



PageWide Pro 352/377, 452/477, and 552/577

Troubleshooting Manual



352
452
552



377
477
577



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HP PageWide Pro 352/377, 452/477, and 552/577

Troubleshooting Manual

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Conventions used in this guide

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

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

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

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

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1 Theory of operation

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Basic operation

Function structure

The printer consists of the following components.

Figure 1-1 Main components (352/452 models)

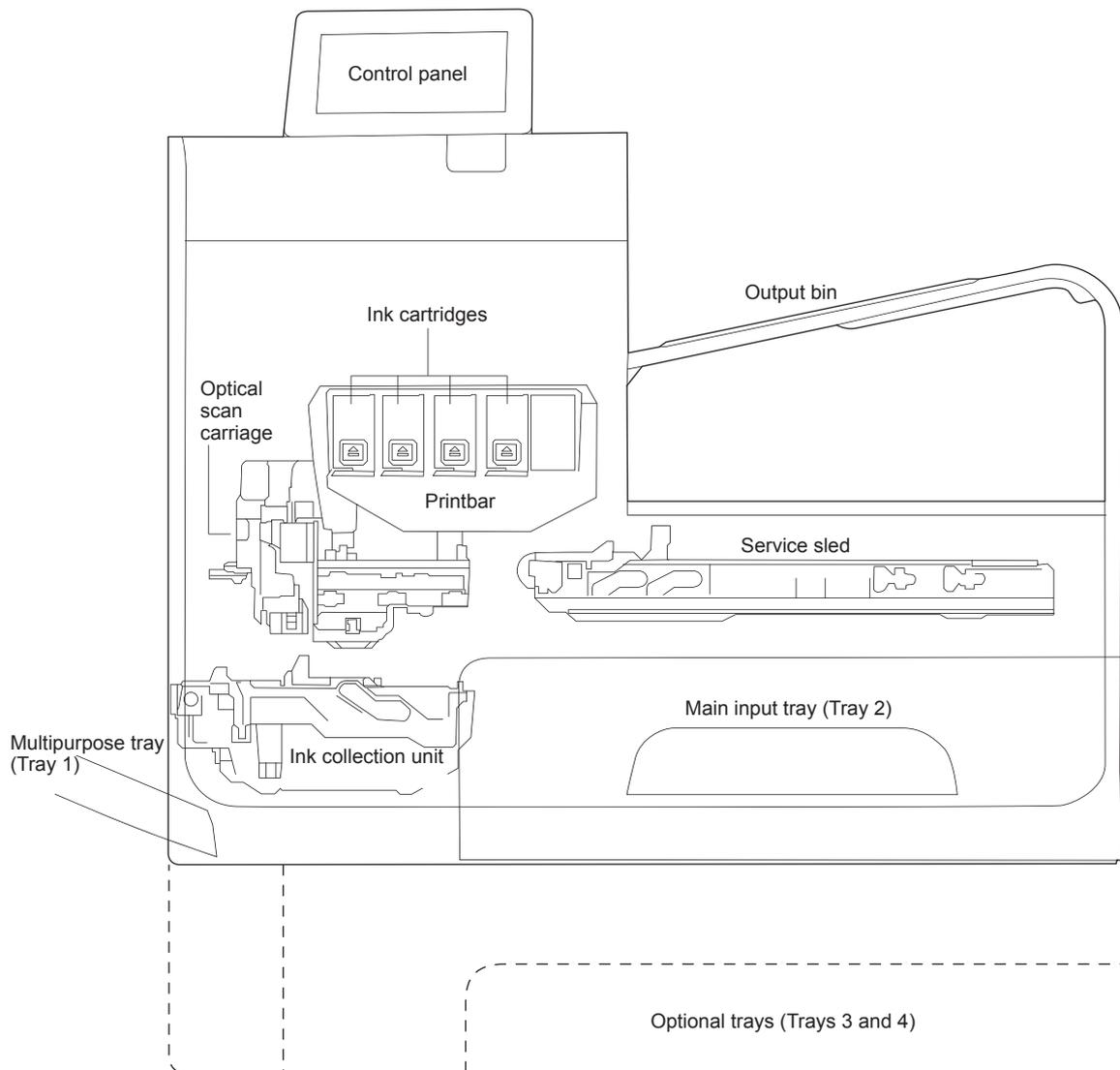


Figure 1-2 Main components (377/477 models)

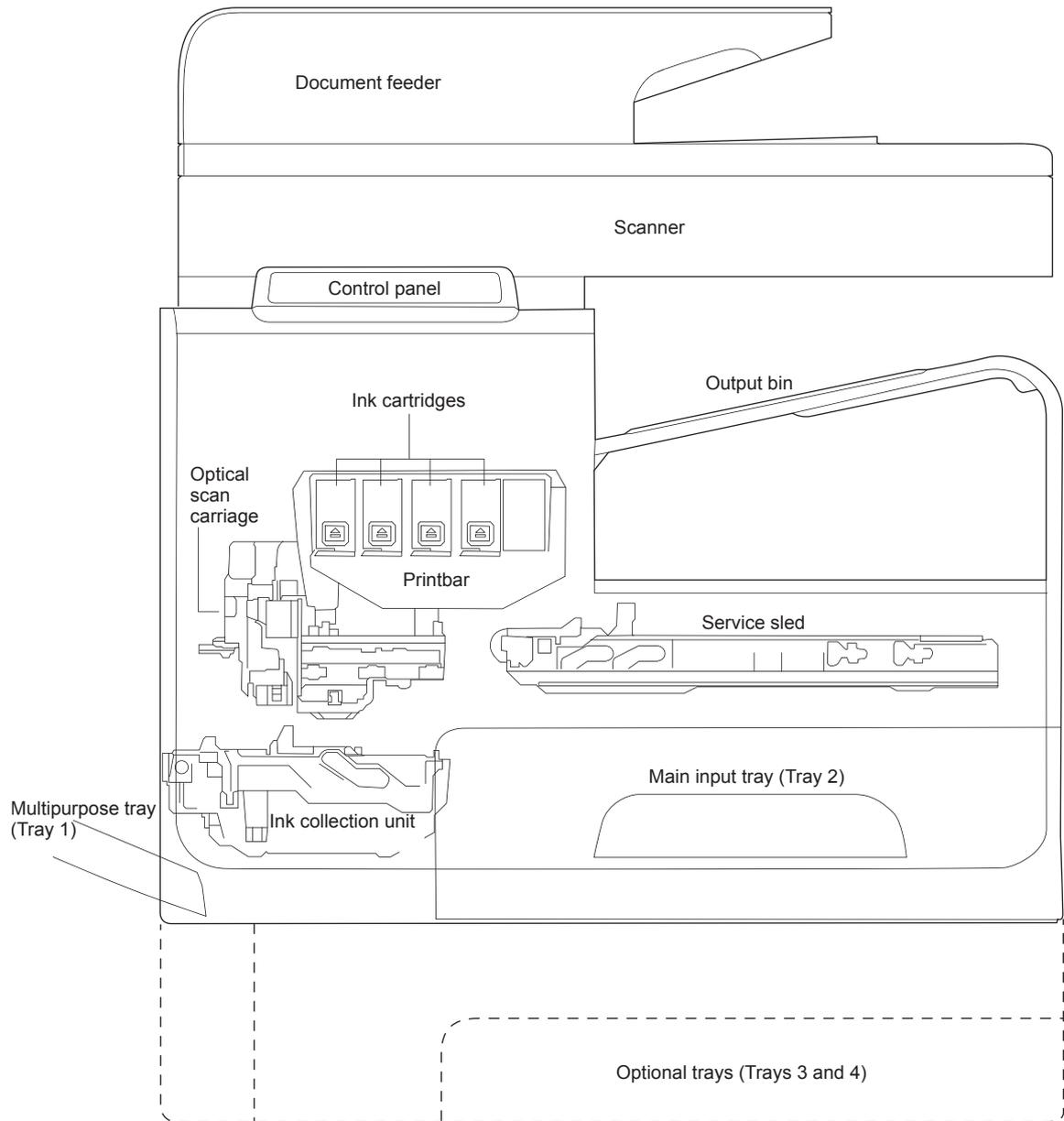


Figure 1-3 Main components (552/P55250 models)

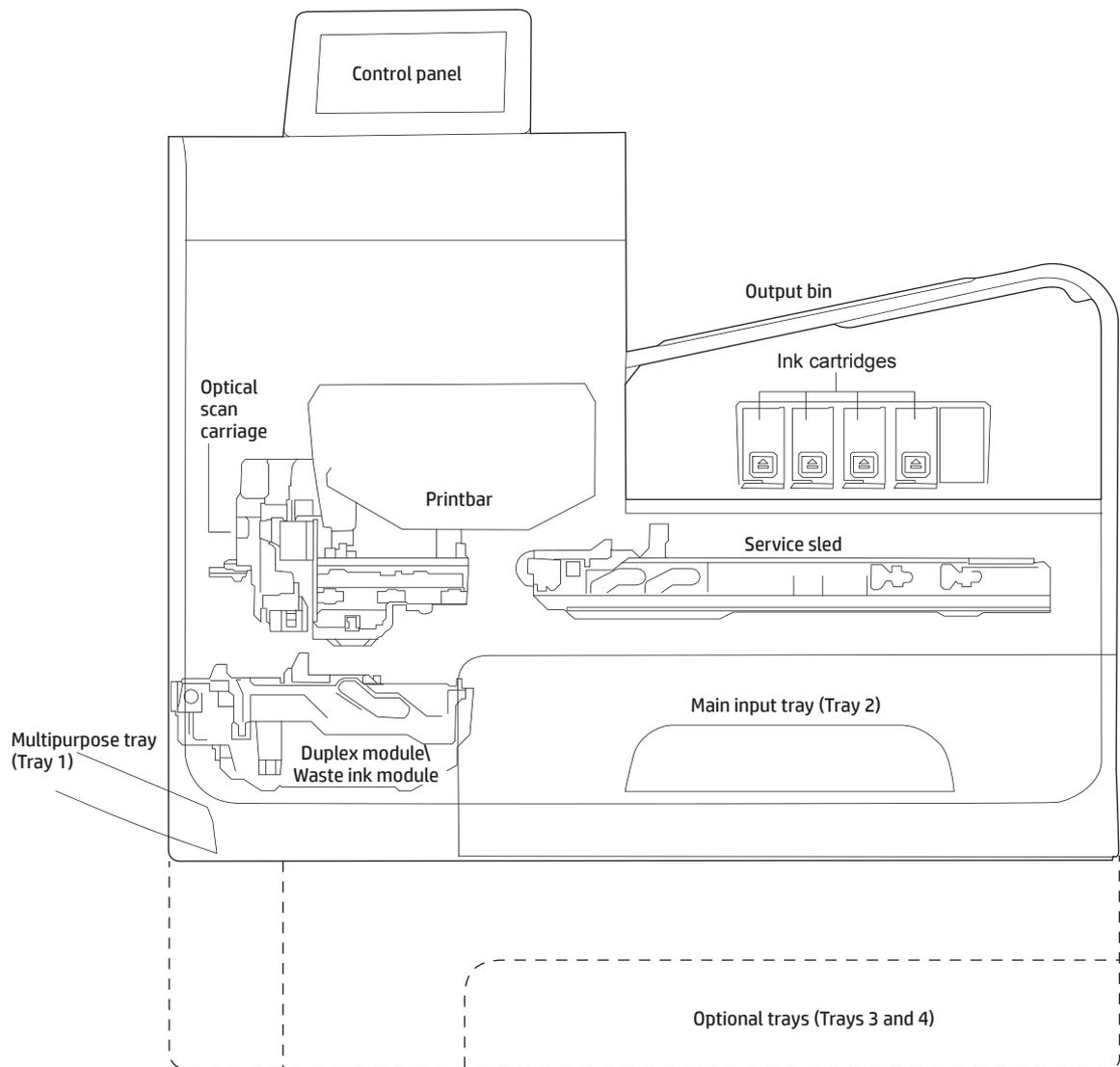
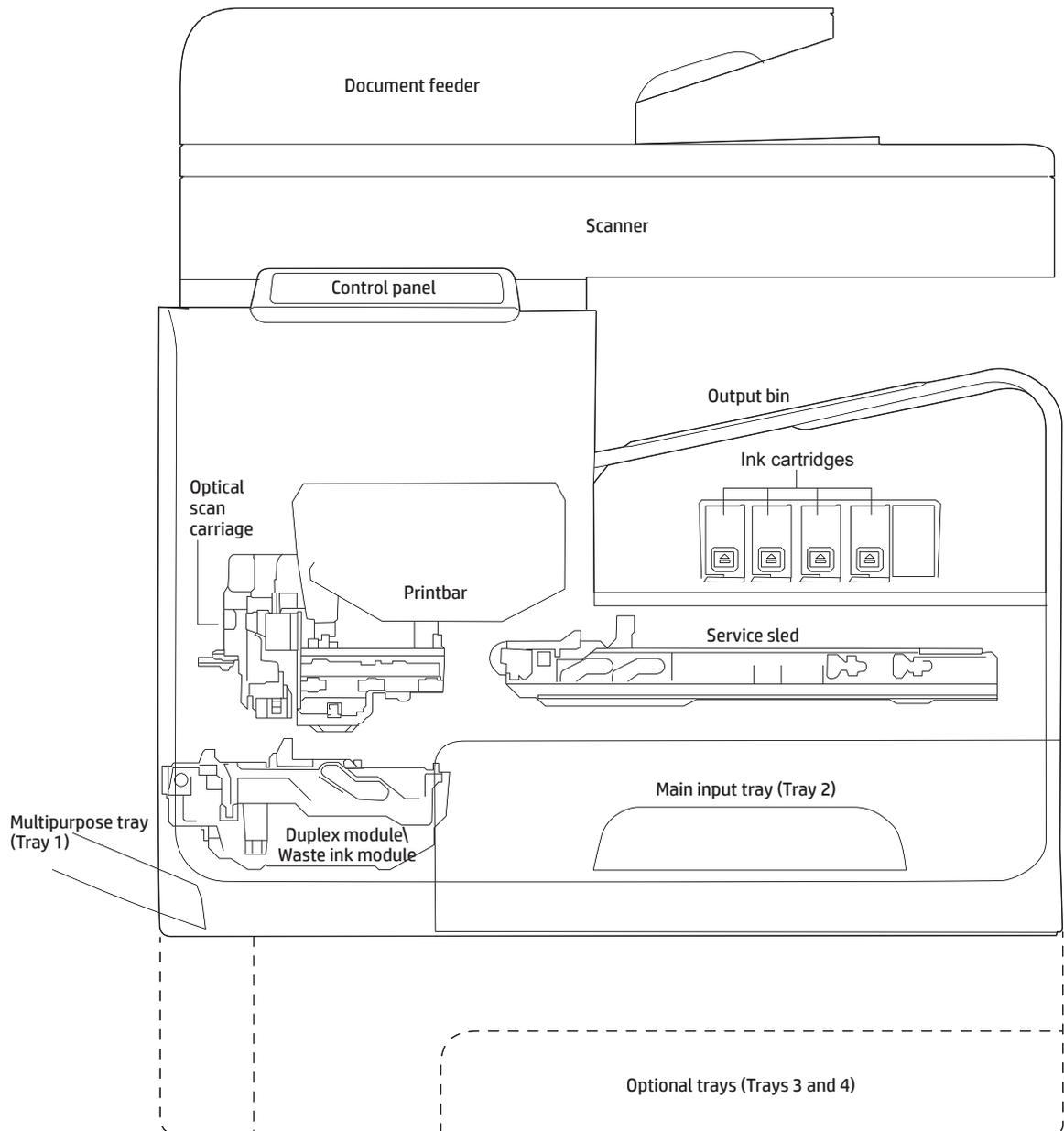


Figure 1-4 Main components (577/P57750 models)



The printer contains the following systems:

- Engine control system
- Print subsystem
- Paper-handling system
- Servicing system
- Aerosol management system
- Scanner and document feeder system

Two elements influence the printer architecture:

- The first is the need to orient the printbar with its active face downwards and statically located above the print media. This requires the printbar to move vertically to access its active face.
- The second is producing face-down output. Rather than ejecting the page face-up immediately after the ink is applied, the printer routes the printed page up and back over the printbar to eject face-down.

Operation sequence

The engine-control system on the formatter PCA controls the operational sequences. The following table describes durations and operations for each period of a print operation from when the printer is turned on until the motor stops rotating.

Table 1-1 Operation sequence

Period	Duration	Purpose
Initial startup and calibrations	When the printer is set up for the first time from the factory.	<p>This period gets the printer ready to print for the first time.</p> <ul style="list-style-type: none"> • Fluid replacement—The printer flushes the shipping and handling fluid out of the printbar and replaces it with ink. • Die alignment—The printer aligns the 10 die on the printbar active face. • Die density leveling—The printer measures and compensates for the drop variation.
Servicing operations	Performed when the printbar is entering the capping state after printing, when leaving the capping state after a print job is initiated, or during extended print jobs.	<p>Servicing maintains print quality by removing debris and excess ink and replacing missing nozzles.</p> <ul style="list-style-type: none"> • Nozzle presence detection—The optical scan carriage detects and disables inoperable nozzles, and replaces them with operable nozzles. • Printbar servicing—The web wipe on the service sled moves under the printbar to clean the active face and fires the nozzles into the ink collection unit to clear clogs.
Print preparation	From the time the printer receives a printer command until paper enters the print zone.	<p>Prepares the printer for a print job.</p> <ul style="list-style-type: none"> • The printbar leaves the capping state as the service sled moves away from the printbar. • If needed, some servicing occurs. • The printbar lowers to the printing position. The media type and printing mode determine the print zone height. • The printer picks media from one of the input trays. • Every page from Tray 1 is scanned. For Tray 2 and optional Trays 3 and 4, the printer performs media edge detection after printing the first sheet after the tray is loaded. The last sheet of each job is also scanned if at least five sheets have been printed. • The printer monitors environmental conditions. The printer can slow the print speed if conditions are significantly different than a normal office environment (23° C (73.4° F), 50% relative humidity). • The formatter PCA processes print data and transmits the data to the printbar.

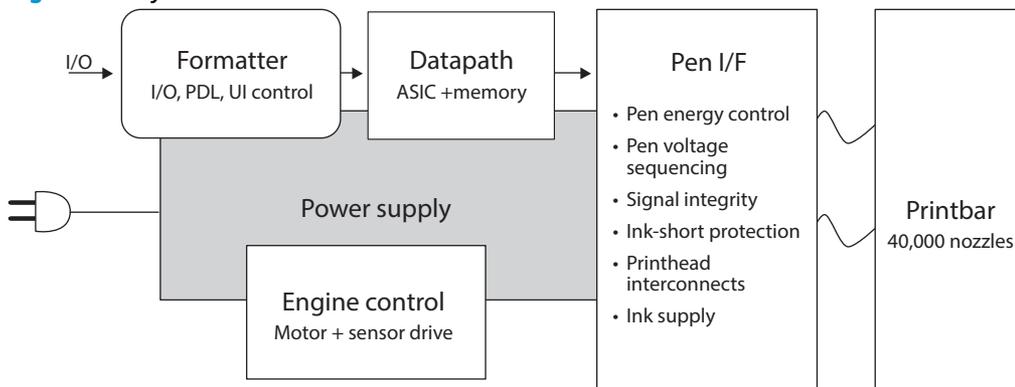
Table 1-1 Operation sequence (continued)

Period	Duration	Purpose
Printing	From the end of the preparation period until the last sheet is delivered.	<p>Processes the print job.</p> <ul style="list-style-type: none">• As the page travels through the print zone, the printbar applies ink to the page.• Simplex print job—the page moves up, over the printbar, and out to the output bin (face-down).• Duplex print job—the page moves up until the trailing edge is 40 mm (1.5 in) past the star-wheel jam reflective sensor. The page reverses direction down through the duplex path and underneath the ink collection unit. Then, it reenters the print zone, where the printbar applies ink to the second side.• The process continues until all the pages of the print job are completed. The process can be interrupted by occasional nozzle presence detection and servicing events, if the job includes many pages.
End of print job	Performed after the print job is completed, and continues until the next job is initiated.	<p>This period puts the printer in a state where it's ready for the next print job.</p> <ul style="list-style-type: none">• If needed, some servicing occurs.• The printbar moves to the capping position after a short dwell interval.• The service sled moves to cap the printbar.
Standby	The printer is sitting idle, waiting for the next print job to be initiated.	<p>This period is intended to conserve energy when the printer is sitting idle. Certain functions might be disabled to save power and then re-started only when needed. The printer has two sleep modes:</p> <ul style="list-style-type: none">• Idle mode—The printbar is capped and the printer is ready to immediately start a new job• Sleep mode—After the printer is inactive for about 10 minutes (a setting that can be adjusted from the control panel or the Embedded Web Server), the control panel turns off and the power LED blinks to indicate the unit is in Sleep mode. All printer functions are available.

System control

The system control coordinates all the other systems, according to commands from the formatter.

Figure 1-5 System control



The system consists of five major sections.

- Formatter
- Data path
- Engine control
- Pen interface
- Power supply

The engine PCA integrates both formatter and engine control electronics onto a single assembly. The wireless radio unit (wireless models only) plugs into the back of the engine PCA, and the fax connects to the PCA via a short flat-flexible cable (FFC).

Formatter and data path

The formatter controller ASIC controls the input/output (I/O) control, the user interface, and the rendering of page description language files into printer-specific commands.

Input/output (I/O) control

The printers support 10/100 Ethernet, 802.11 wireless (HP wireless direct models), a rear USB host port, a control panel USB host port (552/P55250/377/477/577/P57750 models), and an analog fax port (377/477/577/P57750 models). For Ethernet networks, the formatter ASIC uses a separate integrated circuit (Broadcom 5241) to provide the physical network layer.

The formatter ASIC controls the USB device and USB host as well.

Wireless I/O is provided via a separate radio module.

User interface

The printers contain either a 2-inch (352/452 models) monochrome display or an 4.3-inch (552/P55250/377/477/577/P57750 models) color graphics display. An icon on the control panel of wireless models denotes that the wireless feature is enabled. The 552, P55250, 377, 477, 577, and P57750 models include a walk-up USB host port for connection to thumb drives.

Formatter digital ASIC

The formatter digital ASIC contains dual ARM CPUs (1.2 GHz and 600MHz) that execute firmware code that provides high-level device control. The digital ASIC uses a standard PCIe interface to pass data to the engine control ASIC.

Formatter analog ASIC

The formatter analog ASIC generates the system voltage for the formatter, drives the scanner and ADF motors, manages the real-time clock, and drives the fax speaker. Also, the engine uses this ASIC to drive the ISS pumps, solenoids, and aerosol fan.

Real-time clock

The real-time clock (RTC) allows the fax module to time-stamp outgoing faxes. In addition, it determines the elapsed time between printhead and ISS calibration events. The RTC uses a special block inside the engine analog ASIC, along with a crystal and a battery.

Engine control

The engine controller digital ASIC receives high-level commands from the formatter, and it then provides low-level control to the print mechanism. In particular, the engine controller digital ASIC and its firmware control motors, system sensors, and the printbar. The engine controller analog ASIC integrates motor drivers, voltage regulators, sensor interfaces, and supervisory circuits.

Engine controller digital ASIC

The engine controller digital ASIC has a high-performance 480 MHz ARM CPU and DSP co-processors that execute firmware code to provide low-level engine control. It also drives the printbar via 15 high-speed LVDS transmission lines, which are routed from the engine PCA to the printbar via two large FFC cables. The engine controller digital ASIC receives pre-rendered data from the formatter digital ASIC over a standard PCIe interface.

When a product has entered sleep mode, many functions of the printer have gone into a low-power mode. If a print job is received while the product is in sleep mode, the printer will take a short period of time to "wake up". This can take up to 15 seconds, which will delay the first page out (FPO) time accordingly.

Engine controller analog ASIC

The engine uses two analog ASICs to generate the system voltages for the engine, drive the engine motors, control various engine sensors, and monitor printbar power delivery for correct operation.

The engine has seven motors, some of which are shared with other subsystems:

- Pick motor
- Feed motor
- Duplex motor
- Lift motor
- Eject motor
- Sensor carriage motor
- Aerosol fan motor

Each one is a DC motor with encoder feedback, to provide precision servo control. These motors are driven directly by one of the engine analog ASICs. Small DC motors also are used to drive the ISS pump and the aerosol fan. There are solenoids that actuate the ejection flap and the ISS priming system.

The printer uses many sensors to track the media as it travels through the paper path. Most of these are optical REDI sensors, which are used in conjunction with mirrors to sense the presence or absence of paper in a particular location. These are carefully aligned and calibrated at the factory, so care must be taken when servicing these sensors. See the Remove and Replace chapter in the repair manual for more details.

Other printed circuit-board assemblies (PCAs)

In addition to hosting the system ASICs, the engine PCA is home to many circuits needed to interface to sensors and other sub-system components. In some cases, this circuitry is located on a smaller remote PCA (SLB) to optimize cable interconnects.

- Humidity sensor—The humidity sensor causes the printer to adjust printing speed if ambient conditions are outside the optimal humidity range. This sensor is calibrated at the factory to ensure maximum accuracy.
- Temperature sensor—The temperature sensor causes the printer to adjust printing speed if ambient conditions are outside the optimal temperature range. In some printers, this sensor resides on a separate, remote PCA.
- Main tray presence sensor—The hall-effect sensor that detects if the main tray is properly engaged resides on the back of the engine PCA. A small magnet on the back of the main tray actuates the sensor. If the tray is fully engaged, the magnetic field strength is sufficient to trigger the sensor.

Additionally, the printer includes the following PCAs:

- Front USB PCA—This PCA governs the control panel USB port.
- Fax PCA—This PCA governs the printer fax module.
- Duplex module presence sensor—This hall-effect sensor detects whether the duplex module is properly seated.
- Power button PCA—This PCA includes the power button and power LED, as well as interface cables to the duplex module presence sensor and the MP tray empty REDI sensor.
- Accessory tray interconnect PCA—This PCA provides communication to optional Tray 3.
- Pick encoder distribution PCA—This PCA includes the pick motor encoder and the pick motor interconnect cable.
- Eject encoder distribution PCA—This PCA includes the eject motor encoder, plus the interconnect cables to the eject motor and the aerosol fan.
- Print zone distribution PCA—This PCA joins interconnect cables to the following sensors: separator REDI, feed motion encoder, main tray empty sensor, Top of Form (TOF) REDI sensor, and the Print zone REDI sensor.
- REDI distribution PCA—This PCA includes hall-effect sensors that detect ink cartridge door and left door positions. It also combines the interconnect cables for the eject REDI sensor, the upper paper path REDI sensor, the lower paper path REDI sensor, and the eject flap opto flag sensor.
- Sensor carriage PCA—This PCA includes a carriage motion encoder, a ZIM sensor, and the BDD sensor.
- Printbar lift encoder distribution PCA—This PCA includes the printbar lift motion encoder and combines interconnect cables to the printbar lift motor, carriage motor, and eject flap solenoid.

- Duplex encoder PCA—This PCA contains the motion encoder for the duplex motor.
- SHAID PCA—This PCA contains interfaces to the out-of-ink sensors for the ink cartridges, and combines the interface cables to the acumen PCA, the ISS pump, and the ISS solenoids.
- Acumen PCA—This PCA contains interfaces to the acumen memory devices for the ink cartridges.

Pen interface (I/F)

The printbar is the key component that differentiates these printers from other inkjet printers. The conventional approach is to print a page in horizontal swaths by moving a “scanning” printhead horizontally over a fixed sheet of paper, advancing the paper a fixed amount, and then printing the next swath. With these printers, the paper moves underneath a fixed page-wide printhead in a single smooth motion.

Single pass page-wide printing requires that data and power be delivered to the printbar at a very high rate, while also maintaining good control of paper position as it moves past the printhead nozzles.

The engine PCA sends power and data to the printbar via two large flat flexible cables (36 and 38 pins). The printbar PCA routes power and data to 10 printhead die, which are attached to the PCA using a flexible tab circuit and wire-bonding process.

The printers also contain electronics to control the ink supply station (ISS). The SHAID PCA detects low-ink conditions. It gauges ink levels by means of electrically sensing the presence of ink and/or ink foam in the X-chamber. The SHAID PCA also collects and distributes electrical signals that drive the push-prime pump(s), engage the solenoids, and read the ink supply acumen data. All are routed through a single 17-pin FFC from the SHAID PCA to the engine PCA.

Each ink supply has a memory tag that stores information about its type of ink, the amount of ink remaining, and other critical data. It uses a special authentication scheme to ensure that only genuine HP supplies are used and the printer is not damaged by using invalid supplies. Acumen uses a two-line serial bus, which, along with 3.3 V and ground, is cabled via the SHAID PCA to the engine PCA and the engine control digital ASIC.

Power supply

The power supply module converts 100-240 VAC to 34 VDC to power the system. The power supply module has a sleep mode that reduces power consumption in system low-power modes. When in its sleep mode, the power supply generates less than 4 W.

The power supply module supplies 34 V to the engine PCA. The power supply module has two operating modes, depending upon the state of its nSLEEP input pin:

- Printing: = up to 13 W (nSLEEP = high logic level)
- Sleep mode: = < 4 W (nSLEEP = low logic level)

The power supply is a self-contained module that can be replaced if it is determined to be defective (see the Remove and Replace chapter of the Repair Manual).

To ensure safe operation, the power supply will “latch off” if a persistent over-current fault condition exists. This would typically be caused by a short-circuit from 34 V to ground in the printer. Less severe faults can cause the power supply to latch off, if present for an extended period of time, or if the printer is operated above the recommended operating temperature range.

 **NOTE:** In some countries/regions, the printer is equipped with a high-voltage power supply in order to prevent power supply unit failures due to over-voltage conditions.

Print subsystem

The print subsystem includes the following components.

- Printbar
- Printbar lift
- Ink cartridges
- Optical scan carriage

Figure 1-6 Print subsystem components (300/400 series)

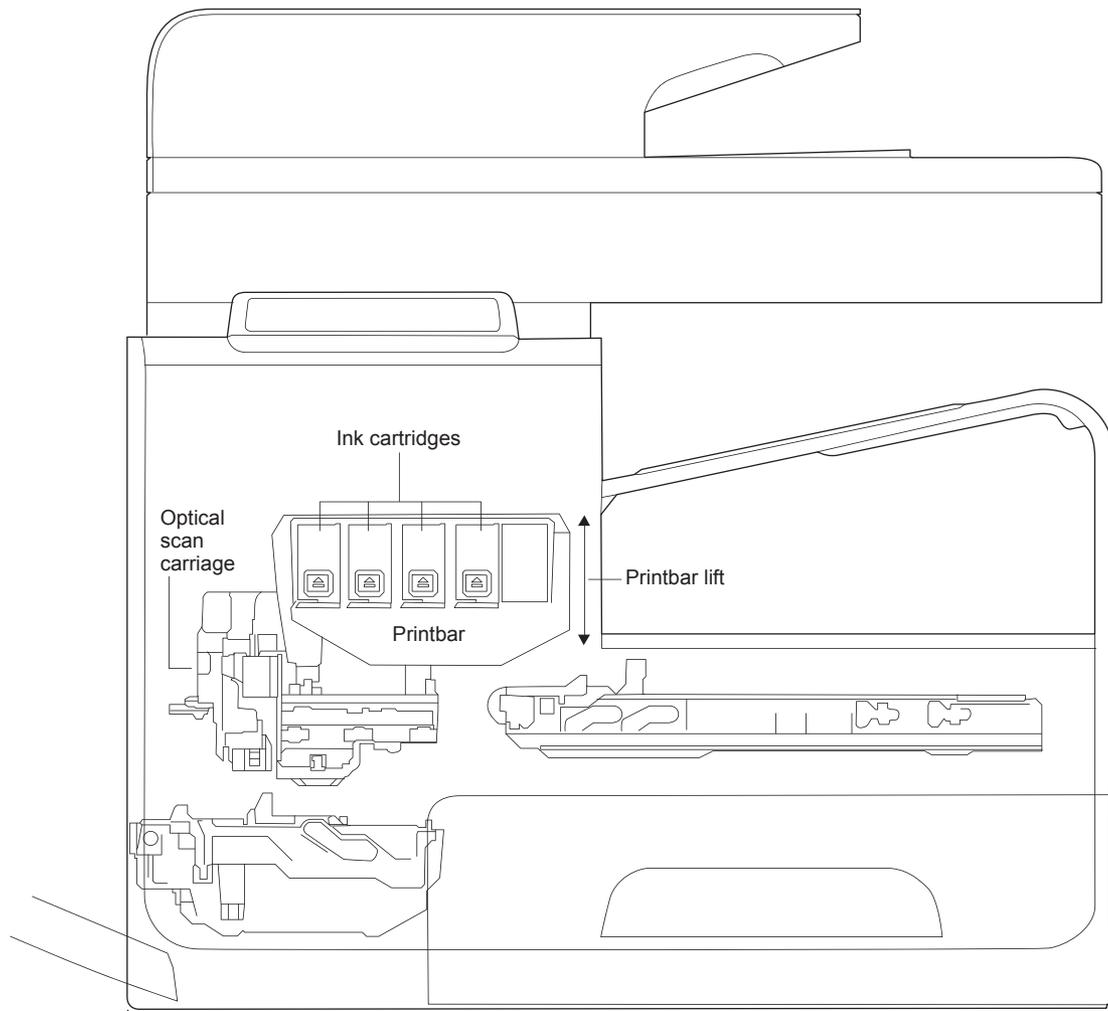
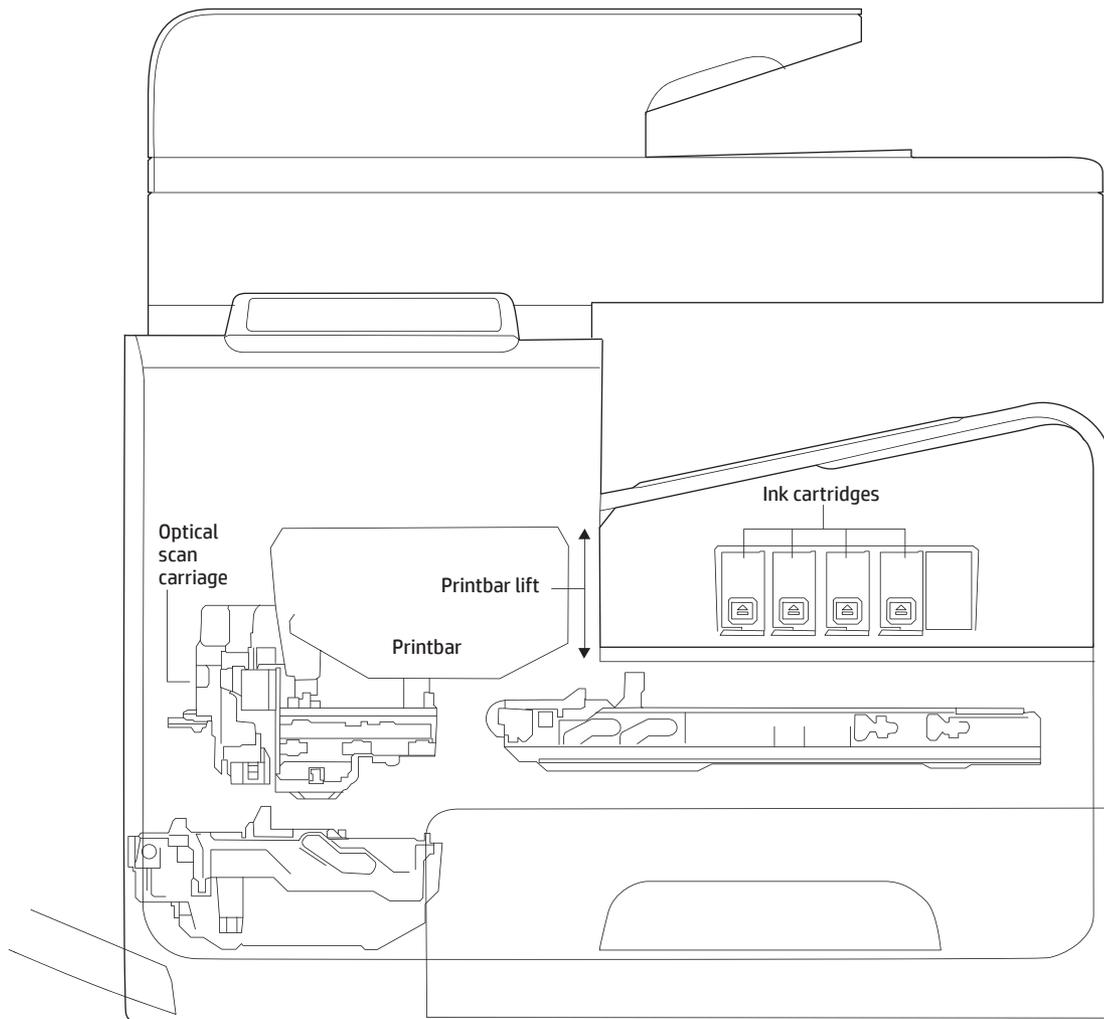


Figure 1-7 Print subsystem components (500 series)



Printbar

The printbar's fundamental purpose is to convert the digital firing instructions from the printer electronics into properly formed and timed microscopic drops of the four ink colors. The printbar spans the full width of a letter/A4-size sheet (216 mm (8.5 in)), which allows the printbar to be statically positioned within the printer and have the media move underneath it, printing the entire page in a single motion.

Figure 1-8 Printbar components

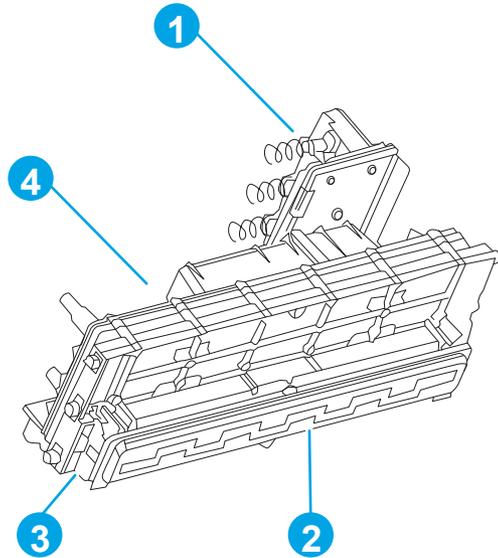


Table 1-2 Printbar components

Item	Description
1	Ink cartridge connections
2	Thermal inkjet (TIJ) die array
3	Data/power flow and regulation
4	Inkflow channels and pressure regulation

The printbar has a fixed array of 10 thermal inkjet (TIJ) die oriented in two staggered rows. Each die contains more than 1,000 nozzles for each of the four ink colors—black (K), cyan (C), magenta (M) and yellow (Y). Behind the die array are the ink flow channels and pressure regulation mechanisms that supply the die array with ink at the proper pressure and flow. The die must also be fed power and data at the appropriate levels and rates, which is the function of the onboard electronic circuitry. Finally, situated at the top of the printbar, there are four ink cartridge receptacles, one for each color. These cartridges are linked by flow connections to the rest of the printbar and supply the ink necessary for its operation.

A sensor technology called back-scatter drop detect (BDD) monitors printbar health and calibrations. This system looks at the reflection of the miniscule drops in flight, and then passes these signals through high-speed, high-gain, bandpass filters. A complex artificial intelligence (AI) system decides which drop ejectors are currently out of specifications, and which are not.

