Current settings pages

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

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Reports**
   - **Configuration/Status Pages**
3. Select the **Current Settings Page** option, and then press the OK button.
4. Scroll to the **Print** option, and then press the OK button to print the report.

Troubleshooting process

Determine the problem source

When the product malfunctions or encounters an unexpected situation, the product control panel alerts you to the situation. A troubleshooting flowchart helps you diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

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

Before beginning any troubleshooting procedure, check the following issues:

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

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

Troubleshooting flowchart

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

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

Table 2-7 Troubleshooting flowchart

1 **Power on**	Is the product on and does a readable message display?		Follow the power-on troubleshooting checks. See Power subsystem on page 99. After the control panel display is functional, see step 2.
	Yes ↓	No →	
2 **Control panel messages**	Does the message **Ready** display on the control panel?		After the errors have been corrected, go to step 3.
	Yes ↓	No →	
3 **Event log**	Open the **Troubleshooting** menu and print an event log to see the history of errors with this product. Does the event log print?		If the event log does not print, check for error messages. If paper jams inside the product, see the jams section of the product service manual. If error messages display on the control panel when you try to print an event log, see the control panel message section of the service manual. After successfully printing and evaluating the event log, see step 4.
	Yes ↓	No →	

Table 2-7 Troubleshooting flowchart (continued)

4 **Information pages**	Open the **Reports** menu and print the configuration pages to verify that all the accessories are installed. Are all the accessories installed?		If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it. After evaluating the configuration pages, see step 5.
	Yes ↓	No →	
5 **Image quality**	Does the print quality meet the customer's requirements?		Compare the images with the sample defects in the image defect tables. See the images defects table in the product service manual. After the print quality is acceptable, see step 6.
	Yes ↓	No →	
6 **Interface**	Can the customer print successfully from the host computer?		Verify that all I/O cables are connected correctly and that a valid IP address is listed on the Jetdirect configuration page. If error messages display on the control panel when you try to print an event log, see the control panel message section of the service manual. When the customer can print from the host computer, this is the end of the troubleshooting process.
	Yes. This is the end of the troubleshooting process.	No →	

Power subsystem

Power-on checks

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

Power-on troubleshooting overview

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

During normal operation, the main cooling fan begins to spin briefly after the product power is turned on. Place your hand over the holes in the left-side cover, near the formatter. If the fan is operating, you will feel air passing out of the product. You can also lean close to the product and hear the fan operating. You can also place your hand over the hole in the right-rear lower corner. If the fan is operating, you should feel air being drawn into the product. When this fan is operational, the DC side of the power supply is functioning correctly.

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

If the fan and main motor are operating correctly, the next troubleshooting step is to isolate print engine, formatter, and control panel problems. Perform an engine test. If the formatter is damaged, it might interfere with the engine test. If the engine-test page does not print, try removing the formatter

and then performing the engine test again. If the engine test is then successful, the problem is almost certainly with the formatter, the control panel, or the cable that connects them.

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

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

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

Tools for troubleshooting

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

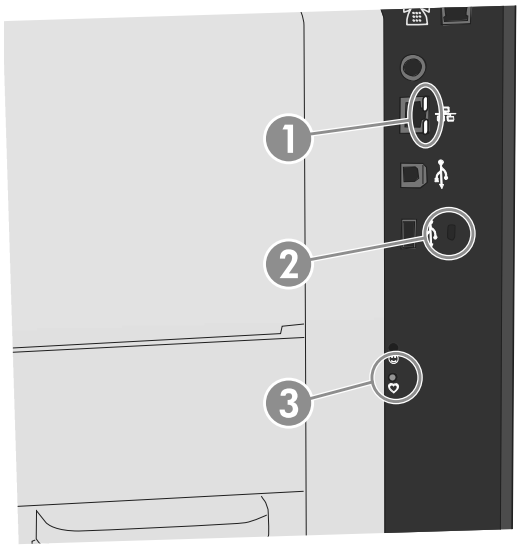
Individual component diagnostics

LED diagnostics

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

Understand lights on the formatter

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



1	HP Jetdirect LEDs
2	Connectivity LED
3	Heartbeat LED

Heartbeat LED

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

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

Formatter to control panel communication interruptions

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

TIP: If the connectivity LED is illuminated, the formatter is fully seated and the power is on. The pins for the LED circuit in the formatter connector are recessed so that this LED will not illuminate unless the formatter is fully seated.

The heartbeat LED operates according to the product state. When the product is initializing, see Heartbeat LED, product initialization on page 102.

Heartbeat LED, product initialization

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

NOTE: When the initialization process completes the heartbeat LED should be illuminated solid green —the LED is off if the product is in **Sleep Mode**.

Table 2-8 Heartbeat LED, product initialization

Product initializing state	Heartbeat LED, normal state	Heartbeat LED, error state
No power (power cable disconnected or power switch off)	Off	Not applicable
Power on (immediately after the power switch pressed)	Red, solid • Duration should be 1 second or less	Red, solid • Firmware error; problem finding hardware and booting the serial peripheral interface flash memory ◦ Boot process halted Replace the formatter.
Serial peripheral interface (SPI) flash memory boot	Green, solid	Red, solid • Firmware error; problem corrupt or missing SPI flash memory ◦ Boot process halted Replace the formatter.
HW checks on board DRAM	Green, solid	Red, solid • Power on self check failure ◦ Boot process halted Replace the formatter.

