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.</p>
		Resolution		400 dpi 300 dpi 200 dpi 150 dpi* 75 dpi	<p>Sets the resolution for sent documents. Higher resolution images have more dots per inch (dpi), so they show more detail. Lower resolution images have fewer dots per inch and show less detail, but the file size is smaller. Some file types, for example a file that will be processed with OCR, require a specific resolution. When these file types are selected, the <b>Resolution</b> setting might automatically change to a valid value.</p>

**Table 2-62 Scan/Digital Send Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		Content Orientation	Orientation	Auto 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 <a href="#">Book-style</a> option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the <a href="#">Flip-style</a> option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge.



**Table 2-62 Scan/Digital Send Settings menu (M880) (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.  <b>Automatically detect:</b> Automatically scans documents in color if at least one page has color.  <b>Color:</b> Scans documents in color.  <b>Black/Gray:</b> Scans documents in grayscale.  <b>Black:</b> 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 Print E-mail	Configure to receive notification about the status of a sent document.  <b>Do not notify:</b> Turns off this feature.  <b>Notify when job completes:</b> Select to receive notification for this job only.  <b>Notify only if job fails:</b> Select to receive notification only if the job is not sent successfully.  <b>Print:</b> Select to print the notification at this product.  <b>E-mail:</b> Select to receive the notification to an email account.
			Include Thumbnail		<b>NOTE:</b> When sending an analog fax, select <b>Include Thumbnail</b> to receive a thumbnail image of the first page of the fax in your notification.

**Table 2-62 Scan/Digital Send Settings menu (M880) (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 <a href="#">Email Address</a> , and then type the email address for the notification.
		Image Adjustment	Darkness		Use to improve the overall quality of the copy.  Adjust the <a href="#">Darkness</a> setting to increase or decrease the amount of white and black in the colors.
			Contrast		Adjust the <a href="#">Contrast</a> setting to increase or decrease the difference between the lightest and darkest color on the page.
			Background Cleanup		Adjust the <a href="#">Background Cleanup</a> setting if you are having trouble copying a faint image.
			Sharpness		Adjust the <a href="#">Sharpness</a> setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photographs appear smoother.
			Automatic Tone		The product automatically adjusts the <a href="#">Darkness</a> , <a href="#">Contrast</a> , and <a href="#">Background Cleanup</a> settings to the most appropriate for the scanned document.
			Default		Select this to make the selected <a href="#">Image Adjustment</a> setting the default value.

**Table 2-62 Scan/Digital Send Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		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 <b>Finish</b> 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 <b>Crop to content</b> 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 2-62 Scan/Digital Send Settings menu (M880) (continued)**

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

## Fax Settings menu (M880)

**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 2-63 Fax Settings menu (M880)**

First level	Second level	Third level	Fourth level	Values	Description
Fax Send Settings	Fax Send Setup	Fax Setup Wizard			Configure settings for sending faxes from the product.  Use the <a href="#">Fax Setup Wizard</a> feature to set up options for faxing.  <b>NOTE:</b> To set up LAN fax or Internet fax, use the HP Embedded Web Server. To open the HP Embedded Web Server, type the product network address into a Web browser. To configure the fax features, select the <b>Fax</b> tab.
		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	

**Table 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
			Redial on Busy	Range: 0 – 9 Default = 3	
		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 or overlay the fax header page.
			Fax Number Speed Dial Matching	Enabled Disabled*	Use this item to match the fax number that you type to numbers that are saved as a speed dial.

**Table 2-63 Fax Settings menu (M880) (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 <a href="#">Allow users to edit billing codes</a> check box is not checked.</p> <p>You can also use the billing codes report in the <a href="#">Reports</a> menu to view the list of the billing codes that have been used for faxes that have been sent from the 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 <a href="#">Billing Code</a> field when the user sends an outgoing fax. If this field is blank, no default billing code is provided for the user.
			Minimum Length	Range: 1 – 16 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 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	Default Job Options	Image Preview		<a href="#">Make optional*</a> <a href="#">Require preview</a> <a href="#">Disable preview</a>	<p>Use the <a href="#">Image Preview</a> feature to scan a document and display a preview before completing the job. Select whether this feature is available on the product.</p> <p><a href="#">Make optional</a>: The feature is optional, depending on the user who is signed in.</p> <p><a href="#">Require preview</a> Previews are required for all users.</p> <p><a href="#">Disable preview</a>: Previews are disabled for all users.</p>
		Resolution		<a href="#">Standard (100 x 200dpi)*</a> <a href="#">Fine (200 x 200dpi)</a> <a href="#">Superfine (300 x 300dpi)</a>	<p>Select the resolution for outgoing faxes. If you increase the resolution, faxes might be clearer but they could transmit more slowly. Some file types, for example a file that will be processed with OCR, require a specific resolution. When these file types are selected, the <a href="#">Resolution</a> setting might be automatically changed to a valid value.</p>



**Table 2-63 Fax Settings menu (M880) (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 <a href="#">Orientation</a> setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the 2-sided format that matches the original document.
			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.  <b>Portrait:</b> This setting means the short edge of the page is along the top.  <b>Landscape:</b> This setting means the long edge of the page is along the top.
			2-Sided Format	Book-style* Flip-style	<b>Book-style:</b> The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge.  <b>Flip-style:</b> The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.

**Table 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		Notification		Do not notify* Notify when job completes Notify only if job fails	Use 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	Print: Select to print the notification at this product.  E-mail: Select to receive the notification in an email. Touch the text box following Email Address, and then enter the email address for the notification.
			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	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 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
			2-Sided Format	Book-style* Flip-style	Use to configure the default style for 2-sided print jobs. If the <a href="#">Book-style</a> option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the <a href="#">Flip-style</a> option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge.
		Original Size		Select from a list of sizes that the product supports.	Use to describe the page size of the original document.
		Image Adjustment	Darkness		Use to improve the overall quality of the copy.  Adjust the <a href="#">Darkness</a> setting to increase or decrease the amount of white and black in the colors.
			Contrast		Adjust the <a href="#">Contrast</a> setting to increase or decrease the difference between the lightest and darkest color on the page.
			Background Cleanup		Adjust the <a href="#">Background Cleanup</a> setting if you are having trouble copying a faint image.
			Sharpness		Adjust the <a href="#">Sharpness</a> setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photographs appear smoother.

**Table 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
			Automatic Tone		The product automatically adjusts the <a href="#">Darkness</a> , <a href="#">Contrast</a> , and <a href="#">Background Cleanup</a> settings to the most appropriate for the scanned document.
			Default		Select this to make the selected <a href="#">Image Adjustment</a> setting the default value.
		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 mixture.</p> <p><b>Manually adjust:</b> Use to manually optimize the setting for text or for pictures.</p> <p><b>Text:</b> Use to optimize the text portion of the copy where text and/or pictures are on the original.</p> <p><b>Printed picture:</b> Use for line drawings and preprinted images, such as magazine clippings or pages from books.</p> <p><b>Photograph:</b> Best suited for making copies of printed pictures.</p>

**Table 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		Job Build		Job Build off* Job Build on	Use to divide a complex job into smaller segments. This is useful when you are copying or scanning an original document that has more pages than the document feeder can hold, or when you want to combine pages that have different sizes into one job. You can use either the glass or the document feeder to scan the original documents.
		Blank Page Suppression		Disabled* Enabled	Prevents blank pages in the original document from being included in the output document.
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	

**Table 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	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  Touch this to set up a fax printing schedule if you selected the Use Fax Printing Schedule option.	Add (plus sign)  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.

**Table 2-63 Fax Settings menu (M880) (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 <a href="#">Fax Number to Block</a> field, and then touch the arrow button to add a new number to the blocked fax list.</p> <p>To remove blocked numbers: Select a number and touch the <a href="#">Delete</a> button to delete it from the blocked fax list.</p> <p>To clear all blocked numbers: Touch the <a href="#">Delete All</a> button to clear all of the numbers from the blocked fax list.</p> <p>You can also use the <a href="#">Blocked Fax List</a> report in the <a href="#">Information</a> menu to view the list of the fax numbers that have been blocked on this product.</p>

**Table 2-63 Fax Settings menu (M880) (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 Email Address, and then enter the email address for the notification.
			Include Thumbnail		<b>NOTE:</b> 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		
		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.
		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 set to Disabled, faxes larger than Letter or A4 will flow across multiple pages.



**Table 2-63 Fax Settings menu (M880) (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		Paper Selection		Automatic*	
				Select from a list of the trays.	
		Sides		1-sided*	Use to describe the layout for each side of the original document. First select whether the original document is printed on one side or both sides. Then touch the <a href="#">Orientation</a> setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the <a href="#">2-sided</a> format that matches the original document.
				2-sided	
Fax Forwarding	Enable Fax Forwarding			Disabled*	Use to forward received faxes to another fax machine.
				Enabled	
		Type of Fax Job to Forward		All faxes	
				Sent faxes	
				Received faxes	
		Fax Forwarding Number			
	Clear Fax Activity Log				Clears all events from the <a href="#">Fax Activity Log</a> 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 2-64** 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 <a href="#">Regular</a> , which uses an average stroke width. The <a href="#">Dark</a> setting can be used if a heavier Courier font is needed.
		Dark	
Wide A4		Enabled	Changes the printable area of A4-size paper. If you enable this option, eighty 10-pitch characters can be printed on a single line of A4 paper.
		Disabled*	
Print PS Errors		Enabled	Use this feature to select whether a PostScript (PS) error page is printed when the 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 2-64 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 <a href="#">Form Length</a> feature to select the user-soft default vertical form length.
	Orientation	<a href="#">Portrait</a> * <a href="#">Landscape</a>	Select the orientation that is most often used for copy or scan originals. Select the <a href="#">Portrait</a> option if the short edge is at the top or select the <a href="#">Landscape</a> option if the long edge is at the top.
	Font Source	<a href="#">Internal</a> *	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 <a href="#">Font Source</a> 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 <a href="#">Font Source</a> option and the <a href="#">Font Number</a> 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 <a href="#">Font Source</a> option and the <a href="#">Font Number</a> 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 2-64 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 <b>Yes</b> to append the carriage return. The default setting is <b>No</b> . Some environments, such as UNIX, indicate a new line by using only the line-feed control code. This option allows the user to append the required carriage return to each line feed.
	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 <b>Yes</b> 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:  <b>Standard:</b> Tray numbering is based on newer HP LaserJet models.  <b>Classic:</b> 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 2-65** 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 <a href="#">Copy</a> function or the <a href="#">Quick Copy</a> function is initiated from the product Home screen.
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 <b>Custom</b> 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 <a href="#">1-sided original</a> , <a href="#">2-sided output</a> option when the original is printed on one side, but you want to make two-sided copies.  Select the <a href="#">Orientation</a> setting to specify portrait or landscape orientation and to select the way the second sides are printed.

**Table 2-65 Default Print Options menu (continued)**

First level	Second level	Values	Description
2-Sided Format		<a href="#">Book-style*</a> <a href="#">Flip-style</a>	<p>Configures the default style for 2-sided print jobs. If the <a href="#">Book-style</a> option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the <a href="#">Flip-style</a> option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge.</p>
Edge-to-Edge		<a href="#">Normal (recommended)*</a> <a href="#">Edge-to-Edge output</a>	<p>Use to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges.</p>

## 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 2-66 Display Settings menu**

First level	Second level	Values	Description
Display Brightness		Range: -10 to 10 The default value is 0.	Use to specify the intensity of the LCD control-panel display.
Key Press Sound		On*	Use to specify whether you hear a sound when you touch the screen or press buttons on the control panel.
M880 only		Off	
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.
	M880 only		
How to Connect Button		Display*	Use this menu item to display or hide the <a href="#">How to Connect Button</a> on the Home screen.
M880 only		Hide	
Network Address Button		Display*	Use this menu item to display or hide the IP address on the Home screen.
M855 only		Hide	
Date and Time		Show Date and Time*	Select whether to display or hide the date and time on the control panel Home screen.
M880 only		Hide Date and Time	
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 menu, and any user signed in to the product is signed out.

**Table 2-66 Display Settings menu (continued)**

First level	Second level	Values	Description
Clearable Warnings		On	Use this feature to set the period that a clearable warning displays on the control panel. If the <b>On</b> setting is selected, clearable warnings appear until the <b>Clearable Warnings</b> button is pressed. If the <b>Job</b> 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 <b>Auto-continue (10 seconds)</b> option is selected, the job will continue after 10 seconds. If the <b>Touch OK to continue</b> option is selected, the job will stop and require the user to press the <b>OK</b> 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 2-67** Manage Supplies menu

First level	Second level	Third level	Fourth level	Values	Description
Supplies Status				Print View (M880 only)	
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 very low.
		Very Low Settings		Stop Prompt to continue* Continue	Specifies how the product notifies you when the toner cartridge is very low.  <b>Stop:</b> The product stops until you replace the toner cartridge.  <b>Prompt to continue:</b> The product stops and prompts you to replace the toner cartridge. You can acknowledge the prompt and continue printing.  <b>Continue:</b> 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.
	Document Feeder Kit M880 only	Low Threshold Settings		1-100% Default = 10%	Set the percentage at which the product notifies you when a document feeder kit is needed.

**Table 2-67 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 document feeder kit is reaching the end of its estimated life.</p> <p><b>Stop:</b> The product stops until you replace the document feeder kit.</p> <p><b>Prompt to continue:</b> The product stops and prompts you to replace the document feeder kit. You can acknowledge the prompt and continue printing</p> <p><b>Continue:</b> The product alerts you that the document feeder kit is very low, but it continues printing.</p>
	Restrict Color Use			Enable Disable color Color if allowed*	<p>Use this feature to enable, restrict, or disable color printing or copying.</p>

**Table 2-67 Manage Supplies menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	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><b>Auto:</b> 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><b>Mostly Color Pages:</b> The product uses color mode for all jobs, even if the job contains no color pages.</p> <p><b>Mostly Black Pages:</b> 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>
	Maintenance Kit M855 only	Low Threshold Settings		1-100% Default = 10%	Set the percentage at which the product notifies you when the maintenance kit is needed.

Table 2-67 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 maintenance kit is reaching the end of its estimated life.</p> <p><b>Stop:</b> The product stops until you replace the maintenance kit.</p> <p><b>Prompt to continue:</b> The product stops and prompts you to replace the maintenance kit. You can acknowledge the prompt and continue printing.</p> <p><b>Continue:</b> The product alerts you that the maintenance kit is very low, but it continues printing.</p>
	Fuser Kit	Low Threshold Settings		1-100% Default = 10%	<p>Set the estimated percentage at which the product notifies you when the fuser is low.</p>
		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><b>Stop:</b> The product stops until you replace the fuser.</p> <p><b>Prompt to continue:</b> The product stops and prompts you to replace the fuser. You can acknowledge the prompt and continue printing.</p> <p><b>Continue:</b> The product alerts you that the fuser is very low, but it continues printing.</p>

**Table 2-67 Manage Supplies menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	Store Usage Data			On supplies Not on supplies	The <b>Store Usage Data</b> menu provides a way to suppress the toner cartridges from storing most of the information gathered exclusively for the purpose of understanding the usage of the product. Select the <b>On supplies</b> setting to store the data on the toner cartridge memory chip. Select the <b>Not on supplies</b> setting to suppress the information from being stored on the memory chip.
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 Document Feeder Kit (M880) New Maintenance Kit (M855)			Reset Cancel	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 2-68** Manage Trays menu

First level	Values	Description
Use Requested Tray	Exclusively*	Controls how the product handles jobs that have specified a specific input tray. Two options are available:  <b>Exclusively:</b> 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.  <b>First:</b> The product pulls from another tray if the specified tray is empty, even though the user specifically indicated a tray for the job.
	First	
Manually Feed Prompt	Always*	Indicate 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:  <b>Always:</b> A prompt always displays before using the multipurpose tray.  <b>Unless loaded:</b> A message displays only if the multipurpose tray is empty.
	Unless loaded	
Size/Type Prompt	Display*	Controls whether the tray configuration message displays whenever a tray is closed. Two options are available:  <b>Display:</b> Shows the tray configuration message when a tray is closed. The user is able to configure the tray settings directly from this message.  <b>Do not display:</b> Prevents the tray configuration message from automatically appearing.
	Do not display	
Use Another Tray	Enabled*	Use to turn on or off the control panel prompt to select another tray when the specified tray is empty. Two options are available:  <b>Enabled:</b> When this option is selected, the user is prompted either to add paper to the selected tray or to choose a different tray.  <b>Disabled:</b> 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.
	Disabled	

**Table 2-68 Manage Trays menu (continued)**

First level	Values	Description
Alternative Letterhead Mode	Disabled* Enabled	Use to load letterhead or preprinted paper into the tray the same way for all print jobs, whether you are printing to one side of the sheet or to both sides of the sheet. When this option is selected, load the paper as you would for printing on both sides. See the user documentation that came with the 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.
Duplex Blank Pages	Auto* Yes	Controls how the product handles two-sided jobs (duplexing). Two options are available:  <b>Auto:</b> Enables Smart Duplexing, which instructs the product not to process blank pages.  <b>Yes:</b> Disables Smart Duplexing and forces the duplexer to flip the sheet of paper even if it is printed on only one side. This might be preferable for certain jobs that use paper types such as letterhead or prepunched paper.
Override A4/Letter	Yes* No	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 with ledger-size paper and ledger with A3-size paper.

## 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 2-69 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 is interrupted, this setting indicates how long the product will wait before it reports that the job has failed.
Jetdirect Menu	See <a href="#">Table 2-70 Jetdirect Menu on page 422</a> for details. These menus have the same structure. If an additional HP Jetdirect network card is installed in the EIO slot, then both menus are available.	

**Table 2-70 Jetdirect Menu**

First level	Second level	Third level	Fourth level	Values	Description
Information	Print Sec Report			Yes No*	<b>Yes:</b> Prints a page that contains the current security settings on the HP Jetdirect print server. <b>No:</b> A security settings page is not printed.
TCP/IP	Enable			On* Off	<b>On:</b> Enable the TCP/IP protocol. <b>Off:</b> Disable the TCP/IP protocol.
	Host Name			Use the arrow buttons to edit the host name. NPIXXXXXX*	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 NPIxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.



**Table 2-70 Jetdirect Menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	IPv4 Settings	Config Method		<a href="#">Bootp</a> <a href="#">DHCP*</a> <a href="#">Auto IP</a> <a href="#">Manual</a>	<p>Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server.</p> <p><a href="#">Bootp</a> (Bootstrap Protocol): Use for automatic configuration from a BootP server.</p> <p><a href="#">DHCP</a> (Dynamic Host Configuration Protocol): Use for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, the <a href="#">DHCP Release</a> menu and the <a href="#">DHCP Renew</a> menu are available to set DHCP lease options.</p> <p><a href="#">Auto IP</a>: Use for automatic link-local IPv4 addressing. An address in the form 169.254.x.x is assigned automatically.</p> <p>If you set this option to the <a href="#">Manual</a> setting, use the <a href="#">Manual Settings</a> menu to configure TCP/IPv4 parameters.</p>
		<a href="#">Manual Settings</a> <b>NOTE:</b> This menu is available only if you select the <a href="#">Manual</a> option under the <a href="#">Config Method</a> menu.	<a href="#">IP Address</a>	Enter the address.	(Available only if the <a href="#">Config Method</a> option is set to the <a href="#">Manual</a> option.) Configure parameters directly from the product control panel.
			<a href="#">Subnet Mask</a>	Enter the address.	
			<a href="#">Default Gateway</a>	Enter the address.	

Table 2-70 Jetdirect Menu (continued)

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

Table 2-70 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		DHCPV6 Policy		Router Specified Router Unavailable* Always	<p><b>Router Specified:</b> The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address, its configuration information, or both from a DHCPv6 server.</p> <p><b>Router Unavailable:</b> If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server.</p> <p><b>Always:</b> Whether a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.</p>
	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>

**Table 2-70 Jetdirect Menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	Proxy Port			Default = <b>00080</b>	Enter the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network, and can be a value from 0 to 65535.
	Idle Timeout			Default = <b>0270</b>	The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).
Security	Secure Web			<b>HTTPS Required*</b> <b>HTTPS Optional</b>	For configuration management, specify whether the HP Embedded Web Server will accept communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS.  <b>HTTPS Required:</b> For secure, encrypted communications, only HTTPS access is accepted. The print server will appear as a secure site.
	IPSEC			<b>Keep</b> <b>Disable*</b>	Specify the IPsec status on the print server.  <b>Keep:</b> IPsec status remains the same as currently configured.  <b>Disable:</b> IPsec operation on the print server is disabled.

**Table 2-70 Jetdirect Menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	802.1X			Reset Keep*	<p>Specify whether the 802.1X settings on the print server are reset to the factory defaults.</p> <p><b>Reset:</b> The 802.1X settings are reset to the factory defaults.</p> <p><b>Keep:</b> The current 802.1X settings are maintained.</p>
	Reset Security			Yes No*	<p>Specify whether the current security settings on the print server will be saved or reset to factory defaults.</p> <p><b>Yes:</b> Security settings are reset to factory defaults.</p> <p><b>No:</b> The current security settings are maintained.</p>

**Table 2-70 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 <a href="#">Execute</a> 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><b>CAUTION:</b> Running this embedded test will erase your TCP/IP configuration.</p> <p>This test performs an internal loop-back test. An internal loop-back test will send and receive packets only on the internal network hardware. There are no external transmissions on your network.</p>

**Table 2-70 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 <b>Yes</b> option to choose this test, or the <b>No</b> 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 <b>Yes</b> option to choose this test, or the <b>No</b> 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 <b>Yes</b> option to choose this test, or the <b>No</b> 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 <b>Yes</b> option to choose all tests. Select the <b>No</b> option to select individual tests.</p>

Table 2-70 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. It sends link-level packets to a remote network host, then waits for an appropriate response.  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		Default = 64	Specify the size of each packet, in bytes, to be sent to the remote host. The minimum is 64 (default) and the maximum is 2048.
		Timeout		Default = 001	Specify the length of time, in seconds, to wait for a response from the remote host. The maximum is 100.



**Table 2-70 Jetdirect Menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		Count		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		Default = 00000	Shows the number of packets (0 - 65535) sent to the remote host since the most recent test was initiated or completed.
		Packets Received		Default = 00000	Shows the number of packets (0 - 65535) received from the remote host since the most recent test was initiated or completed. The default is 0.
		Percent Lost		Default = 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		Default = 0000	Shows the minimum detected roundtrip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
		RTT Max		Default = 0000	Shows the maximum detected roundtrip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.

**Table 2-70 Jetdirect Menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		RTT Average		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. <b>Yes</b> Indicates a test in progress. <b>No</b> 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 <b>Yes</b> option to upgrade the data, or the <b>No</b> option to maintain the existing data. However, a refresh automatically occurs when the menu times out or you manually return to the main menu.

**Table 2-70 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. Select one of the following link configuration settings:</p> <p><b>CAUTION:</b> If you change the link setting, network communications with the print server and network 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 <a href="#">100TX Half</a> feature or the <a href="#">10T Half</a> feature is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.)</p>
				<a href="#">10T Half</a>	10 Mbps, half-duplex operation.
				<a href="#">10T Full</a>	10 Mbps, full-duplex operation.
				<a href="#">10T Auto</a>	100 Mbps, half-duplex operation.
				<a href="#">100TX Half</a>	100 Mbps, full-duplex operation.
				<a href="#">100TX Full</a>	Limits auto-negotiation to a maximum link speed of 100 Mbps.
				<a href="#">100TX Auto</a>	1000 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 2-71 Troubleshooting menu**

First level	Second level	Third level	Fourth level	Values	Description
Event Log				View*	Use to 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.
M880 only				Print	
Print Event Log					Use to 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.
M855 only					
View Event Log					Use to 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.
M855 only					
Paper Path Page				View* (M880 only)	Shows how many pages were printed from each tray.
				Print	
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.
M880 only					
		When to Print Report		Never automatically print*	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.
				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	

**Table 2-71 Troubleshooting menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	Fax V.34			Normal* Off	Use to disable V.34 modulations if several fax failures have occurred or if phone line conditions require it.
	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 Fuser Test Page			Print	Use to print pages that help you resolve problems with print quality.
	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 electrophotographic (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.

**Table 2-71 Troubleshooting menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
		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.
Diagnostic Tests	Paper Path Sensors			Select from a list of the product sensors.	Initiates a test of the paper path sensors.
	Paper Path Test	Print Test Page			
		Source Tray		Select from a list of the available trays.	Generates a test page for testing paper handling features. You can define the path that is used for the test in order to test specific paper paths.
		Output Bin (M880 only)		All Bins Face Down Face Up	
		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 Copy or Quick Copy function is initiated from the product Home screen. The factory default setting is 1.
	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.

**Table 2-71 Troubleshooting menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	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.
	Print/Stop Test				Specify the length of time in milliseconds (0-60,000).
	Continuous Scan (M880 only)			2-sided	
	Scanner Tests (M880 only)			Sensors	
Retrieve Diagnostic Data				Create device data file  Create zipped debug information file  Include crash dump files  Clean up debug information  Send to E-mail  Export to USB	Create files that contain information about the product that can help identify the cause of problems.
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 2-72 Backup/Restore menu**

First level	Second level	Third level	Values	Description
Backup Data	Enable Scheduled Backups	Backup Time	Enter a time	Set a time for a scheduled backup to occur.
		Days Between Backups	Enter the number of days	Set an interval for a scheduled backup to occur.
	Backup Now			Initiate a backup.
	Export Last Backup			Export backup data.
Restore Data			Insert a USB drive that contains the backup file.	Restore data from an external source.

### Calibration/Cleaning menu (M880)

**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 2-73 Calibration/Cleaning menu (M880)**

First level	Second level	Values	Description
Cleaning Settings	Auto Cleaning	Off* On	Select the <a href="#">Auto Cleaning</a> menu or the <a href="#">Cleaning Interval</a> menu.
	Cleaning Interval	Select from a list of cleaning intervals.	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 <a href="#">Create Cleaning Page</a> menu. The process takes up to 1.5 minutes.



**Table 2-73 Calibration/Cleaning menu (M880) (continued)**

First level	Second level	Values	Description
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 seem incorrect.</p> <p>Before calibrating the product, make sure that the <b>Ready</b> 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 <b>Ready</b> indicator displays on the control-panel display. If a job is in progress, the calibration occurs when that job is complete.</p>

Table 2-73 Calibration/Cleaning menu (M880) (continued)

First level	Second level	Values	Description
Delay Calibration at Wake/ Power On		Disabled	Controls the timing of power-on calibration when the product wakes up or is turned on.  <b>Wake:</b> 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.  <b>No:</b> The product will calibrate immediately when it wakes up or is turned on. The product will not print any jobs until it finishes calibrating.  <b>Yes:</b> 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.  <b>NOTE:</b> For the best results, allow the product to calibrate before printing. Print jobs performed before calibration might not be of the highest quality.
		Enabled*	
Calibrate Scanner			Touch <b>Next</b> to calibrate the device scanner. Messages on the control-panel display will lead you through the calibration process.
Clean Rollers		Reset Cancel	<b>Maintenance History</b> screen is view only. There are two options: the <b>Reset</b> option to reset the page count, or the <b>Cancel</b> option to go back to the previous screen.
Clean Document Feeder Settings	Low Threshold Settings	Range: 0 – 100% Default = 10%	Configure cleaning settings for the document feeder.
	Very Low Settings	Stop Prompt to continue* Continue	Configure the product action if the document feeder requires cleaning.

## Calibration/Cleaning menu (M855)

**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 2-74 Calibration/Cleaning menu (M855)**

First level	Second level	Values	Description
Auto Cleaning		Off* On	Set an automatic cleaning period for the product.
Cleaning Interval		Select from a list of cleaning intervals.	Set the interval when the automatic cleaning page should be printed. The interval is measured by the number of pages printed.
Auto Cleaning Size		Select from a list of support sizes.	Select the paper size to use for the automatic cleaning page.
Print Cleaning Page			Prints a page to clean the paper path. The process takes up to 1.5 minutes.

## 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. See the Service mode function section in the product troubleshooting manual.

## Interpret control-panel messages and event log entries

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



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**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 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.



---

**NOTE:** Some of the messages in the following sections only appear in the event log.

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**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.

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## 10.XX.YZ Error Messages

### 10.0X.00 e-Label Memory Error

#### Description

10.00.00 Black Print Cartridge

10.01.00 Cyan Print Cartridge

10.02.00 Magenta Print Cartridge

10.03.00 Yellow Print Cartridge

10.05.00 Black Image Drum

10.06.00 Cyan Image Drum

10.07.00 Magenta Image Drum

10.08.00 Yellow Image Drum

The product is unable to read the Print Cartridge or image drum memory tag data.

The Print cartridge or image drum is present but defective.

This message indicates that the product has determined that it cannot read or write to one of the e-labels of the print cartridge or image drum.

This error can cause the supplies status feature to become disabled.

**Recommended action**

1. Open the front door and remove the Print Cartridge or Image Drum suspected.
2. Check the e-label. If it is damaged, replace the Cartridge or the Drum
3. Reinsert the cartridge or the Drum.
4. Close the front door.
5. If the message displays again, turn the product off then on.
6. If the error persists, replace the Print cartridge or Image Drum suspected.

**10.0X.10 e-Label Missing Memory Error**

**Description**

10.00.10 Black Print Cartridge

10.01.10 Cyan Print Cartridge

10.02.10 Magenta Print Cartridge

10.03.10 Yellow Print Cartridge

10.05.10 Black Image Drum

10.06.10 Cyan Image Drum

10.07.10 Magenta Image Drum

10.08.10 Yellow Image Drum

The product is unable to detect one or more of the E-labels

This error can cause the supplies status feature to become disabled.

**Recommended action**

1. Open the front door and remove the Print Cartridge or Image Drum suspected.
2. Check the e-label. If it is damaged, replace the Cartridge or the Drum.
3. Reinsert the cartridge or the Drum.
4. Close the front door.

5. If the error persists, replace the print cartridge or Image drum
6. If the error persists, replace the appropriate interface PCA

#### 10.0X.15 Install <supply> (Event Code)

##### **Description**

- 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 (Event Code) Fuser Kit
- 10.31.15 (Event Code) Toner Collection unit (TCU)

The indicated supply has been removed or installed incorrectly.

##### **Recommended action**

Replace or install the indicated supply.

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

#### 10.0X.25 Wrong cartridge in <color> slot

##### **Description**

- 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

The indicated cartridge is installed in the wrong position.

##### **Recommended action**

Install the indicated cartridge in the correct position.

From left to right, the correct cartridge order follows:

- Yellow
- Magenta
- Cyan
- Black

#### 10.0X.34 Used Supply in use

##### **Description**

- 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

The indicated cartridge is used.

**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.

---

**10.0X.35 Incompatible <supply>**

**Description**

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

The indicated supply is not compatible with this product.

**Recommended action**

Install a supply that is designed for this product.

See the parts chapter in the service manual for the correct supply part number

**10.0X.40 Genuine HP supplies installed**

**Description**

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

More than one genuine HP print cartridge has been installed.

**Recommended action**

No action necessary.

**10.0X.41 Unsupported Supply in use**

**Description**

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

The indicated print cartridge is for a different product.

**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.

---

### 10.0X.70 Printing past very low (EVENT CODE)

**Description**

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

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.


---

**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.

---

### 10.0X.90 Replace <Color> cartridge

**Description**

10.00.90 Black Print Cartridge

10.01.90 Cyan Print Cartridge

10.02.90 Magenta Print Cartridge

10.03.90 Yellow Print Cartridge

A toner replenishment malfunction occurred and the toner concentration in the image drum dropped below 30%. This applies to both HP and non-HP print cartridges.

OR

Error occurs when Print (toner) cartridge has been used past end-of-life to the point the reservoir in the Drum no longer has enough toner to safely continue printing



### **Recommended action**

1. Replace Print Cartridge.
2. If replacing the Print cartridge does not resolve the problem, replace the image drum.
3. If replacing the image drum does not resolve the problem, replace the appropriate cartridge interface PCA

### **10.0X.91 Cartridge Error**

#### **Description**

10.00.91 Black Print Cartridge

10.01.91 Cyan Print Cartridge

10.02.91 Magenta Print Cartridge

10.03.91 Yellow Print Cartridge

Cartridge motor stall

#### **Recommended action**

1. Check Event log for occurrences of 59.6X errors. If these are seen troubleshooting that error.
2. Perform the image-drum motors component test in the Troubleshooting menu.
3. Replace the Print Cartridge.

No action necessary.

### **10.0X.92 Cartridge Error**

#### **Description**

10.00.92 Black Print Cartridge

10.01.92 Cyan Print Cartridge

10.02.92 Magenta Print Cartridge

10.03.92 Yellow Print Cartridge

Cartridges not engaged.

#### **Recommended action**

1. Open front door, Remove and reinstall Print cartridge.
2. Check print cartridge for any damage or defects.
3. Replace Print Cartridge.

### **10.22.60 (Control Panel Message: Transfer Kit Low) 10.22.69 (Control panel Message: Transfer Kit Very Low)**

#### **Description**

The product indicates when Transfer Kit (TCU) is either low or very low.

The actual remaining Transfer kit life might vary.

**Recommended action**

No action necessary.


If print quality is no longer acceptable, replace the TCU. See the parts chapter in the service manual for the Transfer kit part number.

**10.22.70 Printing Past Very Low (Event Code) Transfer Kit**

**Description**

The product indicates when Transfer Kit (TCU) is very low. The actual remaining Transfer kit life might vary.

---


 **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 TCU. See the parts chapter in the service manual for the Transfer kit part number.

---

 **TIP:** Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.


---

**10.23.35 Incompatible Supply (event code) Fuser Kit**

**Description**

The indicated supply is not compatible with this product.

---

 **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 service manual for the correct supply part number

**10.23.60 (Control panel Message: Fuser Kit Low) 10.22.69 (Control panel Message: Fuser Kit Very Low)**

**Description**

The product indicates when Fuser Kit is either low or very low.

The actual remaining Fuser kit life might vary.

**Recommended action**

No action necessary.

If print quality is no longer acceptable, replace the Fuser Kit.

See the parts chapter in the service manual for the Fuser Kit part number.


### 10.23.70 Printing Past Very Low (Event Code) Fuser Kit

#### Description

The product indicates when 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.

---


 **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 service manual for the fuser kit part number.

---

 **TIP:** Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

---

### 10.39.50 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 ADF kit clean rollers recommended

#### 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.

See the parts chapter in the service manual for the correct part number.

**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.

See the parts chapter in the service manual for the correct part number.

**10.99.91 Cartridge motor stall, no particular cartridge****Description**

Cartridge motor stall

### Recommended action

1. Check Event log for occurrences of 59.6X errors, If these errors are seen troubleshoot that error.
2. Perform the image-drum motors component test in the Troubleshooting menu.
3. Replace the Print Cartridge

Replace or install the indicated supply.

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

## 11.XX.YZ Error Messages

### 11.00.01 or 11.00.02 Internal clock error

#### Description

This message indicates a problem with the formatter's real time clock.

The product real time clock has experienced an error.

01=dead clock

02=dead real time clock

#### Recommended action

1. Whenever the product is turned off and then turned on again, set the time and date on the control panel.
2. If the error persists, you might need to replace the formatter.

## 13.XX.YZ Error Messages

### 13.60.Az

#### Description

Stacker Entrance Sensor Stay Jam . Jam in the top left door

Finishers upper-feed-path-entry sensor (PI103) is remaining activated longer than expected, suggesting that paper has jammed at the sensor.

The specific jam error code will be one of the following forms:

- 13.60.A1
- 13.60.A2
- 13.60.A3

#### Recommended action

1. Remove any media in the upper paper path that might be activating sensor PI33..
2. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.

3. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
4. Verify that the wiring at the sensor is not damaged and that the connector J708 on the stacker controller PCA is fully seated

### 13.60.Dz

#### Description

Stacker Entrance Sensor Delay Jam

Jam in the top left door.

The engine signals the finisher that paper is about to enter the finisher from either the Switch Back assembly or the Hole Punch assembly if installed.

The finisher's upper-feed-path-entry sensor (PI103), which detects paper entering the finisher, does not detect the paper within the expected time period triggering the error.

The specific jam error code will be one of the following forms:

- 13.60.D1
- 13.60.D2
- 13.60.D3

#### Recommended action

1. Print and analyze the event log, looking for related jams occurring either in the Switch Back assembly or the Hole Punch assembly. These errors might be the result of media failing to reach the output device in the correct amount of time. Troubleshoot all Printer Engine Jams first.
2. Make sure that media is in good condition, and not wrinkled or damaged.
3. Make sure that the correct paper size in the trays is selected according the paper size being fed.
4. Check the finisher entry-point guides for damage.
5. Verify where the leading edge of the media is when the Jam occurs.
6. has media made it through Switch Back registration?  
Test M2 registration motor
7. Verify that the finisher rollers are turning before the media leaves the Printer. If the rollers are not turning, test motor M110 and M101 by using the finisher component test from the control-activate during the test, check the connectors for motor M110 (Saddle inlet Motor) M101 (inlet motor).
8. Make sure that connector J17 is fully seated on the stacker controller PCA.. If the error persists, replace motor M110 or M101 or the corresponding assembly.
9. Replace the stacker controller PCA.
10. If media is found in the finisher but has not reached sensor PI103, perform the following steps:
  - Check the upper and lower guides and rollers in the paper path for damage.
  - Make sure that the media diverter gate is not blocking the paper path.

11. If media is found in the finisher-covering sensor PI103 (the sensor is not detecting the media), perform the following steps:
  - Check the sensor for obstructions. .
  - Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
  - Make sure that the lower end of the flag is not damaged and is correctly positioned to activate the sensor.
12. Make sure that the sensor is securely fastened to the chassis.
13. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
14. Verify that the wiring at the sensor is not damaged and that the intermediate connector J1007 and connector J3 on the stacker controller PCA are fully seated.
15. Replace the sensor if necessary.
16. Only if the error persists, Replace the stacker controller PCA.

### 13.60.FF

#### Description

Stacker Initial Jam

Jam in the top left door (left bins).

Finisher stay jam at either PI103 or PI104 when engine powered on.

When the engine is powered on, the finisher's upper-feed-path-entry sensor (PI103) or the upper-feed-path-exit sensor (PI104) is activated suggesting that there is paper in the upper paper path of the finisher at sensors PI103 or PI104.

#### Recommended action

1. Open the top door and remove any media in the paper path (media detected at PI103).
2. Raise the upper paper path (exit) delivery rollers and remove any media in the paper path (media detected at PI104).
3. Remove all paper found from the top left door area.
4. Verify that the sensor flags are not damaged, move freely, and are correctly aligned with the sensor body and properly mounted. Also check wiring and connectors for damage or loose connections
5. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
6. Verify that the sensor connectors (J2 and J3) are fully seated on the stacker controller PCA.  
Replace sensor PI103 and PI104
7. Only if the error persists, replace the stacker controller PCA..

## 13.64.Az

### Description

Stacker Delivery Sensor Stay Jam : Jam in the top left door (left bins)

Finisher's upper-paper-path-exit sensor (PI104) remains activated longer than expected suggesting that paper has jammed at the sensor.

The specific jam error code will be one of the following forms:

- 13.64.A1
- 13.64.A2
- 13.64.A3

**Control-panel diagnostics:** M101 (entrance motor), SL102 (buffer-roller solenoid), and SL103 (output-roller solenoid)

PI104 is located on the front frame of the finisher, above the main stapler unit.

### Recommended action

1. Remove any media in the upper paper path that might be activating sensor PI104.
2. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
3. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
4. Lift-swing-guide assembly at the paper exit area to output bins and inspect for jammed paper, obstructions, or damage.
5. Run a diagnostic through the engine control panel and turn on M101 (entrance motor) to observe gear rotations on the upper-rear frame of the finisher. Ensure that the first delivery rollers and buffer rollers that pass paper to and from PI104 are rotating.
6. Test SL102 (buffer-roller solenoid) and SL103 (output-roller solenoid) using the control-panel diagnostics.
7. Check wiring from sensor PI104 to stacker-control-board connector J2 for damage.
8. Only if the error persists and none of the previous steps correct the problem, replace the stacker controller PCA.

## 13.64.Dz

### Description

Stacker Delivery Sensor Delay Jam : Jam in the top left door.

Upper-paper-path-entry sensor (PI103) has signaled that paper has passed but upper paper-path-exit sensor PI104 does not actuate within the expected time, suggesting that the paper has jammed between PI103 and PI104 in the upper paper path.

The specific jam error code will be one of the following forms:



- 13.64.D1
- 13.64.D2
- 13.64.D3

#### Recommended action

1. Remove any media jammed in the upper paper path between sensor PI103 and sensor PI104.
2. Check the paper path between sensor PI103 and sensor PI104 for obstructions that may be preventing the media from reaching PI104.
3. Verify that the PI104 sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
4. Make sure that sensor PI104 is securely fastened to the chassis and wiring is properly connected to sensor.



**NOTE:** Sensor PI104 is located on the front frame of the finisher, directly over the primary stapler.

5. Verify that the wiring at the sensor is not damaged and that the connector J2 on the stacker controller PCA is fully seated.
6. Only if the error persists and none of the previous steps correct the problem, replace the stacker controller PCA.

## 13.67.Az

### Description

Switchback Entrance Sensor Stay Jam — Jam in the stapler/stacker connection.

Switchback entrance sensor (SR101) remains activated longer than expected suggesting that paper has jammed at the sensor.

The specific jam error code will be one of the following forms:

- 13.67.A1
- 13.67.A2
- 13.67.A3

### Recommended action

1. Remove any media in the upper paper path that might be activating sensor SR101.
2. Verify that the finisher is securely fastened to the engine.
3. Make sure that the finisher and Printer are correctly aligned.
4. Check the finisher entry-point guides for damage.
5. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
6. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.

7. Perform Sensor test on SR101. If not functioning or damaged replace Sensor.
8. Check wiring from sensor SR101 to the Reverse Driver PCA connector for damage.
9. Only if the error persists and none of the previous steps correct the problem, replace the Reverse Driver PCA.

### 13.67.Dz

#### Description

Switchback Entrance Sensor Delay Jam — Jam in the stapler/stacker connection.

The engine signals the finisher that paper is about to enter the finisher Switchback assembly from the Printer.

The Switchback inlet Sensor SR101, which detects paper entering the finisher, does not detect the paper within the expected time period triggering the error

The specific jam error code will be one of the following forms:

- 13.67.D1
- 13.67.D2
- 13.67.D3

#### Recommended action

1. Remove any media in the upper paper path that might be activating sensor SR101.
2. Print and analyze the event log, looking for Printer- or MFP-related jams occurring either in the fuser or in the duplexer. These errors might be the result of media failing to reach the output device in the correct amount of time. Troubleshoot all Printer Engine Jams first.
3. Make sure that media is in good condition, and not wrinkled or damaged.
4. Make sure that the correct paper size in the trays is selected according the paper size being fed.
5. Verify that the finisher is securely fastened to the engine.
6. Make sure that the finisher and Printer are correctly aligned.
7. Adjust the finisher castors to obtain a uniform gap between the finisher and the engine.
8. With the engine-to-finisher gap correct, make sure that the finisher paper path entry point is aligned with the Printer exit point.
9. Check the finisher entry-point guides for damage.
10. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
11. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
12. Perform Sensor test on SR101. If not functioning or damaged replace the Sensor.

13. Check wiring from sensor SR101 to the Reverse Driver PCA connector for damage.
14. Only if the error persists and none of the previous steps correct the problem, replace the Reverse Driver PCA.

### 13.67.FF

#### Description

Switchback Initial Jam — Jam in the stapler/stacker connection.

When the engine is powered on, the finisher's Switchback inlet sensor (SR101) is activated suggesting that there is paper in the upper paper path of the finisher at sensors SR101

#### Recommended action

1. Remove any media in the upper paper path that might be activating sensor SR101.
2. Verify that the finisher is securely fastened to the engine.
3. Check the finisher entry-point guides for damage.
4. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
5. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
6. Perform Sensor test on SR101. If not functioning or damaged replace Sensor.
7. Check wiring from sensor SR101 to the Reverse Driver PCA connector for damage.
8. Only if the error persists and none of the previous steps correct the problem, replace the Reverse Driver PCA.

### 13.68.Az

#### Description

Switchback Registration Sensor Stay Jam — Jam in the stapler/stacker connection.

Switchback Registration sensor (SR102) remains activated longer than expected suggesting that paper has jammed at the sensor.

The specific jam error code will be one of the following forms:

- 13.68.A1
- 13.68.A2
- 13.68.A3

#### Recommended action

1. Remove any media in the upper paper path that might be activating sensor SR102.
2. Verify that the finisher is securely fastened to the engine and make sure that the finisher and Printer are correctly aligned.
3. Check the finisher entry-point guides for damage.

4. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
5. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
6. Run a diagnostic through the engine control panel and turn on M2 (Registration motor) to observe gear rotations on the upper-left rear frame of the finisher.
7. Check wiring from sensor SR102 to the Reverse Driver PCA connector for damage.
8. Replace the Reverse assembly

### 13.68.Dz

#### Description

Switchback Registration Sensor Delay Jam — Jam in the stapler/stacker connection.

Media did not reach SR102 (switch back registration sensor) after passing SR101 (Switch Back inlet Sensor) within the expected time period triggering the error.

The specific jam error code will be one of the following forms:

- 13.68.D1
- 13.68.D2
- 13.68.D3

#### Recommended action

1. Remove any media in the upper paper path that might be activating sensor SR102.
2. Verify that the finisher is securely fastened to the engine. Make sure that the finisher and Printer are correctly aligned.
3. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
4. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
5. Run a diagnostic through the engine control panel and turn on M2 (Registration motor) to observe gear rotations on the upper-left rear frame of the finisher.
6. Test SL101 (Switch Back inlet flapper solenoid) using the control-panel diagnostics.
7. Check wiring from sensor SR102 to the Reverse Driver PCA connector for damage.
8. Replace the Reverse assembly

### 13.69.Az

#### Description

Switchback Lower Sensor Stay Jam — Jam in the stapler/stacker connection.

Switchback path sensor (SR103) remains activated longer than expected suggesting that paper has jammed at the sensor.

The specific jam error code will be one of the following forms:

- **13.69.A1**
- **13.69.A2**
- **13.69.A3**

**Recommended action**

1. Remove any media in the upper paper path that might be activating sensor SR103.
2. Verify that the finisher is securely fastened to the engine.
3. Make sure that the finisher and Printer are correctly aligned.
4. Check the finisher entry-point guides for damage.
5. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
6. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
7. Perform Sensor test on SR103. If not functioning or damaged replace Sensor.
8. Check wiring from sensor SR103 to the Reverse Driver PCA connector for damage.
9. Only if the error persists and none of the previous steps correct the problem, replace the Reverse Driver PCA.

**13.69.Dz**

**Description**

Switchback Registration Sensor Delay Jam — Jam in the stapler/stacker connection.

Media did not reach SR103 (switchback path sensor) after passing SR101 (Switch Back inlet Sensor) within the expected time period triggering the error.

The specific jam error code will be one of the following forms:

- **13.69.D1**
- **13.69.D2**
- **13.69.D3**

**Recommended action**

1. Remove any media in the upper paper path that might be activating sensor SR103.
2. Verify that the finisher is securely fastened to the engine. Make sure that the finisher and Printer are correctly aligned.
3. Carefully clean the sensor body, by gently blowing clean air across the sensor to remove dust and debris.
4. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.

5. Run a diagnostic through the engine control panel and turn on M2 (Registration motor) and M1 Switchback Motor to observe gear rotations on the upper-left rear frame of the finisher.
6. Test SL101 (Switch Back inlet flapper solenoid) using the control-panel diagnostics.
7. Check wiring from sensor SR103 to the Reverse Driver PCA connector for damage.
8. Replace the Reverse assembly

### 13.84.Az

#### Description

Accumulator Tray Stay Jam — Jam in the top left door.

Upper-paper-path-entry sensor (PI104) has signaled that paper has passed but the output bin Sensor PI112 or PI111 does not actuate within the expected time.

The specific jam error code will be one of the following forms:

- 13.84.A0
- 13.84.A1
- 13.84.A2
- 13.84.A3

#### Recommended action

1. Remove any media jammed in the upper paper path between sensor PI104 and output bin.
2. Check the accumulator for damage or obstructions.
3. Ensure M109 Trailing Edge Assist Motor functions properly
4. Replace M109 or Assembly as needed.

### 13.89.3z

#### Description

Stacker Staple Jam — Stapler 1 Jam in the front left door.

When the staple motor (M41) is rotated forward, the staple home-position sensor (PI120) does not turn back on after the prescribed time has elapsed after it goes off, and the staple home-position sensor (PI120) turns on within the prescribed time after the staple motor (M41) is rotated backwards.

The specific jam error code will be one of the following forms:

- 13.89.30
- 13.89.31
- 13.89.32

#### Recommended action

1. Check the stapler unit for jammed staples.
2. Check the stapler unit for loose staples and paper dust.

3. Inspect the stapler unit for damage.
4. Remove the stapler cartridge and make sure HP-approved staples are being used.
5. Verify that the wiring at the stapler unit and the connector are not damaged.
6. Install new staple cartridge and retest.
7. If the error persists, replace the stapler unit.

### 13.90.Az

#### Description

Booklet Inlet Sensor Stay Jam — Jam in the front left door

Finisher stay jam at booklet-making paper entry sensor (PI22)

Occurs when the booklet-making paper-entry sensor (PI22) remains activated longer than expected, suggesting that there is a paper jam at the sensor.

The specific jam error code will be one of the following forms:

- 13.90.A0
- 13.90.A3

#### Recommended action

1. Remove any media in the upper paper path that might be activating sensor PI22.
2. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
3. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
4. Verify that the wiring at the sensor is not damaged and that the intermediate connectors between sensor PI22 and connector J21 on saddle-stitcher controller PCA for damage and proper connections.
5. If issue still remains, replace sensor

### 13.90.Dz

#### Description

Booklet Inlet Sensor Delay Jam — Jam in the front left door

Finisher delay jam at booklet-making paper entry sensor (PI22).

Error occurs when booklet making function is selected and after the engine signals the finisher that it is delivering paper to the finisher. The booklet-making paper-entry sensor (PI22) is not activated within the expected time period after receiving the engine's delivery signal, suggesting that a paper jam has occurred somewhere between the Reversing Assembly and sensor PI22.

The specific jam error code will be one of the following forms:

**Control-panel diagnostics:** M9 (Inlet Motor), SL5 (Inlet-Switch Solenoid)

- 13.90.D0
- 13.90.D3

**Recommended action**

1. Print and analyze the event log, looking for related jams occurring either in the Switch Back assembly or the Hole Punch assembly. These errors might be the result of media failing to reach the output device in the correct amount of time. Troubleshoot all Printer Engine Jams first.
2. Make sure that media is in good condition, and not wrinkled or damaged.
3. Make sure that the correct paper size in the trays is selected according the paper size being fed.
4. Check the finisher entry-point guides for damage.
5. Verify where the leading edge of the media is when Jam occurs.
6. Has media made it through Switch Back registration?
  - Test M2 registration motor
7. Verify that the finisher rollers are turning before the media leaves the Printer.
  - If the rollers are not turning, test motor M110 by using the finisher component test from the control-activate during the test, check the connectors for motor M110 (Saddle inlet Motor)
8. Make sure that connector J17 is fully seated on the stacker controller PCA. If the error persists, replace motor M9 or the saddle-paper-feeder assembly for the type finisher you are working on.
9. Only if the error persists and none of the previous steps correct the problem, replace the stacker controller PCA.

If media is found in the finisher but has not reached sensor PI22, perform the following steps:

1. Check the sensor for obstructions.
2. Verify that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body. Make sure that the lower end of the flag is not damaged and is correctly positioned to activate the sensor.
3. Make sure that the sensor is securely fastened to the chassis.
4. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
5. Verify that the wiring at the sensor is not damaged and that the intermediate connectors between the sensor and connector J21 on the saddle-stitcher controller PCA are fully seated.
6. Replace the sensor if necessary. If PI22 is determined to be the failure point, replace the saddle-paper-feeder assembly, which includes PI22.
7. Only if the error persists and none of the previous steps correct the problem, replace the saddle-stitcher controller PCA.

If media is found in the finisher cover sensor PI22 (the sensor is not detecting the media), perform the following steps:



1. Check the upper and lower guides and rollers in the paper path for damage.
2. Make sure that the media-diverter gate (saddle-stitch flapper) is not blocking the paper path.
3. Test solenoid SL5 (inlet-switch solenoid) using the finisher component test from the control panel display. SL5 should be opening and closing the media diverter gate (saddle stitch flapper).

### 13.92.FF

#### Description

Booklet Initial Jam — Jam in the front left door.

Occurs when paper is detected by one of the sensors on the paper-sensor board (PI18, PI19, PI20), vertical-path-paper sensor (PI17), booklet-delivery sensor (PI11), paper positioning-plate paper sensor (PI8), or booklet-making paper-entry sensor (PI22) when the machine is powered on.

#### Recommended action

1. Remove media from the booklet-maker paper path.
2. Verify that the sensor flags are not damaged, move freely, and are correctly aligned with the sensor bodies.
3. Carefully clean each sensor body by gently blowing clean air across each sensor to remove dust and debris.
4. Make sure that connectors J6, J9, J10, J13, and J21 are fully seated on the saddle-stitcher controller PCA.
5. Only if the error persists and none of the previous steps correct the problem, replace the saddle-stitcher controller PCA.

### 13.94.Az

#### Description

Booklet Deliver Sensor Stay Jam — Jam in the front left door.

Finisher stay jam at the booklet-delivery sensor (PI11) or the vertical-paper-path sensor (PI17)

Occurs when the booklet-delivery sensor (PI11) remains activated longer than expected after sensing the arrival of the new booklet from the folding rollers.

Also occurs when the vertical-paper-path sensor (PI17) remains activated longer than expected after the paper has already passed through the folding rollers and is now detected by the booklet-delivery sensor (PI11).

The specific jam error code will be one of the following forms:

- 13.94.A0
- 13.94.A3

### Recommended action

1. Check the folder-roller area for a jam.
2. Test the folding motor (M2) by using the finisher component test from the control panel display. Remove the finisher rear cover before starting the test and make sure that the folding rollers are rotating when motor M2 is on.
3. Check sensor PI11 and PI17 for damage.
4. Make sure that the sensors are not obstructed.
5. Make sure that sensor PI11 and sensor PI17 are securely fastened to the chassis.
6. Replace Motor or assembly as needed.

### 13.94.Dz

#### Description

Booklet Deliver Sensor Delay Jam — Jam in the front left door.

Finisher stay jam at the booklet-delivery sensor (PI11) or the vertical-paper-path sensor (PI17)

Occurs when the folded booklet exits the folding rollers and does not reach the booklet delivery sensor (PI11) within the expected time.

The specific jam error code will be one of the following forms:

- 13.94.D0
- 13.94.D3

#### Recommended action

1. Check the folder-roller area for a jam or media wrapped around the rollers.
2. Check sensor PI11 for damage.
3. Make sure that the sensor is not obstructed.
4. Make sure that sensor PI11 is securely fastened to the chassis.
5. Replace Motor or assembly as needed.

### 13.96.33

#### Description

Stapler 2 Jam

Booklet Staple Jam (Front) - Jam in booklet stapler 2

Finisher jam: front-booklet stapler (SW7) When the rear-staple motor (M7) is rotated forward, the staple home-position sensor (SW7) does not turn back on after the prescribed time has elapsed after it goes off (0.4 seconds).

### Recommended action

1. Check the front-booklet stapler unit for jammed staples.
2. Check the front-booklet stapler unit for loose staples.
3. Inspect the front-booklet stapler unit for damage.
4. Verify that HP approved staples for this stapler are being used.
5. Verify that the wiring at the stapler unit and the connector are not damaged.
6. Replace the staple cartridge.



**NOTE:** Replace both the front and rear cartridges at the same time so that the staple low sensors will properly detect the level of staples in the cartridges.