After the AI system determines which drop ejectors are out of specification, the printer compensates for them. Some ejectors use neighboring nozzles and at times even tiny amounts of other inks—whichever combination of methods necessary to deliver the best print quality possible at that moment. In some cases, fully half of the nozzles can be “out” without a noticeable degradation in quality. The compensation is done in real time with a dedicated high-speed DSP. The system can scan portions of the system after print jobs, but it is fully interruptible by new, incoming print jobs.

Printbar air management system

The printbar uses a passive air gain management system. Air can enter the printbar from the following sources:

- Die outgassing (from air in the ink)
- Air entering nozzles due to temperature or pressure variations
- Air entry through the printbar structure
- Air entry through the nozzles due to shipment vibration

Air that enters the printbar is warehoused. There is no mechanism to remove the air in the field. Of the various mechanisms for air entry, the first three are generally benign, and rarely cause issues during the expected life of the printer. The fourth mechanism generally occurs during shipment. New printers are shipped with the printbar taped—which limits the amount of air gained. If the printbar isn't well restrained during shipment, then air gain can be significant. If the printer is shipped after removal of the printbar tape, air gain can be reduced either by ensuring that the printer stays on its base, or that the printbar is restrained. Both would be best.

Printbar lift

The printbar lift is responsible for positioning the printbar within the printer and moving it up and down as required. This vertical motion is both to establish proper spacing to the paper during printing, and to raise it to either access the active face or perform necessary calibrations.

During printing, the lift mechanism sets the printbar height and paper height depending on the type of paper.

Ink cartridges

These printers have new, state-of-the-art pigmented inks. They are filtered using proprietary processes to prevent printhead contamination. These inks are designed to produce optimal print quality on ColorLok office papers, but also produce very good print quality on regular office papers and specialty paper.

Optical scan carriage

The optical scan carriage has optical sensors used for calibration. Its motion is along the long axis of the printbar. These sensors are used by a number of printer calibration features that are important for proper subsystem function. The BDD sensor is located on the optical scan carriage.

Print system operational states

The print subsystem has a number of distinct operational states besides active printing.

Startup

As it comes from the factory, the printbar is initially filled with an inert ink-substitute called Shipping and Handling Fluid (SHF). This fluid, essential for the manufacture and transportation of the printbar, must be flushed and replaced with actual ink. This is accomplished during the Startup phase. The flushing process automatically commences when ink supplies are inserted and the unit is powered up for the first time. The SHF is removed by sustained printbar operation and replaced by ink from the supplies. The process terminates once all the SHF has been flushed from the printbar.

Special host supplies are supplied with the printer prior to its first use. These supplies contain additional ink so that there will be 100 percent ink level after the SHF is replaced with ink. These supplies can be used only to initialize the printer. You cannot use them in another printer that has been initialized.



NOTE: The initial startup time is noticeably longer than the following regular startup times.

Die alignment

Since 10 die comprise the printbar active face, each with associated positional tolerances, an active calibration must be performed to prevent errors and allow a uniform ink application to the paper (without any gaps or overlaps between adjacent die). This die alignment is done by printing a special diagnostic image on a sheet of paper and then scanning it with the optical scan carriage. Die alignment is performed as part of initial unit startup, and can be performed manually as part of the print quality recovery tool.

Die density leveling

Tolerances are also associated with the drops fired by the individual printbar die. Another active calibration measures and compensates for these variations to produce a visually uniform ink application to the paper. Another set of diagnostic images is printed and scanned by the optical scan carriage to achieve this die density leveling. Die alignment and die density leveling are usually paired together.

Nozzle presence detection

In printing, since all the ink is applied in a single smooth motion of the paper past the printbar, any inoperable nozzle can show up as a noticeable streak. The operational state of each of the thousands of nozzles on the printbar is periodically measured. The printbar lift raises the printbar, and the BDD assembly on the optical scan carriage watches for drop presence as each nozzle is fired. Inoperable nozzles are turned off and other operable nozzles are used on subsequent printed pages to apply the missing ink. Nozzle presence detection is fully interruptible by new, incoming print jobs.

Media edge position detection

The printer uses a learning algorithm to define media center as a function of input source—Tray 1, Tray 2, or optional Trays 3 and 4. The edge scan is located downstream of the print zone. As paper is scanned, the media center database is updated. The image is registered to the page using the media center database.

Servicing and capping

When in the capped state, the printbar is fully raised, the service sled is positioned underneath, and the printbar cap is engaged against the printbar active face. Servicing—the cleaning of the active face and the firing of the nozzles—can occur either during Sleep2 mode or after extended time in storage. It can also occur during extended print jobs.

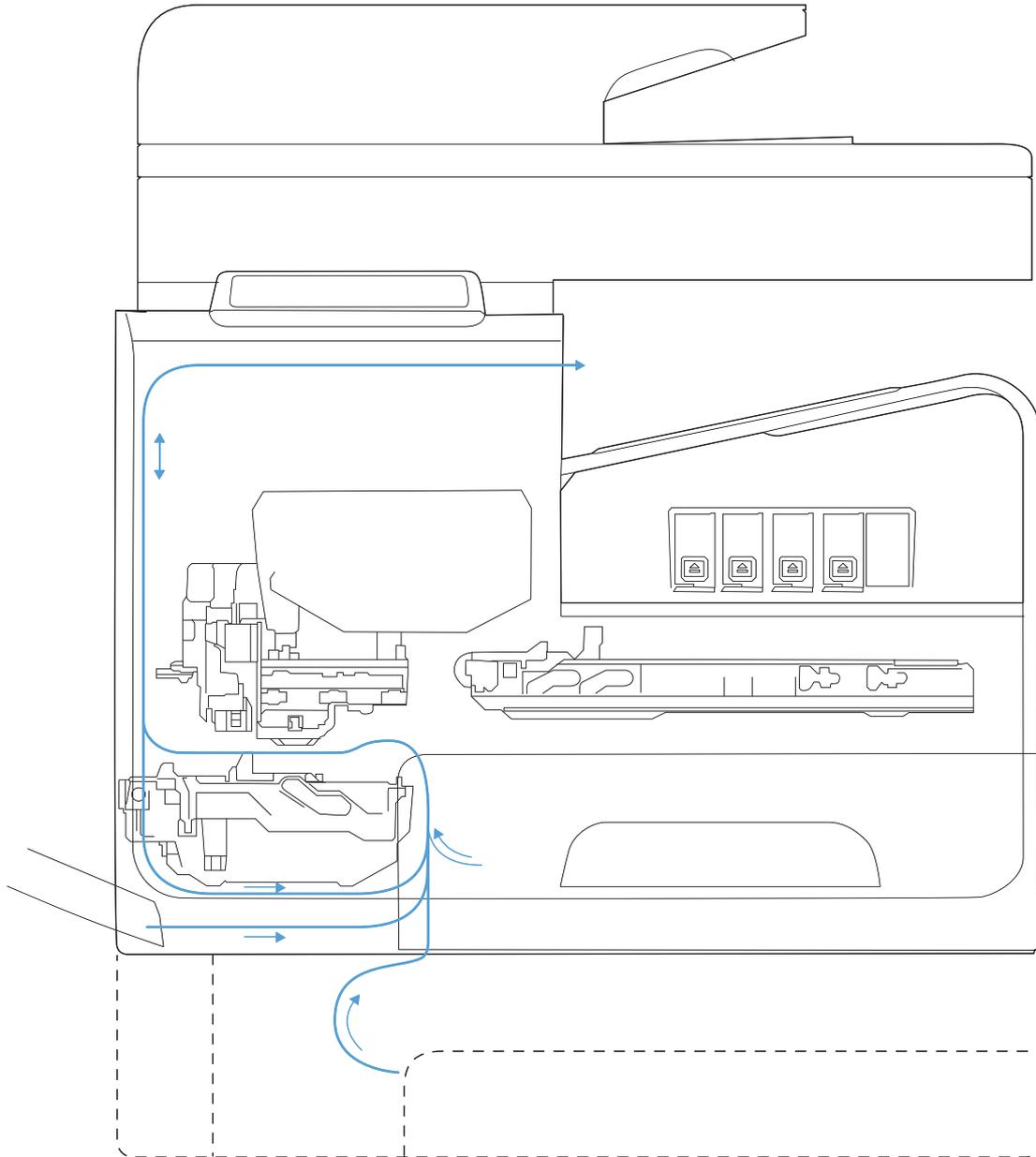
Printing

The printing state begins by the printbar leaving the capping state, and lowering to the printing position after the service sled moves out of the way. At the same time, a sheet of paper is picked from one of the three trays and the leading edge staged at the entrance to the print zone. Once the print data has been sent, the sheet of paper feeds at a constant velocity through the print zone and the printbar applies the ink.

In the case of one-sided printing, the inked sheet is moved up, over and out to the output tray. For two-sided printing, the sheet is moved until its trailing edge is past the merge to the vertical path. The sheet is then reversed down through the duplex path underneath the ink collection unit, and reintroduced into the print zone for inking of the second side.

This process continues until all the pages of the print job are completed. If the print job is large enough, it can be interrupted by servicing processes.

Figure 1-10 Paper-handling system paper path (500 series)



The paper path consists of the following major components:

- Two integrated input trays plus one optional accessory tray
- Four motors and a solenoid plus two more motors in the accessory tray
- Duplex module
- Sensors placed throughout the device, including the paper trays

- Multiple feed rollers, pinch rollers, star wheels, and media guides
- Transmission components (gears, shafts, levers, swingarms) that interface with other subsystems such as the printbar and service sled.

Components of the paper path move the paper from the input tray to a position 1 to 2 mm (.04 to .08 in) underneath the printbar, and then deliver the printed result to the output tray. The combined orientations and actions of the printbar, the printbar lift, and the paper path establish the print-zone, where the ink drops move from the active face of the printbar to the paper.

The following figures show the printer sensors.

Figure 1-11 Printer sensors (300/400 series)

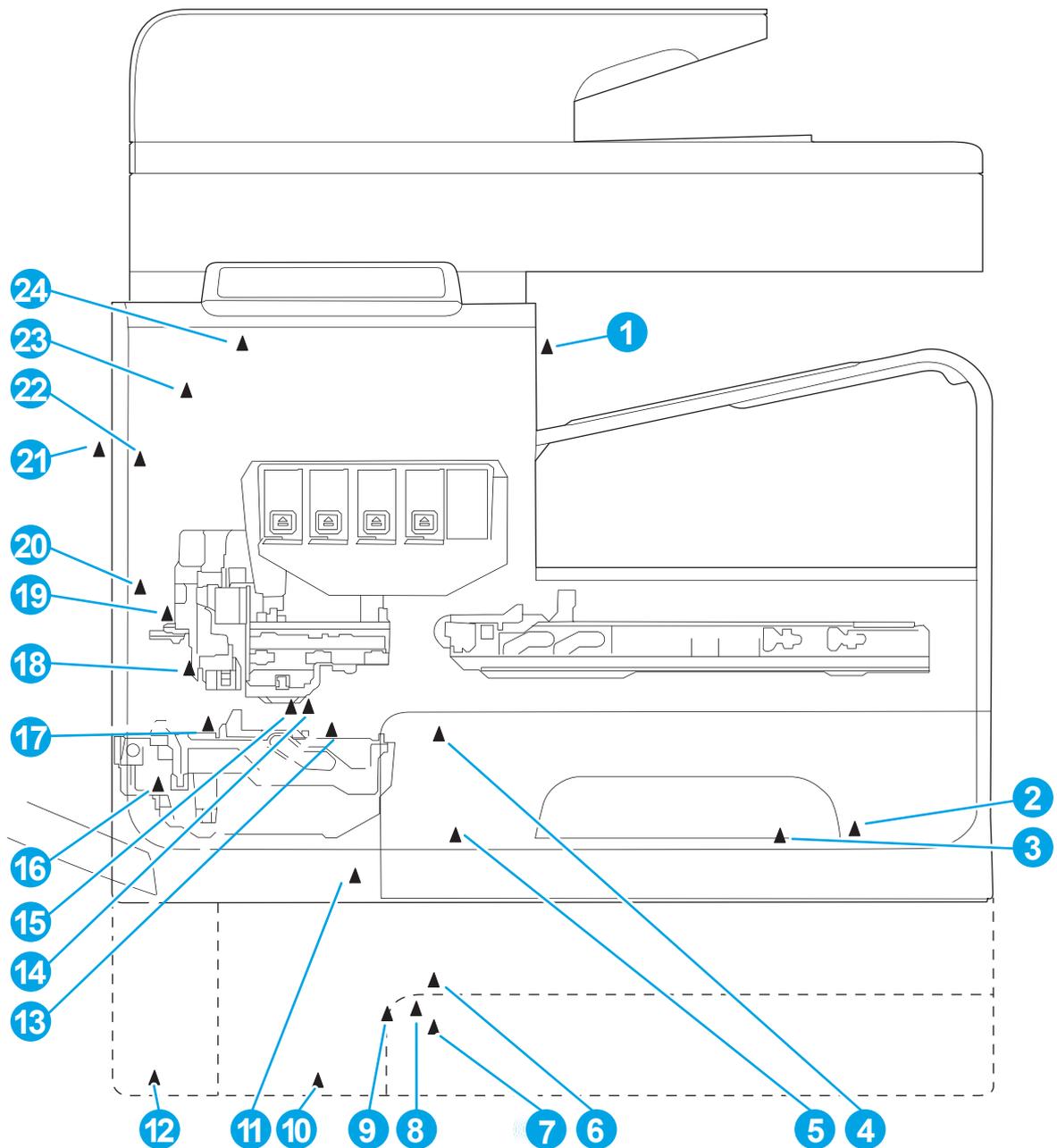


Figure 1-12 Printer sensors (500 series)

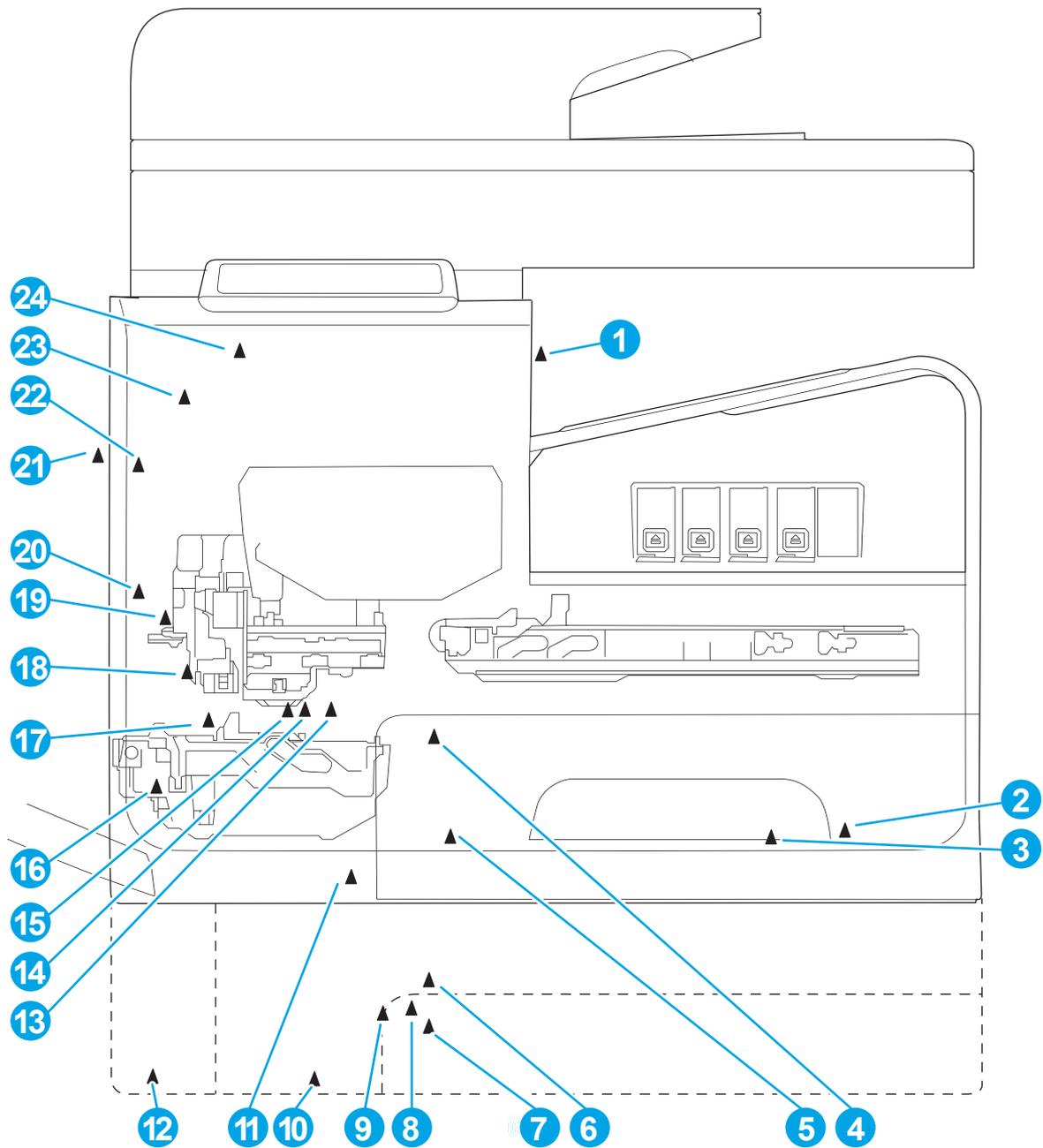


Table 1-3 Printer sensors

Item	Description	Item	Description
1	Output flap jam sensor	13	Top of Form (TOF) REDI sensor (located on platen)
2	Ambient temperature sensor	14	Feed roller encoder
3	Ambient humidity sensor	15	Feed roller home sensor
4	Tray 2 pickup tire home sensor	16	Duplex module presence sensor
5	Tray 2 tray presence sensor	17	Print zone REDI sensor (located on platen)

Table 1-3 Printer sensors (continued)

Item	Description	Item	Description
6	Tray 3 pickup tire home sensor	18	Back-scatter drop detect sensor
7	Tray 3 paper presence sensor	19	Print calibration/media edge detect sensor
8	Tray 3 separation sensor	20	Lower paper path REDI sensor
9	Tray 2 paper presence sensor	21	Left door open sensor
10	Tray 3 tray presence sensor	22	Upper paper path REDI sensor
11	Tray 1 paper presence sensor	23	Ink supply door open sensor
12	Tray 3 cleanout presence sensor	24	Eject REDI sensor

There are several motors in the printer for pick, feed, duplexing, printbar lift, delivery, and the scanning sensor carriage.

Figure 1-13 Paper-handling-system motors (300/400 series)

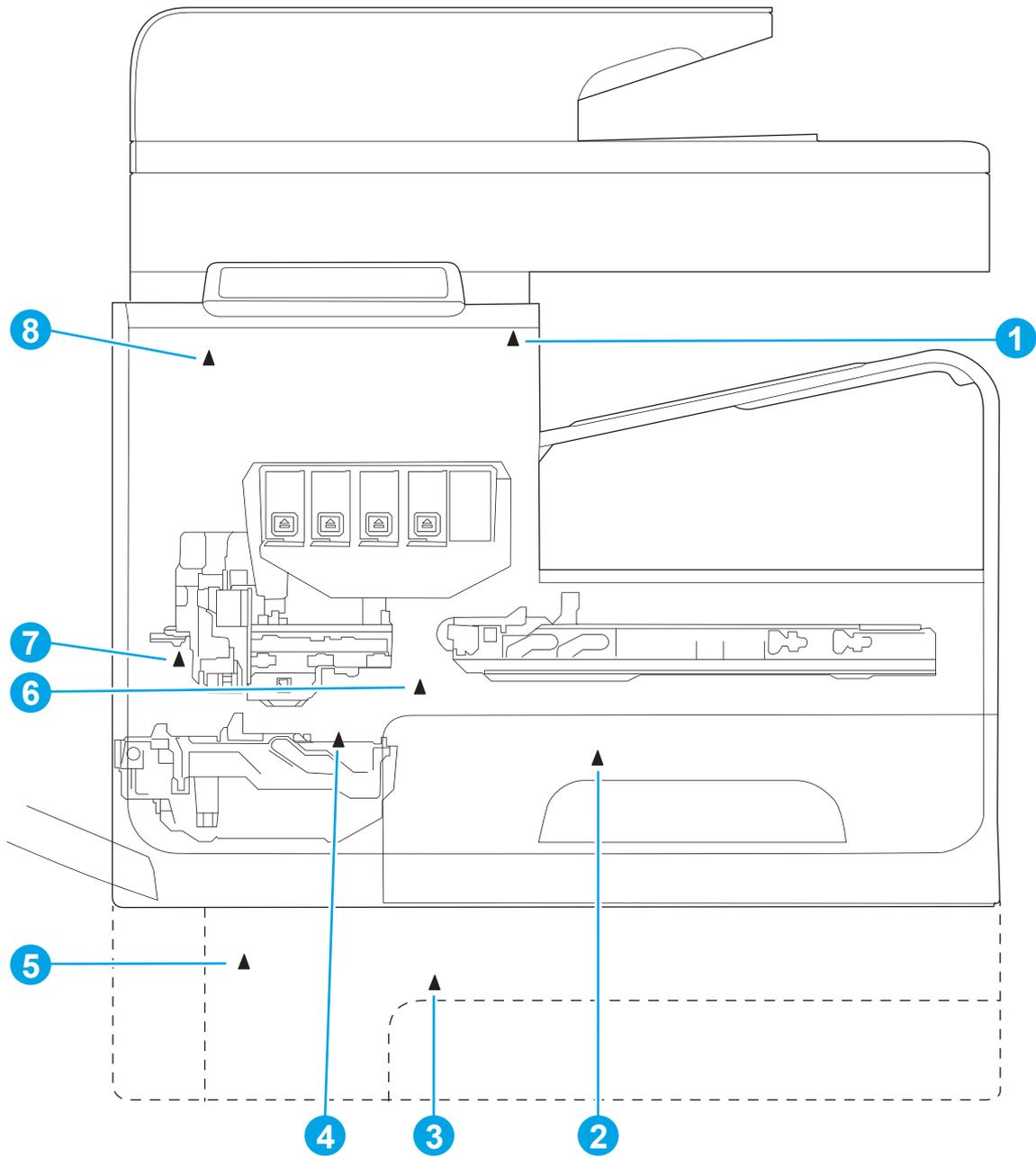


Figure 1-14 Paper-handling-system motors (500 series)

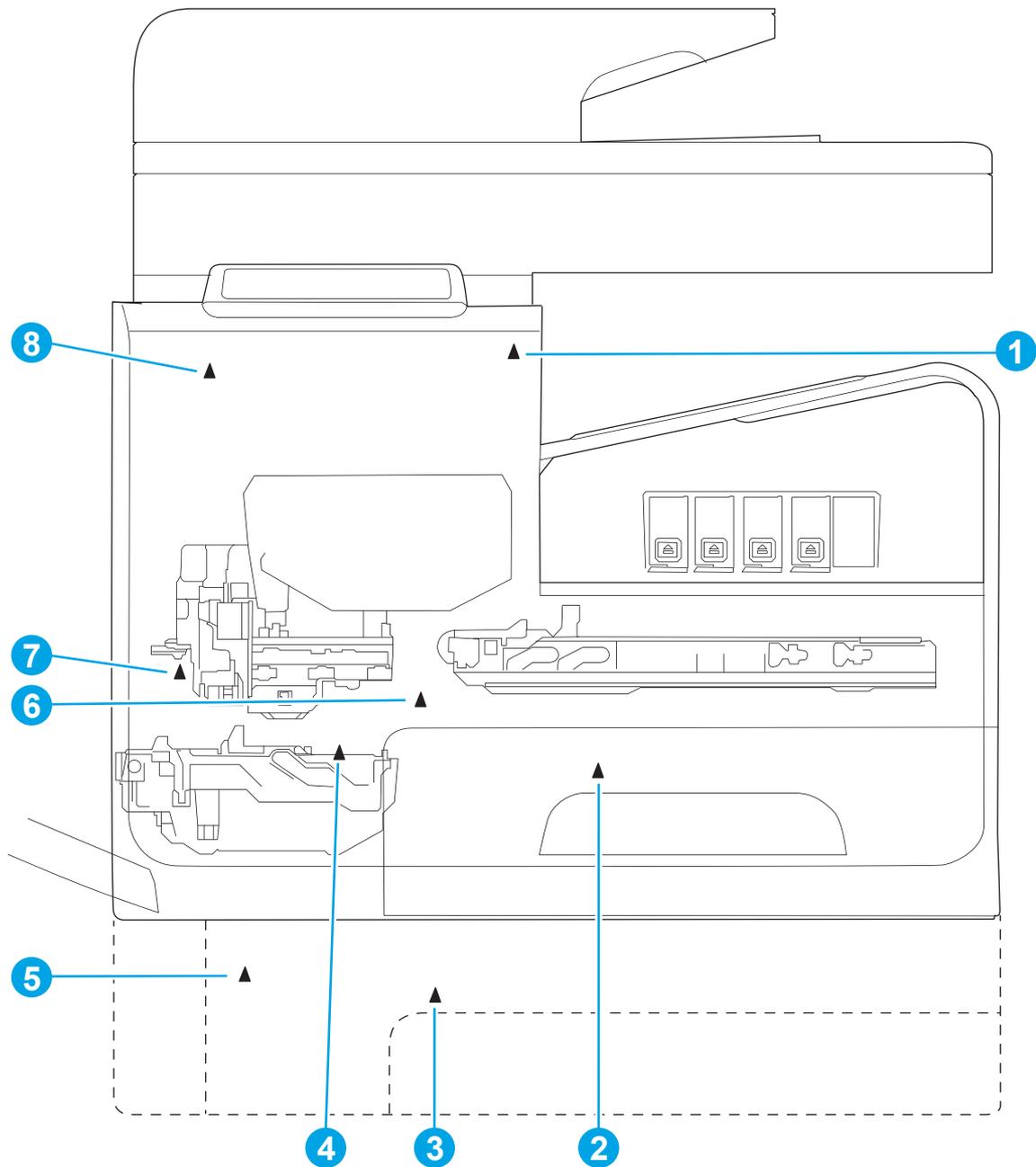


Table 1-4 Paper-handling system motors

Item	Description
1	Eject (or output drive) motor
2	Tray 2 pickup motor
3	Tray 3 pickup motor
4	Duplex Tray 1 motor
5	Tray 3 feed motor

Table 1-4 Paper-handling system motors (continued)

Item	Description
6	Feed motor
7	Optical carriage motor
8	Printbar lift motor

Input trays

The printer comes standard with two input trays, and also accepts two accessory trays.

- 50-page multipurpose (MP) tray—Tray 1: The tray shares a motor with the duplex module and has only one sensor. It is a reflective (REDI) sensor that determines if media is present in the tray. The feed roller reflective REDI sensor determines if a sheet of media is successfully picked from the tray.
- 500-sheet letter/A4 size main tray—Tray 2: The tray has a pick motor, which is also moves the service sled. Similar to the accessory tray, both the main tray motor and the duplex MP tray motor will operate at the same time when picking paper from the main tray. The main tray has three sensors:
 - A hall effect sensor determines if the tray is closed.
 - A flag/opto sensor determines if there is media in the tray.
 - A flag/opto sensor determines if the pick roller is in home position.

The feed roller jam sensor is used to determine if a sheet of media is successfully picked from the main tray.

- Two optional 500-sheet legal size accessory trays—Trays 3 and 4: These optional trays each have two motors, one for picking paper and one for the turn roller. This roller receives paper from the pickup roller and transfers it to the multipurpose tray ITR, that is driven by the duplex module/MP tray motor. Both the accessory tray motor and the duplex module/MP tray motor operate at the same time when picking paper out of the accessory tray.

The accessory trays have the following sensors:

- A hall effect sensor determines if the tray is closed.
- A flag/opto sensor determines if there is media in the tray.
- A flag/opto sensor determines if the pickup roller is in the home position.
- A hall effect sensor determines if the left door is closed.
- A separation sensor determines if the printer successfully picked media.

Paper path zones

The printer paper path includes the following elements:

- Deskew buckle
- Print zone
- Duplex

- Output
- Eject

Figure 1-15 Paper path zones (300/400 series)

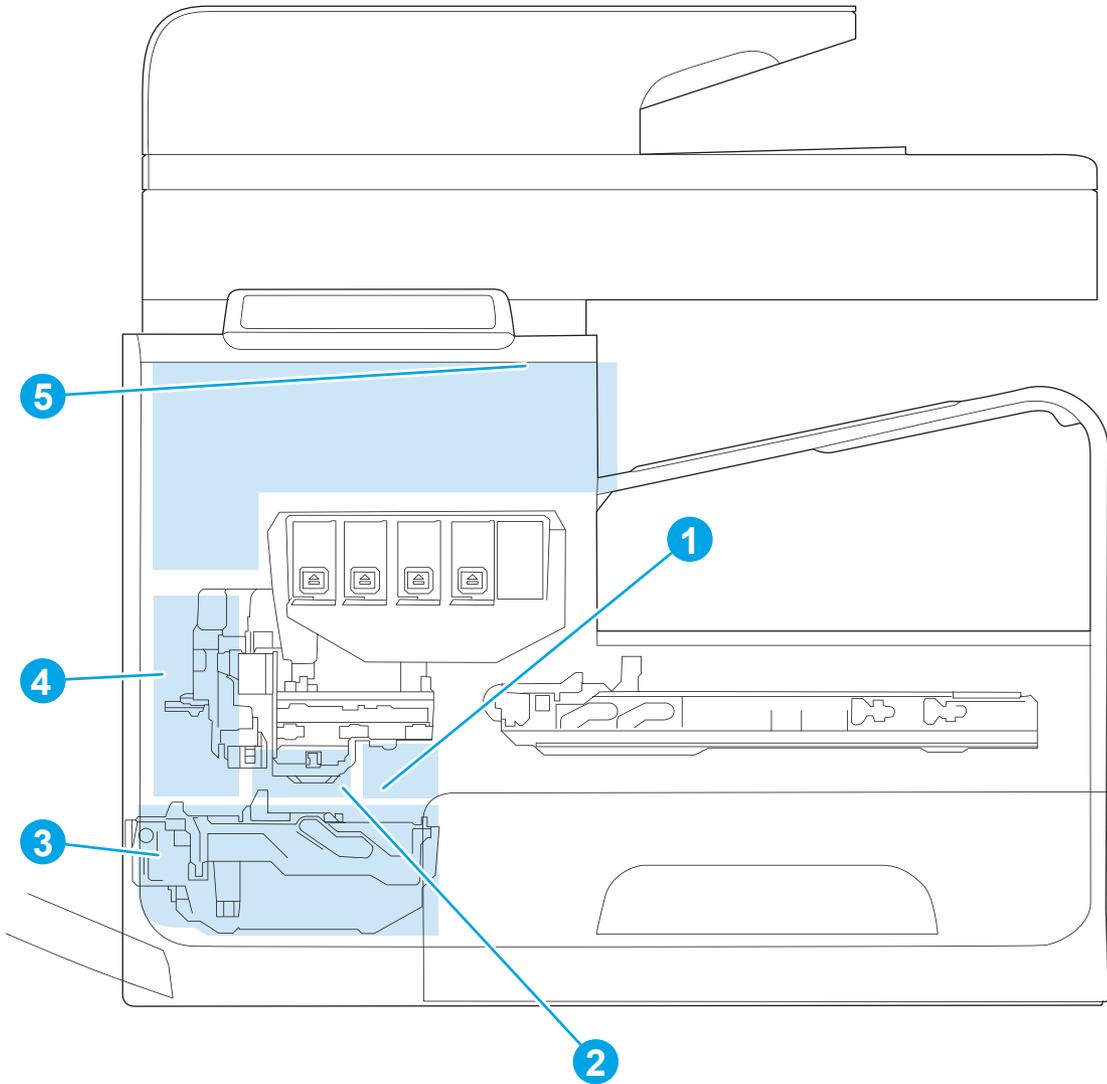


Figure 1-16 Paper path zones (500 series)

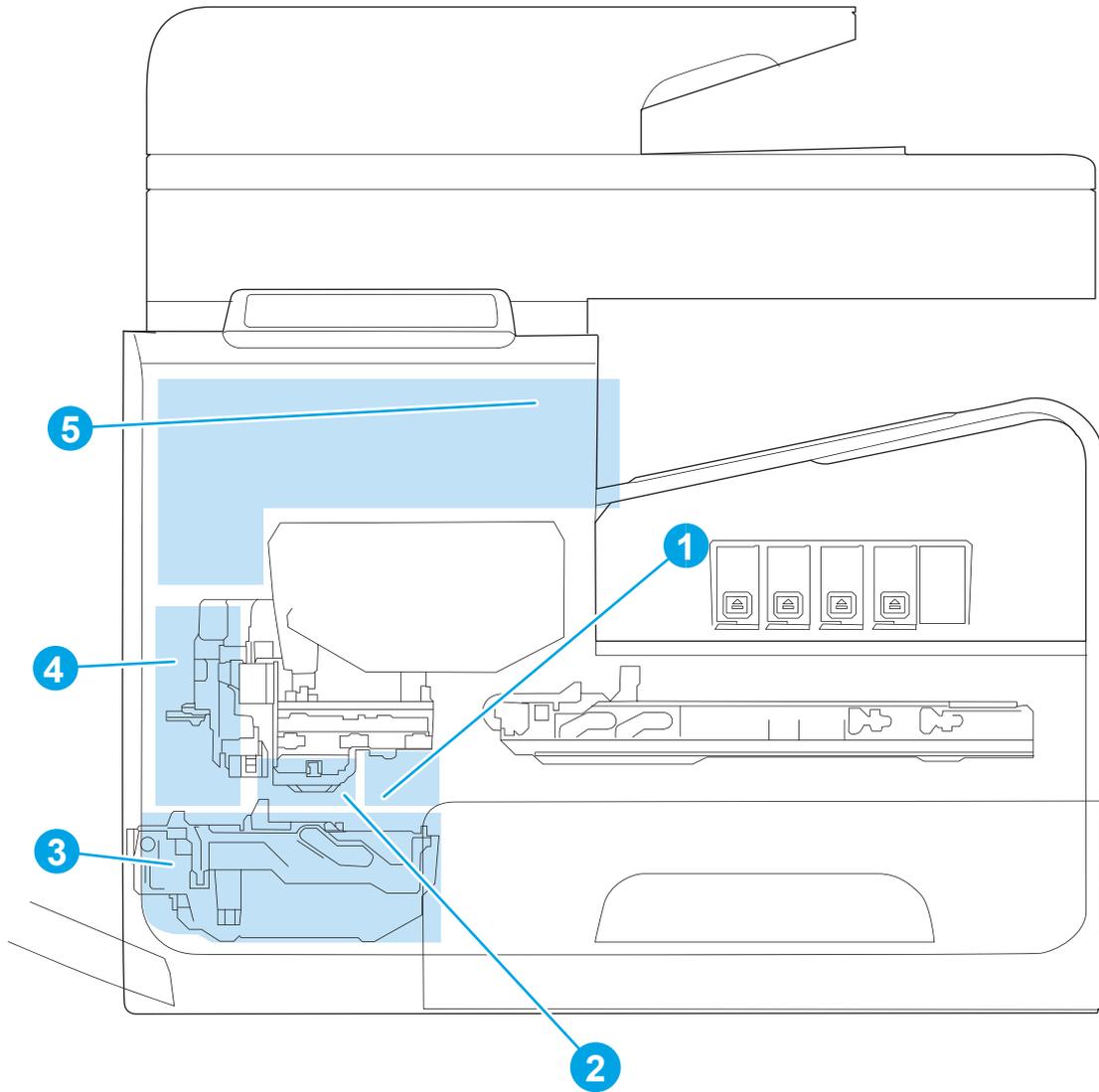


Table 1-5 Paper path zones

Item	Zone	Description
1	Deskew buckle	This is the area between the turn roller and feed roller. All paper passes through this zone. During the deskew operation, the duplex module/MP tray motor rotates forward, driving the paper into the feed roller nip while the feed roller is not moving. The feed roller REDI sensor determines the leading edge for accurate deskew buckle size, detects jams, and senses whether the tray successfully picked paper.

Table 1-5 Paper path zones (continued)

Item	Zone	Description
2	Print zone	<p>This is the path between the feed roller and output pinch 1 roller. The feed roller, which has an analog quadrature encoder, precisely controls the paper in the paper feed direction. In the vertical direction, a combination of the platen, feed roller, and output pinch roller 1 controls the paper. The user can rotate the platen down for jam access after removing the duplex module.</p> <p>The print zone contains no paper path sensors. If a jam occurs in the print zone, it is not detected until the leading edge of the paper is determined to be “late” in reaching the jam sensor in the output path.</p> <p>When a user pulls on jammed paper in the print zone that is still partially in the feed roller nip, the servo control detects a slight movement of the feed roller and assists the user by applying a forward torque to the roller. Also, the motion control system disengages the duplex module rectifier (swing arm) so that the turn roller can spin freely. This feature reduces the pulling force needed by the user and therefore reduces the chance of leaving torn pieces of paper in the path—especially in the deskew buckle zone.</p>
3	Duplex	<p>By opening the left door, the duplex module can be removed to clear jams. The duplex module also serves as an ink-collection unit for the printbar and will expose the user to waste ink when it is removed. Therefore, the duplex module contains warnings to not touch certain areas.</p> <p>When the user pulls on jammed paper from the duplex module (or any of the trays) that is partially in the feed roller nip, the servo control detects a slight movement of the feed roller and assists the user by applying a reverse torque to the feed roller and disengages. Also, the motion control system disengages the duplex module rectifier so the turn roller can spin freely. This feature reduces the pulling force needed by the user and therefore reduces the chance of leaving torn pieces of paper in the path—especially in the deskew buckle zone.</p> <p>In order for the printer to determine the duplex module's presence, the duplex module has a magnet that triggers a hall-effect sensor mounted to the structure.</p>
4	Output	<p>The output path begins at output pinch roller 1 and continues to output pinch roller 5. Four REDI sensors in this path detect leading and trailing edges and jams.</p> <p>The feed motor drives the rollers in the output path, except output pinch roller 5. All the pinch rollers in the output and exit path are star wheels to prevent roller tracking on wet/damp ink. However, the turn roller pinch is solid and has a high amount of force for deskew buckle formation. Also, the feed motor drives all output shafts except shafts 5 and 6.</p> <p>The REDI dry path lower, REDI dry path upper, and eject jam REDI sensor in the output path all track the leading and trailing edges of paper.</p> <p>The outer and top portions of the vertical path are formed by paper guides molded in and attached to the left door. The left door can be opened for jam clearance and has a hall-effect sensor to determine if it is closed. Also when the left door is opened, drive rollers that form pinches 3 and 4 disengage from the feed motor for safety purposes.</p>
5	Eject	<p>The eject portion of the paper path includes the zone from output pinch roller 5 to the eject flap.</p> <p>The eject motor powers output pinch roller 5 and eject pinch roller 6.</p> <p>The eject flap has 3 positions:</p> <ul style="list-style-type: none">• Closed when not printing.• Partially open for heavy ink printing in dry environments to limit severe curl.• Open for all other printing. This position controls moderately curled paper. <p>The flap is opened and closed by a torque clutch on the eject roller shaft. The flap also has a locking feature that is controlled by a solenoid. In order for the door to open all the way or move between positions, the solenoid must be actuated.</p>

Servicing system

The servicing system comprises the service sled, which maintains print quality by wiping debris and ink off the print nozzles, and the ink collection unit, where maintenance ink is deposited.