Table 2-8 Heartbeat LED, product initialization (continued)

Product initializing state	Heartbeat LED, normal state	Heartbeat LED, error state
Control panel connection initializes	Green, solid **NOTE:** Control panel communication successful. If an error occurs, a message should appear on the control-panel display.	Yellow, fast flash • Formatter to control panel connection failed ◦ Boot process continues Check the cables between the formatter and control panel for damage. Make sure that the cables are fully seated.
Preboot menu available (including diagnostics)	Green, solid	Red, solid • Diagnostic failure ◦ Follow diagnostic instructions Turn the power off, and then on again to restart the initialization process.
Accessing disk for firmware image	Green, solid **NOTE:** If applicable, disk error messages appear on the control-panel display.	Yellow, fast flash • Control panel not connected
Firmware boot	Green, solid **NOTE:** If applicable, error messages appear on the control-panel display.	Yellow, fast flash • Control panel not connected
Product operational	Green, heartbeat blink **NOTE:** If applicable, error messages appear on the control-panel display.	Yellow, fast flash • Control panel not connected
49.xx.yy	Not applicable	LED off **NOTE:** An error message (for example, **49.xx.yy**) might appear on the control-panel display. Eventually a formatter connection missing message will appear. Turn the power off, and then on again to restart the initialization process. If the error persists, perform a firmware upgrade.
Control panel connection interrupted after the product is operational	Not applicable	Yellow, fast flash • Control panel not connected
Sleep Mode	Green, slow blink	Not applicable
Approaching **Sleep Mode**	Green, slow blink	Not applicable

Table 2-8 **Heartbeat LED, product initialization (continued)**

Product initializing state	Heartbeat LED, normal state	Heartbeat LED, error state
Wake up from **Sleep Mode**	Follows initialization progression.	Follows initialization progression.
Approaching wake up from **Sleep Mode**	Follows initialization progression.	Follows initialization progression.

HP Jetdirect LEDs

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

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

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Network Settings**
   - **Embedded Jetdirect Menu**
   - **Link Speed**
3. Select the appropriate link speed, and then press the OK button.

Engine diagnostics

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

Engine-test button

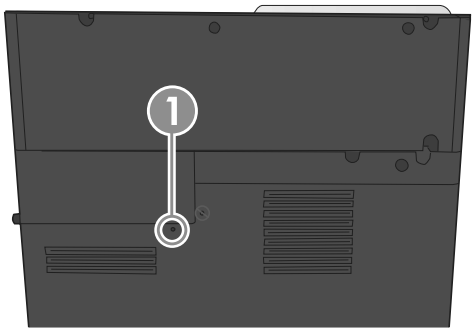
To verify that the product engine is functioning, print an engine-test page.

Print the engine test pages

NOTE: A damaged formatter might interfere with the engine test. If the engine test page does not print, try removing the formatter and performing the engine test again. If the engine test is then successful, the problem is in the formatter, the control panel, or the cable that connects them together.

1. On the rear cover, locate the port for the engine test button (callout 1) located below the rear pocket cover.

   Figure 2-1 Locating the engine-test-page switch



NOTE: Make sure you are not looking at the rear pocket cover release latch port to the right and above the engine test button port.

2. Use a paper clip or very small screwdriver to press the engine test-page button.

The test page should have a series of horizontal lines. The test page prints from the last tray that the product used to print, unless the product has been turned off and then turned on again since the most recent print job. If the product has been turned off and then on again since the most recent print job, then the page will print from Tray 2. The product continuously prints test pages as long as the test-page switch is depressed. The product will not print a test page if it is in Sleep mode.

Print formatter test pages

If the engine test was successful with the formatter removed, reinstall the formatter and then print a configuration page to test the functionality of the formatter.

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Troubleshooting**
   - **Print Quality Pages**
   - **Print Fuser Test Page**
3. Select the **Print** item, and then press the OK button.

Paper path test

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

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

- **Print Test Page**. Run the paper-path test from the default settings: Tray 2, no duplex, and one copy. To specify other settings, scroll down the menu and select the setting, and then scroll back up and select **Print Test Page** to start the test.
- **Source Tray**. Select Tray 1, Tray 2, or the optional tray.
- **Output Bin**. Select **All bins**, **Face down**, or **Face up**.
- **Test Duplex Path**. Enable or disable two-sided printing.
- **Number of Copies**. Set the numbers of copies to be printed; the choices are 1,10, 50, 100, or 500.

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Troubleshooting**
   - **Diagnostic Tests**
   - **Paper Path Test**
3. Select the paper-path test options for the test you want to run.

Paper path sensor tests

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

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Troubleshooting**
   - **Diagnostic Tests**
   - **Paper Path Sensors**

NOTE: Exiting the **Paper Path Sensors** menu and then reentering it will clear the test values from the previous test.