7. Only if the error persists and none of the previous steps correct the problem, replace the saddle-stapler assembly.

### 13.97.33

#### Description

Stapler 3 Jam

Booklet Staple Jam (Rear) - Jam in booklet stapler 3

Finisher jam: rear booklet stapler (SW5) When the rear-staple motor (M6) is rotated forward, the staple home-position sensor (SW5) does not turn back on after the prescribed time has elapsed after it goes off (0.4 seconds).

#### Recommended action

1. Check the rear-booklet stapler unit for jammed staples.
2. Check the rear-booklet stapler unit for loose staples.
3. Inspect the rear-booklet-stitch stapler unit for damage.
4. Verify that HP approved staples for this stapler are being used.
5. Verify that the wiring at the stapler unit and the connector are not damaged.
6. Replace the staple cartridge.

### 13.98.A3

#### Description

Booklet Output Sensor Stay Jam — Jam in the front left door (booklet).

Occurs when the folded booklet exits the folding rollers and passes PI11 booklet delivery sensor but does not reach the booklet delivery sensor (PI6) within the expected time.

#### Recommended action

1. Check the folder-roller area for a jam or media wrapped around the rollers.
2. Check sensor PI6 for damage.

3. Make sure that the sensor is not obstructed.
4. Make sure that sensor PI6 is securely fastened to the chassis.
5. Replace sensor or assembly as needed.

### 13.98.D3

#### Description

Booklet Output Sensor Delay Jam — Jam in the front left door (booklet).

Finisher stay jam at the booklet-output sensor (PI6)

Media is present at P6

#### Recommended action

1. Check the folder-roller area for a jam or media wrapped around the rollers.
2. Check sensor PI6 for damage.
3. Make sure that the sensor is not obstructed.
4. Make sure that sensor PI6 is securely fastened to the chassis.
5. Replace sensor or assembly as needed

### 13.A1.A1

#### Description

Paper Stay Jam in Tray 1

This jam occurs when the Tray 1 media feed sensor (SR24) does not detect the trailing edge of the paper within a specified period of time from when the sensor detected the leading edge

#### Recommended action

1. Clear the jam in the area indicated
2. Close the door to allow the product to attempt to clear the jam
3. Check and Replace the Tray 1 pickup rollers as needed
4. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
5. Test SR24 to verify that the sensor is functioning properly
6. If it is not, replace MP (tray 1) guide assembly
7. Run the Tray 1 pickup/feed motor drive test under the – Administration- Troubleshooting- Diagnostic Tests - menu to verify that the feed motor is functioning properly
8. If it is not, replace MP (tray 1) MP drive assembly

9. If Tray 1 appears to be functioning correctly, check T2 roller, ITB motor and ITB assembly
10. Replace parts as required.

### 13.A1.D1

#### Description

Paper Delay Jam in Tray 1

This jam occurs when the media does not reach the Tray 1 feed sensor SR24 in the designated amount of time after the start of media pick-up from Tray 1.

This is a no-pick jam from Tray 1.

#### Recommended action

1. Clear the jam in the area indicated.
2. Close the door to allow the product to attempt to clear the jam.
3. Check and replace the Tray 1 pickup rollers as needed.
4. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
5. Test SR24 using the sensor test to verify that the sensor is functioning correctly.
6. If sensor is not function correctly, replace MP (tray 1) guide assembly
7. Run the Tray 1 pickup/feed motor drive test to verify that the feed motor is functioning correctly.
8. If it is not, replace MP (tray 1) MP drive assembly

### 13.A1.FF

#### Description

Residual Media Jam in Tray 1

This jam occurs when residual media is detected at the Tray 1 feed sensor (SR24) at power on.

#### Recommended action

1. Clear the jam in the area indicated.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the sensor SR24 flag moves smoothly and that the sensor is not damaged. If the flag is damaged, replace Tray 1.
4. Open the following menus:

- **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
5. Test SR24 using the Manual sensor test to verify that the sensor is functioning correctly.
  6. If sensor is not function correctly, replace MP (tray 1) guide assembly
  7. Run the Tray 1 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace MP (tray 1) MP drive assembly

### 13.A2.A2

#### Description

Paper Stay Jam in Tray 2

This jam occurs when the Tray 2 media feed sensor (SR22) does not detect the trailing edge of the paper within a specified period of time from when the sensor detected the leading edge

#### Recommended action

1. Open Tray 2, remove any jammed paper, and then close the tray
2. Open and close the upper right door to allow the product to attempt to clear the jam
3. Inspect Tray 2 pickup, feed and separation roller are installed properly and show no damage or wear
4. Clean or replace the pickup/feed rollers as needed
5. Check the connectors J110, J1922 at the sensor and feed motor, and the DC controller PCA
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Run the Tray 2 pickup/feed motor drive test. If test fails replace the pickup assembly
8. Test SR22 using the Tray/Bin Manual sensor test to verify that the sensor is functioning properly
9. Run the Tray 1 pickup/feed motor drive test under the – Administration- Troubleshooting- Diagnostic Tests - menu to verify that the feed motor is functioning properly
10. If the error persists, replace the paper pickup assembly
11. If Tray 2 appears to be functioning correctly, check T2 roller, ITB motor and ITB assembly
12. Replace parts as required.

### 13.A2.D2

#### Description

Jam in Tray 2

This jam occurs when the media does not reach the Tray 2 feed sensor (SR22) in the designated amount of time after the start of media pick-up from Tray 2.

This is a no-pick jam from tray 2.

#### **Recommended action**

1. Open Tray 2, remove any jammed paper, and then close the tray.
2. Open and close the upper right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 2 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the DC controller PCA. J110, J1922
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Run the Tray 2 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup assembly.
8. Test SR22 using the Tray/Bin Manual sensor test to verify that the sensor is functioning correctly.
9. If the error persists, replace the paper pickup assembly.

### **13.A2.FF**

#### **Description**

Residual Media Jam in Tray 2

This jam occurs when residual media is detected at the Tray 2 feed sensor (SR22).

#### **Recommended action**

1. Open Tray 2, remove any jammed paper, and then close the tray.
2. Open and close the upper right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 2 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the DC controller PCA.
6. Check connector J110, J1922 on the DC controller PCA.
7. Open the following menus:

- Administration
  - Troubleshooting
  - Diagnostic Tests
8. Test SR22 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
  9. Run the Tray 2 pickup/feed motor drive test to verify that the feed motor is functioning correctly (listen for the motor to activate). If it is not, replace the pickup assembly.
  10. If the error persists, replace the paper pickup assembly.

### 13.A3.A3

#### Description

(1x500 or 3x500 Sheet paper deck)

Paper Stay Jam In Tray 3

This jam occurs when the Tray 3 media feed sensor (SR112) does not detect the trailing edge of the paper within a specified period of time from when the sensor detected the leading edge.

#### Recommended action

1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Open and close right door to allow the product to attempt to clear the jam.
3. Inspect the Tray 3 pickup, feed and separation roller are installed properly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor and feed motor, on the HCI controller PCA.
6. Check connector J8113, J1982 on the HCI controller PCA
7. Open the following menus
  - Administration
  - Troubleshooting
  - Diagnostic Tests
8. Test SR112 using the Tray/bin Manual sensor test. If test fails, replace the cassette paper pickup assembly
9. Run the Tray 3 pickup/feed motor drive test. If test fails, replace the cassette pickup motor
10. If the error persists, replace the cassette paper pickup assembly

### 13.A3.A3

#### Description

(3500 Sheet paper deck)



### Paper Stay Jam In Tray 3

This jam occurs when the Tray 3 media feed sensor (PS3302) does not detect the trailing edge of the paper within a specified period of time from when the sensor detected the leading edge.

#### Recommended action

1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Open and close right door to allow the product to attempt to clear the jam.
3. Inspect the Tray 3 pickup, feed and separation roller are installed properly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor and feed motor, on the HCI controller PCA.
6. Check connector J3005, J907 on the HCI controller PCA
7. Open the following menus
  - Administration
  - Troubleshooting
  - Diagnostic Tests
8. Test PS3302 using the Tray/bin Manual sensor test. If test fails, replace the cassette paper pickup assembly
9. Run the Tray 3 pickup/feed motor drive test. If test fails, replace the cassette pickup motor
10. If the error persists, replace the Right cassette pickup assembly

### 13.A3.D3

#### Description

(1x500 or 3x500 Sheet paper deck)

#### Paper Delay Jam In Tray 3

This jam occurs when the media does not reach the Tray 3 feed sensor (SR112) in designated amount of time after the start of media pick-up from Tray 3

This is a no-pick jam from Tray 3.

#### Recommended action

1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam
3. Make sure that the Tray 3 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, on the HCI controller PCA.

6. Check connector J8113, J1982 on the HCI controller PCA
7. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
8. Test SR112 using the Tray/bin Manual sensor test
9. Run the Tray 3 pickup/feed motor drive test
10. If the error persists, replace the paper pickup assembly.

### 13.A3.D3

#### **Description**

#### **(3500 Sheet paper deck)**

#### Paper Delay Jam In Tray 3

This jam occurs when the media does not reach the Tray 3 feed sensor (PS3302) in designated amount of time after the start of media pick-up from Tray 3

This is a no-pick jam from Tray 3.

#### **Recommended action**

1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam
3. Make sure that the Tray 3 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor and feed motor, on the HCI controller PCA (J3005, J907)
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test PS3302 using the Tray/Bin Manual sensor test
8. Run the Tray 3 pickup/feed motor drive to verify that the motor is functioning properly. If it is not, replace the Tray pickup drive assembly
9. If the error persists, replace the Right Cassette pickup assembly.

### 13.A3.FF

#### Description

(1x500 or 3x500 Sheet paper deck)

Residual Media Jam in Tray 3

This jam occurs when residual media is detected at the Tray 3 feed sensor (SR112) at power on.

#### Recommended action

1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam
3. Make sure that the Tray 3 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check connector J8113, J1982 on the HCI controller PCA.
6. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
7. Test (SR112) using the Tray/Bin Manual sensor to verify that the sensors are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 3 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup assembly.
10. If the error persists, replace the paper pickup assembly.

### 13.A3.FF

#### Description

(3500 Sheet paper deck)

Residual Media Jam in Tray 3

This jam occurs when residual media is detected at the Tray 3 feed sensor (PS3302) at power on.

#### Recommended action

1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam
3. Make sure that the Tray 3 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.

5. Check connector J8113, J1982 on the HCI controller PCA.
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test PS3302 using the Tray/Bin Manual sensor to verify that the sensors are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 3 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the Tray pickup drive assembly.
10. If the error persists, replace the Right Tray pickup drive assembly.

#### 13.A4.D4

##### **Description**

##### **(3x500 Sheet paper deck)**

##### **Jam In Tray 4**

This jam occurs when the media does not reach the Tray 4 feed sensor (SR122) in designated amount of time after the start of media pick-up from Tray 4

This is a no-pick jam from Tray 4.

##### **Recommended action**

1. Open Tray 4, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 4 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check connector J8113, J1751 on the HCI controller PCA.
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test SR122 using the Tray/bin Manual sensor test to verify that the sensor are functioning correctly.
8. Touch **Component Test**.

9. Run the Tray 4 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the tray pickup assembly.
10. If the error persists, replace the tray pickup assembly.

#### 13.A4.D4

##### Description

##### (3500 Sheet paper deck)

##### Jam In Tray 4

This jam occurs when the media does not reach the Tray 4 feed sensor (PS3305) in designated amount of time after the start of media pick-up from Tray 4

This is a no-pick jam from Tray 4.

##### Recommended action

1. Open Tray 4, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 4 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check connectors on the HCI controller PCA.
6. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
7. Test PS3305 using the Tray/bin Manual sensor test to verify that the sensor are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 4 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the Tray Pickup Drive assembly.
10. If the error persists, replace the tray pickup assembly.

#### 13.A4.FF

##### Description

##### (3X500 Sheet paper deck)

##### Residual Media Jam in Tray 4

This jam occurs when residual media is detected at the Tray 4 feed sensor (SR122) at power on.

### Recommended action

1. Open Tray 4, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 4 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the HCI controller PCA.
6. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
7. Test SR122 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 4 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the tray pickup assembly.
10. If the error persists, replace the tray pickup assembly.

### 13.A4.FF

#### Description

#### (3500 Sheet paper deck)

Residual Media Jam in Tray 4

This jam occurs when residual media is detected at the Tray 4 feed sensor (PS3302) at power on.

#### Recommended action

1. Open Tray 4, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 4 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the HCI controller PCA.
6. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests

7. Test PS3302 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 4 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the tray pickup assembly.
10. If the error persists, replace the tray pickup assembly.

### 13.A5.D5

#### Description

##### Jam In Tray 5

This jam occurs when the media does not reach the Tray 5 feed sensor SR132 in the designated amount of time after the start of media pick-up from Tray 5.

This is a no-pick jam from Tray 5.

#### Recommended action

1. Open Tray 5, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 5 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the HCI controller PCA.
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test SR132 using the Tray/Bin Manual sensor test to verify that the sensor are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 5 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the tray pickup drive assembly.
10. If the error persists, replace the tray pickup assembly.

### 13.A5.FF

#### Description

##### Residual Media Jam in Tray 5

This jam occurs when residual media is detected at the Tray 5 feed sensor (SR132) at power on.

### Recommended action

1. Open Tray 5, remove any jammed paper, and then close the tray.
2. Open and close the HCI right door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 5 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the HCI controller PCA.
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test SR132 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 5 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the tray pickup drive assembly.
10. If the error persists, replace the cassette tray pickup assembly.

### 13.A7.D3

#### Description

Jam in lower Right Door (From Jam Tray 3)

This jam occurs when the media does not reach the HCI feed sensor (PS3301) in the designated amount of time after the Tray 3 feed sensor (PS3302) sensed the leading edge of the paper when printing from Tray 3.

#### Recommended action

1. Clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 3 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the HCI controller PCA.
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**



7. Test PS3301 using the Tray/Bin Manual sensor test to verify that the sensor are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 3 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup drive assembly.
10. If the error persists, replace the tray pickup assembly.

#### 13.A7.D4

##### Description

Jam in lower Right Door (From Jam Tray 4)

This jam occurs when the media does not reach the HCI feed sensor (PS3301) in the designated amount of time after the Tray 4 feed sensor (PS3305) sensed the leading edge of the paper when printing from Tray 4.

##### Recommended action

1. Clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 4 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the HCI controller PCA.
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test PS3301 using the Tray/Bin Manual sensor test to verify that the sensor are functioning correctly.
8. Touch **Component Test**.
9. Run the Tray 4 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup drive assembly.
10. If the error persists, replace the tray pickup assembly.

#### 13.A7.FF

##### Description

Residual Media Jam in High Capacity Input (HCI)

This jam occurs when residual media is detected at the HCI feed sensor (PS3301) at power on.

### Recommended action

1. Clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 3 and Tray 4 pickup, feed, and separation rollers are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the HCI controller PCA.
6. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
7. Run a Paper Path Test from both Tray 3 and Tray 4 to validate the issue.
8. Test PS3301 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
9. Touch **Component Test**.
10. Run the Tray 3 and Tray 4 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup drive assembly.
11. Run the intermediate feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the Merge Drive Assembly and/or Merge Assembly.

### 13.A8.D3 or 13.A8.D4

#### Description

#### (3500 Sheet paper deck)

Jam in Upper Right Door

Jam occurs when the media does not reach the feed sensor (SR24) in designated amount of time after the HCI Exit sensor (PS3301) sensed the leading edge when printing from Tray 3 or Tray 4

- D3 = Tray 3
- D4 = Tray 4

#### Recommended action

1. Clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Run a paper Path test from both tray 3 and tray 4 to validate issue
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, and the DC controller PCA.

6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test PS3301 using the Tray/Bin Manual sensor test to verify that the sensor is functioning correctly.
8. Run the Intermediate feed motor drive test to verify that the feed motor is functioning properly. If it is not, replace the Merge Drive Assembly and/or Merge Assembly

#### 13.A8.D3 or 13.A8.D4 or 13.A8.D5

##### **Description**

(1X500 or 3X500 Sheet paper deck )

Jam in Upper Right Door

This jam occurs when the media does not reach the feed sensor (SR24) in designated amount of time after the tray 3 feed sensor (SR112) sensed the leading edge when printing from Tray X.

- D3 = Tray 3
- D4 = Tray 4
- D5 = Tray 5

##### **Recommended action**

1. Clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the Tray 3 pickup, feed, and separation roller are installed correctly and show no damage or wear.
4. Clean or replace the pickup/feed rollers as needed.
5. Check the connectors at the sensor, feed motor, on both DC and HCI controller PCAs.
6. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
7. Test SR112 using the Tray/Bin Manual sensor test to verify that the sensor is functioning correctly.
8. Touch **Component Test**.
9. Run the Tray pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup assembly.

10. Run the Tray intermediate feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup assembly.
11. If the error persists, replace the paper pickup assembly.

### 13.AA.EE

#### Description

**(1X500 or 3X500 Sheet paper deck)**

HCI Door Open Jam

This jam occurs when the HCI right door (SW113) is opened during printing

#### Recommended action

1. Close the Lower Right door to allow the product to attempt to clear the jam.
2. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
3. Test SW113 using the Manual Sensor Switch test to verify that the switch is functioning correctly.
4. If the error persists, replace the Sensor Assembly.

### 13.AA.EE

#### Description

**(3500 Sheet paper deck)**

HCI Door Open Jam

This jam occurs when the HCI right door (SW3301) is opened during printing.

#### Recommended action

1. Close the Lower Right door to allow the product to attempt to clear the jam.
2. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
3. Test SW3301 using the Manual Sensor Switch test to verify that the switch is functioning correctly.
4. If the error persists, replace the Sensor Assembly.

## 13.AB.EE

### Description

HCI Door Open Jam

This jam occurs when the HCI inner flap door (PS3306) is opened during printing.

### Recommended action

1. Close the inner flap door to allow the product to attempt to clear the jam.
2. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
3. Test PS3306 using the Manual Sensor test to verify that the sensor is functioning correctly.
4. If the error persists, replace the left tray pickup assembly.

## 13.B2.Az

### Description

Media stay jam at registration sensor (Top Sensor) SR2501

- **13.B2.A1**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2501) when printing from the Tray 1.
- **13.B2.A2**

This jam occurs when the media is present longer than" the expected media length plus 50mm" or more is detected at the Registration sensor (SR2501) when printing from the Tray 2.
- **13.B2.A3**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2501) when printing from the Tray 3.
- **13.B2.A4**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2501) when printing from the Tray 4.
- **13.B2.A5**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2501) when printing from the Tray 5.
- **13.B2.AD**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2501) when printing from the Duplexer.

### Recommended action

1. Open Right door and clear the jam in the indicated area. Inspect the paper path and ensure no paper blocking the paper path
2. Ensure that Input Tray paper guides are snug on sides, not too tight or too loose against the stack of media
3. Ensure the type and quality of the media that you are using meet HP specifications
4. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
5. Test Registration Sensor Test (TOP sensor) (SR2501) using the Tray/Bin manual sensor test to verify that the sensor is functioning correctly.



**NOTE:** This sensor is located on the ITB directly in the center. Manually move sensor to check for free movement and response in sensor test

6. If sensor test still fails, sensor may be defective Replace the ITB which contains SR2501 sensor
7. If sensor functioning properly, run a few pages to check where the leading edge of the paper actually stops
8. Check for broken white hooks on the second transfer assembly. If broken replace the hooks or the 2nd transfer assembly

### 13.B2.Dz

#### Description

Media delay jam at registration sensor (Top Sensor) SR2501

- **13.B2.D1**

This jam occurs when the media does not reach the Registration sensor SR2501 in the designated amount of time after the Tray 1 feed sensor (SR24) sensed the leading edge when printing from Tray 1.

- **13.B2.D2**

This jam occurs when the media does not reach the Registration sensor (SR2501) in the designated amount of time after the Tray 2 feed sensor (SR22) sensed the leading edge when printing from Tray 2.

- **13.B2.D3**

This jam occurs when the media does not reach the Registration sensor (SR2501) in the designated amount of time after the Tray 2 feed sensor (SR24) sensed the leading edge when printing from Tray 3.

- **13.B2.D4**

This jam occurs when the media does not reach the Registration sensor (SR2501) in the designated amount of time after the Tray 2 feed sensor (SR24) sensed the leading edge when printing from Tray 4.

- **13.B2.D5**

This jam occurs when the media does not reach the Registration sensor (SR2501) in the designated amount of time after the Tray 2 feed sensor (SR24) sensed the leading edge when printing from Tray 5.

- **13.B2.DD**

This jam occurs when the media does not reach the Registration sensor (SR2501) on the Secondary transfer assembly in the designated amount of time after leaving the duplex wait point when duplexing.

### Recommended action

**CAUTION:** Handle the Secondary transfer assembly when removing or reinstalling the assembly to avoid causing this type of error.

The Registration assembly tension springs and spring mounting blocks at each end of the secondary transfer assembly can be easily dislodged. This causes an obstruction for the shutter (de-skew gate) and prevents it from moving freely, which delays the paper from arriving to the registration roller located at the ITB in the designated time.

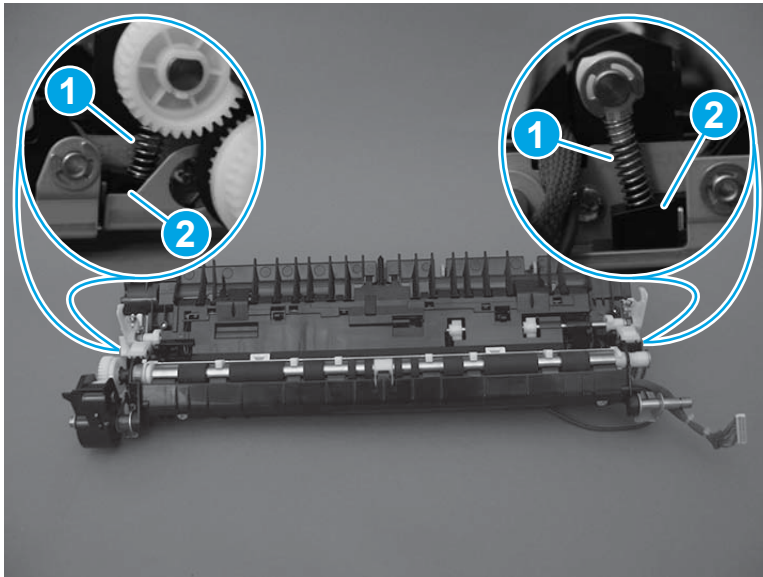
To resolve this type of issue, put the springs in the correct position.

### Check the Registration assembly springs

1. Before reinstalling the secondary transfer assembly, make sure that the registration assembly tension springs (callout 1) and spring mounting blocks (callout 2) at each end of the secondary transfer assembly are correctly positioned.

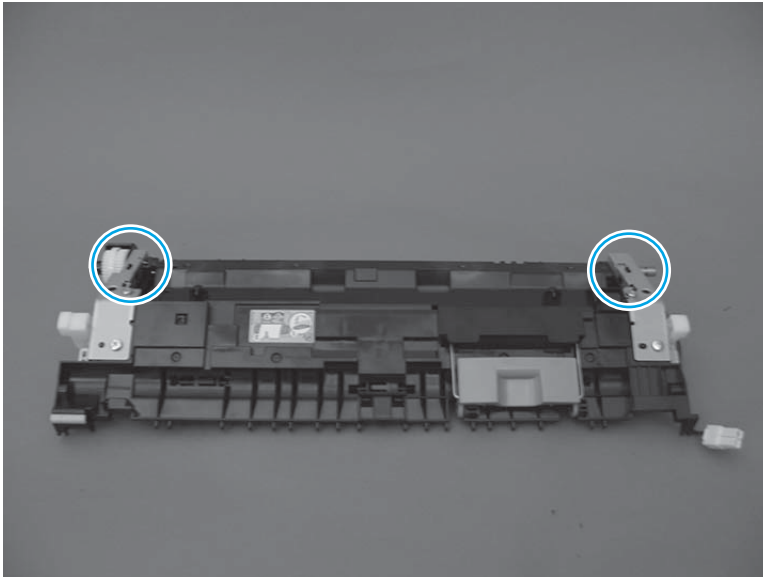
**NOTE:** The springs should be straight (as shown below), and not bent or curved.

**Figure 2-79** Reinstall the secondary transfer assembly (1 of 2)




2. Carefully turn the assembly over, and then make sure that the tabs on the spring mounting blocks are fully seated in the assembly sheet metal.

**Figure 2-80** Reinstall the secondary transfer assembly (2 of 2)



#### To clear the jam

1. Open Right door and clear the jam in the indicated area. Inspect the paper path and ensure no paper blocking the paper path.
  2. Ensure that Input Tray paper guides are snug on sides, not too tight or too loose against the stack of media.
  3. Ensure the type and quality of the media that you are using meet HP specifications.
  4. Open the following menus:
    - Administration
    - Troubleshooting
    - Diagnostic Tests
  5. Test the registration TOP sensor (SR2501) using the manual sensor test to verify that the sensor is functioning correctly. If it is not, replace the registration sensor assembly.
- 
-  **NOTE:** • This sensor is located on the ITB directly in the center. Manually move sensor to check for free movement and response in sensor test.
- 
6. If sensor test still fails, sensor may be defective Replace the ITB which contains SR2501 sensor
  7. If sensor functioning properly, run a few pages to check where the leading edge of the paper actually stops . Depending on where media is stopping check for obstructions or damage and replace parts as required.
  8. Check the Second Transfer Assembly for broken white hooks IF white hooks are found to be Broken elevate to the GBU



## 13.B2.FF

### Description

Residual Media Jam in Registration Area

This jam occurs when residual media is detected at the Registration sensor (SR2501) at power on.

### Recommended action

1. Open Right door and clear the jam in the indicated area. Inspect the paper path and ensure no paper blocking the paper path
2. Ensure that Input Tray paper guides are snug on sides, not too tight or too loose against the stack of media.
3. Ensure the type and quality of the media that you are using meet HP specifications.
4. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
5. Test the registration TOP sensor (SR2501) using the manual sensor test to verify that the sensor is functioning correctly. If it is not, replace the registration sensor assembly.



**NOTE:** • This sensor is located on the ITB directly in the center. Manually move sensor to check for free movement and response in sensor test.

6. If sensor test still fails, sensor may be defective Replace the ITB which contains SR2501 sensor
7. If sensor functioning properly, run a few pages to check where the leading edge of the paper actually stops . Depending on where media is stopping check for obstructions or damage and replace parts as required.
8. Check the Second Transfer Assembly for broken white hooks IF white hooks are found to be Broken elevate to the GBU

## 13.B4.FF

### Description

Residual Media jam Loop sensor (SR29 or SR30)

This jam occurs when residual media is detected at the Loop sensor (SR29 or SR30) at power on.

### Recommended action

1. Open Right door and clear the jam in the indicated area
2. Close the door to allow the product to attempt to clear the jam.
3. If the issue persists as another specific Paper Jam, troubleshoot the specified Jam location.
4. Open the following menus:

- Administration
  - Troubleshooting
  - Diagnostic Tests
5. Test the Loop sensor (SR29 and SR 30) using the manual sensor test to verify that the sensor is functioning correctly. If it is not, replace T2 assembly

### 13.B9.Az

#### Description

Fuser delivery stay

This jam occurs when the fuser delivery sensor (SR35) does not detect the trailing edge of the paper within a specified period of time from when the sensor detected the leading edge. The paper stopped at the fuser-output sensor (stay at fuser output sensor).

This jam code may be caused by;

An accordion jam at the fuser exit, something blocking the media before the output rollers. The output bin rollers not turning, there is very little distance from the fuser exit and the output bin.

The IPTU stalled, both would have to make the next sensor or you would get a late to that sensor jam first. The rollers would either stop or slow to the point that the timing is off for exiting the fuser sensor.

A sticky fuser exit flag, if it stuck or even delayed momentarily in the activated position.

- **13.B9.A2**

The fuser is printing in fuser mode **Normal**.

- **13.B9.A3**

The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).

- **13.B9.A4**

The fuser is printing in fuser mode **Heavy 1**.

- **13.B9.A5**

The fuser is printing in fuser mode **Heavy 2**.

- **13.B9.AB**


The fuser is printing in fuser mode **Transparency**.

- **13.B9.AD**

The fuser is printing in fuser mode **Envelope 1** or **Envelope 2** (see the event log secondary jam information digits for specific mode).

#### Recommended action

---

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to remove debris from in and around the pressure heating components

---

1. Open the right door, and then clear any jammed paper
2. Ensure sure that the paper meets HP specifications.
3. Remove the fuser, and then clear any jammed paper.
4. verify there is no debris from a previous jam stuck in the fuser or rollers leading into or out of the fuser.
5. Confirm the output bin rollers are turning
6. Remove the IPTU and inspect it for damage and debris.
7. Run the sensor test and confirm the fuser exit flag is working properly.
8. Replace the fuser.

### 13.B9.Bz Jam in RIGHT Door.

#### Description

Jam in RIGHT Door.

This jam occurs when a near complete overlap (less than 5 to 15 mm of non-overlap) multi-feed jam is detected.

- **13.B9.B1**  
Multi-Feed jam is detected when printing from Tray 1.
- **13.B9.B2**  
Multi-Feed jam is detected when printing from Tray 2.
- **13.B9.B3**  
Multi-Feed jam is detected when printing from Tray 3.
- **13.B9.B4**  
Multi-Feed jam is detected when printing from Tray 4.
- **13.B9.B5**  
Multi-Feed jam is detected when printing from Tray 5.
- **13.B9.BD**  
Multi-Feed jam is detected when printing from the Duplexer.

#### Recommended action

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure the media meets HP specifications and is loaded in the trays correctly.
4. Make sure that the pickup, feed, and separation roller for the specified tray are installed correctly and show no damage or wear.
5. Clean or replace the pickup/feed rollers as needed.

## 13.B9.Cz

### Description

#### Fuser Wrap Jam

This jam occurs when the media disappears from the fuser output sensor (SR35) before a designated amount of time after the media reached the fuser output sensor (SR35)


(It is determined that the media is being wrapped around the fuser roller)

Z = Fuser mode

- **13.B9.C1 (event code)**  
Fuser wrap jam when **Auto Sense (Normal)**.
- **13.B9.C2 (event code)**  
Fuser wrap jam when **Normal**.
- **13.B9.C3 (event code)**  
Fuser wrap jam when **Light 1** or **Light 2** (see event log secondary jam information for specific code).
- **13.B9.C4 (event code)**  
Fuser wrap jam when **Heavy 1**.
- **13.B9.C5 (event code)**  
Fuser wrap jam when **Heavy 2**.
- **13.B9.C6 (event code)**  
Fuser wrap jam when **Heavy media 3**.
- **13.B9.C7 (event code)**  
Fuser wrap jam when **Glossy media 1**.
- **13.B9.C8 (event code)**  
Fuser wrap jam when **Glossy media 2**.
- **13.B9.C9 (event code)**  
Fuser wrap jam when **Glossy media 3**.
- **13.B9.CB (event code)**  
Fuser wrap jam when **Transparency**.
- **13.B9.CC (event code)**  
Fuser wrap jam when **Label**.
- **13.B9.CD (event code)**  
Fuser wrap jam when **Envelope 1** or **Envelope 2** (see event log secondary jam information for specific code).

### Recommended action

1. Open the Right door.

 **CAUTION:** Be careful the fuser might be **HOT**, allow it cool if you need to remove debris from in and around the pressure heating components.

2. Remove the fuser, and then remove any paper wrapped around the fuser roller.
3. Reinstall the fuser, and then close the door.
4. Print a cleaning page 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 (SR35). If the sensor is not functioning correctly, replace the fuser assembly.
6. If the error persists, 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 media disappears from the fuser output sensor (SR35) before a designated amount of time after the registration sensor (SR2501) sensed the leading edge when printing.

- **13.B9.D1**  
Fuser delivery delay jam when printing from Tray 1.
- **13.B9.D2**  
Fuser delivery delay jam when printing from Tray 2.
- **13.B9.D3**  
Fuser delivery delay jam when printing from Tray 3.
- **13.B9.D4**  
Fuser delivery delay jam when printing from Tray 4.
- **13.B9.D5**  
Fuser delivery delay jam when printing from Tray 5.
- **13.B9.DD**  
Fuser delivery delay jam when printing with the Duplexer.

#### Recommended action


1. Open right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.

#### Media Stopped before Fuser

1. Thoroughly check the duplex paper path and the ITB/Transfer area for issues with rollers, jammed paper or any potential obstructions that might be causing the jam
2. Verify that the transfer roller is seated properly and not worn or deformed. Replaced it if necessary.
3. Inspect the Transfer feed assembly for debris or damage. Replace Right door sub Assembly.
- 4.

#### Media Stopped In or At the Fuser

---

 **CAUTION:** The fuser might be **HOT**.

---

1. Remove the Fuser and inspect Fuser sleeve, Pressure roller and delivery roller for blockage and/or damage. Replace Fuser as needed.
2. Verify that fuser inlet guide is not detached or broken
3. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
4. Test the Fuser Delivery sensor (SR35) using the manual sensor test to verify the sensor is functioning correctly. If it is not, replace the fuser.
5. Touch **Component Test**.
6. Run the Fuser motor drive test to verify that the Fuser Drive and Gears are functioning correctly. If they are not, replace the Fuser Motor Assembly.

#### 13.B9.FF

##### Description


Residual Media jam Fuser Output Sensor

This jam occurs when residual media is detected at the Fuser Output sensor (SR35) at power on.

##### Recommended action

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Remove the fuser and inspect the fuser sleeve, pressure roller, and delivery roller for blockage and/or damage. Replace the fuser as needed.

---

 **CAUTION:** The fuser might be **HOT**.

---

4. Open the following menus:

- Administration
  - Troubleshooting
  - Diagnostic Tests
5. Test the Fuser Delivery sensor (SR35) using the manual sensor test to verify the sensor is functioning correctly. If it is not, replace the fuser.
  6. Run the Fuser motor drive test to verify that the Fuser Drive and Gears are functioning correctly. If they are not, replace the Fuser Motor Assembly.

### 13.BA.EE

#### Description

This jam occurs when the Engine front door is opened during printing (Sensor SW14)

#### Recommended action

1. Close the front door.
2. Check the projection tabs of the front door that engage the door sensors (SW14). If damaged, replace the appropriate part.
3. Use the Manual sensor test to activate the door switch. Replace the switch if it is not functioning correctly.
4. Check the appropriate connectors on the DC controller PCA.

### 13.BB.EE

#### Description

This jam occurs when the engine right door (SW13) is opened during printing.

#### Recommended action

1. Close the right door.
2. Check the projection tabs of the right door that engage the door sensor (SW13). If damaged, replace the appropriate part.
3. Use the Manual sensor test to activate the door switch. Replace the switch if it is not functioning correctly.
4. Check the appropriate connectors on the DC controller PCA.

### 13.D1.Az

#### Description

Jam in Left Door

This jam occurs when the media stays at the duplex switchback sensor (SR301) for a designated amount of time after it has reached the duplex switchback sensor (SR301).

Z = Fuser Mode

- 13.D1.A1

The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.

- **13.D1.A2**

The fuser is printing in fuser mode **Normal**.

- **13.D1.A3**

The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).

- **13.D1.A4**

The fuser is printing in fuser mode **Heavy 1**.

- **13.D1.A5**

The fuser is printing in fuser mode **Heavy 2**.

- **13.D1.A6**

The fuser is printing in fuser mode **Heavy media 3**.

- **13.D1.A7**

The fuser is printing in fuser mode **Glossy media 1**.

- **13.D1.A8**

The fuser is printing in fuser mode **Glossy media 2**.

- **13.D1.A9**

The fuser is printing in fuser mode **Glossy media 3**.

- **13.D1.AB**

The fuser is printing in fuser mode **Transparency**.


- **13.D1.AC**

The fuser is printing in fuser mode **Label**.

#### **Recommended action**

1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.

---

 **CAUTION:** The fuser might be **HOT**.

---

3. Check to ensure the duplex motor reverse and reefed motor function properly.
4. Open the following menus:

#### **Duplexer reverse-motor test**

- **Administration**
- **Troubleshooting**



- **Component Test.**
- **Duplexer reverse motor**

Duplexing reverse-motor test, Activates the duplexing reverse motor for 10 seconds

#### Duplexer re-feed-motor test

- **Administration**
- **Troubleshooting**
- **Component Test.**
- **Duplexer re-feed motor**

Duplexing reefed motor test, Activates the duplexing re-feed motor for 10 seconds

5. If either of these tests fail replace the Duplexing - Reversing assembly



**NOTE:** If this error is present after a previous service on the printer, check connector J1902, J9946, J1909, J1908 for proper seating and connection

6. If Motor tests pass, Check the following sensors: .

- SR301 Duplex Switchback Sensor test
- SR302 Duplex Delivery sensor, Sensor test

Verify sensor functionality using the Manual Sensor Test:

- **Administration**
- **Troubleshooting**
- **Touch Paper Path Sensors.**

7. If the sensor fails to change state have customer ensure that the sensor moves freely and have the customer clean to the best of their ability and test again.
8. If sensor test continues to fails, sensor may be defective Replace sensor or the sensor assembly.
9. If sensor functioning properly, Replace the Right door assembly.

### 13.D1.Dz

#### Description

Jam in Right Door

This jam occurs when the media does not reach the Duplex Switchback sensor (SR301) in designated amount of time after the fuser output sensor (SR45) sensed the leading edge.

Z = Fuser Mode

- **13.D1.D1**

The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.

- **13.D1.D2**

The fuser is printing in fuser mode **Normal**.

- **13.D1.D3**

The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).

- **13.D1.D4**

The fuser is printing in fuser mode **Heavy 1**.

- **13.D1.D5**

The fuser is printing in fuser mode **Heavy 2**.

- **13.D1.D6**

The fuser is printing in fuser mode **Heavy media 3**.

- **13.D1.D7**

The fuser is printing in fuser mode **Glossy media 1**.

- **13.D1.D8**

The fuser is printing in fuser mode **Glossy media 2**.

- **13.D1.D9**

The fuser is printing in fuser mode **Glossy media 3**.

- **13.D1.DB**

The fuser is printing in fuser mode **Transparency**.

- **13.D1.DC**

The fuser is printing in fuser mode **Label**.

#### **Recommended action**

1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.
3. Where is the leading and trailing edge of the paper during the error state?
  - Has it exited the Fuser?
  - Stuck in diverter assembly?
  - Stopped at input of Duplexer?

#### **STOPPED IN Fuser:**

Check the event log to find if there are paper jams related Fuser Wrap Jam,

1. Check the life of the Fuser unit, replace fuser as needed.
2. Check Fuser Guide assembly and verify that is not causing the media to get damaged and be stuck at fuser exit.

#### **STUCK in Diverter:**

Check Right door assembly for blockage.

1. Check sensor in right door assembly using sensor test.
2. If faulty or issue with right door, Replace the Right-door sub-assembly

#### **Stopped at Duplexer:**

1. Check to ensure the duplex motor reverse assembly and duplex re-feed motor function properly(Use component test to check both duplexer reverse motor and duplexer re-feed motor function)
2. If either of these tests fail replace the Duplexing - switchback assembly and Duplexing-feed assembly

### **13.D1.FF**

#### **Description**

Jam in Right Door

This jam occurs when residual media is detected at the Duplex Switchback sensor (SR301) at power on

#### **Recommended action**

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Replace the duplex switchback assembly.

### **13.D3.Az**

#### **Description**


Jam in Right Door

This jam occurs when the media stays at the Duplex Feed sensor (SR304) for designated amount of time after it has reached the Duplex Feed sensor (SR304)

- **13.D3.A1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.D3.A2**  
The fuser is printing in fuser mode **Normal**.
- **13.D3.A3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).

- **13.D3.A4**  
The fuser is printing in fuser mode **Heavy 1**.
- **13.D3.A5**  
The fuser is printing in fuser mode **Heavy 2**.
- **13.D3.A6**  
The fuser is printing in fuser mode **Heavy media 3**.
- **13.D3.A7**  
The fuser is printing in fuser mode **Glossy media 1**.
- **13.D3.A8**  
The fuser is printing in fuser mode **Glossy media 2**.
- **13.D3.A9**  
The fuser is printing in fuser mode **Glossy media 3**.

#### **Recommended action**

1. Follow the on screen instructions to locate and remove the paper or obstruction.
  2. Ensure the type and quality of the media that you are using meet HP specifications.
  3. Using the component test, Check to ensure the duplex motors reverse and refeed motor function properly
    - Duplexer Feed motor. (Duplexing Feed-motor test, Activates the duplexing reverse motor for 10 seconds).
    - Duplexer re-feed motor (Duplexing refeed motor test, Activates the duplexing re-feed motor for 10 seconds).
  4. If either of these tests fail replace the Duplexing - Reversing assembly
- 
-  **NOTE:** If this error is present after a previous service on the printer, check connector for proper seating and connection.
- 
5. If Motor tests pass, Verify sensor functionality using the Manual Sensor Test. SR304 Duplex re-pick feed Sensor
  6. If the sensor fails to change state have customer ensure that the sensor moves freely and have the customer clean to the best of their ability and test again.
  7. If sensor test continues to fails, sensor may be defective Replace the duplex feed assembly.
  8. If sensor functioning properly, Replace the Right door assembly.

### **13.D3.Dz**

#### **Description**


Jam in Right Door

This jam occurs when the media does not reach the Duplex re-feed sensor (SR304) in designated amount of time after the Duplex Switchback sensor (SR302) sensed the leading edge

- **13.D3.D1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.D3.D2**  
The fuser is printing in fuser mode **Normal**.
- **13.D3.D3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
- **13.D3.D4**  
The fuser is printing in fuser mode **Heavy 1**.
- **13.D3.D5**  
The fuser is printing in fuser mode **Heavy 2**.
- **13.D3.D6**  
The fuser is printing in fuser mode **Heavy media 3**.
- **13.D3.D7**  
The fuser is printing in fuser mode **Glossy media 1**.
- **13.D3.D8**  
The fuser is printing in fuser mode **Glossy media 2**.
- **13.D3.D9**  
The fuser is printing in fuser mode **Glossy media 3**.

#### Recommended action

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Using the component test, Check to ensure the duplex motors reverse and refeed motor function properly
  - Duplexer Feed motor. (Duplexing Feed-motor test, Activates the duplexing reverse motor for 10 seconds).
  - Duplexer re-feed motor (Duplexing refeed motor test, Activates the duplexing re-feed motor for 10 seconds).
4. If either of these tests fail replace the Duplexing - Reversing assembly

 **NOTE:** If this error is present after a previous service on the printer, check connector J202 for proper seating and connection.

5. If Motor tests pass, Verify sensor functionality using the Manual Sensor Test. SR304 Duplex re-pick feed Sensor
6. If the sensor fails to change state have customer ensure that the sensor moves freely and have the customer clean to the best of their ability and test again.
7. If sensor test continues to fails, sensor may be defective Replace the duplex feed assembly.
8. If sensor functioning properly, Replace the Right door assembly.

### 13.D3.FF

#### Description

Jam in Right Door

This jam occurs when residual media is detected at the duplex delivery sensor SR302 or the duplexer re-feed sensor (SR304) at power on.

#### Recommended action

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Using the component test, Check to ensure the duplex motors reverse and reefed motor function properly
  - Duplexer Feed motor. (Duplexing Feed-motor test, Activates the duplexing reverse motor for 10 seconds).
  - Duplexer re-feed motor (Duplexing reefed motor test, Activates the duplexing re-feed motor for 10 seconds).
4. If either of these tests fail replace the Duplexing - Reversing assembly




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**NOTE:** If this error is present after a previous service on the printer, check connector J202 for proper seating and connection.

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5. If Motor tests pass, Verify sensor functionality using the Manual Sensor Test. SR304 Duplex re-pick feed Sensor
6. If the sensor fails to change state have customer ensure that the sensor moves freely and have the customer clean to the best of their ability and test again.
7. If sensor test continues to fails, sensor may be defective Replace the duplex feed assembly.
8. If sensor functioning properly, Replace the Right door assembly.

### 13.DF.Dz

#### Description

Jam in Right Door

This jam occurs when the media does not reach the duplex delivery sensor (SR302) in a designated amount of time after the duplex switchback sensor SR301 sensed the leading edge.

- 13.DF.D1

- The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.DF.D2**  
The fuser is printing in fuser mode **Normal**.
  - **13.DF.D3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
  - **13.DF.D4**  
The fuser is printing in fuser mode **Heavy 1**.
  - **13.DF.D5**  
The fuser is printing in fuser mode **Heavy 2**.
  - **13.DF.D6**  
The fuser is printing in fuser mode **Heavy media 3**.
  - **13.DF.D7**  
The fuser is printing in fuser mode **Glossy media 1**.
  - **13.DF.D8**  
The fuser is printing in fuser mode **Glossy media 2**.
  - **13.DF.D9**  
The fuser is printing in fuser mode **Glossy media 3**.

#### Recommended action

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Ensure the type and quality of the media that you are using meet HP specifications.
4. Using the component test, Check to ensure the duplex motors reverse and refeed motor function properly
  - Duplexer Feed motor. (Duplexing Feed-motor test, Activates the duplexing reverse motor for 10 seconds).
  - Duplexer re-feed motor (Duplexing refeed motor test, Activates the duplexing re-feed motor for 10 seconds).
5. If either of these tests fail replace the Duplexing-Reversing assembly



**NOTE:** If this error occurs after a previous service on the printer, check connector J1902, J9946, J1909, J1908 for proper seating and connection

6. If Motor tests pass, Verify sensor functionality using the Manual Sensor Test.

- SR301 Duplex Switchback Sensor
  - SR302 Duplex feed sensor
7. If the sensor fails to change state have customer ensure that the sensor moves freely and have the customer clean to the best of their ability and test again.
  8. If sensor test continues to fails, sensor may be defective Replace the duplex feed assembly.
  9. If sensor functioning properly, Replace the Right door assembly.
  10. If the issue persists, replace the duplexer.

### 13.E1.Dz

#### Description

##### Jam in Right Door

This jam occurs when the media does not reach the Face Down sensor (SR33) in designated amount of time after the Fuser delivery Sensor 2 (SR45) sensed the leading edge.

- **13.E1.D1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.E1.D2**  
The fuser is printing in fuser mode **Normal**.
- **13.E1.D3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
- **13.E1.D4**  
The fuser is printing in fuser mode **Heavy 1**.
- **13.E1.D5**  
The fuser is printing in fuser mode **Heavy 2**.
- **13.E1.D6**  
The fuser is printing in fuser mode **Heavy media 3**.
- **13.E1.D7**  
The fuser is printing in fuser mode **Glossy media 1**.
- **13.E1.D8**  
The fuser is printing in fuser mode **Glossy media 2**.
- **13.E1.D9**  
The fuser is printing in fuser mode **Glossy media 3**.
- **13.E1.DB**



The fuser is printing in fuser mode **Transparency**.

- **13.E1.DC**

The fuser is printing in fuser mode **Label**.

**Recommended action**

1. Open Right Door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the delivery flags move smoothly.
4. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
5. Test Face Down Bin Full sensor (SR33) using the manual sensor test to verify the sensor is functioning correctly. If it is not, replace the delivery sensor assembly.
6. Inspect the fuser guide and Fuser for damage, positioning or wear.
7. Replace Fusing Assembly or fuser guide as needed.
8. If message persists, inspect the Right door Assembly and replace if needed.
9. Replace the Face-down delivery assembly

### 13.E1.FF

**Description**

Residual Jam -

This jam occurs when residual media is detected at the Face Down Bin Full sensor (SR33) at power on.

**Recommended action**

1. Remove paper from top output. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the delivery flags move smoothly.
4. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
5. Test Face Down Bin Full sensor (SR33) using the manual sensor test to verify the sensor is functioning correctly. If it is not, replace the delivery sensor assembly.
6. Inspect the fuser guide and Fuser for damage, positioning or wear.

7. Replace Fusing Assembly or fuser guide as needed.
8. Replace the delivery Face-down delivery assembly

### 13.E2.Az

#### Description

Jam in IPTU


This jam occurs when the media stays at the IPTU feed sensor 1 (SR203) for a designated time period after IPTU feed sensor 1 (SR203) sensed the leading edge.

- **13.E2.A1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.E2.A2**  
The fuser is printing in fuser mode **Normal**.
- **13.E2.A3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
- **13.E2.A4**  
The fuser is printing in fuser mode **Heavy 1**.
- **13.E2.A5**  
The fuser is printing in fuser mode **Heavy 2**.
- **13.E2.A6**  
The fuser is printing in fuser mode **Heavy media 3**.
- **13.E2.A7**  
The fuser is printing in fuser mode **Glossy media 1**.
- **13.E2.A8**  
The fuser is printing in fuser mode **Glossy media 2**.
- **13.E2.A9**  
The fuser is printing in fuser mode **Glossy media 3**.
- **13.E2.AB**  
The fuser is printing in fuser mode **Transparency**.
- **13.E2.AC**  
The fuser is printing in fuser mode **Label**.
- **13.E2.AD**  
The fuser is printing in fuser mode **Envelope 1** or **Envelope 2** (see event log secondary jam information digits for specific mode)

### Recommended action

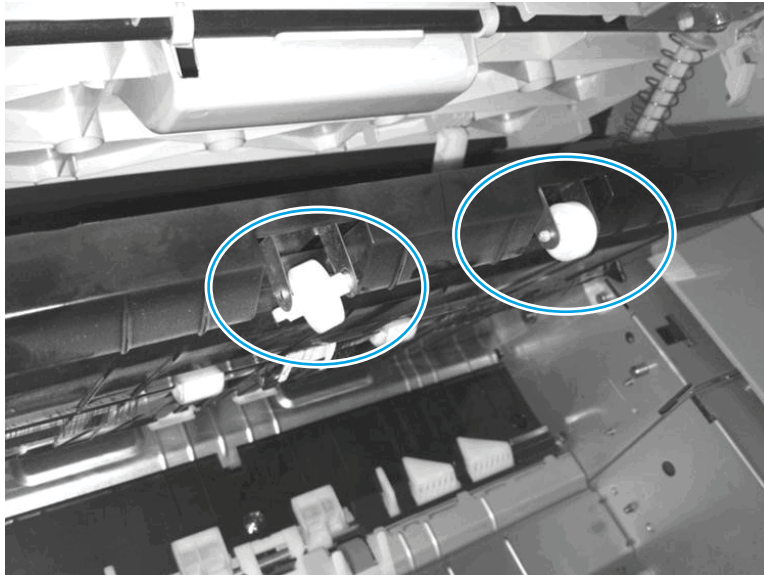
1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.
3. Check the IPTU for any damaged or excessive wear.
4. Check the White wheels on Entrance to upper-guide assembly. Look for Damage, skew or missing rollers.

If a roller is out of the sheet metal holder, you can tighten the holding clip by pinching both sides of the holder together with the White roller removed. This will apply more force to the sides of the roller and help hold it more securely.

 **NOTE:** The white rollers from the top cover come off and get inside the output device blocking the pass of the paper. The paper can also come out skewed.

Many times the rollers can be found inside the output device.

**Figure 2-81** Entrance to upper guide white wheels



5. Reinstall the rollers correctly if rollers are recovered from device. If not order new rollers.
6. Check the wheels on the Saddle paper feeder assembly for skew/damaged .
7. Make sure the Delivery assembly is not damaged and the finisher is correctly aligned to printer.
8. Replace the IPTU Lower Guide Assembly

### 13.E2.Dz

#### Description

Jam in IPTU

This jam occurs when the media does not reach the IPTU feed sensor 1 (SR203) in designated amount of time after the Fuser delivery Sensor 2 (SR45) sensed the leading edge.

- 13.E2.D1

The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.

- **13.E2.D2**

The fuser is printing in fuser mode **Normal**.

- **13.E2.D3**

The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).

- **13.E2.D4**

The fuser is printing in fuser mode **Heavy 1**.

- **13.E2.D5**

The fuser is printing in fuser mode **Heavy 2**.

- **13.E2.D6**

The fuser is printing in fuser mode **Heavy media 3**.

- **13.E2.D7**

The fuser is printing in fuser mode **Glossy media 1**.

- **13.E2.D8**

The fuser is printing in fuser mode **Glossy media 2**.

- **13.E2.D9**

The fuser is printing in fuser mode **Glossy media 3**.

- **13.E2.DB**

The fuser is printing in fuser mode **Transparency**.


- **13.E2.DC**

The fuser is printing in fuser mode **Label**.


- **13.E2.DD**

The fuser is printing in fuser mode **Envelope 1** or **Envelope 2** (see event log secondary jam information digits for specific mode)

#### **Recommended action**

1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.
3. Check the IPTU for any damaged or excessive wear.
4. Check the White wheels on Entrance to upper-guide assembly. Look for Damage, skew or missing rollers 

If a roller is out of the sheet metal holder, you can tighten the holding clip by pinching both sides of the holder together with the White roller removed. This will apply more force to the sides of the roller and help hold it more securely.

 **NOTE:** The white rollers from the top cover come off and get inside the output device blocking the pass of the paper. The paper can also come out skewed.

Many times the rollers can be found inside the output device.

5. Reinstall the rollers correctly if rollers are recovered from device. If not order new rollers.
6. Check the wheels on the Saddle paper feeder assembly for skew/damaged .
7. Make sure the Delivery assembly is not damaged and the finisher is correctly aligned to printer.
8. Replace the IPTU Lower Guide Assembly

### 13.E3.Az

#### Description

Jam in IPTU

This jam occurs when the media stays at the IPTU feed sensor 2 (SR202) for a designated time period after IPTU feed sensor 2 (SR202) sensed the leading edge.

- **13.E3.A1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.E3.A2**  
The fuser is printing in fuser mode **Normal**.
- **13.E3.A3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
- **13.E3.A4**  
The fuser is printing in fuser mode **Heavy 1**.
- **13.E3.A5**  
The fuser is printing in fuser mode **Heavy 2**.
- **13.E3.A6**  
The fuser is printing in fuser mode **Heavy media 3**.
- **13.E3.A7**  
The fuser is printing in fuser mode **Glossy media 1**.
- **13.E3.A8**  
The fuser is printing in fuser mode **Glossy media 2**.
- **13.E3.A9**

The fuser is printing in fuser mode **Glossy media 3**.

- **13.E3.AB**

The fuser is printing in fuser mode **Transparency**.

- **13.E3.AC**

The fuser is printing in fuser mode **Label**.

- **13.E3.AD**

The fuser is printing in fuser mode **Envelope 1 or Envelope 2** (see event log secondary jam information digits for specific mode)

#### **Recommended action**

1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.
3. Check to ensure the Paper-transport motors function properly.
4. Test the Paper-transport motor

This test activates the IPTU motor and is only available when the IPTU is installed. During test, observe the two sets of rollers on the left side, facing the IPTU, these rollers are controlled by M201, and M202.

5. Check the IPTU around SR202 sensor to see if there is something possibly blocking the paper path or for any damaged or excessive ware.
6. Check the White wheels on Entrance to upper-guide assembly. Look for Damage, skew or missing rollers.
7. Check the wheels on the Saddle paper feeder assembly for skew/damaged.
8. Make sure the Deliver assembly is not damaged and the finisher is correctly aligned to printer.
9. Replace the IPTU Lower Guide Assembly or Feed Motor 2

### **13.E3.Dz**

#### **Description**

Jam in IPTU

This jam occurs when the media does not reach the IPTU feed sensor 2 (SR202) in designated amount of time

- **13.E3.D1**

The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.

- **13.E3.D2**

The fuser is printing in fuser mode **Normal**.

- **13.E3.D3**

The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).

- **13.E3.D4**

The fuser is printing in fuser mode **Heavy 1**.

- **13.E3.D5**

The fuser is printing in fuser mode **Heavy 2**.

- **13.E3.D6**

The fuser is printing in fuser mode **Heavy media 3**.

- **13.E3.D7**

The fuser is printing in fuser mode **Glossy media 1**.

- **13.E3.D8**

The fuser is printing in fuser mode **Glossy media 2**.

- **13.E3.D9**

The fuser is printing in fuser mode **Glossy media 3**.

- **13.E3.DB**

The fuser is printing in fuser mode **Transparency**.

- **13.E3.DC**

The fuser is printing in fuser mode **Label**.