Figure 1-17 Servicing system components (300/400 series)

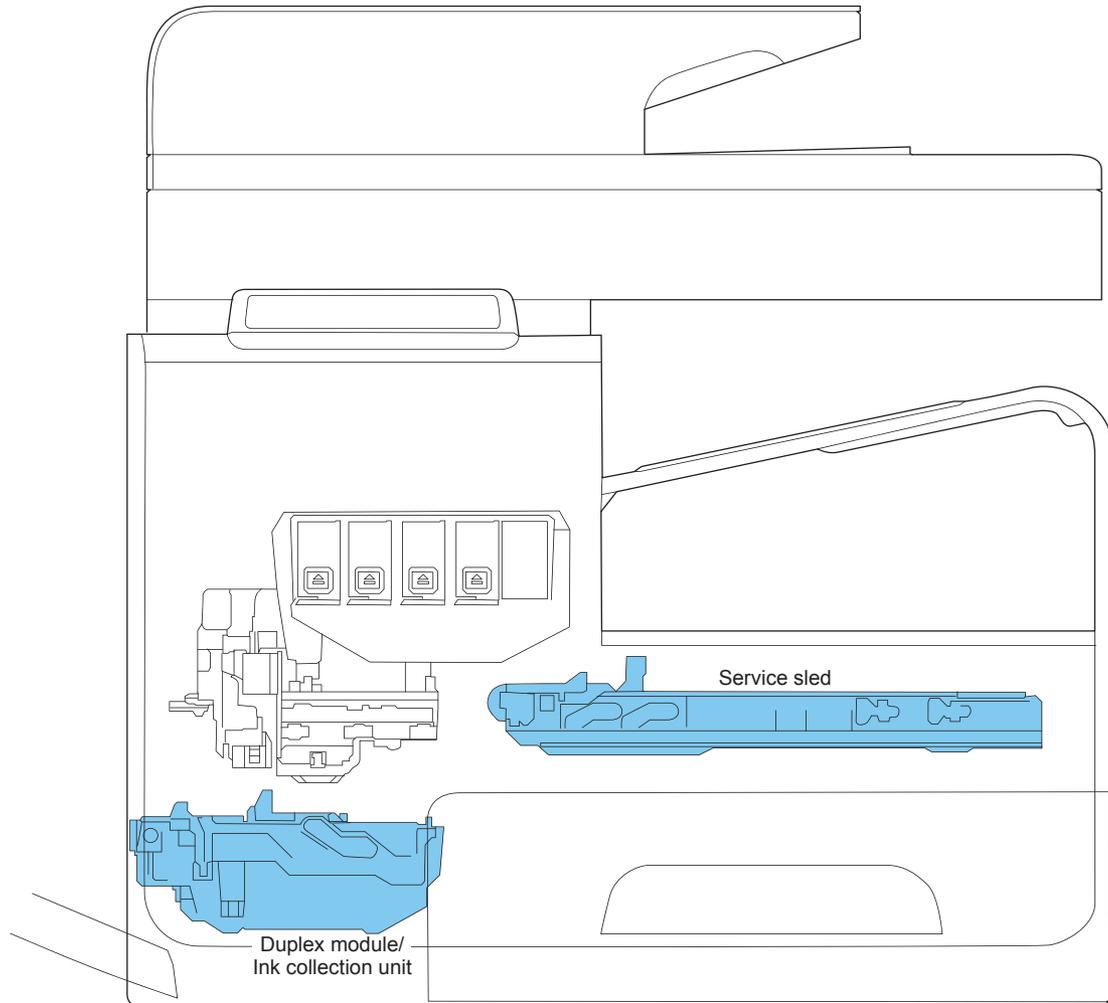
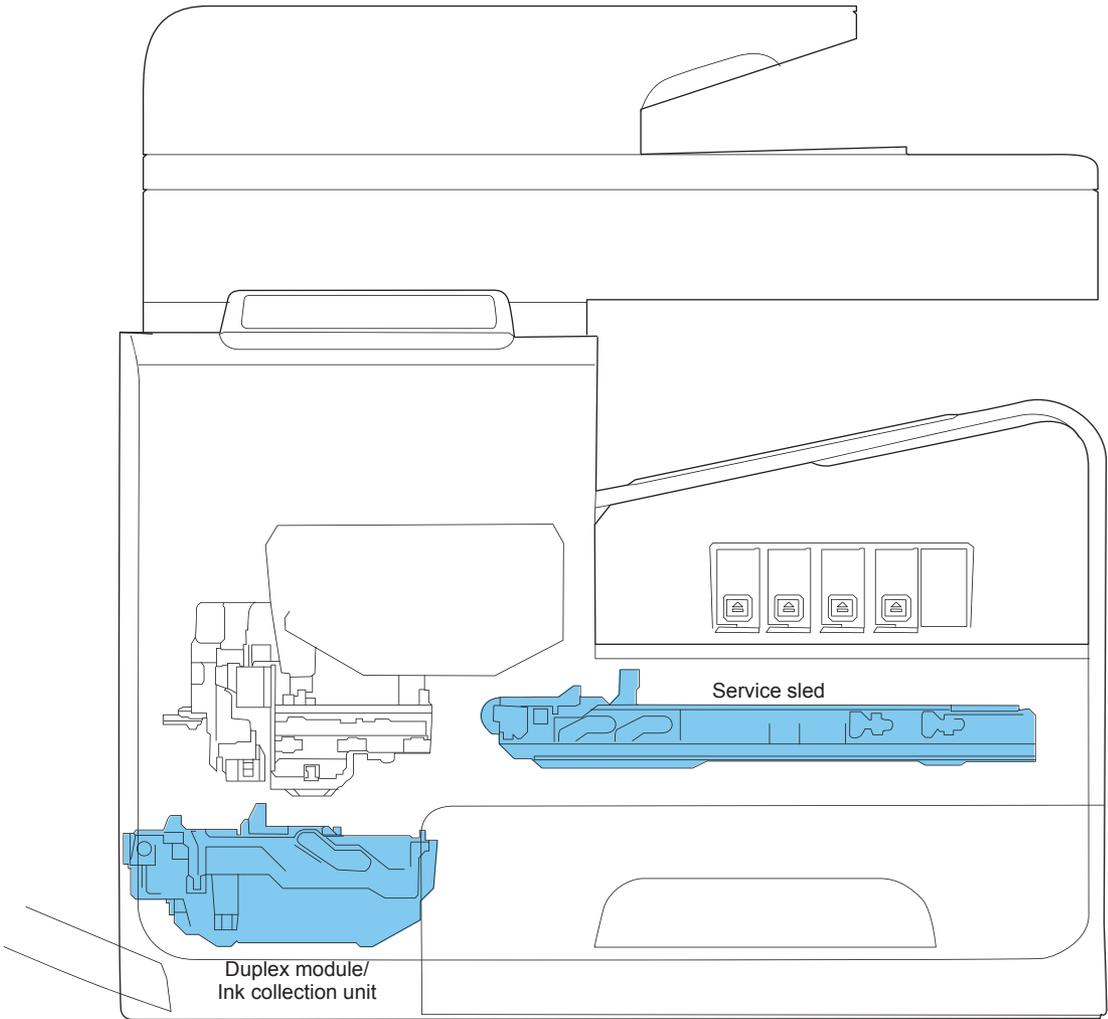


Figure 1-18 Servicing system components (500 series)



Service sled

Figure 1-19 Service sled components

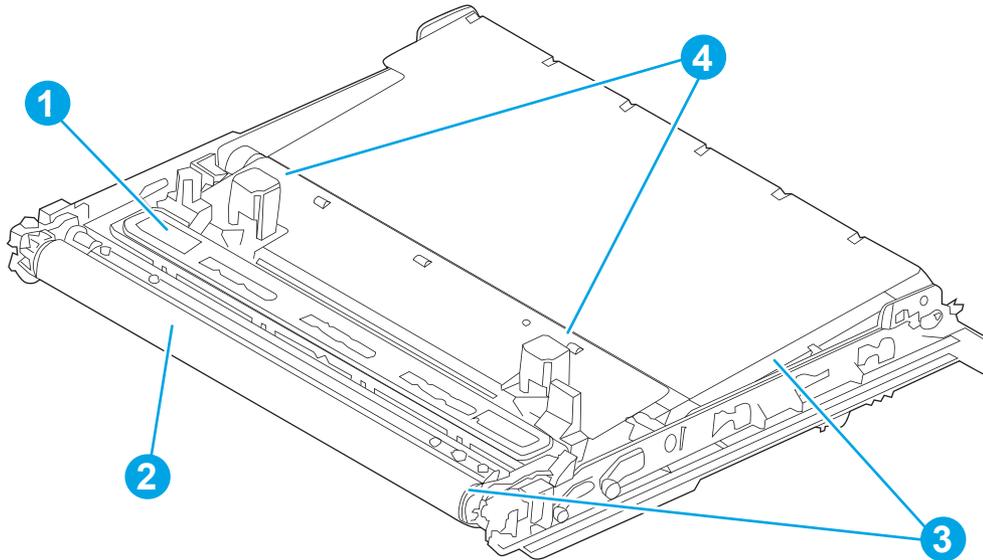


Table 1-6 Service sled components

Item	Description
1	Service sled cap
2	Service sled wiping surface
3	Service sled web fabric loop
4	Printbar support posts

The service sled system keeps the printbar nozzles firing correctly throughout the life of the printer as it performs the wiping and capping functions.

- The wiping function cleans the nozzles of ink residue and particulates.
- The capping function keeps the nozzles moist during storage and when the printer is idle.

The service sled system uses the pick drive system (a component of the paper path) for horizontal motion to perform its functions.

To perform the wiping function, the printer moves the service sled underneath the printbar (which is elevated from the print position) so that the web fabric makes contact with the ink nozzles. The web fabric is a looped belt that advances after every wipe. Since the belt is a finite loop, it will eventually reuse previously used material. The web advances when the web wipe module moves to the right and out of the print zone. A mechanism located on the rear wall of the unit triggers the advance mechanism..

To perform the capping function, the service sled moves underneath the printbar (which is elevated from the print position), allowing the rubber cap to seal the print nozzles from the environment.

Transmission system

The pick/service motor uses a multi-state transmission to power the following three functions:

- Move the service sled
- Pick paper from the main tray
- Lift the main tray paper stack

The transmission has the following states:

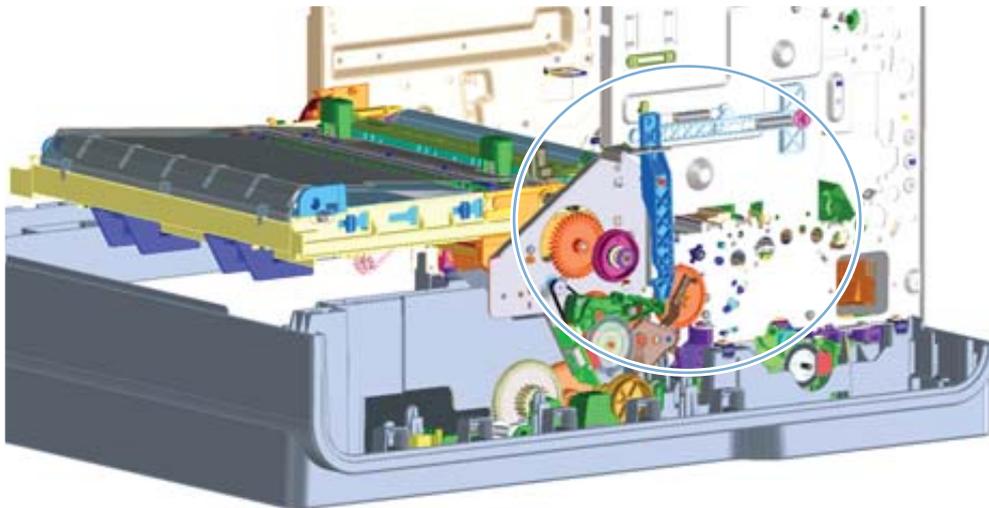
- Service sled (forward/reverse)
- Pick (forward direction)/tray lift (reverse direction)

Printbar movement to a specific location releases the transmission lock, and enables the pick/service motor to select the transmission state. The general location of the transmission parts is in [Figure 1-20 Transmission components, rear view on page 31](#).



NOTE: The transmission components are behind the main PCA electronics and are difficult to access.

Figure 1-20 Transmission components, rear view

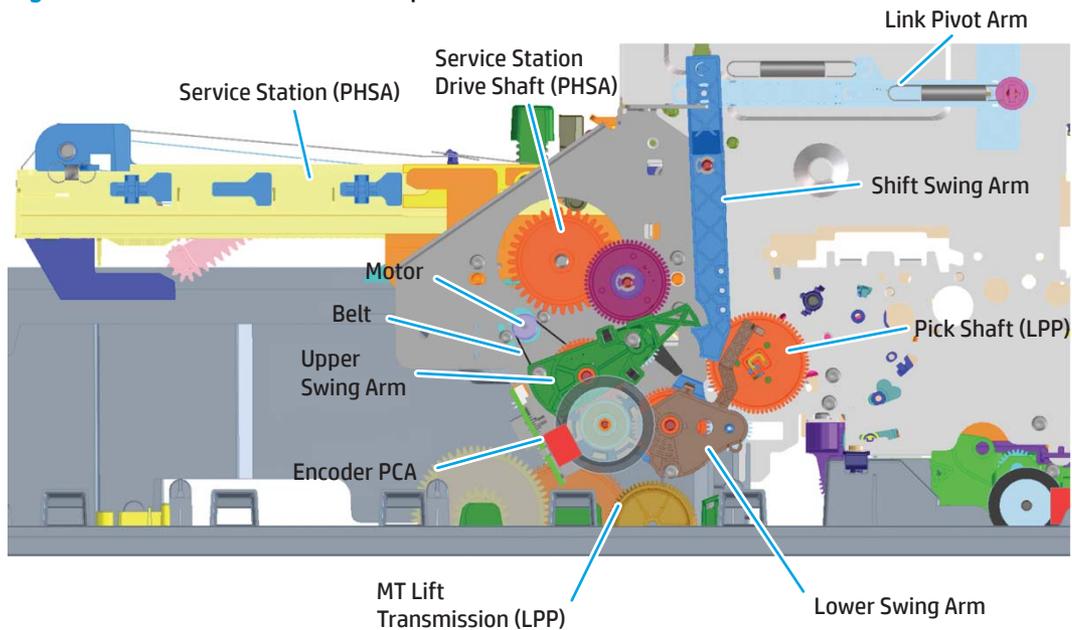


The printer will not function with the transmission in the main tray pick/main tray lift state if the service station has been manually capped.

Reusing caps or pushing the caps too far onto the printbar lift guide rods while servicing the printer can result in the transmission not shifting reliably.

Components

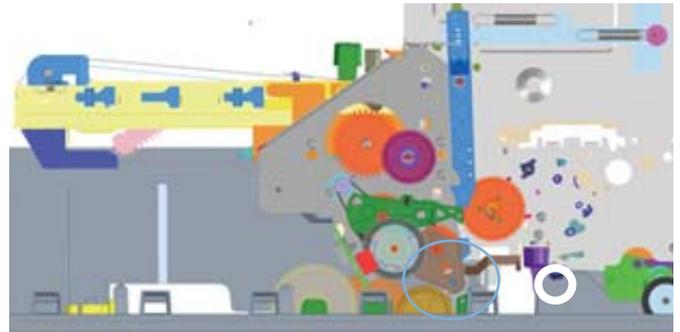
Figure 1-21 Transmission main components



States

1. State 1–Main tray lift

- Link pivot arm and shift swing arm in locked position
- Upper swing arm down, engaged with lower swing arm
- Lower swing arm down, engaged with main tray lift transmission
- Printbar either up or down



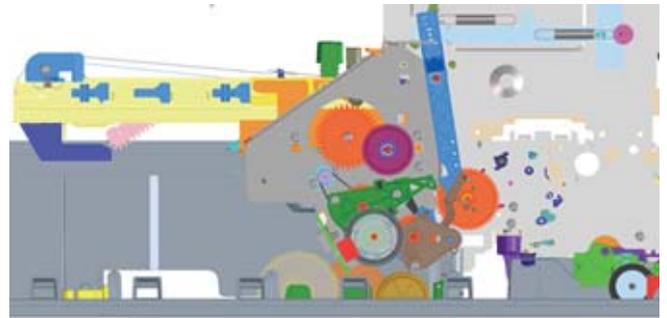
2. State 1–Main tray pick

- Link pivot arm and shift swing arm in locked position
- Upper swing arm down, engaged with lower swing arm
- Lower Swing arm up, engaged with pick shaft
- Printbar either up or down



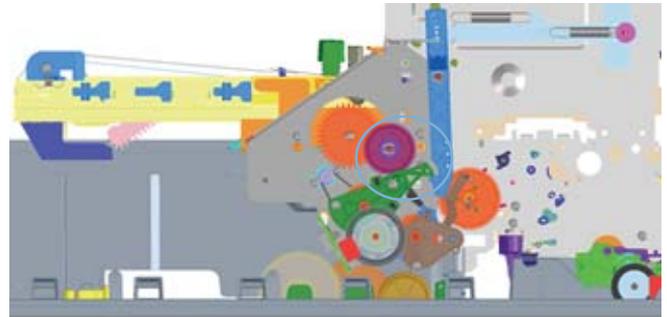
3. State 1–Mid - Switch

- Link pivot arm and shift swing arm in unlocked position
- Upper swing arm in mid switch position
- Printbar in middle position



4. State 2–Service Station

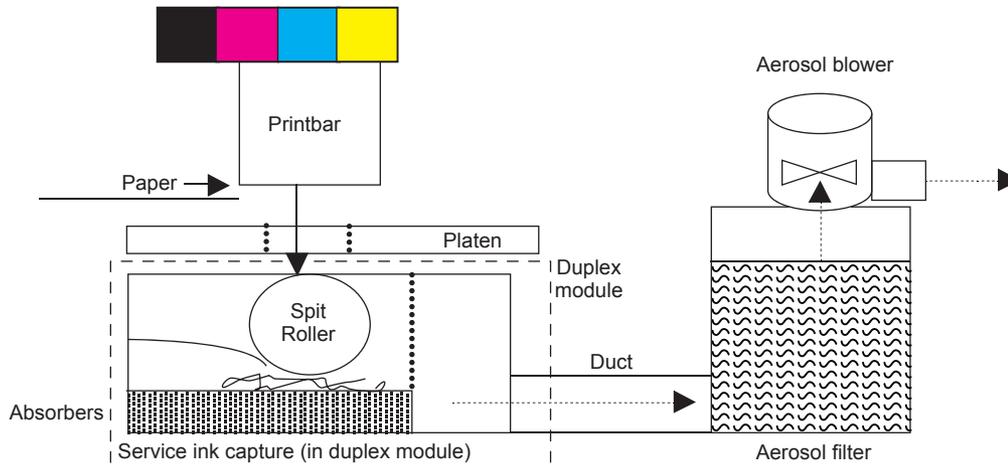
- Link pivot arm and shift swing arm in locked position
- Upper swing arm up, engaged with service sled drive shaft
- Printbar either up or down



Aerosol management system

The aerosol management system consists of a fan module and filter box to keep ink aerosol from building up inside the printer. The following figure shows the service ink and aerosol capture system components.

Figure 1-22 Aerosol management process



In between pages, printed aerosol is drawn through the platen openings. Service ink travels directly through the platen, impacting and collecting on the spit roller. Aerosol from the service spitting is also collected via the same system. Service ink collects in the duplex module, and a porous filter element captures the aerosol as aerosol-laden air passes through it. The aerosol blower mounted to the filter housing creates the air motion (suction—lower pressure—in the print zone).

Most of printbar servicing ink (maintenance ink) is captured by the spit roller and scraped into the bottom of the bucket on the duplex module. The service ink spit roller is indexed slowly by the motion of paper through the printer, specifically driven by the swingarm and turn-roller gear train, with power provided by the duplex motor.

The printer purges the printbar of its shipping fluid at initial startup, and then absorbers in the base of the duplex module collect the fluid. These absorbers allow much of the initial water to evaporate from the shipping fluid over time. Also, they allow service ink coming into contact with the absorbers to leach some of their fluids into them, assisting with drying and thickening of the sludge.

The blower remains active as long as the printbar is uncapped, and it continues to operate for a few seconds after capping is complete.

Figure 1-23 Aerosol management system components

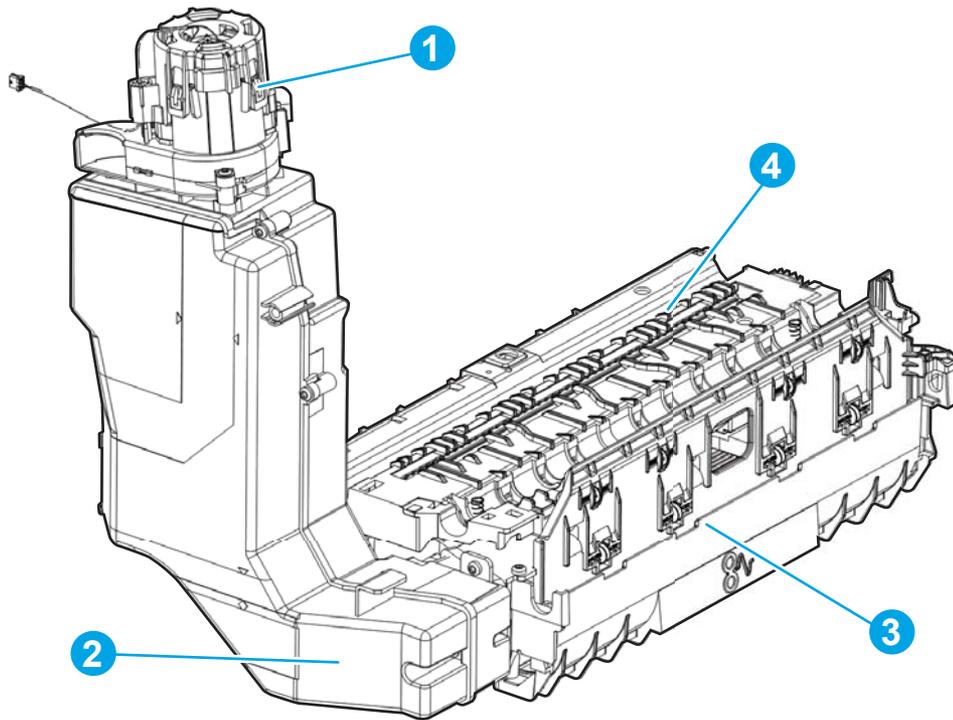


Table 1-7 Aerosol management system components

Item	Description
1	Blower
2	Aerosol filter housing
3	Duplex module/ink collection unit
4	Platen

Document feeder system (377/477/577/P57750 models)

Document feed system

This section describes the following:

- Rollers and sensors in the document feeder
- Document feeder operation
- Deskew operation

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

Rollers and sensors in the document feeder

The document feeder contains the following rollers and sensors:

Figure 1-24 Document feeder rollers and sensors

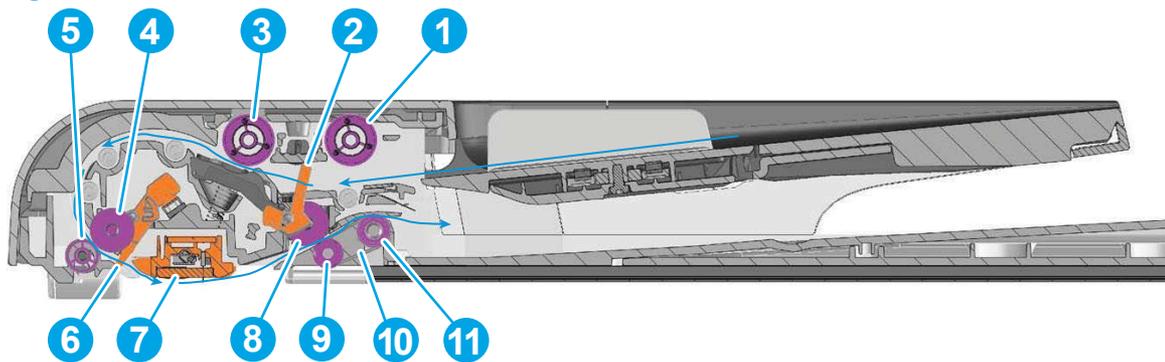


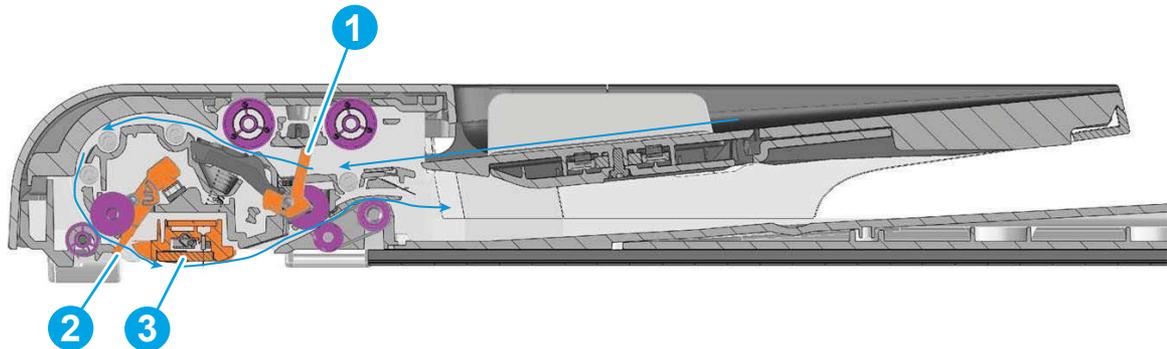
Table 1-8 Document feeder rollers and sensors

Item	Description
1	Pre-pick Roller
2	Document flag
3	Separation roller
4	Pre-scan feed roller
5	Pre-scan pinch roller
6	TOF flag
7	E-duplex sensor
8	Post-scan feed roller
9	Post-scan pinch roller
10	Post-scan drive O-ring
11	Post-scan kicker roller

Document feeder operation

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

Figure 1-25 Document feeder operation



1. When the original pages to be copied are loaded in the document feeder input tray, the document flag (callout 1) activates (state switches to 1). A **Document loaded** message appears on the control panel. With this flag activated, the document feeder becomes the default copy or scan source. This flag remains activated until all pages feed through the document feeder.
2. When copy or scan is initiated, the pick system engages and begins feeding the first page. The leading edge of the page triggers the TOF flag (callout 2) (state switches to 1) and the page feeds through the scan-zone.
3. The flatbed scan sensor collects the image of the front of the page. For duplex or two-sided scans, the e-duplex scan sensor (callout 3) collects the scanned image of the back of the page. For a multiple-page document, the document flag (callout 1) remains triggered (state remains at 1).
4. The trailing edge of the first page disengages the TOF flag (callout 2) (state switches to 0). The leading edge of the next page engages the TOF flag (callout 2) (state switches to 1), initiating the scan of the second page. All of the originals feed through the document feeder with the leading and trailing edges of the pages engaging and disengaging the TOF flag in this manner.
5. When the last page feeds through the document feeder, the document flag (callout 1) disengages (state switches to 0). This signals that the job is complete. After the TOF flag (callout 2) sees the last trailing edge (state switches to 0), the last sheet ejects, the pick system lifts, and the scan or copy job completes.
6. A pick failure occurs if the page doesn't reach the TOF flag (callout 2) within a certain time frame. If this failure occurs, the pick system will make two more attempts to pick the page before displaying a **Reload original** message on the control panel.
7. The TOF flag (callout 2) expects to see the trailing edge of the page within approximately 43.18 cm (17 in) from the beginning of the page. If this does not happen, a document jam message displays on the control panel.

Deskew operation

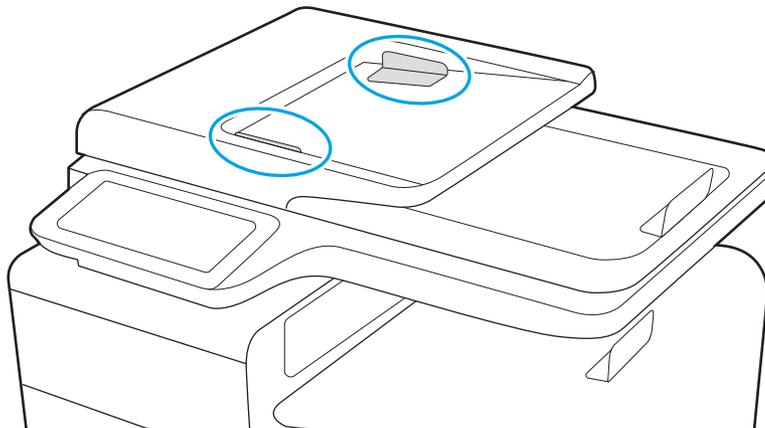
Sliding side guides on the document feeder input tray ensure that the paper stack is correctly aligned at the center of the input tray when paper is loaded in the tray. The correct position of the loaded paper is parallel with the direction of travel into the document feeder paper path.

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

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

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

Figure 1-26 Deskew operation



Scanning and image capture system (377/477/577/P57750 models)

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

Fax functions and operation (377/477/577/P57750 models)

The following sections describe the printer fax capabilities.

Computer and network security features

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

The following printer features prevent virus transmission:

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

PSTN operation

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

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

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

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

The fax subsystem

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

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

Fax card in the fax subsystem

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

Safety isolation

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

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

Safety-protection circuitry

In addition to the safety barrier, the fax card protects against overvoltage and overcurrent events.

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

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

A voltage suppressor (a crowbar-type thyristor) provides differential protection. This device becomes low impedance at approximately 300 V differential, and crowbars to a low voltage.

Data path

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

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

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

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

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

Ring detect

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

Line current control

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

Fax page storage in flash memory

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

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

These pages are stored in flash memory, which is the nonvolatile memory that can be repeatedly read from, written to, and erased. The printer has 512 MB of total flash memory, shared between firmware, customer settings, job storage and fax storage.

Advantages of flash memory storage

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

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

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

2 Solve problems

- [Restore the factory-set defaults](#)
- [Menu access](#)
- [Perform tap tests and interpret results](#)
- [Troubleshooting flowchart](#)
- [Front-panel error codes](#)
- [Control-panel messages](#)
- [Error-related symptoms](#)
- [Check symptoms](#)

Restore the factory-set defaults

 **CAUTION:** Restoring the factory-set defaults returns all of the printer and network settings to the factory defaults, and it also clears the fax header name, phone number, and any stored faxes in the printer memory. This procedure also clears the fax phone book, and deletes any pages that are stored in the memory. The procedure then automatically restarts the printer.

1. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the [Setup](#) menu.
2. Select [Tools](#), and then touch [Restore Factory Defaults](#).
3. Select [Yes](#).

The printer automatically restarts.

Menu access

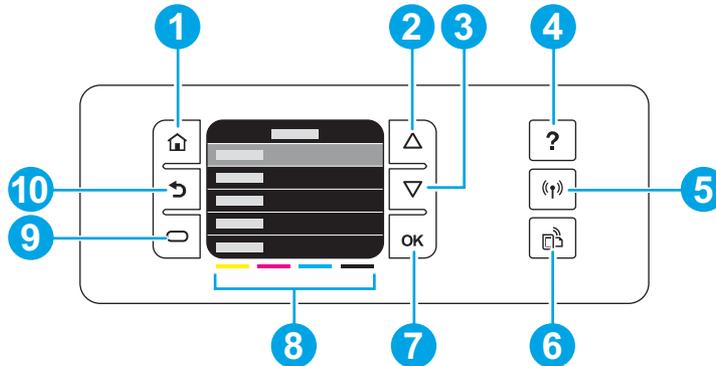
These hidden engineering menus are used for testing and calibration. Some or all of them are referenced in remove and replace sections as required.

 **WARNING!** Misuse of these menus might damage the printer or make it unusable.

Menu access on monochrome control panels

These hidden engineering menus are used for testing and calibration. Some or all of them are referenced in remove and replace sections as required.

⚠ WARNING! Misuse of these menus might damage the printer or make it unusable.



Item	Description
1	Home button: Return to the power-on Home screen.
2	Up arrow button: Navigate the menus.
3	Down arrow button: Navigate the menus.
4	Help button: Open the printer help system.
5	Wireless button: Open the Wireless Setup menu.
6	HP ePrint button: Activate or deactivate the HP ePrint features.
7	OK button: Confirm the selected item.
8	Ink cartridge fuel gauges: View the estimated cartridge ink levels.
9	ATM button: Function defined by the firmware. Usually used to cancel a request.
10	Back button: Return to the previous screen.

Access the Engineering menu

1. Press the Home  button.
2. Press the Back  button.
3. Press the Home  button twice to enter the **Engineering** menu.

📄 NOTE: The [Service menu](#) is accessed from the **Engineering** menu.

Access the Support menu

- ▲ Press the Back  button four times to enter the **Support** menu.

📄 NOTE: The **Support** menu is usually used by HP call center agents for assisting customers.

Place the printer into MFG (manufacturing) mode



NOTE: This mode is to be used **only** by authorized service providers. It should **never** be accessed by the end user.

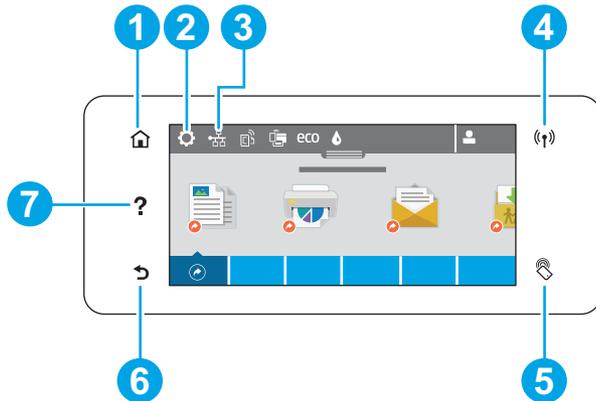
1. Press and hold the Up ▲ and Down ▼ buttons together while plugging in the printer until the control-panel displays MFG mode.
2. Press the power button to enter MFG (on) mode.

Menu access on color control panels

These hidden engineering menus are used for testing and calibration. Some or all of them are referenced in remove and replace sections as required.

WARNING! Misuse of these menus might damage the printer or make it unusable.

NOTE: These buttons are not illuminated until they are touched with sufficient pressure. Locate these buttons by sweeping your finger over the general areas.



Item	Description
1	Home button: Return to the power-on Home screen.
2	Setup button: Open the Setup menu.
3	Network button: Open the Network Setup menu.
4	Wireless button: Open the Wireless Setup menu.
5	NFC button: Connect to the printer via the near field communication (NFC) protocol.
6	Back button: Return to the previous screen.
7	Help button: Open the printer help system.

Access the Engineering menu

1. Touch the Home  button.
2. Touch the Back  button.
3. Touch the Home  button twice to enter the [Engineering menu](#).

NOTE: The [Service menu](#) is accessed from the [Engineering menu](#).

Access the Support Menu

Touch the Back  button four times consecutively to open the [Support Menu](#).

NOTE: The [Support Menu](#) is usually used by HP call center agents for assisting customers.

Place the printer into MFG (manufacturing) mode



NOTE: These two modes are ONLY to be used by authorized service providers. They should NEVER be accessed by the end user.

1. Press and hold the power button while plugging in the printer. The HP logo appears on the printer control panel, and then disappears. Continue to hold the power button for five seconds after the logo disappears.
2. Release the power button.
3. Touch the Home  button.
4. Touch the Back  button.
5. Touch the Home  button twice.
6. After a new screen appears, touch the Home  button again to enter MFG (off) mode.
7. Press the power button to enter MFG (on) mode.

Perform tap tests and interpret results

Perform a tap test

1. Open the [Engineering Menu](#). See [Menu access on monochrome control panels on page 45](#) or [Menu access on color control panels on page 47](#).
2. Open the [Manufacturing Menu](#).
3. Open the [Reports Menu](#).
4. Open the [Print-mech tap tests](#) menu.
5. Select the tap test to run.

10 tap test results (OOBE states)

The printed tap test results contain a sequence of numbers at line number 68, "Startup Complete," of the printed report.

Use the following table to interpret these numbers.

Table 2-1 10 tap test results, row 69

Column	Code	Acceptable values
Column 1	DSID_PEN_PRINTER_STARTUP_BITS	A value of 1 indicates that the printbar has been started up. This means that shipping fluid has been removed from the printbar and replaced with ink. This is the expected state for a printer after initialization.
Column 2	DSID_OOBE_STATE	255–OOBE messaging complete.
Column 3	DSID_INK_SUPPLY_OOBE_COMPELTE	1–SHF purge is complete and service wipes have been enabled.
Column 4	DSID_CAL_OOBE_STATE	A value of 2 means that the OOBE printed calibrations are complete. A value of 1 means the OOBE printed calibrations are in progress A value of 0 means the OOBE printed calibration does not exist so no printing/calibration for OOBE is attempted.
Column 5	DSID_IQ_LIST_INDEX	A value of 3 means that pen height and beam center have been completed, and that BDD is scheduled (or pending) to perform normally.