Table 2-9 Paper-path sensors

Sensor name	Sensor number	Replacement part number	Description	Paper-path sensor test name
Top of page sensor	SR9		Top sensor PCA	SR9 Top sensor
Fuser output sensor	SR12		Fuser output sensor PCA	SR12 Fuser output sensor
Fuser loop sensor	SR 6		Fuser loop sensor	SR6 Fuser loop 1 sensor
Duplexer refeed sensor	SR2		Duplexer refeed sensor	SR2 Duplexer Refeed
Duplexer switchback sensor	SR1		Duplexer switchback sensor	SR1 Duplexer switchback sensor
Output sensor	SR3		Output sensor	SR3 Output sensor
Tray 4 paper feed sensor (if optional Tray 4 is installed)	SR1		Tray 4 feed sensor	SR1 Tray 4 feed

Manual sensor tests

Performs tests to determine whether the paper-path sensors are operating correctly.

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Troubleshooting**
   - **Diagnostic Tests**
   - **Manual Sensor Test**

Table 2-10 Manual sensor tests

Sensor or switch name	Sensor number	Replacement part number	Description	Paper-path sensor test name	Testing of sensor
Cartridge-door switch	SW3	CN	Toner cartridge door switch	SW3 Cartridge Door	Open the cartridge door.
Left door switch	SW1	CN	Left door open switch	SW1 Left Door	Open the left door.
Right door sensor	SR8	CN	Right door open sensor	SR8 Right door	Open the right door.
Cartridge install sensor	SR1	CN	Toner cartridge installed sensor	SR1 Cartridge install sensor	Open the cartridge door, and then remove the toner cartridge.
Top sensor	SR9	CN	Top sensor PCA	Sr9 Top Sensor	Open the cartridge door, remove the toner cartridge, raise the registration shutter, and then use a small flat-blade screwdriver to activate the sensor.
Fuser loop sensor	SR6	CN	Fuser loop sensor	SR6 Fuser loop 1 sensor	Open the cartridge door, remove the toner cartridge, and then press the sensor lever.
Fuser output sensor	SR12	CN	Fuser output sensor	SR12 Fuser output sensor	Open the left door, pull down the fuser shutter, and then use a screwdriver to activate the sensor.
Duplex refeed sensor	SR2	CN	Duplexer refeed sensor	SR2 Duplexer refeed	Remove the duplexer, insert a sheet of paper so that it covers the refeed sensor, and then reinstall the duplexer.

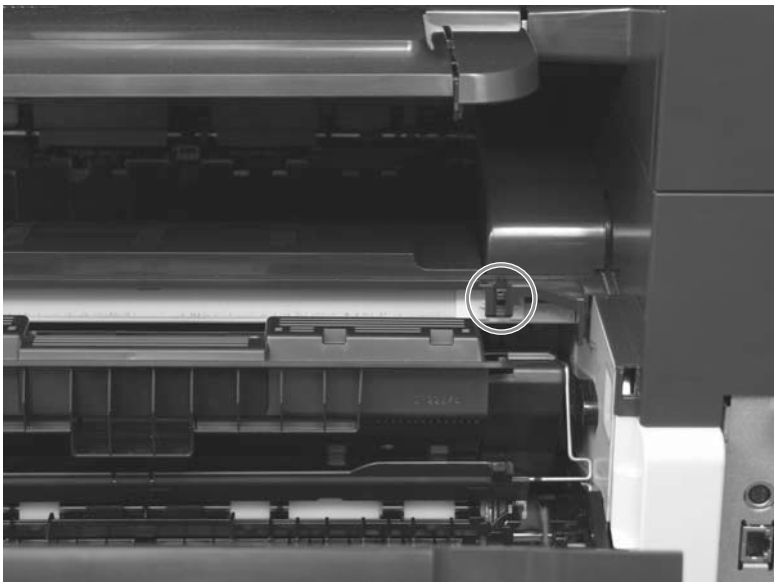
Table 2-10 Manual sensor tests (continued)

Sensor or switch name	Sensor number	Replacement part number	Description	Paper-path sensor test name	Testing of sensor
Duplex switchback sensor	SR1	CN	Duplexer switchback sensor	SR1 Duplexer switchback sensor	Remove the duplexer, insert a sheet of paper so that it covers the switchback sensor, and then reinstall the duplexer.
Tray 4 feed sensor (Optional 500-sheet feeder only)	SR1	CN	Tray 4 feeder sensor	SR1 Tray 4 feed	Open the lower right door, and use a small flat-blade screwdriver to activate the sensor.
Output sensor	SR3	CN	Output sensor	SR3 Output sensor	Open the left door and press the sensor lever..

Cartridge door switch (SW3)

1. Open the cartridge door to activate the sensor.

   Figure 2-2 Test the cartridge door switch

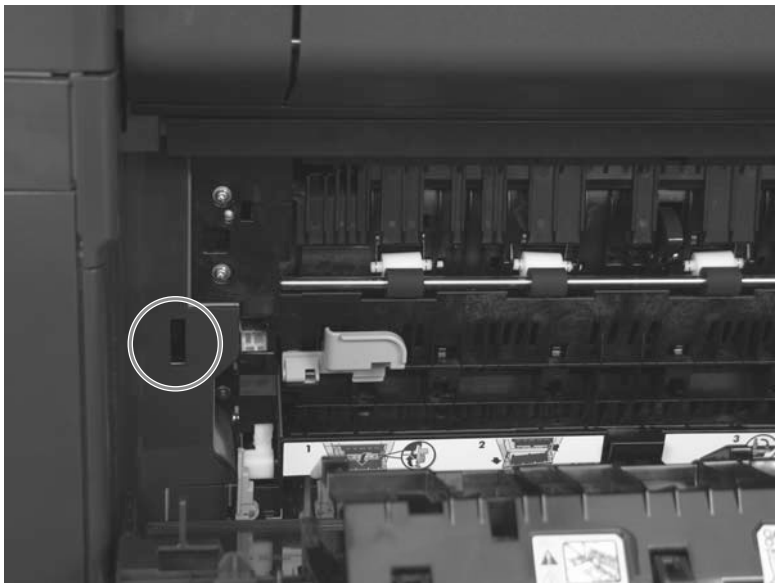
2. Check the control-panel display for sensor response.
3. If there is no response, make sure that the sensor-actuator tab on the door is not damaged or missing.