- **13.E3.DD**

The fuser is printing in fuser mode **Envelope 1** or **Envelope 2** (see event log secondary jam information digits for specific mode)

#### **Recommended action**

1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.
3. Check to ensure the Paper-transport motors function properly.
4. Test the Paper-transport motor

This test activates the IPTU motor and is only available when the IPTU is installed. During test, observe the two sets of rollers on the left side, facing the IPTU, these rollers are controlled by M201, and M202.

5. Check the IPTU around SR202 sensor to see if there is something possibly blocking the paper path or for any damaged or excessive wear.
6. Check the White wheels on Entrance to upper-guide assembly. Look for Damage, skew or missing rollers.
7. Check the wheels on the Saddle paper feeder assembly for skew/damaged.

8. Make sure the Deliver assembly is not damaged and the finisher is correctly aligned to printer.
9. Replace the IPTU Lower Guide Assembly or Feed Motor 2

### 13.E34Az

#### Description

Jam in IPTU

This jam occurs when the media stays at the IPTU feed sensor 3 (SR201) for a designated time period after IPTU feed sensor 3 (SR201) sensed the leading edge.

- **13.E4.A1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.E4.A2**  
The fuser is printing in fuser mode **Normal**.
- **13.E4.A3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
- **13.E4.A4**  
The fuser is printing in fuser mode **Heavy 1**.
- **13.E4.A5**  
The fuser is printing in fuser mode **Heavy 2**.
- **13.E4.A6**  
The fuser is printing in fuser mode **Heavy media 3**.
- **13.E4.A7**  
The fuser is printing in fuser mode **Glossy media 1**.
- **13.E4.A8**  
The fuser is printing in fuser mode **Glossy media 2**.
- **13.E4.A9**  
The fuser is printing in fuser mode **Glossy media 3**.
- **13.E4.AB**  
The fuser is printing in fuser mode **Transparency**.
- **13.E4.AC**  
The fuser is printing in fuser mode **Label**.
- **13.E4.AD**  
The fuser is printing in fuser mode **Envelope 1** or **Envelope 2** (see event log secondary jam information digits for specific mode)



### Recommended action

1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.
3. Check to ensure the Paper-transport motors function properly.
4. Test the Paper-transport motor  

This test activates the IPTU motor and is only available when the IPTU is installed. During test, observe the two sets of rollers on the left side, facing the IPTU, these rollers are controlled by M201, and M202.
5. Check the IPTU around SR201 sensor to see if there is something possibly blocking the paper path or for any damaged or excessive ware.
6. Check the White wheels on Entrance to upper-guide assembly. Look for Damage, skew or missing rollers.
7. Check the wheels on the Saddle paper feeder assembly for skew/damaged.
8. Make sure the Deliver assembly is not damaged and the finisher is correctly aligned to printer.
9. Replace the IPTU Lower Guide Assembly or Feed Motor 2

### 13.E4.Dz

#### Description

Jam in IPTU

This jam occurs when the media does not reach the IPTU feed sensor 2 (SR201) in designated amount of time

- **13.E4.D1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.E4.D2**  
The fuser is printing in fuser mode **Normal**.
- **13.E4.D3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
- **13.E4.D4**  
The fuser is printing in fuser mode **Heavy 1**.
- **13.E4.D5**  
The fuser is printing in fuser mode **Heavy 2**.
- **13.E4.D6**  
The fuser is printing in fuser mode **Heavy media 3**.
- **13.E4.D7**

The fuser is printing in fuser mode **Glossy media 1**.

- **13.E4.D8**

The fuser is printing in fuser mode **Glossy media 2**.

- **13.E4.D9**

The fuser is printing in fuser mode **Glossy media 3**.

- **13.E4.DB**

The fuser is printing in fuser mode **Transparency**.

- **13.E4.DC**

The fuser is printing in fuser mode **Label**.

- **13.E4.DD**

The fuser is printing in fuser mode **Envelope 1 or Envelope 2** (see event log secondary jam information digits for specific mode)

#### **Recommended action**

1. Follow the on screen instructions to locate and remove the paper or obstruction.
2. Ensure the type and quality of the media that you are using meet HP specifications.
3. Check to ensure the Paper-transport motors function properly.
4. Test the Paper-transport motor

This test activates the IPTU motor and is only available when the IPTU is installed. During test, observe the two sets of rollers on the left side, facing the IPTU, these rollers are controlled by M201, and M202.

5. Check the IPTU around SR201 sensor to see if there is something possibly blocking the paper path or for any damaged or excessive ware.
6. Check the White wheels on Entrance to upper-guide assembly. Look for Damage, skew or missing rollers.
7. Check the wheels on the Saddle paper feeder assembly for skew/damaged.
8. Make sure the Deliver assembly is not damaged and the finisher is correctly aligned to printer.
9. Replace the IPTU Lower Guide Assembly or Feed Motor 2

### **13.E6.Dz**

#### **Description**

Jam in Right Door

This jam occurs when the media does not reach the Face Down sensor (SR33) in designated amount of time after the Fuser delivery Sensor 2 (SR45) sensed the leading edge.

- **13.E6.D1**

- The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.E6.D2**  
The fuser is printing in fuser mode **Normal**.
  - **13.E6.D3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
  - **13.E6.D4**  
The fuser is printing in fuser mode **Heavy 1**.
  - **13.E6.D5**  
The fuser is printing in fuser mode **Heavy 2**.
  - **13.E6.D6**  
The fuser is printing in fuser mode **Heavy media 3**.
  - **13.E6.D7**  
The fuser is printing in fuser mode **Glossy media 1**.
  - **13.E6.D8**  
The fuser is printing in fuser mode **Glossy media 2**.
  - **13.E6.D9**  
The fuser is printing in fuser mode **Glossy media 3**.
  - **13.E6.DB**  
The fuser is printing in fuser mode **Transparency**.
  - **13.E6.DC**  
The fuser is printing in fuser mode **Label**.
  - **13.E6.DD**  
The fuser is printing in fuser mode **Envelope 1** or **Envelope 2** (see event log secondary jam information digits for specific mode)
  - **13.E6.D2**  
The fuser is printing in fuser mode **Normal**.
  - **13.E6.D3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
  - **13.E6.D4**  
The fuser is printing in fuser mode **Heavy 1**.
  - **13.E6.D5**

The fuser is printing in fuser mode **Heavy 2**.

- **13.E6.DB**

The fuser is printing in fuser mode **Transparency**.

- **13.E6.DD**

The fuser is printing in fuser mode **Envelope 1** or **Envelope 2** (see the event log secondary jam information digits for specific mode).

**Recommended action**

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the delivery flags move smoothly.
4. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
5. Test the face down bin full sensor (SR33) using the manual sensor test to verify the sensor is functioning correctly. If not replace the delivery sensor assembly
6. Inspect the fuser guide and Fuser for damage positioning or wear. Replace Fusing guide Assembly or Fuser as needed.
7. If Jam message persists, inspect the Right door Assembly.
8. Replace the delivery Face-down delivery assembly

### 13.E6.FF

**Description**

Jam in Right Door

This jam occurs when residual media is detected at the Face Down Bin Full sensor (SR33) at power on

**Recommended action**

1. Open the Right door and clear the jam in the indicated area.
2. Close the door to allow the product to attempt to clear the jam.
3. Make sure that the delivery flags move smoothly.
4. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**

5. Test the face down bin full sensor (SR33) using the manual sensor test to verify the sensor is functioning correctly. If not replace the delivery sensor assembly
6. Replace the delivery Face-down delivery assembly

### 13.EA.EE

#### Description

IPTU Door Open Jam

This jam occurs when the IPTU door (SR204) is opened during printing

#### Recommended action

1. Close the IPTU door to allow the product to attempt to clear the jam.
2. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
3. Test SR204 using the manual sensor switch test to verify the switch is functioning correctly.
4. If the issue persists, replace IPTU.

### 13.FF.FF

#### Description

Jam in Printer

This jam occurs when residual media is detected at the multiple media path sensors.

This jam code will only be in the event log if it is a residual jam at power on.

#### Recommended action

1. Open all the doors and clear all media from the product.
2. Close all the doors to allow the product to attempt to clear the paper path.

## 30.XX.YZ Error Messages

### 30.01.01

#### Description

The flatbed cover sensor was interrupted.

The scanner flatbed cover is open.

Message appears only in the event log and is not posted on the control panel.

The control panel will read **Flatbed Cover Open**.

### Recommended action

No action necessary. This error message should automatically clear.

If the error persists, open the Scanner Tests to test the Flatbed cover sensor.

1. If the cover is closed, check the cover sensor at the right rear of the scanner for correct mechanical functionality, using the scanner sensor test in the **Administration / Troubleshooting / Diagnostics / Scanner Tests** Menu.
2. Check the connectors on the scanner control board (SCB) for loose connections.
3. Replace the Lid-Sensor assembly.
4. Replace the SCB
5. Replace the Integrated Scanning Assembly (ISA)

### 30.01.06

#### Description

Scanner fan error

The Copy, Fax and Send options will be grayed out or not present on the control panel and message will be posted in Event log.

#### Recommended action

1. Turn the product off, and then on again.
2. During the MFP initialization sequence, listen to the fan to determine if it is operating.
3. If the error persists, turn the product off and then check the fan wire-harness connectors
4. If the error persists, replace the Scan Control Board (SCB)
5. Replace the Integrated Scanning Assembly (ISA)

You may want to provide both parts SCB and ISA for onsite technician.

### 30.01.08

#### Description

The scanner optic failed to return to the home position.

#### Recommended action

1. Turn the product off, and then on again.
2. Observe the movement of the optics assembly.
3. Check scanner Lock. Have the customer move the lock back and forth and leave it in the Unlock position. Retest printer by powering the unit back up.
4. If the error persists, run the scanner motor test under component test. **Administration/ Troubleshooting/Scanner tests/Flatbed motor test**

5. If issue still remains and firmware has been upgraded replace Scanner Control Board (SCB).
6. If the error persists, replace the Integrated Scanning Assembly (ISA).

#### 30.01.14

##### **Description**

Scanner control board (SCB) EEPROM error.

##### **Recommended action**

1. Turn the product off, and then on again.
2. Ensure all connectors on the SCB are seated fully.
3. Ensure the MFP has at latest SCB firmware version.
4. Replace the SCB..

#### 30.01.15

##### **Description**

Scanner did not initialize (internal error).

The scanner failed to be initialized due to an internal error.

##### **Recommended action**

1. Turn the product off, and then on again.
2. Verify that all covers are installed correctly and that the ADF and ADF jam cover are closed.
3. Check all sensors on the scanner to ensure they are not blocked.
4. Look through the vents on back of Scanner see if GREEN SCB LEDs are lit.
5. Check all connections for SCB to print engine
6. Replace the SCB

#### 30.01.18

##### **Description**

Scanner internal optical sensor error.

##### **Recommended action**

1. Turn the product off, and then on again.
2. Make sure that all the connectors on the SCB are seated fully.
3. Make sure that the MFP has the latest SCB firmware version.
4. replace the SCB.
5. If the error persists, Replace the Integrated Scanning Assembly (ISA)

### 30.01.19

#### Description

Scanner internal lamp sensor error.

#### Recommended action

1. Turn the product off, and then on again.
2. Determine if the scanner lamp turns on and off approximately 12 second after the product turns on.
3. Test the lower lamp using the Scanner test located in the Diagnostics menu.
4. Re-seat the interconnect cables between the optical carriage and the SCB.
5. Replace the Integrated Scanning Assembly (ISA)

### 30.01.23 Scanner calibration failure

#### Description

The scanner calibration failed.

#### Recommended action

1. Turn the product off, and then on again.
2. After the product warms up, repeat the calibration process.
3. If the error persists, Replace the Integrated Scanning Assembly (ISA).

### 30.01.30 or 30.01.32

#### Description

HP image ASIC error.

#### Recommended action

Turn the product off, and then on again.

Check the connection on the SCB.

Replace the SCB

### 30.01.36

#### Description

Scanner firmware upgrade error.

#### Recommended action

1. Re-send the scanner firmware upgrade.
2. If the error persists, replace the SCB.



### 30.01.41

#### Description

The formatter lost connections with the SCB or communication was corrupted.

#### Recommended action

1. Turn the product off, and then on.
2. Re-seat the Formatter.
3. Upgrade the firmware.
4. Verify that all cables are connected to the product and to the interconnect board/ formatter and SCB.
5. Verify that the Scanner Control Board (SCB) has power.
6. Replace the Scanner Control Board (SCB).
7. Replace the Formatter.
8. Replace the interconnect board.

### 30.01.42

#### Description

Internal product communication error.

#### Recommended action

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the SCB connectors.
3. If the error persists, replace the SCB.

### 30.01.43

#### Description

Scan memory error.

#### Recommended action

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then re-seat the formatter.
3. If the error persists, replace the formatter.

### 30.01.44

#### Description

CPB/SCB communication error

**Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the scanner cable.
3. Upgrade the firmware.
4. If the error persists, turn the product off, and then re-seat the formatter.
5. If the error persists, replace the SCB or the formatter.

**30.01.45****Description**

Internal CPB communication error.

CPB code assertion error for the copy processor board firmware.

**Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then re-seat the formatter.
3. Upgrade the firmware.
4. If the error persists, replace the SCB.
5. If the error persists, replace the formatter.

**30.01.46****Description**

The firmware cannot find the copy processor board.

**Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then re-seat the formatter.
3. If the error persists, replace the SCB.

**30.01.47****Description**

Document feeder error.

**Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the document feeder wire-harness connectors.

3. If the error persists, replace the document feeder assembly.
4. If the error persists, replace the formatter.

#### 30.01.48

##### **Description**

Scanner error.

Scanner power is not connected.

##### **Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the scanner wire-harness connectors and the scanner power supply fan.
3. If the error persists, replace Integrated Scanning Assembly (ISA).

#### 30.01.49

##### **Description**

Scanner inverter fan error.

##### **Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the scanner wire-harness connectors and the scanner power supply fan.
3. If the error persists, replace the Integrated Scanning Assembly (ISA)

#### 30.01.50

##### **Description**

Internal SCB error.

##### **Recommended action**

1. Turn the product off, and then on again.
2. Upgrade the Firmware (FW).
3. If the error persists, replace the SCB.

#### 30.03.14

##### **Description**

A non-fatal error has occurred.

A scanner EEPROM (NVM) error has occurred.

##### **Recommended action**

This is an informational message, and no action is required.

### 30.03.20

#### **Description**

The copy processor board firmware cannot communicate with the PCA on the optical assembly.

#### **Recommended action**

1. Turn the product off, and then on again.
2. Verify that the FFC cables between scanner and the SCB are connected.
3. Replace the Integrated Scanning Assembly (ISA).

### 30.03.22

#### **Description**

Front side illumination calibration failure.

The scan module cannot see the illumination module, or marginal illumination.

The optical assembly may not be parked under the calibration strip.

#### **Recommended action**

1. Turn the product off, and then on again.
2. Upgrade the firmware.
3. Check the service event log for other scanner errors, and then resolve those errors.
4. Check the scan module FFC connection.
5. Replace the Integrated Scanning Assembly (ISA)

### 30.03.23

#### **Description**

Flatbed Alignment calibration error

#### **Recommended action**

1. Turn the product off, and then on again.
2. Upgrade the firmware.
3. Replace the scanner.

### 30.03.30

#### **Description**

Flatbed motor shutdown

The scanner control board cannot communicate with the flatbed scanner motor.

**Recommended action**

1. Turn the product off, and then on again. As the product turns on, verify that the scan head moves.
2. Verify that the drive belt is in the correct position.
3. Run diagnostics on the flatbed scanner to see if the scan bar moves.
4. Check the cable connection to the SCB.
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 again.
2. Upgrade the firmware.
3. Replace the SCB.
4. Replace the scanner assembly.

**31.XX.YZ Error Messages****31.03.14****Description**

Backside scanner EEPROM (NVM) error

A non-fatal error has occurred.

**Recommended action**

This is an informational message, and no action is required.

**31.03.20****Description**

Backside scanner not detected

**Recommended action**

1. Turn the product off, and then on.
2. Verify the cables between scanner and scanner control board are connected.
3. the Document Feeder Assembly

### 31.03.22

#### **Description**

Backside illumination calibration failure

#### **Recommended action**

1. Turn the product off, and then on.
2. Verify the cables between scanner and scanner control board are connected.
3. the Document Feeder Assembly

### 31.03.30

#### **Description**

The document feeder pick motor is not turning.

#### **Recommended action**

1. Verify that the paper meets the product specifications.
2. Make sure that the input tray is not overloaded.
3. Check the event log for document feeder errors, and then resolve any errors first.
4. Open and close the top cover to see if the pick motor turns without posting this error. If the motor turns, then the motor is good.
5. Verify that the motor cables are connected.
6. Re-seat the document feeder to the SCB.
7. Replace the document feeder.

### 31.03.31

#### **Description**

The document feeder feed motor is not turning.

#### **Recommended action**

1. Verify that the paper meets the product specifications.
2. Make sure that the input tray is not overloaded.
3. Check the event log for document feeder errors, and then resolve any errors first.
4. Verify that the motor cables are connected.
5. Re-seat the document feeder to the SCB.
6. Replace the document feeder.

### 31.03.32

#### Description

The document feeder de-skew motor is not turning.

#### Recommended action

1. Verify that the paper meets the product specifications.
2. Make sure that the input tray is not overloaded.
3. Check the event log for document feeder errors, and then resolve any errors first.
4. Verify that the motor cables are connected.
5. Re-seat the ADF to SCB cables.
6. Replace the document feeder.

### 31.03.34

#### Description

The removable background for the backside scanner is either missing or not fully snapped into place

#### Recommended action

1. Remove the white background and clean it.
2. Clean the backside scanner glass.
3. If issue remains replace the Document feeder assembly

No action necessary.

### 31.13.01

#### Description

ADF Job Error, Pick error.

Paper pick was initiated, but the page didn't did not make it to the pick success sensor.

#### Recommended action

1. Open the ADF lid, pull sheets back into input tray, and then resume the job.
2. Check the paper guides and make sure that they are set to the correct paper width.
3. Make sure that the input tray is not overloaded.
4. Check the document feeder page count for roller life.
5. Verify that the paper meets the product specifications.
6. Clean the ADF Pick and feeder rollers and clean Separation pad If worn or damage replace roller kit.
7. Open the following menus:

- Administration
  - Troubleshooting
  - Diagnostic Tests
  - Scanner Tests
8. Actuate the Pick-Success Sensor. If the sensor does not show functionality when tested, replace the document feeder.
  9. If sensor not available for replacement or does not resolve issue replace the Document feeder Assembly.

### 31.13.02

#### Description

ADF job error, Feed jam

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 that the paper meets the product specifications.
3. Check the paper guides and make sure that they are set to the correct paper width.
4. Verify that the paper path is clear.
5. Clean the ADF Pick and feeder rollers and clean Separation pad. If worn or damage replace roller kit.
6. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
  - Scanner Tests
7. Actuate the Paper-Path Sensor. If the sensor does not show functionality when tested, replace the sensor.
8. If sensor not available for replacement or does not resolve issue replace the Document feeder assembly.

### 31.13.13

#### Description

The ADF jam access door is open.



### Recommended action

1. Verify that the jam access cover is closed.
2. Verify that the flag is not broken off.
3. Open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
  - Scanner Tests
4. Actuate the ADF Jam Cover Sensor. If the sensor does not show functionality when tested, replace the Sensor.
5. If inot available for replacement or does not resolve issue replace the Document feeder Assembly

#### 31.13.14

### Description

ADF job error: over current

This is a feed jam in the document feeder, and the motor is not turning.

### Recommended action

1. Verify that the paper meets the product specifications.
2. Make sure that the document feeder input tray is not overloaded.
3. Check the event log for document feeder errors, and then resolve 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 that the motor cables are connected.
6. Re-seat the document feeder to the SCB.
7. Replace the document feeder.

#### 31.13.15

### Description

This is a duplex re-feed jam in the document feeder.

The paper jam occurs on the back-side copy. The duplex re-feed does not make it to the deskew sensor.

### Recommended action

1. Remove the jammed paper.
2. Verify that there is nothing in the paper path of the duplex refeed area.

3. Retry the copy job.
4. Replace the document feeder Assembly.

## 32.08.XX Error Messages

### 32.08.A1, 32.08.A2, 32.08.A3

#### Description

##### 32.08.A1 (event code)

Shutdown event-boot after abnormal shutdown

##### 32.08.A2 (event code)

Boot from normal shutdown event

##### 32.08.A3 (event code)

Regular boot event

#### Recommended action

No action necessary.

## 32.1C.XX

#### Description

##### 32.1C.05 (event code)

The restore job ticket was submitted with invalid credentials

##### 32.1C.06 (event code)

The backup job ticket was submitted with invalid credentials

##### 32.1C.07 (event code)

Backup restore permissions error

There was an error during the creation, read, or write of the restore file.

##### 32.1C.08 (event code)

Not enough disk space to perform backup/restore or network share issue

There was an error during the creation, read, or write of the backup file.

##### 32.1C.09 (event code)

Tried to restore a backup file that was not valid for this product

The data in the backup file specified in the restore job ticket is no longer valid due to a corruption of the data or no longer present.

##### 32.1C.0A (event code)

Backup file is invalid

The data in the backup file specified in the restore job ticket is no longer valid due to a corruption of the data or no longer present.

**32.1C.0D** (event code)

Backup/restore failed, auto-reboot failed, or the product might be busy

**32.1C.11** (event code)

Backup/restore timeout while communicating with the engine

The backup was aborted because the product is busy.

**32.1C.13** (event code) and **32.1C.14** (event code)

Not enough space exists to perform the backup

The backup was aborted because the disk is at a critical level or full.

Scheduled backup failure

**32.1C.15** (event code)

Restore aborted because the backup file was created by a previous version of firmware no longer supported by the feature.

**32.1C.2E** (event code)

The restore was aborted because the product is busy.

**32.1C.2F** (event code)

Reset failure

**32.1C.40** (event code)

The backup operation completed successfully (informational).

**32.1C.41** (event code)

The backup operation encountered an error (informational).

**32.1C.42** (event code)

The backup operation completed, but with a warning message (informational).

**32.1C.43** (event code)

A component in the backup file is not supported by the current version of firmware and will not be restored (informational).

**32.1C.44** (event code)

A component in the backup file is not transferable to another product and will not be restored (informational).

**32.1C.45** (event code)

Some data was not included in the backup file (informational).

**32.1C.46** (event code)

An expected component could not be found and was thus not backed up. Because components should be known on backups, this code is a warning (informational).

[32.1C.47](#) (event code)

Some data was not restored from the backup file (informational).

[32.1C.48](#) (event code)

The backup job ticket was submitted using an invalid network path.

[32.1C.49](#) (event code)

The backup job ticket was submitted with a bad encryption.

[32.1C.4A](#) (event code)

An error occurred when creating the temporary directories used to store the backup files in transition to and from the compressed (ZIP) file.

[32.1C.56](#) (event code)

Reset aborted. Backup/restore in progress (informational).

[32.1C.57](#) (event code)

Reset aborted (informational).

[32.1C.58](#) (event code)

Unknown reset error (informational).

[32.1C.60](#) (event code)

The restore operation completed successfully (informational).

[32.1C.61](#) (event code)

The restore operation encountered an error.

[32.1C.62](#) (event code)

The restore operation completed, but with a warning message.

[32.1C.68](#) (event code)

The restore job ticket was submitted using an invalid network path.

[32.1C.69](#) (event code)

The restore job ticket was submitted with a bad encryption personal identification number (PIN).

[32.1C.6A](#) (event code)

An error occurred when creating the temporary directories used to store the restore files in transition to and from the compressed (ZIP) file.

[32.1C.6D](#) (event code)

An unusual error occurred when running the restore.

## **Recommended action**

### **32.1C.05** (event code)

Verify the credentials that were submitted. Check the domain, user name, and password.

### **32.1C.06** (event code)

Verify the credentials that were submitted. Check the domain, user name, and password.

### **32.1C.07** (event code)

Retry the job.

### **32.1C.08** (event code)

- Retry the job.
- Remove stored jobs and retry.
- Use a larger capacity storage device.
- Check the network share.

Remove any stored jobs, and then retry.

If the error persists, try using a larger capacity storage device and check the network share settings.

### **32.1C.09** (event code)

Use a valid backup file.

### **32.1C.0A** (event code)

Use a valid backup file.

Reboot, and then observe the state of the product.

If the error persists, perform a partition clean from the **Preboot** menu.

### **32.1C.0D** (event code)

Reboot, and then retry the backup/restore.

### **32.1C.11** (event code)

Wait until the product is idle, and then try again.

### **32.1C.13** (event code) and **32.1C.14** (event code)

Free up disk space, and then try again.

### **32.1C.15** (event code)

- Use the current backup file.

### **32.1C.2E** (event code)

Wait until the product is idle, and then try again.

Turn the product off then on, and then retry.

**32.1C.2F** (event code)

Turn the product off then on, and then retry.

**32.1C.40** (event code)

No action necessary.

**32.1C.41** (event code)

No action necessary.

**32.1C.42** (event code)

No action necessary.

**32.1C.43** (event code)

No action necessary.

**32.1C.44** (event code)

No action necessary.

**32.1C.45** (event code)

No action necessary.

**32.1C.46** (event code)

No action necessary.

**32.1C.47** (event code)

No action necessary.

**32.1C.48** (event code)

Check that a share was provided as part of the network path (not blank).

Check that the server and the share exists.

Check that the user has permission to access the share on the provided server.

**32.1C.49** (event code)

Verify that the encryption personal identification number (PIN) meets the restrictions for the product.

**32.1C.4A** (event code)

Retry the job.

If this does not resolve the issue, turn the product off then on again and retry the job.

If the error persists, perform a **Partial Clean** using the **Preboot** menu.

**32.1C.56** (event code)

No action necessary.

**32.1C.57** (event code)

No action necessary.

[32.1C.58](#) (event code)

No action necessary.

[32.1C.60](#) (event code)

No action necessary.

[32.1C.61](#) (event code)

Review the error log to see specific details about the failure.

[32.1C.62](#) (event code)

Review the error log to see specific details about the failure.

[32.1C.68](#) (event code)

Check that a share was provided as part of the network path (not blank).

Check that the server and the share exist.

Check that the user has permission to access the share on the provided server.

Check that the path includes the compressed (ZIP) file name as part of the path

[32.1C.69](#) (event code)

Verify the encryption personal identification number (PIN) is the same PIN used to encrypt the backup file.

[32.1C.6A](#) (event code)

Retry the job.

[32.1C.6D](#) (event code)

Retry the job.

## 40.XX.YZ Error Messages

### 40.00.01 USB I/O buffer overflow To continue, touch "OK"

#### Description

The USB buffer has overflowed.

#### Recommended action

1. Touch the **OK** button to print the transferred data (some data might be lost).
2. Check the host configuration.

### 40.00.02 Embedded I/O buffer overflow To continue, touch "OK"

#### Description

The product has experienced a JetDirect buffer overflow.

**Recommended action**

1. Touch the **OK** button to print the transferred data (some data might be lost).
2. Check the host configuration.

**40.00.03 EIO <X> buffer overflow To continue, touch “OK”****Description**

Too much data was sent to the EIO card in the specified slot (x). An incorrect communications protocol might be in use.

**Recommended action**

Touch the **OK** button to print the transferred data (some data might be lost).

**40.00.04 EIO <X> bad transmission To continue, touch “OK”****Description**

The connection between the product and the USB device has been broken.

**Recommended action**

1. Touch the **OK** button to clear the error message and continue printing.
2. Remove, and then reinstall the USB device.

**40.00.05 Embedded I/O bad transmission To continue, touch “OK”****Description**

The USB device has been removed.

**Recommended action**

1. Touch the **OK** button to clear the error message (data will be lost).
2. Install the USB device.

**40.08.0X USB storage accessory removed****Description**

X = 0 or ;1 information code.

Secure file erase is enabled.

**Recommended action**

No action necessary.

**40.0X.05 USB storage accessory removed****Description**

X = 1, 2, 3, 5, or 6; information code.

The USB storage accessory was removed.



## Recommended action

No action necessary.

## 41.XX.YZ Error Messages

### 41.01.YZ

#### Description

Event log error message: 41.01.YZ.

An unknown misprint error occurred on the 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 duplex

**Recommended action**

1. Touch OK to clear the error.
2. If the error is not cleared, Turn the product off, and then on again.
3. If the error returns, check the wire harness from the laser scanner to the DC controller.
4. If the error persists, replace the affected laser/scanner.
5. Replace the DC controller.

**41.02.00**

**Description**

A beam detected misprint error.

**41.02.05** – Black station

**41.02.06** – Cyan station

**41.02.07** – Magenta station

**41.02.08** – Yellow station

**Recommended action**

1. To clear the error message, touch **OK**.
2. If the error persists, turn the product off, and then on again.
3. If the error returns, check the wire harness from the laser/scanners to the DC controller.
4. If the error continues, replace the affected laser/scanner

**41.03.FZ Unknown Misprint Error**

**Description**

This is a general misprint error. Either media is loaded off-center with the side guides in the tray or a media width sensor failure occurred from an unknown tray. The error will be one of the following:

- **41.03.F0**
- **41.03.F1**
- **41.03.F2**
- **41.03.F3**
- **41.03.F4**

- 41.03.F5
- 41.03.FD

#### Recommended action

1. Reload the tray, verifying that the guides in the tray are flush with the loaded media in the tray.
2. Try the print job again.

Watch the mechanism to see if it is functioning correctly. If the linkage is broken, replace the paper tray.

3. If the error persists, print a Configuration Page and note the paper size for the tray in question.
  - If the size is not reported correctly, run the tray size sensor test in the **Diagnostic** menu.
  - If the tray size sensors test as **GOOD**, replace the paper tray.
  - If the tray size sensors test as **BAD**, check the cable connections between the tray size sensor and the DC Controller.

If the cable connections are plugged in correctly and the cables are not compromised, replace the correct component that contains the tray size sensing switches.

#### 41.03.YZ Unexpected size in envelope feeder To use another tray, touch "Options "

##### Description

The product detected a different paper size than expected.

Y = Type, Z = Tray

- Y = 0 Size mismatch. Detected media is longer or shorter than expected.
- Y = A Size mismatch. Detected media too long.
- Y = B Size mismatch. Detected media too short.
- Y = C Size mismatch. Inter-page gap error.
- Z = D Source is the duplexer.
- Z = E Source is the envelope feeder.
- Z = 2 Source is Tray 2.
- Z = 3 Source is Tray 3.
- Z = 4 Source is Tray 4.
- Z = 5 Source is Tray 5.

##### Recommended action

1. Touch **OK** to use another tray.
2. Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.

3. Use the Tray/Bin manual sensor test to verify that the cassette media switch is correctly functioning.
4. If the error persists, remove and reinstall the ITB unit.
5. Check all connections from DC Controller to lifting drive assembly.
6. Reconnect the connectors for the media sensor, intermediate-transfer belt, and the DC controller PCA.
7. If the error persists, replace  
Lifting drive assembly  
T2 Assembly.  
ITB Unit

#### 41.03.YZ Unexpected size in tray <X>

##### Description

The product detected a different paper size than expected.

Y = Type, Z = Tray

- Y = 0 Size mismatch. Detected media is longer or shorter than expected.
- Y = A Size mismatch. Detected media too long.
- Y = B Size mismatch. Detected media too short.
- Y = C Size mismatch. Inter-page gap error.
- Z = D Source is the duplexer.
- Z = E Source is the envelope feeder.
- Z = 1 Source is Tray 1.
- Z = 2 Source is Tray 2.
- Z = 3 Source is Tray 3.
- Z = 4 Source is Tray 4.
- Z = 5 Source is Tray 5.

##### Recommended action

1. Touch **OK** to use another tray.
2. Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.
3. Use the Tray/Bin manual sensor test to verify that the cassette media switch is correctly functioning.
4. If the error persists, remove and reinstall the ITB unit.
5. Check all connections from DC Controller to lifting drive assembly.

6. Reconnect the connectors for the media sensor, intermediate-transfer belt, and the DC controller PCA.
7. If the error persists, replace  
Lifting drive assembly  
T2 Assembly.  
ITB Unit

#### 41.04.YZ Printer Error

##### 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 = D Source is the duplexer.
- Z = 0 Source is the envelope feeder.
- Z = 1 Source is Tray 1.
- Z = 2 Source is Tray 2.
- Z = 3 Source is Tray 3.

- Z = 4 Source is Tray 4.
- Z = 5 Source is Tray 5.

#### Recommended action

1. Touch **OK** to clear the error .
2. If error does not clear, Turn the product off, and then on again
3. Swap out or re-seat each toner cartridge to test it.
4. Check the toner cartridges before replacing any other parts (HP original?, connectors, etc.).
5. Re-seat the connections to the laser/scanner and the DC controller.
6. If the error persists, replace the affected laser/scanner.
7. Replace the DC controller.

#### 41.05.YZ Unexpected type in tray <X>

##### Description

The product can detect the type of paper in the paper path, and it adjusts the print mode accordingly.

The product uses two types of media sensors:

- **Reflection:** Detects the glossiness of the paper
- **Transmission:** Detects the thickness of the paper

Tray X is loaded with a media type (transparencies, envelopes, etc.) that is different than what they tray is configured to use.

Y = Expected type, Z = Detected type

- Y = 0: Photo Media (1, 2, or 3)
- Y = 1: Auto Sense (Normal)
- Y = 2: Normal (typed not from Auto Sense)
- Y = 3: Light media 1, 2, or 3 mode
- Y = 4: Heavy media 1
- Y = 5: Heavy media 2
- Y = 6: Heavy media 3
- Y = 7: Glossy media 1
- Y = 8: Glossy media 2
- Y = 9: Glossy media 3
- Y = A: Glossy film
- Y = B: OHT
- Y = C: Label

- Y = D: Envelope 1, 2, or 3 mode
- Y = E: Rough
- Y = F: Other mode
- Z = 0: Photo Media (1, 2, or 3)
- Z = 1: Auto Sense (Normal)
- Z = 2: Normal (typed not from Auto Sense)
- Z = 3: Light media 1, 2, or 3 mode
- Z = 4: Heavy media 1
- Z = 5: Heavy media 2
- Z = 6: Heavy media 3
- Z = 7: Glossy media 1
- Z = 8: Glossy media 2
- Z = 9: Glossy media 3
- Z = A: Glossy film
- Z = B: OHT
- Z = C: Label
- Z = D: Envelope 1, 2, or 3 mode
- Z = E: Rough
- Z = F: Other mode

**Recommended action**

1. Load the tray with the size and type of paper indicated, or use another tray if available.
2. If this message displays and the tray is loaded with the correct paper type, check the print driver settings to make sure they match the tray type settings.
3. Check all application and product settings to make sure that the **Type** setting is correct.
4. Remove and reinstall the ITB Unit
5. Reconnect the connectors for the media sensor, intermediate-transfer belt, and the DC controller PCA.
6. Replace the ITB unit.

**41.06.YZ Error To continue, touch "OK"**

**Description**

ITB top detection error

Y= Media 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 = 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 = D Source is the duplexer.

**Recommended action**

1. Turn the product off and then on again.
2. If the error persists, Remove and reinstall the ITB
3. Reconnect the connectors for the media sensor, intermediate-transfer belt, and the DC controller PCA
4. Replace the ITB unit.

**41.07.YZ Error To continue, touch “OK”**

**Description**

A media transportation error has occurred. Optional input source delay

Y= Media 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 = 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 = D Source is the duplexer.

**Recommended action**

1. Turn the product off and then on again.
2. If the error persists, replace the DC controller PCA.

**41.XX.YZ Error To continue, touch "OK"**

**Description**

This section covers all other errors of the form 41.XX.YZ not covered in the previous sections.

A product error has occurred.

XX = error type

Y = fuser mode

Z = input tray

- XX = 02 Beam detect misprint
- XX = 08 Media transportation error
- XX = 09 Sub thermistor abnormally high
- XX = 10 Pickup failure.
- XX = 11 Illegal Duplex.
- XX = 18 Scan line inclination adjustment
- XX = 20 Image drum HV
- Y = 0: Photo Media (1, 2, or 3)
- Y = 1: Auto Sense (Normal)
- Y = 2: Normal (typed not from Auto Sense)
- Y = 3: Light media 1, 2, or 3 mode
- Y = 4: Heavy media 1
- Y = 5: Heavy media 2
- Y = 6: Heavy media 3
- Y = 7: Glossy media 1
- Y = 8: Glossy media 2
- Y = 9: Glossy media 3
- Y = A: Glossy film
- Y = B: OHT
- Y = C: Label
- Y = D: Envelope 1, 2, or 3 mode
- Y = E: Rough
- Y = F: Other mode
- Z = 0 Envelope feeder
- Z = 1 Tray 1
- Z = 2 Tray 2
- Z = 3 Tray 3
- Z = 4 Tray 4
- Z = 5 Tray 5

- Z = 6 Tray 6
- D Duplexer

**Recommended action**

1. To clear the message, touch the **OK** button.
2. If the message displays again, turn the product off, and then on again.
3. If the error persists, replace the DC Controller PCA.

## 42.XX.YY Error Messages

### 42.XX.YY Error Event Log message

**Description**

Internal system failure.

**Recommended action**

1. Turn the product off, then on, and then retry.
2. If the error persists, clear the firmware image from the active partition by using the **Partial Clean** item in the **Preboot** menu.

## 44.XX.XX Error Messages

### 44.01.XX Error Event log message (MFP Only)

**Description**

A digital send error has occurred.

**Recommended action**

Try to send the job again.

No action necessary. This error message should automatically clear.

### 44.02.XX Error Event log message (MFP Only)

**Description**

Personal address book error has occurred.

**Recommended action**

Try to send the job again.

Check Digital send configuration and address book

### 44.03.XX Error Event log message (MFP Only)

**Description**

A digital send error has occurred.

**Recommended action**

Try to send the job again.

Check the Digital Send configuration.

**44.04.XX Error Event log message (MFP Only)****Description**

Digital Send Email error has occurred.

**Recommended action**

Try to send the job again.

Check the Digital Send configuration.

**44.05.XX Error Event log message (MFP Only)****Description**

Digital Send Folder Job error has occurred.

**Recommended action**

Try to send the job again.

Check the Digital Send configuration.

**44.07.XX Error Event log message (MFP Only)****Description**

Digital Send Remote Printer Job Error has occurred.

**Recommended action**

Try to send the job again.

Check the Digital Send configuration.

**44.08.XX Error Event log message (MFP Only)****Description**

SharePoint Job Error has occurred.

**Recommended action**

1. If this is the first time the error has occurred, cancel and then restart the job.
2. If the error occurs repeatedly Reboot the engine and retry the job
3. If error still persists, Reset to factory settings. Upgrade to newer firmware.

**44.10.XX Error Event log message (MFP Only)****Description**

A send to e-mail error has occurred.

**Recommended action**

Try to send the job again.

Check the Digital Send configuration.

**44.11.0E Error Event log message (MFP Only)****Description**

The attachment filename already exists at the destination, and the flag to fail on filename collisions was set. This file will not be sent.

**Recommended action**

1. If this is the first time the error has occurred, use a different filename or verify that the filename is not already in use
2. If the issue persists, use a unique filename or disable the flag to fail on filename collision.

**44.11.XX Error Event log message (MFP Only)****Description**

A Digital Send error has occurred.

**Recommended action**

Try to send the job again.

Check the Digital Send configuration.

**44.12.0E Error Event log message (MFP Only)****Description**

Digital Send, The attachment filename already exists at the destination, and the flag to fail on filename collisions is set. This file will not be sent

**Recommended action**

1. If this is the first time the error has occurred, use a different filename or verify that the filename is not already in use
2. If the issue persists, use a unique filename or disable the flag to fail on filename collision.

**44.12.XX Error Event log message (MFP Only)****Description**

A Digital Send error has occurred.

**Recommended action**

Try to send the job again.

Check the Digital Send configuration.

#### 44.16.01 Error Event log message (MFP Only)

##### Description

A Digital Send error has occurred while trying to create File Type.

XX =

- 01 – RTF File
- 03 – CSV File
- 04 – HTML File
- 05 – XML File
- 06 – XPS File
- 07 – PDF File

##### Recommended action

1. Try to send the job again
2. Check Digital Send configuration.

#### 44.16.02 Error Event log message (MFP Only)

##### Description

The destination URL was found to be invalid or unreachable.

##### Recommended action

1. If this is the first time the error has occurred, cancel and then restart the job.
2. If the error persists, Power cycle the device and retry the job.
3. If error still persists, Reset to factory settings. Upgrade to newer firmware.

#### 44.16.03 Error Event log message (MFP Only)

##### Description

The destination URL is not a SharePoint site

##### Recommended action

1. If this is the first time the error has occurred, verify settings in job configuration and then restart the job.
2. If the error persists,
  - Check network connection settings
  - Verify access to the SharePoint site

#### 44.16.04 Error Event log message (MFP Only)

##### Description

Credentials associated with the SharePoint destination were found to be invalid or missing.

##### Recommended action

1. If this is the first time the error has occurred, verify settings in job configuration and then restart the job.
2. If the error persists,
  - Check network connection settings
  - Verify access to the SharePoint site

#### 44.16.05 Error Event log message (MFP Only)

##### Description

Credentials do not have write access to the SharePoint destination.

##### Recommended action

1. If this is the first time the error has occurred, verify settings in job configuration and then restart the job.
2. If the error persists,
  - Check network connection settings
  - Verify access to the SharePoint site

#### 44.16.06 Error Event log message (MFP Only)

##### Description

Upload of image file failed. Reason unknown

##### Recommended action

1. If this is the first time the error has occurred, verify settings in job configuration and then restart the job.
2. If the error persists, Power cycle the device retry the job
3. If error still persists, Reset to factory settings. Upgrade to newer firmware.

#### 44.16.07 Error Event log message (MFP Only)

##### Description

Upload of image file failed.

The file exceeded the maximum form submission length on the Web server.

**Recommended action**

1. If this is the first time the error has occurred, send fewer pages in the job, lower the DPI of the scanned pages, or select a file type that splits pages into separate files (for example, jpeg).
2. If the error persists repeatedly, contact the SharePoint site administrator to increase the Web server's maximum form submission length.

**44.16.08 Error Event log message (MFP Only)****Description**

Upload of image file failed. The SharePoint site storage quota limit was exceeded.

**Recommended action**

1. If this is the first time the error has occurred, make space on the SharePoint site by deleting some files, and then retry the job.
2. If the error occurs repeatedly, contact the SharePoint site administrator to increase the storage quota limit

**44.16.09 Error Event log message (MFP Only)****Description**

Upload of image file failed. A folder or filename length is too long.

**Recommended action**

1. If this is the first time the error has occurred, check the destination URL and filename in the SharePoint job configuration to verify no folder or filename exceeds the maximum of 128 characters.
2. If the error occurs repeatedly, try sending to a different folder on the SharePoint site or changing the filename (which could include prefix or suffix).

**44.16.0A Error Event log message (MFP Only)****Description**

Upload of the image file failed. The image file already exists on the server and is checked out for editing by another user

**Recommended action**

1. If this is the first time the error has occurred, verify that the filename used by the job is not checked out on the SharePoint site
2. If the error occurs persists, use a different filename for the job.

**44.16.0B Error Event log message (MFP Only)****Description**

Upload of the image file failed. The image file already exists on the server and the job was set to not overwrite files.



**Recommended action**

1. If this is the first time the error has occurred, set the job to overwrite existing files.
2. If the error occurs persists, use a different filename for the job.

**44.16.0D Error Event log message (MFP Only)****Description**

Encountered an unexpected processing error while transferring attachments to the destination SharePoint

**Recommended action**

1. If this is the first time the error has occurred, verify settings in job configuration and restart the job.
2. If the error persists, Power cycle the device and retry the job. .
3. If error continues, Reset to factory settings. Upgrade to newer firmware

**44.16.0E Error Event log message (MFP Only)****Description**

The attachment filename already exists at the destination, and the flag to fail on filename collisions was set. This file will not be sent

**Recommended action**

1. If this is the first time the error has occurred, use a different filename or verify that the filename is not already in use
2. If the issue persists, use a unique filename or disable the flag to fail on filename collision.

**44.16.0F Error Event log message (MFP Only)****Description**

Not enough memory to process the current SharePoint Job

**Recommended action**

1. If this is the first time the error has occurred, cancel and/or restart the job, breaking it up into small jobs.
2. Repeat this process if the error persists until job goes through.

**44.16.10 Error Event log message (MFP Only)****Description**

SharePoint server is using an invalid certificate.

**Recommended action**

1. If this is the first time the error has occurred, send the SharePoint job to a non-secure address, or send the job to a SharePoint server that has a valid certificate.
2. If the error occurs repeatedly, send the job to a different, trusted SharePoint server.

**44.16.FF Error Event log message (MFP Only)****Description**

Unexpected error occurred in the SharePoint resource device code

**Recommended action**

1. If this is the first time the error has occurred, verify settings in job configuration and restart the job.
2. If error persists, Power cycle the device and retry the job.
3. If error continues, Reset to factory settings. Upgrade to newer firmware

**44.34.XX Error Event log message (MFP Only)****Description**

A fax error has occurred.

**Recommended action**

1. Try to send the job again.
2. Check the FAX configuration

**44.90.XX Error Event log message - 44.91.XX Error Event log message - 44.92.XX Error Event log message (MFP Only)****Description**

A fax error has occurred.

**Recommended action**

1. Try to send the job again.
2. Check the FAX configuration

**47.XX.XX Error Messages****47.00.XX****Description**

Back channel internal error

### Recommended action

1. Turn the product off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the **Partial Clean** item in the **Preboot** menu.

### 47.01.XX

#### Description

Image transformer internal error

#### Recommended action

1. Turn the product off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the **Partial Clean** item in the **Preboot** menu.

### 47.02.XX

#### Description

Job parser internal error

#### Recommended action

1. Turn the product off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the **Partial Clean** item in the **Preboot** menu.

### 47.03.XX

#### Description

Print job internal error

#### Recommended action

1. Turn the product off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the **Partial Clean** item in the **Preboot** menu.

### 47.04.XX

#### Description

Print spooler 9100 internal error

**Recommended action**

1. Turn the product off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the **Partial Clean** item in the **Preboot** menu.

**47.05.00****Description**

Print spooler framework internal error

**Recommended action**

1. Turn the product off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the **Partial Clean** item in the **Preboot** menu.

**47.06.XX****Description**

Print App internal error

**Recommended action**

1. Turn the product off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the **Partial Clean** item in the **Preboot** menu.

**47.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 0 (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**

1. Turn the product off, and then on again.
2. If the error persists over multiple power cycles frequently and consistently on a unit then do the following.
  - In the **Administration/Troubleshooting/Diagnostics**, run the hard disk tests to validate health of the device. Fix any issue found with the mass storage device
3. If the error persists, reload the firmware.
4. If the error persists, Perform "Partial Clean" and reload the firmware.

## **48.XX.YY Error Messages**

### **48.XX.YY**

#### **Description**

A job framework internal error has occurred.

#### **Recommended action**

1. No action should be necessary.
2. If the error persists, upgrade the product firmware.
3. If the issue persists, continue troubleshooting with the flowcharts for either Intermittent or Persistent 49 error troubleshooting (whichever is appropriate) in document c03122817, "HP LaserJet FutureSmart Devices - 49 Error Troubleshooting (Persistent and Intermittent)".

## 49.XX.YY Error Messages

### 49.XX.YY Error To continue turn off then on

#### Description

A firmware error occurred. Corrupted print jobs, software application issues, non-product specific print drivers, poor quality USB or network cables, bad network connections or incorrect configurations, invalid firmware operations, or unsupported accessories can cause this error.

#### Recommended action

1. Turn the product off, and then on.
2. If the error persists, check the following:
  - The error might be caused by a network connectivity problem, such as a bad interface cable, a bad USB port, or an invalid network configuration setting.
  - The error might be caused by the print job, due to an invalid print driver, a problem with the software application, or a problem with the file being printed.
  - Upgrading the product firmware might help resolve the error. See the product user guide for more information.

When a 49 error occurs, the user sees a 49.XXXX message on the control panel (where XXXX is replaced by a combination of letters and numbers). A 49 error might happen at any time for multiple reasons. Although some types of 49 errors can be caused by hardware failures, it is more common for 49 errors to be caused by printing a specific document or performing some task on the product.

49 errors most often occur when a product is asked to perform an action that the product firmware is not capable of and might not have been designed to comply with, such as:

- Printing files with unsupported programming commands
- A unique combination of user environment and user interactions with the product
- Interfacing with a third-party solution that was not designed to work with the product
- Specific timing, network traffic, or concurrent processing of jobs

Each of these interactions could cause the product firmware to initiate an action that the product cannot accomplish. In situations like this, the product might present the error if it has no other option. When these errors occur, the only way to recover is to turn the product's power off and back on.



**NOTE:** LaserJet formatter PCAs are rarely the root cause of 49 service errors. Please do not replace the formatter or flash unless troubleshooting has identified the formatter as the root cause.

If the error persists, continue troubleshooting with the flowcharts for either Intermittent or Persistent 49 error troubleshooting (whichever is appropriate) in document c03122817, "HP LaserJet FutureSmart Devices - 49 Error Troubleshooting (Persistent and Intermittent)".

## 50.WX.YZ Error Messages

### 50.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, and Z = next printer sleep state.

Fuser modes and sleep states are listed after all 50.WX.YZ troubleshooting.

The specific issues are:

- **50.1X:** Low fuser temperature
- **50.2X:** Fuser warm up service
- **50.3X:** High fuser temperature
- **50.4X:** Drive circuit fault
- **50.6X:** Open fuser circuit (heating element failure)
- **50.7X:** Depressurizing mechanism malfunction
- **50.8X:** Low fuser temperature 2
- **50.9X:** High fuser temperature 2
- **50.AX:** Low fuser temperature 3
- **50.BX:** High fuser temperature 3

#### **Recommended action**

1. Turn the product off, and then on.
2. If the error returns, turn the product off and ensure the printer is directly plugged into a wall outlet (remove any surge protector or UPS).
3. If the error persists, try a different wall outlet (if possible), one that is preferably on a dedicated or different circuit.
4. Make sure that the correct fuser model is installed in the product and that it meets the appropriate voltage requirements.
5. Make sure the fuser is seated properly.
6. If the error persists, continue troubleshooting based on the individual error listed below.

#### **50.1X**

Low fuser temperature failure

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
2. Make sure that there is no residual paper in the fuser.
3. Check the product power source. Make sure that the power source meets product requirements. Make sure that the product is the only device using the circuit.
4. Check the connector (J1901) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.
5. Reconnect the connectors (J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA

6. If the issue persists, replace the fuser.
7. If error still remains, replace the Fuser PCA assembly.

### 50.2X

#### Fuser warm-up error

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
2. Make sure that there is no residual paper in the fuser.
3. Check the product power source. Make sure that the power source meets product requirements. Make sure that the product is the only device using the circuit.
4. Check the connector (J1901) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.
5. Reconnect the connectors (J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
6. If the issue persists, replace the fuser.
7. If error still remains, replace the Fuser PCA assembly.

### 50.3X

#### High fuser temperature

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
2. Check the paper type setting in the product control panel menus and in the print driver. Make sure that the settings match and are correct for the type of media being used.
3. Check the connector (J1901) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.
4. Reconnect the connectors (J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
5. If the issue persists, replace the fuser.
6. If error still remains, replace the Fuser PCA assembly.

### 50.4X

#### Drive circuit fault

1. Check the product power source. Make sure that the power source meets product requirements.



**NOTE:** If the power source does not meet the power frequency requirements of 43 to 67Hz, the fuser temperature control does not work correctly and causes this error.

2. If possible, connect the product to an outlet where another product is functioning to verify the power connection.
3. Remove and reinstall the fuser verifying it is correctly seated
4. Check the connector (J1901) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.



5. Reconnect the connectors (J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
6. If the issue persists, replace the Fuser.PCA assembly
7. Replace the Fuser assembly.
8. Replace the DC Controller.

#### **50.6X**

Open fuser circuit (heating element failure)

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
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. Check the connector (J1901) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.
4. Reconnect the connectors (J302, J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
5. If the issue persists, replace the Fuser assembly
6. If the issue persists, replace the Fuser PCA assembly.
7. Replace the DC controller

#### **50.7X**

Fuser pressure-release mechanism failure

1. Remove and reinstall the fuser. Make sure there is no residual paper in the fuser.
2. Run the sensor test in the sensor monitor mode to verify that the fuser home position sensor is functioning properly. If it is not, replace the fuser home position sensor assembly
3. Run the fuser depressurization drive test in the actuator drive mode to verify that the fuser depressurization drive is functioning properly. If it is not, replace the fuser motor
4. Reconnect the connector (J1711) of the fuser motor, intermediate connector (J1964) of the fuser home position sensor and connectors (J105 and J121) on the DC controller PCA
5. Check the fuser home position sensor flag. If the flag is damaged, replace the fuser
6. Replace the fuser motor
7. Replace the Fuser.

#### **50.8X**

Low fuser temperature 2

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
2. Make sure that there is no residual paper in the fuser.
3. Check the product power source. Make sure that the power source meets product requirements. Make sure that the product is the only device using the circuit.

4. Check the connector (J1901) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser
5. Reconnect the connectors (J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
6. If the issue persists, replace the fuser.
7. If the issue persists, replace the Fuser PCA assembly.

#### **50.9X**

##### High fuser temperature 2

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
2. Check the paper type setting in the product control panel menus and in the print driver. Make sure that the settings match and are correct for the type of media being used.
3. Check the connector (J1901) between the fuser and printer. If the connector is damaged, replace the fuser drive assembly or the fuser
4. Reconnect the connectors (J302, J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
5. If the issue persists, replace the fuser.
6. If the issue persists, replace the Fuser PCA assembly.

#### **50.AX**

##### Low fuser temperature 3

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
2. Make sure that there is no residual paper in the fuser.
3. Check the product power source. Make sure that the power source meets product requirements. Make sure that the product is the only device using the circuit.
4. Check the connector (J1901) between the fuser and printer. If the connector is damaged, replace the fuser drive assembly or the fuser
5. Reconnect the connectors (J302, J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
6. If the issue persists, replace the fuser.
7. If the issue persists, replace the Fuser PCA assembly.

#### **50.BX**

##### High fuser temperature 3

1. Remove and reinstall the fuser. Make sure that it is seated correctly.
2. Check the paper type setting in the product control panel menus and in the print driver. Make sure that the settings match and are correct for the type of media being used.
3. Check the connector (J1901) between the fuser and printer. If the connector is damaged, replace the fuser drive assembly or the fuser

4. Reconnect the connectors (J302, J303 and J305) on the fuser control PCA and connector (J107) on the DC controller PCA
5. If the issue persists, replace the fuser.
6. If the issue persists, replace the Fuser PCA assembly.

#### **Fuser Modes**

- 0 = Photo Media 1, 2, 3
- 1 = Normal—Auto Sense
- 2 = Normal
- 3 = Light 1
- 4 = Heavy 1
- 5 = Heavy 2
- 6 = Heavy 3
- 7 = Glossy 1
- 8 = Glossy 2
- 9 = Glossy 3
- A = Glossy Film
- B = Transparency
- C = Label
- D = Envelope 1
- E = Rough

#### **Sleep States**

- 0 = Printing
- 1 = Standby level 1 (no temperature control)
- 2 = Standby level 2 (high temperature control)
- 3 = Standby level 3 (middle temperature control)
- 4 = Standby level 2 (low temperature control)
- 5 = Middle sleep
- 6 = Deep sleep
- F = Power off

## 51.XX.YZ, 52.XX.YZ Error Messages

### 51.00.YZ

#### Description

An error with the laser/scanner assembly has occurred in the product.

- **51.00.10:** Beam detect error
- **51.00.19:** Laser malfunction
- **51.00.20:** Black laser scanner error
- **51.00.21:** Cyan laser scanner error
- **51.00.22:** Magenta laser scanner error
- **51.00.23:** Yellow laser scanner error

#### Recommended action

1. Turn the product off, and then on
2. Check the connections to the laser scanners from the DC controller PCA
  - Laser malfunction of yellow or magenta:  
Reconnect the connector (J1701) of the scanner motor (Y/M), intermediate connector (J1927) and connector (J130B) on the DC controller PCA
  - Laser malfunction of cyan or black:  
Reconnect the connector (J1702) of the scanner motor (C/K), intermediate connector (J1928) and connector (J130B) on the DC controller PCA
3. If the error persists, replace the affected laser/scanner.