Printer Hardware Information

Extended Self Test Diagnostic Page - 1 of 2

Product Information

11. Product Name: HP PageWide Pro 577 MFP series
 12. Product Number: D3Q21A
 13. Serial Number: CNS6MSX549
 14. Service ID: 25215
 15. Date/Time: 9/14/2015 15:12:33
 16. Printer ID: 1
 18. Total Page Count: 1159
 19. Duplex Page Count: 462

Revision Information

24. Main PCA Revision: ID: 22246 MFG: 5 PAM: 55 NUM: 6
 25. Digital ASIC: NEURON Rev A.3 Mfg: ST
 26. Analog ASIC: 1- REV: 0 MFG: 0, 2- REV: 0 MFG: 0
 27. FW PKG Rev and Patch Rev: MAHDWMP2A001.1536H.00
 28. Flows Revision: OFFICIAL
 17. Default Symbol Set: 341
 31. Number of Trays Present: 4
 32. Duplexer Installed: Yes
 19. Duplex Speed Limit = 0

Print System Information

43. Cartridge:	Yellow	Magenta	Cyan	Black
44. Estimated Cartridge Level:				
45. Cartridge Status:	Ready	Ready	Ready	Ready
46. Cartridge Status Slider:	-1	-1	-1	-1
47. Selectability Number:	HP 972 SETUP	HP 972 SETUP	HP 972 SETUP	HP 972 SETUP
48. Sensor Status One:	0	0	0	0
49. Sensor Status Two:	0	0	0	0
50. Host/Trade Acumen Bit:	1	1	1	1
51. Start Up Complete:	1	1	1	1
52. Serial Number:	357077068	355941158	355871950	356277534
53. Mfg. Date:	05/21/2015	05/14/2015	05/14/2015	05/14/2015
54. Cartridge Install:	07/30/2015	07/30/2015	07/30/2015	07/30/2015
55. Warranty Ends:	05/21/2018	05/14/2018	05/14/2018	05/14/2018
56. CM:	1	1	1	1
57. NHIO:	0	0	0	0
58. IRO:	0	0	0	0
59. EX: 03,050,0000 RC: 31102				
60. HPSuppliesOnly-State:	Disabled			

Print Head Assembly Information

61. TVAL: 34884500, TVAL:210, AMB:226, AMB:221 75. TTOR done: 1
 62. Total Dot Count (In ml):
 a. Yellow: 59
 b. Magenta: 70

69. Startup complete: 1 255 1 2 0

63. Page Count: 15
 64. Nozzle Health
 DD-SYS: 100
 DD-HIS: 0 100 100 0
 DD-CURR: 0 100 100 0
 f. Last successful calibration at page count: 6
 g. Last failed calibration at page count: 0
 7. Last calibration at page count: 5
 h. Damage printed since last repair: 0%

69. Startup complete: 1 255 1 2 0

70. NUMBER OF CALIBRATIONS:	PEN_ALIGN_0	PEN_ALIGN_1	PEN_ALIGN_2	COLOR_CAL_0	COLOR_CAL_1	COLOR_CAL_2
Success:	0	1	1	1	1	1
Failed:	0	0	0	0	0	0

12 tap test results (REDI sensor values)

Table 2-2 12 tap test report

Callout	Report area	Item	Acceptable values
1	Print Humidity Sensor Data	Stable Relative Humidity	0–100 RH
2	Pen TSR Ambient Temperature Estimate	Pen TSR Ambient Temperature x10 °C	± 10 °C of current ambient temperature
3	Digital Temperature Sensor Ambient Temperature	Digital Temperature Sensor Ambient Temperature x10 °C	± 10 °C of current ambient temperature
4	Print REDI Sensor Calibration Data	TOF sensor, p value ¹	Between 10 and 100
5	Print REDI Sensor Calibration Data	TOF sensor, m value ¹	Between 25 and 380

¹ “M” is mirror result, “P” is blocked with paper.

```

HP PageWide Pro 377dn MFP series
Serial Number: CNS5ANGV01Z
Service ID: 26011
Test Service ID:LQXL-TK3D-ACSZ-X9AW
FW PKG Rev: MARDWOPPLA001.1548D.00
Total Engine Page Count: 773
Page Count Thermally-Limited: Not Currently Available
RTC date time: 1/29/2016 20:36:35
System date time: 1/29/2016 12:35:25
Rear Accessory: Duplexer installed.
Digital ASIC: NEURON Rev A.3 Mfg: ST

Power state: 2

```

Assert details

- 1 Stable Relative Humidity: 22
-----Print TSR Ambient Temperature Estimate-----
- 2 Pen TSR Ambient Temperature x10C: 170
-----Digital Temperature Sensor Ambient Temperature-----
- 3 Digital Temperature Sensor Ambient Temperature x10 C: 278
-----Print REDI Sensor Calibration Data-----
- 4 TOF sensor, p value: 57
- 5 TOF sensor m value: 308

Service Station Primitive Operations:

```

-----
FWD Home: 0 Rear Home: 0
Cap: 27 Uncap: 27
Uncap: 0 Cap: 0
Wipe: 8 Rev Wipe: 0
Scrape: 0
Pump Cycles: 12 Pump Durations: 25400

```

- 1 ----- Print Humidity Sensor Data -----
Stable Relative Humidity: 22
- 2 ----- Pen TSR Ambient Temperature Estimate -----
Pen TSR Ambient Temperature x10 C: 170
- 3 ----- Digital Temperature Sensor Ambient Temperature -----
Digital Temperature Sensor Stable Ambient Temperature x10 C: 278
- 4 ----- Print REDI Sensor Calibration Data -----
TOF sensor, p value: 57
TOF sensor m value: 308
PZ sensor, p value: 76
PZ sensor, m value: 154
LPP sensor, p value: 80
LPP sensor, m value: 82
UPP sensor, p value: 58
UPP sensor, m value: 348
EJECT sensor, p value: 86
EJECT sensor, m value: 151
MP tray media sensor, p value: 72
MP tray media sensor, m value: 208
F calibration valid: 1
M Calibration valid: 1

```

-----Timers and counters-----
Pages Since Last Wipe : 1
Web Advance Counter : 8
Engine Page Count : 773

```

```

-----Dots_X_1000-----
SPIT_DOT_COUNT_X : 6723970
SPIT_DOT_COUNT_C : 6583975
SPIT_DOT_COUNT_M : 7244854
SPIT_DOT_COUNT_Y : 6236273
TOTAL_DOT_COUNT_R(in ml): 77
TOTAL_DOT_COUNT_C(in ml): 61
TOTAL_DOT_COUNT_M(in ml): 65
TOTAL_DOT_COUNT_Y(in ml): 57

```

61 tap results (Align and color calibrations)



NOTE: While holding the up arrow ▲, if you slightly shift your finger upward, the count will increment by 10 until the count reaches 100, and then the count will increment by 100.

An acceptable 61 tap test has identical values for the parameters in the “Color scale (factory)” (1) and “Color scale (current)” (2) on the printed report areas. “Color scale (factory)” and “Color scale (current)” will be identical after a main PCA replacement, but may not be the same under other conditions. The values should also be identical after a printbar replacement.

```

*****
WRITING SYSTEM CALIBRATION REPORT
*****

= ledb : 14
= ledb no saturation : 14

= pen_to_sim_X(zero column) #7200: -45
= pen_to_sim_Y(tof) #7200: 0
= Measured zero column and tof #7200:
= Tray: Main MD Accessory
= side: Front Back Front Back Front Back
= E-Col: 0 0 0 0 0 0 0
= TOF: 0 0 0 0 0 0

error type: sensor_n_target centroid lphase ledb vernier 3_sigma analysis
= Last pen align 0 status = 0x0 : 0 0 0 0 0 0 0 0 0 0
= Last pen align 1 status = 0x0 : 0 0 0 0 0 0 0 0 0 0
= Last pen align 2 status = 0x0 : 0 0 0 0 0 0 0 0 0 0

= Last pen align analysis die status(hex) for page 0: 0 0 0 0 0 0 0 0 0 0
= Last pen align analysis die status(hex) for page 1: 0 0 0 0 0 0 0 0 0 0
= Last pen align analysis die status(hex) for page 2: 0 0 0 0 0 0 0 0 0 0

= Last successful pen alignment values in NVM:

= Pen die X alignment (factory) #7200:
= die: 0 1 2 3 4 5 6 7 8 9
= K: -24 -6 -6 0 6 6 6 18 18 24
= C: -24 -6 -6 0 6 6 6 18 18 24

= Color scale (factory) :
= dia: 0 1 2 3 4 5 6 7 8 9
1 = K: 0x7eec 0x7f3c 0x8265 0x8280 0x8215 0x8070 0x7fcf 0x804b 0x7cea 0x7d65
= C: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= M: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= Y: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6

= Color scale (factory) :
= dia: 0 1 2 3 4 5 6 7 8 9
2 = K: 0x7eec 0x7f3c 0x8265 0x8280 0x8215 0x8070 0x7fcf 0x804b 0x7cea 0x7d65
= C: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= M: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= Y: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6

= Last density cal analysis die status(hex) for page 1: 0 0 0 0 0 0 0 0 0 0
= Last density cal analysis die status(hex) for page 2: 0 0 0 0 0 0 0 0 0 0

= Last successful density cal values in NVM:

1 = Color scale (factory):
= dia: 0 1 2 3 4 5 6 7 8 9
= K: 0x7eec 0x7f3c 0x8265 0x8280 0x8215 0x8070 0x7fcf 0x804b 0x7cea 0x7d65
= C: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= M: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= Y: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6

2 = Color scale (factory):
= dia: 0 1 2 3 4 5 6 7 8 9
= K: 0x7eec 0x7f3c 0x8265 0x8280 0x8215 0x8070 0x7fcf 0x804b 0x7cea 0x7d65
= C: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= M: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6
= Y: 0x7d51 0x7fbo 0x8063 0x81b5 0x80c5 0x81a1 0x7fc5 0x80ed 0x7dea 0x7fe6

= Last successful calibration at page count: 552
= Last failed calibration at page count: 0
= Last Calibration at page count: 552

Number of Calibrations: PEN_ALIGN_0 PEN_ALIGN_1 PEN_ALIGN_2 COLOR_CAL_0 COLOR_CAL_1 COLOR_CAL_2
Success: 3 3 3 2 2 2
Failed: 0 0 0 0 0 0
    
```


Verify that the pig tails have an adequate seal

1. Open the [Engineering Menu](#). See [Menu access on monochrome control panels on page 45](#) or [Menu access on color control panels on page 47](#).
2. Open the following menus:
 - [Service Menu](#)
 - [Special Reports](#)
 - [Print Mech Button Tap](#)
3. Test for low-pressure leaks by running the 378 tap test and verifying that there are no leaks.
4. Test for medium-pressure leaks by running the 379 tap test and verifying that there are no leaks.
5. Test for normal-pressure leaks by running the 380 tap test and verifying that there are no leaks.
6. Print a Printer Status Report.
7. Ensure that the service sled is aligned with the arrows, and then perform a 21 tap test. Verify that the service sled moves smoothly, and that once it caps the printbar, that the cap is level and aligned correctly.
8. Turn the printer off using the power button, and then unplug the printer.



IMPORTANT: You must install a new duplex module before calibration/initialization.

Troubleshooting flowchart

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.

This flowchart highlights the general processes that you can follow to quickly isolate and solve printer 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 2-3 Troubleshooting flowchart

1 Power and electronics	Is the printer on and does a readable message display?		Follow the power-on troubleshooting checks. After the control panel display is functional, see step 2.
	Yes ↓	No →	
2 Control panel messages	Does the normal operational messaging display on the control panel?		After the errors have been corrected, go to step 3.
	Yes ↓	No →	
3 Information pages	Open the menu and print the configuration pages to verify that all the accessories are installed. Are all the accessories installed?		If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it. After evaluating the configuration pages, see step 4.
	Yes ↓	No →	
4 Image quality	Does the print quality meet the customer's requirements?		Compare the images with the sample defects in Table 2-6 Print quality defect examples on page 75 . After the print-quality is acceptable, see step 5.
	Yes ↓	No →	
5 Paper handling	Is the customer experiencing paper-handling problems?		See Solve paper handling problems on page 96 . When the paper handling issues have been resolved, see step 6.
	Yes ↓	No →	
6 Interface	Can the customer print successfully from the host computer?		Verify that all I/O cables are connected correctly and that a valid IP address is listed on the Embedded Web Server or on the printer's control panel. If error messages display on the control panel when you try to print an event log, see Control-panel messages on page 60 . 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 →	

Front-panel error codes

The following front-panel error codes indicate the current printer status or situations that might require action.

 **NOTE:** If you encounter an error code that isn't in this list, then you will likely have to return the printer for service.

 **NOTE:** Go to Services Access Workbench (SAW) at <http://h41302.www4.hp.com/km/saw/home.do> for the latest version of this document, which may include updates to the following table.

Front-panel error code	Description	Remote	Onsite
0xC6FDxx02	No pen IO		
0xC6FDxx03	Incorrect pen IO		
0xC6FDxx04	Pen WDOG fault		
0xC6FDxx05			
0xC6FDxx06	Unrecognized pen type		
0xC6FDxx07	Pen LVDS error		
0xC6FDxx08	Pen ID invalid		
0xC6FDxx09	Pen ID bit flipped		
0xC6FDxx10	Pen bad DSTR		
0xC6FDxx11			
0xC6FDxx12	Pen TSR fault		
0xC6FDxx13	Pen stuck, cold		
0xC6FDxx14	Pen not heating		
0xC6FDxx15	Pen too cold		
0xC714xx20	Pen VDD short low		
0xC714xx21	Pen VDD short high		
0xC714xx22	Pen VDD expected on		
0xC714xx23	Pen VPP init short low		
0xC714xx24	Pen VPP short low		
0xC714xx25	Pen VPP short init high		
0xC714xx26	Pen VPP short high		
0xC714xx27	Pen VPP short test out of range low		
0xC714xx28	Pen VPP short test out of range high		
0xC6FDxx15	Pen too cold		
610000B	Service station pen too cold		

Front-panel error code	Description	Remote	Onsite
610000C	Service Station Home Failure		
610000D	Service station cap home long		
610000E	Service station cap home short		
6100010	Service station stall on interlock engage		
6100011	Service sled restricted movement service error		
6100012	Lift restricted movement service error		
6100013	Carriage restricted movement service error		
6100017	Printbar transmission state error		
610001E	Paper motor thermal error		
610001F	Duplex motor thermal error		
6100020	Output motor thermal error		
610002D	Paper load tray 1 pick motor		
610002E	Paper load pick tire index sensor		
6100035	Printbar clutch slippage		
610004E	Pen startup spits already done		
61000C4	Service wipe pens away from cap motor		
61000C7	Service wipe pens toward cap motor		
61000C8	Service move to transmission state		
61000D2	DPU service station unlimited move		
61000D3	DPU printbar crash into service station		
61000C9	Service carriage home invalid		
61000D4	DPU printbar under service station		
83C00024	Invalid firmware upgrade		

Front-panel error code	Description	Remote	Onsite
C18A000A	The spittoon level is too full during OOBE. The printer may be attempting a second OOBE.		
C4EBAxxx	Internal bus error		
C4E81xxx	Internal bus error		
C4E0Dxxx			
All other C4Exxxxx errors			
C7140024	VPP power short detected		
C8190012			
C8190014			
E8190Cxx			
E8191Cxx			

Control-panel messages

 **WARNING!** Whenever turning the printer off for servicing, wait 5 seconds, and then remove the power cord before attempting to service the printer. If this warning is not followed, severe injury can result, in addition to damage to the printer.

 **NOTE:** Go to Services Access Workbench (SAW) at <http://h41302.www4.hp.com/km/saw/home.do> for the latest version of this document, which may include updates to the following table.

Message	Description	Remote	Onsite
Non-HP ink cartridges installed	The printer has detected a non-HP cartridge or cartridges.		
Used or Counterfeit Cartridge Detected	The printer has detected a refilled or counterfeit cartridge.		
Counterfeit Cartridge Advisory	The printer has detected a possibly counterfeit cartridge.		
Used, Refilled or Counterfeit Cartridge Detected	The printer has detected a possibly counterfeit cartridge.		
Use SETUP cartridges	The printer needs the setup ink cartridges that came with the printer to perform the initial setup process.		
Do not use SETUP cartridges	The setup cartridges that came with the printer cannot be used after the printer has been initialized.		
This printer is not designed to use continuous ink systems.	The printer has detected a continuous ink system.		
To resume printing, remove continuous ink system and install original HP (or compatible) cartridges.			
OR			
Incompatible Cartridges			
The indicated cartridges are not intended for use in this printer.	The cartridge or cartridges in the printer are not appropriate for the printer. The cartridge type, size or the model of cartridge may not be correct.		
Service Motor Stall			
Ink cartridge problem	The printer has detected that a cartridge is missing or damaged.		
Empty Ink Cartridge			
Startup Routine Ink Alert	The cartridge indicated might not have enough ink to complete the printer startup process.		

Message	Description	Remote	Onsite
HP Protected Cartridge Installed	The printer has detected cartridges that were locked in another printer using the HP Cartridge Protection feature. Cartridges locked in another printer will not work in this printer.		
Ink Sensor Failure	The printer ink sensor has failed and the printer no longer prints.		
Ink Sensor Warning	This message can occur when using a refilled ink cartridge or when the ink sensor has failed.		
Low on ink	The ink level in the indicated cartridge has reached a low level.		
Very low on ink	The ink level in the indicated cartridge has reached a very low level.		
Ink Cartridges Depleted			
Problem with SETUP cartridges	The printer has detected a problem with the setup cartridges, which prevents the printer from completing the initialization process during initial installation.		
Problem with Printer Preparation	<p>The Problem with Printer Preparation message can occur due to the following conditions:</p> <ul style="list-style-type: none"> • The printer clock has failed and ink preparation might not be complete. • The Estimated Ink Level gauge might be inaccurate. 		
Preparing printer...	The Preparing printer... message can occur frequently, for example with every other printed page.		
Paper Jam <Location>	The printer has experienced a paper jam. Printing cannot continue until the jam has been cleared.		
Paper too short	The printer cannot print on paper smaller than 12.5 cm (4.9 in) in length.		
Main Tray 2 Missing or Open	The printer cannot detect the tray.		

Message	Description	Remote	Onsite
Service Ink Capacity Warning	The maintenance ink container on the duplex module is full or almost full. This can cause print quality issues (smearing). Replace the duplex module, and then reset the service ink detection mechanism.		
Automatic Document Feeder cover open	The document feeder cover is open.		
Paper Jam in Automatic Document Feeder	The printer has detected a jam in the document feeder.		
Accessory Tray 3 Missing or Open	The printer cannot detect the tray.		
Add Paper to Multi-Purpose Tray	The printer cannot detect paper in Tray 1.		
ADF Misfeed	The printer has detected a failure to feed paper through the document feeder.		
Ink cartridge failure	The printer has detected damage to one or more ink cartridges.		
Printer Supply Upgrade	The printer has detected an upgrade cartridge.		
Printer Supply Upgrade Problem	A supply upgrade failed.		
Previously used genuine HP cartridges installed	The printer has detected a used cartridge or cartridges.		
Duplex Module Missing	The printer cannot detect the duplex module.		
Close Left Door	The left door is open.		
Close Ink Access Door	The ink cartridge door is open.		
Clear Output Area	The printer has detected a jam in the output area.		
Tray 2 Out of Paper	The printer cannot detect paper in the tray.		
Tray 3 Out of Paper	The printer cannot detect paper in the tray.		
Tray 3 Door Open	The jam access door on the right side of accessory Tray 3 is open or shut incorrectly.		
Tray 4 Out of Paper	The printer cannot detect paper in the tray.		
Tray 4 Door Open	The jam access door on the right side of accessory Tray 4 is open or shut incorrectly.		

Message	Description	Remote	Onsite
Paper type mismatch	The paper type detected by the printer does not match the type selected in the software.		
Paper type mismatch	The paper size detected by the printer does not match the size selected in the software.		
Paper too short to auto-duplex	The paper in the printer does not meet the minimum size requirements for automatic two-sided printing (duplexing).		

Error-related symptoms

Symptom	Remote solution	Onsite solution
The printer does not pick up paper	The printer does not pick up paper from the input tray. See The printer does not pick up paper on page 97.	See The printer does not pick up paper on page 97.
The printer picks up multiple sheets of paper at once	See The printer picks up multiple sheets of paper on page 97.	See The printer picks up multiple sheets of paper on page 97.
Product states that the tray is empty, even though it has paper	See The printer states that a paper tray is empty, even though it has paper on page 97.	See The printer states that a paper tray is empty, even though it has paper on page 97.
Paper jam in Tray 2	See Clear jams in Tray 2 on page 105.	See Clear jams in Tray 2 on page 105.
Print zone jam	See Print zone jams on page 100.	See Print zone jams on page 100.
Generic paper jam error	See Resolve paper jam issues on page 102.	See General paper jams issues (onsite solutions) on page 99.
Clear output tray error	See Clear jams in the output bin on page 110.	See Output tray jam errors (onsite solutions) on page 99.
Output motor stall	See Output motor stall on page 101.	See Output motor stall on page 101.
Output flap won't retract (no obstacle to prevent it)	See Output flap won't retract - no obstacle to prevent it on page 101.	See Output flap won't retract - no obstacle to prevent it on page 101.
Paper jams continuously	Paper continues to jam after jam is cleared. See Frequent jams in the paper path (onsite solutions) on page 99.	See Frequent jams in the paper path (onsite solutions) on page 99.

Check symptoms

Power and electronics

If a printer status page can be printed, see [Solve connectivity problems on page 113](#). If the printer's power does not come on, or a printer status page cannot be printed, use the following steps to troubleshoot:

Verify that the printer power is on

1. Make sure that the printer is plugged in and turned on and the cables are all connected correctly. The power button should be lit with a green light. If it is not, press the power button. It should first glow with an amber color, and then change to green once it is ready. If the power button does not light up, check the following conditions:
 - Make sure that the power cable is connected to the printer and the outlet.
 - Check the power source by connecting the power cable to a different outlet.
 - If the power button is still not lit with an amber light when the power button is pressed, then the power supply is likely faulty. Replace the power supply.



NOTE: In rare cases, this symptom can also be caused by a faulty main PCA.

2. If the amber light does come on, then the power supply is operating correctly. After pushing the power button, if the green power light does not glow, check the following:
 - There is one green LED on the main PCA that flashes when the processors are operating correctly. If this LED is not flashing, then the main PCA is probably faulty.
 - In rare cases, the power button assembly might be defective.
3. If the printer motors do not rotate, make sure that the ink cartridges are installed and that the doors are all closed. The control panel displays messages to indicate these problems.
4. If the printer powers up, but the front panel does not work, check the following:
 - Try printing a document. If the printer can print, then the control panel or control-panel FFC might be defective.
 - If the printer doesn't print, then the main PCA might be defective.

Test the control panel

1. Open the [Engineering Menu](#). See [Access the Engineering menu on page 45](#) for information accessing the [Engineering menu](#).
2. Select the [Service menu](#).
3. Select [Service tests](#).
4. Run the following tests:
 - [Test Keys](#)
 - [Test LEDs](#)
5. If any of these tests fail, or if the control-panel FFC is damaged, replace the control panel.
6. Restart the printer after performing these tests, even if the tests pass successfully.

Check the network connections

1. Check the light next to the network connection on the printer. If the network is active, the light is green.
2. Make sure that you are using a network cable and not a phone cord to connect to the network.
3. Make sure that the network router, hub, or switch is turned on and that it is working correctly.
4. Verify the port settings:
 - a. From the list of printers on your computer, right-click the name of this printer, click **Properties**, and click the **Ports** tab.
 - b. If you are using a network cable to connect to the network, make sure that the printer name listed on the **Ports** tab matches the printer name on the configuration page.
 - c. If you are using a USB cable and are connecting to a wireless network, make sure that the box is checked next to **Virtual printer port for USB**.
5. If you are using a personal firewall system on the computer, it might be blocking communication with the printer. Try temporarily disabling the firewall to see if it is the source of the problem.
6. If your computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.

The printer prints slowly

If the printer prints but it seems slow, try the following solutions:

1. Make sure that the computer meets the minimum specifications for this printer. For a list of specifications, go to this Web site: www.hp.com/support.
2. If the paper type setting is not correct for the type of paper you are using, change the setting to the correct paper type.
3. If your computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.
4. If the printer is in an environment that experiences high humidity, low temperatures, or both conditions, the print speed might be affected.

Solve print quality problems

Print quality troubleshooting flowchart

Table 2-4 Print quality troubleshooting flowchart

1	Genuine HP cartridges must be used for best results.	Replace any non-HP cartridges. See Use genuine HP cartridges on page 67 for more information.
Are genuine HP cartridges being used?	Yes ↓	No →
2	HP ColorLok paper must be used for best results	Replace non-HP ColorLok paper. See Use HP ColorLok Paper on page 69 .
Is HP ColorLok paper being used?	Yes ↓	No →
3	The print settings must be set correctly for the paper type being used.	Correct the print settings. See Use the correct print settings on page 70 .
Are the print settings correct?	Yes ↓	No →
4	The print quality page can help identify causes of print quality problems.	See Diagnose print quality problems using the print quality page on page 74 .
Print a Print Quality Page		

Use genuine HP cartridges

 **CAUTION:** The use of non-HP ink cartridges might damage the printer printhead.

HP recommends that you use genuine HP cartridges. HP cannot guarantee the quality or reliability of non-HP cartridges or refilled HP cartridges. If you are not using genuine HP cartridges, the following solutions might not resolve your print quality issue.

Determine if you are using genuine HP cartridges

Use the HP embedded Web server (EWS) to view the ink cartridge information

1. Open the printer EWS, click on the **Tools** tab, and then select **Cartridge Level Gauge**.
2. In the **Installed Cartridges** area, genuine HP ink usage is indicated by the following:
 - In the **Part Number** row, the ink cartridge part numbers begin with the letters “HP”.
 - The **Type** row contains an HP logo.
 - The **HP** row has the value “1”.

 **NOTE:** A value of “1” in the **Use** row indicates non-HP ink usage.

Use the printer status report to view the ink cartridge information

1. Print a printer status report.
2. Genuine HP ink usage is indicated by the following:

- Line 43 Use: the value for this line should be 0. A value of 1 indicates that a non HP supply is installed. This field is reset with each supply change.
- Line 45 HP: the value for this line should be 1. A value of 1 indicates that an HP supply is installed. A value of 0 indicates that a non-HP supply is installed. This field is reset with each supply change.
- Line 48 NHIO: the value for this field should be 0 or 00. If the value for this item is not 0 or 00, then a non-HP ink cartridge has been installed in the printer but not necessarily used. This field is persistent, and not reset.
- Line 49 IRO: the value for this field should be 0 or 00. If the value for this item is not 0 or 00, then a non-HP ink cartridge has been installed in the printer and the user confirmed the message to use the non-HP ink. This field is persistent, and not reset.

Figure 2-1 Printer status report—determining genuine HP ink usage

Printer Status Report																																							
Product Information																																							
1. Model Name: HP PageWide Pro 577 SFP																																							
2. Model Number: 5770w																																							
3. Serial Number: CNSAN8Y01Z																																							
4. Product Number: G3Q25A																																							
5. Service ID: 20011																																							
6. Printer Zone (PZ): 2																																							
7. Firmware Version: M4HDWOPPIA001.1548Q.00.00																																							
8. Country/Region: US / 1																																							
9. Duplexer: Installed																																							
10. ADF: Installed																																							
11. DFI: UD																																							
12. Date/Time: 1/26/2016 04:32:47 PM																																							
Print Usage Information																																							
13. Total Pages Printed: 635																																							
Connectivity Settings																																							
16. Network Settings: Online																																							
17. Active Connection Type: Wired																																							
18. URL: http://15.98.88.144																																							
19. Hostname: HP0F006A																																							
20. Admin Password: Not Set																																							
Scan Settings																																							
21. Front Panel Destinations List: 0																																							
22. Scanner Glass Test: Not Run																																							
Scan Usage Information																																							
23. Pages Scanned: 4																																							
24. Scans From ADF: 4																																							
Fax Settings																																							
25. Speed: Medium (1440)																																							
26. Backup-Fax Receiver: On																																							
27. Fax Forwarding: Off																																							
28. Auto Answer: On																																							
29. Rings to Answer: 5																																							
30. Distinctive Ring: All Rings																																							
31. (ECM) Error Correction Mode: On																																							
32. Fax to PC: Off																																							
33. Digital Fax: E-mail																																							
34. Digital Fax: Network																																							
Fax Usage Information																																							
35. Faxes Sent: 0																																							
36. Faxes Received: 0																																							
<table border="1"> <tr> <td>43. USE:</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>45. HP:</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>					43. USE:	0	0	0	0	45. HP:	1	1	1	1																									
43. USE:	0	0	0	0																																			
45. HP:	1	1	1	1																																			
<table border="1"> <tr> <td>39. Cartridge Number:</td> <td>HP 972 SETUP H</td> <td>HP 972 SETUP H</td> <td>HP 972 SETUP H</td> <td>HP 972 SETUP H</td> </tr> <tr> <td>40. End of Warranty Date (Y-M-D):</td> <td>2016/09/03</td> <td>2016/09/03</td> <td>2016/09/03</td> <td>2016/09/03</td> </tr> <tr> <td>41. First Installation Date (Y-M-D):</td> <td>2016/01/08</td> <td>2016/01/08</td> <td>2016/01/08</td> <td>2016/01/08</td> </tr> <tr> <td>42. Cartridge Zone:</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>43. USE:</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>44. CM:</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>45. HP:</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>					39. Cartridge Number:	HP 972 SETUP H	40. End of Warranty Date (Y-M-D):	2016/09/03	2016/09/03	2016/09/03	2016/09/03	41. First Installation Date (Y-M-D):	2016/01/08	2016/01/08	2016/01/08	2016/01/08	42. Cartridge Zone:	2	2	2	2	43. USE:	0	0	0	0	44. CM:	3	3	3	3	45. HP:	1	1	1	1			
39. Cartridge Number:	HP 972 SETUP H																																						
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42. Cartridge Zone:	2	2	2	2																																			
43. USE:	0	0	0	0																																			
44. CM:	3	3	3	3																																			
45. HP:	1	1	1	1																																			
46. Approximate Pages Remaining:																																							
47. Supported Cartridges:																																							
48. NHIO:																																							
49. IRO:																																							
50. Cartridge status error:																																							
51. Supply Serial Number:																																							
52. Mo Date:																																							
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<table border="1"> <tr> <td>48. NHIO:</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>49. IRO:</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table>					48. NHIO:	0	0	0	0	49. IRO:	0	0	0	0																									
48. NHIO:	0	0	0	0																																			
49. IRO:	0	0	0	0																																			

Use HP ColorLok Paper

Based on HP internal testing using a range of plain papers, HP highly recommends using papers with the ColorLok® logo for this printer. For details, go to www.hp.com/go/printpermanence.



If HP ColorLok paper is unavailable, see [Use paper that meets HP specifications on page 70](#)

Use paper that meets HP specifications

Use different paper if you are having any of the following problems:

- The printing is too light or seems faded in areas.
- Specks of ink are on the printed pages.
- Ink is smearing on the printed pages.
- Printed characters seem misformed.
- Printed pages are curled.

Always use a paper type and weight that this printer supports. In addition, follow these guidelines when selecting paper:

- Use paper that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- Use paper that has not been previously printed on.
- Use paper that is designed for use in inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality.

Use the correct print settings

Use the correct paper type setting in the print driver

Check the paper type setting if you are having any of the following problems:

- Ink is smearing on the printed pages.
- Repeated marks occur on the printed pages.
- Printed pages are curled.
- Printed pages have small unprinted areas.

Change the paper type and size setting for Windows

1. From a software program that has the **Print** feature available, click on the **File** menu, and then click **Print**.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Paper type** drop-down list, click the **More...** option.
5. Expand the list of **Type is:** options.
6. Expand each category of paper types until you find the paper type that you are using.
7. Select the option for the type of paper you are using, and click the **OK** button.

Change the paper type and size setting for Mac

1. On the menu in the software program, click the **File** option.
2. Select a size from the **Paper Size** drop-down list.
3. Open the **Paper/Quality** menu.
4. Select a type from the **Media Type** drop-down list.
5. Click the **Print** button.

Adjust color

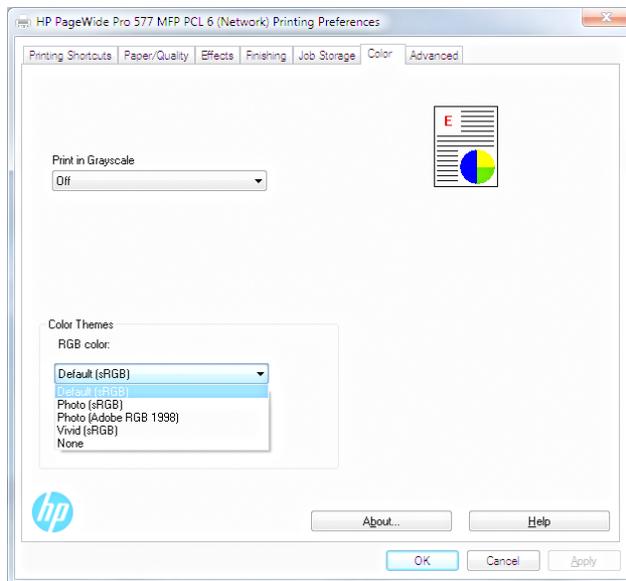
Manage color by changing the settings on the **Color** tab (Windows) and **Color Options** tab (Mac) in the print driver.

If the customer is using the correct print settings, and good quality paper, check the environmental conditions. If the printer is in a location that is very cold, or humid, there might be a failure in the temperature/humidity sensor. If the customer is not happy with the following solution, then check the sensors, and replace if necessary. The sensors status is displayed on the 12 tap test page. See [12 tap test results \(REDI sensor values\) on page 51](#).

 **NOTE:** The **HP EasyColor** check box appears only in the PCL6 print driver. It is not available in the universal print drivers.

Change the color theme for a print job

1. On the **File** menu in the software program, click **Print**.
2. Click **Properties** or **Preferences** (Windows).
3. Click the **Color** tab (Windows) or **Color Options** tab (Mac) and uncheck HP EasyColor.
4. Select a color theme from the **Color Themes** (Windows) or **RGB Color** (Mac) drop-down list.



- **Default (sRGB):** This theme sets the printer to print RGB data in raw device mode. When using this theme, manage color in the software program or in the operating system for correct rendering.
- **Photo (sRGB):** The printer interprets RGB color as if it were printed as a photograph using a digital mini lab. The printer renders deeper, more saturated colors differently than with the Default (sRGB) theme. Use this theme when printing photos.
- **Photo (Adobe RGB 1998):** Use this theme with printing digital photos that use the AdobeRGB color space rather than sRGB. Turn off color management in the software program when using this theme.
- **Vivid (sRGB):** The printer increases the color saturation in the midtones. Use this theme when printing business graphics.
- **None:** No color theme is used.

Change print settings for wet, over-saturated, or ragged edge print output

The method can only be used in the PCL6 print driver.



NOTE: The need to use this functionality should be rare. Be sure to check the following first:

That the customer is using good quality paper with the correct settings. This is by far the largest cause of this symptom.

Determine if the printer operating in a cold or humid environment.

If the printer is operating in extreme environmental conditions, check the temperature and humidity sensors. The current values can be found in the 12 tap report. If the values don't match the conditions, then the faulty sensor should be replaced. The humidity sensor is mounted on the main PCA, so in that case, the main PCA will need to be replaced.

1. On the **Printing Preferences** tab click the **Advanced** tab.
2. Click the **Ink Settings** button.
 - Increase the **Dry Time** setting to help resolve the following issues:
 - Roller tracking
 - Ink smearing
 - Starwheel tracking



NOTE: Increasing the **Dry Time** setting will slow down the overall printing process. Changing the **Dry Time** setting is most effective when using plain paper.

- Decrease the **Saturation** setting to help resolve the following issues:
 - Roller tracking
 - Ink smearing
 - Starwheel tracking



NOTE: Decreasing the **Saturation** setting might cause fading in the printed output. Changing the **Saturation** setting is most effective when using brochure or photo paper.

- The **Saturation** setting determines how much ink is used to achieve the print job. This setting is a value in the range of -2 to 2. The default setting is 0. Increasing **Saturation** setting might make images look more vibrant.
- The **Black Ink Spread** setting can help control ink spread or wicking on different types of media. This setting can be changed to one of the following values:
 - **Default:** This value is the default black ink spread setting.
 - **Less:** This value sets the ink spread at about halfway between **Default** and **Least**.
 - **Least:** This value imposes the most control on black ink spread.

Decreasing the **Black Ink Spread** will improve areas where black and color are adjacent if the black is spreading into the adjacent color.

Diagnose print quality problems using the print quality page

Print and interpret the print quality page

1. Load the printer with regular, unused white paper.
2. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the Setup menu.
3. Open the Reports menu.
4. Select the Print Quality Report item to print it.

This page contains four bands of color, which are divided into the groups as indicated in the following illustration. By examining each group, you can isolate the problem to a particular ink cartridge.

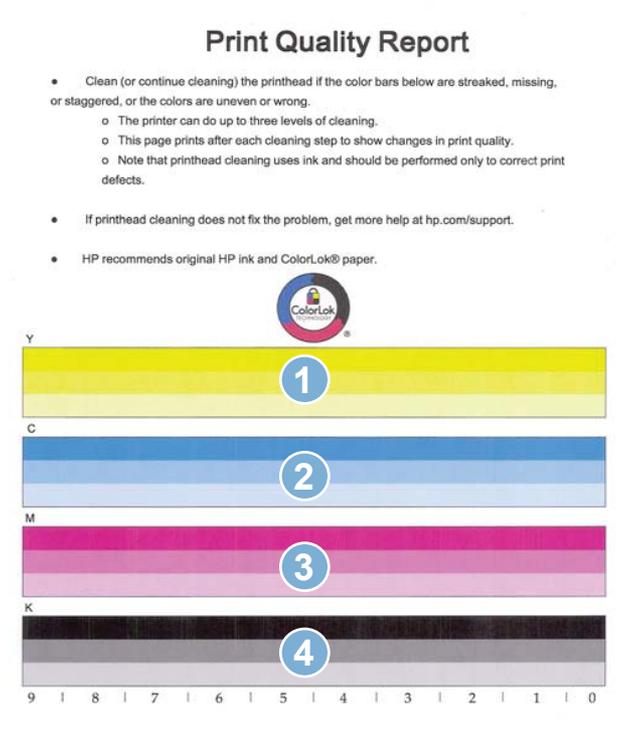


Table 2-5 Print Quality Page ink cartridge identification

Section	Ink cartridge
1	Yellow
2	Magenta
3	Cyan
4	Black

TIP: Mark this page with a “1” in a corner. If you clean the printhead later, you will want to keep track of which page was printed first, in order to note any progress.

In general, if the ink system is working correctly, all the color bars are present and not streaked. Each bar has three distinct shades, but otherwise the color should not vary across the bar. The bars should also be evenly lined up. The black text on the page should not show ink streaks.

The following table shows some representative examples of defects on the print quality report.

Table 2-6 Print quality defect examples

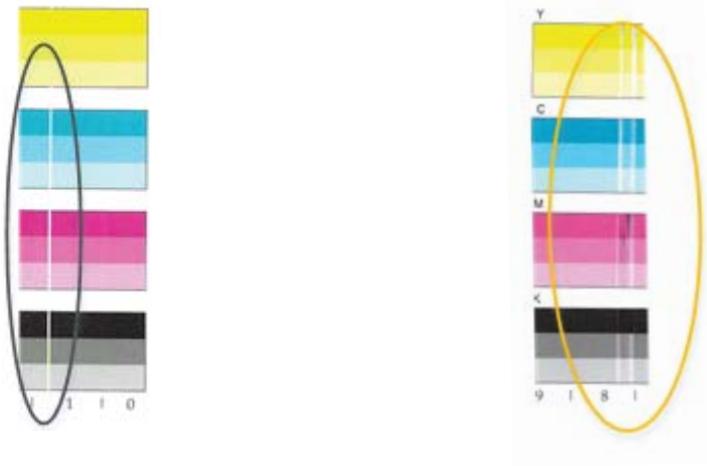
Defect/action to take	Example
Large sections of wrong or missing color Troubleshooting large sections of wrong or missing color on page 80.	
Small sections of wrong or missing color Troubleshooting small sections of wrong or missing color on page 81.	