   If necessary, replace the cartridge-door switch.

Left door switch (SW1)

1. Open the left door, gently release the door arm and lower the door until it is fully open, and then use a small flat-blade screwdriver to activate the switch.

   Figure 2-3 Test the left door switch

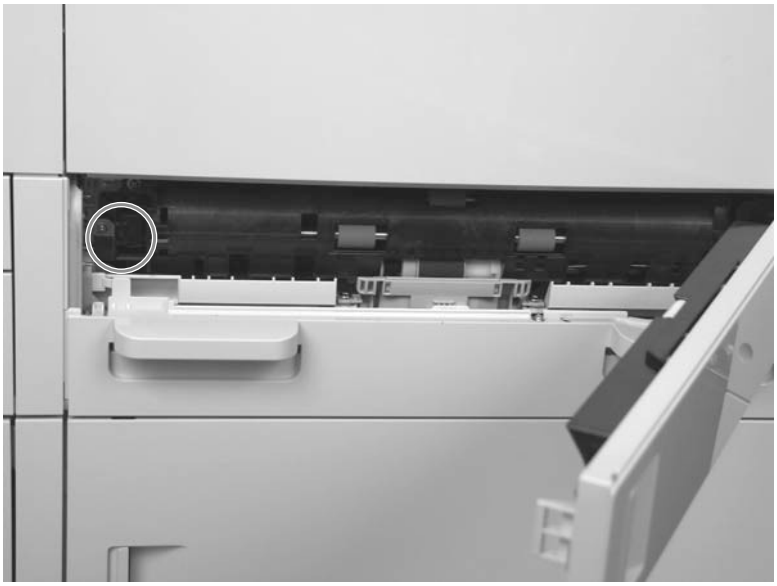
   

2. Check the control-panel display for sensor response.
3. If there is no response, make sure that the sensor-actuator tab on the door is not damaged or missing.

   If necessary, replace the switch.

Right door sensor (SR8)

1. Open the right door, and then press the sensor.

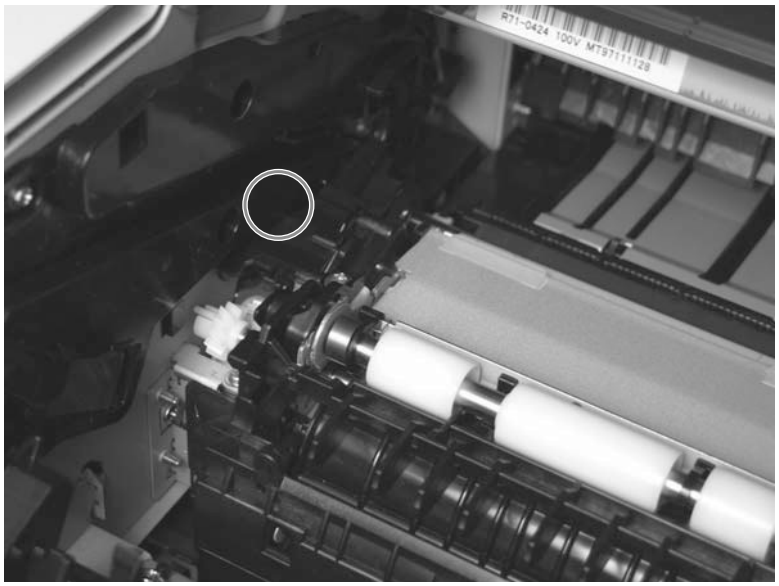


2. Check the control-panel display for sensor response.
3. If there is no response, make sure that the sensor-actuator tab on the door is not damaged or missing.

   If necessary, replace the sensor.

Cartridge install sensor (SR1)

1. Open the cartridge door, remove the print cartridge, and then activate the sensor on the left side of the cartridge cavity.