### 52.00.00/52.00.20 Scanner Startup/Rotation error

#### Description

A printer laser scanner startup (52.00.00) or rotation (52.00.20) error occurred.

#### Recommended action

1. Turn the product off, and then on
2. Check the connections to the laser scanners from the DC controller PCA
  - Laser malfunction of yellow or magenta:  
Reconnect the connector (J1701) of the scanner motor (Y/M), intermediate connector (J1927) and connector (J130B) on the DC controller PCA
  - Laser malfunction of cyan or black:  
Reconnect the connector (J1702) of the scanner motor (C/K), intermediate connector (J1928) and connector (J130B) on the DC controller PCA
3. If the error persists, replace the affected laser/scanner.

## 54.XX.YZ Error Messages

### 54.00.01 (EVENT LOG ONLY)

#### Description

Environment sensor abnormality warning

#### Recommended action

1. Turn the printer off and then on
2. Reconnect the connector (J9986) of the environment sensor and connector (J115) on the DC controller PCA
3. Replace the environment sensor

### 54.00.18

#### Description

The ITB top sensor malfunctioned

#### Recommended action

1. Turn the printer off and then on
2. Reconnect the connector (J116) on the DC controller PCA
3. Replace the CPR/Density sensor assembly.

### 54.00.19

#### Description

The ITB top sensor abnormality

#### Recommended action

1. Turn the printer off and then on
2. Reconnect the connector (J116) on the DC controller PCA
3. Replace the CPR/Density sensor assembly.

### 54.01.05 (EVENT LOG ONLY)

#### Description

Media sensor Component 1 Abnormality

#### Recommended action

1. Clean the LED emission part of the T2 assembly with a lint-free cloth. Turn the printer off and then on
2. Reconnect the connector (J1955) of the T2 assembly and connector (J121) on the DC controller PCA
3. If the error persists, Replace the T2 assembly

#### 54.02.05 (EVENT LOG ONLY)

##### Description

Media sensor Component 2 Abnormality

##### Recommended action

1. Clean the media sensor assembly of the ITB assembly with a lint-free cloth. Turn the printer off and then on
2. Reinstall the ITB assembly. Check the connector (J1904) between the ITB assembly and printer. If the connector is damaged, replace the connector or the ITB assembly
3. Reconnect the connector (J116) on the DC controller PCA
4. If the error persists, Replace the ITB assembly

#### 54.03.05 (EVENT LOG ONLY)

##### Description

Media sensor Component 3 Abnormality

##### Recommended action

1. Clean the media sensor assembly of the ITB assembly with a lint-free cloth. Turn the printer off and then on
2. Reinstall the ITB assembly. Check the connector (J1904) between the ITB assembly and printer. If the connector is damaged, replace the connector or the ITB assembly
3. Reconnect the connector (J116) on the DC controller PCA
4. If the error persists, Replace the ITB assembly

#### 54.06.21 or 54.07.21 (EVENT LOG ONLY)

##### Description

Primary laser/scanner beam detect abnormality

Secondary laser/scanner beam detect abnormality

##### Recommended action

1. Turn the product off, and then on.
2. Check the following:
  - Laser malfunction of cyan or black:  
Reconnect the connector (J1702) of the scanner motor (C/K), intermediate connector (J1928) and connector (J130B) on the DC controller PCA
  - Laser malfunction of yellow or magenta:  
Reconnect the connector (J1701) of the scanner motor (Y/M), intermediate connector (J1927) and connector (J130B) on the DC controller PCA
3. Replace the laser scanner assembly (Y/M) or the laser scanner assembly (C/K)

## 54.0X.0B or 54.0X.0C or 54.0X.0D or 54.0X.0E: (EVENT LOG ONLY)

### Description

Density sensor out of range error or Dhalf calibration failure

- 54.00.0B, 54.00.0C 54.00.0D, 54.00.0E — Black
- 54.01.0B, 54.01.0C 54.01.0D, 54.01.0E — Cyan
- 54.02.0B, 54.02.0C 54.02.0D, 54.02.0E — Magenta
- 54.03.0B, 54.03.0C 54.03.0D, 54.03.0E — Yellow

### Recommended action

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. Reconnect the connectors (J1824 and J1931) of the CPR/Density sensor assembly and connectors (J119 and J118) on the DC controller PCA
5. Replace the CPR/Density Sensor assembly

## 54.14.00 (EVENT LOG ONLY)

### Description

CPR sensor abnormality warning

### Recommended action

1. Turn the printer off and then on
2. Reconnect the connectors (J1824 and J1931) of the CPR/Density sensor ass'y and connectors (J119 and J118) on the DC controller PCA
3. Replace the CPR/Density sensor assembly.

## 55.XX.YZ, 56.XX.YZ Error Messages

### 55.00.01, 55.00.03, 55.00.04 DC controller error

### Description

DC controller PCA error occurred.

- **55.00.01** (event code)  
DC controller memory error
- **55.00.03** (event code)  
DC controller no engine response
- **55.00.04** (event code)

DC controller communications timeout

**Recommended action**

1. Turn the product off, and then on.
2. If the error persists, replace the DC controller PCA.

**55.01.06, 55.02.06 DC controller error**

**Description**

DC controller PCA error occurred.

The engine is not communicating with the formatter. The communication link between the formatter and the DC controller was lost. This can occur due to a timing error or intermittent connection loss between the formatter and the DC controller.

- **55.01.06** (event code)  
NVRAM memory data error warning
- **55.02.06** (event code)  
NVRAM memory access error warning

**Recommended action**

1. Turn the product off, and then on.
2. Check the life remaining on the maintenance kit.
3. Reseat the formatter, DIMMs, and EIO cards.
4. If the error persists, replace the DC controller PCA.
5. If the error persists, replace the formatter.

**56.00.YY Error**

**Description**

Optional paper trays communication error occurred.

**Recommended action**

1. Turn the product off, and then on.
2. If the error persists, reseat the optional paper trays (HCO and HCI)..
3. Check the input connectors for damage. If a connector is damaged, replace the connector.

**57.XX.YZ Error Messages**

**57.00.01 Error To continue turn off then on**

**Description**

Laser scanner fan (FM-1) malfunction



**Recommended action**

1. Turn the product off, and then on.
2. Reconnect the connector (J1916) of the laser scanner fan and connector (J134) on the DC controller PCA
3. Measure the voltage between the connectors (J134-1 and J134-3) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the laser scanner fan

**57.00.02 Error To continue turn off then on****Description**

Fuser fan (FM-2) malfunction

**Recommended action**

1. Turn the product off, and then on.
2. Reconnect the connector (J1917) of the fuser fan and connector (J132) on the DC controller PCA
3. Measure the voltage between the connectors (J132-7 and J132-9) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the fuser fan
4. If the error continues, replace the fuser cooling fan.

**57.00.03 Error To continue turn off then on****Description**

Cartridge fan (Y/M) (FM-3) malfunction Turn the product off, and then on.

**Recommended action**

1. Turn the product off, and then on.
2. Measure the voltage between the connectors (J132-4 and J132-6) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the cartridge fan (Y/M).
3. If the error persists, replace the Cartridge fan

**57.00.04 Error To continue turn off then on****Description**

Cartridge fan (C/K) (FM-4) malfunction

**Recommended action**

1. Turn the product off, and then on.
2. Reconnect the connector (J9919) of the cartridge fan (Y/M) and connector (J132) on the DC controller PCA

3. Measure the voltage between the connectors (J132-1 and J132-3) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the cartridge fan (C/K).
4. If the error persists, replace the Cartridge fan.

#### 57.00.05 Error To continue turn off then on

##### Description

VOC fan (FM-5) malfunction.

##### Recommended action

1. Reconnect the connector (J1921) of the VOC fan and connector (J103) on the DC controller PCA
2. Measure the voltage between the connectors (J103-4 and J103-6) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the VOC fan
3. If the error persists, replace the VOC Fan

#### 57.00.06 Error To continue turn off then on

##### Description

Low-voltage power supply fan (FM-6) malfunction.

##### Recommended action

1. Reconnect the connector (J2) of the low voltage power supply fan
2. Measure the voltage between the connectors (J2-1 and J2-3) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the low voltage power supply assembly
3. Replace the low voltage power supply assembly

#### 57.00.07 Error To continue turn off then on

##### Description

Cartridge front area cooling fan (FM-7) malfunction

##### Recommended action

1. Reconnect the connector (J1934) of the cartridge front area cooling fan and connector (J103) on the DC controller PCA
2. Measure the voltage between the connectors (J103-1 and J103-3) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the cartridge front area cooling fan



**NOTE:** The cooling assembly is deep inside the product and will be difficult to hear.

3. If the error persists, replace the cartridge front area cooling fan.

### 57.00.08 Error To continue turn off then on

#### Description

Delivery fan (FM-8) malfunction

#### Recommended action

1. Reconnect the connector (J1910) of the delivery fan and connector (J103) on the DC controller PCA
2. Measure the voltage between the connectors (J103-7 and J103-9) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the delivery fan.
3. If the error persists, replace the delivery fan

### 57.00.09 Error To continue turn off then on

#### Description

Fuser edge area cooling fan (rear) (FM-9) malfunction

#### Recommended action

1. Reconnect the connector (J9905) of the fuser edge area cooling fan (rear), intermediate connector (J9961) and connector (J125) on the DC controller PCA
2. Measure the voltage between the connectors (J125-1 and J125-3) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the fuser edge area cooling fan (rear)
3. If the error persists, replace the Rear fuser edge area cooling fan .

### 57.00.10 Error To continue turn off then on

#### Description

FM10 Fuser edge area cooling fan (front)

#### Recommended action

1. Reconnect the connector (J9906) of the fuser edge area cooling fan (front), intermediate connector (J9961) and connector (J125) on the DC controller PCA
2. Measure the voltage between the connectors (J125-4 and J125-6) on the DC controller PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the fuser edge area cooling fan (front)
3. If the error persists, replace the Front fuser edge area cooling fan

### 57.00.11

#### Description

FM11 Fuser edge area cooling fan (front) FM301/ FM302 Duplex fan

### Recommended action

1. Reconnect the connectors (J1902 and J9946) of the duplex switch back assembly and connectors (J133 and J128) on the DC controller PCA
2. Replace the duplex switch back assembly

## 57.00.12

### Description

FM 12 (FM201) malfunction Feed Area Fan

Inside of the intermediate paper transportation unit

### Recommended action

1. Remove and reinstall the IPTU
2. Reconnect the connector (J7008) on the IPTU driver PCA
3. Measure the voltage between the connectors (J7008-1 and J7008-3) on the IPTU driver PCA immediately after the printer is turned on. If the voltage changes from 0V to approximately 24V, replace the IPTU feed area fan
4. Replace the IPTU

## 59.XX.YZ Error Messages

### 59.00.90 or 59.00.A0

### Description

ITB motor (M1) start up error or ITB motor (M1) abnormal rotational error

### Recommended action

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 (J1710) on the ITB motor and the connector (J105) on the DC controller PCA
3. Replace the ITB motor

### 59.00.C0

### Description

Developer alienation motor (M18 C/K - M19 Y/M) error

### Recommended action

1. Run the sensor test in the sensor monitor mode to verify that the developer home position sensor is functioning properly. If it is not, replace the main drive assembly
2. Run the developer alienation drive test in the actuator drive mode to verify that the developer alienation drive is functioning properly. If it is not, replace the toner cartridge drive assembly

3. Reconnect the intermediate connector (J1929) of the developer home position sensor and connector (J131) on the DC controller PCA. Also reconnect the connectors (J1718 and J1719) of the developer alienation motor, connectors (J422 and J425) on the cartridge driver PCA and connector (J142) on the DC controller PCA
4. Replace the toner cartridge drive assembly
5. Replace the main drive assembly

## 59.00.F0

### Description

T1 alienation mechanism failure

### Recommended action

1. Run the sensor test in the sensor monitor mode to verify that the ITB home position sensor is functioning properly. If it is not, replace the main drive assembly
2. Reconnect the connector (J2010) of the ITB home position sensor, connectors (J423 and J412) on the cartridge driver PCA and connector (J142) on the DC controller PCA
3. Run the T1 roller alienation drive test in the actuator drive mode to verify that the T1 roller alienation drive is functioning properly. If it is not, replace the ITB alienation drive assembly
4. Reconnect the connector (J1716) of the T1 roller alienation motor, connectors (J421 and J411) on the cartridge driver PCA and connector (J141) on the DC controller PCA
5. Replace the ITB alienation drive assembly

## 59.0X.50

### Description

Drum Motor startup error

#### 59.05.50 Black

#### 59.06.50 Cyan

#### 59.07.50 Magenta

#### 59.08.50 Yellow

### Recommended action

#### 59.05.50

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the black drum motor
2. Reconnect the connector (J1715) of the black drum motor and connector (J138B) on the DC controller PCA
3. Replace the Black drum motor

#### 59.06.50

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the cyan drum motor
2. Reconnect the connector (J1714) of the cyan drum motor and connector (J138B) on the DC controller PCA
3. Replace the Cyan drum motor

#### **59.07.50**

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the Magenta drum motor
2. Reconnect the connector (J1713) of the yellow drum motor and connector (J138A) on the DC controller PCA
3. Replace the Magenta drum motor

#### **59.08.50**

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the Yellow drum motor
2. Reconnect the connector (J1712) of the yellow drum motor and connector (J138A) on the DC controller PCA
3. Replace the Yellow drum motor

### **59.0X.60**

#### **Description**

Drum Motor startup error

#### **59.05.60 Black**

#### **59.06.60 Cyan**

#### **59.07.60 Magenta**

#### **59.08.60 Yellow**

#### **Recommended action**

#### **59.05.60**

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the black drum motor
2. Reconnect the connector (J1715) of the black drum motor and connector (J138B) on the DC controller PCA
3. Replace the Black drum motor

#### **59.06.60**

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the cyan drum motor
2. Reconnect the connector (J1714) of the cyan drum motor and connector (J138B) on the DC controller PCA
3. Replace the Cyan drum motor

#### **59.07.60**

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the Magenta drum motor
2. Reconnect the connector (J1713) of the yellow drum motor and connector (J138A) on the DC controller PCA
3. Replace the Magenta drum motor

#### **59.08.60**

1. Run the drum motor drive test in the actuator drive mode to verify that the drum motor is functioning properly. If it is not, replace the Yellow drum motor
2. Reconnect the connector (J1712) of the yellow drum motor and connector (J138A) on the DC controller PCA
3. Replace the Yellow drum motor

### **59.0X.70**

#### **Description**

Developer Motor abnormal rotation

#### **59.05.70 Black**

#### **59.06.70 Cyan**

#### **59.07.70 Magenta**

#### **59.08.70 Yellow**

#### **Recommended action**

#### **59.05.70 or 59.06.70**

1. Reconnect the connector (J2024) of the toner-replenish motor rotation sensor (C/K), intermediate connector (J1930) and connector (J135) on the DC controller PCA
2. Reconnect the connectors (J426 and J411) on the cartridge driver PCA, connector (J141) on the DC controller PCA and connector (J1721) of the toner-replenish motor (C/K)
3. Replace the toner-replenish motor (C/K)
4. Replace the cyan or Black toner cartridge

#### **59.07.70 or 59.08.70**

1. Reconnect the connector (J2023) of the toner-replenish motor rotation sensor (Y/M), intermediate connector (J1929) and connector (J131) on the DC controller PCA
2. Reconnect the connectors (J425 and J411) on the cartridge driver PCA, connector (J141) on the DC controller PCA and connector (J1720) of the toner-replenish motor (Y/M)
3. Replace the toner-replenish motor (Y/M)
4. Replace the Yellow or Magenta toner cartridge

## 59.0X.80

### Description

Developer motor failure

#### 59.05.80 Black

#### 59.06.80 Cyan

#### 59.07.80 Magenta

#### 59.08.80 Yellow

### Recommended action

#### 59.05.80 or 59.06.80

1. Reconnect the connector (J2024) of the toner-replenish motor rotation sensor (C/K), intermediate connector (J1930) and connector (J135) on the DC controller PCA
2. Reconnect the connectors (J426 and J411) on the cartridge driver PCA, connector (J141) on the DC controller PCA and connector (J1721) of the toner-replenish motor (C/K)
3. Replace the toner-replenish motor (C/K)
4. Replace the Cyan or Black toner cartridge

#### 59.07.80 or 59.08.80

1. Reconnect the connector (J2023) of the toner-replenish motor rotation sensor (Y/M), intermediate connector (J1929) and connector (J131) on the DC controller PCA
2. Reconnect the connectors (J425 and J411) on the cartridge driver PCA, connector (J141) on the DC controller PCA and connector (J1720) of the toner-replenish motor (Y/M)
3. Replace the toner-replenish motor (Y/M)
4. Replace the Yellow or Magenta toner cartridge

## 59.A2.02

### Description

Media input source 2 lifter motor malfunction



### **Recommended action**

1. Run the sensor test in the sensor monitor mode to verify that the cassette media surface sensor is functioning properly. If it is not, replace the cassette pickup assembly
2. Reconnect the intermediate connector (J1920) and connector (J112) on the DC controller PCA
3. Replace the cassette lifter drive assembly

### **59.A3.03**

#### **Description**

Media input source 3 lifter motor malfunction

#### **Recommended action**

Use the following to troubleshoot the error:

##### **1x500-sheet/3x500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the cassette 1 media surface sensor is functioning properly. If it is not, replace the cassette 1 pickup assembly
2. Reconnect the connector (J8122) on the PD controller PCA
3. Replace the cassette 1 lifter drive assembly

##### **3,500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the right cassette lift-up media-surface sensor is functioning properly. If it is not, replace the right cassette pickup assembly
2. Reconnect the connector (J3003) on the HCI controller PCA
3. Replace the right cassette lifter drive assembly

### **59.A4.04**

#### **Description**

Media input source 4 lifter motor malfunction

#### **Recommended action**

Use the following to troubleshoot the error:

##### **1x500-sheet/3x500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the cassette 2 media surface sensor is functioning properly. If it is not, replace the cassette 2 pickup assembly
2. Reconnect the connector (J8122) on the PD controller PCA
3. Replace the cassette 2 lifter drive assembly

##### **3,500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the right cassette lift-up media-surface sensor is functioning properly. If it is not, replace the left cassette pickup assembly
2. Reconnect the connector (J3013) on the HCI controller PCA
3. Replace the left cassette lifter drive assembly

#### 59.A5.05

##### **Description**

Media input source 5 lifter motor malfunction

3x500-sheet paper deck only.

##### **Recommended action**

1. Run the sensor test in the sensor monitor mode to verify that the cassette 3 media surface sensor is functioning properly. If it is not, replace the cassette 3 pickup assembly
2. Reconnect the connector (J8132) on the PD controller PCA
3. Replace the cassette 3 lifter drive assembly

## 60.00.0Y, 62.00.00 Error Messages

### 60.00.02 Tray 2 lifting error

##### **Description**

Tray 2 lifter motor error

##### **Recommended action**

1. Run the sensor test in the sensor monitor mode to verify that the cassette media surface sensor in Tray 2 is functioning properly. If it is not, replace the cassette pickup assembly
2. Reconnect the intermediate connector (J1920) and connector (J112) on the DC controller PCA
3. Replace the cassette lifter drive assembly

### 60.00.03 Tray 3 lifting error

##### **Description**

Tray 3 lifter motor error

##### **Recommended action**

Use the following to troubleshoot the error

##### **1x500-sheet/3x500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the HCI cassette 1 media surface sensor is functioning properly. If it is not, replace the HCI cassette 1 pickup assembly
2. Reconnect the connector (J8122) on the PD controller PCA
3. Replace the HCI cassette 1 lifter drive assembly

**3,500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the HCI right cassette lift-up media-surface sensor is functioning properly. If it is not, replace the right cassette pickup assembly
2. Reconnect the connector (J3003) on the HCI controller PCA
3. Replace the right cassette lifter drive assembly

**60.00.04 Tray 4 lifting error****Description**

Tray 4 lifter motor error

**Recommended action**

Use the following to troubleshoot the error

**1x500-sheet/3x500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the HCI cassette 2 media surface sensor is functioning properly. If it is not, replace the HCI cassette 2 pickup assembly
2. Reconnect the connector (J8122) on the PD controller PCA
3. Replace the HCI cassette 2 lifter drive assembly

**3,500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the HCI left cassette lift-up media-surface sensor is functioning properly. If it is not, replace the left cassette pickup assembly
2. Reconnect the connector (J3013) on the HCI controller PCA
3. Replace the left cassette lifter drive assembly

**60.00.05 Tray 5 lifting error****Description**

Tray 5 lifter motor error

**Recommended action****3x500-sheet paper deck:**

1. Run the sensor test in the sensor monitor mode to verify that the HCI cassette 3 media surface sensor is functioning properly. If it is not, replace the cassette 3 pickup assembly
2. Reconnect the connector (J8132) on the PD controller PCA
3. Replace the HCI cassette 3 lifter drive assembly

**62.00.00 No system To continue turn off then on****Description**

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.

## 65.X0.AZ Error Messages

### 65.X0.AZ Output accessory Failure

#### Description

Output accessory disconnected

An external paper handling accessory connection has been interrupted.

- **65.40.A0:** Punch Unit disconnected
- **65.50.A0:** Folding Unit disconnected
- **65.80.A0:** Stapler/Stacker disconnected
- **65.80.A1:** Stapler/Stacker Unit connection interrupted
- **65.90.A0:** Booklet Make disconnected

#### Recommended action

1. Make sure that the latest firmware updates are installed for the engine and finisher.
2. Make sure that the finisher is grounded correctly.
  - Make sure that the finisher is latched and locked to the engine by tightening the thumbscrew inside the front door.
  - Make sure that the grounding-frame assembly (the bar with the wheel located between the engine and the finisher) is in the down position with the wheel touching the floor and that the grounding plate is not damaged.



**NOTE:** The grounding-frame assembly is in the up position when the finisher is shipped. It must be lowered when the finisher is installed.

3. Make sure that the communication cable from the finisher to the engine is installed correctly.
4. Make sure that all packing materials have been removed from the paper handling accessory.
5. Make sure that the connectors on the PCA's for the device are fully seated and not damaged.
6. Only if the error persists and none of the previous steps correct the problem, replace the controller PCA in question.

## 66.WX.YZ Error Messages

### 66.00.20

#### Description

Over Current Error

This is an output device failure related message.

#### Recommended action

1. Turn the product off, and then on.
2. Make sure that the finisher is grounded correctly
3. If the error persists, replace the stacker controller PCA.

### 66.00.40

#### Description

NVRAM Error

This is a finisher control board NVRAM error. The checksum for the finisher stacker controller PCA has an error when the power is turned on.

#### Recommended action

1. Turn the product off, and then on.
2. Make sure that the finisher is grounded correctly.
  - Make sure that the finisher is latched and locked to the engine by tightening the thumbscrew inside the front door.
  - Make sure that the grounding-frame assembly (the bar with the wheel located between the engine and the finisher) is in the down position with the wheel touching the floor and that the grounding plate is not damaged.



**NOTE:** The grounding-frame assembly is in the up position when the finisher is shipped. It must be lowered when the finisher is installed.

3. Turn the engine power off, and then on to try to clear the error.
4. If the error persists, replace the stacker controller PCA.

### 66.00.50

#### Description

This is a CAN-CPU sequence error.

#### Recommended action

1. Turn the product off, and then on.
2. Make sure that the finisher is grounded correctly
3. If the error persists, replace the stacker controller PCA.

## 66.00.77

### Description

This is a device communication error.

The communication between the print engine and the finisher has been interrupted or lost.

### Recommended action

1. Make sure that the latest firmware updates are installed for the engine and the finisher.
2. Make sure that the finisher is grounded correctly.
  - Make sure that the finisher is latched and locked to the engine by tightening the thumbscrew inside the front door.
  - Make sure that the grounding-frame assembly (the bar with the wheel located between the engine and the finisher) is in the down position with the wheel touching the floor and that the grounding plate is not damaged.



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**NOTE:** The grounding-frame assembly is in the up position when the finisher is shipped. It must be lowered when the finisher is installed.

---

3. Make sure that the communication cable from the finisher to the engine is installed correctly.
4. Make sure that the connectors on the stacker controller PCA are fully seated and not damaged.
5. Only if the error persists and none of the previous steps correct the problem, replace the stacker controller PCA.

## 66.00.79

### Description

This is a JetLink communication error.

The product has lost JetLink communication with the output device.

### Recommended action

1. Turn off the product, and then disconnect the finisher.
2. Make sure that the grounding-frame assembly (the bar with the wheel located between the engine and the finisher) is in the down position with the wheel touching the floor and that the grounding plate is not damaged.



---

**NOTE:** The grounding-frame assembly is in the up position when the finisher is shipped. It must be lowered when the finisher is installed.

---

3. Reconnect the finisher to the product.
4. Inspect and reconnect the JetLink cable (power and communication cable) from the finisher to the product.
5. Turn the product on.
6. If the error persists, replace the stacker controller PCA.

If the error was caused by exchanging finishers while the product was still on, perform the following steps:

1. Turn the product off, and then disconnect the finisher.
2. Make sure that the finisher is designed to be used with the product.
3. Reconnect the finisher to the product.
4. Turn the product on.

## 66.00.8Z

### Description

There is an issue with paper delivery. The specific message varies depending on the cause, but the solution for each message is the same.

- **66.00.80:** Delivery Notice with PageID = 0x00
- **66.00.81:** Delivery Notice with proper PageInfo
- **66.00.82:** Paper delivered with unexpected timing
- **66.00.83:** PAGE\_INFO (Change) without PAGE\_INFO (New)

### Recommended action

1. Follow the instructions in the online help.
2. Turn the product off, and then on.
3. If the error persists, see the output finishing device service manual for detailed instructions.

## 66.12.46

### Description

Finisher - Communication Lost with Sticher Controller PCA

This error occurs when communication between the stacker-controller board and the saddle-stitcher-controller board is lost or interrupted.

### Recommended action

1. Make sure that the finisher is grounded correctly.
  - Make sure that the finisher is latched and locked to the engine by tightening the thumbscrew inside the front door.
  - Make sure that the grounding-frame assembly (the bar with the wheel located between the engine and the finisher) is in the down position with the wheel touching the floor and that the grounding plate is not damaged.



**NOTE:** The grounding-frame assembly is in the up position when the finisher is shipped. It must be lowered when the finisher is installed.

2. Make sure that the connector J730 on the stacker controller PCA and the wiring between connector J22 on the saddle-stitcher controller PCA are fully seated and not damaged.
3. Replace the saddle-stitcher controller PCA.
4. If the error persists, replace the stacker controller PCA.

## 66.40.YZ

### Description

Punch Unit Failure

The specific message varies depending on the cause, but the solution for each message is the same.

- **66.40.40:** Punch NVRAM error
- **66.40.46:** Punch Slide motor error
- **66.40.50:** Punch unit CPU sequence error Punch unit micro controller unable to start punch unit
- **66.40.83:** Punch motor failure

### Recommended action

1. Follow the instructions in the online help.
2. Turn the product off, and then on.
3. If the error persists, see the output finishing device service manual for detailed instructions.

## 66.50.00

### Description

Folding Unit Failure

An error has occurred in the folding unit.

### Recommended action

1. Follow the instructions in the online help.
2. Turn the product off, and then on.
3. If the error persists, see the output finishing device service manual for detailed instructions.

## 66.60.16

### Description

Stacker Gear Change Motor Error

Finisher error - speed-change motor (M110)

The speed-change motor M110 and sensor PI117 are associated with this error

### Recommended action

1. Turn the product off and turn it on.
2. If the error continues, Verify J3 on Stacker controller PCA is seated properly.
3. Replace Speed Change Motor (M110) or corresponding assembly.



## 66.60.25

### Description

#### Stacker Shutter Motor Error

When the shutter clutch (CL101) and stack-ejection lower-roller clutch (CL102) are on, the shutter moves up (closed) when the stack-ejection motor (M102) turns forward and moves down (open, delivery enabled) when the motor turns backwards.

This error occurs when the shutter home-position sensor (PI113) indicates no change when the stack-ejection motor (M102) is activated for 3 seconds, indicating the shutter is not moving.

### Recommended action

1. Inspect the shutter for damage. If the shutter cannot move freely, replace the shutter assembly.
2. Remove the lower guide (grate-shaped) and check sensor PI113 for damage.
3. Make sure that the sensor is securely fastened to the chassis.
4. Check for proper alignment of the shutter mounted on the back of the grate-shaped lower guide and the left mechanism on the finisher chassis.
5. Make sure that connector J6 and J19 on the stacker controller PCA is fully seated and not damaged.
6. Check CL101 during operation, and make sure that it is functioning correctly by activating prior to the error. Replace CL102 if necessary.
7. If the error persists, replace the stacker controller PCA.

## 66.60.27

### Description

#### Stacker Align Motor Error (Front) M103

In order to neatly align the paper stack for either stapling or offsetting to take place, the front and rear aligning plates move to align each sheet of paper when it enters the processing tray.

This error occurs when the aligning plate either does not leave or when it does not return to the aligning-plate front-home-position sensor.

### Recommended action

1. Turn the product off, and then on.
2. Make sure that there is no paper stuck in the jogger assembly.
3. Check connections J4 on the stacker controller PCA and intermediate connector J1032 to the motor (M103).
4. Run the test on alignment motors.
5. If the error persists, replace the required assembly.
6. If the error persists, replace the stacker controller PCA.

## 66.60.28

### Description

Stacker Align Motor Error (Rear) M104

In order to neatly align the paper stack for either stapling or offsetting to take place, the front and rear aligning plates move to align each sheet of paper when it enters the processing tray.

This error occurs when the aligning plate either does not leave or when it does not return to the aligning-plate front-home-position sensor.

### Recommended action

1. Turn the product off, and then on.
2. Make sure that there is no paper stuck in the jogger assembly.
3. Check connections J4 on the stacker controller PCA and intermediate connector J1032 to the motor (M104).
4. Run the test on alignment motors.
5. If the error persists, replace the required assembly.
6. If the error persists, replace the stacker controller PCA.


## 66.60.31

### Description

BIN1 Tray Motor Error/Safety switch on — Finisher error - 1st-tray lift/lower motor (M107)

This error occurs when the output bin 1 does not active the home-position sensor (PI116) when the output-bin-1-shift motor (M107) is drive for 20 seconds.

---


 **NOTE:** M107 moves both output bin 1 and the upper output bin that is attached to output bin 1 on the Stapler/Stacker finisher, but only output bin 1 on the Booklet Maker finisher.

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It also occurs when output bin 1 does not move when output-bin-1-shift motor (M107) is driven for 4 seconds.

It also occurs when output-bin-1-switch (MSW103) is activated while output bin 1 is operating.

---

 **NOTE:** Output-bin-1 home position is detected using the top sheet of paper on the bin when paper is present and the edge of the bin itself when there is no paper on the bin.

---

### Recommended action

1. Manually release output bin 1, and then position it at the midpoint of its travel area.
2. On the product control panel, open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
  - Component Test

3. Test the output-bin-1–shift motor M107 using the finisher component test.
4. If output bin 1 moves during the test, continue with these steps.
5. If the paper-surface sensor flag was recently removed or replaced, make sure that it is installed correctly.



**NOTE:** The four tabs under the clips must be inserted into the slots behind the roller shaft of the lower stack ejection roller.

6. Make sure that the paper-surface sensor flag is not damaged, moves freely, and is correctly aligned with the PI114 sensor body. Also, make sure that when the top edge of the output bin engages the sensor arm that the sensor flag moves into sensor PI114
7. Make sure that the sensor is securely fastened to the chassis.
8. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
9. Make sure that intermediate connector J1040 and J7 on the stacker controller PCA are fully seated and not damaged. Check the wiring at the sensor.
10. If the error persists, replace sensor PI114.
11. If the error persists, replace the output-bin-1 assembly.



**NOTE:** The output-bin-1 assembly includes the output-bin-1-shift motor (M1070), output-bin-1 switch (MSW103), output-bin-1 area sensors, and the output-bin-1 Area Sensor PCA.

If output bin 1 does not move during the test, perform the following steps.

1. Check the output-bin tracks for damage.
2. Replace the output-bin-1 assembly.



**NOTE:** NOTE: The output-bin-1 assembly includes the output-bin-1-shift motor (M1070), output-bin-1 switch (MSW103), output-bin-1 area sensors, and the output-bin-1 Area Sensor PCA.

Only if the error persists and none of the previous steps correct the problem, replace the stacker controller PCA.

## 66.60.32

### Description

BIN2 Tray Motor Error

Finisher error – 2nd-tray lift/lower motor (M108)

Occurs when the output-bin 2 does not activate the home-position sensor (PI115) when the output-bin-1-shift motor (M108) is driven for 20 seconds.

Also occurs when bin-2 upper limit is detected by PS983, PS982, PS981 on the Tray-2-Area Sensor PCA when no paper has been sensed by the output-bin-2 paper sensor (PI112).




**NOTE:** Output-bin-2 home position is detected using the top sheet of paper on the bin when paper is present and the edge of the bin itself when there is no paper on the bin.

Control-panel diagnostics: M108 tray 2 (output-bin 2 motor) and PI115 output-bin-2 paper-surface sensor

### Recommended action

1. Manually release output bin 2, and position it at the midpoint of its travel area.
2. Test the output-bin-2-shift motor M108 by using the finisher component test from the control-panel display.
  - Administration
  - Troubleshooting
  - Diagnostic Tests
  - Component Test
3. IF output bin 2 moves during the test, perform the following steps.
4. Verify that the paper-surface sensor flag is not damaged, moves freely, and is correctly aligned with the PI115 sensor body. Also verify that when the top edge of the output bin engages the sensor arm that the sensor flag moves into sensor PI114.
5. Make sure that the sensor is securely fastened to the chassis
6. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris
7. Verify that intermediate connector J1040 and J8 on the stacker controller PCA are fully seated and not damaged. Check the wiring at the sensor.
8. If the error persists, replace sensor PI115
9. If the error persists, replace the output-bin-2 assembly..


---

 **NOTE:** The output-bin-2 assembly includes the output-bin-2-shift motor (M108), output-bin-2 area sensors, and the output-bin-2 Area Sensor PCA.

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10. If output bin 2 does not move during the test, perform the following steps.
11. Check the output-bin tracks for damage.
12. Replace the output-bin-2 assembly.

---

 **NOTE:** The output-bin-2 assembly includes the output-bin-2-shift motor (M108), output-bin-2 area sensors, and the output-bin-2 Area Sensor PCA.

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13. **ONLY!** if the error persists and none of the previous steps correct the problem, replace the stacker controller PCA.

### 66.60.33

#### Description

Stacker roller Lift Motor Error

Finisher error - lift/lower motor (M107 or M108)

This error occurs when the output-bin 1 or 2 does not activate the Trays home-position sensor when the output-bin--shift motor (M107) is driven.



**NOTE:** Output-bin home position is detected using the top sheet of paper on the bin when paper is present and the edge of the bin itself when there is no paper on the bin.

---

#### Recommended action

1. Manually release the failing output bin, and position it at the midpoint of its travel area.
2. On the product control panel, open the following menus:
  - Administration
  - Troubleshooting
  - Diagnostic Tests
  - Component Test
3. Test the output-bin shift motor M107 or M108 by using the finisher component test from the control-panel display.
4. If the output bin moves during the test, perform the following steps.
5. If the paper-surface sensor flag was recently removed or replaced, make sure that it is installed correctly.



**NOTE:** The four tabs under the clips must be inserted into the slots behind the roller shaft of the lower stack ejection roller.

---

6. Make sure that the paper-surface sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body. Also, make sure that when the top edge of the output bin engages the sensor arm that the sensor flag moves into sensor
7. Make sure that the sensor is securely fastened to the chassis.
8. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
9. Verify that the connectors on the stacker controller PCA are fully seated and not damaged. Check the wiring at the sensor
10. If the error persists, replace the output-bin assembly.

## 66.60.34

### Description

#### Stacker Assist Motor Error

In order to improve stacking performance when ejecting copies, a trailing-edge assist guide is used in addition to the stack-ejection roller to support the rear end of the stack during stack ejection.

Error occurs when the stacker trailing-edge guide does not leave its home position (PI109) after the stack trailing-edge motor (M109) has been turned on for 3 seconds.

#### Recommended action

1. On the product control panel, open the following menus:

- Administration
  - Troubleshooting
  - Diagnostic Tests
  - Component Test
2. Test trailing edge motor M109 (stack trailing-edge assist motor)
  3. If the trailing-edge assist guide does not move, perform the following steps:
  4. Make sure that connector J4 on the stacker controller PCA is fully seated and not damaged also check the wiring at motor M109 and sensor PI109.
  5. Replace the operation-tray assembly (processing tray).
  6. Only if the error persists and none of the previous steps correct the problem, replace the Stacker

### 66.60.48

#### Description

Stacker-CPU Communication error

Occurs when the finisher's stacker-controller board has had an internal communication problem between the two processors on the board.

#### Recommended action

1. Make sure that the finisher is properly grounded.
2. Ensure that the finisher is latched and locked to the engine by tightening the thumbscrew inside the front door.
3. Ensure that the grounding-frame assembly (the bar with the wheel located between the engine and the finisher) is in the down position with the wheel touching the floor

### 66.60.50

#### Description

Stacker-CPU sequence error

Occurs when the finisher's stacker-controller board has had an internal sequence problem

#### Recommended action

1. Make sure that the finisher is properly grounded.
2. Ensure that the finisher is latched and locked to the engine by tightening the thumbscrew inside the front door.
3. Ensure that the grounding-frame assembly (the bar with the wheel located between the engine and the finisher) is in the down position with the wheel touching the floor

### 66.80.01

#### Description

Y-align malfunction

In order to neatly align the paper stack for either stapling or offsetting to take place, the front and rear aligning plates move to align each sheet when it enters the processing tray.

The error occurs when the aligning plate either does not leave or when it does not return to the aligning-plate front-home-position sensor.

#### **Recommended action**

1. Turn the product off, and then on.
2. Make sure that there is no paper stuck in the jogger assembly.
3. Check connections J4 on the stacker controller PCA and intermediate connector J1032.
4. Run the test on alignment motors.
5. If the error persists, replace the required assembly.
6. If the error persists, replace the stacker controller PCA.

### 66.80.02

#### **Description**

Jogger malfunction

In order to neatly align the paper stack for either stapling or offsetting to take place, the front and rear aligning plates move to align each sheet when it enters the processing tray.

The error occurs when the aligning plate either does not leave or when it does not return to the aligning-plate front-home-position sensor.

#### **Recommended action**

1. Turn the product off, and then on.
2. Make sure that there is no paper stuck in the jogger assembly.
3. Check connections J4 on the stacker controller PCA and intermediate connector J1032.
4. Run the test on alignment motors.
5. If the error persists, replace the required assembly.
6. If the error persists, replace the stacker controller PCA.

### 66.80.03

#### **Description**

Stapler malfunction

M105 Stapler mobility motor

#### **Recommended action**

Control panel diagnostics: M105-Staple Motor (Staple-Shift Motor) and PI110-Stapler Home Sensor (Stapler Home Position Sensor).

1. Test the upper stapler-shift motor M105 by using the finisher component test from the control-panel display.

- If the stapler unit moves correctly, proceed to the next step.
  - If the stapler unit does not move correctly or moves erratically, perform the following steps:
    - a. Check the flat-flexible cable (FFC) for damage (dents, folds, and/or tears). Replace the FFC if necessary.
    - b. Check the FFC connectors and cable mounting areas.
    - c. If the error persists, replace the stapler assembly.
2. Test the stapler-shift home-position sensor PI110 using the finisher component test from the product control panel.
- If the sensor does not change state when the stapler unit is moved from the home position, perform the following steps:
    - a. Make sure that the sensor is securely fastened to the chassis.
    - b. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
    - c. Make sure that connector J5 and J6 on the stacker controller PCA is fully seated and not damaged. Check the wiring at the sensor.
    - d. If the error persists, replace the stapler assembly.



**NOTE:** The stapler assembly includes the stapler-shift home position sensor PI110, stapler unit, shift-position-plate assembly, and the flat-flexible cable (FFC).

### 66.80.21

#### Description

Lift up malfunction

#### Recommended action

Turn the product off, and then on.

### 66.80.22

#### Description

Lift down malfunction

#### Recommended action

Turn the product off, and then on.

### 66.80.23

#### Description

Lift sensor malfunction

#### Recommended action

Turn the product off, and then on.



### 66.80.33

#### Description

Output roller malfunction

#### Recommended action

Turn the product off, and then on.

### 66.80.35

#### Description

Self priming malfunction

#### Recommended action

Turn the product off, and then on.

### 66.80.36

#### Description

Stapler Stacker motor error

Finisher upper-stapler motor failure (M41)

Error occurs either when the stapler does not leave stapler home position (PI120) after staple motor (M41) is driven for 0.4 seconds or when it does not return to stapler home position after the staple motor has detected a motor-lock condition and the motor is driven backwards for 0.4 seconds, attempting to reach home position.



**NOTE:** PI120 and M41 are located on the stapler assembly and can only be replaced by replacing the entire stapler assembly. M41 (Staple Motor) drives the insertion and crimping of the staple only (not the location of the staple on the paper). PI120 senses the home position of the stapler as it is inserting and crimping a staple only (not the location of the staple on the paper).

The stapler-safety switch (MS103) assures that the stapler motor (M41) is disabled when it senses a finger might be in the stapler.

#### Recommended action

Control panel diagnostics: M41 Staple Motor (Staple-Shift Motor) and PI120 Stapler Home Sensor (Stapler Home Position Sensor).

1. Test the upper stapler-shift motor M41 using the finisher component test from the product control panel.
  - If the stapler unit moves correctly, proceed to the next step.
  - If the stapler unit does not move correctly or moves erratically, perform the following steps:

- a. Check the flat-flexible cable (FFC) for damage (dents, folds, and/or tears). Replace the FFC if necessary.
  - b. Check the FFC connectors and cable mounting areas.
  - c. If the error persists, replace the stapler assembly.
2. Test the stapler-shift home-position sensor PI120 using the finisher component test from the product control panel.
  - If the sensor does not change state when the stapler unit is moved from the home position, perform the following steps:
    - a. Make sure that the sensor is securely fastened to the chassis.
    - b. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
    - c. Make sure that connector J5 on the stacker controller PCA is fully seated and not damaged. Check the wiring at the sensor.
    - d. If the error persists, replace the stapler assembly.




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**NOTE:** The stapler assembly includes the stapler-shift home position sensor PI120, stapler unit, shift-position-plate assembly, and the flat-flexible cable (FFC).

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## 66.80.38

### Description

#### Stacker Stapler Mechanism Failed

Occurs when stapler-alignment-interference sensor (PI116) is activated, signaling that the stapler unit is not in its proper position for stapling to occur. This is to prevent damage to stapler from occurring when stapler is positioned over one of the three stoppers when the signal to staple has been sent.

### Recommended action

1. If the stapler unit does not move correctly or moves erratically, check the flat-flexible cable (FFC) for damage (dents, folds, and/or tears). Replace the FFC if necessary.
2. If the stacker controller PCA was recently replaced, adjust the staple alignment and staple position.
3. If the stapler is not positioned over a stopper when this error occurs, perform the following steps:
  - a. Make sure that the stapler unit is correctly mounted and securely fastened to the base.
  - b. Make sure that the sensor is not obstructed or damaged. Make sure that the sensor flag is not damaged, moves freely, and is aligned correctly with the sensor body.
  - c. If the error persists, replace the stapler subassembly.




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**NOTE:** The stapler subassembly includes the stapler unit and base.

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## 66.80.46

### Description

Stacker Staple Slide motor error

Finisher upper stapler shift motor failure (M105).

This error occurs when the stapler does not leave the stapler-shift home-position sensor (PI110) after the stapler-shift motor (M105) has driven for 5 seconds.

This error also occurs when the stapler fails to return to the stapler-shift home-position sensor (PI110) after the stapler-shift motor (M105) has driven for 20 seconds.

### Recommended action

Control panel diagnostics: M105 Staple Motor (Staple-Shift Motor) and PI110 Stapler Home Sensor (Stapler Home Position Sensor).

1. Test the upper stapler-shift motor M105 using the finisher component test from the product control panel.
  - If the stapler unit moves correctly, proceed to the next step.
  - If the stapler unit does not move correctly or moves erratically, perform the following steps:
    - a. Check the flat-flexible cable (FFC) for damage (dents, folds, and/or tears). Replace the FFC if necessary.
    - b. Check the FFC connectors and cable mounting areas.
    - c. If the error persists, replace the stapler assembly.
2. Test the stapler-shift home-position sensor PI110 using the finisher component test from the product control panel.
  - If the sensor does not change state when the stapler unit is moved from the home position, perform the following steps:
    - a. Make sure that the sensor is securely fastened to the chassis.
    - b. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
    - c. Make sure that connector J6 and interconnect J1040 on the stacker controller PCA is fully seated and not damaged. Check the wiring at the sensor.
    - d. If the error persists, replace the stapler assembly.



**NOTE:** The stapler assembly includes the stapler-shift home position sensor PI110 stapler unit, shift-position-plate assembly, and the flat-flexible cable (FFC).

## 66.80.51

### Description

System error (FW error)

### Recommended action

Turn the product off, and then on.

#### 66.80.55

**Description**

System error 5 (FW error)

**Recommended action**

Turn the product off, and then on.

#### 66.80.56

**Description**

System error 6 (FW error)

**Recommended action**

Turn the product off, and then on.

#### 66.80.57

**Description**

System error 7 (FW error)

**Recommended action**

Turn the product off, and then on.

#### 66.80.58

**Description**

System error 8 (FW error)

**Recommended action**

Turn the product off, and then on.

#### 66.80.59

**Description**

System error 9 (FW error)

**Recommended action**

Turn the product off, and then on.

#### 66.80.60

**Description**

System error 10 (inter-page delay mismatch)

**Recommended action**

Turn the product off, and then on.

#### 66.80.61

##### **Description**

System error 11 (lifter task trouble)

##### **Recommended action**

Turn the product off, and then on.

#### 66.80.62

##### **Description**

System error 12 (inter-page delay mismatch)

##### **Recommended action**

Turn the product off, and then on.

#### 66.80.63

##### **Description**

System error 13 (FW error)

##### **Recommended action**

Turn the product off, and then on.

#### 66.80.64

##### **Description**

System error 14 (FW error)

##### **Recommended action**

Turn the product off, and then on.

#### 66.80.65

##### **Description**

System error 15 (FW error)

##### **Recommended action**

Turn the product off, and then on.

#### 66.80.70

##### **Description**

Page-info in flush

##### **Recommended action**

Turn the product off, and then on.

#### 66.80.71

**Description**

Flush request in PDLV

**Recommended action**

Turn the product off, and then on.

#### 66.80.72

**Description**

Delivery notice error

**Recommended action**

Turn the product off, and then on.

#### 66.80.73

**Description**

Flush request in checking paper path

**Recommended action**

Turn the product off, and then on.

#### 66.80.74

**Description**

Checking paper path start in PDLV

**Recommended action**

Turn the product off, and then on.

#### 66.80.75

**Description**

Flush request in flush

**Recommended action**

Turn the product off, and then on.

#### 66.80.76

**Description**

Non-flush complete

### Recommended action

1. Follow the instructions in online help.
2. Turn the product off and turn it on.
3. If the error continues, see the Output finishing device service manual for detailed instructions.

## 66.90.10

### Description

#### Booklet Interlock Switch Error

There are three switches in the Booklet Maker finisher: SW1 (the saddle-guide switch also known as the inlet-door switch), SW3 (the booklet-ejection-door switch), and MS31 (the front-door switch). The Stapler/Stacker finisher only has one switch, MS31 for the front door of the finisher. All three switches detect if the associated door or guide plate is open or closed. Each one of the switches also has a sensor (SW1/PI9, SW3/PI3, and MS31/PI32) that acts as a backup and detects the same information as the switches.

The error occurs when all the doors and guides are closed and there is a mismatch in readings between the sensors and the switches. For example, the front door finisher door is closed, PI32 senses the door is closed, but MS31 senses the door is still open.

Associated finisher door and guide switches and sensors are as follows:

- Saddle-guide switch SW1 and saddle-guide sensor PI9
- Booklet-ejection-door switch SW3 and booklet-ejection-door sensor PI3
- Front-door switch MS31 and front-door sensor PI32

### Recommended action

Control panel diagnostics: PI32 (front-door-1 sensor), PI3 (booklet door-1 sensor, also known as booklet-delivery-door sensor), PI9 (front-door-2 sensor, also known as the saddle-guide-door sensor or inlet-door sensor), SW3 (booklet-door 2).

1. Using the diagnostic tests from the product control panel, try to isolate which door or guide and sensor is causing the error.
2. Make sure that the sensors are securely fastened to the chassis.
3. Check the switches and sensors for damage and clean the sensors by gently blowing clean air into the sensor to remove dust and debris.
4. Check the wiring at the switches and sensors.
5. Check the tabs that activate the switches and sensors on the doors and guides for damage. Make sure that the tabs are aligned with the switches and sensors. Replace the doors and guides as necessary.
6. Make sure that the following connectors are fully seated and not damaged:
  - Stack controller PCA

- J719 (MS31)
  - J707 (PI32)
  - Saddle-stitcher controller PCA
    - J4 (SW1)
    - J10 (PI9)
    - J4 (SW3)
    - J11 (PI3)
7. If the error persists, replace the PCA (stacker controller PCA or saddle-stitcher controller PCA) that is associated with the failed switch/sensor.

## 66.90.29

### Description

#### Booklet Staple Motor Error (Rear)

The Booklet Maker stitch staplers do not move to different locations in relation to the paper like the main stapler. The only movement is through the movement of the rotary cam located on the stapler unit itself, during the actual stapling of the booklet. The stitch-home-position switch (SW5) is part of the rear-stitch stapler unit and senses the stapler opening and closing during stapling by the motion of the rotary drive cam. Like SW5, the stitch motor (M6) is also part of the overall stitch stapler unit and replacement requires the replacement of the saddle-stapler assembly.

This error occurs when the rear booklet-maker-stapler stitching-home-position sensor (SW5) does not turn on when the stitch motor (rear) (M6) has driven forward for 0.5 seconds.

This error also occurs when the rear booklet-maker-stapler stitching-home-position sensor (SW5) does not turn off when the stitch motor (rear) (M6) has driven forward for 0.5 seconds.

### Recommended action

1. Check the rear-stitch stapler for jammed staples.
2. Clear jammed staples, and then check the staple unit for damage. Retest the stapler.
  - If the error continues, check the following items:
    - a. Make sure that HP-approved staples are used.
    - b. Replace the staple cartridge with one containing HP-approved staples.
    - c. If the error continues, replace the saddle-stapler assembly.
  - If the error persists, but no damage is found, proceed to the next step.
3. Make sure that connector J8 on the saddle-stitcher controller PCA is fully seated and not damaged.
4. Check the wiring at the rear-saddle-stitch stapler and the saddle-stapler assembly for damage and correct seating.



5. Check the connector that the saddle-stitch-stapler assembly engages inside the finisher for damage and foreign material, as well as for correct seating with the saddle-stitch-stapler assembly.
6. If the error persists, replace the saddle-stitcher controller PCA.

## 66.90.30

### Description

#### Booklet Staple Motor Error (Front)

The Booklet Maker stitch staplers do not move to different locations in relation to the paper like the main stapler. The only movement is through the movement of the rotary cam located on the stapler unit itself, during the actual stapling of the booklet. The stitch-home-position switch (SW7) is part of the front-stitch stapler unit and senses the stapler opening and closing during stapling by the motion of the rotary drive cam. Like SW7, the stitch motor (M7) is also part of the overall stitch stapler unit and replacement requires the replacement of the saddle-stapler assembly.

This error occurs when the front booklet-maker-stapler stitching-home-position sensor (SW7) does not turn on when the stitch motor (front) (M7) has driven forward for 0.5 seconds.

This error also occurs when the front booklet-maker-stapler stitching-home-position sensor (SW7) does not turn off when the stitch motor (front) (M7) has driven forward for 0.5 seconds.

### Recommended action

1. Check the front-stitch stapler for jammed staples.
2. Clear jammed staples, and then check the staple unit for damage. Retest the stapler.
  - If the error continues, check the following items:
    - a. Make sure that HP-approved staples are used.
    - b. Replace the staple cartridge with one containing HP-approved staples.
    - c. If the error continues, replace the saddle-stapler assembly.
  - If the error persists, but no damage is found, proceed to the next step.
3. Make sure that connector J8 on the saddle-stitcher controller PCA is fully seated and not damaged.
4. Check the wiring at the front-saddle-stitch stapler and the saddle-stapler assembly for damage and correct seating.
5. Check the connector that the saddle-stitch-stapler assembly engages inside the finisher for damage and foreign material, as well as for correct seating with the saddle-stitch-stapler assembly.
6. If the error persists, replace the saddle-stitcher controller PCA.

## 66.90.41

### Description


#### Booklet Nip Motor Error

The paper-fold motor (M2), which is located in the booklet making area of the finisher, drives the rotation of the folding rollers to create desired fold in the paper.

The error occurs when the number of pulses by the paper-fold-motor clock sensor (PI4) is less than the expected standard value.

This error also occurs when the status of the paper-fold home-position sensor (PI21) does not change when the paper-fold motor (M2) has driven for 3 seconds.

### Recommended action

1. Check the area around the folding rollers for a jam.
  2. Test the paper-fold motor M2 using the finisher component test from the product control panel.
    - If the folding rollers rotate correctly, perform the following steps:
      - a. Check sensor PI4 and sensor PI21 for damage.
      - b. Make sure that the sensor flags are not damaged, move freely, and are correctly aligned with the PI48 and PI21 sensor bodies.
      - c. Make sure that the sensors are securely fastened to the chassis.
      - d. Carefully clean each sensor body with a clean, lint-free cloth, or gently blow clean air across each sensor to remove dust and debris.
      - e. Make sure that connector J3 on the saddle-stitcher controller PCA is fully seated and not damaged. Check the wiring at the PI4 sensor.
      - f. Make sure that connector J18 on the saddle-stitcher controller PCA is fully seated and not damaged. Check the wiring at the PI21 sensor.
      - g. If the error persists, replace sensor PI4 or PI21.
      - h. If the error persists, replace the saddle-stitcher controller PCA.
    - If the folding rollers do not rotate correctly, perform the following steps:
      - a. Check the folding-roller gears and connecting gears between the paper-fold motor M2 and the folding rollers for damage. Replace components as necessary.
      - b. Check the folding rollers for wear and damage. Replace components as necessary.
      - c. If the error persists, replace the motor-mount assembly.
-  **NOTE:** The motor-mount assembly includes the paper-fold motor M2 and the paper-fold motor-clock sensor PI4.
- d. If the error persists, replace the saddle-stitcher controller PCA.

## 66.90.42

### Description

#### Booklet Paper Position Select Motor Error

The paper-positioning-plate motor (M4), located in the booklet making area of the finisher, controls the up and down positioning of the stacked paper for stitch stapling and folding.

The error occurs when the paper-positioning-plate home-position sensor (PI7) does not turn on when the paper-positioning-plate motor (M4) has driven for 1500 pulses.

This error also occurs when the paper-positioning-plate home-position sensor (PI7) does not turn off when the paper-positioning-plate motor (M4) has driven for 300 pulses.

### **Recommended action**

Control panel diagnostics: M4-guide plate motor (paper-positioning-plate motor).

1. Test the paper-positioning-plate motor M4 using the finisher component test from the product control panel.

During the test, observe the movement of the booklet-maker-guide plate, and make sure it is not obstructed or damaged.

2. Remove the booklet maker output bin to gain access to the paper-position-plate home-position sensor PI7 and delivery door.
3. Remove the plate that holds PI7, and then carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
4. Make sure that the sensor is securely fastened to the plate.
5. Check the wiring at the sensor.
6. If the error persists, replace sensor PI7 and the positioning-plate assembly together.
7. If the error persists, replace the stacker controller PCA.