Table 2-6 Print quality defect examples (continued)

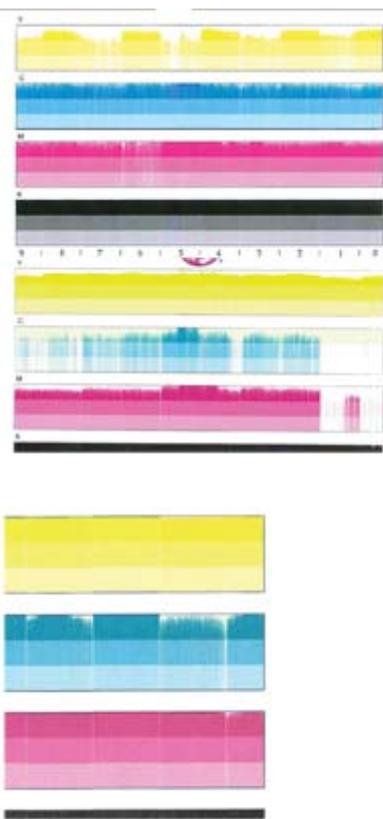
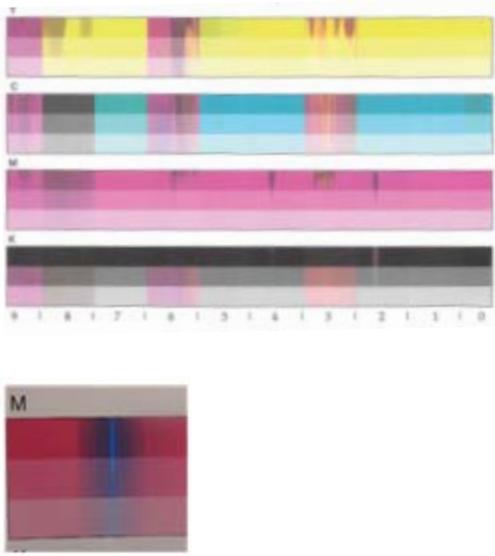
Defect/action to take	Example
<p>Streaks across entire page with multiple colors improving down the page</p> <p>Troubleshooting streaks across entire pages with multiple colors improving down the page on page 82</p>	
<p>Color mix</p> <p>Troubleshooting color mix on page 83</p>	

Table 2-6 Print quality defect examples (continued)

Defect/action to take	Example
Streaks across entire page with multiple colors consistent down the page	
Troubleshooting streaks across entire page with multiple colors consistent down the page on page 84	
	
Streaks in yellow	
Troubleshooting streaks in yellow on page 85	

Table 2-6 Print quality defect examples (continued)

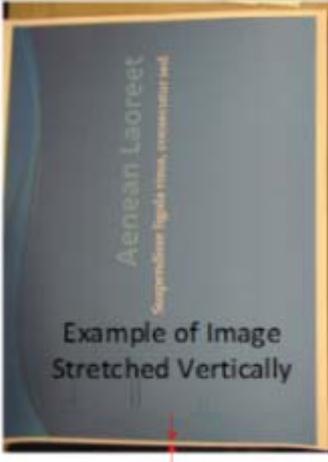
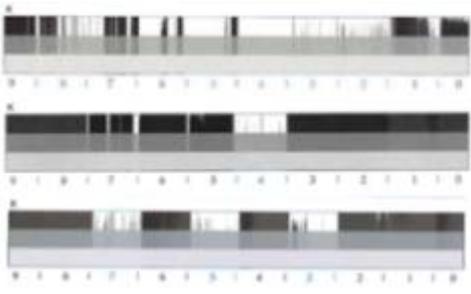
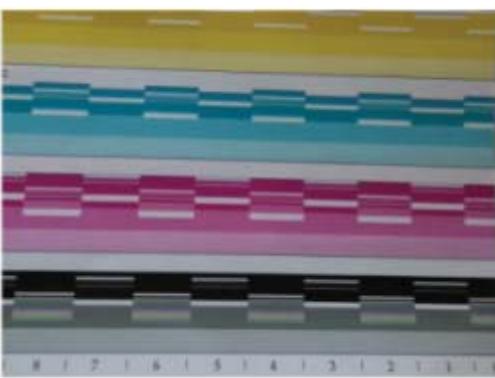
Defect/action to take	Example
<p>Ink smear</p> <p>Troubleshooting ink smear on page 86</p>	 <p>The example shows a color calibration chart with four color patches labeled Y (Yellow), C (Cyan), M (Magenta), and K (Black). Below the patches are the numbers 9, 1, 8, and 1. To the right is a printed image of the letters 'IPSU' with the number '3' below them. A yellow circle highlights a smudge or ink mark on the '3'.</p>
<p>Image stretched vertically</p> <p>Troubleshooting image stretched vertically on page 87</p>	 <p>The example shows a printed image of a book cover. The text 'Aenean Laoreet' is printed vertically. Below it, the text 'Example of Image Stretched Vertically' is printed. The image appears distorted, with the text being stretched vertically.</p>

Table 2-6 Print quality defect examples (continued)

Defect/action to take	Example
Vertical white bands on one color Troubleshooting vertical white bands on one color on page 88	
Columns of misaligned print Replace the printer.	

Print quality defect diagnostic tools

Follow these instructions to perform the tasks outlined in the following flowcharts.

Print a Print Quality Report

1. Open the [Support Menu](#). See [Menu access on monochrome control panels on page 45](#) or [Menu access on color control panels on page 47](#).
2. Open the [Reports Menu](#).
3. Scroll to and select [Print Quality Report](#), and then press **OK**.

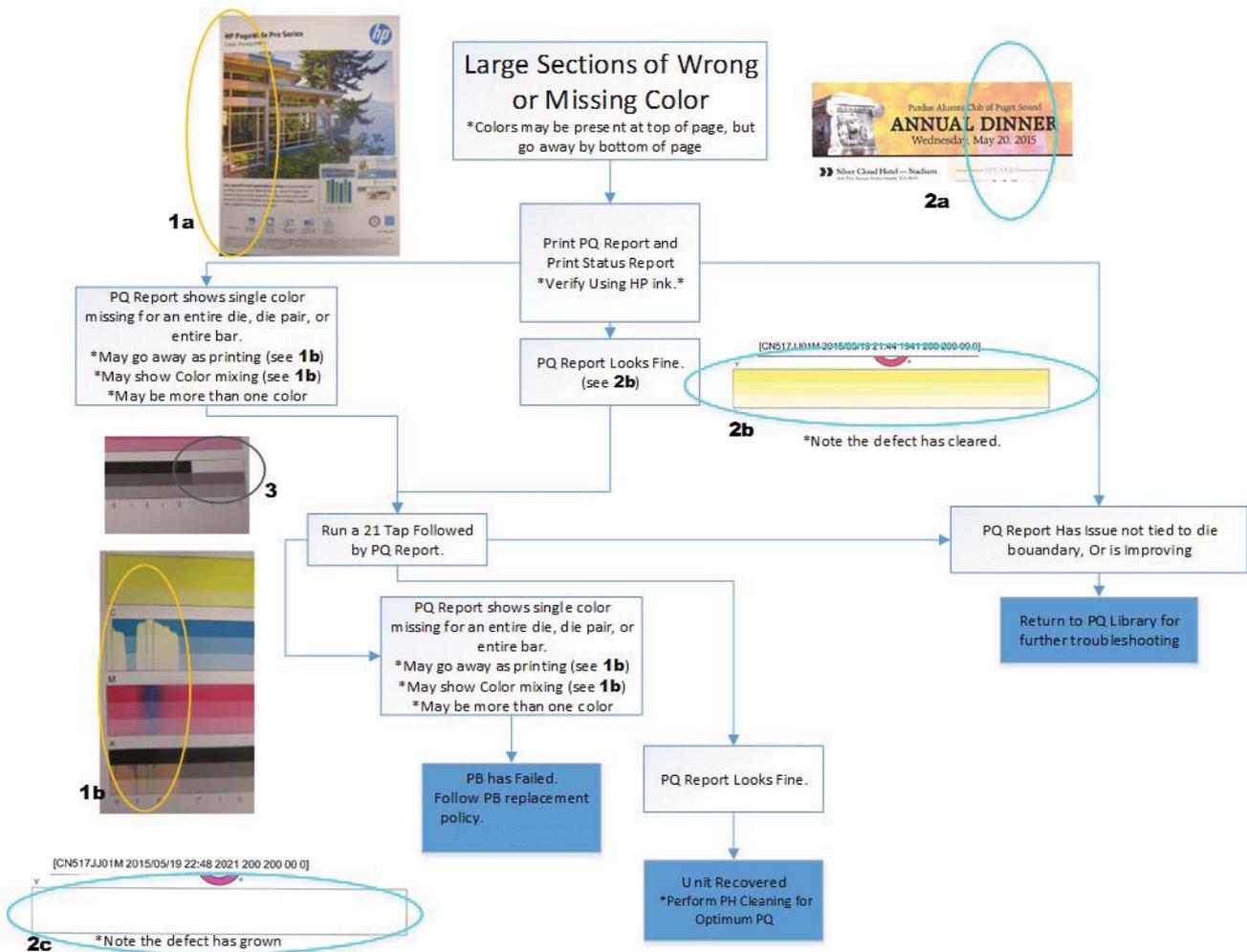
Print a Printer Status Report

1. Open the [Support Menu](#). See [Menu access on monochrome control panels on page 45](#) or [Menu access on color control panels on page 47](#).
2. Open the [Reports Menu](#).
3. Scroll to and select [Printer Status Report](#), and then press **OK**.

Perform a 21 tap test

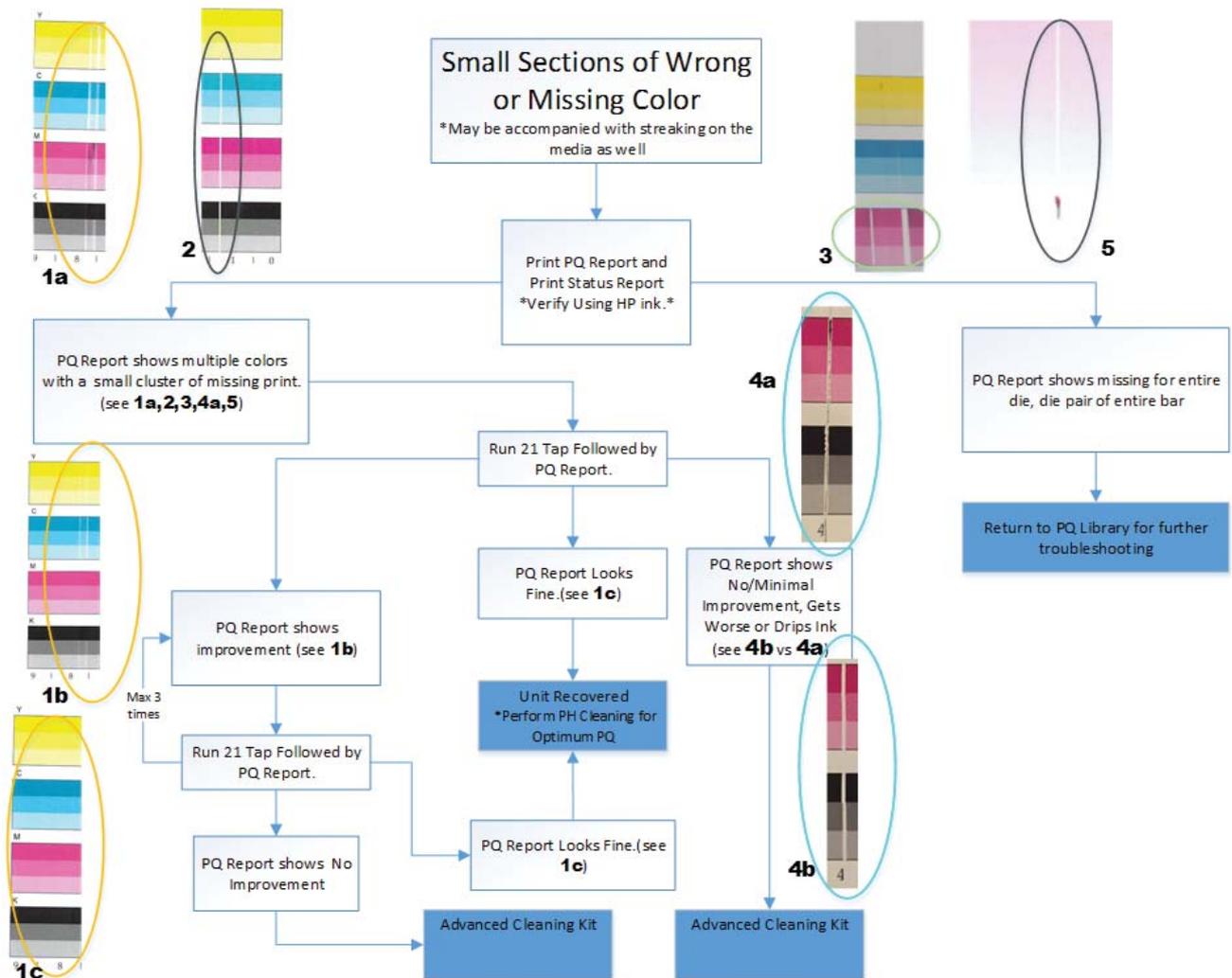
1. Open the **Support Menu**. See [Menu access on monochrome control panels on page 45](#) or [Menu access on color control panels on page 47](#).
2. Open the **Reports Menu**
3. Scroll to and select **Print-mech button tap**, and then press **OK**.
4. Press the up arrow **▲** until **code = 21** displays, and then press **OK**.

Troubleshooting large sections of wrong or missing color



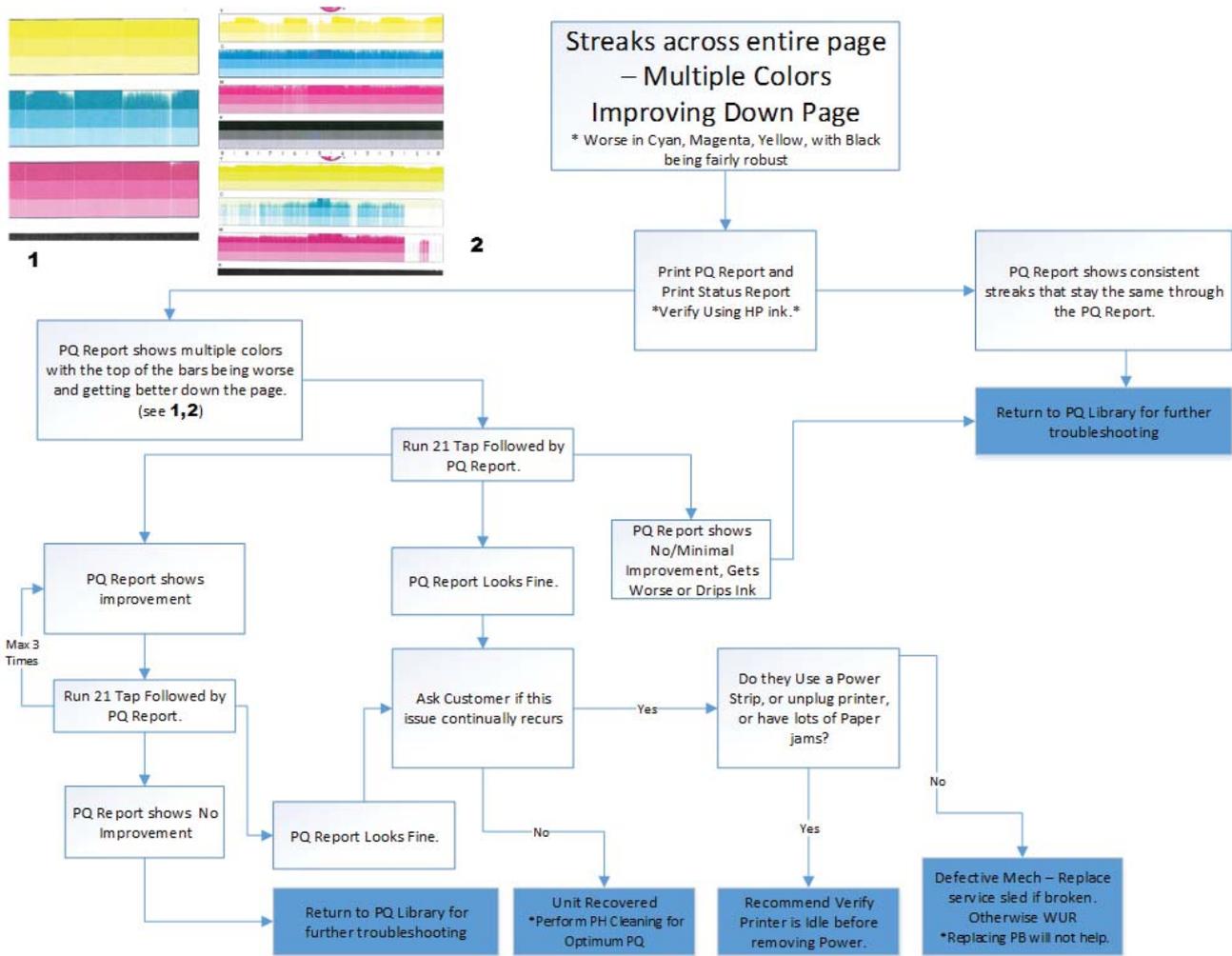
NOTE: A non-recoverable defect is caused by air in the printbar and the printbar must be replaced. A recoverable defect is caused by a singular event and this issue should not reoccur.

Troubleshooting small sections of wrong or missing color



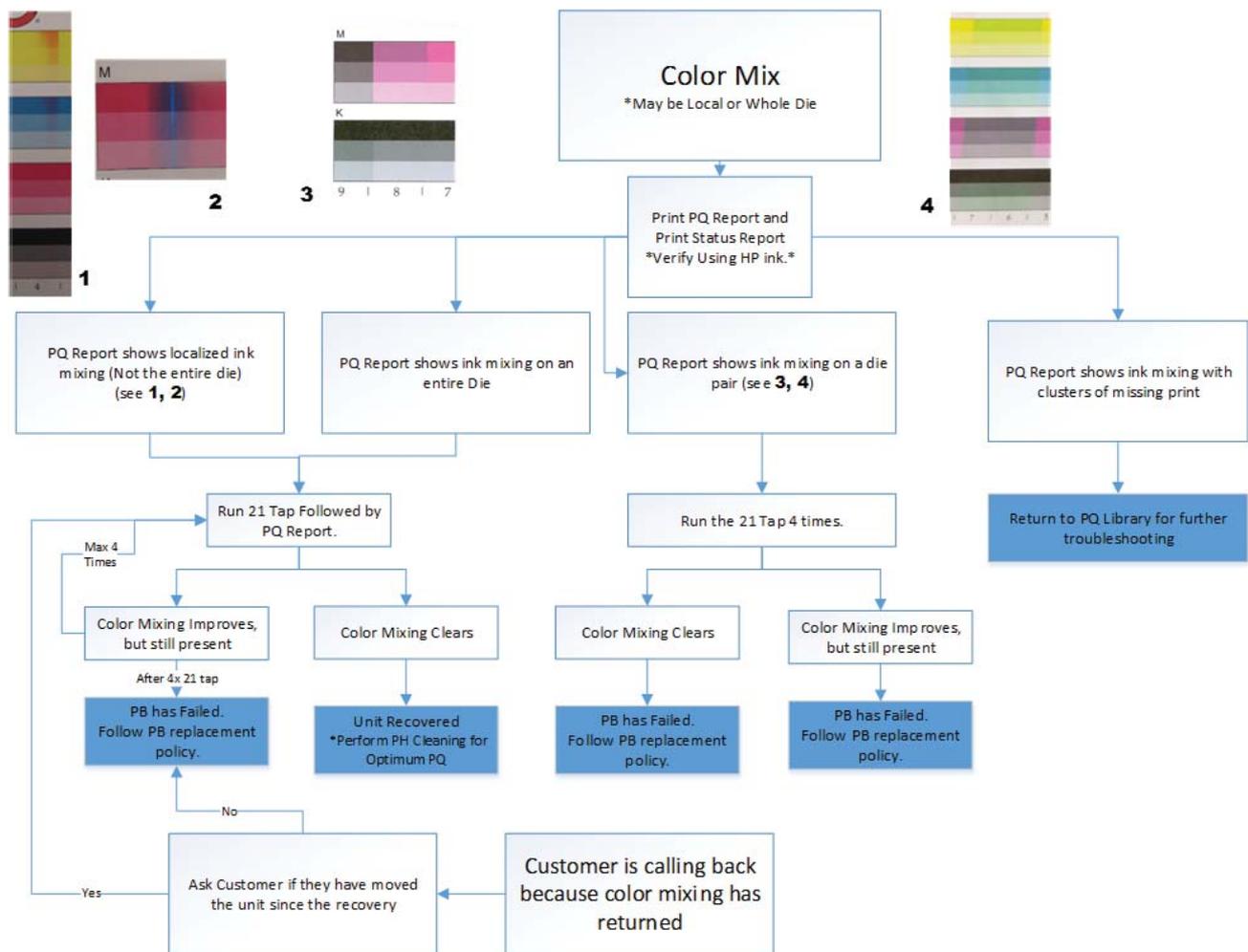
NOTE: Light and dark lines less severe than those shown in this flowchart might be the result of alignment issues. If the defect is not recoverable, it might be a result of external contaminants on the UPG Shims or internal contaminants in the nozzles. If the defect is recoverable, it is caused by external contaminants on the die, and this issue should not reoccur.

Troubleshooting streaks across entire page with multiple colors improving down the page



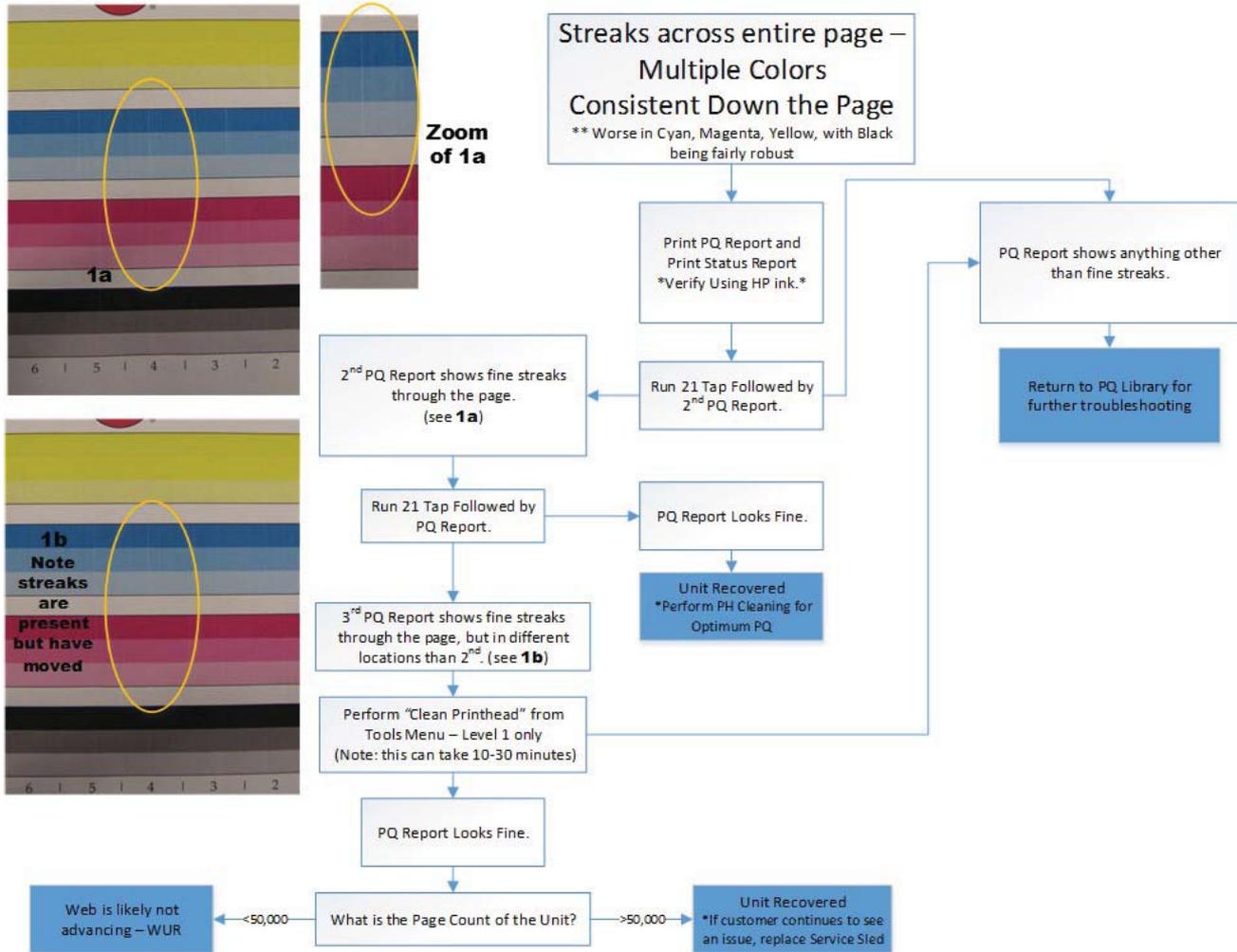
NOTE: Defects that are not recoverable or continue to reoccur might be the result of a mechanical defect, such as a broken sled. If the defect is recoverable and does not reoccur, it might be the result of the printer being left uncapped.

Troubleshooting color mix



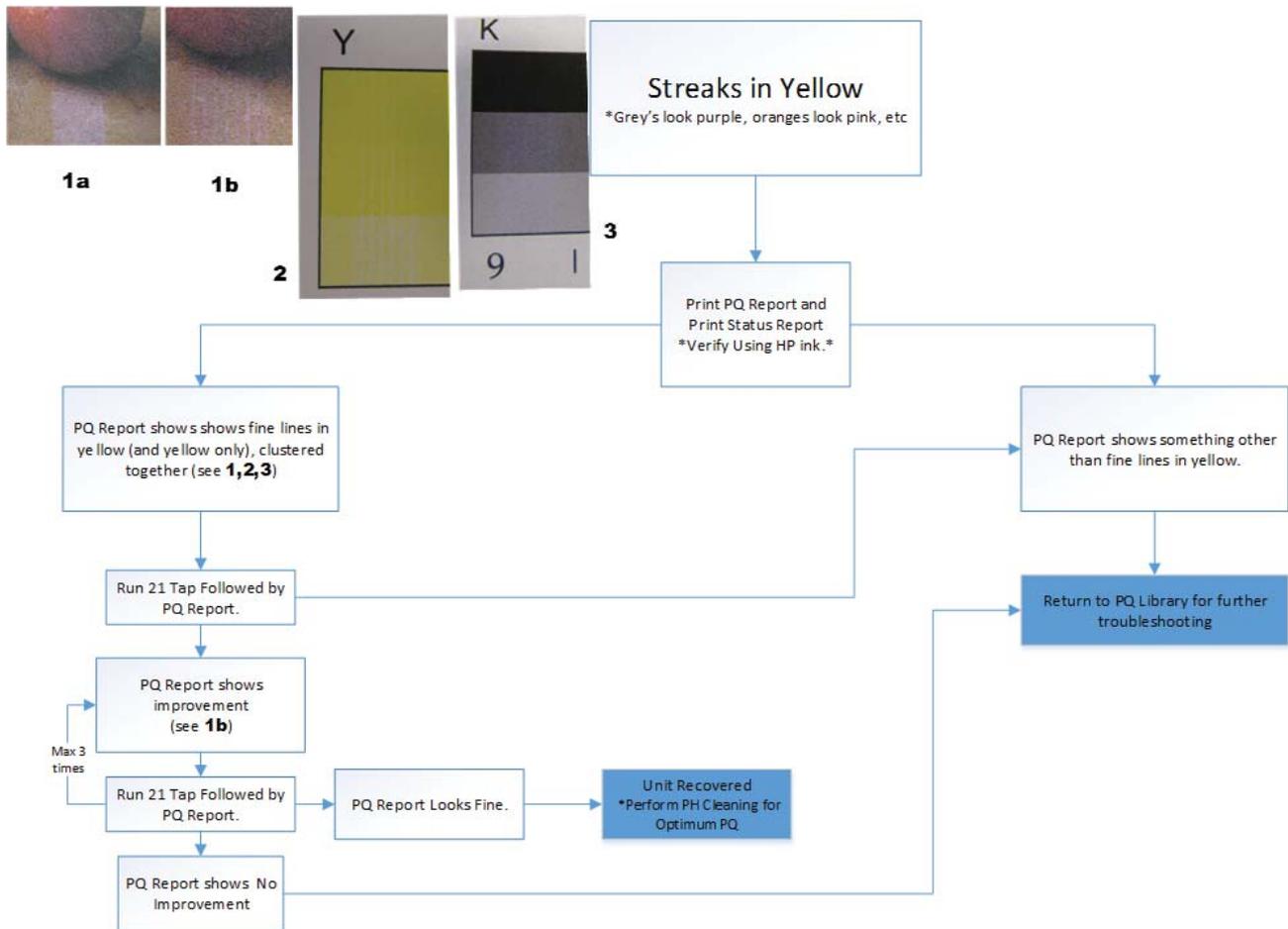
NOTE: If the defect clears, it might be caused by external contamination and should not reoccur. If the defect is not recoverable, or if it repeats, it might be the result of a printbar defect.

Troubleshooting streaks across entire page with multiple colors consistent down the page



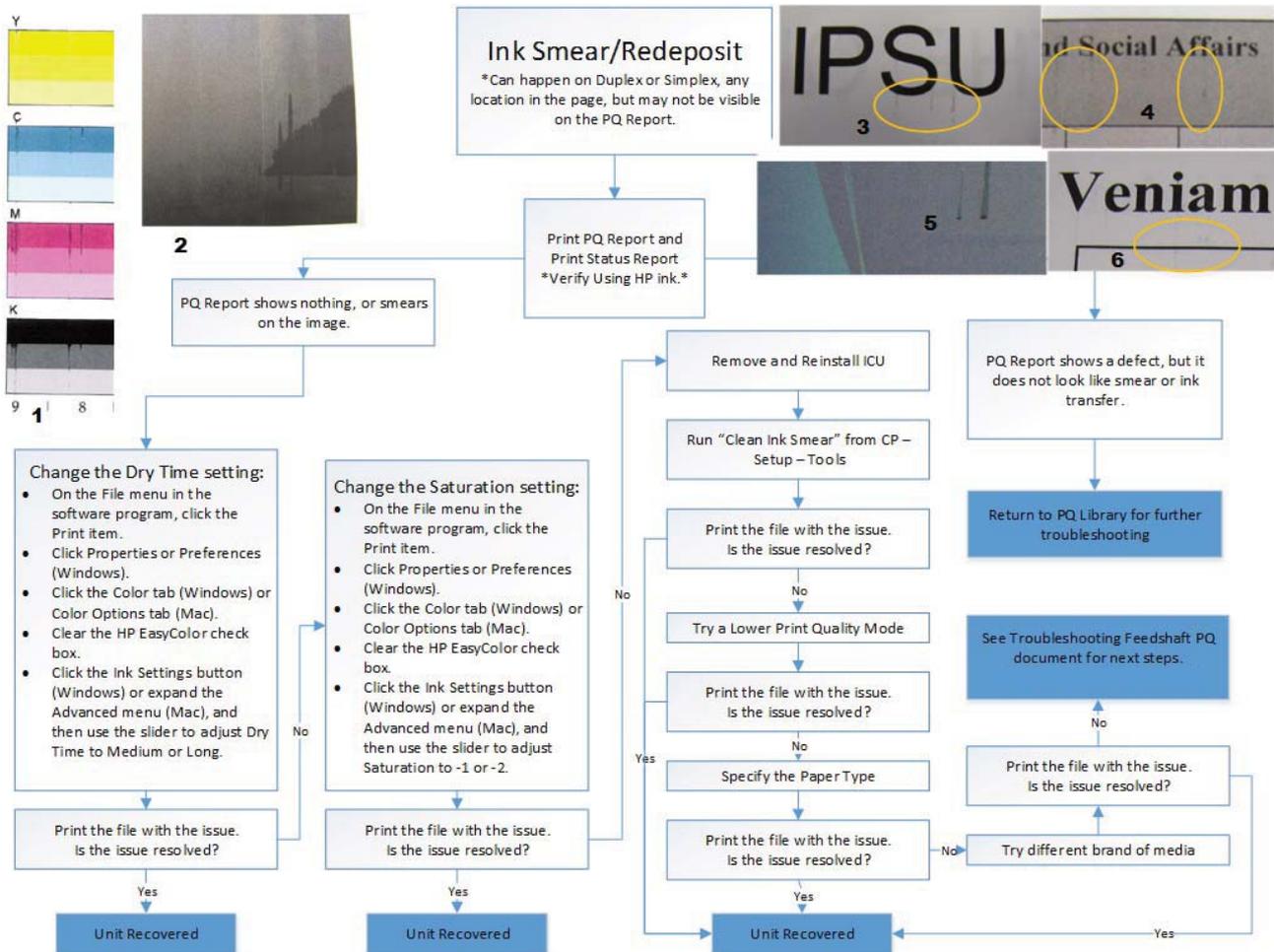
NOTE: If the defect is not recoverable, the web might not be advancing, or the service sled might require replacement. When printers are higher in age, servicing the printer can introduce air into the nozzles. Attempt to service the printer when the customer is not using the unit. If service occurs when the customer needs to print, allow the printer to sit for 15 minutes to clear the defect. If this defect continues to reoccur, replace the sled.

Troubleshooting streaks in yellow



 **NOTE:** This defect is likely a result of ink buildup on the printbar.

Troubleshooting ink smear



NOTE: The solutions in the flowchart above appear in a random order. Choose any combination of troubleshooting steps that work best for the particular ink-smear defect and the priorities of the customer. For instance, the customer might be willing to sacrifice speed, so they can adjust the slider to increase the dry time. Or they might want to use a different type of paper.

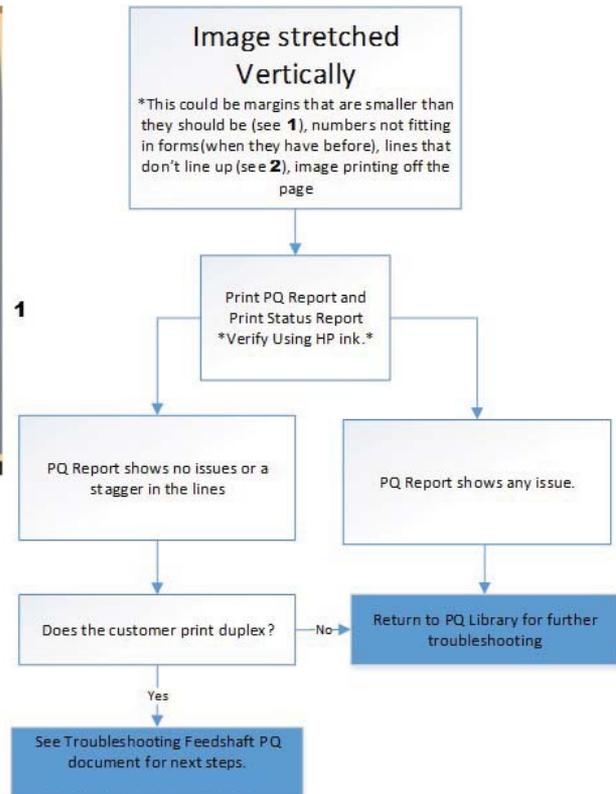
Older versions of the UPD might not support the sliders to adjust the dry time or saturation level in the **Ink settings** options. Upgrade the UPD to the latest version to gain access to this feature in the driver. Install the driver in either Traditional or Dynamic mode.

Troubleshooting image stretched vertically

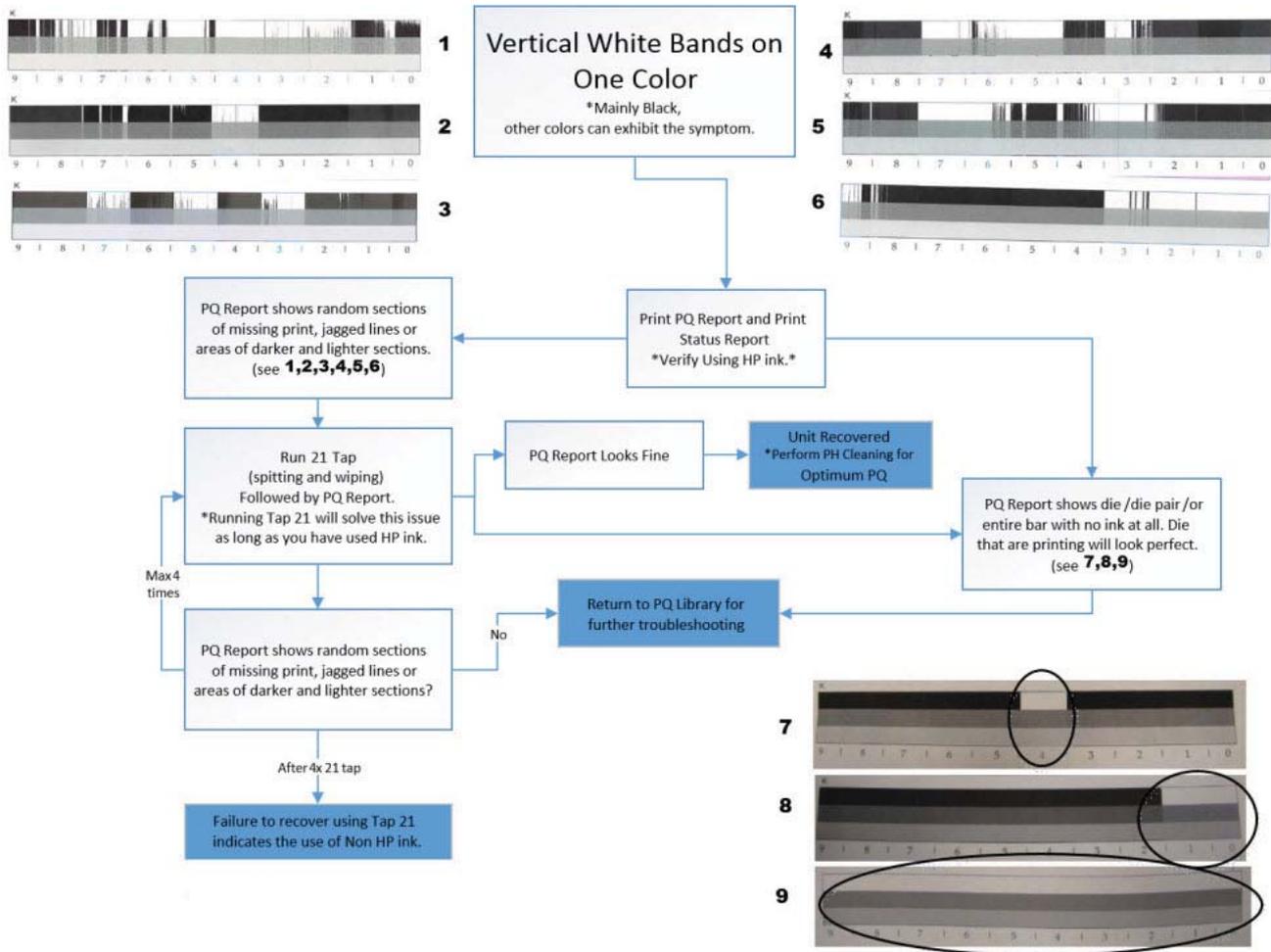


Document should have 3mm margin at top and bottom, but bottom margin is only 1mm. The image has been stretched vertically as it prints.

2
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Troubleshooting vertical white bands on one color



Solve print quality issues

Clean the printhead

If the print quality report shows defects like the ones listed in [Print and interpret the print quality page on page 74](#), clean the printhead.

The printhead cleaning process consists of two separate levels. Each level can be performed independently. After each level, a Print Quality Diagnostic page is printed. If the print quality is not acceptable, proceed to the next level of cleaning. If colors are uneven, select [Align Printhead](#) or [Calibrate Color Density](#) or both.