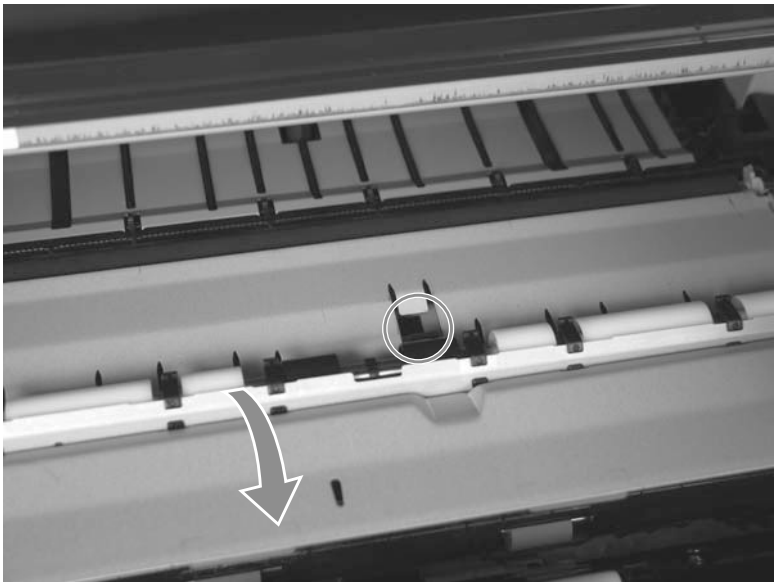


2. Check the control-panel display for sensor response.
3. If necessary, replace the sensor.

Top (top-of-page) sensor (SR9)

1. Open the cartridge door, and then remove the toner cartridge.
2. Raise the registration shutter.
3. Use a small screwdriver to activate the top sensor.

Figure 2-4 Test the top sensor



4. Check the control-panel display for sensor response.
5. If there is no response, replace the sensor.

Fuser loop sensor (SR6)

1. Open the cartridge door, and then remove the toner cartridge.
2. Press the sensor lever to activate the sensor.

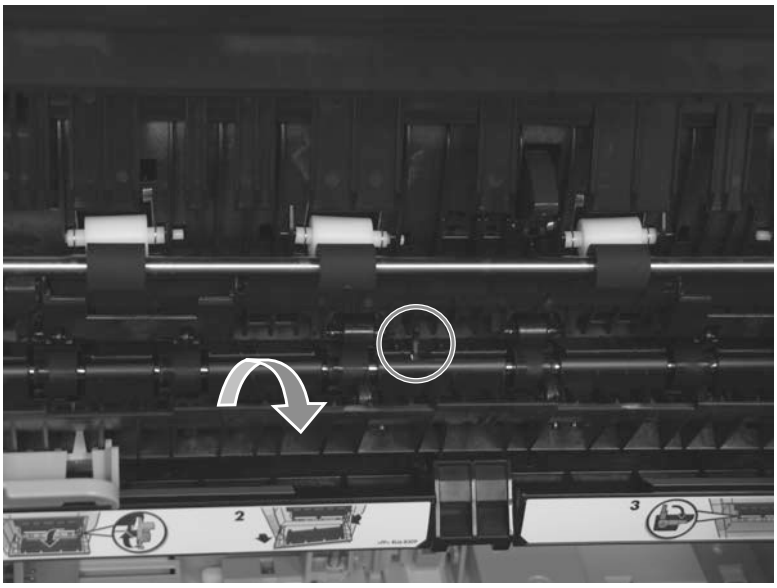
Figure 2-5 Fuser loop sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the sensor.

Fuser output sensor (SR12)

1. Open the left door.
2. Pull down the fuser shutter, and then use a small flat-blade screwdriver to pull the sensor lever toward you.

Figure 2-6 Fuser output sensor

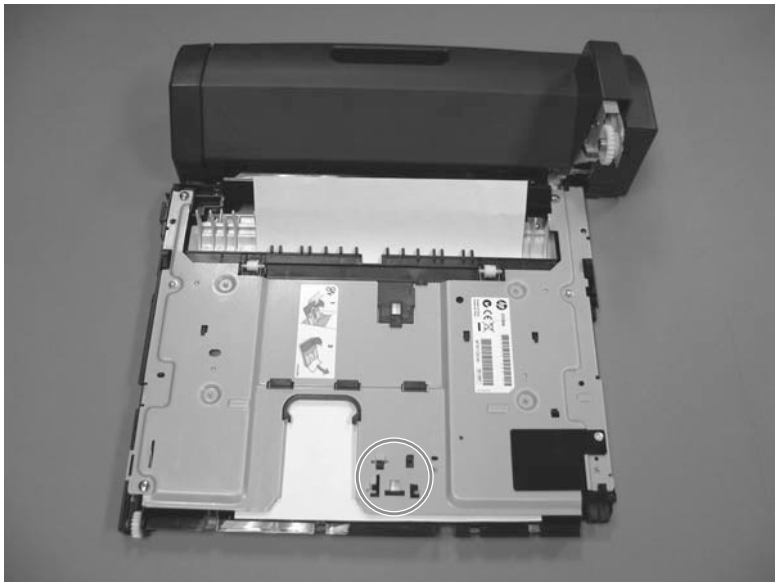


3. Check the control-panel display for a sensor response.
4. If there is no response, replace the fuser.

Duplex switchback sensor (SR1)