## **66.90.43**

### **Description**

Booklet Paper Guide Motor Error

The guide motor (M3), located in the booklet-making area of the finisher, controls the position of the guide plate. The guide plate is positioned in front of the folding rollers as the paper stack is being stapled, allowing the bottom edge of the paper to smoothly pass by the folding rollers. When the stacked paper is lowered to the folding position, the guide motor (M3) lowers the guide plate out of the way to allow the paper stack to be pushed into the folding rollers.

This error occurs when the guide-home-position sensor (PI13) does not turn on when the guide motor (M3) has driven for 700 pulses.

This error also occurs when the guide-home-position sensor (PI13) does not turn off when the guide motor (M3) has driven for 50 pulses.

### **Recommended action**

Control panel diagnostics: M3 guide motor.

1. Carefully clean the sensor body by gently blowing clean air across the sensor to remove dust and debris.
2. Make sure that the sensor is securely fastened to the plate.
3. Check the wiring at the sensor.
4. Check sensor PI13 for damage.

5. Check the guide, gears, and gear tracks on the front and rear frame for damage. Replace components as necessary.
6. If the error persists, replace the guide motor M3 and the guide-home-position sensor PI13 together.

## 66.90.44

### Description

#### Booklet Align Motor Error

The alignment motor (M5), located in the booklet making area of the finisher, drives the two alignment plates that adjust the side edges of the stacked paper so that the sheets of paper in the stack is perfectly aligned with one another.

This error occurs when the aligning-plate home-position sensor (PI5) does not turn on when the aligning-plate motor (M5) has driven for 500 pulses.

This error also occurs when the aligning-plate home-position sensor (PI5) does not turn off when the aligning-plate motor (M5) has driven for 50 pulses.

### Recommended action

Observe the alignment plates during a Booklet Maker stacking operation.

If the alignment plates move during the operation, perform the following steps:

1. Check sensor PI5 for damage.
2. Make sure that the sensor flag is not damaged, moves freely, and is correctly aligned with the sensor body.
3. Make sure that the sensor is securely fastened to the plate.
4. Carefully clean the sensor body by gently blowing clean air across the sensors to remove dust and debris.
5. If the alignment plates or the alignment-plates drive gear has been removed or replaced, make sure that the plates are correctly aligned with each other on the drive gear.

If the alignment plates do not move during the operation, perform the following steps:

1. Remove motor M5 and check the gears between the motor and alignment plates for damage. Replace components as necessary.
2. Make sure that connector J7 on the saddle-stitcher controller PCA is fully seated and not damaged.
3. Check the wiring at the M5 motor.
4. If the error persists, replace the alignment motor M5.
5. If the alignment plates or the alignment-plates drive gear has been removed or replaced, make sure that the plates are correctly aligned with each other on the drive gear.

**Description**

## Booklet Push Motor Error

This error occurs when the paper-pushing-plate home-position sensor (PI14) does not turn on when the paper-pushing-plate motor (M8) has driven for 0.3 seconds.


This error can also occur under one of the these conditions:

- When the paper-pushing-plate home-position sensor (PI14) does not turn off when the paper-pushing-plate motor (M8) has driven for 80 ms
- When the paper-pushing-plate leading-edge-position sensor (PI15) does not turn off when the paper-pushing-plate motor (M8) has driven for 80 ms
- When the number of pulses detected by the paper-pushing-plate-motor clock sensor (PI1) is less than the expected standard value
- When the paper-pushing-plate leading-edge-position sensor (PI15) does not turn on when the paper-pushing-plate motor (M8) has driven for 0.3 seconds

**Recommended action**

1. Open the front finishing door, and then activate the front-door switch (MSW31) and front-door sensor (PI32) so that the finisher will operate with the front door open
2. Turn the engine and finisher power off to clear the error, and then turn the power on.

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 **WARNING!** Operating the finisher with the front door open exposes moving parts that can cause serious injury. Be very careful operating the finisher with the front door open.

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3. Observe the paper-pushing plate motor M8 (located in the lower-right front corner of the finisher), associated gears, and the paper-pushing plate for proper motion.

- If motor M8 does not rotate, replace the motor-mount assembly.

---

 **NOTE:** The motor-mount assembly includes the paper-pushing-plate motor M8.

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- If motor M8 does rotate, but the paper-pushing plate does not move or moves erratically, check the drive gears and paper-pushing plate for wear or damage. Replace components as necessary.
- If motor M8 does rotate and the paper-pushing plate moves correctly, the plate movement sensors might have failed.
  - a. Inspect the paper-pushing-plate home-position sensor PI14, pushing-plate leading-edge-position sensor PI15, and paper-pushing-motor clock sensor PI1.
  - b. Make sure that the sensors are securely fastened to the chassis.
  - c. Check sensor PI4, sensor PI15, and sensor PI1 for damage.
  - d. Make sure that connectors J6, J9, and J23 on the saddle-stitcher controller PCA are fully seated and not damaged.
  - e. Check the wiring at the sensors.
  - f. If the error persists, replace the saddle-stitcher controller PCA.

## 66.90.49

### Description

Booklet Nip Motor Error or Booklet Push Motor Error

Finisher - paper-pushing-plate motor (M8).

Error occurs when the paper-pushing-plate home-position sensor (PI14 or PI 15) does not turn on when the paper-pushing-plate motor (M8) has been driven for 0.3 seconds.


Also occurs when the paper-pushing-plate home-position sensor (PI14 or PI15) does not turn off when the paper-pushing-plate motor (M8) has been driven for 80 ms.

Also occurs when the number of pulses detected by the paper-pushing-plate-motor clock sensor (PI14 or PI15) is less than expected standard value

### Recommended action

1. Open the front finishing door, and activate the front-door switch (MSW31) and front-door sensor (PI32) so that the finisher will operate with the front door open. .
2. Turn the engine and finisher power off to clear the error, and then turn the power on.


---

 **WARNING!** Operating the finisher with the front door open exposes moving parts that can cause serious injury. Be very careful operating the finisher with the front door open.

---

3. Use the control-panel menus to begin a booklet making operation. Observe the paper-pushing plate motor M8 (located in the lower-right front corner of the finisher), associated gears, and the paper-pushing plate for proper motion.

---

 **NOTE:** The motor-mount assembly includes the paper-pushing-plate motor M8.

---

4. If motor M8 does rotate but the paper-pushing plate does not move or moves erratically, check the drive gears and paper-pushing plate for wear or damage. Replace components as necessary.
5. If motor M8 does rotate and the paper-pushing plate moves properly, the plate movement sensors might have failed.
6. Inspect the paper-pushing-plate home-position sensor PI14, pushing plate leading-edge-position sensor PI15, and paper-pushing-motor clock sensor PI1.
7. Make sure that the sensors are securely fastened to the chassis.  
  
Check sensor PI4, sensor PI15, and sensor PI1 for damage.
8. Verify that connectors J6, J9, and J23 on the saddle-stitcher controller PCA are fully seated and not damaged. Check the wiring at the sensors
9. ONLY if the error persists and none of the previous steps correct the problem, replace the saddle-stitcher controller PCA.

## 66.90.50

### Description

Booklet-CPU sequence error

### **Recommended action**

1. Follow the instructions in the online help.
2. Turn the product off, and then on.
3. If the error persists, see the output finishing device service manual for detailed instructions.

## **69.11.YZ**

### **Description**

There is a duplexer error.

### **Recommended action**

1. Turn the product off, and then on.
2. If the error persists, replace the duplexer.

## **70.XX.YY Error Messages**

### **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.XX.YY, 82.XX.YY Error Messages**

### **80.0X.YY Embedded Jetdirect Error**

#### **Description**

An Embedded HP JetDirect print server critical error has occurred.

- **80.01.80:** (event log) No heartbeat
- **80.01.81:** (event log) Reclaim timeout
- **80.01.82:** (event log) Invalid data length
- **80.01.8B:** (event log) Invalid max outstanding packet header field
- **80.01.8C:** (event log) Invalid channel mapping response
- **80.03.01:** (event log) No PGP buffers
- **80.03.02:** (event log) Channel table full
- **80.03.03:** (event log) Producer index not reset
- **80.03.04:** (event log) Consumer index not reset

- **80.03.05:** (event log) Queue position size too small
- **80.03.06:** (event log) Transport overflow
- **80.03.07:** (event log) No overflow packets
- **80.03.08:** (event log) Invalid identify response
- **80.03.09:** (event log) Invalid channel map return status
- **80.03.10:** (event log) Invalid reclaim return status
- **80.03.12:** (event log) Datagram invalid buffer
- **80.03.13:** (event log) Max stream channels
- **80.03.14:** (event log) Max datagram channels
- **80.03.15:** (event log) Card reset failed
- **80.03.16:** (event log) Self-test failure
- **80.03.17:** (event log) Unknown PGP packet
- **80.03.18:** (event log) Duplicate I/O channel

**Recommended action**

1. Turn the product off, and then on.
2. Remove the RJ45 cable.
3. Turn the product off, and then on.
4. Reconnect the RJ45 cable.
5. If the error persists, replace the formatter.

**82.73.46, 82.73.47**

**Description**

A hard disk or compact flash disk cleaning failed. This error is usually caused by a failure of the disk hardware.

**Recommended action**

1. Turn the product off, and then on.
2. Use the **Clean Disk** item in the **Preboot** menu.
3. Reload the firmware.

**98.0X.0Y Error Messages**

**98.00.01 or 98.01.00 Corrupt data in firmware volume**

**Description**

Data corrupt has occurred in the firmware volume.



#### **Recommended action**

1. Turn the product off, and then on.
2. Use the **Clean Disk** item in the **Preboot** menu.
3. Reload the firmware.

#### **98.00.02 Corrupt data in the solutions volume**

##### **Description**

Data corrupt has occurred in the solutions volume.

##### **Recommended action**

1. Turn the 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 the configuration volume**

##### **Description**

Data corrupt has occurred in the configuration volume.

##### **Recommended action**

1. Turn the product off, and then on.
2. Download the firmware again, and then attempt the upgrade again.
3. Use the **Clean Disk** item in the **Preboot** menu.
4. Reload the firmware.

#### **98.00.04 Corrupt data in the job data volume**

##### **Description**

Data corrupt has occurred in the job data volume.

##### **Recommended action**

1. Turn the product off, and then on.
2. Rerun the file erase function.

### **99.XX.YY Error Messages**

#### **99.00.01 Upgrade not performed file is corrupt**

##### **Description**

A remote firmware upgrade (RFU) was not performed.

This is a CRC error in the firmware image (bad image).

### **Recommended action**

Download the RFU file, and then attempt the upgrade again.

### **99.00.02 Upgrade not performed timeout during receive**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an I/O timeout when reading the header number and size. It indicates a problem with the network environment, not the product.

#### **Recommended action**

The most common cause is an issue with the network environment.

Make sure that there is a good network connection to the product, and then attempt the firmware upgrade again, or upgrade using the USB walk-up port.

### **99.00.03 Upgrade not performed error writing to disk**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

This is a disk error. It might indicate a problem or a hard disk failure. It might be necessary to check the connection to the hard disk or replace the hard disk.

#### **Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, run the **Clean Disk** process from the **Preboot** menu.  
You will need to download the firmware from the **Preboot** menu.
3. If the error persists, replace the hard disk.

### **99.00.04 Upgrade not performed timeout during receive**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an I/O timeout when reading the header.

#### **Recommended action**

The most common cause is an issue with the network environment.

Make sure that there is a good network connection to the product, and then attempt the firmware upgrade again, or upgrade using the USB walk-up port.

### **99.00.05 Upgrade not performed timeout during receive**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an 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 network connection to the product, and then attempt the firmware upgrade again, or upgrade using the USB walk-up port.

#### **99.00.06 Upgrade not performed error reading upgrade**

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an unexpected read error when reading the header number and size.

##### **Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, replace the hard disk.

#### **99.00.07 Upgrade not performed error reading upgrade**

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an unexpected read error when reading the rest of the header.

##### **Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, replace the hard disk.

#### **99.00.08 Upgrade not performed error reading upgrade**

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an unexpected read error when reading image data.

##### **Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, replace the hard disk.

#### **99.00.09 Upgrade canceled by user**

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The RFU was canceled by the user.

##### **Recommended action**

Resend the RFU.

#### 99.00.10 Upgrade canceled by user

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The RFU was canceled by the user when reading the header number and size.

##### **Recommended action**

Resend the RFU.

#### 99.00.11 Upgrade canceled by user

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The RFU was canceled by the user when reading the rest of the header.

##### **Recommended action**

Resend the RFU.

#### 99.00.12 Upgrade not performed the file is invalid

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The header number is 1, but the header size does not match version 1 size.

##### **Recommended action**

Download the RFU file again.

Make sure that you download the file for the correct product model, and then resend the RFU.

#### 99.00.13 Upgrade not performed the file is invalid

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The header number is 2, but the header size does not match version 2 size.

##### **Recommended action**

Download the RFU file again.

Make sure that you download the file for the correct product model, and then resend the RFU.

#### 99.00.14 Upgrade not performed the file is invalid

##### **Description**

A remote firmware upgrade (RFU) was not performed.

The file is invalid.

### **Recommended action**

Download the RFU file again.

Make sure that you download the file for the correct product model, and then resend the RFU.

## **99.00.2X**

### **Description**

There is a compatibility issue with the firmware. The specific message varies depending on the cause, but the solution for each message is the same.

- **99.00.20** (event log)  
The bundle is not for this 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](http://www.hp.com), and then resend the firmware upgrade.

#### **99.00.27 only:**

1. Turn the product off, and then on.
2. Resend the firmware upgrade.
3. If the error persists, try installing the upgrade by another method (USB or Embedded Web Server).

## 99.01.XX

### Description

A firmware install error has occurred. The specific message varies depending on the cause, but the solution for each message is the same.

- 99.01.00
- 99.01.10
- 99.01.20
- 99.01.21

### Recommended action

Reload the firmware.

## 99.02.01

### Description

Firmware installation was successful.

### Recommended action

No action necessary.

## 99.02.09

### Description

Firmware upgrade cancelled by user.

### Recommended action

No action necessary.

## 99.09.60 Unsupported disk

### Description

This is a **Preboot** menu error.

The hard disk currently installed is not recognized or supported by the product.

### Recommended action

Install the correct hard disk for this product.

## 99.09.61 Unsupported disk

### Description

This is a **Preboot** menu error.

The installed disk is installed in a product configured for an encrypted hard disk..

### **Recommended action**

Access the **Preboot** menu, and then select **Lock Disk** to lock the disk.

#### **99.09.62 Unknown disk**

##### **Description**

This error indicates that there is an encryption mismatch between the HDD and the formatter. This typically happens because an HDD was swapped into a device from another device.

##### **Recommended action**

Install a new disk or use the **Preboot** menu unlock the disk.

If a disk is to be reused in a different product, execute the **Clean Disk** procedure from the **Preboot**, and then reload the firmware and lock the disk.

#### **99.09.63 Incorrect disk**

##### **Description**

This error indicates that the expected encrypted HDD is not present.

This is expected behavior when installing a new HDD in a device where the previous HDD was encrypted.

##### **Recommended action**

Follow the procedure to load firmware on a new hard disk, and then lock the disk to this product.

#### **99.09.64 Disk malfunction**

##### **Description**

A fatal hard disk failure has occurred.

##### **Recommended action**

Replace the hard disk.

#### **99.09.65 Disk data error**

##### **Description**

Disk data corruption has occurred.

##### **Recommended action**

Use the **Clean Disk** procedure from the **Preboot** menu, and then resend the RFU.

#### **99.09.66 No 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 that it is connected correctly.
3. If the error persists, replace the hard disk drive.

### 99.09.67 Disk is not bootable please download firmware

#### Description

This is an error indicating that there is no firmware installed on the disk. This is usually the result of installing a new disk or performing a **Clean Disk** operation from the **Preboot** menu.

#### Recommended action

1. Press any button to continue to the main **Preboot** menu.
2. Press the Help button to see the help text for the error.
3. Select the **Administration** menu.



---

**NOTE:** If there is a password assigned to the Administrator, a prompt to enter the product displays. Enter the password to proceed.

---

4. Select the **Download** item, and then download the latest firmware.

The user can now download a new firmware bundle to the product.

### 99.09.67 Disk is not bootable please download firmware

#### Description

This is an error indicating that there is no firmware installed on the disk. This is usually the result of installing a new disk or performing a **Clean Disk** operation from the **Preboot** menu.

#### Recommended action

1. Press any button to continue to the main **Preboot** menu.
2. Press the Help button to see the help text for the error.
3. Select the **Administration** menu.



---

**NOTE:** If there is a password assigned to the Administrator, a prompt to enter the product displays. Enter the password to proceed.

---

4. Select the **Download** item, and then download the latest firmware.

The user can now download a new firmware bundle to the product.

### 99.XX.YY

#### Description

A message of this form indicates a firmware installation error.



**Recommended action**

Reload the firmware.

## Alpha Error Messages

### <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 toner cartridge life might vary. You do not need to replace the toner 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
- **10.22.60** : (event code) Transfer kit
- **10.23.60** : (event code) Fuser Kit

**Recommended action**

If print quality is no longer acceptable, replace the supply.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.



---

**NOTE:** When an HP supply has reached its approximate end of life, the HP Premium Protection Warrant ends.

---

### <Supply> very low OR Supplies very low

#### Description

The product indicates when a supply level, or more than one supply, is low. Actual toner cartridge life might vary. You do not need to replace the toner 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
- **10.22.70** : (event code) Transfer kit
- **10.23.70** : (event code) Fuser Kit

#### Recommended action

If print quality is no longer acceptable, replace the supply.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.



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**NOTE:** When an HP supply has reached its approximate end of life, the HP Premium Protection Warrant 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

#### Recommended action

No action necessary.

### [File System] device failure To clear touch “OK”

#### Description

The specified device has failed.

**Recommended action**

Touch the OK button to clear the error.

**[File System] file operation failure To clear touch “OK”****Description**

A PjL file system command attempted to perform an invalid operation.

**Recommended action**

Touch the OK button to clear the error.

**[File System] file system is full To clear touch “OK”****Description**

A PjL file system command could not store something on the file system because the file system is full.

**Recommended action**

Touch 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**

Touch 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 the product, and then reinstall the upgrade. See the product user guide for more information.

### ADF not detected

#### Description

The ADF was not detected when the product initialized.

#### Recommended action

Make sure that the document feeder cables are connected and fully seated.

### Bad duplexer connection

#### Description

This message indicates that the duplexer is not connected properly or has been pulled out and must be reinserted before printing can continue.

#### Recommended action

1. Turn the product off, and then on.
2. Reconnect the duplexer.
3. If the error persists, replace the duplexer.

### 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 then reinstall the optional tray.
3. Reconnect the connectors for the tray.
4. Turn the product on.
5. If the error persists, replace the connector for the tray.

### 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 necessary.

**Canceling...<jobname>****Description**

The product is canceling the current job <jobname>.

**Recommended action**

No action necessary.

**Cartridge Low****Description**

This message displays even though the toner cartridge is new.

**Recommended action**

1. Remove, and then reinstall the toner cartridge.
2. Make sure a genuine HP supply is used.
3. If the error persists, replace the toner cartridge.

**Cartridge Memory Abnormal****Description**

This message displays even though the toner cartridge is new.

**Recommended action**

1. Remove, and then reinstall the toner cartridge.
2. Reconnect connector (J305) on the DC controller PCA.
3. If the error persists, replace the toner cartridge.

**Cartridge Out****Description**

This message displays even though the toner cartridge is new.

**Recommended action**

1. Remove, and then reinstall the toner cartridge.
2. Make sure a genuine HP supply is used.
3. If the error persists, replace the toner cartridge.

**Checking engine****Description**

The product is conducting an internal test.

**Recommended action**

No action necessary.

**Checking paper path****Description**

The product is checking for possible paper jams.

**Recommended action**

No action 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 print driver for a different language, or add the requested language to the product (if possible). To see a list of available personalities, print a configuration page.

**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 necessary.

**Clearing paper path****Description**

The product is attempting to eject jammed paper.

Media is detected in the paper path. The product will attempt to eject it.

**Recommended action**

No action necessary. Check the progress at the bottom of the control panel display.

If a jam is not cleared, remove the media.

**Close Front door****Description**

The front door of the product is open.

### **Recommended action**

1. Close the door.
2. Run the switch test in the sensor monitor mode to verify that the front door open detection switch is functioning properly. If it is not, replace the front door open detection switch
3. Reconnect the connector (J9939) of the front door open detection switch and connector (J119) on the DC controller PCA.
4. Check the sensor flag on the front door open detection sensor. If the flag is damaged, replace the front door assembly.

### **Close Fuser cover door**

#### **Description**

The fuser cover door is open or message appears even though the door is closed.

#### **Recommended action**

1. Run the sensor test in the sensor monitor mode to verify that the fuser cover open detection sensor is functioning properly. If it is not, replace the fuser cover open detection sensor
2. Reconnect the connector (J2034) of the fuser cover open detection sensor, intermediate connector (J1995) and connector (J108) on the DC controller PCA
3. Check the sensor flag on the fuser cover. If the flag is damaged, replace the fuser

### **Close Left door Close Output Accessory Bridge**

#### **Description**

The left door of the product is open.

The output accessory bridge is open.

#### **Recommended action**

1. Close the door. Close the output bridge
2. Reconnect the connector (J2204) of the IPTU door open detection sensor and connector (J7006) on the IPTU controller PCA.
3. Reconnect the connector (J2204) of the left door open detection switch and connector (J7006) on the DC controller PCA.
4. Check the sensor flag on the left door or the IPTU top cover. If the flag is damaged, replace the left door assembly or replace the IPTU top cover assembly.

### **Close Lower Right door**

#### **Description**

The optional paper feeder right door is open.

#### **Recommended action**

**3x500-sheet paper deck:**

1. Reconnect the connector (J8313) of the right door open detection switch and connector (J8102) on the PD controller PCA
2. Check the sensor flag on the PD right door assembly. If the flag is damaged, replace the PD right door assembly.

**3,500-sheet paper deck:**

1. Reconnect the connector (J929) of the right door open detection switch and connector (J3006) on the HCI controller PCA.
2. Check the sensor flag on the Paper deck right door assembly. If the flag is damaged, replace the PD right door assembly

### Close output accessory bridge

**Description**

The output accessory bridge is open.

**Recommended action**

1. Close the output accessory bridge.
2. Use sensor test to check functionality of sensor for bridge open.

### Close Secondary Registration assembly cover

**Description**

The T2 Secondary Registration assembly cover is open or message appears even though the cover is closed

**Recommended action**

1. Run the sensor test in the sensor monitor mode to verify that the T2 assembly cover open detection sensor is functioning properly. If it is not, replace the T2 ass'y cover open detection sensor
2. Reconnect the connector (J2033) of the T2 assembly cover open detection sensor, intermediate connector (J9961) and connector (J125) on the DC controller PCA
3. Check the sensor flag on the T2 assembly cover. If the flag is damaged, replace the ITB duct

### Close stapler/stacker multi bin mailbox door

**Description**

This message displays even though the stapler/stacker multi bin mailbox door is closed.

**Recommended action**

1. Reconnect the connector (J465) on the stapler/stacker controller PCA.
2. Check the stapler/stacker door sensor flag. If the flag is damaged, replace the sensor flag.



## Close Upper Right Door

### Description

The upper right door is open or the message displays even though the upper right door is closed.

### Recommended action

1. Close the door.
2. Run the switch test in the sensor monitor mode to make sure that the right door open detection switch is functioning correctly. If it is not, replace the interlock switch assembly.
3. Reconnect the connector (J9940) of the right door open detection switch and connector (J121) on the DC controller PCA.
4. Check the sensor flag on the right door open detection sensor. If the flag is damaged, replace the right door assembly.

## Cooling device

### Description

The product is cooling.

### Recommended action

No action necessary.

## Data received To print last page press "OK"

### Description

The product is waiting for the command to print the last page.

### Recommended action

Touch the OK button to print the last page of the job.

## Different paper sizes in job

### Description

A job being sent to the HCO with a command for stapling or booklet making contains multiple sizes of media.

### Recommended action

Send the job in **Stacker** mode.

Change the media size of the pages.

## EIO <X> disk initializing

### Description

The specified EIO disk device is initializing.

### Recommended action

No action necessary.

### EIO <X> disk not functional

#### Description

The specified EIO disk device is initializing. For example, if X = 1, the disk in slot 1 is not functional.

#### Recommended action

1. Turn the product off, and then on.
2. If the error persists, turn the product off, and then remove and reinstall the disk.

### EIO <X> disk spinning up

#### Description

The EIO disk in slot <X> is spinning up its platter. Jobs that require disk access must wait.

For example, if X = 1, the disk in slot 1 is spinning up.

#### Recommended action

No action necessary.

### Event log is empty

#### Description

No product events are in the log.

#### Recommended action

No action necessary.

### Expected drive missing

#### Description

The product cannot find the encrypted hard drive.

#### Recommended action

Install the encrypted hard drive.

### External device initializing

#### Description

An external device is initializing.

#### Recommended action

No action necessary.

### Fax is disabled — ignoring call

#### Description

The product received a call, but the fax feature was not configured with the required settings (country/region, date/time, company name, fax number, etc.).

**Recommended action**

Use the **Administration** menu to configure the required fax settings.

**FIM Load Error Send full FIM on <X> port****Description**

The product displays this message before the firmware is loaded at startup if an error has occurred during a firmware upgrade.

**Recommended action**

Resend the firmware upgrade.

**Flatbed cover open or Close Flatbed cover****Description**

The platen glass cover is open or the open/closed sensor is not functioning correctly.

**Recommended action**

1. Close the flatbed cover.
2. If the error persists, perform a Sensors diagnostic in the **Diagnostics** menu on the product control panel to test the flatbed open/closed sensor.
3. Clean, adjust, or replace the sensor as needed.

**Fuser Kit low****Description**

10.23.60 (event code)

The product indicates when a supply is low.

**Recommended action**

Replace the fuser.

After replacing the fuser, reset the fuser page counter by selecting **New Fuser Kit** in the **Reset Supplies** sub-menu.

**Fuser Kit very low To continue, touch "OK"****Description**

10.23.70 (event code)

The product indicates when a supply is very low.

After an HP supply has reached the very low threshold, the HP premium protection warranty for that supply has ended.

**Recommended action**

Replace the fuser.

After replacing the fuser, reset the fuser page counter by selecting **New Fuser Kit** in the **Reset Supplies** sub-menu.

### Gateways failed

#### Description

There is an incorrect gateways configuration.

#### Recommended action

Use the **EIO <X> Jettirect** menu to configure the default gateway.

### Gateways OK

#### Description

The gateways are configured correctly.

#### Recommended action

No action necessary.

### Genuine HP cartridge installed

#### Description

A new HP toner cartridge has been installed. The message appears for about 6 seconds before the product returns to the Ready state.

#### Recommended action

No action necessary.

### Genuine HP supply installed

#### Description

**10.XX.40** (event code)

A new genuine HP toner cartridge has been installed.

#### Recommended action

Touch the Hide button to remove this message.

### HP Secure hard drive disabled

#### Description

The drive has been encrypted for another product.

#### Recommended action

Remove the drive or use the HP Embedded Web Server for more information.

## Incompatible <Supply>

### Description

The indicated supply is not compatible with this product.

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

### 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 necessary.

## Install fuser unit

### Description

The fuser has been removed or installed incorrectly.

### Recommended action

---

 **WARNING!** The fuser can be hot while the product is in use. Turn the product off, and then wait for the fuser to cool before handling it.

---

1. Remove the output bin or stapler/stacker.
2. Remove the fuser.
3. Reinstall the fuser.

## Install supply

### Description

A supply item is either not installed or installed incorrectly.

- **10.00.15:** (event code) Black toner cartridge
- 10.01.15:** (event code) Cyan toner cartridge
- 10.02.15:** (event code) Magenta toner cartridge
- 10.03.15:** (event code) Yellow toner cartridge
- 10.23.15:** (event code) Fuser Kit
- 10.31.15:** (event code) Toner collection kit

### Recommended action

Install the supply item or make sure that the installed supply item is fully seated.

## Install Transfer Unit

### Description

The ITB 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 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 connectors on the DC controller PCA

## Internal disk device failure To clear touch “OK”

### Description

**82.0X.YY** (event code)

The internal disk failed.

### Recommended action

1. Touch the OK button to clear the error.
2. If the error persists, turn off the product, and then remove and reinstall the hard drive.

3. Turn on the product.
4. If the error persists, replace the internal hard drive.

#### Internal disk file operation failed

##### Description

A PjL system command attempted to perform an invalid operation, such as downloading a file to a nonexistent directory.

##### Recommended action

Touch the OK button to clear the error.

#### Internal disk file system is full

##### Description

A PjL system command attempted to write data to the internal disk, but failed because the disk is full.

##### Recommended action

Touch the OK button to clear the error.

#### Internal disk is write protected

##### Description

The internal disk is write protected and no new files can be written to it.

##### Recommended action

Touch the OK button to clear the error.

#### Internal disk not found

##### Description

The internal disk was not found at start up.

##### Recommended action

Turn the product off, and then on.

#### Internal disk not functional

##### Description

82.0X.YY (event code)

The internal hard drive is not functioning correctly

##### Recommended action

1. Turn off the product, and then remove and reinstall the hard drive.
2. Turn on the product.
3. If the error persists, replace the internal hard drive.

### Internal disk not initialized

#### Description

The file system on the internal disk must be initialized before it can be used.

#### Recommended action

Initialize the file system on the internal disk.

### Internal disk spinning up

#### Description

The internal disk device is spinning up its platter. Jobs that require disk access must wait.

#### Recommended action

No action is necessary.

### Jam in document feeder

#### Description

A document feeder jam has occurred.

#### Recommended action

Clear the jam. See the clear jams section in the service manual.

### Job not stapled due to mixed sizes

#### Description

This message displays when the job to staple has more than one paper size (paper width).

#### Recommended action

Paper with different widths cannot be stapled. Use the same width paper for the entire print job.

### Load Tray <X>: [Type], [Size] To use another tray, press "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

1. Load the correct paper in the tray.
2. If prompted, confirm the size and type of paper loaded.
3. Otherwise, press the OK button to select another tray.



4. If error persists, use the cassette media present sensor test in the Tray/bin manual sensor test to verify that the sensor is functioning correctly.
5. Make sure that the sensor flag on the media presence sensor is not damaged and moves freely.

### 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.

---

### Lower left booklet bin full

#### Description

The booklet bin is full.

#### Recommended action

Remove media from the bin to continue.

### Manually feed output stack Then touch "OK" to print second side

#### 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

1. Maintaining the same orientation, remove the pages from the output bin.
2. Flip the document printed side up.
3. Load the document in Tray 1.
4. Touch the OK button to print the second side of the job.

### Manually feed: <Type><Size> To use another tray, press "OK"

#### Description

This message displays when manual feed is selected, Tray 1 is loaded, and other trays are available.

**Recommended action**

1. Load tray with the requested paper.
2. If paper is already in tray, press the Help button to exit the message, and then press the OK button to print.
3. To use another tray, clear paper from Tray 1, press the Help button to exit the message, and then press the OK button.

**Moving solenoid****Description**

The solenoid is moving as part of a component test.

**Recommended action**

No action necessary.

To exit, press the Stop button

**Moving solenoid and motor****Description**

The solenoid and a motor are moving as part of a component test.

**Recommended action**

No action necessary.

To exit, press the Stop button .

**No job to cancel****Description**

The user pressed the Stop button , but the product is not actively processing any jobs.

**Recommended action**

No action necessary.

**Non HP Supply Installed****Description**

A non-HP supply is detected.

This message displays for 30 seconds, and then the product returns to a Ready state.

The product does not provide supply status messages for non-HP supplies.

**Recommended action**

Press OK to continue.

If you believe you purchased a genuine HP supply, go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit).

## Output Bin Full

### Description

This message displays even though the output bin is not full.

### Recommended action

1. Run the sensor test in the sensor monitor mode to verify that the face-down tray media-full sensor is functioning properly. If it is not, replace the face-down delivery assembly
2. Reconnect the connector (J1905) of the face-down delivery assembly and connector (J108) on the DC controller PCA
3. Set the face-down tray media-full sensor flag to move smoothly. If the flag is damaged, replace the face-down delivery assembly

## Output Device detached

### Description

An output device is recognized on the product, but not fully attached.

### Recommended action

Realign and reattach the output device.

## 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 Paper Path Test...

### Description

The product is performing a paper-path test.

### Recommended action

No action necessary.

## Please Wait...

### Description

The product is in the process of clearing data.

### Recommended action

No action necessary.

### Printing Configuration...

**Description**

The product is printing the Configuration 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 stopped

**Description**

Time expired on the Print/Stop test.

**Recommended action**

Touch 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.

### Printing...engine test

**Description**

The product is printing an engine test page.

**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...

### 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.

## RAM disk device failure To clear touch "OK"

### Description

The specified device failed.

### Recommended action

Touch the OK button to clear the error.

## RAM disk file operation failed To clear touch "OK"

### Description

A P JL command was received that attempted to perform an invalid operation, such as downloading a file to a nonexistent directory.

### Recommended action

Touch the OK button to clear the error.

## RAM disk file system is full To clear touch "OK"

### Description

The hard disk is full.

### Recommended action

Touch the OK button to clear the error.

## RAM disk is write protected To clear touch "OK"

### Description

The RAM device is write protected and no new files can be written to it.

**Recommended action**

Touch the OK button to clear the error.

**RAM disk not initialized****Description**

The file system on the RAM disk must be initialized before it can be used.

**Recommended action**

Initialize the file system on the RAM disk.

**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 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 necessary.

**Receiving Upgrade****Description**

The product is receiving a firmware upgrade.

**Recommended action**

Do not turn the product off until it reaches the Ready state.

**Remove one print cartridge****Description**

The product is testing the print-cartridge motor.

**Recommended action**

To perform the test, remove the print cartridge from the product.

To cancel, press the Stop button .

## Remove USB accessory

### Description

This message displays when an unsupported USB device is inserted into a host USB port on the product.

### Recommended action

Remove the unsupported USB device.

## 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.

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 toner cartridge
- **10.01.70** : (event code) Black toner cartridge
- **10.02.70** : (event code) Black toner cartridge
- **10.03.70** : (event code) Black toner cartridge
- **10.23.70** : (event code) Fuser Kit
- **10.31.70** : (event code) Toner Collection kit

### Recommended action

Replace the specified supply.

Or, configure the product to continue printing using the **Manage Supplies** menu on the product control panel.

## Resend external accessory firmware

### Description

An external accessory requires a firmware upgrade. Printing can continue, but jams might occur if the job uses the external accessory.

### Recommended action

Perform a firmware upgrade.



## Resend Upgrade

### Description

A firmware upgrade did not complete successfully.

### Recommended action

Upgrade the firmware again.

## Restore Factory Settings

### Description

The product is restoring factory settings.

### Recommended action

No action necessary.

## ROM disk device failed To clear touch "OK"

### Description

The specified device failed.

### Recommended action

Touch the OK button to clear the error.

## ROM disk file operation failed To clear touch "OK"

### Description

A PjL command was received that attempted to perform an invalid operation, such as downloading a file to a nonexistent directory.

### Recommended action

Touch the OK button to clear the error.

## ROM disk file system is full To clear touch "OK"

### Description

The hard disk is full.

### Recommended action

Touch the OK button to clear the error.

## ROM disk is write protected To clear touch "OK"

### Description

The ROM device is write protected and no new files can be written to it.

### Recommended action

Touch the OK button to clear the error.

## ROM disk not initialized To clear touch "OK"

### Description

The file system on the ROM disk must be initialized before it can be used.

### Recommended action

Initialize the file system on the ROM disk.

## 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 or exit.

## 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. Make sure that the paper is positioned correctly.
3. Close the tray, and then make sure that the control panel lists the correct size and type for the specified tray.
4. If necessary, use the control panel menus to reconfigure the size and type settings for the specified tray.
5. If error persists, use the Tray/Bin manual sensor test to test the switch.

## 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.

## Staple Cartridge 2 and 3 very low (warning)

### Description

The specified staple cartridge is at end of life.

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

**Recommended action**

Replace the staple cartridge.

**Staple Cartridge <X> low (warning)****Description**

The specified staple cartridge is at end of life.

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

**Recommended action**

Replace the staple cartridge.

**Staple Cartridge low****Description**

The product indicates when a supply level is low. 20 to 50 staples remain in the cartridge.

**Recommended action**

Replace the staple cartridge.

**Stapler/Stacker staple jam****Description**

There is a stapler/stacker jam.

**Recommended action**

Clear the jam. See the clear jams section in the service manual.

**Supplies low****Description**

Multiple supplies on the product have reached the user defined low threshold.

**Recommended action**

Replace the supply when print quality is no longer acceptable.

**Supply Memory Warning****Description**

The product cannot read or write to the e-label or the e-label is missing.

**Recommended action**

No action necessary.

**The unit has corrupt data****Description**

Data corruption has occurred in the firmware volume.

- **98.00.01:** Corrupt data in the firmware volume
- **98.00.02:** Corrupt data in the solutions volume
- **98.00.03:** Corrupt data in the configuration volume
- **98.00.04:** Corrupt data in the job data volume

**Recommended action**

For **98.00.01**, **98.00.02**, and **98.00.03**, perform the following steps:

1. Turn the product off, and then on.
2. Use the **Clean Disk** item in the **Preboot** menu.
3. Reload the firmware.

For **98.00.04**, perform the following steps:

1. Turn the product off, and then on.
2. Run the file erase function.

**Too many pages in job to staple**

**Description**

The job contains more pages than can be stapled.

**Recommended action**

Send the job to the stacker bin or make the job page count smaller.

**Too many pages to make booklet**

**Description**

The job contains more pages than can be assembled in the booklet bin.

**Recommended action**

Send the job to the stacker bin or make the job page count smaller.

**Tray <X> [type] [size]**

**Description**

The media in the specified tray is detected as the specified size and type.

The custom switch was not changed.

**Recommended action**

If the media is a custom size or type, change the custom switch accordingly.

**Tray <X> empty: [Type], [Size]**

**Description**

The specified tray is empty and the current job does not need this tray to print.

- X = 1: Tray 1
- X = 2: Tray 2
- X = 3: Tray 3
- X = 4: Tray 4
- X = 5: Tray 5

**Recommended action**

Refill the tray at a convenient time.

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> 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

**Recommended action**

No action necessary.

**Tray <X> open**

**Description**

The specified tray is open or not closed completely.

- X = 2: Tray 2
- X = 3: Tray 3
- X = 4: Tray 4
- X = 5: Tray 5

**Recommended action**

1. Close the tray.
2. If this message displays after the lifter drive assembly was removed or replaced, make sure that the connector of the assembly is connected correctly and fully seated.
3. If the error persists, use the media size switches in the Tray/Bin manual sensor test to test the switches.
4. If the switches do not respond, replace the associated lifter drive assembly.

## Tray <X> overfilled

### Description

The tray is filled above the stack-height mark.

- X = 2: Tray 2
- X = 3: Tray 3
- X = 4: Tray 4
- X = 5: Tray 5

The overfilled condition is sensed by the stack surface sensor when the tray is first closed. If the stack surface sensor does not move down (because the tray is too full), the overfilled message will be displayed and the tray will not be available for printing.

### Recommended action

1. Open the tray and remove media until the tray filled indicators can be seen.
2. Close the tray.
3. Make sure that all connections from the DCC to the paper pickup assembly and lifter drive assembly are fully seated and connected.
4. If the lifter drive assembly was removed or replaced, make sure that the connector on the assembly is connected correctly and fully seated.
5. If the error persists, perform a tray bin sensor test for the paper stack sensor of the specified tray. Replace sensors if necessary.
6. If the error persists, replace the paper pickup assembly.



## 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. On the product control, make sure that the type loaded in the tray matches the specified setting for the tray.

## 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 the toner cartridge is for a different product.

**Recommended action**

Install the correct supplies for this product. See the parts chapter in the service 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 connected.

**Recommended action**

Turn the product off, remove the USB accessory, and then turn the product on.

**Upgrade Error****Description**

There was a SCB upgrade error.

**Recommended action**

1. Turn the product off, and then on.
2. Resend the upgrade.
3. If the error persists, replace the SCB.

**Upper left bin full****Description**

The booklet bin is full.

**Recommended action**

Remove media from the bin to continue.

**USB accessory not functional****Description**

A parameter in the USB accessory is not functioning correctly.

**Recommended action**

1. Turn the product off.
2. Remove the USB accessory.
3. Insert a replacement USB accessory.
4. Turn the product on.

**USB hubs are not fully supported Some operations may not work properly****Description**

Some USB hubs require more power than the product has available.

**Recommended action**

Remove the USB hub.

**USB is write protected To clear touch “OK”****Description**

The USB device is write protected and no new files can be written to it.

**Recommended action**

Touch the OK button to clear the error.

**USB needs too much power****Description**

Power requirements for the USB device attached to the product are beyond supported limits.

**Recommended action**

1. Remove the USB device.
2. Turn the product off, and then on.
3. Try a similar accessory that has its own power supply or requires less power.

**USB needs too much power Remove USB and Then Turn Off then On****Description**

A USB accessory is drawing too much electrical current. Printing cannot continue.



**Recommended action**

1. Turn the product off.
2. Remove the USB accessory.
3. Turn the product on.
4. Try a similar USB accessory that has its own power supply or requires less power.

**USB not initialized****Description**

The file system on the USB device must be initialized before it can be used.

**Recommended action**

Use the HP Embedded Web Server or HP Web Jetadmin to initialize the USB device.

**USB storage accessory removed Clearing any associated data****Description**

This message displays for about 6 seconds after a USB device is removed.

**Recommended action**

Touch the Hide button to remove this message.

**USB storage device failure To clear touch "OK"****Description**

The specified device failed.

**Recommended action**

Touch the OK button to clear this error.

**USB storage file operation failed To clear touch "OK"****Description**

A P JL file system command was received that attempted to perform an invalid operation, such as downloading a file to a nonexistent directory.

**Recommended action**

Touch the OK button to clear this error.

**USB storage file system is full To clear touch "OK"****Description**

The file system on the installed USB device is full.

**Recommended action**

Touch the OK button to clear this error.

## Used supply installed To continue, touch “OK” OR Used supply in use Description

### Description

One of the toner cartridges or supplies has been previously used.

### Recommended action

If you believe you purchased a genuine HP supply, go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit).

## Verifying, Please Wait

### Description

This message displays when the product is retrieving a print job from device memory, but can cause the product control panel to lock up.

The user enter the **Retrieve from Device Memory** menu to print a job. After selecting the desired print jobs, **Verifying, Please Wait** displays on the control panel. The status bar will move for a moment, and then lock up. Typically, if the user waits a few minutes, the error will clear and the job will print.

In rare cases, the message will lock up permanently and force the user to power cycle the product.

The event log might show the following errors as a result of power cycling the product during lockup:

- 48.05.05
- 98.03.11

### Recommended action

Review online support document c03249783, “HP Color LaserJet CM4540MFP and LaserJet M4555MFP Series Printer - Message "Verifying, Please Wait" Locks Up Printer When Retrieving Print Job from Device Memory”.

## Waiting for Tray <X> to lift

### Description

The specified tray is in the process of lifting paper to the top of the tray (so it can feed correctly).

### Recommended action

No action necessary

## Windows Login Required to Use this Feature

### Description

Windows login is required for the selected feature or job.

### Recommended action

Enter the necessary Windows login information.

## Wrong cartridge in <color> slot

### Description

The indicated slot for a print cartridge contains a cartridge that is not the correct color

From left to right, the print cartridges should be installed in the following order:

- Yellow **10.03.25** (Event Code)
- Magenta **10.02.25** (Event Code)
- Cyan **10.01.25** (Event Code)
- Black **10.00.25** (Event Code)

#### Recommended action

Remove the print cartridge from that slot, and install a 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 eventl-log entry descriptions and solutions.

### Print or view an event log



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**NOTE:** The event log in the [Administration](#) menu shows only a subset of events. For a complete event log, use the [Service](#) menu.

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#### 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 one of the following service access code for your product:
  - **M855:** 11085513
  - **M880:** 11088013
5. Touch the [Print Event Log](#) or [View Event Log](#) item.

## 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 one of the following service access code for your product:
  - **M855:** 11085513
  - **M880:** 11088013
5. Select the [Clear Event Log](#) item, and then touch the [OK](#) button.

# Clear jams

## Auto-navigation for clearing jams

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

## Experiencing frequent or recurring paper jams?

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

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

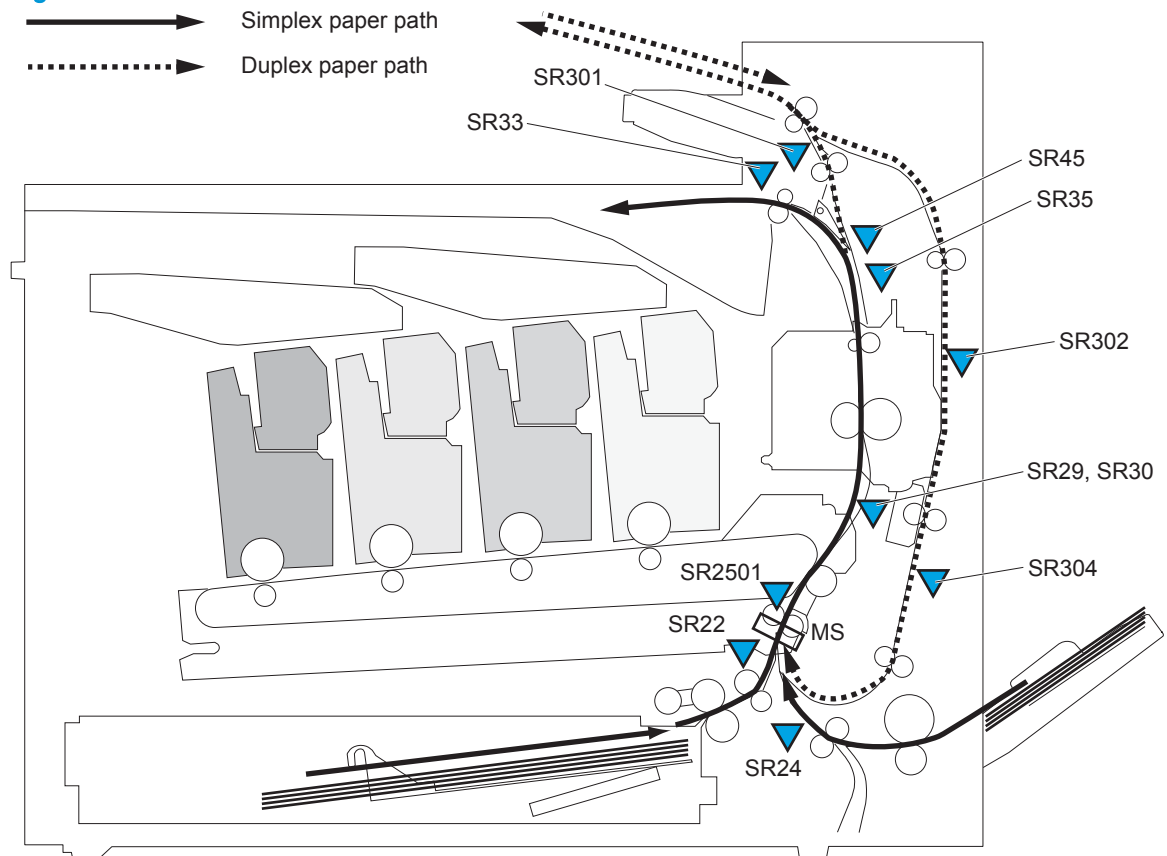
## Jam sensor locations

If you are experiencing frequent jams, use the figures in this section to locate the product and accessories jam sensors to help isolate the problem.

## Product base

- Tray 2 feed sensor (SR22)
- Tray 1 feed sensor (SR24)
- TOP sensor (SR2501)
- Fuser loop sensor 1 (SR29)
- Fuser loop sensor 2 (SR30)
- Fuser output sensor 1 (SR35)
- Fuser output sensor 2 (SR45)
- Output bin full sensor (SR33)
- Duplex switchback sensor (SR301)
- Developer delivery sensor (SR302)
- Duplex refeed sensor (SR304)
- Registration sensor (MS)

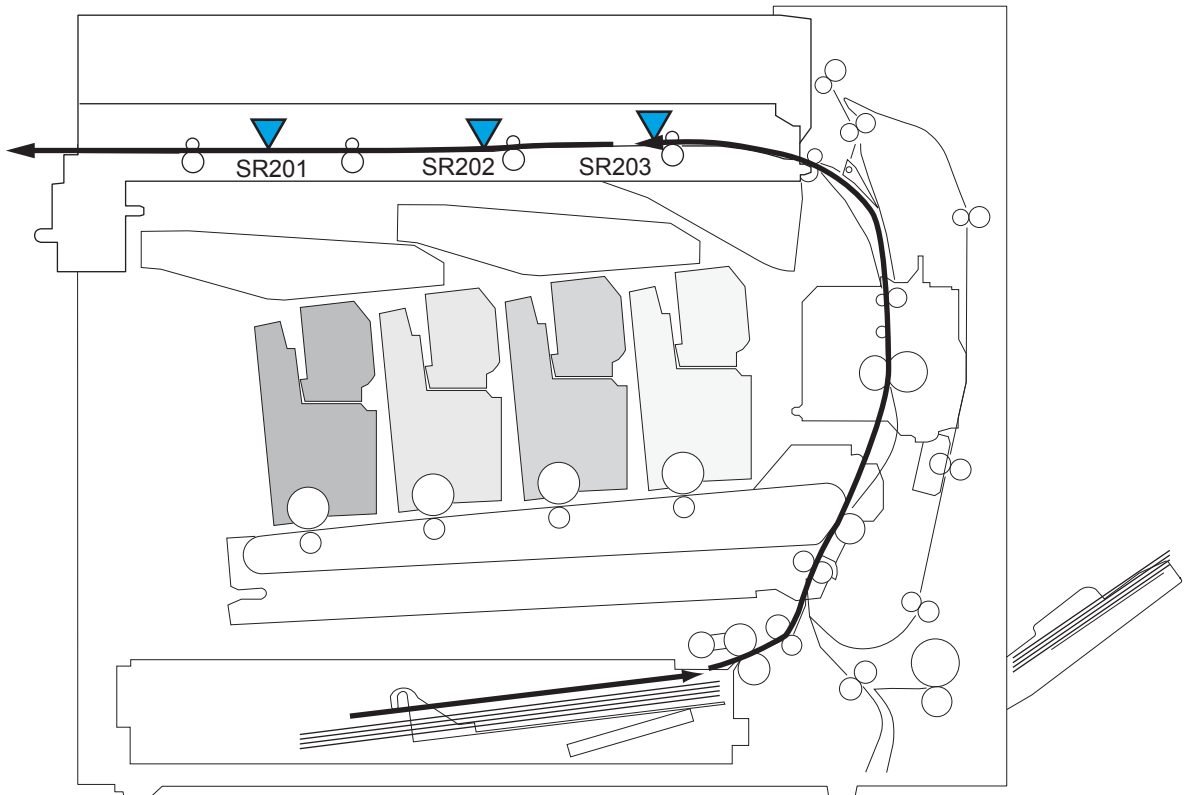
**Figure 2-82** Product base



## Intermediate paper transport unit (IPTU)

- IPTU feed sensor 1 (SR203)
- IPTU feed sensor 2 (SR202)
- IPTU feed sensor 3 (SR201)

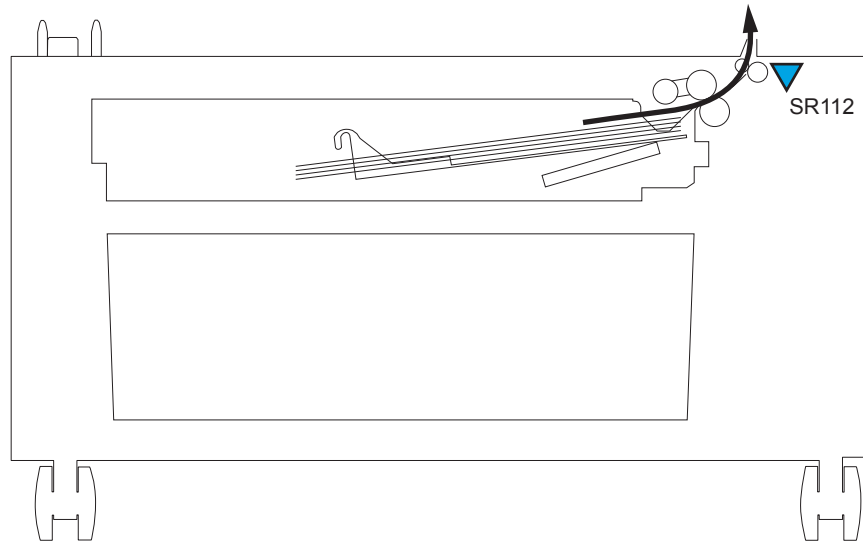
**Figure 2-83** Intermediate paper transport unit (IPTU)



## 1x500-sheet paper feeder (M855 only)

- Tray 3 feed sensor (SR112)

Figure 2-84 1x500-sheet paper feeder (M855 only)

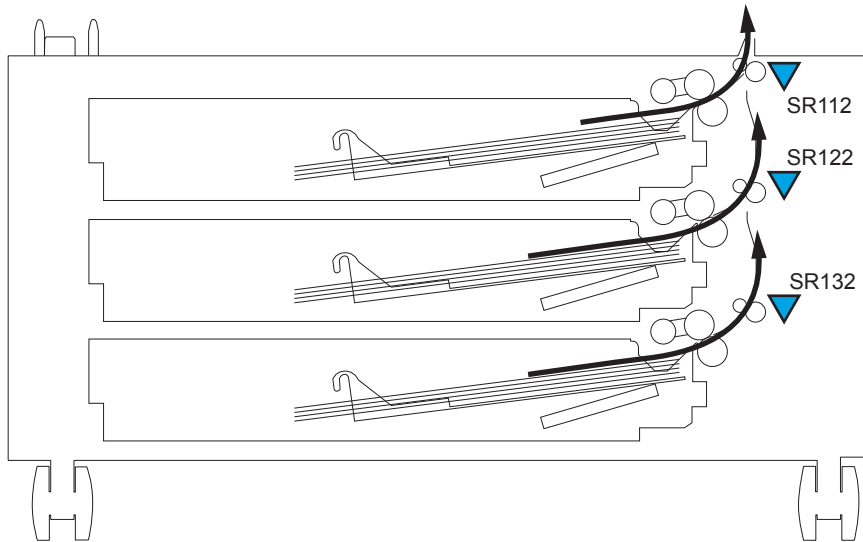




### 3x500-sheet paper feeder

- Tray 3 feed sensor (SR112)
- Tray 4 feed sensor (SR122)
- Tray 5 feed sensor (SR132)

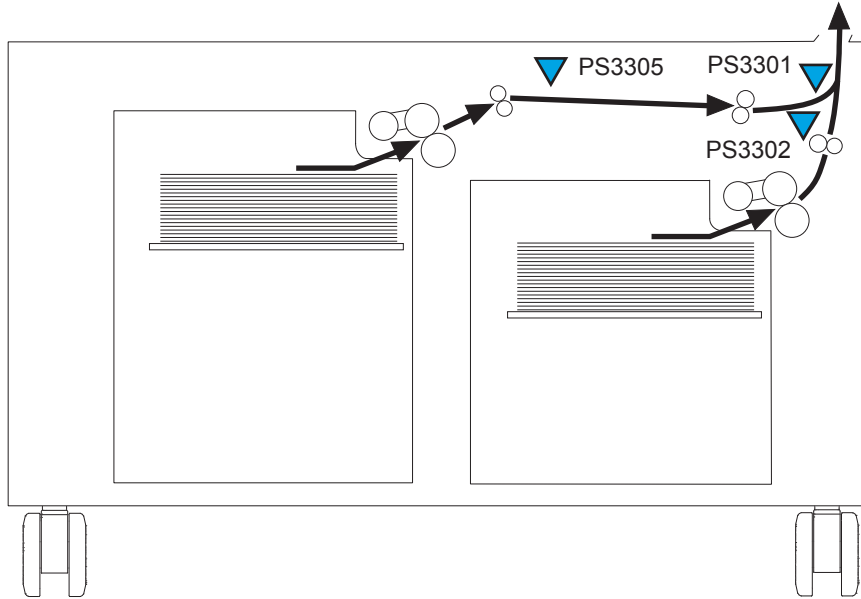
Figure 2-85 3x500-sheet paper feeder



### 3x500-sheet High-capacity input (HCI) feeder

- Tray 3 feed sensor (PS3302)
- Tray 4 feed sensor (PS3305)
- HCI feed sensor (PS3301)

Figure 2-86 3x500-sheet High-capacity input (HCI) feeder



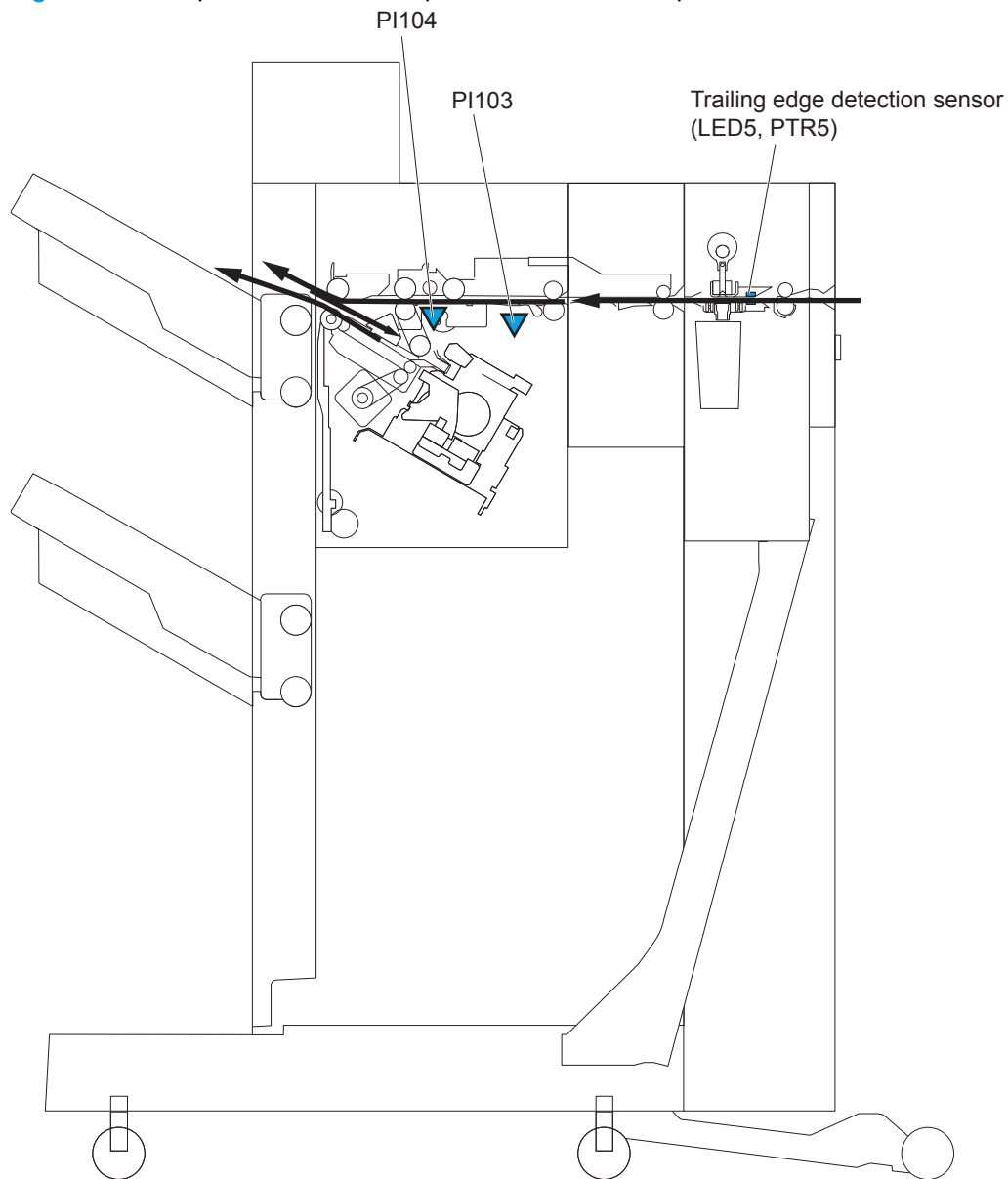
## Stapler/stacker and stapler/stacker with hole punch

- Trailing edge detection sensor (LED5 and PTR5)


 **NOTE:** Stapler/stacker with hole punch only.

- Inlet sensor (PI301)
- Media-feed sensor (PI104)

**Figure 2-87** Stapler/stacker and stapler/stacker with hole punch

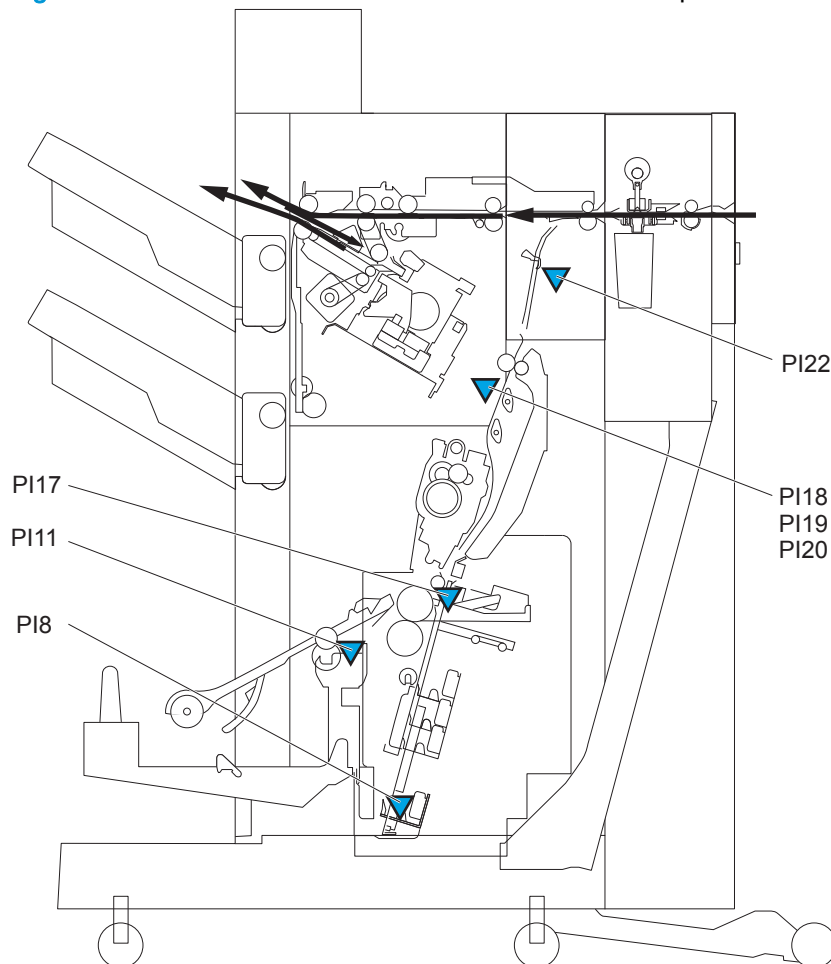


## Booklet maker and booklet maker with hole punch

 **NOTE:** The following sensors are found on booklet maker accessories only. For sensors located in the stapler/stacker or hole punch portion of the accessory, see [Stapler/stacker and stapler/stacker with hole punch on page 657](#).