Printhead cleaning levels

Level 1: Spit, Wipe, Spit, BDD calibration

Level 2: Spit, Wipe, Spit, Wipe, Spit BDD calibration

Align Printhead

Calibrate Color Density

If the printhead cleaning process is interrupted, for example by a power outage or an error condition, when the process is started again it will attempt to start where it was interrupted.

1. Load the printer with regular, unused white paper.
2. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the [Setup](#) menu.
3. Open the [Printer Maintenance](#) menu.
4. Select one of the following menu items:
 - [Clean Printhead Level 1](#)
 - [Clean Printhead Level 2](#)
 - [Align Printhead](#)
 - [Calibrate Color Density](#)

 **TIP:** Number each of the print quality pages so you don't lose track of the prints later.

5. If you finish the cleaning process and still see defects on the print quality report, retry cleaning, especially if you have seen improvement in the print quality reports.
6. If the print quality report still shows defects after a second cleaning, go to the next section to service the printer.

If the defect on the print quality report is color variation across the bars (see [Print and interpret the print quality page on page 74](#)), and if the problem seems to go away after a cleaning, but then reoccurs in the same location on the color bar the next day, complete the following procedure:

1. Check to see if any of the following conditions are true:
 - Prior to the print quality problem, the printer was unused for more than three weeks.
 - The printer was recently moved or experienced a large temperature shift.
 - There was a recent paper jam.
 - The print quality problem seems to be getting better as the printer is used (especially if print jobs with dense backgrounds are printed).

If any of these conditions exist, instruct and assist the customer in performing a printhead recovery. See [Printhead recovery on page 91](#).

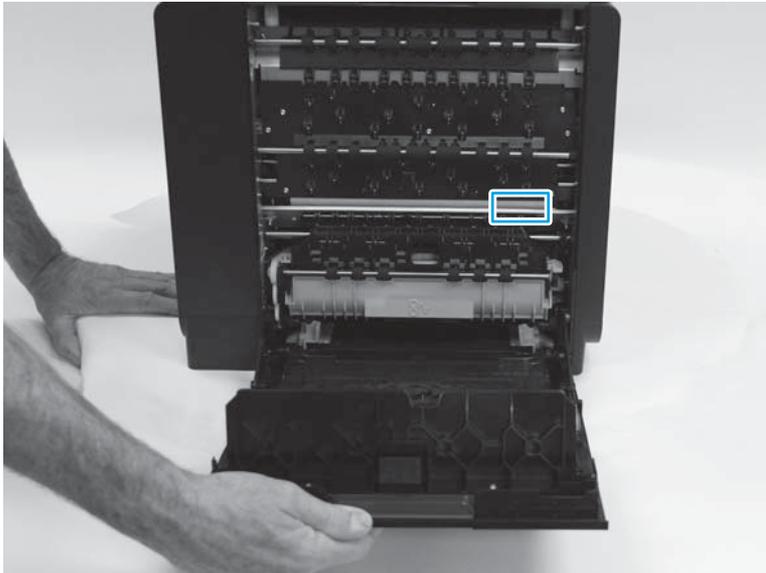
2. If none of the conditions above are true, the color problem is likely to reoccur, even if a cleaning fixes it temporarily.

If the print quality report has no defects, then the ink system is working correctly. There is no reason to clean the printhead, which unnecessarily wastes ink and paper. Complete the following steps:

1. Retry the original print job. Just printing the print quality report can solve some problems. If the print job meets print quality standards, stop troubleshooting here.
2. If problems still exist on print jobs, review the earlier steps in this document: make sure that the ink and paper are appropriate, and that the print settings are correct. In addition, these suggestions might help with some problems:

- If you are printing an image, make sure it has sufficient resolution. Images that have been enlarged too much might appear fuzzy or blurry.
- If the problem is confined to a band near the edge of a printout, use the software you installed with the printer or another software program to rotate the image 180°. The problem might not appear on the other end of the printout.
- Always use the power button to turn the printer off. This protects the printhead from exposure to air.
- If all colors are experiencing poor print quality, there might be an issue with the Web wipe not advancing. Open the left door, and then mark the edge of the Web wipe above the duplex module.

Figure 2-2 Mark the Web wipe



Run the printer so that it performs a wipe, and then see if the Web has advanced. If it has not, replace the Web wipe/service sled assembly using the service sled kit. For the 300/400 series models, use part number D3Q24-67001. For the 500 series models, use part number D3Q24-67002.

3. If the problem persists, contact HP to service the printer.

Clean ink smears

Print a cleaning page to remove dust and excess ink from the printhead and paper path if you are having any of the following problems:

- Specks of ink are on the printed pages.
- Ink is smearing on the printed pages.
- Repeated marks occur on the printed pages.

Use the following procedure to clean ink smears.

1. Load the printer with regular, unused white paper.
2. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the [Setup](#) menu.

3. Open the [Printer Maintenance](#) menu.
4. Select the [Clean Ink Smear](#) item.
5. Touch the [OK](#) button to begin the cleaning process.

A page feeds through the printer slowly. Retain this page for further print quality evaluation.

If the print jobs are showing ink smears on the back of the page, try the following solutions:

- Remove the duplex module and then reinstall it. Black ink can build up on the duplex module on printers that have been used heavily (over 100,000 pages of printed output).
- The platen might have an ink buildup. Run a few sheets of blank (no text/graphics) thick paper through the printer to clean the platen.
- Check the ink service station level:
 1. Open the [Support Menu](#) by pressing the Back ↵ button four consecutive times.
 2. Scroll to the [System Configuration Menu](#).
 3. Select [Service ink container](#) or [Duplex module](#).
 4. Select [View current status](#).
 5. If the Service ink container level is 95% or more, replace the ink collection unit.
- If the error persists, service the printer.

Printhead recovery

Use the printhead recovery procedure if a color mix issue reappears after printhead cleaning, but one of the following is true:

- Prior to the print quality problem, the printer was unused for more than three weeks.
- The printer was recently moved or experienced a large temperature shift.
- There was a recent paper jam.
- The print quality problem seems to be getting better as the printer is used (especially if prints with dense backgrounds are printed).



IMPORTANT: Never perform the printhead recovery procedure more than two times in one day. Excessive printhead recovery wastes ink and can result in ink leaks.

1. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the [Setup](#) menu.
2. Select [Printer Maintenance](#).
3. Select either [Clean Printhead Level 1](#) or [Clean Printhead Level 2](#) (depending on the degree to which you want the printhead cleaned), and then select [Printhead Recover](#).

-or-

Open the [Reports](#) menu, select [Print Mech Button Tap](#), and then select [23](#) to perform a 23 Tap test. A printhead recovery is performed as part of the 23 Tap test.

Advanced cleaning

If white lines still appear in printed output after the printhead and ink smears have been cleaned, the cause of the white lines might be a shim whisker. This issue typically appears with printers with high page counts that operate in dirty environments.

A shim whisker is a piece of fiber (such as carpet fiber or hair) adhering to either the printhead or to the shims underneath the printhead. On denser images, it can also result in ink drips/smearing on the page.

If shim whiskers are suspected, ship the customer an Advanced Cleaning Kit (part number CN459-67006).

Use the Advanced Cleaning Kit

1. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the [Setup](#) menu.
2. Select [Printer Maintenance](#), and then select [Perform Advanced Cleaning](#).
3. Load the foam-backed sheet included in the Advanced Cleaning Kit into the printer, and then touch [OK](#). The foam-backed sheet feeds through the printer slowly, about two inches per second.

 **NOTE:** The cleaning sheet must be run through the printer with the correct orientation. The foam pad should be closer to the left side of the paper tray. If the cleaning sheet is run through with the wrong orientation, it will still work, but there is the possibility of the user experiencing an output paper jam.

 **NOTE:** The foam-backed sheet might need to be run through the printer more than once to remove the fiber.

 **NOTE:** Vertical lines in the printed output can have other causes besides shim whiskers. Use of the Advanced Cleaning Kit is normally the last step before servicing the printer to solve this issue.

Other Support Menu print quality procedures

 **NOTE:** These procedures are normally used by service technicians.

Solve “ghosting” print quality issues

1. From the Home menu, touch the Back  button four times consecutively.
2. Select [Support Menu](#).
3. Open the [Reports Menu](#).
4. Select [Print-mech Button Tap](#).
5. Select [22](#), and then touch the [OK](#) button.

Solve incomplete alignment issues

Print a printer status page. The results of these calibrations is listed in row 69 of the printer status page. If the number of successful calibrations is zero, or if you think that the last calibration effort failed, then run the pen alignment calibration and/or the printhead die density calibration using the following steps.

 **NOTE:** These calibrations are also implicitly called in the Clean Printhead tool, and this would be the way a customer would invoke calibrations. This method would typically only be used for service tech test/troubleshooting.

1. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the [Setup](#) menu.
2. Select [Printer Maintenance](#).
3. Open the [Printhead Diagnostic Menu](#), and then select [Printhead Calibration](#).
4. Select either [Align Printhead](#) or [Calibrate Color Density](#).

Inspect the ink cartridge for damage

Ink cartridges should be cleaned and inspected for damage if any of the following control-panel messages appear:

- **Ink Cartridge failure**
- **Problem with SETUP cartridges**
- **Ink Cartridge problem**

If cleaning the ink cartridges does not clear the error message, use the following steps to inspect the ink cartridge for damage:

1. Remove the ink cartridge from the printer, and verify that there is no debris in the cartridge path.
2. Examine the metal connector of the ink cartridge.

CAUTION: Do not touch the metal connector on the edge of the cartridge. Fingerprints on the metal connector can cause print-quality problems.



3. If you see any scratches or other damage on the metal connector, replace the ink cartridge.
4. If the metal connector does not appear to be damaged, push the cartridge gently back into its slot until it locks in place. Print a few pages to see if the problem has resolved.



NOTE: If any of these control-panel messages appear while the printer is being installed, and the printer initialization hasn't completed, then the setup cartridge must be replaced with another setup cartridge. If the customer cannot wait for a new setup cartridge to be delivered, it is possible to override the use of setup cartridges, and use trade cartridges. In this case, you must use full XL cartridges. Use the following steps to override the use of setup cartridges.

Override the use of setup cartridges

1. Open the **Support** menu.
2. Select **System Configuration Menu**, and then select **Trade at OOB**.
3. Ensure that all doors and trays are closed.
4. Unplug the printer, wait 30 seconds, and then plug the printer back in.
5. If trade supplies are being used with an override to initialize, replace any cartridges that feel light or might be empty.

-or-

Touch **OK** when the **Startup Routine Ink Alert** message appears.

-or-

If a **Depleted** or **Printer Failure** message appears, replace with new setup cartridges, or override to startup with (different) trade cartridges.

6. If message reappears, service the printer.

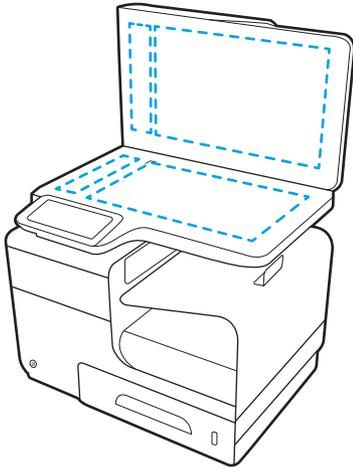


NOTE: If the message clears and the printer successfully initializes, the cartridge might show low on ink.

Improve print quality for copies

If you encounter print quality problems in copied documents, review the solutions for printed documents listed previously in this document. However, some print-quality problems occur only in copied documents.

- If streaks appear on copies made using the document feeder, clean the small glass strip on the left side of the scanner assembly.
- If dots or other defects appear on copies made using the scanner glass, clean the scanner glass and the white plastic backing.



1. Use the power switch to turn off the printer, and then unplug the power cord from the electrical socket.
2. Open the scanner lid.
3. Clean the scanner glass and the white plastic backing with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

⚠ CAUTION: Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the printer; these can damage the printer. Do not place liquids directly on the glass or platen. They might seep and damage the printer.

4. Dry the glass and white plastic backing with a chamois or a cellulose sponge to prevent spotting.
5. Plug in the printer, and then use the power switch to turn on the printer.

Service technician notes

If the customer can't solve the print-quality issue through any of the tools and procedures available to them, then the printer must be serviced.

- In some cases, maintenance ink can persist through cleaning efforts. Check that the problems aren't being caused by ink somewhere in the system.
- It's also possible that some print-quality issues can be caused by a jammed starwheel. This will typically look like a narrow white line down the page. If the customer continues to experience a white vertical line, then the problem might be caused either by a stuck starwheel, or a piece of debris stuck somewhere along the paper path. The horizontal location of the issue can be determined by the location of the line on the page. In any case, inspect the whole paper path. Note that if this line only appears on one page of a duplexed output, then the stuck starwheel/debris is likely on the duplex module.
- If all troubleshooting tools and procedures fail, replace the printbar.
- When replacing the printbar, check the condition of the service sled. HP recommends that the service sled be replaced on printers that have printed more than 30,000 pages.

Solve paper handling problems

- [Paper handling troubleshooting flowchart](#)
- [Paper pickup issues](#)
- [Clear jams](#)

Paper handling troubleshooting flowchart

<p>1</p> <p>Is the paper installed correctly?</p>	<p>Paper tray guides must be set correctly, supported paper sizes must be used, must using good quality paper—HP ColorLok is recommended.</p>	<p>See the user guide for more information.</p>
	<p>Yes ↓</p>	<p>No →</p>
<p>2</p> <p>Does printer fail to pick up paper, or pick multiple sheets?</p>	<p>No ↓</p>	<p>Yes →</p>
		<p>See or The printer picks up multiple sheets of paper on page 97.</p>
<p>3</p> <p>Is the printer experiencing paper jams?</p>	<p>Is paper jammed in any of the input or output areas (including the document feeder), print zone, or other location in the print path?</p>	<p>See Clear jams on page 102.</p>
	<p>No ↓</p>	<p>Yes →</p>
		<p>NOTE: For information on preventing paper jams, see Experiencing frequent or recurring paper jams? on page 102.</p>
<p>4</p> <p>Other paper handling problems</p>	<ul style="list-style-type: none"> • IMPORTANT: Frequent paper jams—see Frequent jams in the paper path (onsite solutions) on page 99 (snowplow). • Trays 2, 3, or 4 report being empty when they have paper loaded—see The printer states that a paper tray is empty, even though it has paper on page 97. • Abnormal noises when feeding paper—see The printer makes grinding noises when feeding paper on page 98. • The output motor stalls—see Output motor stall on page 101. • The output flap doesn't retract and nothing is blocking it—see Output flap won't retract - no obstacle to prevent it on page 101. 	

Paper pickup issues

Resolve paper pickup issues

The printer does not pick up paper

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

1. Open the printer and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for your job.
3. Make sure that the paper guides in the tray are adjusted correctly for the size of paper. Align the guides with the paper-size markings in the bottom of the tray.
4. 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.
5. Check the printer control panel to see if the printer is waiting for you to acknowledge a prompt to feed the paper manually through Tray 1, the multi-purpose tray on the left side of the printer. Load paper, and continue.

Onsite solutions

On printers that have seen a lot of use, the pick tire/separator pad might be worn. Replace the pick tire/separator pad if they are worn.

Verify that the pick shaft rotates. If the pick shaft does not rotate, check the pick motor connectors to verify they are connected securely and undamaged. Verify that the transmission operates correctly.

The printer picks up multiple sheets of paper

If the printer picks up multiple sheets of paper from the tray, try these solutions.

1. Remove the stack of paper from the tray and **flex it**, rotate it 180 degrees, and flip it over. *Do not fan the paper.* Return the stack of paper to the tray.
2. Use only paper that meets HP specifications for this printer.
3. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package. Make sure all paper in the tray is the same type and size.
4. Make sure that the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return less paper to the tray.
5. Make sure that the paper guides in the tray are adjusted correctly for the size of paper. Align the guides with the paper-size markings in the bottom of the tray.

Onsite solution

Replace the pick tire/separator pad.

The printer states that a paper tray is empty, even though it has paper

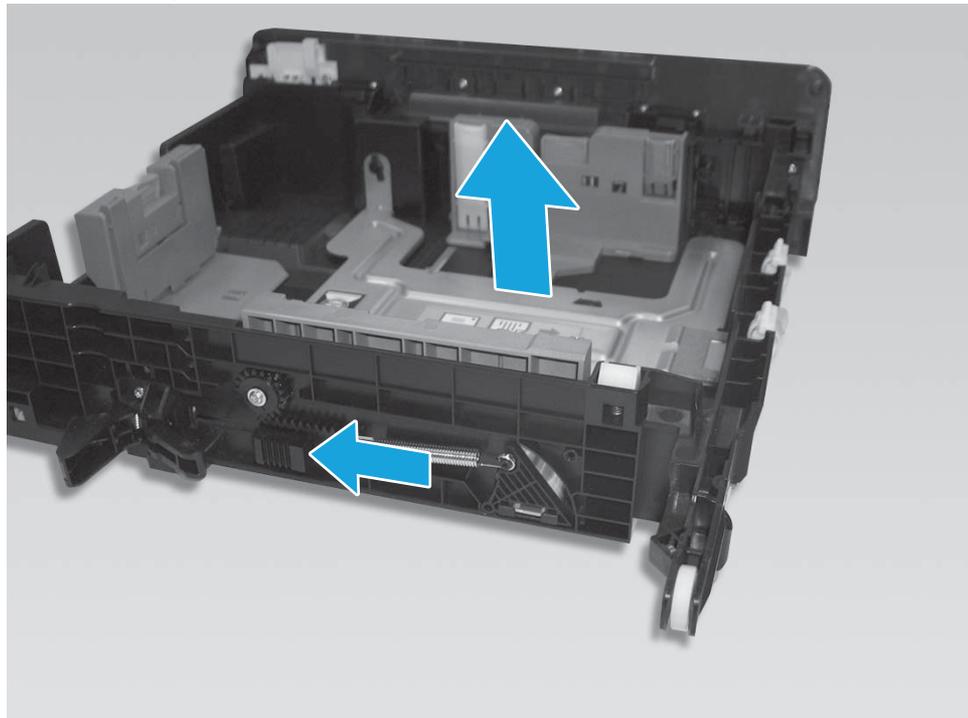
1. Ensure that there is paper in the tray, and that the tray is adjusted correctly.
2. Verify that the correct tray is being selected.

Onsite solutions

Ensure that the tray lift mechanism on the tray is working. Remove the tray from the printer. Remove the paper from the tray. Push the ratchet mechanism on the back of the tray. If the metal base of the tray lifts up, check the following:

- Check the media presence sensor flag. If the media presence sensor flag is broken or does not move freely, replace it.
- Determine if the tray lift mechanism is functioning by removing the rear cover and observing the tray while it operates. Verify that the return spring is in place, and then push the ratchet mechanism to the left. The ratchet mechanism should operate smoothly and the metal floor in the tray should rise when the ratchet is pushed. Replace the tray lift mechanism if it is defective.

Figure 2-3 Tray lift mechanism



- If metal base of the tray does not lift up, then replace the tray.

The printer makes grinding noises when feeding paper

If the printer makes grinding noises when trying to feed paper, there might be an obstruction in the paper path or a REDI sensor might be defective. Have the customer feed a sheet of stiff paper into the printer to try to dislodge the paper path obstruction. A paper scrap might be lodged in the paper path.

Onsite solutions

If the printer makes grinding noises when feeding paper, and there are no obstructions in the paper path, verify that the service sled transmission is in the correct position.

If the service sled transmission is in the correct position, check the REDI sensors. Use an IR sensitive camera (most cell phone cameras work) to determine if all the REDI sensors are operational. You can also determine where a failed REDI sensor might be by how far the paper gets through the paper path

before a jam is signaled. The TOF REDI and Print zone REDI are contained on the platen. The platen is field replaceable. The Lower paper path, upper paper path and Eject REDIs are all field replaceable.

If there is a sheet of paper at feed roller and the printer sounds like it keeps trying to repick the sheet, then lifts the tray, then tries to pick the paper again several times:

- There might be a calibration issue with the TOF REDI (TOF sensor). Recalibrate the REDI sensor through the [Support](#) menu. See [Access the Support menu on page 45](#) for information on accessing the [Support Menu](#).
- Verify that the print zone distribution cable (cable 17) is plugged in correctly to J26 on main PCA and is not shorting.
- Verify that there is no damage to the cables.

General paper jams issues (onsite solutions)

Onsite solutions

Ensure that the FFCs for the Lower paper path, upper paper path, and eject REDI sensors are undamaged and securely connected. If any of these REDI sensors are defective, replace them.

If the printer states that there is a paper jam, but the paper is undamaged, then it is most likely a REDI sensor, motor, or feed encoder issue. The location of the suspect REDI can be determined approximately by how far the paper moved through the paper path. See [Figure 1-11 Printer sensors \(300/400 series\) on page 19](#) for REDI locations and naming.

Recalibrate the REDI sensors.

Verify that the feed motor/encoder is not defective.

Verify that the FFCs at the feedshaft encoder PCA/print zone distribution PCA are undamaged and securely connected.

Verify that the motor connections on the main PCA (J5) are undamaged and securely connected. Replace the feedshaft encoder PCA. The feed motor is not replaceable.

Output tray jam errors (onsite solutions)

Onsite solutions

Ensure that the output flap sensor tab is not broken. If the output flap sensor tab is broken, install a new output flap.

Ensure that the output flap sensor FFC is undamaged and securely connected.

Verify that the output flap sensor is not damaged. Replace the sensor/flap if the output flap sensor is damaged.

Frequent jams in the paper path (onsite solutions)

Onsite solutions

Make sure that there are no star-wheels missing or damaged. Check components such as the duplex module to verify that the star-wheels are intact and working properly. If a star-wheel is seized, free it. Otherwise, replace the assembly on which the star-wheels are located.

Print zone jams

If paper was torn while clearing a print zone jam but the printer still reports a jam in the print zone, there might be scraps of paper obstructing the print zone. Verify that the TOF void area is clear of any scraps of paper by running a heavy sheet of paper through it (sometimes referred to as the “snowplow” method):



IMPORTANT: Run the following procedure any time paper is torn while clearing a jam.

Clear the TOF area of paper scraps (snowplow)

1. Touch the Home  button.
2. Touch the Back  button four times.
3. Select [Support Menu](#).
4. Scroll to [Print Diagnostics Menu](#), and then touch the **OK** button.
5. Select [Clear paper jams](#).
6. Load a sheet of paper into Tray 1 when the control-panel message prompts you, and then touch the **OK** button.
7. After the paper feeds through the printer, the jam recovery process is complete. Press the **Cancel**  button until you return to the Home screen.

Onsite solutions

Clear the TOF area of paper scraps using the steps in [Clear the TOF area of paper scraps \(snowplow\) on page 100](#) and then follow these steps:

- a. Recalibrate the TOF sensor emitter from the [Service Menu](#).
- b. Inspect the contacts for damage on J26 on main PCA where FFC, 11 pin print zone cable plugs in. Ensure that the FFC is securely attached. Damaged contacts on the connector or improper insertion of the FFC might cause shorting.
- c. Replace the TOF sensor if it is defective.
- d. Replace any damaged cables that might be shorting to metal.
- e. Inspect the print zone distribution PCA solder ball for signs of shorting. Replace the print zone distribution PCA (D3Q24-67013) if it is defective.
- f. If the main PCA connector is defective, or the main PCA has a defective component, replace the main PCA.



NOTE: Problems with the main PCA connector or components are unlikely.

If paper will not feed into the printer, the TOF REDI sensor might be defective or disconnected.

If paper feeds into the print zone and a jam message is displayed, but there is no damage to the paper or signs of an actual jam, then the either TOF REDI or Print Zone REDI sensor might be faulty.

If the problem only occurs during duplex printing, then the Lower paper path REDI and the Upper paper path REDI sensors might be defective.

The output drive train might be worn or broken if the printer has been in use for a long time.

Ensure that the TOF and Print zone REDI sensor FFCs on the print zone distribution PCA are undamaged and securely connected. These FFCs are located second from the front – one FFC is white, the other is black.

If either the TOF or Print zone REDIs are faulty, we recommend that you replace the platen, rather than the individual REDI sensors.

Check the output drive train (gear train in front of the cube) gear(s). If the gears are worn, replace them using the output drive kit.

If the printer display shows an **ASSERT** when attempting to run [Clear paper jams](#), this means there are no scraps of paper blocking any REDI sensors. Visually inspect closely all areas of the paper path.

Output motor stall

Clear any paper that might be blocking the output area.

Onsite solutions

Verify that there is no debris blocking the eject gear module/eject flap actuator.

If the output flap opens, then the encoder disc might be faulty. Replace the output drive system.

If the flap doesn't open, then the motor might be faulty. Replace the output drive system.

In very rare cases, the main PCA might be defective.

Output flap won't retract - no obstacle to prevent it

Turn the printer off, then on.

Onsite solutions

Verify that the output solenoid is not defective and the solenoid cable is undamaged and securely connected.

Verify that the rack-eject lifter flap is not defective.

Verify that the output assembly is not defective. Replace the output assembly if it is defective.

Clear jams

Resolve paper jam issues

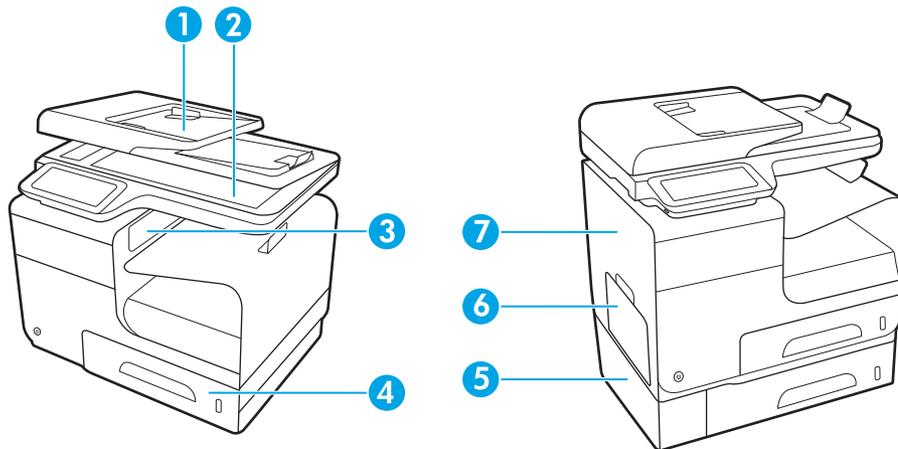
Experiencing frequent or recurring paper jams?

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

1. Use only paper that meets HP specifications for this printer.
2. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
3. Use paper that has not previously been printed or copied on.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides so they are touching the paper stack without bending it.
6. Make sure that the tray is fully inserted in the printer.
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 printer 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 locations

Jams can occur in these locations:



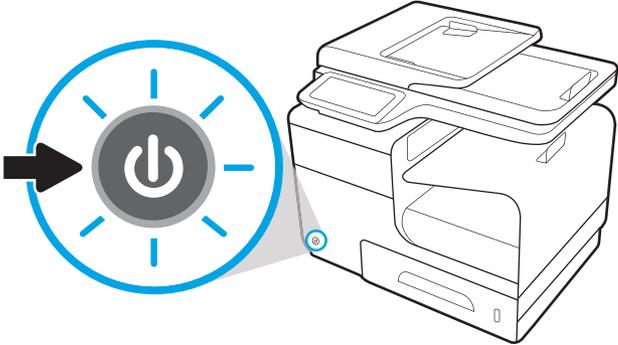
1	Document feeder
2	Scanner
3	Output bin
4	Tray 2

5	Optional Tray 3 and left jam-access door
6	Tray 1
7	Left door

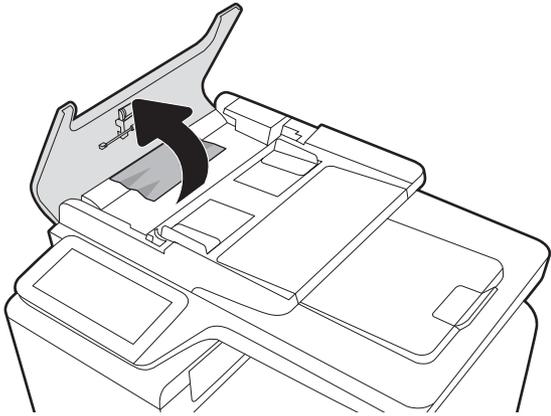
Traces of ink might remain in the printer after a jam. This problem typically resolves itself after a few sheets have been printed.

Clear jams from the document feeder

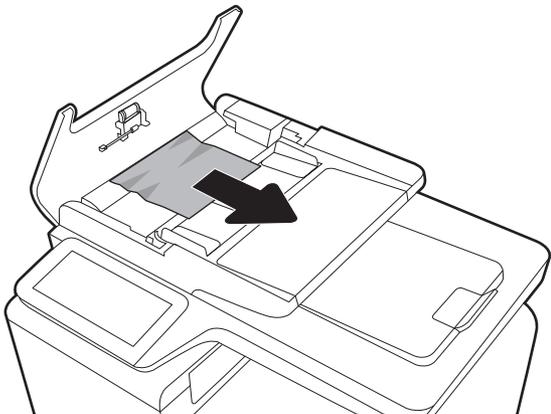
- 1. Leave the printer power on.



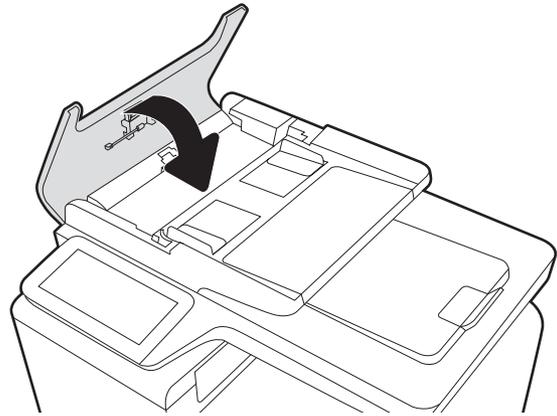
- 2. Open the document feeder cover.



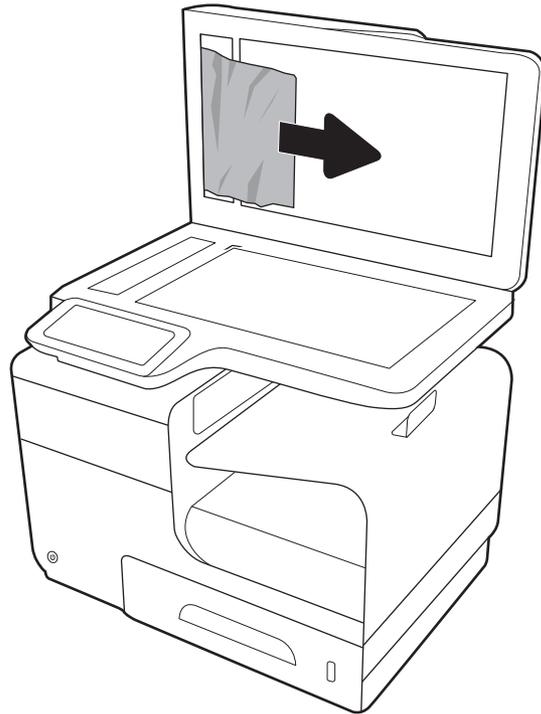
- 3. Lift the document feeder roller assembly, and gently pull the jammed paper out.



4. Close the document feeder cover.



5. Open the scanner lid. If paper is jammed behind the white plastic backing, gently pull it out.

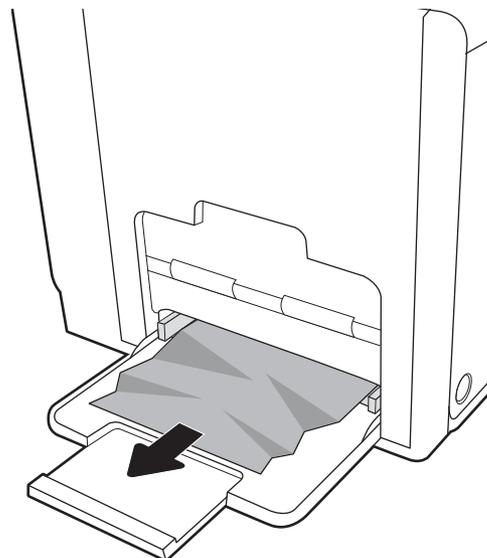


6. If the paper jams issue cannot be solved, replace the document feeder and scanner assembly (part number D3Q24-67058).

Clear jams in Tray 1 (multi-purpose tray)

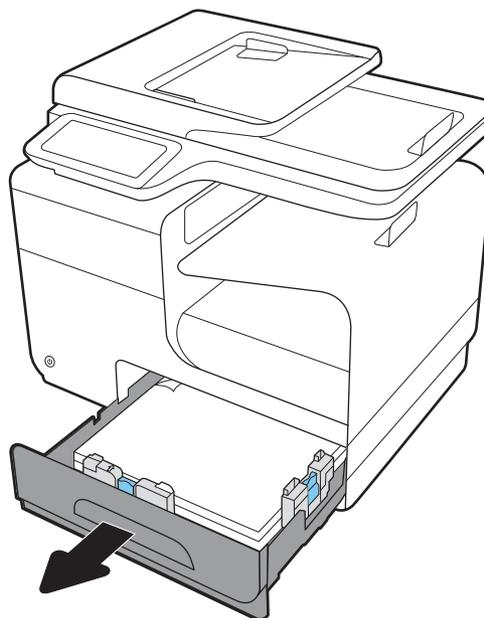
1. If the jammed sheet is visible and easily accessible in Tray 1, pull it from Tray 1.

NOTE: If the sheet tears, make sure that all of the fragments are removed before you resume printing.

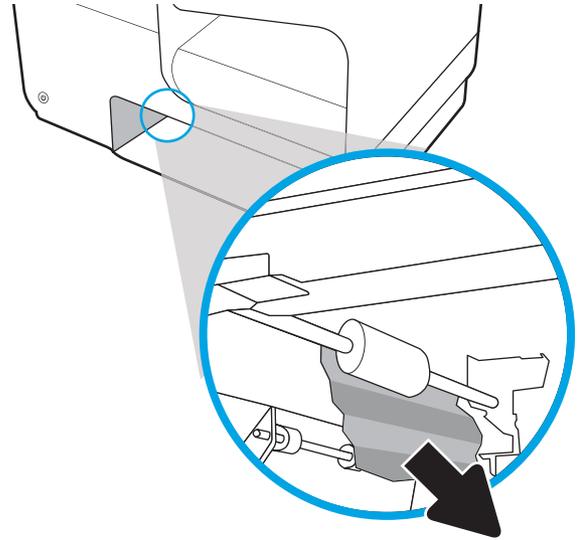


Clear jams in Tray 2

1. Open Tray 2 by pulling it out and releasing the latch at the rear left of the tray.

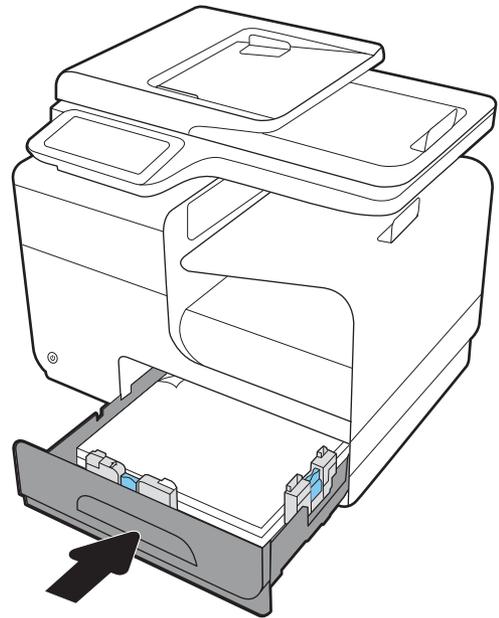


2. Remove the jammed sheet by pulling it to the right and then out of the printer.



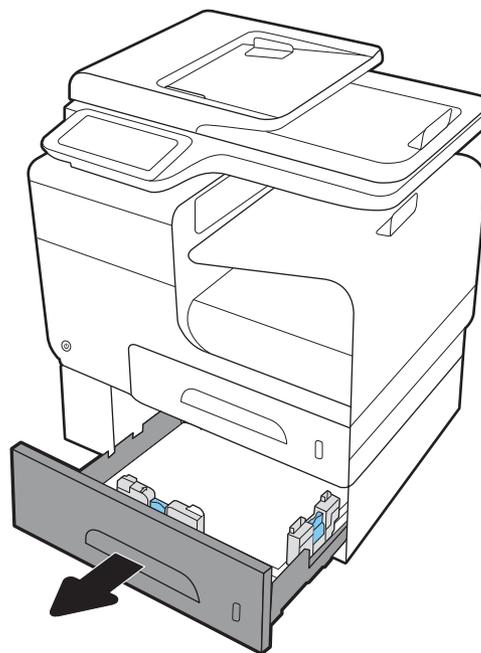
3. Close Tray 2.

NOTE: To close the tray, push in the middle or with even pressure on both sides. Avoid pushing on one side only.

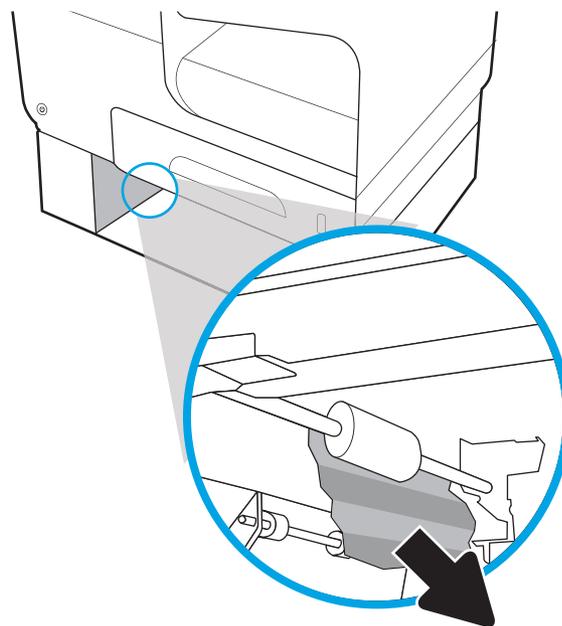


Clear jams in optional Tray 3

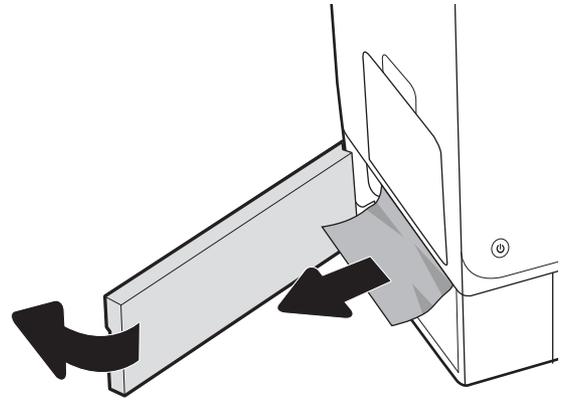
1. Open Tray 3.