1. Remove the duplexer from the product.
2. Insert a sheet of paper in the duplexer until the sheet covers the sensor.

Figure 2-7 Duplex switchback sensor

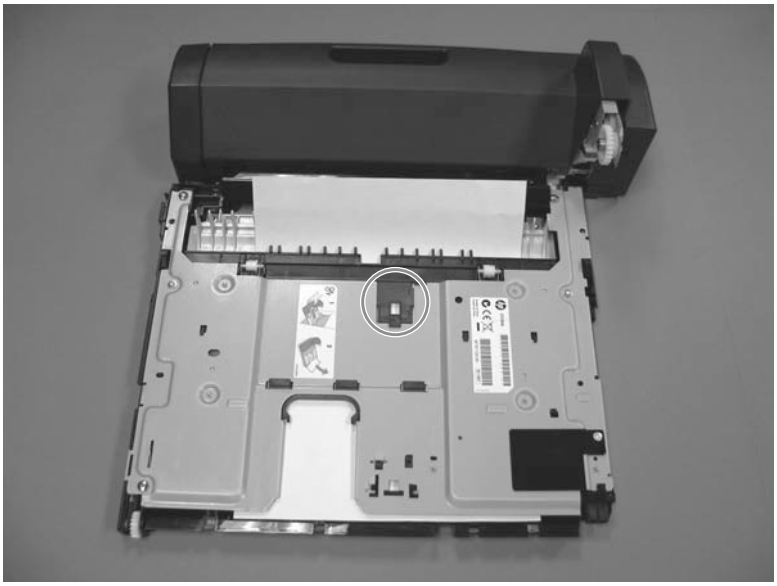


3. Reinstall the duplexer, and then check the control-panel display for sensor response.
4. If there is no response, replace the duplexer.

Duplexer refeed sensor (SR2)

1. Remove the duplexer from the product.
2. Insert a sheet of paper in the duplexer until the sheet covers the sensor.

Figure 2-8 Duplexer refeed sensor



3. Reinstall the duplexer, and then check the control-panel display for sensor response.
4. If there is no response, replace the duplexer.

Tray 4 feed sensor (SR1)

1. Open the lower right door.
2. Use a small flatblade screwdriver to activate the sensor.

Figure 2-9 Tray 4 feed sensor

3. Check the control-panel display for sensor response.
4. If there is no response, replace the optional Tray 4 assembly.

Output sensor (SR3)

1. Open the left door, and then press the output sensor lever.

Figure 2-10 Output sensor

2. Check the control-panel display for sensor response.
3. If there is no response, replace the paper delivery assembly.

Tray/bin manual sensor tests

Use this test to test paper-path sensors and the paper-size switches manually. The following illustrations and table show the locations of these sensors.

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Troubleshooting**
   - **Diagnostic Tests**
   - **Tray/Bin Manual Sensor Test**

Table 2-11 Tray/bin manual sensor test

Sensor or switch name	Sensor number	Replacement part number	Description	Paper-path sensor test name	Testing of sensor
Multipurpose tray paper-presence sensor	SR1	CN	Multipurpose tray paper-presence sensor	SR1 Tray 1 paper	Push the sensor lever and hold it there for 3 seconds.
Tray 2 paper-presence sensor	SR7	CN	Tray 2 paper-presence sensor	SR7 Tray 2 paper	Remove Tray 2 and Tray 3, and then push the sensor lever on the right side of the tray cavity.
Tray 2 paper surface sensor	SR10	CN	Tray 2 paper surface sensor	SR10 Tray 2 paper surface	Remove Tray 2 and Tray 3, and then push the sensor at the back of the tray cavity.
Tray 2 paper size switches	SW 4, SW6	CN	Tray 2 paper size sensor	SW4, 6 Tray 2 Paper Size	Remove Tray 2 and Tray 3, and then push the switches at the back of the tray cavity.
Tray 3 paper-presence sensor	SR5	CN	Tray 3 paper-presence sensor	SR5 Tray 3 paper	Remove Tray 2 and Tray 3, and then push the sensor lever on the right side of the tray cavity.
Tray 3 paper surface sensor	SR11	CN	Tray 3 feeder unit	SR11 Tray 3 paper surface	Remove Tray 2 and Tray 3, and then push the sensor at the back of the tray cavity.

Table 2-11 Tray/bin manual sensor test (continued)

Sensor or switch name	Sensor number	Replacement part number	Description	Paper-path sensor test name	Testing of sensor
Tray 3 paper size switches	SW5, SW7	CN	Tray 3 paper size switches	SW5, 7 Tray 3 Paper Size	Remove Tray 2 and Tray 3, and then push the switches at the back of the tray cavity.
Tray 4 paper-presence sensor	SR3	CN	Tray 4 paper-presence sensor	SR3 Tray 4 paper	Remove Tray 4, and then push the sensor lever.
Tray 4 paper surface sensor	SR2	CN	Tray 4 paper surface sensor	SR2 Tray 4 paper surface	Remove Tray 4, and then push the sensor at the back of the tray cavity.
Tray 4 paper size switches	SW2, SW3	CN	Tray 4 paper size switches	SW2, 3 Tray 4 Paper Size	Remove Tray 4, and then push the switches at the back of the tray cavity.
Tray 4 feed sensor	SR1	CN	Tray 4 feed sensor	SR1 Tray 4 feed	Open the lower right door, and then activate the feed sensor with a small flat-blade screwdriver.
Lower right door switch	SW1	CN	Lower right door switch	SW1 Lower right door 1 sensor	Open the lower right door, and then activate the door switch with a small flat-blade screwdriver.
Output bin full sensor	SR4	CN	Output bin full sensor	SR4 Output Bin Full	Lift the output bin sensor levers.