- Saddle inlet sensor (PI22)
- Feed sensor 1 (PI18)
- Feed sensor 2 (PI19)
- Feed sensor 3 (PI20)
- Vertical paper path feed sensor (PI17)
- Paper positioning plate media-presence sensor (PI18)
- Delivery sensor (PI11)

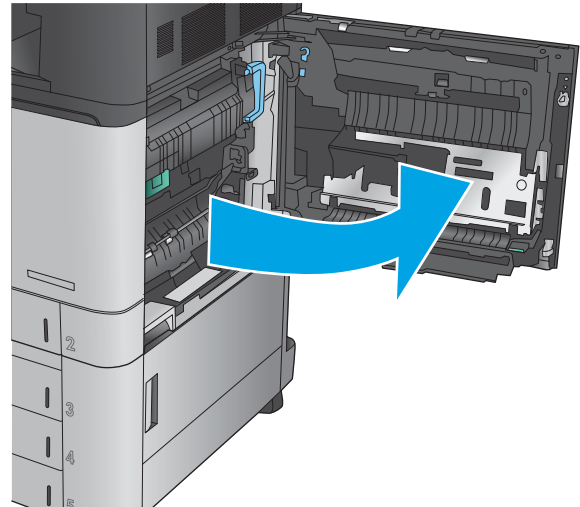
**Figure 2-88** Booklet maker and booklet maker with hole punch



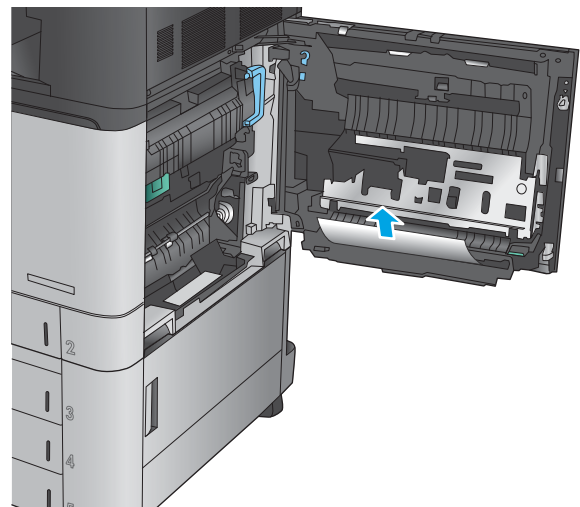
## Clear jams in Tray 1, the right door, and the fuser

Clear jams in Tray 1, the right door, and the fuser by opening the right door of the product. Use the following procedure to check for paper in all possible jam locations inside the right door. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

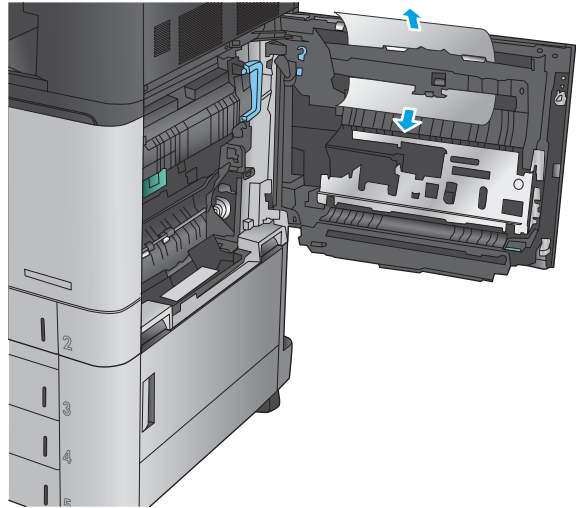
1. Open the right door.



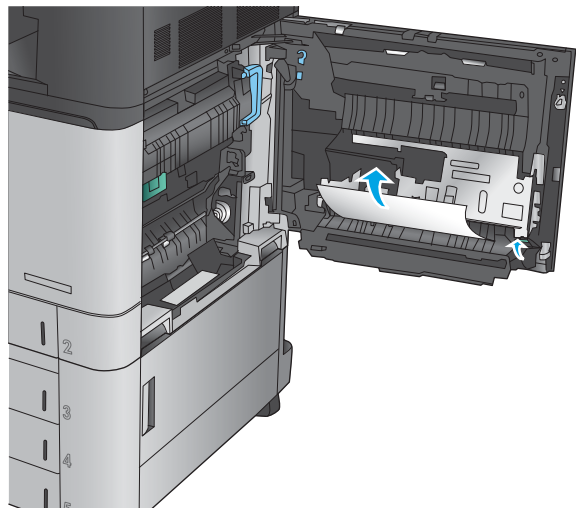
2. If paper is jammed in Tray 1, gently pull the paper from the bottom of the right door.



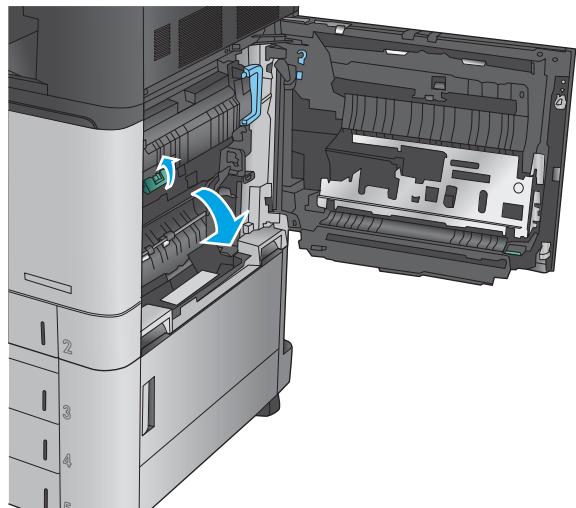
3. Check for paper in the duplex-printing path inside the right door. If paper is near the top of the duplex-printing path, gently pull it out to remove it.



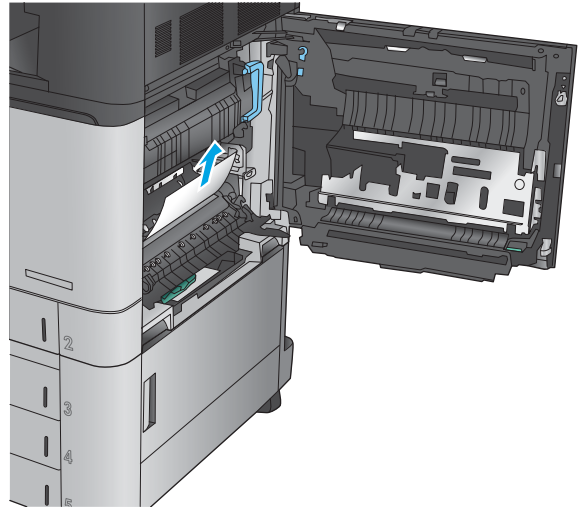
4. Lift the jam-access cover at the bottom of the duplex printing path, and remove any jammed paper.



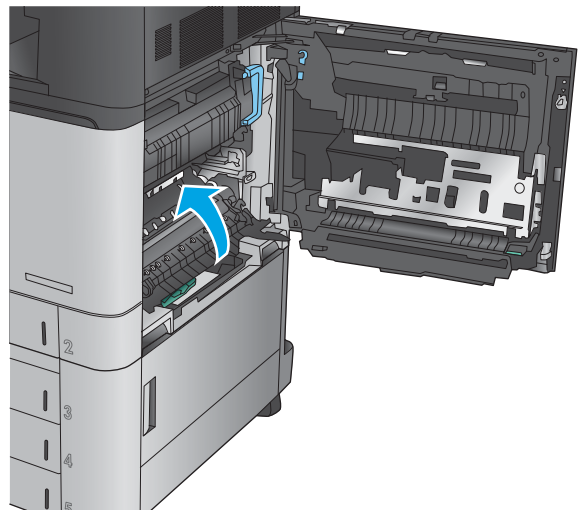
5. Lift the green handle on the transfer-access panel and open the panel.



6. Gently pull out any jammed paper.

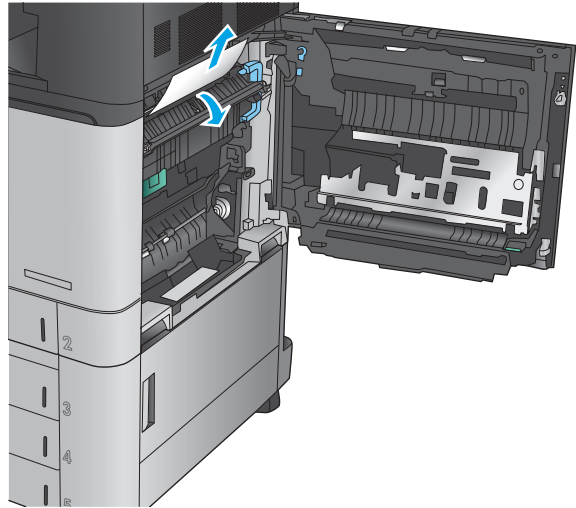


7. Close the transfer-access panel.

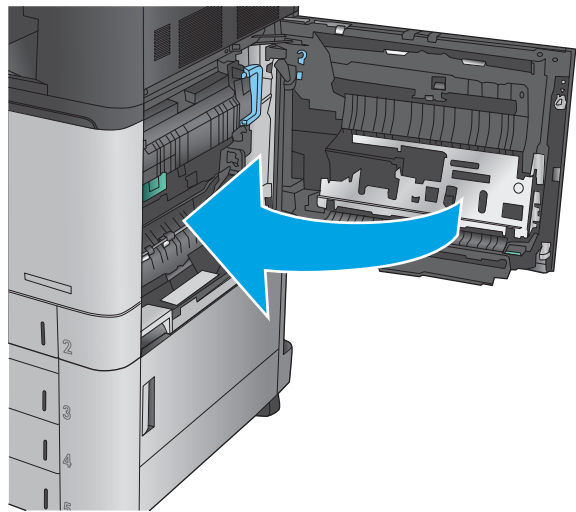


8. If paper is jammed in the fuser, lift the jam-access cover on top of the fuser, and gently pull out the paper.

**WARNING!** The fuser can be hot while the product is in use.



9. Close the right door.

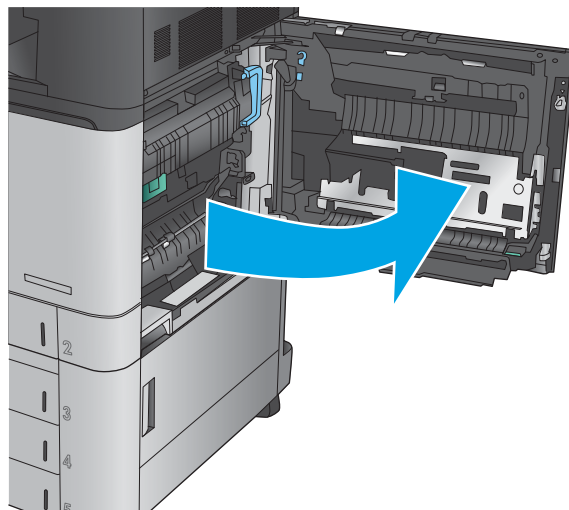




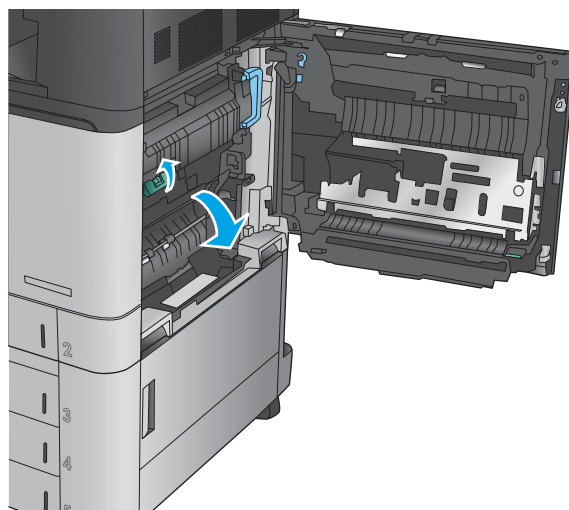
## Clear jams in Tray 2

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

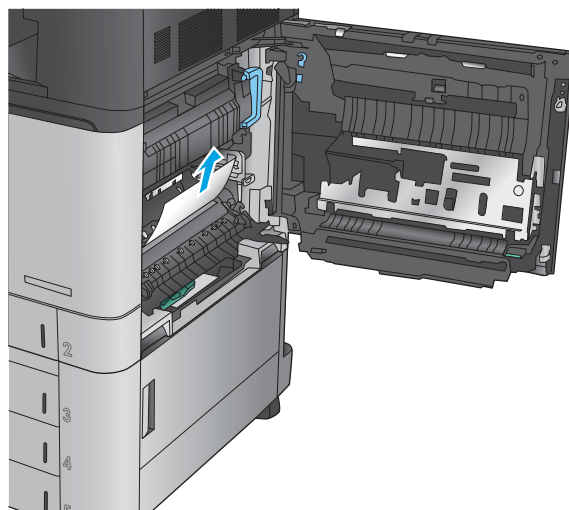
1. Open the right door.



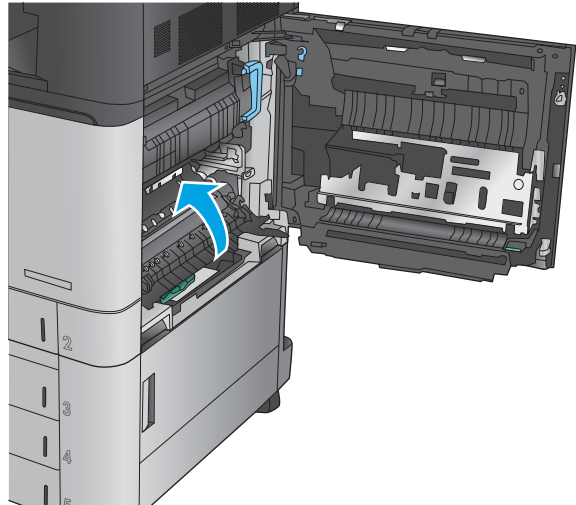
2. Lift the green handle on the transfer-access panel and open the panel.



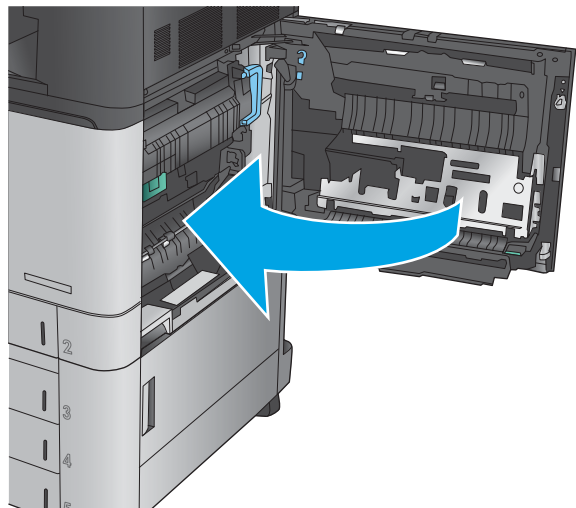
3. Gently pull out any jammed paper.



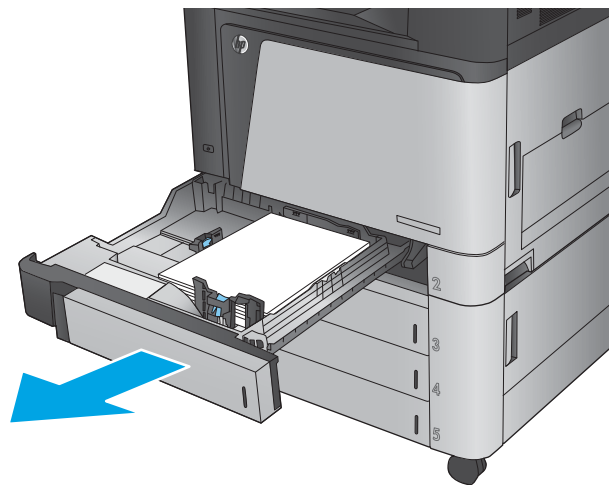
4. Close the transfer-access panel.



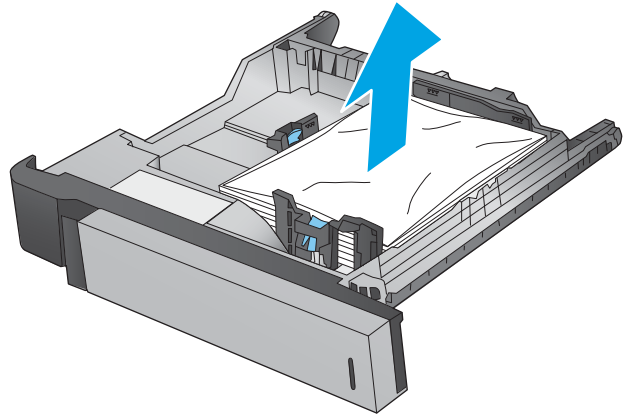
5. Close the right door.



6. Pull the tray completely out of the product by pulling and lifting it up slightly.



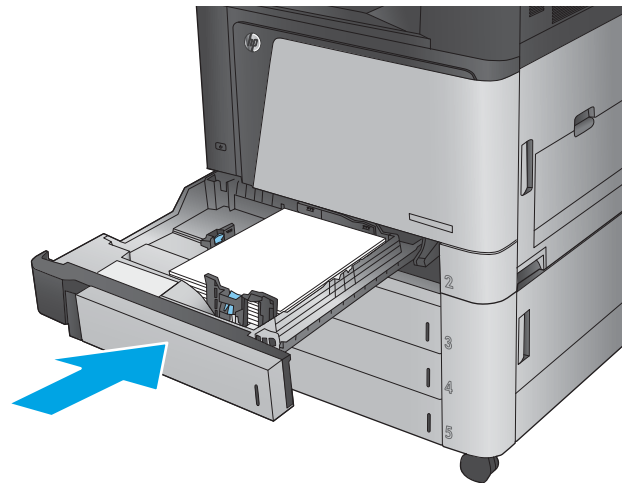
7. Remove any jammed or damaged sheets of paper.



8. Remove any paper from the feed rollers inside the product.



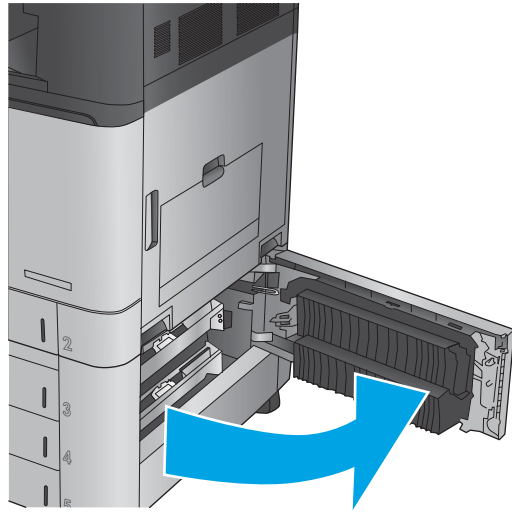
9. Reinsert and close the tray.



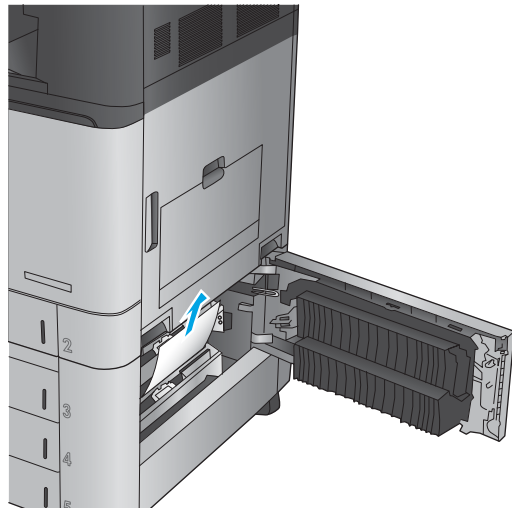
## Clear jams in the 3x500-sheet feeder and the lower-right door

Use the following procedure to check for paper in all possible jam locations related to the 3x500-sheet feeder. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

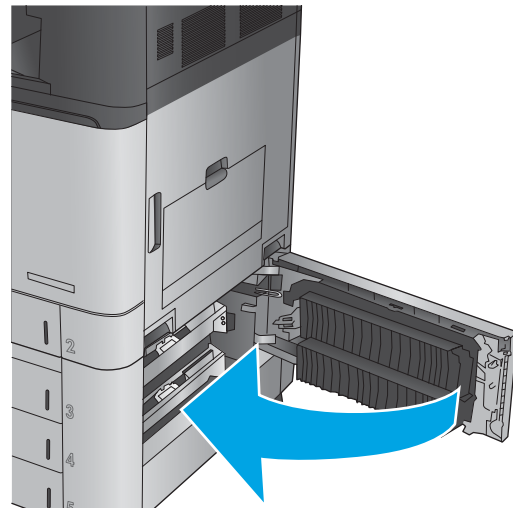
1. Open the lower-right door.



2. Gently pull out any jammed paper.

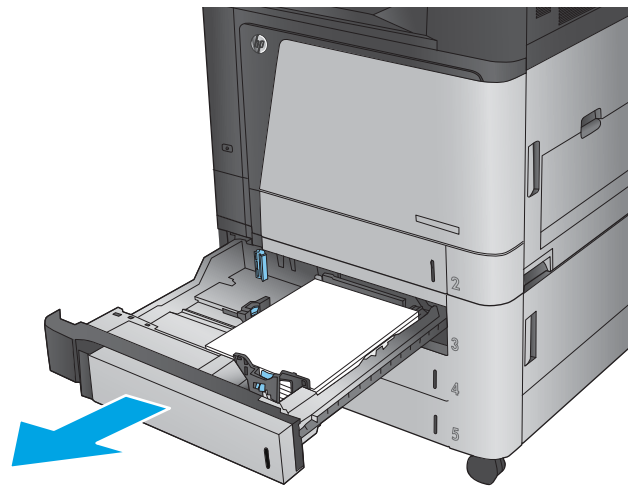


3. Close the lower-right door.

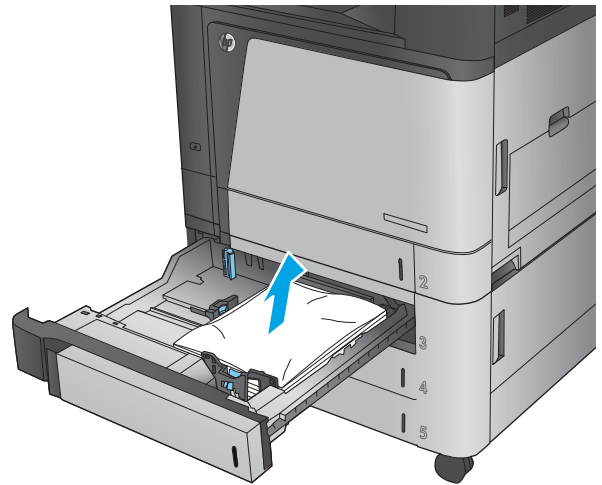


4. Open the tray.

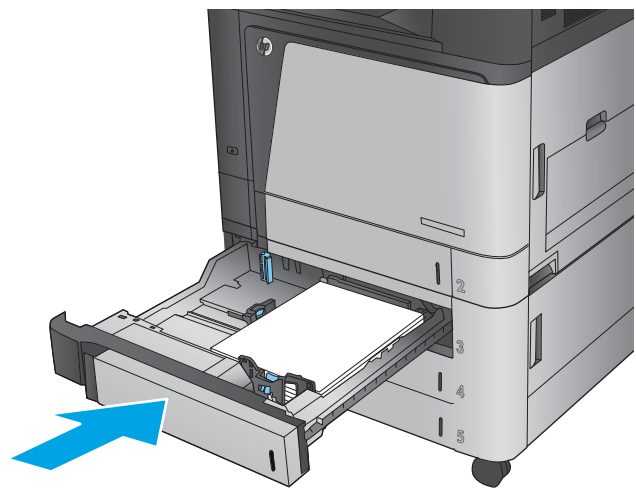
**NOTE:** The message on the product control panel indicates which tray has the jam. The following steps show removing a jam from the top tray, but the procedure is the same for all three trays.



5. Remove any jammed or damaged sheets of paper.



6. Close the tray.

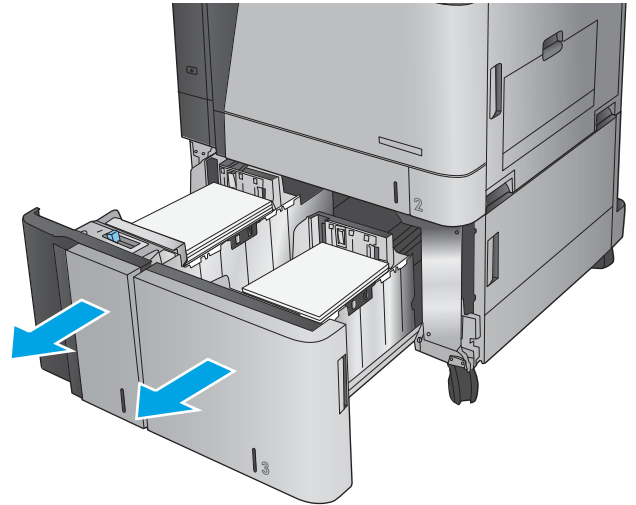


## Clear jams in the 3,500-sheet high-capacity input tray and the lower-right door

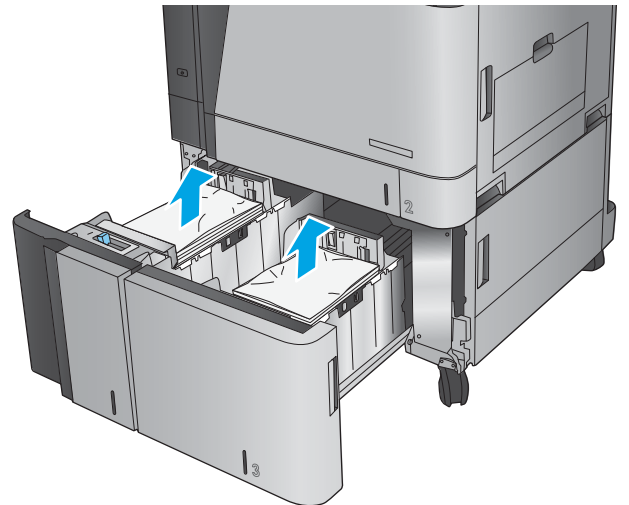
Use the following procedure to check for paper in all possible jam locations related to the 3,500-sheet high-capacity tray. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

1. Open the right and left trays.

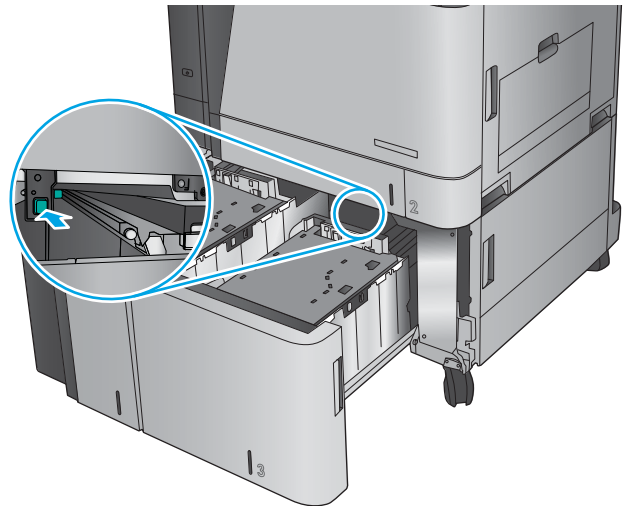
**NOTE:** You do not need to open both trays at the same time.



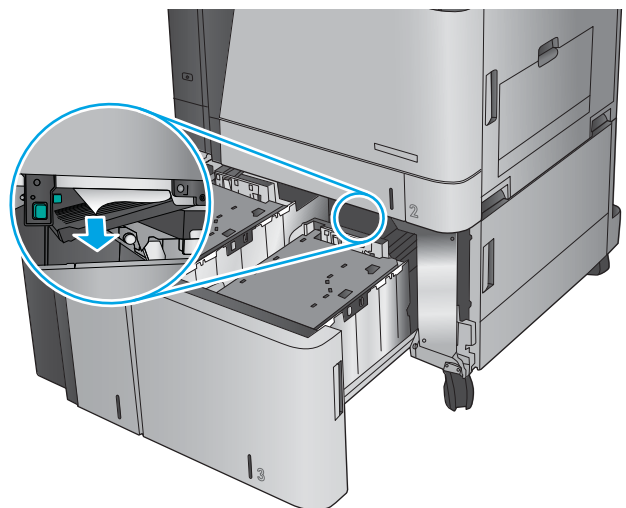
2. Remove the paper from the trays and discard any damaged sheets.



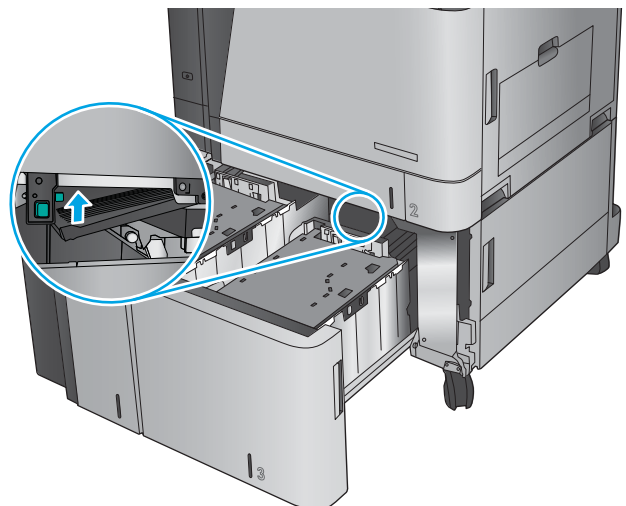
3. Above the right-side tray, press the green button to release the jam-access plate.



4. If jammed paper is in the feed area, pull it down to remove it.



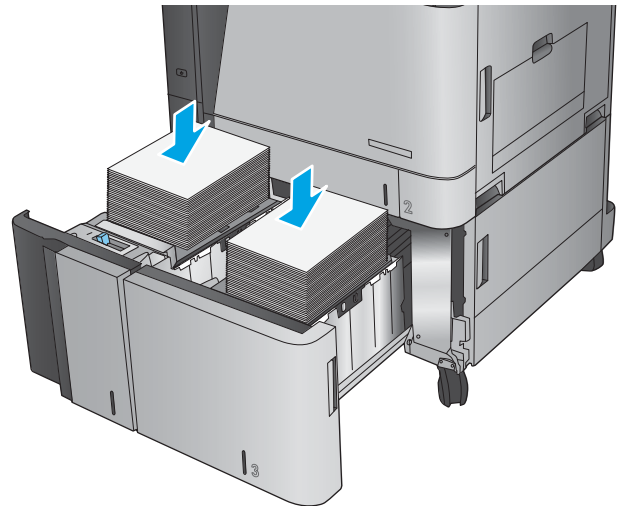
5. Push up on the jam-access plate to close it.



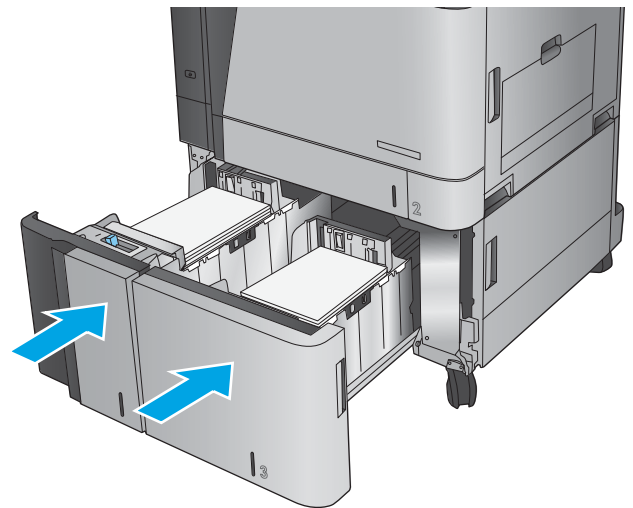


6. Load full reams of paper into each side of the tray. The right side holds 1,500 sheets of paper. The left side holds 2,000 sheets of paper.

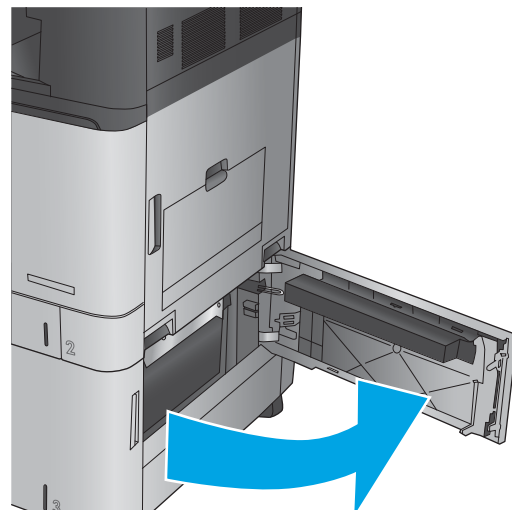
**NOTE:** For best results, load full reams of paper. Avoid dividing reams into smaller sections.



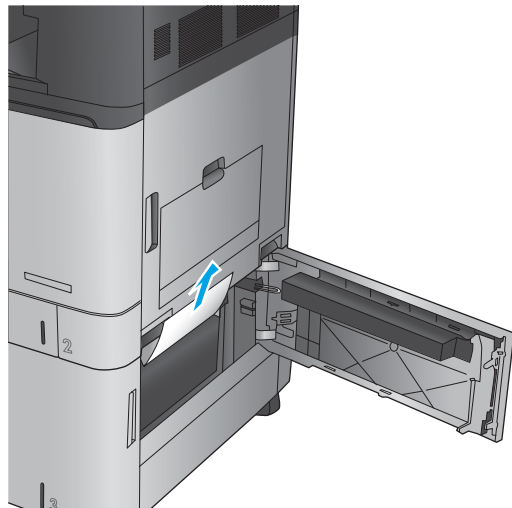
7. Close the right and left trays.



8. Open the jam-access door on the right side of the high-capacity tray cabinet.

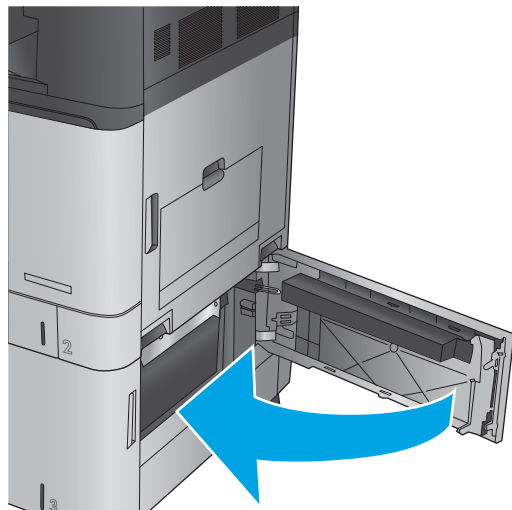


9. Remove any jammed paper.



10. Close the jam-access door on the right side of the high-capacity tray cabinet.

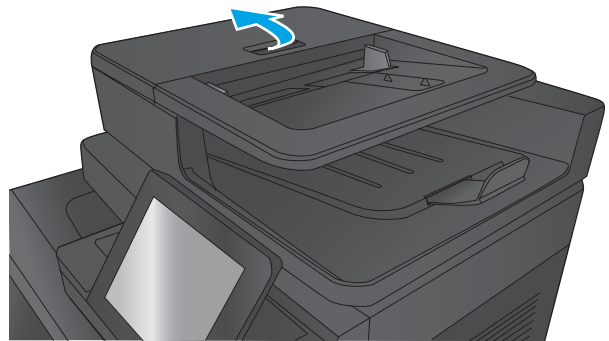
**NOTE:** If after clearing the jam the product control panel displays a message that there is no paper in the tray or the tray is over filled, remove the tray and look behind it for any remaining paper.



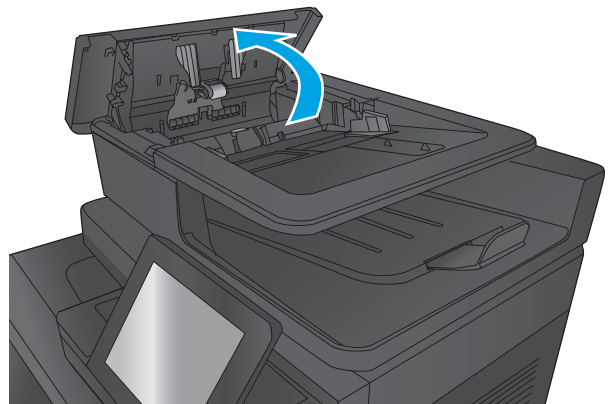
## Clear jams in the document feeder (M880)

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

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

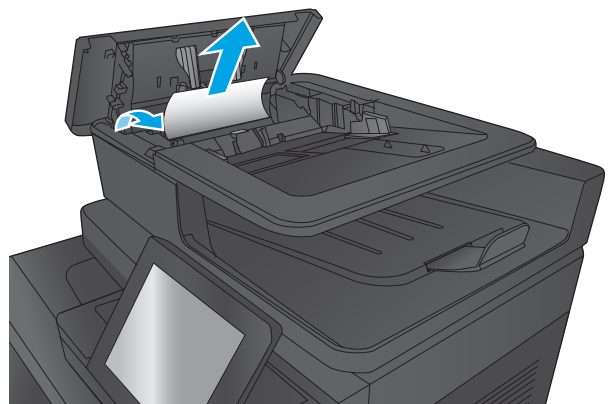


2. Open the document-feeder cover.

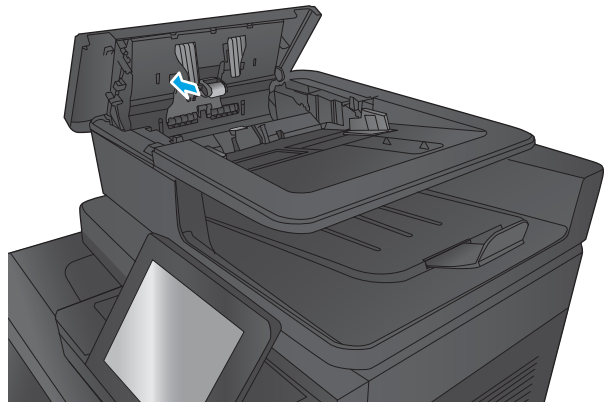


3. Lift the jam-access door, and remove any jammed paper.

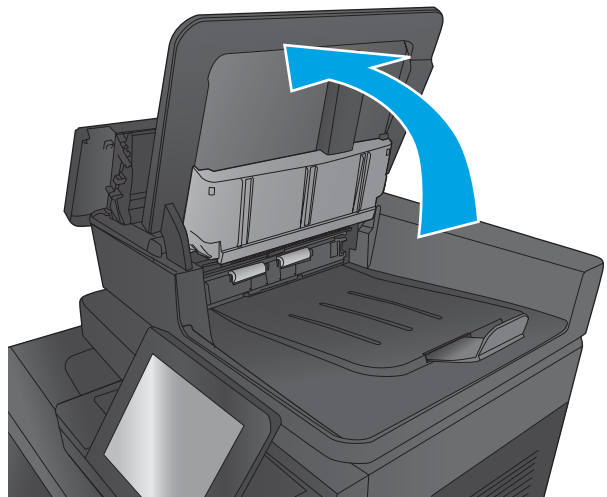
If necessary, rotate the green wheel at the front of the document feeder to remove jammed paper.



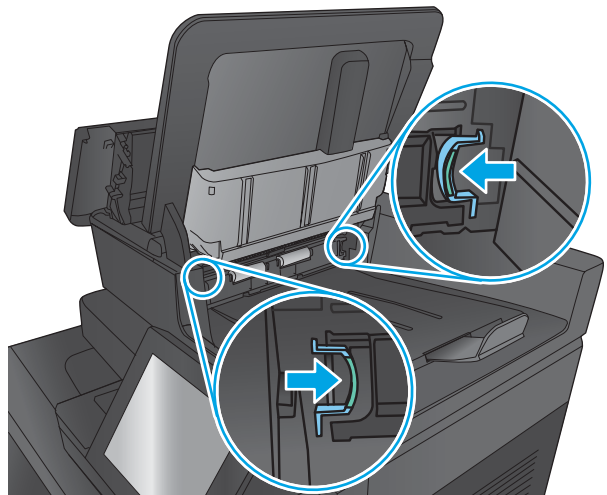
4. Press on the door next to the document-feeder rollers to make sure it is closed completely.



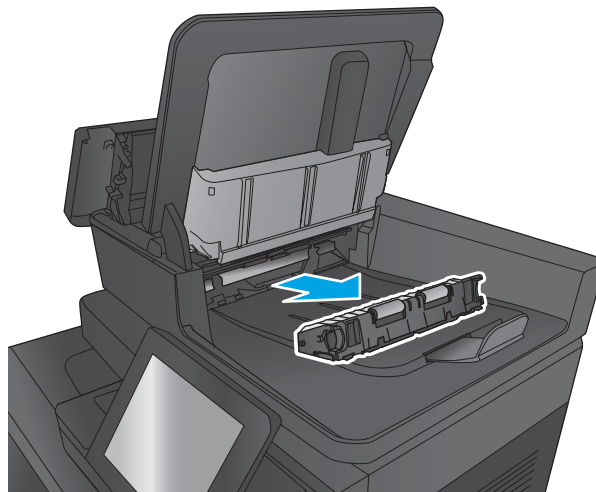
5. Lift the document feeder input tray.



6. Squeeze inward on the two slots at each end of the backside-background selector assembly.



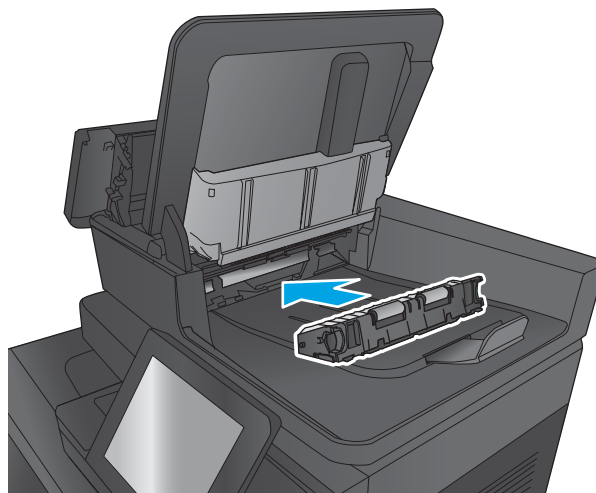
7. Remove the backside-background selector assembly by pulling it out.



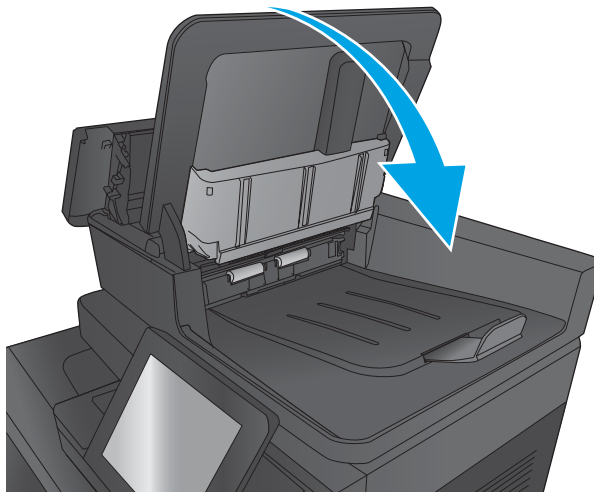
8. Remove any jammed paper.



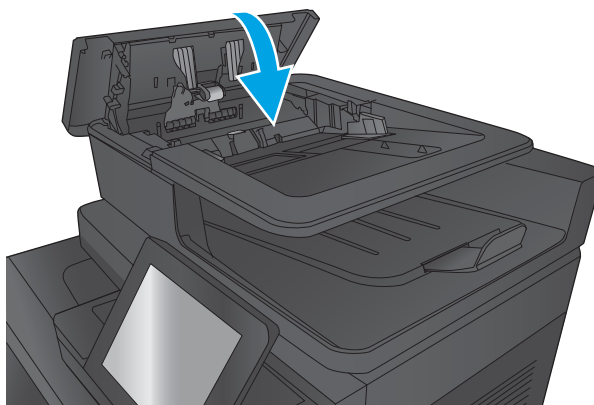
9. Reinstall the backside-background selector assembly by sliding it in until it locks into place.




10. Lower the document-feeder input tray.




11. Close the document-feeder cover.



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 **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.

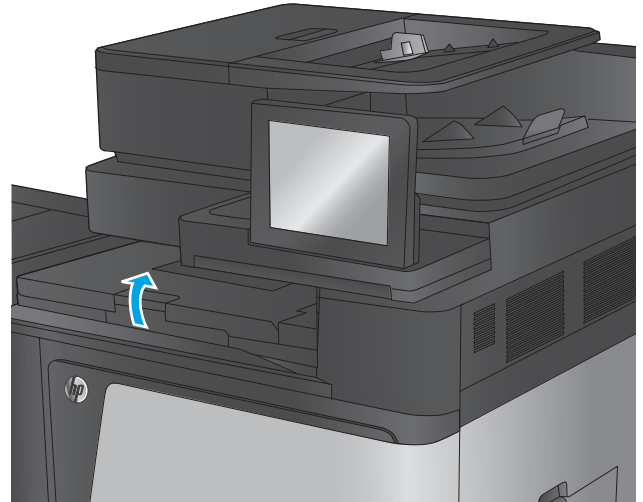
 **NOTE:** Original documents that are printed on heavy, glossy paper can jam more frequently than originals that are printed on plain paper.

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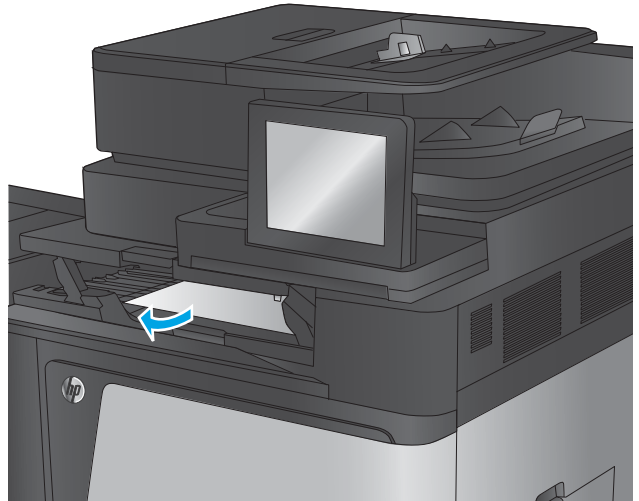
## Clear output jams in the output-accessory bridge

The output-accessory bridge is installed on products with an optional finishing accessory. The output-accessory bridge transfers paper from the output slot near the control panel, across the top of the product, and into the finishing accessory. Use the following procedure to clear jams in this area.

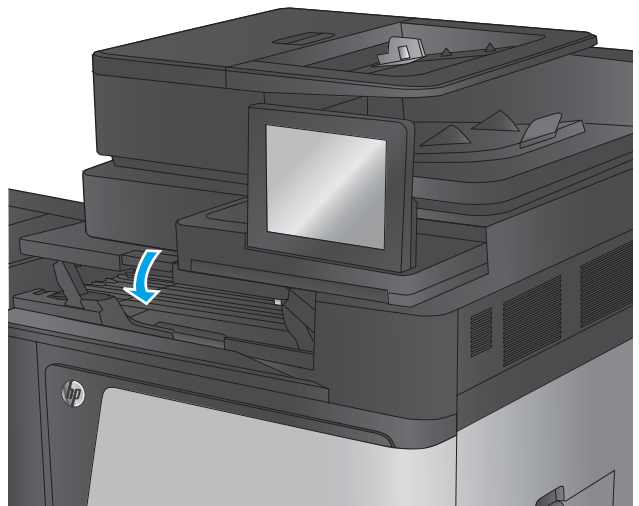
1. Lift the latch on the top cover of the output-accessory bridge and open the top cover.