2. Remove the jammed sheet by pulling it to the right and then out of the printer.

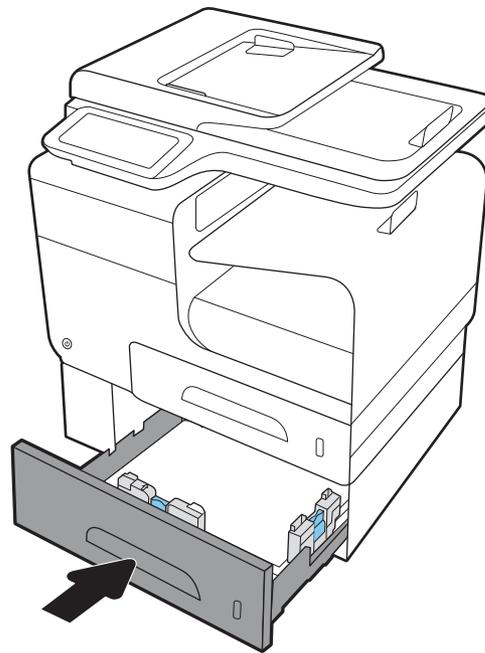


3. If the jam cannot be cleared at the tray, try clearing the jam from the Tray 3 left door.



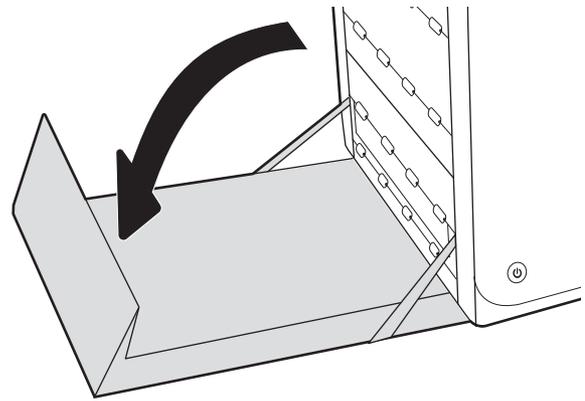
4. Close Tray 3.

NOTE: To close the tray, push in the middle or with even pressure on both sides. Avoid pushing on one side only.



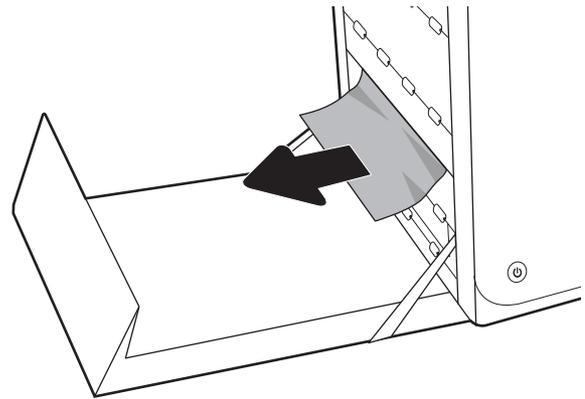
Clear jams in the left door

1. Open the left door.

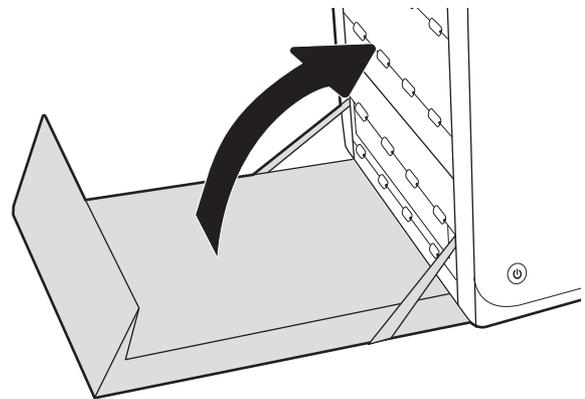


2. Gently remove any visible paper from the rollers and delivery area.

NOTE: If the sheet tears, make sure that all fragments are removed before you resume printing. Do not use sharp objects to remove fragments.



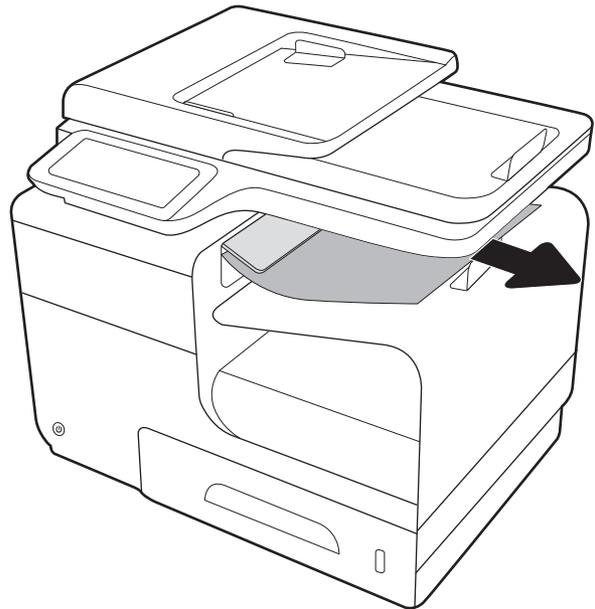
3. Close the left door.



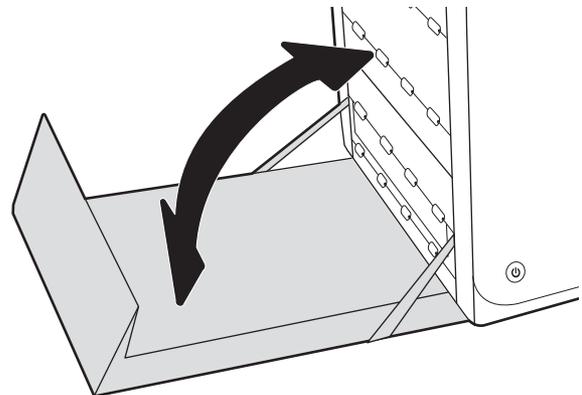
Clear jams in the output bin

1. Look for jammed paper in the output bin area.
2. Remove any visible media.

NOTE: If the sheet tears, make sure that all fragments are removed before resuming printing.

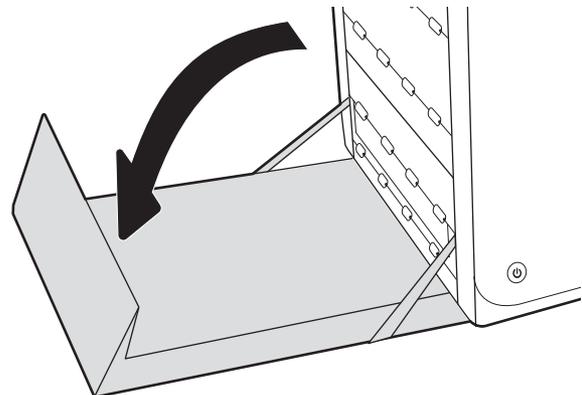


3. Open and then close the left door to clear the message.

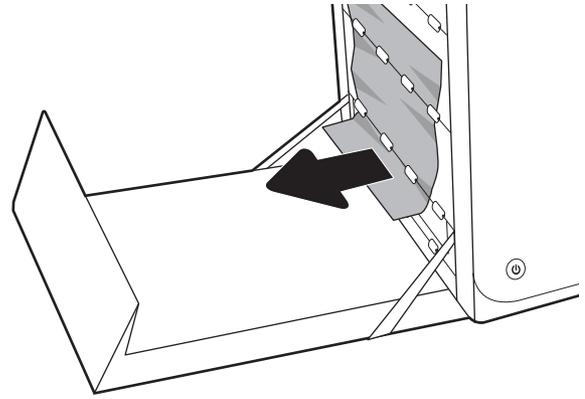


Clear jams in the duplexer

1. Open the left door.

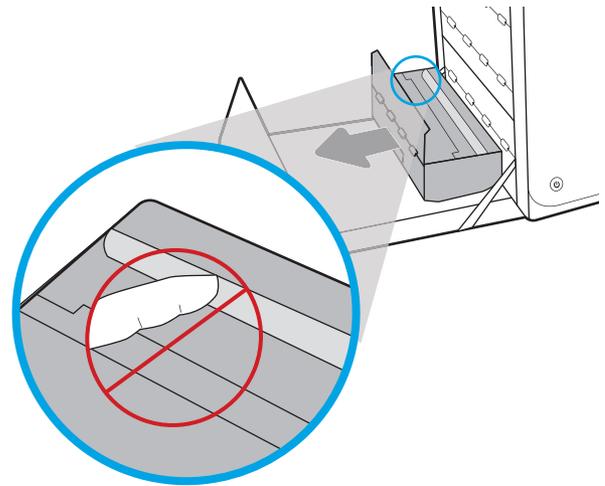


2. If you can see the trailing edge of the sheet, remove the sheet from the printer.

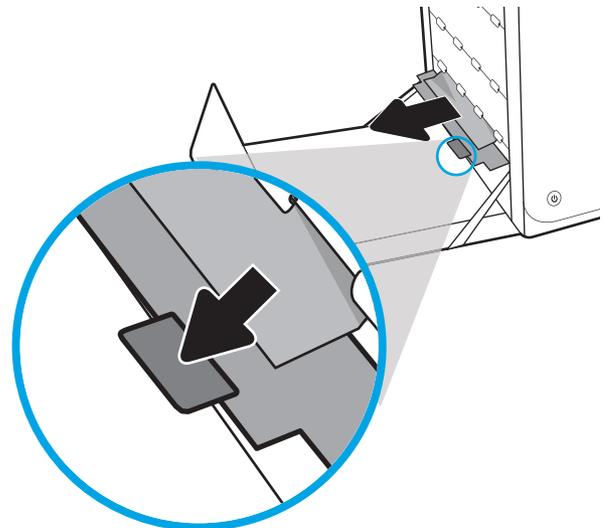


3. If the paper is not visible or accessible, remove the duplexer by pulling it out with both hands. Set the duplexer aside, upright, on a piece of paper to prevent ink spills.

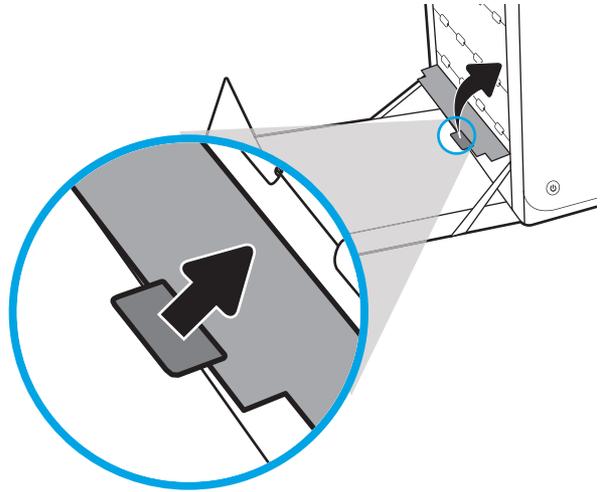
CAUTION: When pulling out the duplexer, avoid making direct contact with the black cylinder to prevent ink smear on skin or clothes.



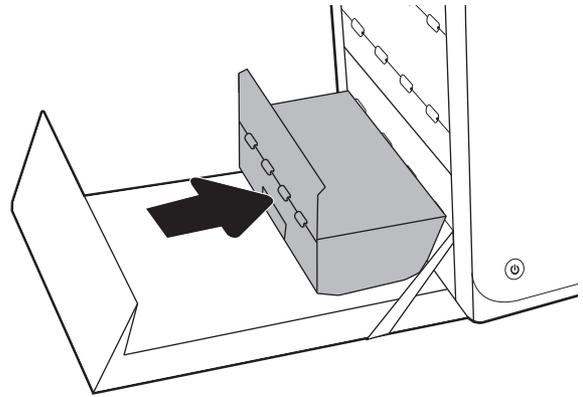
4. Lower the platen by pressing down on the green tab. This will cause the printer to try to feed the sheet through the print zone. You might need to gently pull on the sheet if it does not feed. Remove the sheet.



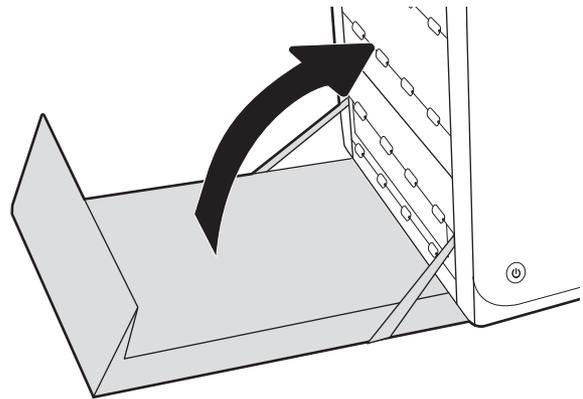
- 5. Lift the green tab to place the platen back into its operating position.



- 6. Reinstall the duplexer.



- 7. Close the left door.



Solve connectivity problems

Solve USB direct-connect problems

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

- Verify that the cable is connected to the computer and to the printer.
- Verify that the cable is not longer than 5 m (16.4 ft). Try using a shorter cable.
- Verify that the cable is working correctly by connecting it with another printer. Replace the cable if necessary.

Solve network problems

Check the following items to verify that the printer is communicating with the network. Before beginning, print a configuration page from the printer control panel and locate the printer IP address that is listed on this page.

- [Poor physical connection](#)
- [The computer is using the incorrect IP address for the printer](#)
- [The computer is unable to communicate with the printer](#)
- [The printer is using incorrect link and duplex settings for the network](#)
- [New software programs might be causing compatibility problems](#)
- [The computer or workstation might be set up incorrectly](#)
- [The printer is disabled, or other network settings are incorrect](#)

Poor physical connection

1. Verify that the printer is attached to the correct Ethernet port using the proper cable.
2. Verify that cable connections are securely attached.
3. Look at the Ethernet port on the back of the printer, and verify that the amber activity light and the green link-status light are active.
4. If the problem continues, try a different cable or port on the network router, switch, or hub.

The computer is using the incorrect IP address for the printer

1. On the computer, open the printer properties and click the **Ports** tab. Verify that the current IP address for the printer is selected. The printer IP address is listed on the printer configuration page or through the control panel.
2. If you installed the printer using an HP standard TCP/IP port, select the box labeled **Always print to this printer, even if its IP address changes**.
3. If you installed the printer using a Microsoft standard TCP/IP port, use the hostname instead of the IP address.

If you installed the printer using the CD installer, or downloaded the fully-featured installer from the HP Web site, you can view or change the printer IP address using the following steps:

- a. Click **Start**.
 - b. Click **All Programs**.
 - c. Click **HP**.
 - d. Click your printer.
 - e. Click **Update IP Address** to open a utility that reports the known (“previous”) IP address for the printer and allows you to change the IP address, if necessary.
4. If the IP address is correct, delete the printer entry from the list of installed printers, and then add it again.

The computer is unable to communicate with the printer

1. Test network communication by pinging the printer.
 - a. Open a command-line prompt on your computer. For Windows, click **Start**, click **Run**, and then type `cmd`.
 - b. Type `ping` followed by the IP address for your printer.
 - c. If the window displays round-trip times, both the network and device are working.
2. If the ping command failed, verify that the network router, hubs, or switches are on, and then verify that the network settings, the printer, and the computer are all configured for the same network.

The printer is using incorrect link and duplex settings for the network

Hewlett-Packard recommends leaving this setting in automatic mode (the default setting). If you change these settings, you must also change them for your network.

New software programs might be causing compatibility problems

Verify that any new software programs are correctly installed and that they use the correct print driver.

The computer or workstation might be set up incorrectly

1. Check the network drivers, print drivers, and the network redirection.
2. Verify that the operating system is configured correctly.

The printer is disabled, or other network settings are incorrect

1. Review the configuration page to check the status of the network protocol. Enable it if necessary.
2. Reconfigure the network settings if necessary.

Solve wireless network problems

- [Wireless connectivity checklist](#)
- [The control panel displays the message: The wireless feature on this printer has been turned off](#)
- [The printer does not print after the wireless configuration completes](#)
- [The printer does not print, and the computer has a third-party firewall installed](#)

- [The wireless connection does not work after moving the wireless router or printer](#)
- [Cannot connect more computers to the wireless printer](#)
- [The wireless printer loses communication when connected to a VPN](#)
- [The network does not appear in the wireless networks list](#)
- [The wireless network is not functioning](#)

Wireless connectivity checklist

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

The control panel displays the message: The wireless feature on this printer has been turned off

1. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the Setup menu.
2. Touch [Network Setup](#), and then touch [Wireless Settings](#).
3. Touch the [Turn Wireless On/Off](#) button, and then touch the [On](#) button.

The printer does not print after the wireless configuration completes

1. Make sure that the printer is turned on and in the ready state.
2. Make sure you are connecting to the correct wireless network.
3. Make sure that the wireless network is working correctly.

- a. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the **Setup** menu.
 - b. Touch the **Network Setup** menu item.
 - c. Select the **Print Wireless Network Test** item to test the wireless network. The printer prints a report with the results.
4. Make sure that the correct port or printer is selected.
- a. For printers installed *without* the fully-featured installer:
 - 1. From the list of printers on your computer, right-click the name of this printer, click **Properties**, and then open the **Ports** tab.
 - 2. Make sure that the box is checked next to **Virtual printer port for USB**.
 - b. If you installed the printer using the CD installer, or downloaded the fully-featured installer from the HP Web site, you can view or change the printer IP address using the following steps:
 - i. Click **Start**.
 - ii. Click **All Programs**.
 - iii. Click **HP**.
 - iv. Click your printer.
 - v. Click **Update IP Address** to open a utility that reports the known (“previous”) IP address for the printer and allows you to change the IP address, if necessary.
5. Make sure that your computer is working correctly. If necessary, restart your computer.

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

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

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

Make sure that the router or printer connects to the same network that your computer connects to.

1. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the **Setup** menu.
2. Touch the **Print Reports** menu.
3. Select the **Network Configuration Page** item to print the report.
4. Compare the service set identifier (SSID) on the configuration report to the SSID in the printer configuration for your computer.
5. If the SSIDs are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for your printer.

Cannot connect more computers to the wireless printer

1. Make sure that the other computers are within the wireless range and that no obstacles block the signal. For most networks, the wireless range is within 30 m (100 ft) of the wireless access point.
2. Make sure that the printer is turned on and in the ready state.
3. Turn off any third-party firewalls on your computer.
4. Make sure that the wireless network is working correctly.
 - a. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the [Setup](#) menu.
 - b. Touch the [Network Setup](#) menu.
 - c. Touch the [Print Reports](#) item, and then touch the [Print Wireless Test Report](#) item to test the wireless network. The printer prints a report with the results.
5. Make sure that the correct port or printer is selected.
 - a. For printers installed *without* the fully-featured installer:
 1. From the list of printers on your computer, right-click the name of this printer, click **Properties**, and then open the **Ports** tab.
 2. Make sure that the box is checked next to **Virtual printer port for USB**.
 - b. If you installed the printer using the CD installer, or downloaded the fully-featured installer from the HP Web site, you can view or change the printer IP address using the following steps:
 - i. Click **Start**.
 - ii. Click **All Programs**.
 - iii. Click **HP**.
 - iv. Click your printer.
 - v. Click **Update IP Address** to open a utility that reports the known (“previous”) IP address for the printer and allows you to change the IP address, if necessary.
6. Make sure that your computer is working correctly. If necessary, restart your computer.

The wireless printer loses communication when connected to a VPN

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

The network does not appear in the wireless networks list

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

The wireless network is not functioning

1. To verify if the network has lost communication, try connecting other devices to the network.
2. Test network communication by pinging the network.

- a. Open a command-line prompt on your computer. For Windows, click **Start**, click **Run**, and then type `cmd`.
 - b. Type `ping` followed by the IP address for the wireless router.
 - c. If the window displays round-trip times, the network is working.
3. Make sure that the router or printer connects to the same network that your computer connects to.
 - a. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the **Setup** menu.
 - b. Touch the **Print Reports** menu.
 - c. Touch the **Network Configuration Page** item to print the report.
 - d. Compare the service set identifier (SSID) on the configuration report to the SSID in the printer configuration for your computer.
 - e. If the SSIDs are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for your printer.

Solve copy/scan problems

The following issues are problems that you might encounter when copying documents.

Table 2-8 Solve copy problems

Issue	Solution
The document feeder is not operating correctly.	<ul style="list-style-type: none">• If you are unable to load paper fully in the document feeder input tray, the document feeder pick wheel might be stuck. Open the document feeder cover and rotate the exposed gear counterclockwise (when viewed from the front of the printer).• If the document feeder is not pulling paper through the unit, the document feeder pick wheel might be stuck. Open the document feeder cover and rotate the exposed gear clockwise (when viewed from the front of the printer).• If a control panel message indicates a misfeed, make sure that the paper is loaded in the document feeder input tray correctly. Adjust the paper guides so that they align the paper correctly.• If paper is feeding through the document feeder too slowly, the document feeder motor might have overheated. Avoid using the document feeder for about an hour to let the motor cool, and then try a job from the document feeder.• If the document feeder motor does not rotate, open the document feeder cover and remove any packing material or shipping tape.
No copy came out	<ul style="list-style-type: none">• Check the power. Ensure that the power cord is securely connected, and the printer is powered on• The printer might be busy with another job. Check the control panel display for information about the status of jobs. Wait for any job that is processing to finish.• The printer might be jammed. Check for paper jams.• Check the trays. Ensure that the media is loaded.
Copies are blank	<ul style="list-style-type: none">• Check the media. The media might not meet HP media specifications. For example, the media is too moist or too rough.• Check the settings. The contrast setting might be set too light. Use the Copy button on the printer control panel to create darker copies.• Check the trays. If you are copying from the document feeder, ensure that the originals have been loaded correctly.
Documents are missing or faded	<ul style="list-style-type: none">• Check the media. The media might not meet HP media specifications. For example, the media is too moist or too rough.• Check the copy settings. The General Office mode, which produces draft-quality copies, might be responsible for the missing or faded documents. Change to the Presentation or Professional setting. <p>To gain access to this setting, from the Home screen, open the following menus:</p>

Table 2-8 Solve copy problems (continued)

Issue	Solution
	<ul style="list-style-type: none">◦ Copy◦ Settings◦ Quality• The accuracy of the copy depends on the quality and size of the original. Use the Copy menu to adjust the brightness of the copy. If the original is too light, copying will not improve the quality of the copy even if you adjust the contrast.• Colored backgrounds might cause images in the foreground to blend into the background, or the background might appear in a different shade.• If you are copying a borderless original, load the original on the scanner glass, not the document feeder.• If you are copying a photo, ensure that you load it on the scanner glass as indicated by the icon on the scan bed.
Size is reduced	<ul style="list-style-type: none">• Reduce/enlarge or another copy feature might have been set from the printer control panel to reduce the size of the scanned image. Check the settings for the copy job to ensure that they are for normal size.• The HP photo and imaging software settings might be set to reduce the scanned image. Change the settings, if required. For more information, see the onscreen Help for the HP photo and imaging software
Copy quality is poor	<p>Take steps to improve the copy quality.</p> <ul style="list-style-type: none">• Use quality originals.• Load the media correctly. If the media is loaded incorrectly, it might skew, causing unclear images. <p>Check the printer.</p> <ul style="list-style-type: none">• Make sure that the scanner lid is closed properly.• Clean the scanner glass or lid backing, if necessary.• Clean the document feeder, if necessary. <p>Check print quality.</p> <ul style="list-style-type: none">• Print a print quality page. Check for nozzle problems that can cause streaks, wrong colors, and other poor quality copy problems.• Recalibrate the scanner.<ol style="list-style-type: none">a. Turn off the printer, and then unplug the power cable.b. Wait 15 seconds.c. Reattach the power cable.d. Make sure that the scanner lid is closed.e. Turn on the printer, which will calibrate the scanner during the startup process.

Table 2-8 Solve copy problems (continued)

Issue	Solution
Copy defects are apparent	<ul style="list-style-type: none"> • Vertical white or faded stripes: The media might not meet HP media specifications. For example, the media is too moist or too rough. • Too light or dark: Try adjusting the contrast and copy-quality settings. • Unwanted lines: The scanner glass, lid backing, or frame might need cleaning. • Black dots or streaks: Ink, glue, correction fluid, or an unwanted substance might be on the scanner glass or lid backing. Try cleaning the printer. • Copy is slanted or skewed: Ensure that the document feeder input tray is not too full and that the width adjusters are snug against the sides of the media. • Unclear text: Try adjusting the contrast and copy-quality settings. The default enhancement setting might not be suitable for the job. Check the setting and change it to enhance text or photographs, if needed. • Incompletely filled text or graphics: Try adjusting the contrast and copy-quality settings. • Large, black typefaces look splotchy (not smooth): The default enhancement setting might not be suitable for the job. Check the setting and change it to enhance text or photographs, if needed. • Horizontal grainy or white bands in light-gray to medium-gray areas: The default enhancement setting might not be suitable for the job. Check the setting and change it to enhance text or photographs, if needed.
The printer prints half a page, and then ejects the paper.	<ul style="list-style-type: none"> • Check the ink cartridges. Replace the ink cartridges, and then resend the print job to the printer.
Paper mismatch	<ul style="list-style-type: none"> • Check the settings. Verify that the loaded media size and type match the control panel settings.

The following issues are problems that you might encounter when scanning documents.

Table 2-9 Solve scan problems

Issue	Solution
The document feeder is not operating correctly.	<ul style="list-style-type: none"> • If you are unable to load paper fully in the document feeder input tray, the document feeder pick wheel might be stuck. Open the document feeder cover and rotate the exposed gear counterclockwise (when viewed from the front of the printer). • If the document feeder is not pulling paper through the unit, the document feeder pick wheel might be stuck. Open the document feeder cover and rotate the exposed gear clockwise (when viewed from the front of the printer). • If a control panel message indicates a misfeed, make sure that the paper is loaded in the document feeder input tray correctly. Adjust the paper guides so that they align the paper correctly. • If paper is feeding through the document feeder too slowly, the document feeder motor might have overheated. Avoid using the document feeder for about an hour to let the motor cool, and then try a job from the document feeder.

Table 2-9 Solve scan problems (continued)

Issue	Solution
Nothing was scanned	<ul style="list-style-type: none">• Check the original. Ensure that the original is placed on the scanner glass correctly.• Check the printer. The printer might be coming out of Sleep mode after a period of inactivity, which delays processing a short while. Wait until the printer displays the Home screen.• If you can see the scan bar positioned in the middle or at the right side of the scanner bed, turn off the printer, and then turn it back on. The scan bar should return to the left side of the scanner bed.
The scan takes too long	<ul style="list-style-type: none">• Check the settings. If you set the resolution too high, the scan job takes longer and results in larger files. To obtain good results when scanning or copying, do not use a resolution that is higher than needed. You can lower the resolution to scan more quickly.• If you acquire an image through a program using the TWAIN driver, you can change the settings so that the original scans in black and white. For more information, see the onscreen Help for the software program.• Check the printer status. If you had sent a print or copy job before you tried to scan, the scan starts if the scanner is not busy. However, the printing and scanning processes share memory, which means that the scan might be slower.
Part of the document did not scan or text is missing	<p data-bbox="628 850 791 871">Check the original.</p> <ul style="list-style-type: none">• Ensure that you loaded the original media correctly.• If you scanned the document from the document feeder, try scanning the document directly from the scanner glass.• Colored backgrounds can cause images in the foreground to blend into the background. Try adjusting the settings before you scan the original, or try enhancing the image after you scan the original. <p data-bbox="628 1129 794 1150">Check the settings.</p> <ul style="list-style-type: none">• Ensure that the input media size is large enough for the original that you are scanning.• If you are using the HP photo and imaging software, the default settings in the HP photo and imaging software might be set to automatically perform a task other than the one that you are attempting. See the onscreen Help for the HP photo and imaging software for instructions about changing the properties.

Table 2-9 Solve scan problems (continued)

Issue	Solution
Text cannot be edited	<p data-bbox="651 258 820 279">Check the settings.</p> <ul data-bbox="651 310 1414 512" style="list-style-type: none"><li data-bbox="651 310 1114 331">• Ensure that the OCR software is set to edit text.<li data-bbox="651 363 1414 411">• When you scan the original, ensure that you select a document type that creates editable text. If the text is classified as a graphic, it is not converted to text.<li data-bbox="651 443 1414 512">• Your OCR program might be linked to a word-processing program that does not perform OCR tasks. For more information about linking programs, see the printer software Help. <p data-bbox="651 543 820 564">Check the original.</p> <ul data-bbox="651 596 1461 926" style="list-style-type: none"><li data-bbox="651 596 1337 617">• Ensure that you placed the original media correctly on the scanner glass.<li data-bbox="651 648 1461 697">• The OCR program might not recognize text that is tightly spaced. For example, the OCR program might combine the characters r and n (“rn”) into “m”.<li data-bbox="651 728 1461 798">• The accuracy of the OCR program depends on the image quality, text size, and structure of the original and the quality of the scan itself. Ensure that the original has good image quality.<li data-bbox="651 829 1461 926">• Colored backgrounds can cause images in the foreground to blend too much. Try adjusting the settings before you scan the original, or try enhancing the image after you scan the original. If you are performing an OCR operation on an original, any colored text on the original does not scan well, if at all.
Error messages display	<p data-bbox="651 951 1382 999">“Unable to activate TWAIN source” or “An error occurred while acquiring the image” message appears.</p> <ul data-bbox="651 1031 1461 1262" style="list-style-type: none"><li data-bbox="651 1031 1461 1100">• If you are acquiring an image from another device, such as a digital camera or another scanner, ensure that the other device is TWAIN-compliant. Devices that are not TWAIN-compliant do not work with the printer software.<li data-bbox="651 1131 1461 1180">• Ensure that you have connected the USB device cable to the correct port on the back of your computer.<li data-bbox="651 1211 1461 1262">• Verify that the correct TWAIN source is selected. In the software, check the TWAIN source by selecting Select Scanner on the File menu. <p data-bbox="651 1287 1031 1308">Reload the document, and then restart job.</p> <ul data-bbox="651 1339 1445 1360" style="list-style-type: none"><li data-bbox="651 1339 1445 1360">• Touch the button, and then reload the remaining documents in the document feeder.

Table 2-9 Solve scan problems (continued)

Issue	Solution
Scanned image quality is poor	<p>The original is a second-generation photo or picture. Reprinted photographs, such as those in newspapers or magazines, are printed by using tiny dots of ink that make an interpretation of the original photograph, which degrades the quality. Often, the ink dots form unwanted patterns that can be detected when the image is scanned or printed or when the image appears on a screen. If the following suggestions do not solve the problem, you might need to use a better-quality version of the original.</p> <ul style="list-style-type: none">• To eliminate the patterns, try reducing the size of the image after scanning.• Print the scanned image to see if the quality is better.• Ensure that the resolution and color settings are correct for the type of scan job.• For best results, use the scanner glass for scanning rather than the document feeder. <p>Text or images on the back of a two-sided original appear in the scan.</p> <ul style="list-style-type: none">• Two-sided originals can “bleed” text or images from the back to the scan if the originals are printed on media that is too thin or too transparent. <p>The scanned image is skewed (crooked).</p> <ul style="list-style-type: none">• The original might have been placed incorrectly. Ensure that you use the media guides when you place the original into the document feeder. <p>The image quality is better when printed.</p> <ul style="list-style-type: none">• The image that appears on the screen is not always an accurate representation of the quality of the scan.• Try adjusting your computer monitor settings to use more colors or levels of gray. If using Windows, use Control Panel > Display to make this adjustment.• Try adjusting the resolution and color settings. <p>The scanned image shows blots, lines, vertical white stripes, or other defects.</p> <ul style="list-style-type: none">• If the scanner glass is dirty, the image produced does not have optimum clarity. The defects might be on the original and not a result of the scanning process. <p>Graphics look different from the original.</p> <ul style="list-style-type: none">• Scan at a higher resolution.
Scanned image quality is poor (continued)	<p>Take steps to improve the scan quality.</p> <ul style="list-style-type: none">• Use the glass to scan rather than the document feeder.• Use high-quality originals.• Place the media correctly. If the media is placed incorrectly on the scanner glass, it might skew, which causes unclear images.• Adjust the software settings according to how you plan to use the scanned page.• Use or make a carrier sheet to protect your originals.• Clean the scanner glass.• Recalibrate the scanner.<ol style="list-style-type: none">a. Turn off the printer, and then unplug the power cable.b. Wait 15 seconds.

Table 2-9 Solve scan problems (continued)

Issue	Solution
	<ul style="list-style-type: none">c. Reattach the power cable.d. Make sure that the scanner lid is closed.e. Turn on the printer, which will calibrate the scanner during the startup process.
Scan defects are apparent	<ul style="list-style-type: none">• Blank pages: Ensure that the original document is placed correctly. Place the original document face down on the flatbed scanner with the upper-left corner located in the lower-right corner of the scanner glass.• Too light or dark: Try adjusting the contrast and copy-quality settings. The original image might be very light or dark or might be printed on colored paper.• Unwanted lines: Ink, glue, correction fluid, or an unwanted substance might be on the scanner glass. Try cleaning the scanner glass.• Black dots or streaks: Ink, glue, correction fluid, or an unwanted substance might be on the scanner glass or lid backing. Try cleaning the printer. If it does not work, replace the scanner glass or lid backing.• Copy is slanted or skewed: Ensure that the document feeder input tray is not too full and that the width adjusters are snug against the sides of the media. The defects might be on the original media and not a result of the scanning process.• Unclear text: Try adjusting the settings. Ensure that the resolution and color settings are correct.• Size is reduced: The HP software settings might be set to reduce the size of the scanned image. For more information about changing the settings, see the printer software Help.
The printer prints half a page, and then ejects the paper	<ul style="list-style-type: none">• Check the ink cartridges. Replace the ink cartridges, and then resend the print job to the printer.
Paper mismatch	<ul style="list-style-type: none">• Check the settings. Verify that the loaded media size and type match the control panel settings.
Scanner bulb does not light during copying, scanning, or faxing,	Contact HP support.

Solve fax problems

Fax reports

In addition to the printer reports, the printer also features several fax reports.

Fax test report

The user can use the fax test report to check the status of the printer and ensure that it is set up appropriately for faxing. Perform this test after the printer is set up for faxing.

The fax test performs the following activities:

- Tests the fax hardware.
- Checks whether the fax is connected to an active telephone wall jack.
- Checks whether the phone cord is plugged into the correct port.
- Checks whether the correct type of phone cord is connected to the HP printer.
- Checks for a dial tone.
- Checks for an active fax phone line.

The fax test report shows the following information:

- Pass/fail results for each of the fax setup tests
- Current fax settings to help diagnose issues
- Instructions on how to rerun the test

Guidelines for running the fax test

Before running the fax test, ensure that the following guidelines are met:

- The ink cartridges are installed properly.
- Full-size paper is loaded in the main tray.
- The printer is set up for faxing according to the particular home or office setup instructions.

Running the fax test

1. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the [Setup](#) menu.
2. Open the [Fax Setup](#) menu, open the [Tools](#) menu, and then touch the [Run Fax Test](#) item. The printer displays the status of the test and prints a report.
3. Review the report.
 - If the test passes and you are still having problems faxing, check the fax settings listed in the report to verify the settings are correct. A blank or incorrect fax setting can cause problems faxing.
 - If the test fails, review the report for more information about how to fix any problems found.

Solve fax test failure

If the fax test fails to run, the printer might be busy with another task, or it might have an error condition preventing it from running the fax test. If the test fails, check the following possible issues:

1. Verify that the printer is set up properly, and connected to a power supply and to the computer. For more information on setting up the printer, see the user guide that came with the printer.
2. Verify that the printer is powered on. If it is not, press the power button.
3. Verify that the ink cartridges are installed correctly and the front door is closed.
4. Verify that the printer is not currently busy with another task. Check the display. If the printer is busy, wait until it completes the current task and then run the fax test again.
5. Verify that the rear door is attached to the back of the printer.
6. Verify that there are no error messages on the control panel display. If there is an error message, resolve the problem and then run the test again.

Fax confirmation report

This report provides printed confirmation that the fax was successfully sent. The default fax confirmation setting is **Off**. To enable fax confirmation through the control panel, complete the following steps:

1. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the **Setup** menu.
2. Open the **Fax Setup** menu, and then open the **Reports** menu.
3. Touch the **Fax Confirmation** item.
4. Select one of the following options:
 - **On (Fax Send)**: Prints a fax confirmation report for every fax you send.
 - **On (Fax Receive)**: Prints a fax confirmation report for every fax you receive.
 - **On (Send and Receive)**: Prints a fax confirmation report for every fax you send and receive.
 - **Off**: Does not print a fax confirmation report when you send and receive faxes successfully. This is the default setting.

Fax error report

You can configure the printer so that it automatically prints a report when there is an error during transmission or reception. To set up the printer to automatically print fax error reports, complete the following steps:

1. On the control panel home screen, touch the Setup  button, and then touch the Setup  button again to open the **Setup** menu.
2. Open the **Fax Setup** menu, and then open the **Reports** menu.
3. Touch the **Fax Error Report** item.
4. Select one of the following options:

- **On (Fax Send):** Prints whenever a transmission error occurs.
- **On (Fax Receive):** Prints whenever a receiving error occurs.
- **On (Send and Receive):** Prints whenever a fax error occurs. This is the default setting.
- **Off:** Does not print any fax error reports.

Fax last transaction report

The Fax Last Transaction Report prints the details of the last fax transaction that occurred. Details include the fax number, number of pages, and the fax status. To print the last fax transaction report, complete the following steps:

1. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the **Setup** menu.
2. Open the **Fax Setup** menu, open the **Reports** menu, and then touch the **Print Fax Reports** item.
3. Touch the **Last Transaction** item.

Fax log

The fax log lists the last 30 transactions and the results. The report includes faxes that have been sent from the printer control panel and all faxes that have been received. Each entry in the log contains the following information:

- Transmission date and time
- Type (whether received or sent)
- Fax number
- Duration
- Number of pages
- Result (status) of transmission

To print the fax log from the printer control panel, complete the following steps:

1. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the **Setup** menu.
2. Open the **Fax Setup** menu, open the **Reports** menu, and then touch the **Print Fax Reports** item.
3. Touch the **Fax Log** item.

Caller ID report

Use the following procedure to print a history of caller ID fax numbers. If there are no calls in the ID history, the history might have been cleared during a power cycle or the user has not signed up for the caller ID service with the user's phone company.

1. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the **Setup** menu.
2. Open the **Fax Setup** menu, open the **Reports** menu, and then touch the **Print Fax Reports** item.
3. Touch the **Caller ID Report** item.

Junk fax report

Use the following procedure to print a list of blocked junk fax numbers.

1. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the [Setup](#) menu.
2. Open the [Fax Setup](#) menu, open the [Reports](#) menu, and then touch the [Print Fax Reports](#) item.
3. Touch the [Junk Fax Report](#) item.

Print the fax phone book

Use the following procedure to print a list of fax phone book contacts.

1. On the control panel home screen, touch the Setup ⚙ button, and then touch the Setup ⚙ button again to open the [Setup](#) menu.
2. Open the [Fax Setup](#) menu, open the [Reports](#) menu, and then touch the [Print Fax Reports](#) item.
3. Touch the [Print Phone Book](#) item.

Possible fax issues

The following issues are the faxing issues that you might encounter, and the associated troubleshooting actions.