Main product trays

Tray 1 paper sensor (SR1)

1. Open Tray 1, push the sensor lever down, and hold it for 3 seconds to activate the sensor.

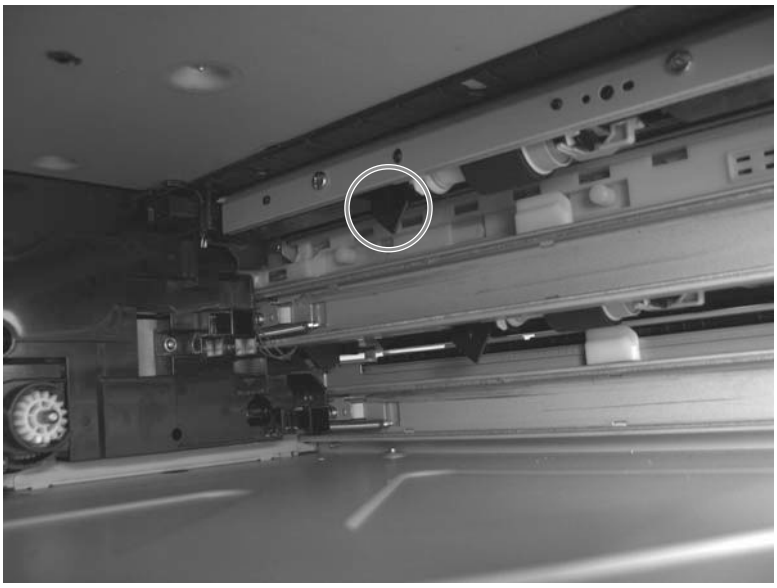
Figure 2-11 Tray 1 paper sensor

2. Check the control-panel display for sensor response.
3. If there is no response, replace the cartridge door assembly.

Tray 2 Paper sensor (SR7)

1. Remove Tray 2 and Tray 3, and then push the sensor levers on the right side of the cavity to activate the sensor.

Figure 2-12 Tray 2 paper sensor

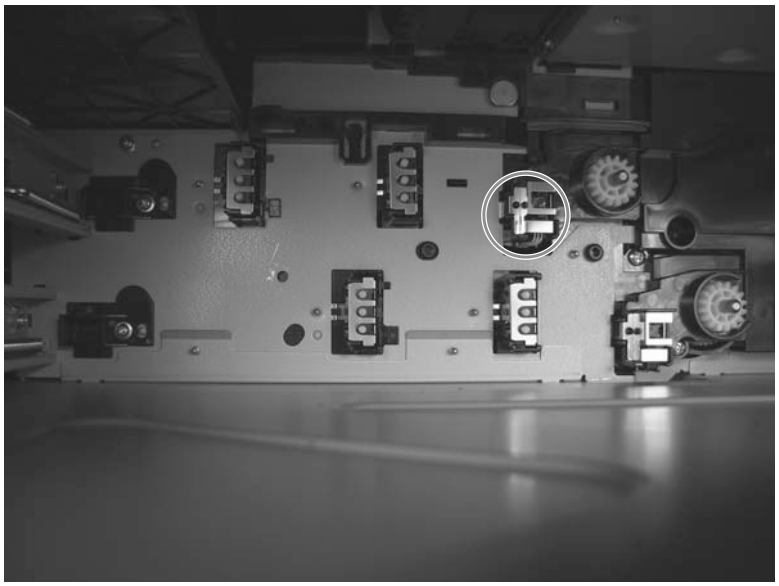


2. Check the control-panel display for sensor response.
3. If there is no response, replace the upper cassette pickup assembly.

Tray 2 paper surface sensor (SR10)

1. Remove Tray 2 and Tray 3, and then push the sensor at the back of the tray cavity.

Figure 2-13 Tray 2 paper surface sensor

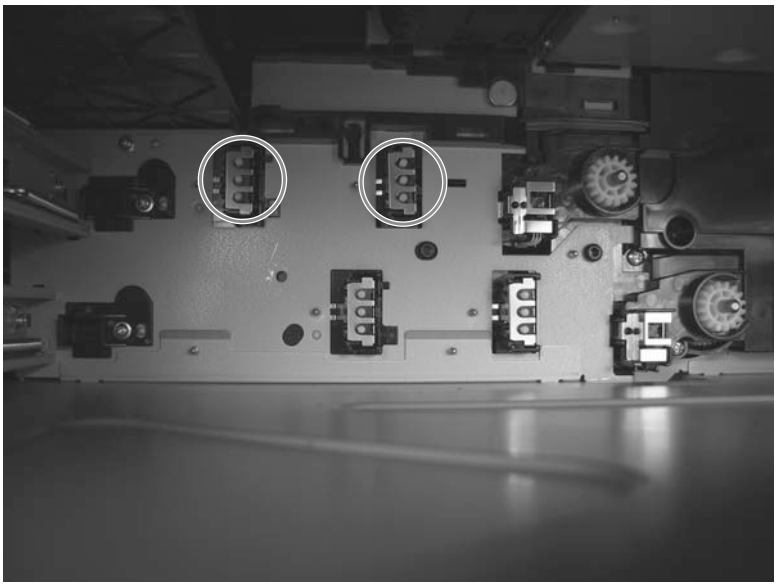


2. Check the control-panel display for sensor response.
3. If there is no response, replace the lifter drive assembly.

Tray 2 paper size switches (SW4, SW6)