2. Gently pull the jammed paper to remove it.



3. Close the top cover of the output-accessory bridge.





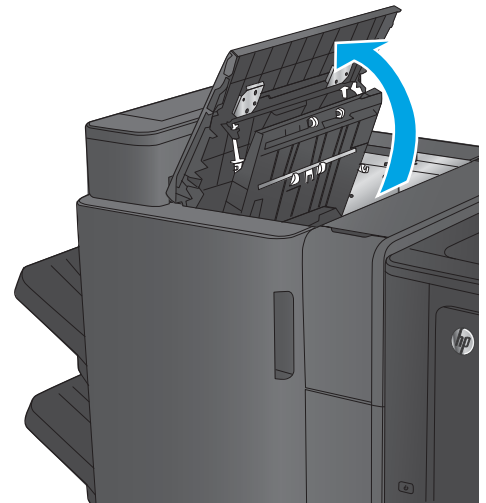
## Clear jams in the stapler/stacker accessory or the stapler/stacker with hole punch accessory

The procedures to clear paper jams and staple jams in the stapler/stacker accessory and the stapler/stacker with hole punch accessory are similar. Use the following procedures to check for jams in all possible locations inside the finishing accessory. When a jam occurs, the control panel displays an animation that assists in clearing the jam. Only the stapler/stacker with hole punch accessory is shown in the following tasks. Steps that apply only to the hole-punch model are clearly indicated.

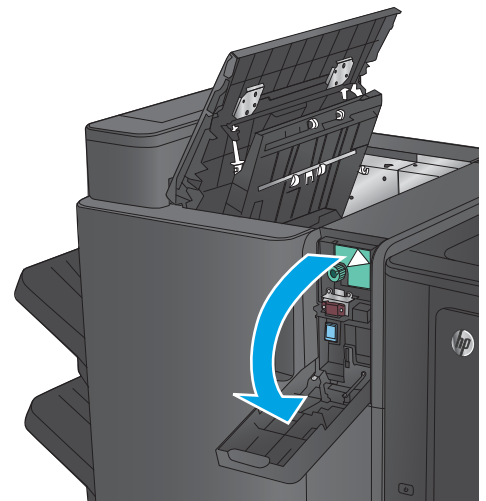
- [Clear top left door jams in the stapler/stacker](#)
- [Clear Stapler 1 jams in the stapler/stacker](#)
- [Clear stapler/stacker connection jams \(hole-punch models only\)](#)

### Clear top left door jams in the stapler/stacker

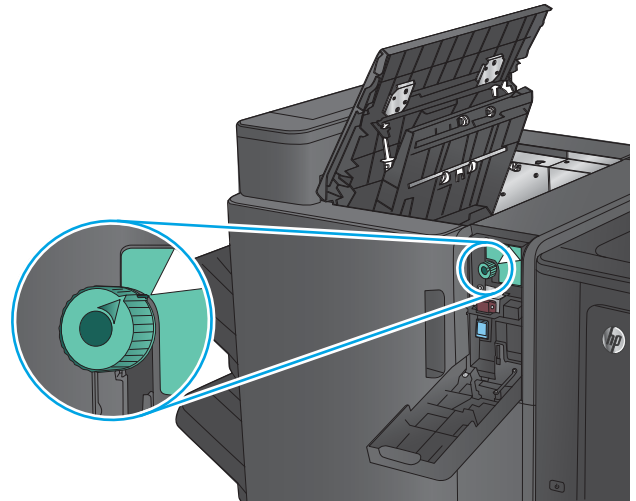
1. Open the top left door.



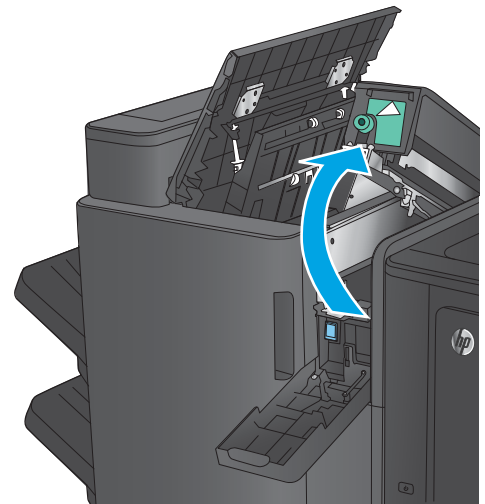
2. **Hole punch models only:** Open the hole-punch door.



3. **Hole punch models only:** Turn the knob to align the arrows.

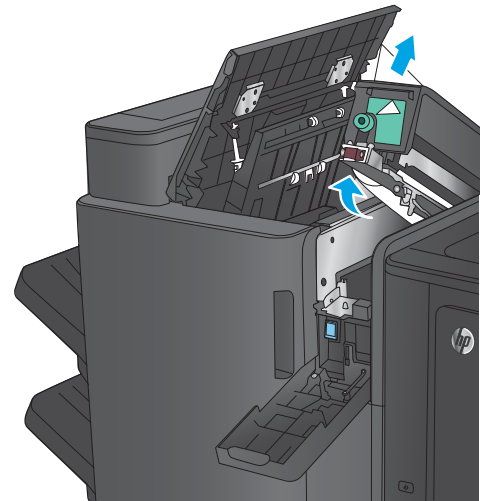


4. **Hole punch models only:** Lift the hole-punch unit.

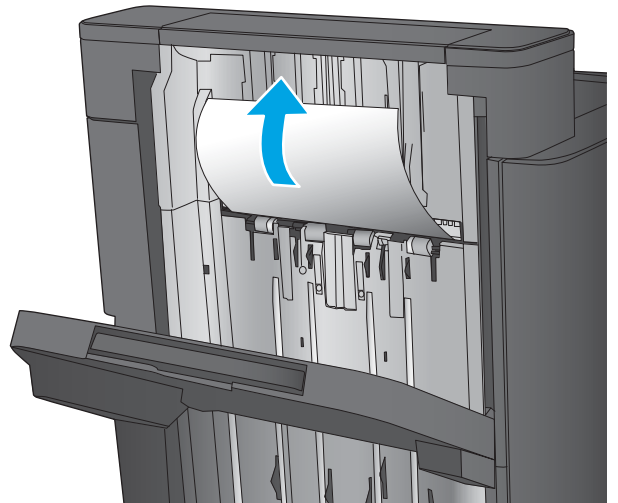


5. **Hole punch models only:** If paper is jammed in the bottom of the hole-punch unit, carefully remove it.

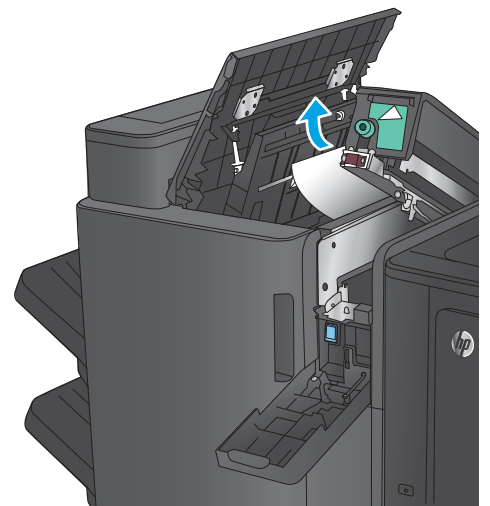
**NOTE:** Do not close the hole-punch unit yet.



6. Lift the jam access cover for the output slot, and gently remove any jammed paper.

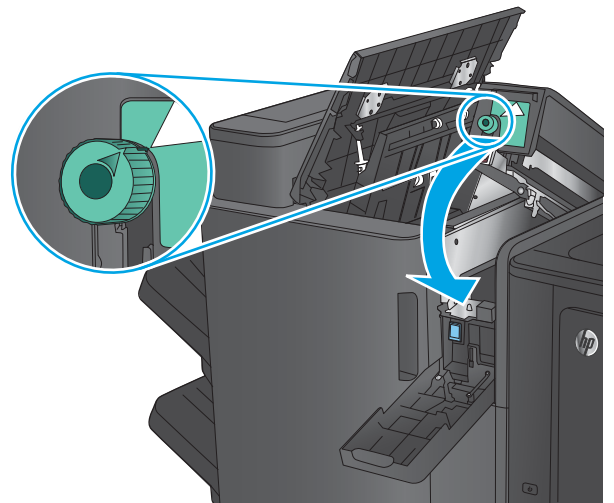


7. Remove all paper from the top left door area.

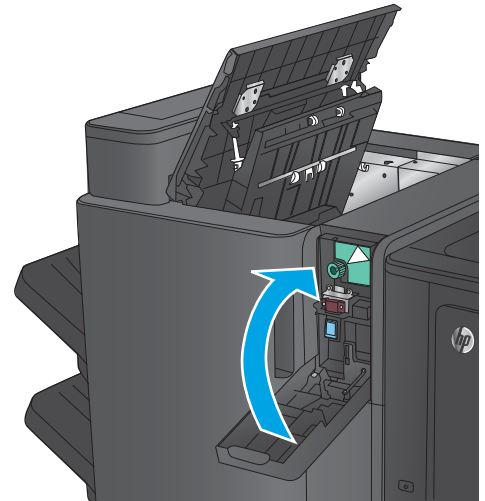


8. **Hole punch models only:** Close the hole-punch unit.

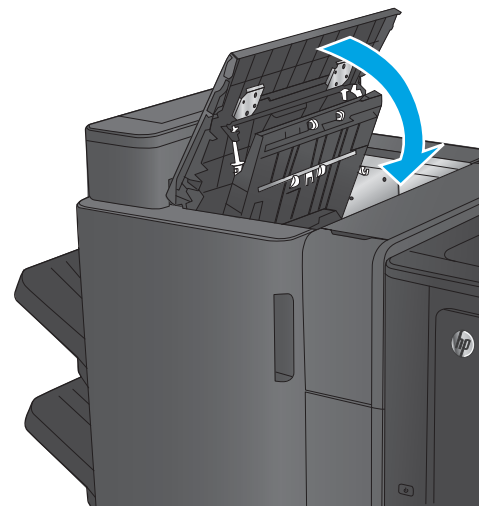
**NOTE:** Ensure the arrows on the hole punch are positioned as shown in the graphic.



9. **Hole punch models only:** Close the hole-punch door.

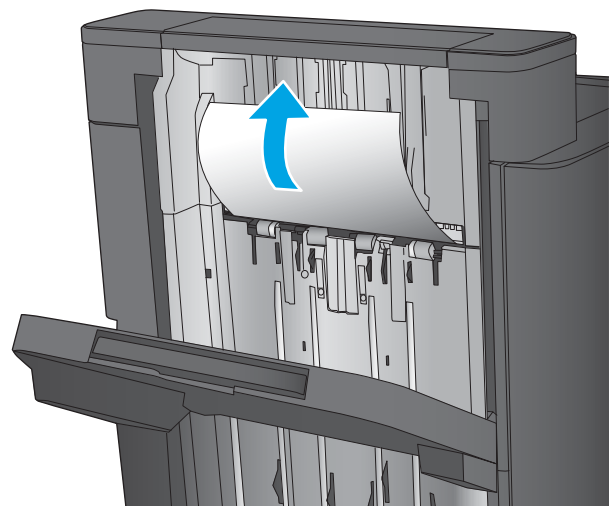


10. Close the top left door.

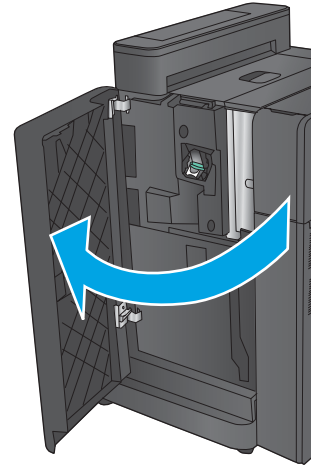


### Clear Stapler 1 jams in the stapler/stacker

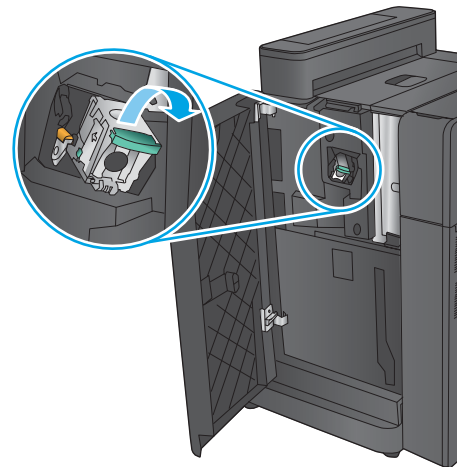
1. Lift the jam access cover for the output slot, and gently remove any jammed paper.



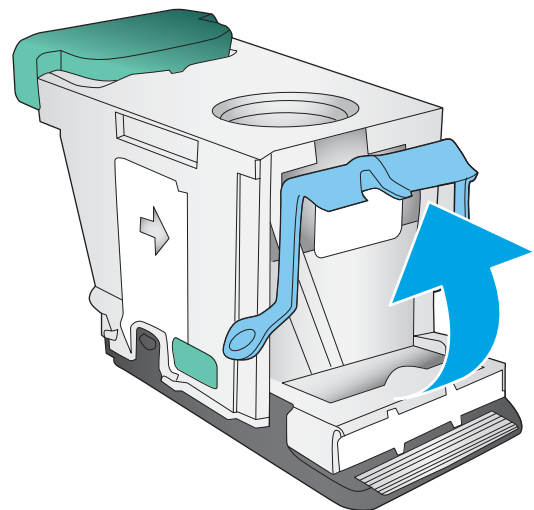
2. Wait three seconds, and then open the front left door.



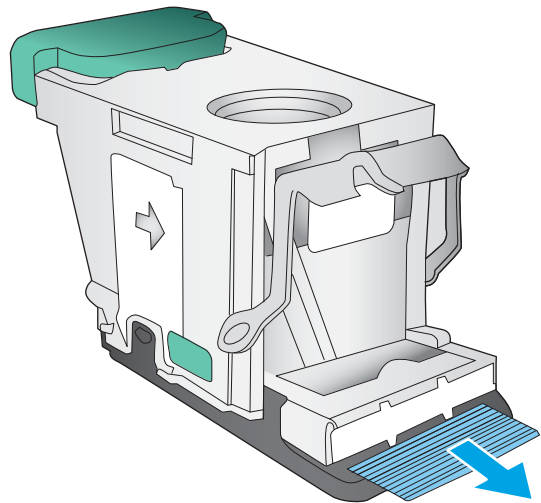
3. Pull the staple cartridge up and out to remove it.



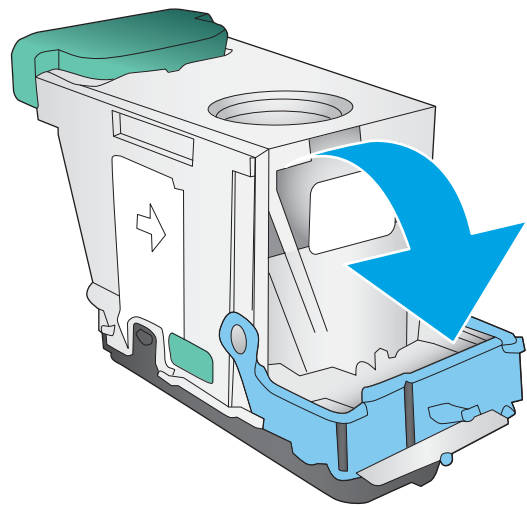
4. Lift up the metal handle on the front of the staple cartridge.



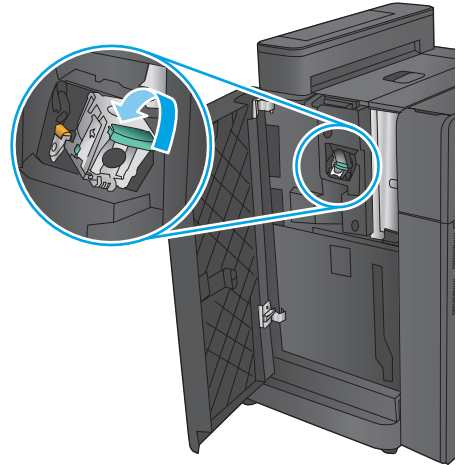
5. Remove any jammed staples from the staple cartridge.



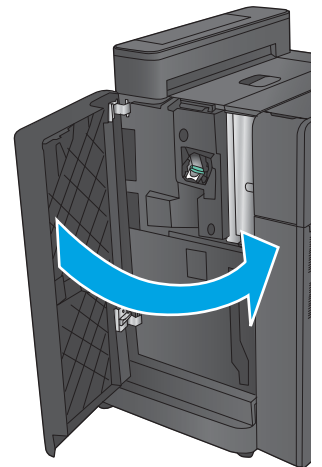
6. Push down the metal handle on the front of the staple cartridge.



7. Insert the staple cartridge. Press down on the top of the staple cartridge until it clicks into place.

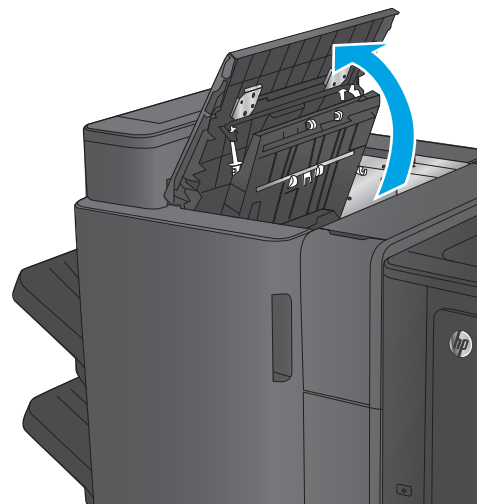


8. Close the front left door.

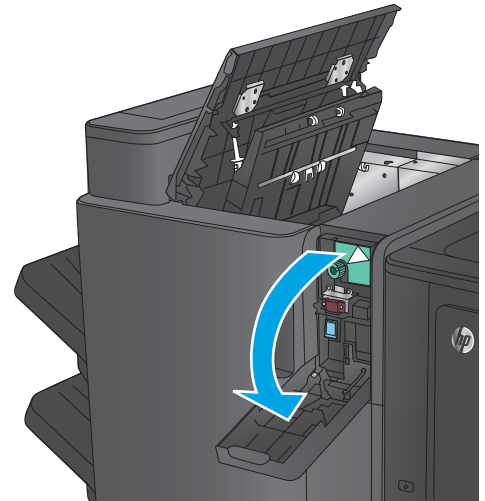


### Clear stapler/stacker connection jams (hole-punch models only)

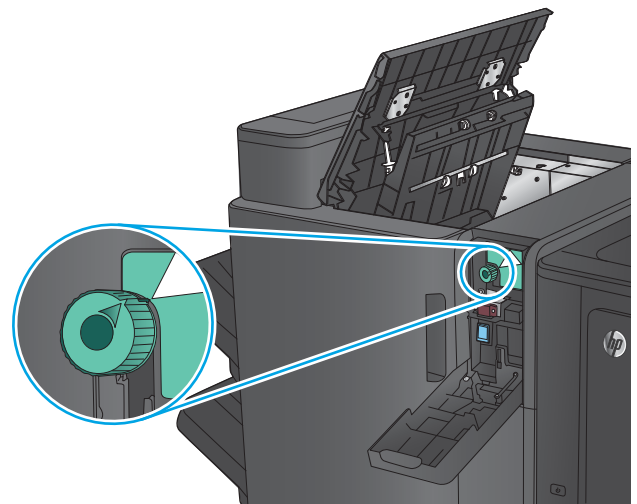
1. Open the top left door.



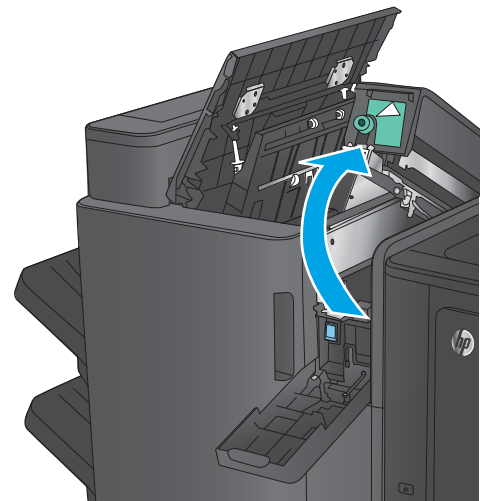
2. Open the hole-punch door.



3. Turn the knob to align the arrows.



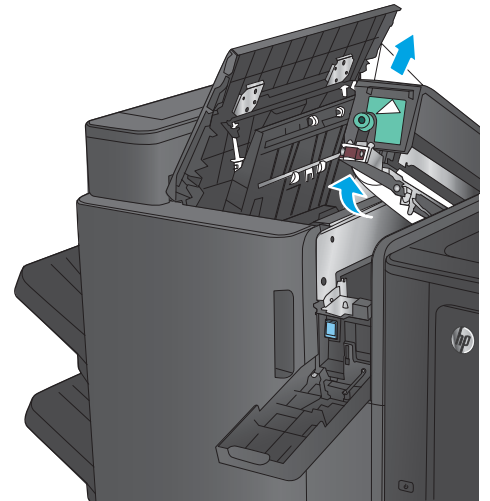
4. Lift the hole-punch unit.



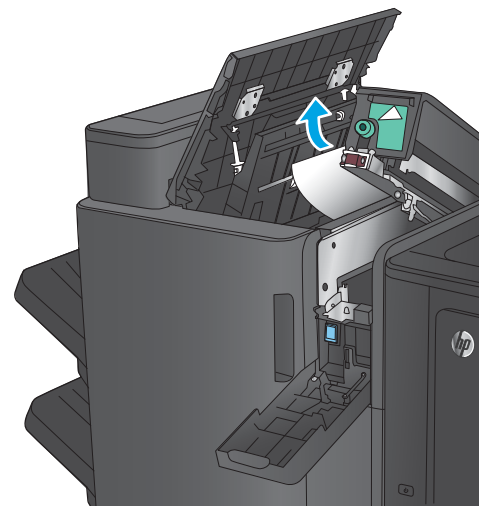


5. If paper is jammed in the bottom of the hole-punch unit, carefully remove it.

**NOTE:** Do not close the hole-punch unit yet.

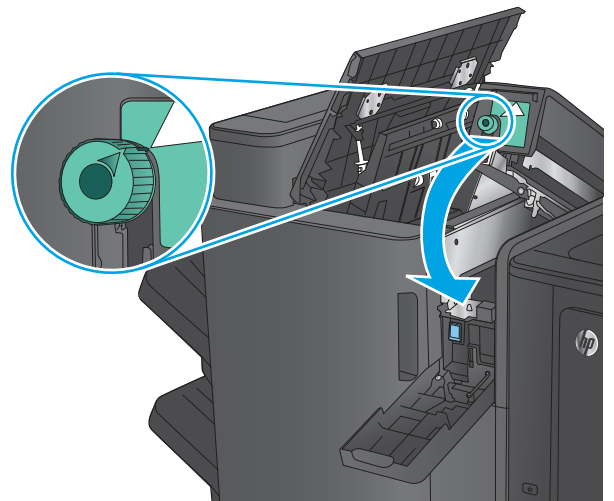


6. Remove all paper from the top left door area.

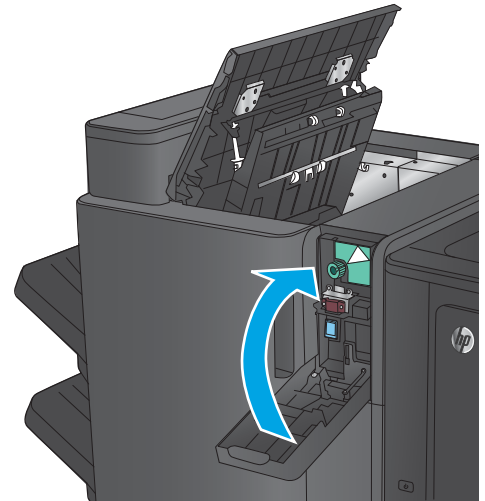


7. Close the hole-punch unit.

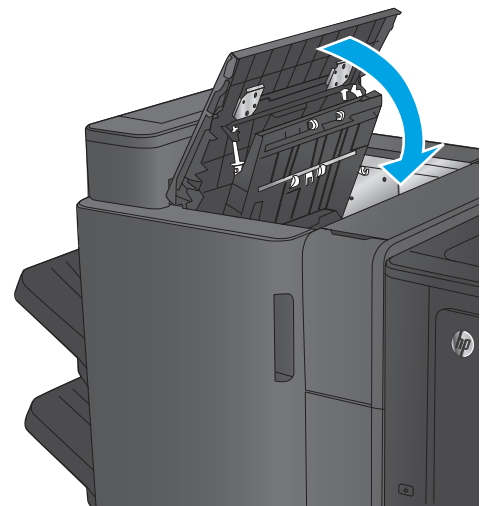
**NOTE:** Ensure the arrows on the hole punch are positioned as shown in the graphic.



8. Close the hole-punch door.



9. Close the top left door.



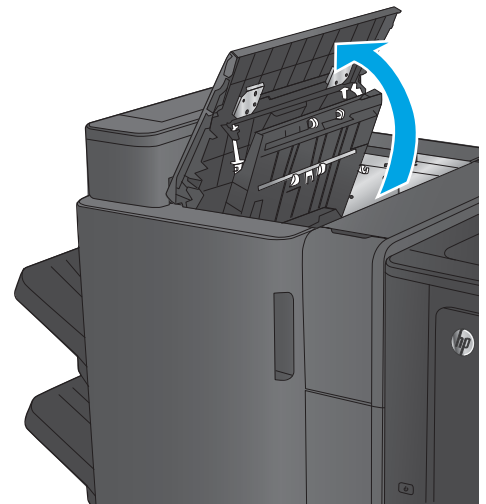
## Clear jams in the booklet maker accessory or the booklet maker with hole punch accessory

The procedures to clear paper jams and staple jams in the booklet maker accessory and the booklet maker with hole punch accessory are similar. Use the following procedures to check for jams in all possible locations inside the finishing accessory. When a jam occurs, the control panel displays an animation that assists in clearing the jam. Only the booklet maker with hole punch accessory is shown in the following tasks. Steps that apply only to the hole-punch model are clearly indicated.

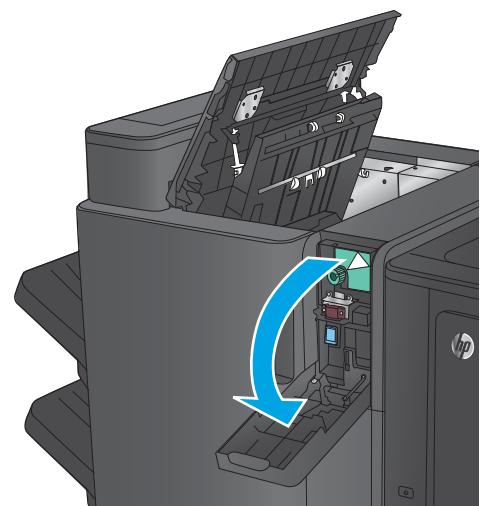
- [Clear top left door jams in the booklet maker](#)
- [Clear Stapler 1 jams in the booklet maker](#)
- [Clear front left door jams in the booklet maker](#)
- [Clear stapler 2 or 3 jams in the booklet maker](#)

### Clear top left door jams in the booklet maker

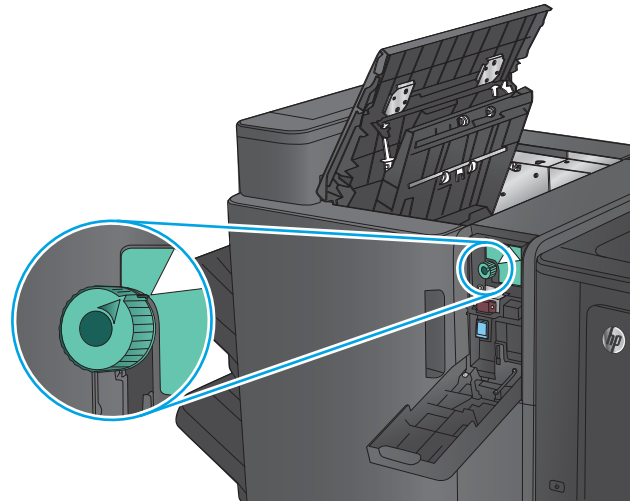
1. Open the top left door.



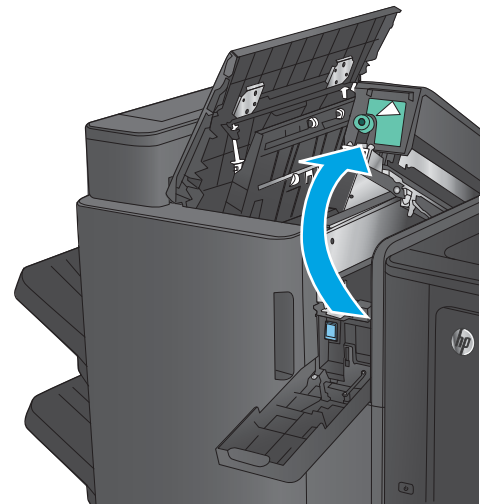
2. **Hole punch models only:** Open the hole-punch door.



3. **Hole punch models only:** Turn the knob to align the arrows.

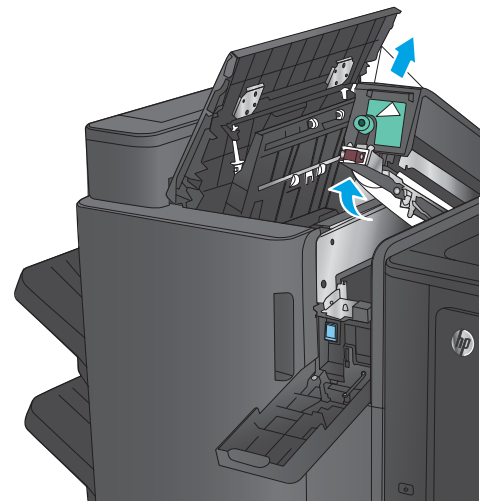


4. **Hole punch models only:** Lift the hole-punch unit.

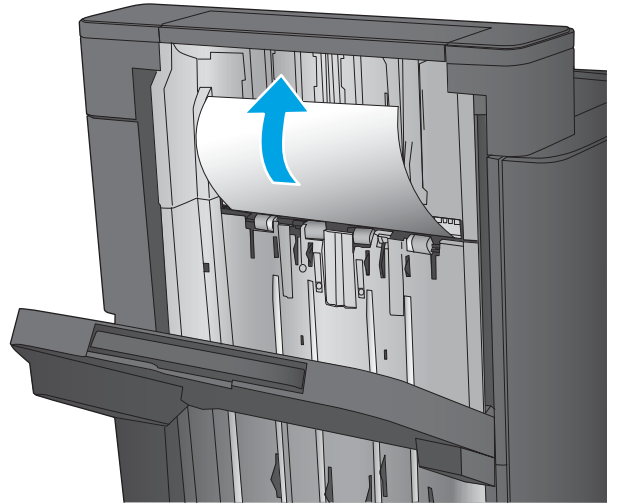


5. **Hole punch models only:** If paper is jammed in the bottom of the hole-punch unit, carefully remove it.

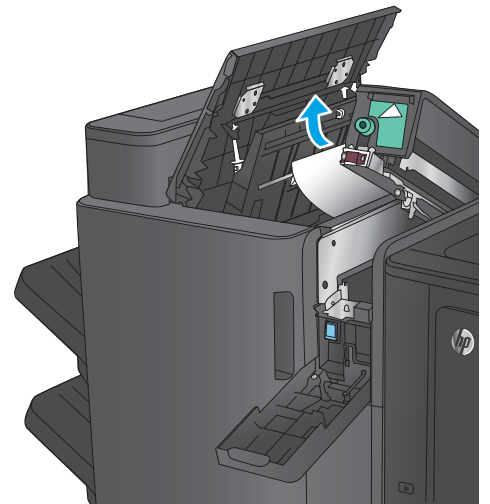
**NOTE:** Do not close the hole-punch unit yet.



6. Lift the jam access cover for the output slot, and gently remove any jammed paper.

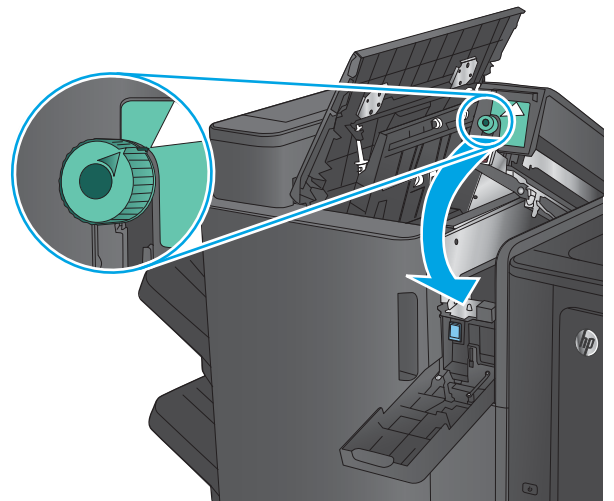


7. Remove all paper from the top left door area.

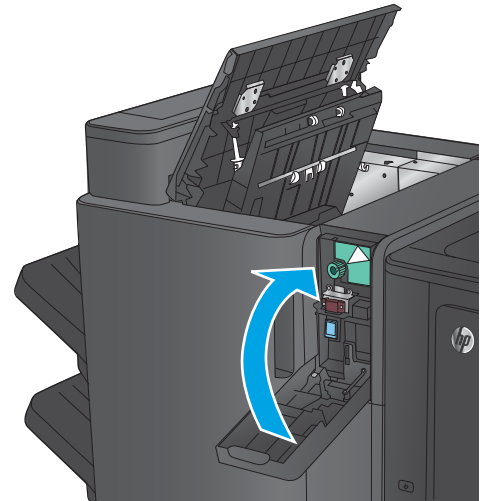


8. **Hole punch models only:** Close the hole-punch unit.

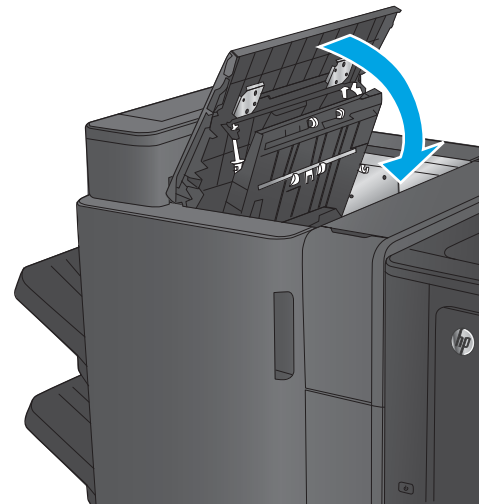
**NOTE:** Ensure the arrows on the hole punch are positioned as shown in the graphic.



9. **Hole punch models only:** Close the hole-punch door.

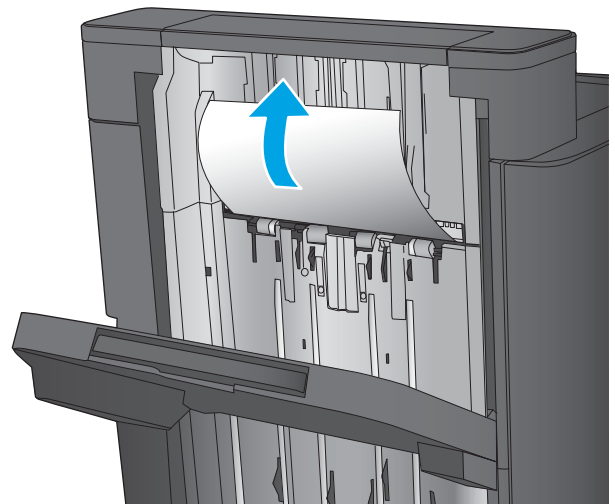


10. Close the top left door.

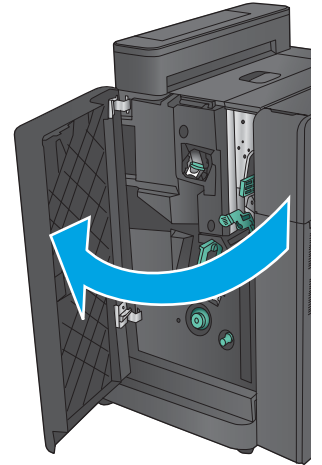


### Clear Stapler 1 jams in the booklet maker

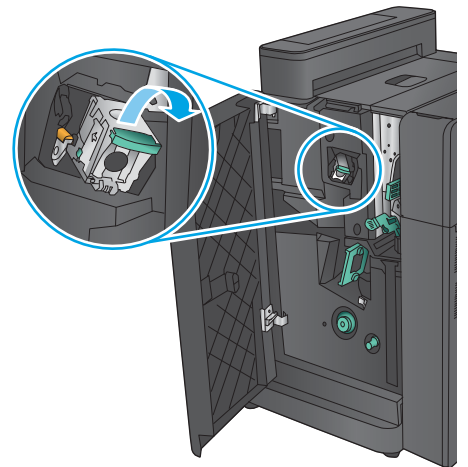
1. Lift the jam access cover for the output slot, and gently remove any jammed paper.



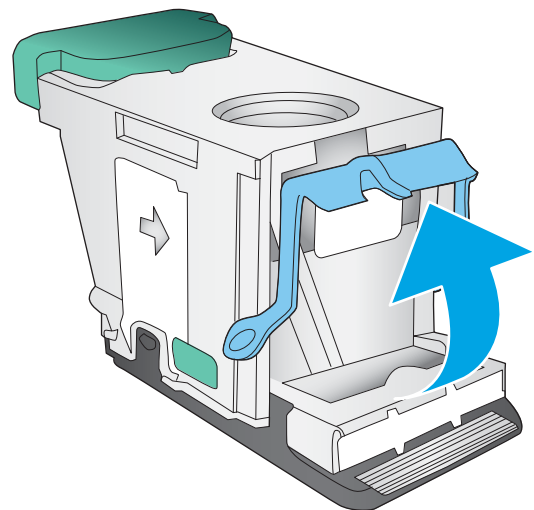
2. Wait three seconds, and then open the front left door.



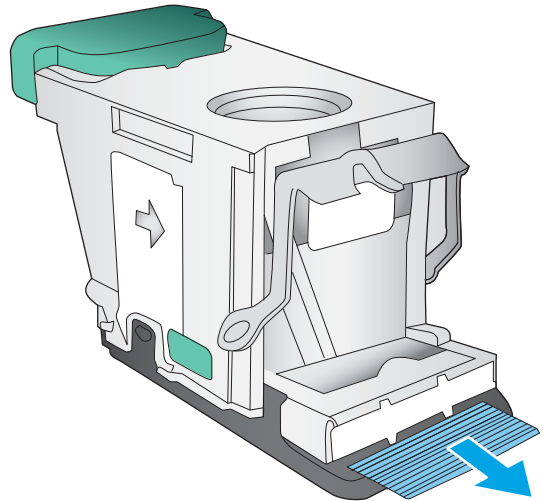
3. Pull the staple cartridge up and out to remove it.



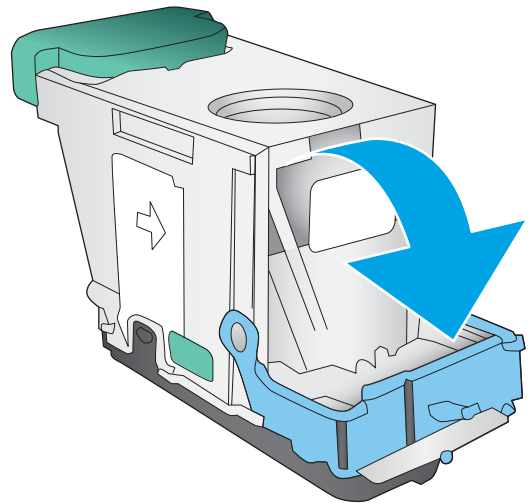
4. Lift up the metal handle on the front of the staple cartridge.



5. Remove any jammed staples from the staple cartridge.

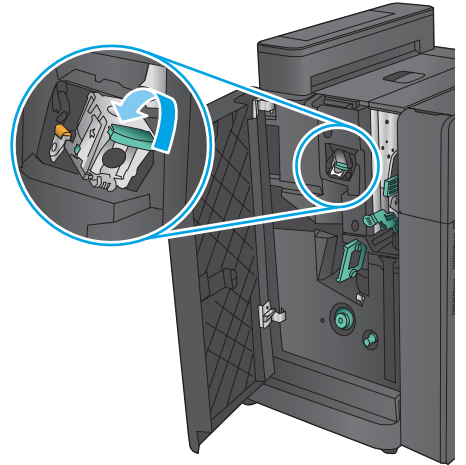


6. Push down the metal handle on the front of the staple cartridge.

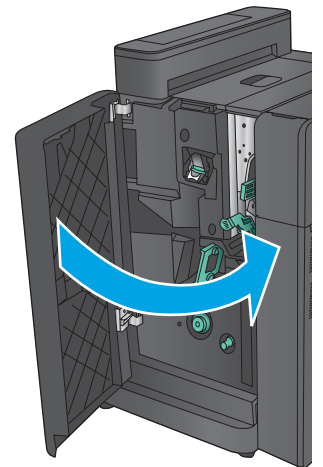




7. Insert the staple cartridge. Press down on the top of the staple cartridge until it clicks into place.

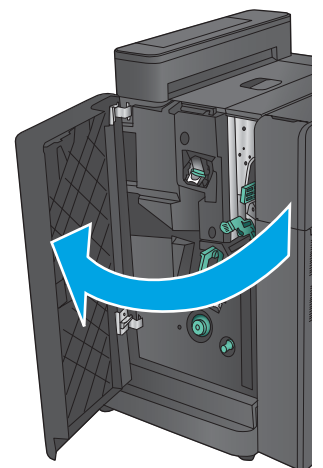


8. Close the front left door.

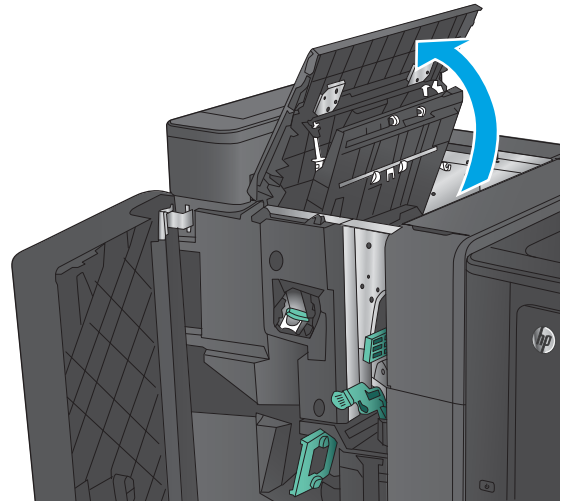


### Clear front left door jams in the booklet maker

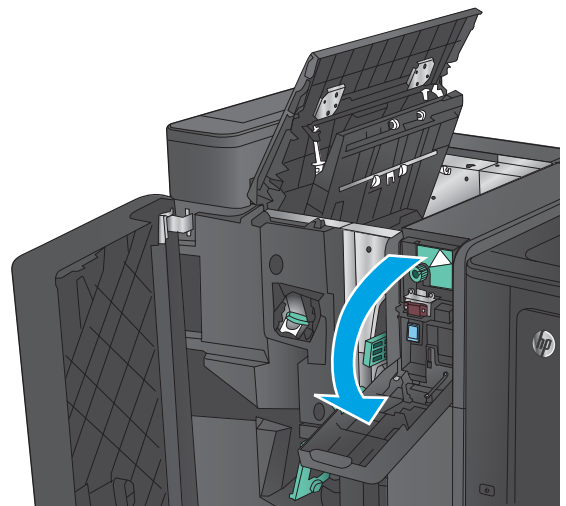
1. Open the front left door.



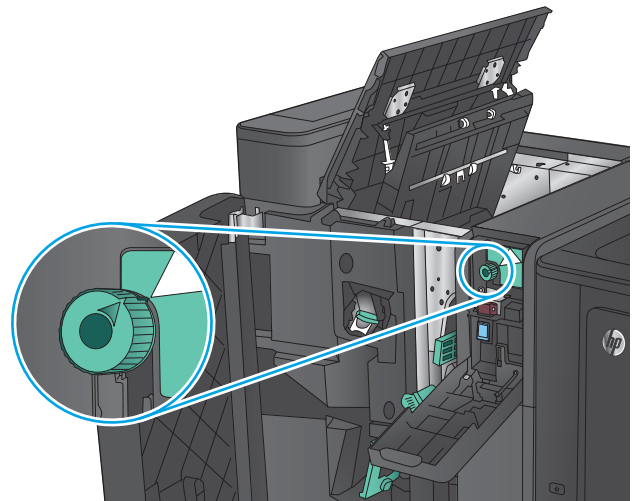
2. **Hole punch models only:** Open the top left door.



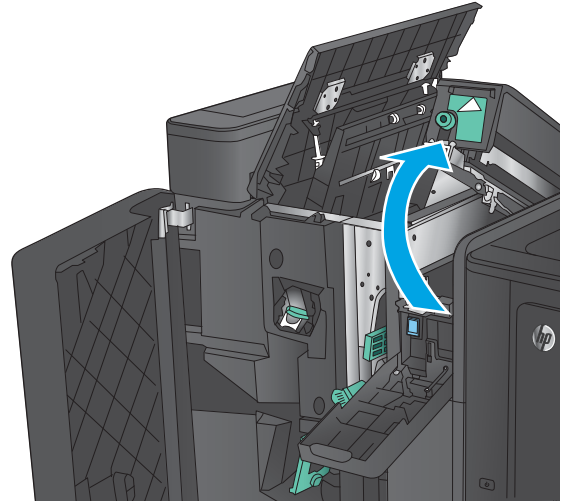
3. **Hole punch models only:** Open the hole-punch door.



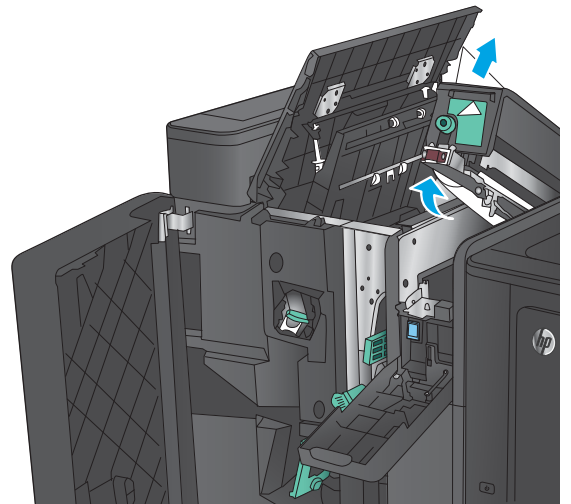
4. **Hole punch models only:** Turn the knob to align the arrows.



5. **Hole punch models only:** Lift the hole-punch unit.

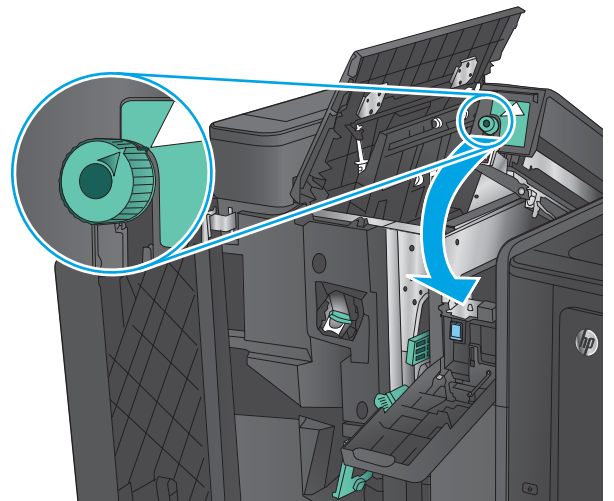


6. **Hole punch models only:** If paper is jammed in the bottom of the hole-punch unit, carefully remove it.

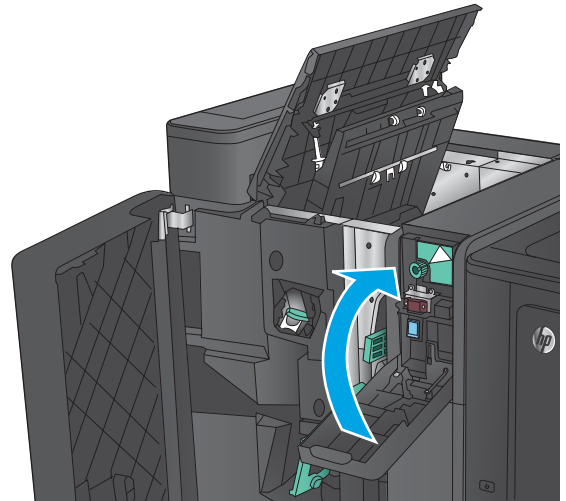


7. **Hole punch models only:** Close the hole-punch unit.

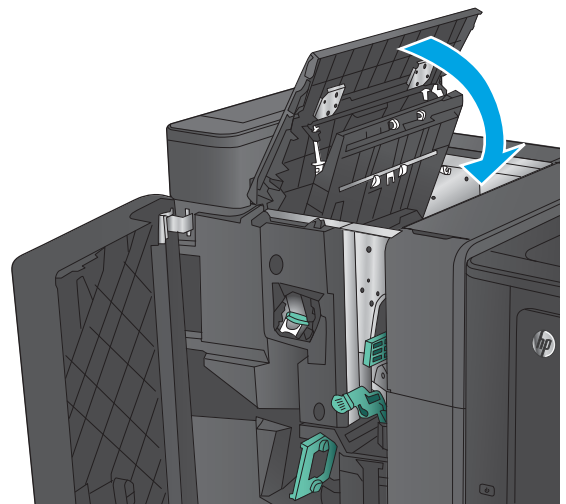
**NOTE:** Ensure the arrows on the hole punch are positioned as shown in the graphic.



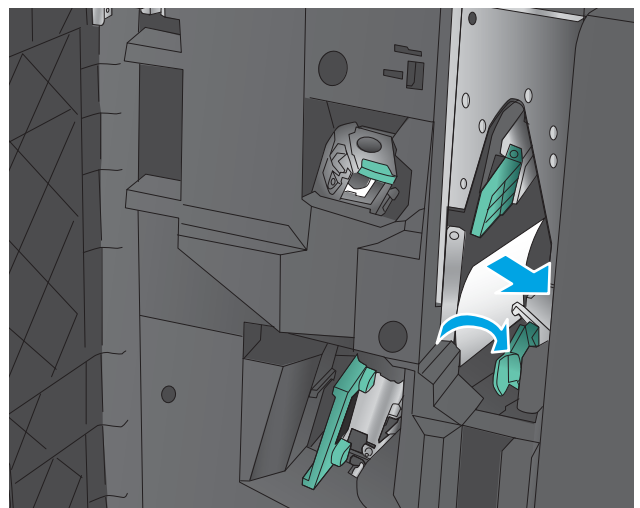
8. **Hole punch models only:** Close the hole-punch door.



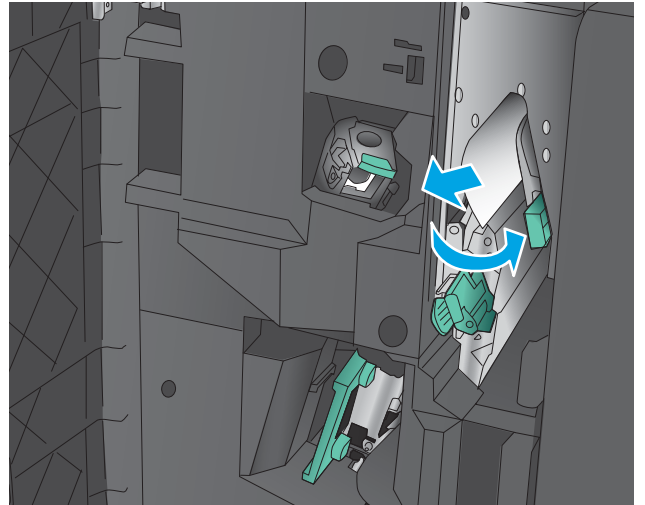
9. **Hole punch models only:** Close the top left door.



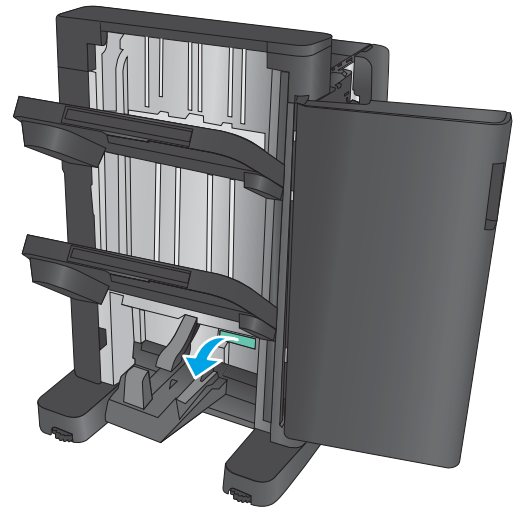
10. Move the lower jam-release lever to the right, and then remove any paper. Move the lower jam-release handle to the left.



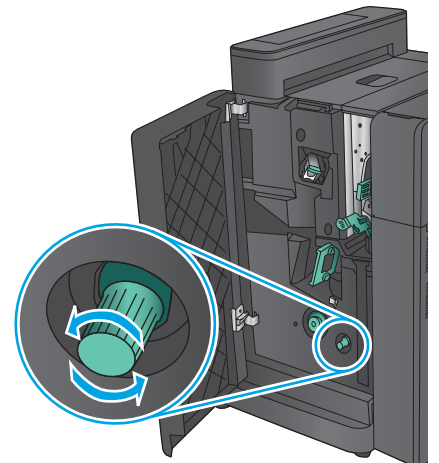
11. Move the upper jam-release lever to the right, and then remove any paper. Move the upper jam-release handle to the left.



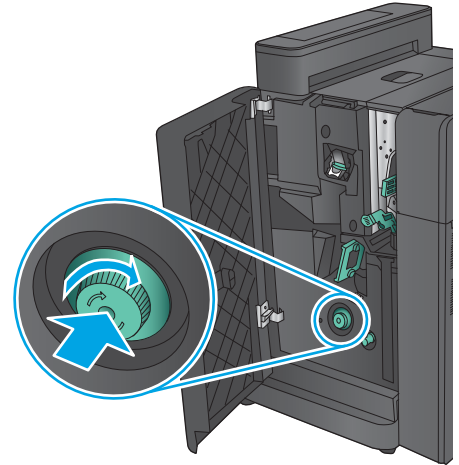
12. Open the lower booklet door.



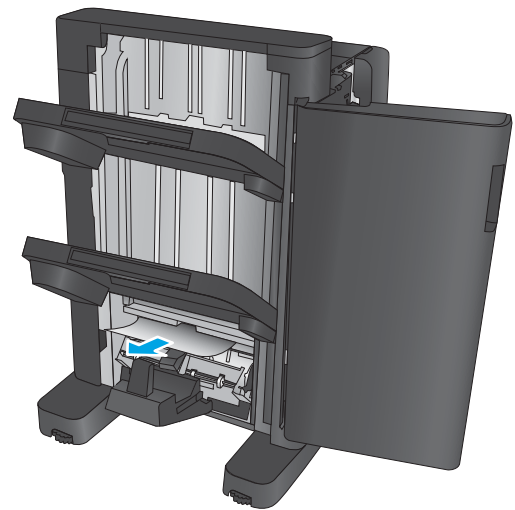
13. Turn the small jam-release knob counterclockwise.



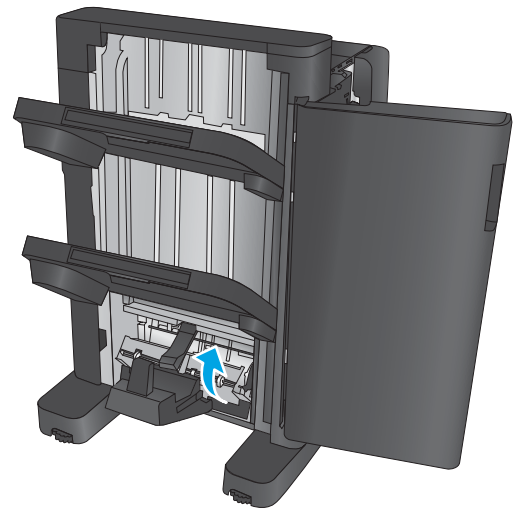
14. Press the large jam-release knob, and then turn it clockwise.