Table 2-10 Possible fax issues

Issue	Solution
The fax test failed.	<p>If you ran a fax test and the test failed, review the report for basic information about the error. For more detailed information, check the report to see which part of the test failed, and then review the appropriate topic in this section for a solution.</p> <p>The “Fax Hardware Test” failed.</p> <ul style="list-style-type: none">• Turn the printer off by using the power button, and then unplug the power cord from the back of the printer. After a few seconds, plug the power cord in again, and then

Table 2-10 Possible fax issues (continued)

Issue	Solution
	<p>turn the printer on. Run the test again. If the test fails again, continue reviewing the troubleshooting information in this section.</p>
	<ul style="list-style-type: none"> • Try to send or receive a test fax. If you can send or receive a fax successfully, there might not be a problem.
	<ul style="list-style-type: none"> • If you are running the test from the Fax Setup Wizard (Windows) or HP Fax Setup Utility (Mac OS), ensure that the printer is not busy completing another task, such as receiving a fax or making a copy. Check the display for a message indicating that the printer is busy. If the printer is busy, wait until the job is finished and the printer is in the idle state before running the test.
	<ul style="list-style-type: none"> • Ensure that you use the phone cord that came with the printer. If you do not use the supplied phone cord to connect the printer to the telephone wall jack, you might not be able to send or receive faxes. After you plug in the phone cord that came with the printer, run the fax test again. You might need to connect the supplied phone cord to the adapter provided for your country/region.
	<ul style="list-style-type: none"> • If you are using a phone-line splitter, this can cause faxing problems. A splitter is a two-cord connector that plugs into a telephone wall jack. Try removing the splitter and connecting the printer directly to the telephone wall jack.
	<ul style="list-style-type: none"> • After you resolve any problem that is found, run the fax test again to check if the printer passes the test and is ready for faxing. If the Fax Hardware Test continues to fail and you experience problems faxing, contact HP Support at www.hp.com/support. If prompted, choose your country/region, and then click Contact HP for information on calling for technical support.
	<p>The “Fax Connected to Active Telephone Wall Jack” test failed.</p>
	<ul style="list-style-type: none"> • Check the connection between the telephone wall jack and the printer to ensure that the phone cord is secure.
	<ul style="list-style-type: none"> • Ensure that you use the phone cord that came with the printer. If you do not use the supplied phone cord to connect the printer to the telephone wall jack, you might not be able to send or receive faxes. After you plug in the phone cord that came with the printer, run the fax test again. You might need to connect the supplied phone cord to the adapter provided for your country/region.
	<ul style="list-style-type: none"> • Ensure that you have correctly connected the printer to the telephone wall jack. Connect one end of the phone cord supplied with the printer to your telephone wall jack and the other end to the port labeled 1-LINE at the back of the printer.
	<ul style="list-style-type: none"> • Try connecting a working phone and phone cord to the telephone wall jack that you are using for the printer and check for dial tone. If you do not hear a dial tone, contact your telephone company and have them check the line.
	<ul style="list-style-type: none"> • Try sending or receiving a test fax. If you can do that successfully, there might not be a problem.
	<ul style="list-style-type: none"> • After you resolve any problem that is found, run the fax test again to check if the printer passes the test and is ready for faxing.
<p>The fax test failed.</p>	<p>The “Phone Cord Connected to Correct Port on Fax” test failed.</p>
<p>(continued)</p>	<ol style="list-style-type: none"> 1. Connect one end of the phone cord supplied with the printer to your telephone wall jack and the other end to the port labeled 1-LINE at the back of the printer. 2. After you have connected the phone cord to the port labeled 1-LINE, run the fax test again to check if the printer passes the test and is ready for faxing. 3. Try to send or receive a test fax.

Table 2-10 Possible fax issues (continued)

Issue	Solution
	<ul style="list-style-type: none">• Make sure you use the phone cord that came with the printer. If you do not use the supplied phone cord to connect from the telephone wall jack to the printer, you might not be able to send or receive faxes. After you plug in the phone cord that came with the printer, run the fax test again.• If you are using a phone splitter, this can cause faxing problems. (A splitter is a two-cord connector that plugs into a telephone wall jack.) Try removing the splitter and connecting the printer directly to the telephone wall jack.
	The "Using Correct Type of Phone Cord with Fax" test failed.
	<ul style="list-style-type: none">• Make sure you used the phone cord supplied in the box with the printer to connect to the telephone wall jack. One end of the phone cord should be connected to the port labeled 1-LINE on the back of the printer, and the other end to your telephone wall jack. If the phone cord that came with the printer is not long enough, use a coupler to extend the length.• Check the connection between the telephone wall jack and the printer to ensure that the phone cord is secure.• Ensure that you use the phone cord that came with the printer. If you do not use the supplied phone cord to connect the printer to the telephone wall jack, you might not be able to send or receive faxes. After you plug in the phone cord that came with the printer, run the fax test again. You might need to connect the supplied phone cord to the adapter provided for your country/region.• If you are using a phone splitter, this can cause faxing problems. A splitter is a two-cord connector that plugs into a telephone wall jack. Try removing the splitter and connecting the printer directly to the telephone wall jack.

Table 2-10 Possible fax issues (continued)

Issue	Solution
The fax test failed. (continued)	<p data-bbox="628 258 951 279">The “Dial Tone Detection” test failed.</p> <p data-bbox="628 310 1422 464">Other equipment, which uses the same phone line as the printer, might be causing the test to fail. To determine if the other equipment is causing a problem, disconnect everything from the phone line, and then run the test again. If the printer passes the Dial Tone Detection Test without the other equipment connected, then one or more pieces of the equipment is causing problems. Try adding them back one at a time and rerunning the test each time, until you identify which piece of equipment is causing the problem.</p> <ul data-bbox="628 495 1437 1266" style="list-style-type: none"><li data-bbox="628 495 1437 569">• Try connecting a working phone and phone cord to the telephone wall jack that you are using for the printer and check for dial tone. If you do not hear a dial tone, contact your telephone company and have them check the line.<li data-bbox="628 600 1374 621">• Ensure that you have correctly connected the printer to the telephone wall jack.<li data-bbox="628 653 1406 695">• Connect one end of the phone cord supplied with the printer to your telephone wall jack and the other end to the port labeled 1-LINE at the back of the printer.<li data-bbox="628 726 1398 800">• If your telephone system is not using a standard dial tone, such as the one used by some PBX systems, the test might fail. This will not cause a problem in sending or receiving faxes. Try sending or receiving a test fax.<li data-bbox="628 831 1406 905">• Check to ensure that the country/region setting is set appropriately. If the country/region setting is not set or is set incorrectly, the test might fail, and you might have problems in sending and receiving faxes.<li data-bbox="628 936 1422 1062">• Ensure that you connect the printer to an analog phone line or you will not be able to send or receive faxes. To check if your phone line is digital, connect a regular analog phone to the line and listen for a dial tone. If you do not hear a normal sounding dial tone, it might be a phone line set up for digital phones. Connect the printer to an analog phone line and try sending or receiving a fax.<li data-bbox="628 1094 1437 1167">• Ensure that you use the phone cord that came with the printer. If you do not use the supplied phone cord to connect the printer to the telephone wall jack, you might not be able to send or receive faxes. After you plug in the phone cord, run the fax test again.<li data-bbox="628 1199 1430 1266">• After you resolve any problem that is found, run the fax test again to check if the printer passes the test and is ready for faxing. If the dial tone detection test continues to fail, contact your telephone company and have them check the phone line.
The fax test failed. (continued)	<p data-bbox="628 1297 951 1318">The “Fax Line Condition” test failed.</p> <ul data-bbox="628 1350 1422 1417" style="list-style-type: none"><li data-bbox="628 1350 1422 1417">• Ensure that you connect the printer to an analog phone line or you will not be able to send or receive faxes. To check if your phone line is digital, connect a regular analog phone to the line and listen for a dial tone. If you do not hear a normal sounding dial

Table 2-10 Possible fax issues (continued)

Issue	Solution
	<p>tone, it might be a phone line set up for digital phones. Connect the printer to an analog phone line and try sending or receiving a fax.</p> <ul style="list-style-type: none">• Check the connection between the telephone wall jack and the printer to make sure that the phone cord is secure.• Ensure that you have correctly connected the printer to the telephone wall jack.• Connect one end of the phone cord supplied with the printer to your telephone wall jack and the other end to the port labeled 1-LINE at the back of the printer. You might need to connect the supplied phone cord to the adapter provided for your country/region.• Other equipment, which uses the same phone line as the printer, might be causing the test to fail. To determine if the other equipment is causing a problem, disconnect everything from the phone line, and then run the test again.• If the Fax Line Condition Test passes without the other equipment, then one or more pieces of the equipment is causing problems; try adding them back one at a time and rerunning the test each time, until you identify which piece of equipment is causing the problem.• If the Fax Line Condition Test fails even after removing the other connected equipment, connect the printer to a working phone line and continue reviewing the troubleshooting information in this section.• If you are using a phone splitter, this can cause faxing problems. A splitter is a two-cord connector that plugs into a telephone wall jack. Try removing the splitter and connecting the printer directly to the telephone wall jack.• Ensure that you use the phone cord that came with the printer. If you do not use the supplied phone cord to connect the printer to the telephone wall jack, you might not be able to send or receive faxes. After you plug in the phone cord that came with the printer, run the fax test again.• After you resolve any problem that is found, run the fax test again to check if the printer passes the test and is ready for faxing. If the Fax Line Condition test continues to fail and you experience problems faxing, contact your telephone company and have them check the phone line.
<p>The display always shows Phone Off Hook.</p>	<ul style="list-style-type: none">• You are using the wrong type of phone cord. Ensure that you are using the phone cord that came with the printer to connect the printer to your phone line. If the phone cord that came with the printer is not long enough, you can use a coupler to extend the length. You can purchase a coupler at an electronics store that carries phone accessories. You will also need another phone cord, which can be a standard phone cord that you might already have in your home or office.• Other equipment that uses the same phone line as the printer might be in use. Ensure that the extension phones—phones on the same phone line, but not connected to the printer—or other equipment are not in use or off the hook. For example, you cannot use the printer for sending a fax if an extension phone is off the hook, or if you are using a computer dial-up modem to send e-mail or access the Internet.
<p>The printer is having problems sending and receiving faxes.</p>	<ul style="list-style-type: none">• Ensure that the printer is powered on. Look at the display on the printer. If the display is blank and the power light is not lit, the printer is powered off. Check if the power

Table 2-10 Possible fax issues (continued)

Issue	Solution
	<p>cord is firmly connected to the printer and plugged into a power outlet. Press the power button to turn on the printer.</p> <ul style="list-style-type: none">• After powering on the printer, HP recommends that you wait five minutes before sending or receiving a fax. The printer cannot send or receive faxes while it is initializing after being powered on.• Connect one end of the phone cord supplied with the printer to your telephone wall jack and the other end to the port labeled 1-LINE at the back of the printer.• If the phone cord that came with the printer is not long enough, you can use a coupler to extend the length. You can purchase a coupler at an electronics store that carries phone accessories. You will also need another phone cord, which can be a standard phone cord that you might already have in your home or office.• Try connecting a working phone and phone cord to the telephone wall jack that you are using for the printer and check for a dial tone. If you do not hear a dial tone, call your local telephone company for service.• Other equipment, which uses the same phone line as the printer, might be in use. For example, you cannot use the printer for faxing if an extension phone is off the hook, or if you are using a computer dial-up modem to send an e-mail or access the Internet.• Check to see if another process has caused an error. Check the control panel display or your computer for an error message that provides information about the problem and its resolution. If there is an error, the printer will not send or receive a fax until the error condition is resolved.• The phone line connection might be noisy. Phone lines with poor sound quality (noise) can cause faxing problems. Check the sound quality of the phone line by plugging a phone into the telephone wall jack and listening for static or other noise. If you hear noise, turn Error Correction Mode (ECM) off and try faxing again. For information about changing ECM, see the onscreen Help. If the problem persists, contact your telephone company.
The printer is having problems sending and receiving faxes. (continued)	<ul style="list-style-type: none">• If you are using a digital subscriber line (DSL) service, make sure that you have a DSL filter connected or you will not be able to fax successfully.• Ensure that the printer is not connected to a telephone wall jack that is set up for digital phones. To check if your phone line is digital, connect a regular analog phone to the line and listen for a dial tone. If you do not hear a normal sounding dial tone, it might be a phone line set up for digital phones.• If you are using a private branch exchange (PBX) or an integrated services digital network (ISDN) converter/terminal adapter, make sure that the printer is connected to the correct port and the terminal adapter is set to the correct switch type for your country/region, if possible.• If the printer shares the same phone line with a DSL service, the DSL modem might not be properly grounded. If the DSL modem is not properly grounded, it can create noise on the phone line. Phone lines with poor sound quality (noise) can cause faxing problems. You can check the sound quality of the phone line by plugging a phone into the telephone wall jack and listening for static or other noise. If you hear noise, turn your DSL modem off for at least 15 minutes. Turn the DSL modem on again and listen to the dial tone. If the phone line is still noisy, contact your telephone company. For information on how to turn off your DSL modem, contact your DSL provider for support.• If you are using a phone splitter, this can cause faxing problems. (A splitter is a two-cord connector that plugs into a telephone wall jack.) Try removing the splitter and connecting the printer directly to the telephone wall jack.

Table 2-10 Possible fax issues (continued)

Issue	Solution
The printer is having problems sending a manual fax.	<ul style="list-style-type: none">• Ensure that the telephone you use to initiate the fax call is connected directly to the printer. To send a fax manually, the telephone must be connected directly to the port labeled 2-EXT on the printer.• If you are sending a fax manually from a phone that is connected directly to the printer, you must use the keypad on the telephone to send the fax. You cannot use the keypad on the printer control panel.
The printer cannot receive faxes, but can send faxes.	<ul style="list-style-type: none">• If you are not using a distinctive ring service, check to make sure that the Distinctive Ring feature on the printer is set to All Rings• If Auto Answer is set to Off, you will need to receive faxes manually; otherwise, the printer will not receive the fax.• If you have a voice mail service on the same phone number that you use for fax calls, you must receive faxes manually, not automatically. This means that you must be available to respond in person to incoming fax calls.• If you have a computer dial-up modem on the same phone line as the printer, check to make sure that the software that came with your modem is not set to receive faxes automatically. Modems that are set up to receive faxes automatically take over the phone line to receive all incoming faxes. As a result, the printer doesn't receive fax calls.• If you have an answering machine on the same phone line with the printer, you might have one of the following problems:<ul style="list-style-type: none">◦ Your answering machine might not be set up properly with the printer.◦ Your outgoing message might be too long or too loud to allow the printer to detect fax tones, and the sending fax machine might disconnect.◦ Your answering machine might not have enough quiet time after your outgoing message to allow the printer to detect fax tones. This problem is most common with digital answering machines.• The following actions might help solve the above stated problems.<ul style="list-style-type: none">◦ When you have an answering machine on the phone line that you use for fax calls, try connecting the answering machine directly to the printer.◦ Ensure that the printer is set to receive faxes automatically. For information on setting up the printer to receive faxes automatically, see the section on receiving a fax.◦ Ensure that the Rings to Answer setting is set to a greater number of rings than the answering machine.◦ Disconnect the answering machine and then try receiving a fax. If faxing is successful without the answering machine, the answering machine might be causing the problem.◦ Reconnect the answering machine and record your outgoing message again. Record a message that is approximately 10 seconds in duration. Speak slowly and at a low volume when recording your message. Leave at least 5 seconds of

Table 2-10 Possible fax issues (continued)

Issue	Solution
	<p data-bbox="724 260 1406 310">silence at the end of the voice message. There should be no background noise when recording this silent time. Try to receive a fax again.</p> <ul data-bbox="628 338 1430 709" style="list-style-type: none"><li data-bbox="628 338 1430 604">• If the printer shares the same phone line with other types of phone equipment, such as an answering machine, a computer dial-up modem, or a multi-port switch box, the fax signal level might be reduced. The signal level can also get reduced if you use a splitter or connect extra cables to extend the length of your phone. A reduced fax signal can cause problems during fax reception. To find out if other equipment is causing a problem, disconnect everything except the printer from the phone line, and then try to receive a fax. If you can receive faxes successfully without the other equipment connected, one or more pieces of the other connected equipment is causing problems; try adding them back one at a time and receiving a fax each time, until you identify which equipment is causing the problem.<li data-bbox="628 625 1430 709">• If you have a special ring pattern for your fax phone number (using a distinctive ring service through your telephone company), make sure that the Distinctive Ring feature on the printer is set to match.
The printer cannot send faxes, but can receive faxes.	<ul data-bbox="628 730 1430 1180" style="list-style-type: none"><li data-bbox="628 730 1430 898">• The printer might be dialing too fast or too soon. You might need to insert some pauses in the number sequence. For example, if you need to access an outside line before dialing the phone number, insert a pause following the access number. If your number is 95555555, and 9 accesses an outside line, you might insert pauses as follows: 9-555-5555. To enter a pause in the fax number you are typing, touch Redial/ Pause, or touch Space (#) repeatedly, until a dash (-) appears on the display.<li data-bbox="628 919 1430 991">• You can also send the fax by using monitor dialing. This enables you to listen to the phone line as you dial. You can set the pace of your dialing and respond to prompts as you dial.<li data-bbox="628 1012 1430 1180">• The number you entered when sending the fax is not in the proper format or the receiving fax machine is having problems. To check this, try calling the fax number from a telephone and listen for fax tones. If you cannot hear fax tones, the receiving fax machine might not be powered on or connected, or a voice mail service might be interfering with the recipient's phone line. You can also ask the recipient to check the receiving fax machine for any problems.
Fax tones are recorded on the answering machine.	<ul data-bbox="628 1201 1430 1612" style="list-style-type: none"><li data-bbox="628 1201 1430 1306">• When you have an answering machine on the same phone line that you use for fax calls, try connecting the answering machine directly to the printer. If you do not connect the answering machine as recommended, fax tones might be recorded on your answering machine.<li data-bbox="628 1327 1430 1465">• Ensure that the printer is set to receive faxes automatically and that the Rings to Answer setting is correct. The number of rings to answer for the printer should be greater than the number of rings to answer for the answering machine. If the answering machine and the printer are set to the same number of rings to answer, both devices answer the call and fax tones are recorded on the answering machine.<li data-bbox="628 1486 1430 1612">• Set your answering machine to a low number of rings and the printer to answer in the maximum number of rings supported. (The maximum number of rings varies by country/region.) In this setup, the answering machine answers the call and the printer monitors the line. If the printer detects fax tones, the printer receives the fax. If the call is a voice call, the answering machine records the incoming message.
The phone cord that came with the printer is not long enough.	<ul data-bbox="628 1633 1430 1789" style="list-style-type: none"><li data-bbox="628 1633 1430 1759">• If the phone cord that came with the printer is not long enough, you can use a coupler to extend the length. You can purchase a coupler at an electronics store that carries phone accessories. You will also need another phone cord, which can be a standard phone cord that you might already have in your home or office.<li data-bbox="628 1780 1430 1789">• To extend your phone cord, complete the following steps.

Table 2-10 Possible fax issues (continued)

Issue	Solution
	<ol style="list-style-type: none"><li data-bbox="699 264 1453 317">1. Using the phone cord supplied with the printer, connect one end to the coupler, then connect the other end to the port labeled 1-LINE on the back of the printer.<li data-bbox="699 338 1453 394">2. Connect another phone cord to the open port on the coupler and the telephone wall jack.
Color faxes do not print	<ul style="list-style-type: none"><li data-bbox="651 415 1453 468">• The Incoming Fax Printing option might be turned off. To print color faxes, make sure that the Incoming Fax Printing option in the printer control panel is turned on.
The computer cannot receive faxes (Fax to PC or Fax to Mac)	<ul style="list-style-type: none"><li data-bbox="651 489 1453 541">• The computer selected to receive faxes might be turned off. Ensure that the computer selected to receive faxes is switched on at all times.<li data-bbox="651 562 1453 646">• Different computers might be configured for setup and receiving faxes and one of them might be switched off. If the computer receiving faxes is different from the one used for setup, both computers should be switched on at all times.<li data-bbox="651 667 1453 751">• Fax to PC or Fax to Mac might not be activated or the computer might not be configured to receive faxes. Activate Fax to PC or Fax to Mac and make sure that the computer is configured to receive faxes.

Solve memory device problems

Table 2-11 Solve memory device problems

Issue	Solution
The printer cannot read the memory device.	<p data-bbox="461 327 695 348">Check the memory device.</p> <ul data-bbox="461 380 1433 604" style="list-style-type: none"><li data-bbox="461 380 1054 401">• Ensure that the memory device is one of the supported types.<li data-bbox="461 432 1433 485">• Some memory devices have a switch that controls how they can be used. Ensure that the switch is set so that the memory device can be read.<li data-bbox="461 516 1433 558">• Inspect the ends of the memory device for dirt or material that closes a hole or spoils a metal contact. Clean the contacts with a lint-free cloth and small amounts of isopropyl alcohol.<li data-bbox="461 590 1241 611">• Ensure that the memory device is working correctly by testing it with other devices. <p data-bbox="461 642 732 663">Check the memory device slot.</p> <ul data-bbox="461 695 1433 915" style="list-style-type: none"><li data-bbox="461 695 1107 716">• Ensure that the memory device is fully inserted into the correct slot.<li data-bbox="461 747 1433 842">• Remove the memory card (when the light is not blinking) and shine a flashlight into the empty slot. See if any of the small pins inside are bent. When the printer is off, you can straighten slightly bent pins by using the tip of a thin, retracted ballpoint pen. If a pin has bent in such a way that it touches another pin, replace the memory card reader or have the printer serviced.<li data-bbox="461 873 1433 915">• Ensure that only one memory device has been inserted at a time in the slots. An error message should appear on the control-panel display if more than one memory device is inserted.
The printer cannot read photos on the memory device.	Check the memory device. The memory device might be corrupt.

A Event log codes

Use this appendix to identify printer issues through the event log.

- [Interpret event log codes](#)

Interpret event log codes

Use the event log to solve issues that are affecting printer operation.



NOTE: Go to Services Access Workbench (SAW) at <http://h41302.www4.hp.com/km/saw/home.do> for the latest version of this document, which may include updates to the following table.

Error Code	Log Message	Solution
15.00.0X	Unknown jam from (tray indicated by X)	<ol style="list-style-type: none">1. Open the printer left door, and then remove any jammed paper.2. If tray 2, 3, or 4 is indicated by the error code, open that tray and remove any jammed paper.3. If tray 3 or 4 is indicated by the error code, open that tray side door and remove any jammed paper.4. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.A1.01 15.A1.B1	Input jam from Tray 1	<ol style="list-style-type: none">▲ Open the printer left door, and then remove any jammed paper.
15.A1.11	Unexpected Sheet at TOF sensor from Tray 1	<ol style="list-style-type: none">▲ Open the printer left door, and then remove any jammed paper.
15.A1.A1	Print Zone Stay Jam Simplex	<ol style="list-style-type: none">1. Open the printer left door, and then remove any jammed paper.2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.A1.D1	Print Zone Delay Jam Simplex	
15.A1.F1	Input jam from Tray 1 at power on	<ol style="list-style-type: none">1. Open the printer left door, remove any jammed paper in Tray 1, and then remove any jammed paper.2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.3. Fully close the left door and the tray.
15.A1.91 15.A1.C1	Print Zone Stay Jam 1 side printed	<ol style="list-style-type: none">1. Open the printer left door, and then remove any jammed paper.2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.AA.E1 15.AA.81	Left Door Open caused a jam	<ol style="list-style-type: none">1. Open the printer left door, remove any jammed paper in Tray 1, and then remove any jammed paper.2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.3. Fully close the left door and the tray.
15.A1.02 15.A1.B2	Input jam from Tray 2	<ol style="list-style-type: none">▲ Open the printer left door and Tray 2, and then remove any jammed paper.
15.A1.12	Unexpected Sheet at TOF sensor from Tray 2	<ol style="list-style-type: none">▲ Open the printer left door and Tray 2, and then remove any jammed paper.

Error Code	Log Message	Solution
15.A1.A2	Print Zone Stay Jam Simplex	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.A1.D2	Print Zone Delay Jam Simplex	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.A1.92 15.A1.C2	Print Zone Stay Jam 1 side printed	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.AA.E2 15.AA.82	Left Door Open caused a jam	<ul style="list-style-type: none"> ▲ Open the printer left door and Tray 2, and then remove any jammed paper.
15.A1.03 15.A1.13 15.A1.A3 15.A1.B3 15.A1.D3	Input jam from Tray 3	<ol style="list-style-type: none"> 1. Open Tray 3, and then remove any jammed paper. 2. Open the Tray 3 side door, and then remove any jammed paper.
15.A1.F3	Input jam from Tray 3 at power on	<ol style="list-style-type: none"> 1. Open Tray 3, and then remove any jammed paper. 2. Open the Tray 3 side door, and then remove any jammed paper. 3. Open and close the printer left door.
15.AA.E3 15.AA.83	Left Door Open caused a jam	<ol style="list-style-type: none"> 1. Open the Tray 3 side door, and then remove any jammed paper. 2. Close the tray side door completely.
15.A1.04 15.A1.14 15.A1.A4 15.A1.B4 15.A1.D4	Input jam from Tray 4	<ol style="list-style-type: none"> 1. Open Tray 4, and then remove any jammed paper. 2. Open the Tray 4 side door, and then remove any jammed paper.
15.A1.F4	Input jam from Tray 4 at power on	<ol style="list-style-type: none"> 1. Open Tray 4, and then remove any jammed paper. 2. Open the side door on Tray 4, and then remove any jammed paper. 3. Open and close the printer left door.
15.AA.E4 15.AA.84	Left Door Open caused a jam	<ol style="list-style-type: none"> 1. Open the Tray 4 side door, and then remove any jammed paper. 2. Close the tray side door completely.

Error Code	Log Message	Solution
15.B1.0X	Print Zone jam from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B1.1X	Print Zone Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B1.AX	Print Zone Stay Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B1.BX	Print Zone jam with multifeed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Trays 2-4: Open the tray indicated in the error code, remove any jammed paper, and then reload the tray. 3. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B1.DX	Print Zone Delay Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B1.FX	Print Zone jam from Tray X at power on	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B1.9X	Print Zone Stay Jam 1 side printed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B1.CX	Print Zone Delay Jam 1 side printed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B2.0X	Print Zone jam from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B2.1X	Print Zone Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.

Error Code	Log Message	Solution
15.B2.AX	Print Zone Stay Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B2.BX	Print Zone jam with multifeed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Trays 2-4: Open the tray indicated in the error code, remove any jammed paper, and then reload the tray. 3. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B2.DX	Print Zone Delay Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B2.FX	Print Zone jam from Tray X at power on	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B2.9X	Print Zone Stay Jam 1 side printed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.B2.CX	Print Zone Delay Jam 1 side printed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.BA.EX	Print Zone Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, lower the jam access flap, and then remove any jammed paper.
15.BA.8X	Door Open caused Duplex jam from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.C1.OX	Output jam from Tray X	▲ Remove any jammed paper from the output area.
15.C2.OX		
15.C1.1X	Output Jam Simplex from Tray X	▲ Remove any jammed paper from the output area.
15.C2.1X		
15.C1.AX	Output Stay Jam Simplex from Tray X	▲ Remove any jammed paper from the output area.
15.C2.AX		

Error Code	Log Message	Solution
15.C1.BX 15.C2.BX	Output jam with multifeed from Tray X	<ol style="list-style-type: none"> 1. Remove any jammed paper from the output area. 2. Remove any jammed paper from the tray indicated. 3. Reload paper in the tray.
15.C1.DX 15.C2.DX	Output Delay Jam Simplex from Tray X	<ol style="list-style-type: none"> ▲ Remove any jammed paper from the output area.
15.C1.FX 15.C2.FX	Output jam from Tray X at power on	<ol style="list-style-type: none"> ▲ Remove any jammed paper from the output area.
15.C1.9X 15.C2.9X	Output Stay Jam Duplex from Tray X	<ol style="list-style-type: none"> ▲ Remove any jammed paper from the output area.
15.C1.CX 15.C2.CX	Output Delay Jam Duplex from Tray X	<ol style="list-style-type: none"> ▲ Remove any jammed paper from the output area.
15.C2.EX	Output Jam Simplex from Tray X	<ol style="list-style-type: none"> ▲ Remove any jammed paper from the output area.
15.CA.8X	Door Open caused Duplex jam from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.D1.0X	Duplex jam from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.D1.1X	Duplex Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.D1.AX	Duplex Stay Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.

Error Code	Log Message	Solution
15.D1.BX	Duplex jam with multifeed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.D1.DX	Duplex Delay Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.D1.FX	Duplex jam from Tray X at power on	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.D1.9X	Duplex Stay Jam 1 side printed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.D1.CX	Duplex Delay Jam 1 side printed from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.DA.EX	Duplex Jam Simplex from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.
15.DA.8X	Door Open caused Duplex jam from Tray X	<ol style="list-style-type: none"> 1. Open the printer left door, and then remove any jammed paper. 2. Remove the ink collection unit, and then remove any jammed paper. 3. Lower the jam access flap, and then remove any jammed paper.

Error Code	Log Message	Solution
15.E1.0X 15.E2.0X	Eject jam from Tray X	▲ Remove any jammed paper from the output area.
15.E1.1X 15.E2.1X 15.EA.EX	Eject Jam Simplex from Tray X	▲ Remove any jammed paper from the output area.
15.E1.AX 15.E2.AX	Eject Stay Jam Simplex from Tray X	▲ Remove any jammed paper from the output area.
15.E1.BX 15.E2.BX	Eject jam with multifeed from Tray X	<ol style="list-style-type: none"> 1. Remove any jammed paper from the output area. 2. Remove the tray indicated, remove the paper from the tray, and then reload the paper.
15.E1.DX 15.E2.DX	Eject Delay Jam Simplex from Tray X	▲ Remove any jammed paper from the output area.
15.E1.FX 15.E2.FX	Eject jam from Tray X at power on	▲ Remove any jammed paper from the output area.
15.E1.9X 15.E2.9X	Eject Stay Jam Duplex from Tray X	▲ Remove any jammed paper from the output area.
15.E1.CX 15.E2.CX	Eject Delay Jam Duplex from Tray X	▲ Remove any jammed paper from the output area.
15.EA.8X	Door Open caused Eject Duplex jam from Tray X	<ol style="list-style-type: none"> 1. Remove any jammed paper from the output area. 2. Open and close the printer left door.
17.0X.00	Failed cartridge (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Replace the cartridge.
17.0X.34	Counterfeit or refilled cartridge installed	<ol style="list-style-type: none"> 1. Replace the cartridge, if desired. 2. Visit http://www.hp.com/go/anticounterfeit for more information on counterfeit cartridges.
17.0X.35	Incompatible supply	▲ Replace the cartridge with a cartridge supported for this printer.
17.0X.36	Non-Startup cartridge at startup (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Install a setup cartridge. If a setup cartridge is not available, override the use of setup cartridges from the control panel. See Override the use of setup cartridges on page 94
17.0X.37	Startup Cartridge after startup completed (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Install a standard cartridge.
17.0X.38	Cartridge might be empty (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Continue printing or install a new cartridge.
17.0X.39	Use new cartridges (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Install a new cartridge to allow the ink initialization process to complete in one session.

Error Code	Log Message	Solution
17.0X.42	General printing error (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	<ol style="list-style-type: none"> 1. Turn the printer off and then turn the printer on. 2. If the message does not clear, replace the cartridge. 3. If the message does not clear, replace the printer.
17.0X.52	Supply upgrade detected (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Continue printing or install a new cartridge.
17.0X.53	Supply upgrade successful (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ No action is required.
17.0X.54	Supply upgrade problem (standard cartridge)	1. Replace the cartridge.
17.0X.55	Supply upgrade problem (setup cartridge) (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	2. If the message does not clear, contact HP support.
17.0X.56	Ink sensor warning (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ If print quality is unacceptable, replace the cartridge.
17.0X.57	Protected cartridge detected (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Replace the cartridge.
17.0X.60	Cartridge low	▲ No action is required.
17.0X.69	Cartridge very low	
17.0X.70	Printing past very low (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	
17.0X.65	Install supply (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	<ol style="list-style-type: none"> 1. Install the cartridge in the printer. 2. If the message does not clear, install a new cartridge.
17.0X.80	Cartridge empty (X value 0=black; 1=cyan; 2=magenta; 3=yellow)	▲ Replace the cartridge.
17.31.50	New Ink Collection Unit	▲ No action is required.
17.31.60	Ink Collection Unit almost full	▲ No action is required.
17.31.65	Install Supply	<ol style="list-style-type: none"> 1. Install the ink collection unit in the printer. 2. If the message does not clear, install a new ink collection unit.
17.31.69	Ink Collection Unit full	▲ No action is required.
17.31.70	Printing past full	
17.31.71	Reinstall Ink Collection Unit	▲ Remove the ink collection unit from the printer, and then reinstall it in the printer.
17.31.72	Ink Collection Unit reinstalled	▲ No action is required.
17.31.73	New Ink Collection Unit	
17.31.80	Replace Ink Collection Unit	▲ Replace the ink collection unit.

Error Code	Log Message	Solution
17.99.31	Non-HP supply in use	▲ No action is required.
17.99.32	Previously used HP supply installed	
17.99.40	Genuine HP supplies installed	
17.99.49	Startup Cartridge Override	
17.99.58	Cartridge Protection enabled	
41.03.00	Size mismatch	
41.03.0X	Size mismatch from Tray X (tray number indicated by X)	<ol style="list-style-type: none"> 1. Make sure that the size of paper requested by the software is loaded in the specified tray in the printer. 2. Make sure that the paper length and width guides in the tray are positioned against the edges of the paper stack.
61.A0.F4	PEN_AEROSOL_FAN_NOT_PRESENT_FAILURE	▲ Connect the aerosol fan.
61.A2.2D	PAPER_LOAD_TRAY1_PICK_MOTOR	
61.A2.2E	PAPER_LOAD_PICK_TIRE_INDEX_SENSOR	
61.C0.68	PRINT_ADD_SIZE_NOW_KNOWN_ZIM_POS	
61.C0.A1	SENSOR_SCAN_CALIBRATE_LED_INVALID_SENSOR	
61.C0.A2	SENSOR_SCAN_ACQUIRE_SCAN_UNKNOWN_SENSOR	
61.C0.A3	SENSOR_SCAN_ACQUIRE_SCAN_START_POS	
61.C0.A4	SENSOR_SCAN_ACQUIRE_SCAN_END_POS	
61.C0.A5	SENSOR_SCAN_ACQUIRE_SCAN_VERT_UNKNOWN	
61.C0.A6	SENSOR_CMS_SCAN_X_INVALID_SENSOR	
61.C0.A7	SENSOR_CMS_SCAN_X_OVERSHOOT	
61.C0.A8	SENSOR_CMS_SCAN_X_UNKNOWN_TYPE	
61.C0.A9	SENSOR_CMS_SCAN_Y_INVALID_SENSOR	
61.C0.AB	SENSOR_CMS_SCAN_Y_UNKNOWN_TYPE	
61.C0.AC	SENSOR_CMS_CALIBRATE_UNKNOWN_SENSOR	
61.C0.AD	SENSOR_CMS_CALIBRATE_INVALID_SENSOR	
61.C0.AE	SENSOR_CMS_CALIBRATE_OVERSHOOT	
61.C0.AF	SENSOR_COMMAND_INVALID_SENSOR	
61.C0.B0	SENSOR_RESULT_INVALID_SENSOR	
61.C0.B1	SENSOR_STATUS_INVALID_SENSOR	
61.C0.B2	SENSOR_SCAN_RESULT_INVALID_SENSOR	
61.C0.B3	SENSOR_SETUP_INVALID_SENSOR	
61.C0.B4	SENSOR_COMPLETE_INVALID_SENSOR	
61.C0.B5	SENSOR_SCAN_SET_ARG_INVALID_SENSOR	
61.C0.B7	SENSOR_SCAN_START_EDGE_SCAN_BAD_TYPE	

Error Code	Log Message	Solution
61.C4.0C	SERVICE_STATION_HOME_FAILURE	
61.C4.0D	SERVICE_STATION_CAP_HOME_LONG	
61.C4.0E	SERVICE_STATION_CAP_HOME_SHORT	
61.C4.11	SS_RESTRICTED_MOVEMENT_SERVICE_ERROR	
61.C4.13	CARRIAGE_RESTRICTED_MOVEMENT_SERVICE_ERROR	
61.C4.C0	SERVICE_UNCAP_TRANNY_STATE	
61.C4.C1	SERVICE_STATION_HOME_TRANNY_STATE	
61.C4.C2	SERVICE_WIPE_PENS_REVERSE_UNIDI_TRANNY	
61.C4.C3	SERVICE_WIPE_PENS_AWAY_FROM_CAP_TRANNY	
61.C4.C4	SERVICE_WIPE_PENS_AWAY_FROM_CAP_MOTOR	
61.C4.C5	SERVICE_WIPE_PENS_FORWARD_UNIDI_TRANNY	
61.C4.C7	SERVICE_WIPE_PENS_TOWARD_CAP_MOTOR	
61.C4.C8	SERVICE_MOVE_TO_TRANNY_STATE	
61.C4.C9	SERVICE_CARRIAGE_HOME_INVALID	

Error Code	Log Message	Solution
62.0X.01	PEN_ERROR_GENERIC	
62.0X.02	PEN_NO_PEN_IO	
62.0X.03	PEN_INCORRECT_PEN_IO	
62.0X.04	PEN_WDOG_FAULT	
62.0X.06	PEN_UNRECOGNIZED_PEN_TYPE	
62.0X.07	PEN_LVDS_ERROR	
62.0X.08	PEN_ID_INVALID	
62.0X.09	PEN_ID_BIT_FLIPPED	
62.0X.10	PEN_BAD_DTSR	
62.0X.12	PEN_TSR_FAULT	
62.0X.13	PEN_STUCK_COLD	
62.0X.14	PEN_NOT_HEATING	
62.0X.15	PEN_TOO_COLD	
62.0X.20	PEN_VDD_SHORT_LOW	
62.0X.21	PEN_VDD_SHORT_HIGH	
62.0X.22	PEN_VDD_EXPECTED_ON	
62.0X.23	PEN_VPP_INIT_SHORT_LOW	
62.0X.24	PEN_VPP_SHORT_LOW	
62.0X.25	PEN_VPP_INIT_SHORT_HIGH	
62.0X.26	PEN_VPP_SHORT_HIGH	
62.0X.27	PEN_VPP_SHORT_TEST_OUT_OF_RANGE_LOW	
62.0X.28	PEN_VPP_SHORT_TEST_OUT_OF_RANGE_HIGH	
	X value is die number (0–9)	
62.0F.0B	SERVICE_STATION_PEN_TOO_COLD	
62.0F.4E	PEN_START_UP_SPITS_ALREADY_DONE	
62.11.50	PEN_PRIME_PUMP_NOT_PRESENT_FAILURE	
62.11.51	PEN_PRIME_VALVE_ATM_NOT_PRESENT_FAILURE	
62.11.52	PEN_PRIME_VALVE_REG_NOT_PRESENT_FAILURE	
62.11.53	PEN_INK_PUMP_FAILURE	
62.12.12	LIFT_RESTRICTED_MOVEMENT_SERVICE_ERROR	
62.12.35	PRINTBAR_CLUTCH_SLIPPAGE	

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