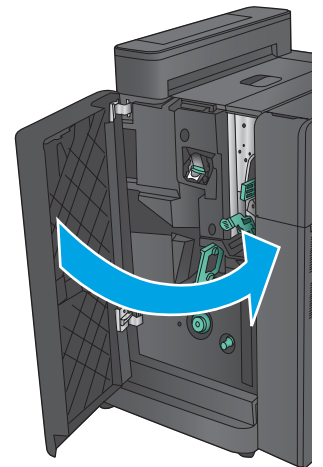
15. Remove all paper from the lower booklet door area.



16. Close the lower booklet door.

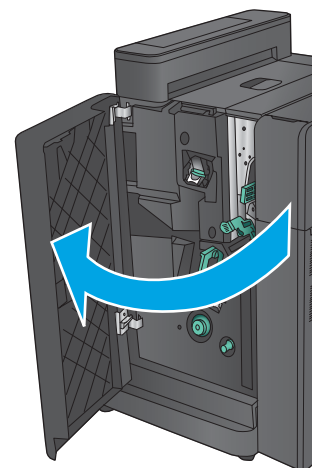


17. Close the front left door.

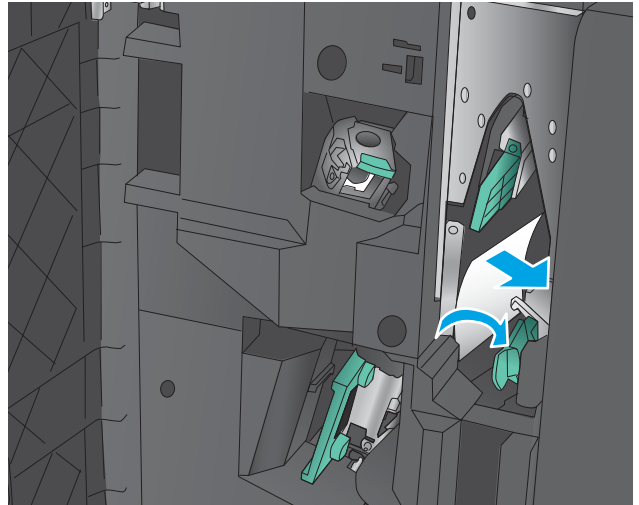


### Clear stapler 2 or 3 jams in the booklet maker

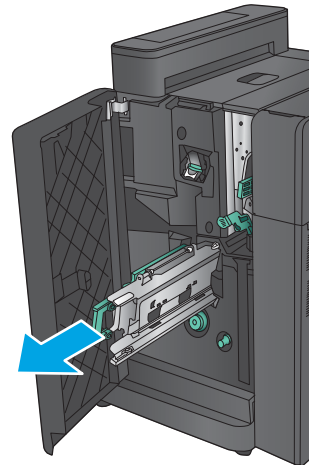
1. Open the front left door.



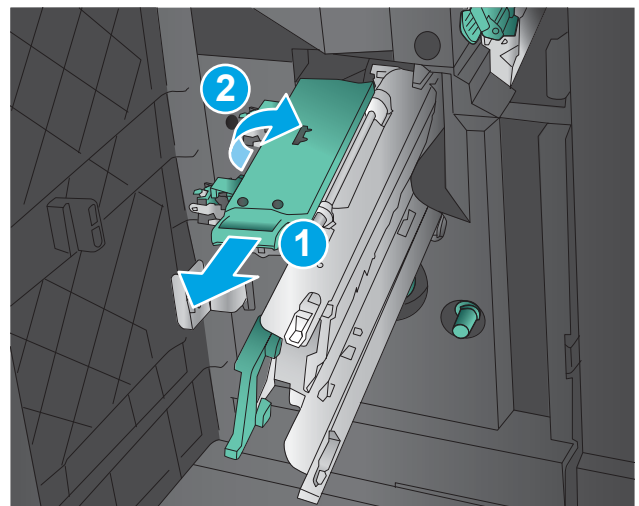
2. Move the lower jam-release lever to the right, and then remove any paper. Move the lower jam-release handle to the left.



3. Grasp the green handle and pull the staple carriage out.

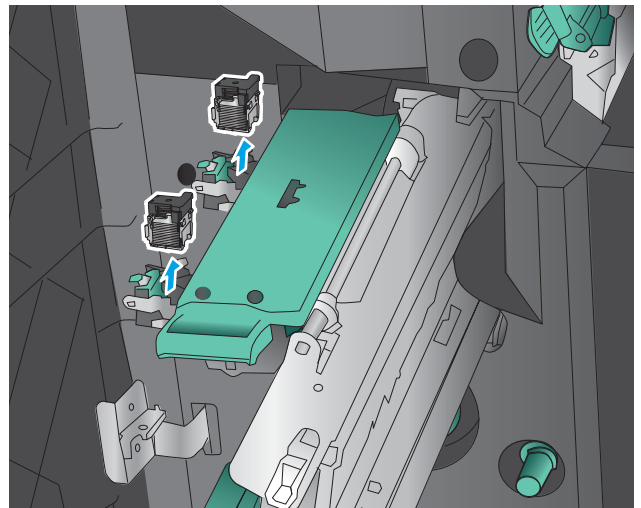


4. Pull the green handle of the stapler unit toward you and rotate it upward. Push the handle in to lock it in the open position.

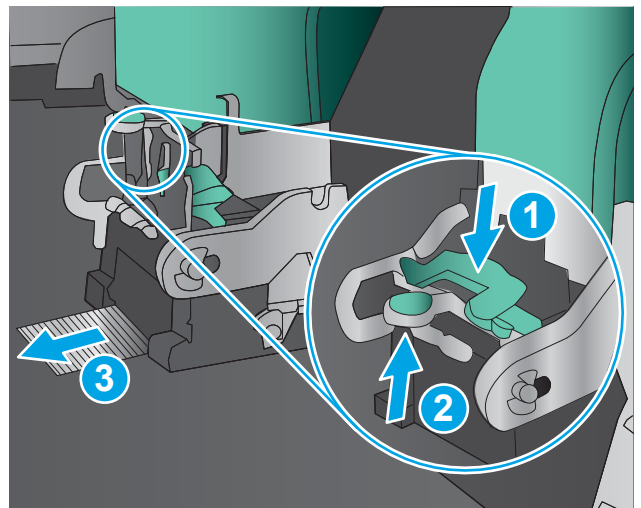




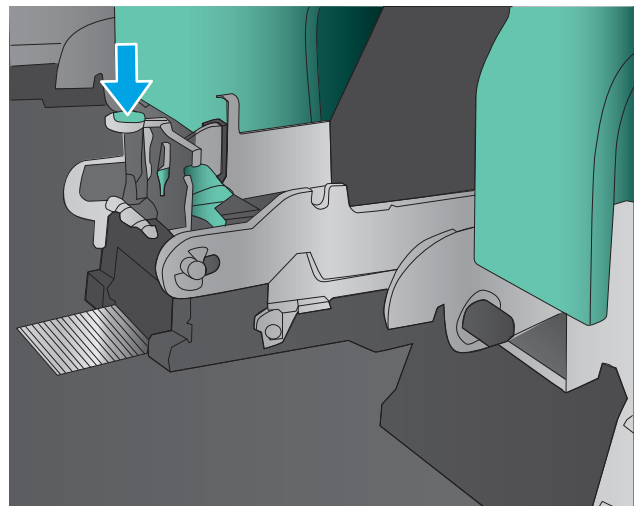
5. Grasp the edges of each staple cartridge and firmly pull up to remove the staple cartridges from the staple cartridge unit.



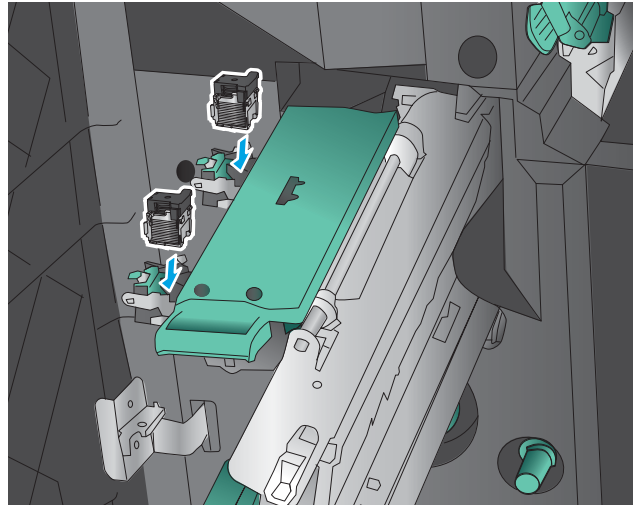
6. Press down on the jam-release at the back of the saddle-staple cartridge, push up on the plate at the front of the cartridge, and then remove any jammed staples.



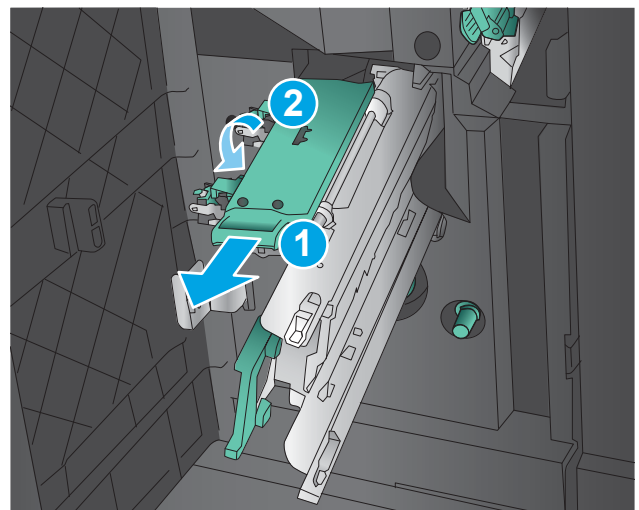
7. Press down on the front of the saddle-staple cartridge close it.



8. Insert the staple cartridges.

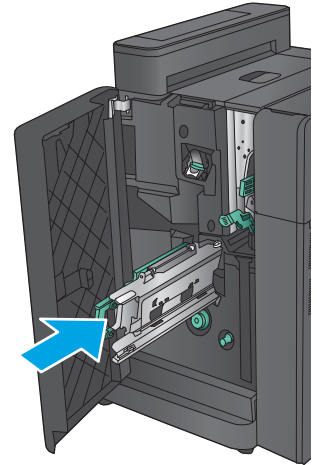


9. Pull the handle of the staple cartridge unit toward you and rotate it downward to its original position. Lock it into position by pushing in the handle.

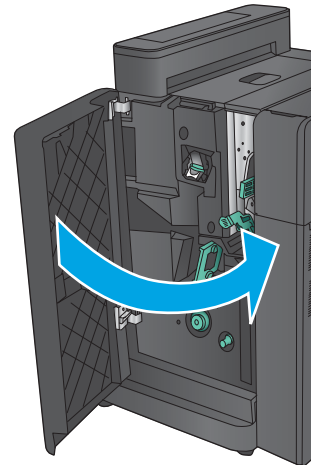


10. Push the saddle-stitch carriage in.

**NOTE:** If the saddle-stitch carriage does not easily slide into the finisher, the staple unit is not closed properly. Pull the saddle-stitch carriage out of the finisher and reseal the stapler unit.



11. Close the front left door.



## 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 \(M880\)](#)
- [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 (M880)

- 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.
- **M880 product:** 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 2-75 Print modes under the Adjust Paper Types submenu**

Print Mode

- Plain
- HP EcoSMART 90g
- HP EcoSMART 120g
- HP EcoSMART 150g
- HP EcoSMART 200g
- HP Soft Gloss 120g
- HP Glossy 120g
- HP Glossy 150g
- HP Glossy 200g
- Lite 60-74g
- Intermediate 85-95g
- Mid-Weight 96-110g
- Heavy 111-130g
- Extra Heavy 131-175g
- Card Stock 176-220g
- MidWtGlossy 96-110g
- Heavy Glossy 111-130g
- XHvyGlossy 131-175g
- Card Glossy 176-220g
- Color Transparency
- Labels
- Letterhead
- Envelope
- Heavy Envelope
- Pre Printed
- Pre Punched
- Colored
- Bond
- Recycled
- Rough
- Heavy Rough
- Opaque Film
- Restore Modes

**NOTE:** Not all print modes are available for all paper types.

**Table 2-76 MP modes under the Optimize submenu**

Normal	<p>Use <b>Normal</b> when the product prints on smoother media with <b>Normal Media</b> mode is used.</p> <p><b>Normal</b> changes the second transfer bias and the fuser temperature.</p>
Light Media	<p>This is designated when fuser wrap jams are observed with light media, most likely in high humidity.</p> <p>The product reduces the fuser fixing temperature (which can result in loss of fixing performance).</p> <p><b>NOTE:</b> Applies to all print modes, however, only the following modes might actually require this mode: <b>Normal</b>, <b>Light 2</b>, <b>Light Rough</b>, and <b>Gloss 1</b>.</p>
Heavy Paper	<p>Use <b>Heavy Paper</b> when the product prints on smoother media when <b>Heavy Media 2</b> or , <b>Heavy Media 3</b> mode is used.</p> <p><b>Heavy Paper</b> changes the second transfer bias and the fuser temperature.</p>
Envelope Control	<p>Use <b>Envelope Control</b> when envelope sticking occurs.</p> <p><b>Envelope Control</b> changes the fuser temperature.</p>
Talc Paper	<p>Use <b>Talc Paper</b> when cleaning failure due to paper dust occurs.</p> <p><b>Talc Paper</b> changes the control of when the ITB stops.</p>
Environment	<p>Set to <b>Normal</b> 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>Use <b>Line Voltage</b> when the product is operating in a region where the power voltage is 100 Vac.</p> <p>This mode optimizes fuser conditions to accommodate the lighter media that is usually printed on in a 100 Vac region (for example, Japan).</p> <p>This mode reduces the potential of the product to slow down because cannot fully heat the fuser in a low voltage operating environment.</p> <p><b>Line Voltage</b> improves fuser temperature performance. The <b>Normal</b> mode operates at a lower fuser temperature when the product is at full throughput.</p>
Tray 1	<p><b>Alternate 1</b> compares length of image designated by EC-M0 and the length of detected media for the page designated as Universal size, and when this determines that the image is shorter than the media, it executes T2 cleaning after job is completed. Conducts T2 cleaning when job is completed, in cases where the Universal size is designated and the designated image length and actual media size are different.</p> <p><b>Alternate 2</b> causes T2 cleaning to be performed every time a job is completed when Universal Size is selected.</p>



**Table 2-76 MP modes under the Optimize submenu (continued)**

Background	<p>Set to <a href="#">Alternate 1</a> when a background occurs all over the page. This changes the D blade bias and charging bias.</p> <p>Set to <a href="#">Alternate 2</a> when a background of thin vertical lines occur on the page. This changes the D blade bias and charging bias. This turns off the pre-exposure LED.</p>
Uniformity Control	<p>Set to <a href="#">Alternate 1</a> when mottle occurs with all modes (Transfer Mottle). This changes the first transfer bias.</p> <p>Set to <a href="#">Alternate 2</a> when mottle occurs with <a href="#">Normal Media</a> mode or <a href="#">Light Media 1</a> mode is selected. This changes the print speed (slower) and adjusts the fuser temperature.</p>
Tracking Control	<p>Use <a href="#">Tracking Control</a> to disable tracking control.</p>
Transfer control	<p>Set to <a href="#">Alternate 1</a> when re-transfer occurs. This changes the first transfer bias.</p> <p>Set to <a href="#">Alternate 2</a> when developer ghosting occurs. This changes the RS roller bias.</p>
Restore Optimize	<p>Use <a href="#">Restore Optimize</a> to reset the menu defaults.</p>





# Solve image quality problems

Often print-quality problems can be resolved easily by making sure that the product is well-maintained, using paper that meets HP specifications, or running a cleaning page.


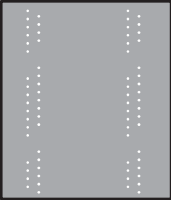

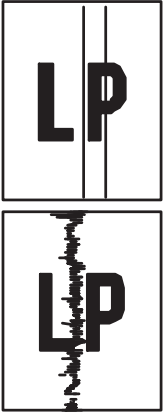
## Image defects table

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 2-77** Image defects table

Problem	Sample	Cause	Solution
Print is light or faded on entire page.		Poor contacts exist on the ITB unit and the product grounding unit.	Clean the grounding contacts. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts.
		Poor secondary transfer contacts exist on the secondary transfer roller and the ITB.	Clean the contacts. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts.
Print is light or faded in a particular color.		Poor primary transfer bias contacts on the ITB unit and product.	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.
		Poor primary charging bias contacts with the toner cartridge and product.	Replace any deformed or damaged parts.
		Poor developing bias contacts with the toner cartridge and product.	
Print is too dark.		The CPR/density (RD) sensor is defective.	Replace the CPR/density sensor.
Page is blank.		The high-voltage power-supply lower is defective (no developing bias output).	Replace the high-voltage power supply.

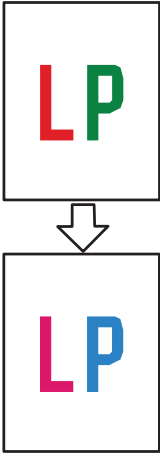


**Table 2-77 Image defects table (continued)**

Problem	Sample	Cause	Solution
The page is solid 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 the image.		The primary transfer roller is deformed or has deteriorated. The secondary transfer roller is deformed or has deteriorated.	Replace the ITB. Replace the secondary transfer roller assembly.
The back of the page is dirty.		The secondary transfer roller is dirty. The fuser inlet guide or separation guide is dirty. The pressure roller is dirty.	Replace the secondary transfer roller. Clean the dirty parts. If the dirt does not come off, replace the guide. Run the cleaning page several times. If the issue persists, replace the fuser.
Vertical streaks or bands appear on the page.		Scratches are present on the circumference of the developing cylinder or photosensitive drum. Scratches are present on the circumference of the fuser roller. Scratches are present on the circumference of the ITB. The ITB drive roller is deformed or has deteriorated. The ITB cleaning mechanism is malfunctioning.	Replace the toner cartridge of the color that matches the defect. Replace the fuser. Replace the ITB.


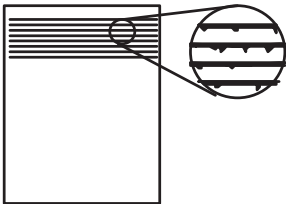


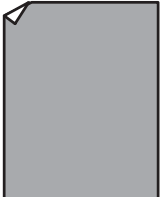
**Table 2-77 Image defects table (continued)**

Problem	Sample	Cause	Solution
Vertical white lines appear in a particular color.		A unknown substance has adhered to the laser beam window	Remove any unknown substances.
		Scratches are present on the circumference of the developing roller or photosensitive drum.	Remove the affected toner cartridge and re-install it. The PGCs will clean the glass.  If the problem persists, replace the affected toner cartridge.
		<b>M880 product only:</b> White scratch down the page could mean the scanner glass needs to be cleaned.	Clean the glass.
		The laser/scanner-unit mirror is dirty.	Replace the laser/scanner assembly.
Vertical white lines appear in all colors.		Horizontal scratches on the fuser roller.	Replace the fuser.
		Scratches are present on the circumference of the ITB.	Remove the affected toner cartridge and re-install it. The PGCs will clean the glass.
		White scratch down the page could mean the scanner glass needs to be cleaned.	Replace the ITB.
Horizontal lines appear on the page.		Repetitive horizontal lines appear.	Use the repetitive defects ruler to identify the dirty roller. Clean the roller. If the roller cannot be cleaned, replace the fuser.
		Horizontal scratches are present on the photosensitive drum.	Replace the toner cartridge of the color that matches the defect.
		Horizontal scratches are present on the fuser roller.	Replace the fuser.
A horizontal white line displays on the page.		Repetitive horizontal white lines appear.	Use the repetitive defects ruler to identify the dirty roller. Clean the roller. If the roller cannot be cleaned, replace the roller.
		Horizontal scratches are present on the photosensitive drum.	Replace the toner cartridge of the color that matches the defect.
		Scratches are present on the circumference of the ITB.	Replace the ITB.


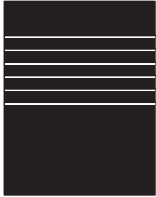
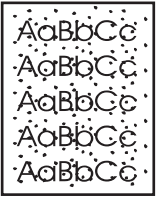
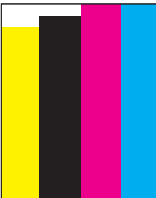


**Table 2-77 Image defects table (continued)**

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.
		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.
		The fuser roller is deformed or has deteriorated.	Replace the fuser.
		The high-voltage power-supply PCA is defective (no transfer bias output).	Replace the high-voltage power-supply.
The toner is not fully fused to the paper.		The fuser roller or pressure roller is scarred or deformed.	Replace the fuser.
		The fuser control circuit is defective.	Replace the fuser PCA.
		The thermistor is defective.	Replace the fuser.
		The fuser heater is defective.	

**Table 2-77 Image defects table (continued)**

<b>Problem</b>	<b>Sample</b>	<b>Cause</b>	<b>Solution</b>
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 main drive assembly.
		The CPR/density (RD) sensor is defective.	Open and close the front door several times to clean the CPR/density (RD) sensor. If the problem persists, replace the CPR/density (RD) sensor.
		The laser/scanner unit is defective.	Replace the laser/scanner assembly.
		The toner cartridge is defective.	Replace the toner cartridge of the affected color.
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 2-77 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 cartridges.</p> <p>Execute a <a href="#">Pressure roller clean mode</a> procedure. If the dirt does not come off, replace the fuser.</p> <p><b>NOTE:</b> 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 appear.			<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 on them.			<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><b>NOTE:</b> 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>
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>
Vertical density variations appear in a particular color.		<p>The surface of the photosensitive drum has deteriorated.</p> <p>The laser/scanner is defective.</p>	<p>Replace the toner cartridge associated with the defect.</p> <p>Replace the laser/scanner assembly</p>
Repetitive white spots appear in the image.		<p>Repetitive white spots appear in the image.</p>	<p>See the repetitive image defect ruler. Clean the indicated roller. If the contaminant does not come off, replace appropriate roller or assembly.</p>

**Table 2-77** Image defects table (continued)

<b>Problem</b>	<b>Sample</b>	<b>Cause</b>	<b>Solution</b>
		The secondary transfer roller is deformed or has deteriorated.	Replace the secondary transfer roller assembly.
		An unknown substance has adhered to the primary charging roller or photosensitive drum.	Replace the toner cartridge associated with the defect.
		The ITB is dirty.	Print approximately 20 pages with a solid colored image.
		The ITB is damaged.	Replace the ITB.



## 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.

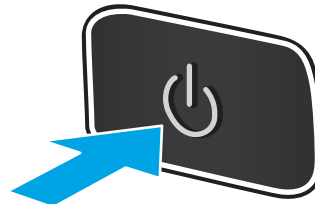
Use the following procedure to print a cleaning page.

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.

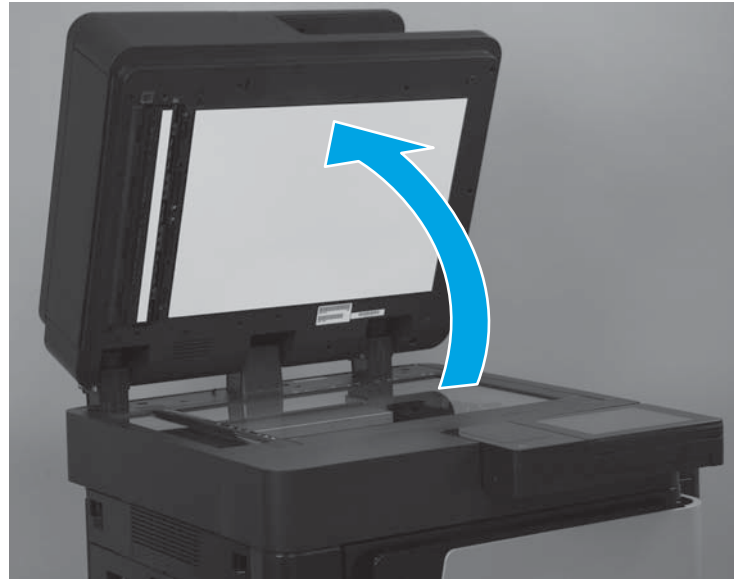
## Check the scanner glass for dirt or smudges (M880)

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.



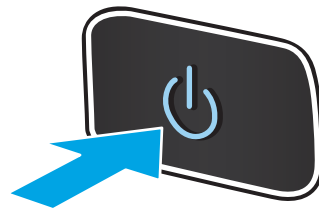
3. Clean the main scanner glass (callout 1), the document-feeder glass (the small strip of glass on the left side of the scanner, callout 2), and the white backing (callout 3). Use a soft cloth or sponge that has been moistened with nonabrasive glass cleaner. Dry the glass and white plastic backing by 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.

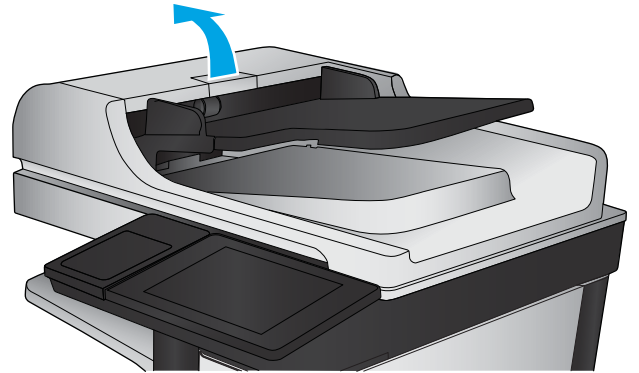
**NOTE:** See this English-language video for a demonstration of how to identify and clean debris that causes streaks on copies:  
[www.youtube.com/watch?v=CGn7FJvH8sE](http://www.youtube.com/watch?v=CGn7FJvH8sE).

4. Connect the power cable to an outlet, and then press the power button to turn on the product.

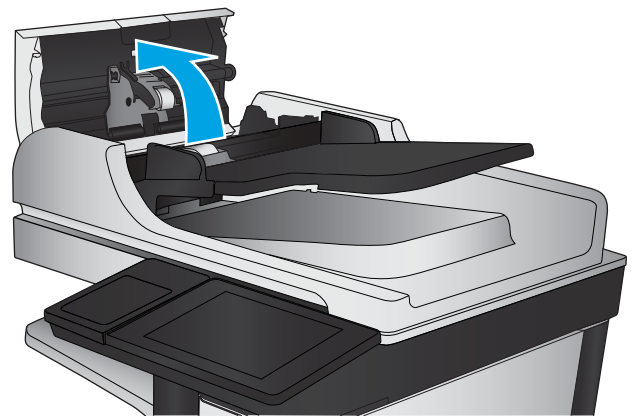


## Clean the pickup rollers and separation pad in the document feeder (M880)

1. Lift the document-feeder latch.

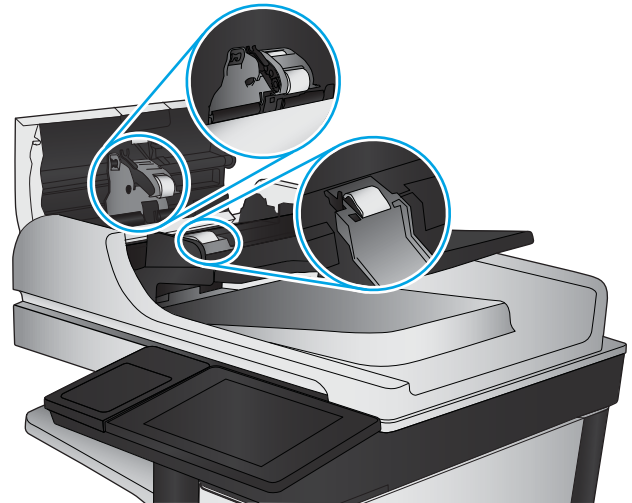


2. Open the document-feeder cover.



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.

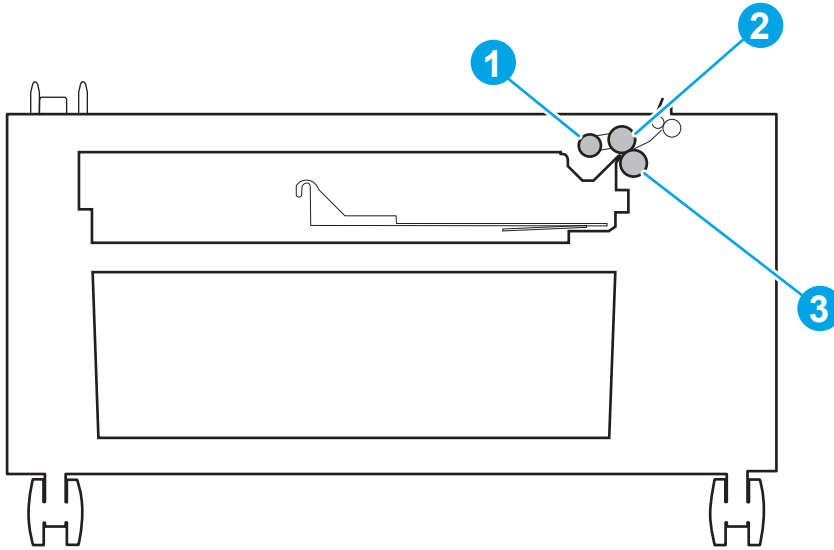
If the error persists, install a document feeder roller kit (C1P70A).

## Clean the pickup, feed, and separation rollers in the 1X500-sheet paper feeder

Remove the tray and locate the rollers in the feeder.


- Pickup roller (callout 1)
- Feed roller (callout 2)
- Separation roller (callout 3)

Remove any visible lint or dust from each of the rollers using compressed air or a clean lint-free cloth moistened with warm water.



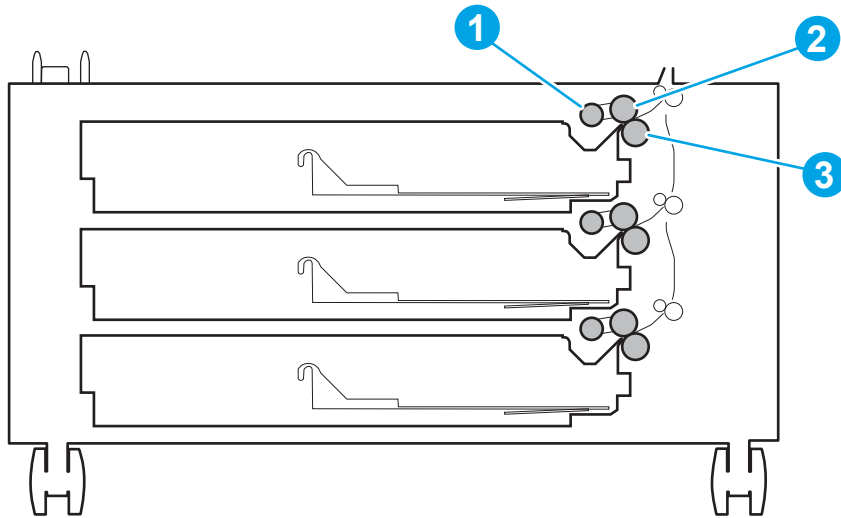
## Clean the pickup, feed, and separation rollers in the 3X500-sheet paper feeder

Remove the trays and locate the rollers in the feeder.

 **TIP:** There is one set of rollers for each tray.


- Pickup rollers (callout 1)
- Feed rollers (callout 2)
- Separation rollers (callout 3)

Remove any visible lint or dust from each of the rollers using compressed air or a clean lint-free cloth moistened with warm water.



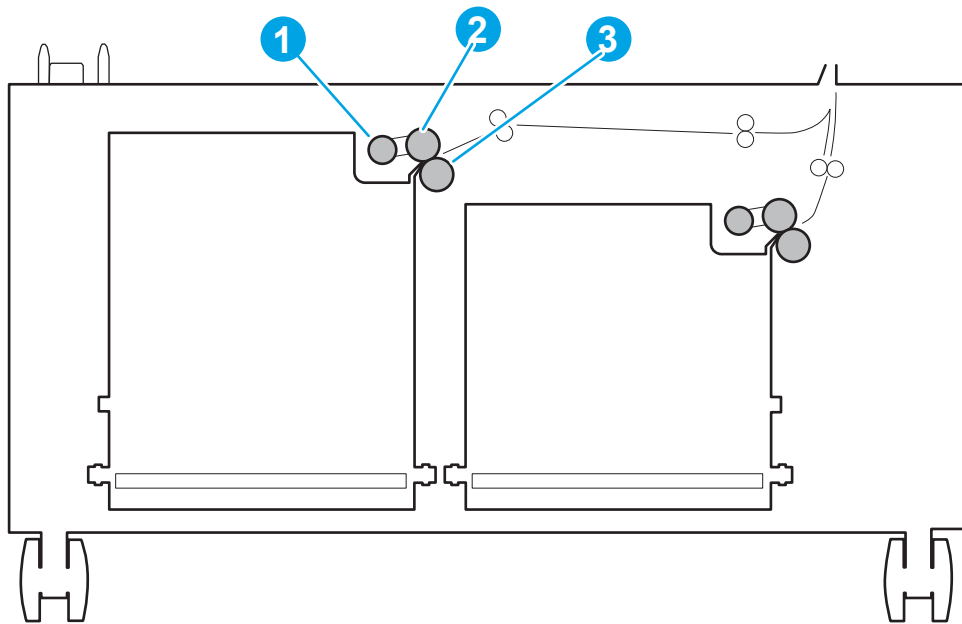
## Clean the pickup, feed, and separation rollers in the HCI feeder

Remove the trays and locate the rollers in the feeder.

 **TIP:** There is one set of rollers for each tray.

- Pickup rollers (callout 1)
- Feed rollers (callout 2)
- Separation rollers (callout 3)

Remove any visible lint or dust from each of the rollers using compressed air or a clean lint-free cloth moistened with warm water.

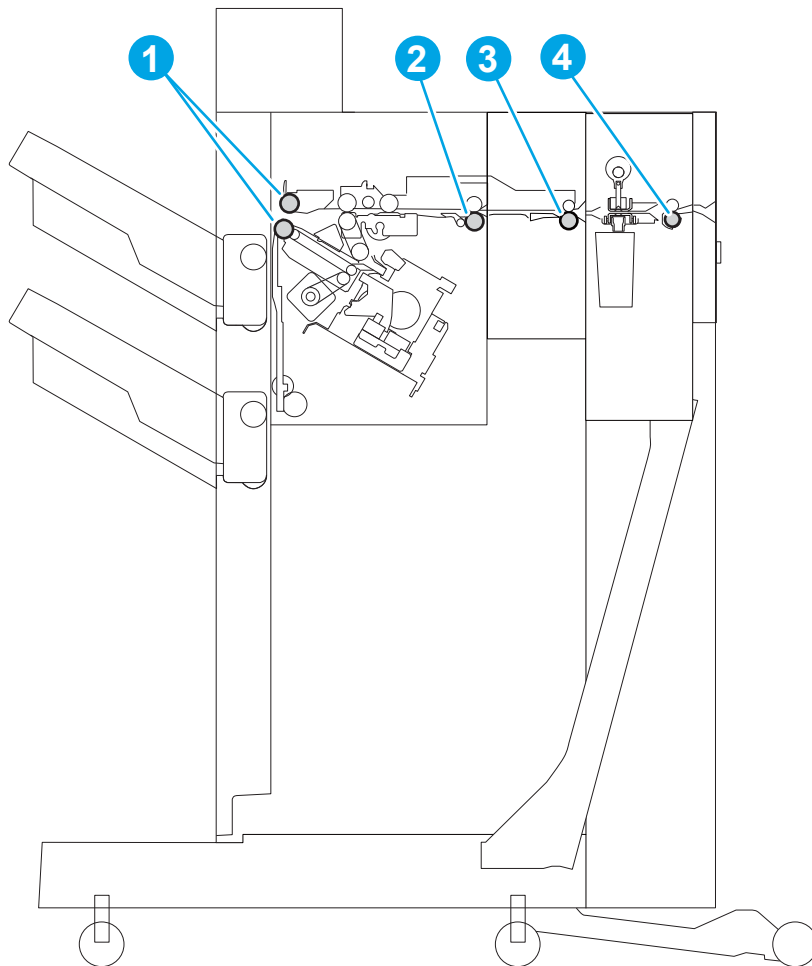


## Clean the rollers in the stapler/stacker and stapler/stacker with hole punch

Locate the rollers in the stapler/stacker accessory.

- Stack ejection rollers (callout 1)
- Inlet roller (callout 2)
- Inlet roller 1 (callout 3)
- Registration roller 1 (callout 4)

Remove any visible lint or dust from each of the rollers using compressed air or a clean lint-free cloth moistened with warm water.



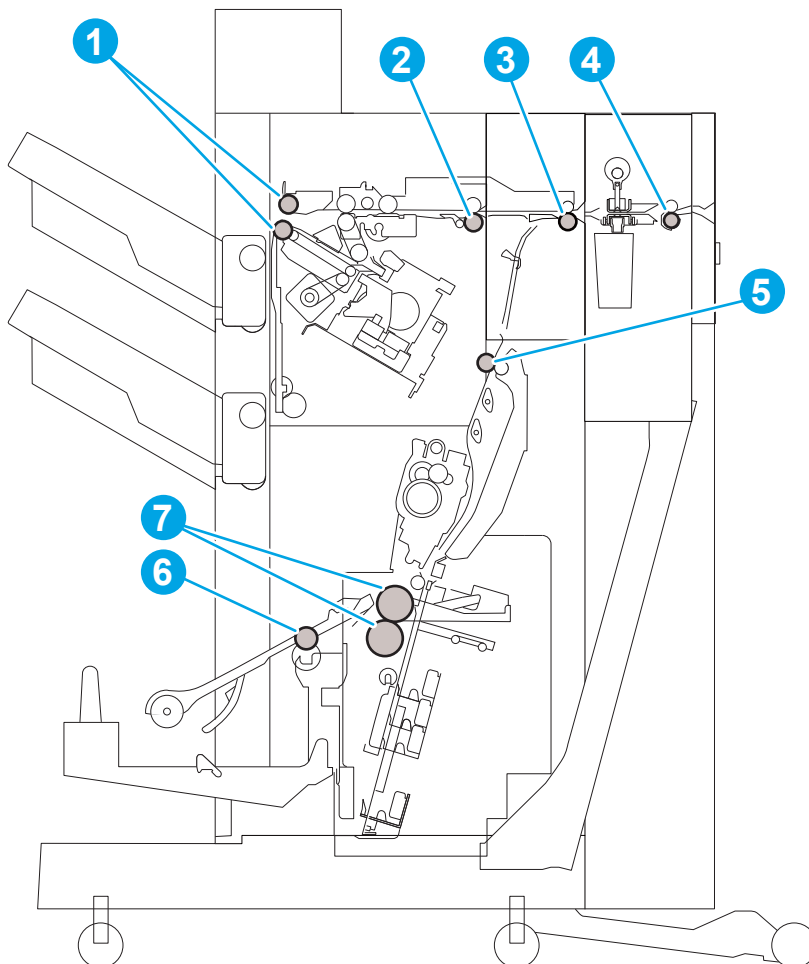


## Clean the rollers in the booklet maker and booklet maker with hole punch

Locate the rollers in the booklet maker and booklet maker with hole punch accessory.

- Stack ejection rollers (callout 1)
- Inlet roller (callout 2)
- Inlet roller 1 (callout 3)
- Registration roller 1 (callout 4)
- Inlet roller 2 (callout 5)
- Saddle delivery roller 1 (callout 6)
- Paper folding rollers (callout 7)

Remove any visible lint or dust from each of the rollers using compressed air or a clean lint-free cloth moistened with warm water.

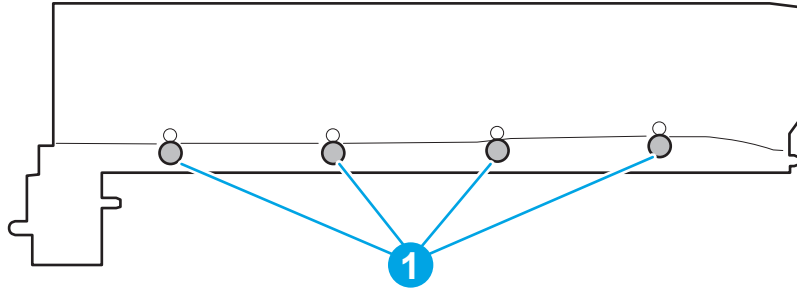


## Clean the rollers in the IPTU.

Locate the rollers in the IPTU.

- Feed rollers (callout 1)

Remove any visible lint or dust from each of the rollers using compressed air or a clean lint-free cloth moistened with warm water.



# Solve performance problems

**Table 2-78 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"> <li>• Disconnect the USB cable at both ends and reconnect it.</li> <li>• Try printing a job that has printed in the past.</li> <li>• Try using a different USB cable.</li> </ul>
	Other devices are running on your computer.	The product cannot 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.

- [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](#)



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

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### Poor physical connection

1. Verify that the 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 network.
  - a. Open a command-line prompt on your computer. For Windows, click **Start**, click **Run**, type `cmd`, and then press **Enter**.
  - b. Type `ping` followed by the IP address for your product.  
  
For Mac OS X, open the Network Utility, and then supply the IP address in the correct field in the **Ping** pane.
  - 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 these settings in automatic mode (the default setting). If you change these settings, you must also change them for your network.

### New software programs might be causing compatibility problems

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

### The computer or workstation might be set up incorrectly

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

### The 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 one of the following service access code for your product:
  - **M855:** 11085513
  - **M880:** 11088013

The following menu items appear in the [Service](#) menu:

**Table 2-79** [Service](#) menu

First level	Second level	Value	Description
<a href="#">Print Event Log</a>			Allows you to print or view the product event log.
<a href="#">View Event Log</a>			
<a href="#">Clear Event Log</a>			Use this item to clear the product event log.

**Table 2-79 Service menu (continued)**

First level	Second level	Value	Description
Cycle Counts	Total Engine Cycles		Set the page count that was stored in NVRAM prior to installing a new formatter.
	Refurbish Cycle Count		Use this item to record the page count when the product was refurbished.
	Document Feeder Kit Count (M880 only)		Total number of pages since the document feeder kit was replaced.
	Document Feeder Kit Interval (M880 only)		Use this item to set the interval that causes the product to prompt the customer to replace document feeder maintenance kit.
	Clean Rollers Count (M880 only)		Total number of pages since the document feeder rollers were cleaned.
	Clean Rollers Interval (M880 only)		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 (M880 only)		Set the total pages fed through the document feeder.
	Flatbed Count (M880 only)		Set the total pages scanned from the flatbed.
	ADF Simplex Count (M880 only)		Set the total single-sided pages fed through the document feeder.
	ADF Duplex Count (M880 only)		Set the total two-sided pages fed through the document feeder.
	Copy Scan Count (M880 only)		Set the total copy pages that have been scanned.
	Send Scan Count (M880 only)		Set the number of scanned pages sent to email.
	Fax Scan Count (M880 only)		Set the number of scanned pages that have been faxed.
	Copy Pages Count (M880 only)		Set the number of scanned pages that have been printed.
	Duplex Feed Cycle Count		Set the number of duplex pages that have been printed.

**Table 2-79 Service menu (continued)**

First level	Second level	Value	Description
Scanner Settings  <b>NOTE:</b> M880 product only.	ADF Settings	Leading-edge	Set the calibration values.
		Trailing-edge	<b>WARNING!</b> Do not change these values unless instructed to do so.
		Left Side Front	
		Left Side Back	
	Glass Settings	Leading edge glass	Set the calibration values.
		Left Side Glass	<b>WARNING!</b> Do not change these values unless instructed to do so.
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 Duplex Roller			Set this item to <b>Yes</b> if the duplexing feed assembly is replaced.
Media Sensor Value			Use this item to record the media sensor value found on a replacement paper pickup assembly.



**Table 2-79 Service menu (continued)**

First level	Second level	Value	Description
PTT Test Mode  <b>NOTE:</b> M880 product only.	Hook Operations	Off Hook	Test the internal modem for the analog fax accessory.
		On Hook	
	Generate Random Data	Select a value from the list.	
	Generate DTMF Tone Burst	Select a value from the list.	
	Generate DTMF Continuous Tone	Select a value from the list.	
	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	Service test options.
		Save to Disk	
	Continuous Copy	2-sided	
		Save to Disk	
	Raw Scan	2-sided	
	<b>NOTE:</b> M880 product only.	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. A verification message advises that completing the reset function might result in loss of data. Touch the [Reset](#) button to complete the process.



---

**NOTE:** The product restarts automatically after the reset operation completes.

---

### 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.  $287 \text{ divided by } 30 = 9 \text{ with a remainder of } 17$ . Because there is a remainder, add 1 to 9 to get 10, which represents October.
3. The remainder in step 2 is 17, so that is the date.
4. The complete date is 17-October-2002.




---

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


---

## 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.

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 **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.

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#### 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](#).

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- 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.

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- 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.

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# Solve fax problems (M880)

- [Checklist for solving fax problems](#)
- [General 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."



**NOTE:** Verify that the phone jack is connected to the fax port rather than to the network port. The ports are similar.

- **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:** A business-environment phone system. Standard home phones and the fax accessory use an analog phone signal. Some PBX systems are digital and might not be compatible with the fax accessory. You might need an interfacing Analog Telephone Adapter (ATA) to connect the fax machine to digital PBX systems.
- **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.

## 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 <sup>1</sup>	The analog-fax accessory is installed and ready.
Operational / Disabled <sup>1</sup>	The fax accessory is installed, but you have not configured the required fax settings yet.  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.  <b>NOTE:</b> If LAN fax is enabled, the <a href="#">Fax</a> feature is unavailable on the product control panel.
Non-Operational / Enabled/Disabled <sup>1</sup>	The product has detected a firmware failure. Upgrade the firmware.
Damaged / Enabled/Disabled <sup>1</sup>	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.

<sup>1</sup> 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

The following are some common fax problems.

### The fax failed to send

JBIG is enabled, and the receiving fax machine does not have JBIG capability.

Turn off the JBIG setting.

### 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 to cancel a fax, 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 HP MFP Digital Sending Software Configuration utility to enable the fax address book feature.

### 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.

# Product upgrades

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

- In the US, go to [www.hp.com/support/colorljM855](http://www.hp.com/support/colorljM855) or [www.hp.com/support/colorljflowMFPM880](http://www.hp.com/support/colorljflowMFPM880). Click **Drivers & Software**.
- Outside the US, follow these steps:
  1. Go to [www.hp.com/support](http://www.hp.com/support).
  2. Select your country/region.
  3. Click **Drivers & Software**.
  4. Enter the product name (HP Color LaserJet Enterprise M855 and/or HP Color LaserJet Enterprise flow MFP M880), and then select **Search**.

## 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 `xxxxxxxx.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.


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 **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.

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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)



**NOTE:** Make sure that the USB port is enabled.

---

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.

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**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 `xxxxxxx.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 `xxxxxxx.bdl` file on it into the USB port on the front of the product, and then touch the **OK** button.
6. Touch the `xxxxxxx.bdl` file, and then touch the **Upgrade** button.



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**TIP:** If there is more than one `xxxxxxx.bdl` file on the storage device, make sure that you select the correct file for this product.

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7. When the product prompts you to confirm the upgrade, touch the **Upgrade** button.

When the upgrade is complete, the product will initialize.



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**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.



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# 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 Color LaserJet Enterprise M855 and/or HP Color LaserJet Enterprise flow MFP M880	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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TO YOU.

## 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.



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**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.

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## HP anticounterfeit Web site

Go to [www.hp.com/go/anticounterfeit](http://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](http://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 ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)). This product includes software written by Tim Hudson ([tjh@cryptsoft.com](mailto: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

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Get telephone support for your country/region	Country/region phone numbers are on the flyer that was in the box with your product or at <a href="http://www.hp.com/support/">www.hp.com/support/</a> .
Have the product name, serial number, date of purchase, and problem description ready.	
Get 24-hour Internet support	<a href="http://www.hp.com/support/colorjM855">www.hp.com/support/colorjM855</a> or <a href="http://www.hp.com/support/colorjflowMFP880">www.hp.com/support/colorjflowMFP880</a>
Download software utilities, drivers, and electronic information	<a href="http://www.hp.com/support/colorjM855">www.hp.com/support/colorjM855</a> or <a href="http://www.hp.com/support/colorjflowMFP880">www.hp.com/support/colorjflowMFP880</a>
Order additional HP service or maintenance agreements	<a href="http://www.hp.com/go/carepack">www.hp.com/go/carepack</a>
Register your product	<a href="http://www.register.hp.com">www.register.hp.com</a>

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## B Product specifications

- [Physical specifications](#)
- [Power consumption, electrical specifications, and acoustic emissions](#)
- [Environmental specifications](#)
- [Certificate of Volatility](#)

# Physical specifications

## HP LaserJet Enterprise M855

**Table B-1 Physical specifications, with toner cartridge**

Product	Height	Depth	Width	Weight
M855dn	613 mm (24.1 in)	703 mm (27.7 in)	714 mm (28.1 in)	85.2 kg (187.8 lb)
M855xh	1000 mm (39.4 in)	703 mm (27.7 in)	714 mm (28.1 in)	121.3 kg (267.4 lb)
M855x+	1000 mm (39.4 in)	703 mm (27.7 in)	714 mm (28.1 in)	124.2 kg (273.8 lb)

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

Product	Height	Depth	Width
M855dn	673 mm (26.5 in)	1168 mm (46 in)	1219 mm (48 in)
M855xh	1067 mm (42 in)	1168 mm (46 in)	1219 mm (48 in)
M855x+	1067 mm (42 in)	1168 mm (46 in)	1219 mm (48 in)

## HP LaserJet Enterprise Flow M880

**Table B-3 Physical specifications, with toner cartridges and imaging drums**

Product	Height	Depth	Width	Weight
M880z	1208 mm (47.6 in)	754 mm (29.7 in)	714 mm (28.1 in)	149.6 kg (329.8 lb)
M880z+	1208 mm (47.6 in)	754 mm (29.7 in)	714 mm (28.1 in)	152.6 kg (336.4 lb)

**Table B-4 Product dimensions with all doors, trays, and document feeder fully opened**

Product	Height	Depth	Width
M880z	1593 mm (62.7 in)	1168 mm (46 in)	1219 mm (48 in)
M880z+	1593 mm (62.7 in)	1168 mm (46 in)	1219 mm (48 in)

## Accessories

**Table B-5** Accessory dimensions

Product	Height	Depth	Width	Weight
1x500 sheet feeder	422 mm (16.6 in)	716 mm (28.2 in)	704 mm (27.7 in)	25.1 kg (55.3 lb)
3x500 sheet feeder	422 mm (16.6 in)	716 mm (28.2 in)	704 mm (27.7 in)	36.1 kg (79.6 lb)
3,500-sheet high-capacity input tray	424 mm (16.7 in)	699 mm (27.5 in)	704 mm (27.7 in)	39 kg (85.9 lb)
Stapler/stacker	1095 mm (43 in)	671 mm (26 in)	686 mm (27 in)	54.6 kg (120.4 lb)
Stapler/stacker with hole punch	1095 mm (43 in)	671 mm (26 in)	812 mm (32 in)	61.7 kg (136.0 lb)
Booklet maker	1095 mm (43 in)	671 mm (26 in)	686 mm (27 in)	76.3 kg (168.2 lb)
Booklet maker with hole punch	1095 mm (43 in)	671 mm (26 in)	812 mm (32 in)	83.4 kg (183.9 lb)

## Power consumption, electrical specifications, and acoustic emissions

See [www.hp.com/support/colorljM855](http://www.hp.com/support/colorljM855) and or [www.hp.com/support/colorljflowMFPM880](http://www.hp.com/support/colorljflowMFPM880) 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-6** Operating-environment specifications

Environment	Recommended	Allowed
Temperature	17° to 25°C (62.6° to 77°F)	15° to 30°C (59° to 86°F)
Relative humidity	30% to 70% relative humidity (RH)	10% to 80% RH
Altitude	Not applicable	0 to 3048 m (0 to 10,000 ft)



# Certificate of Volatility

Figure B-1 Certificate of Volatility (1 of 2)

Hewlett-Packard Certificate of Volatility				
Model: HP LaserJet Enterprise M855 HP LaserJet Enterprise Flow MFP M880		Part Number: M855dn= A2W77A, M855xh= A2W78A, M855x+= A2W79A/D7P73A M880z= A2W75A, M855x+= A2W76A/D7P71A		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: 2.5 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. (Note: Total memory on formatter consists of 512MB on board and an additional 1GB DIMM, on scanner control board there are 512MB on board and 512MB of DIMM)	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 checked="" type="checkbox"/> Yes <input 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 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	Steps to clear memory: There are several ways to erase this: 1. 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.
Type (HDD, Tape, etc):	Size:	User Modifiable: <input type="checkbox"/> Yes <input type="checkbox"/> No	Function:	Steps to clear memory:

**Figure B-2 Certificate of Volatility (2 of 2)**

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. Print files can be printed via a USB thumb drive.			
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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below			
Purpose: Product contains an integrated WiFi/NFC accessory module consisting of an HP Umber WiFi 802.11n and Near Filed Communication (NFC) radio. The WiFi portion acts in Access Point mode ONLY and provides AP client connection capability. NFC is used to pass NDEF tag data (WiFi SSID, WPA configuration data). The latter is used to enable wireless direct print for mobile devices.			
Frequency: 2.4Ghz to 2.5Ghz ISM band (WiFi); 13.56mhz ISO/IEC 18000-3 (NFC)	Bandwidth: 1Mhz Bandwidth (WiFi); 14Khz bandwidth (+-7Khz off center 13.56Mhz) (NFC)		
Modulation: DSSS / OFDM modulation (WiFi)	Effective Radiate Power (ERP): Power output max is 20dBm for WiFi; (Note: Power out max for WiFi can be different in some regions and controlled by FW). Power output is 23dBm, into an 50 ohm transformer, for NFC; (Note: There will be some "loss" in the antenna and therefore this is not all radiated in to the air.)		
Specifications: WiFi has 13 Channel support (@ a spacing of 20MHz) for B, G, & N modes; NFC is cable of reading / writing via the following speeds: 424 kbit/s Manchester / 10% ASK Manchester, 10% ASK; 212 kbit/s Manchester / 10% ASK Manchester, 10% ASK; 106 kbit/s Modified Miller / 100% ASK Manchester, 10% ASK Integrated module utilizes a USB 2.0 backplane interface.			
Other Transmission Capabilities			
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below:			
Purpose: Product contains an integrated WiFi/NFC accessory module consisting of an HP Umber WiFi 802.11n and Near Filed Communication (NFC) radio. The WiFi portion acts in Access Point mode ONLY and provides AP client connection capability. NFC is used to pass NDEF tag data (WiFi SSID, WPA configuration data). The latter is used to enable wireless direct print for mobile devices.			
Frequency: 2.4Ghz to 2.5Ghz ISM band (WiFi); 13.56mhz ISO/IEC 18000-3 (NFC)	Bandwidth: 1Mhz Bandwidth (WiFi); 14Khz bandwidth (+-7Khz off center 13.56Mhz) (NFC)		
Modulation: DSSS / OFDM modulation (WiFi)	Effective Radiate Power (ERP): Power output max. 20dBm (WiFi); Power output is 23dBm into an 50 ohm transformer (NFC) which translates to a lower. Note: Power out max for WiFi can be different in some regions and controlled by FW.		
Specifications: WiFi has 13 Channel support (@ a spacing of 20MHz) for B, G, & N modes; NFC is cable of reading / writing via the following speeds: 424 kbit/s Manchester / 10% ASK Manchester, 10% ASK; 212 kbit/s Manchester / 10% ASK Manchester, 10% ASK; 106 kbit/s Modified Miller / 100% ASK Manchester, 10% ASK Integrated module utilizes a USB 2.0 backplane interface.			
Other Capabilities			
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below:			
Purpose:			
Specifications			
Author Information			
Name:	Title: Security Technical Marketing Engineer	Email:	Business Unit: IPG
Date Prepared: 09-03-13			

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