1. Remove Tray 2 and Tray 3, and then push the switches at the back of the tray cavity.

   Figure 2-14 Tray 2 paper size switches

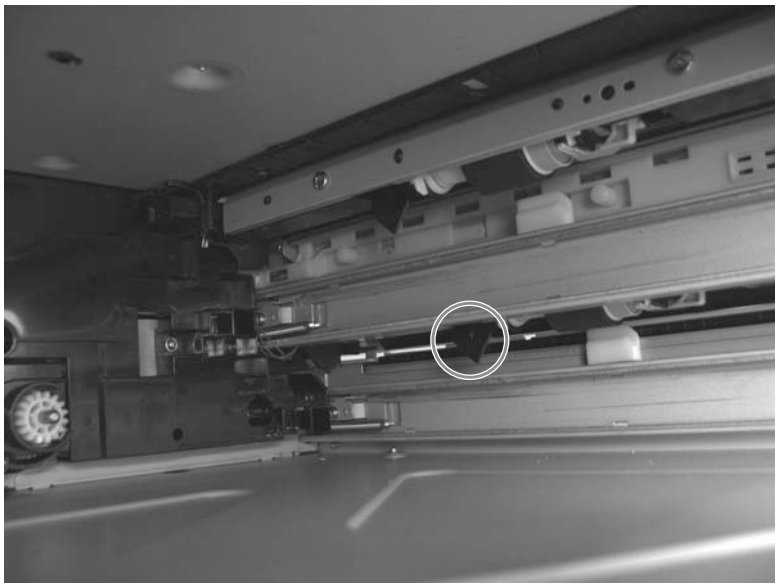
   

2. Check the control-panel display for sensor response.
3. If there is no response, replace the lifter drive assembly.

Tray 3 paper sensor (SR5)

1. Remove Tray 2 and Tray 3, and then push the sensor lever on the right side of the cavity to activate the sensor.

Figure 2-15 Tray 3 paper sensor

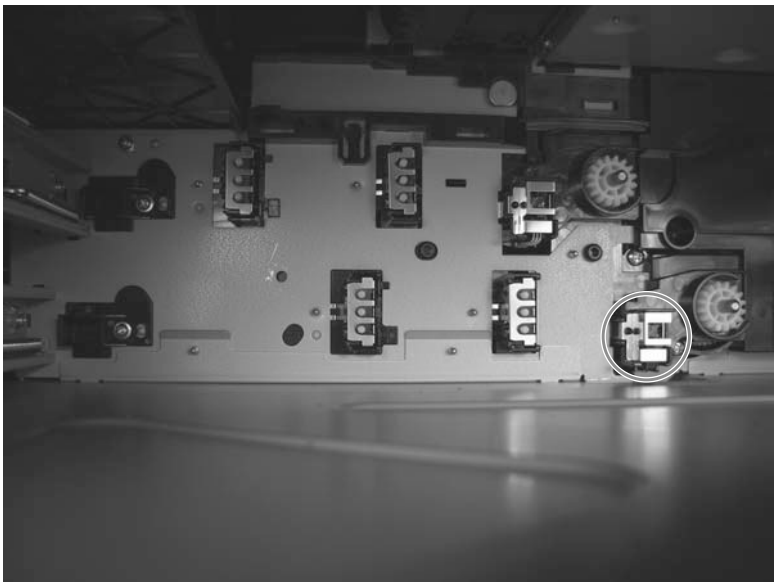


2. Check the control-panel display for sensor response.
3. If there is no response, replace the lower cassette pickup assembly.

Tray 3 paper surface sensor (SR11)

1. Remove Tray 2 and Tray 3, and then push the sensor at the back of the tray cavity.

Figure 2-16 Tray 3 paper surface sensor

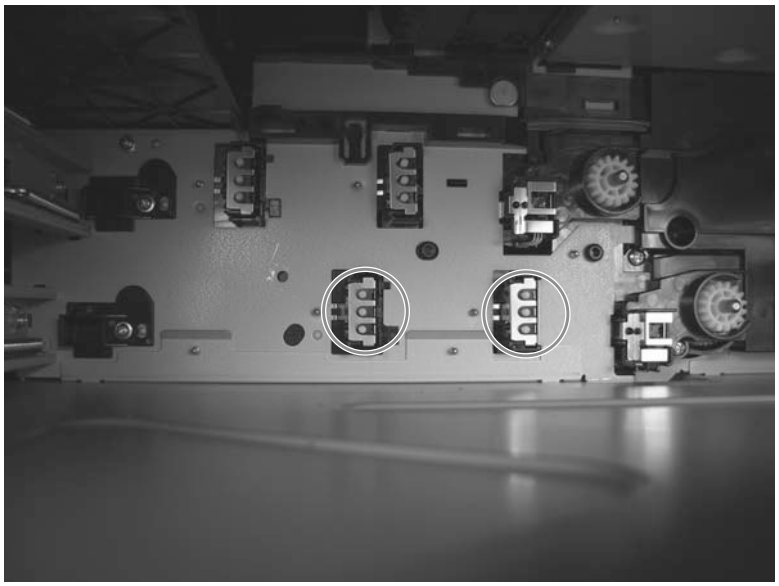


2. Check the control-panel display for sensor response.
3. If there is no response, replace the lifter drive assembly.

Tray 3 paper size switches (SW5, SW7)

1. Remove Tray 2 and Tray 3, and then push the switches at the back of the tray cavity.

Figure 2-17 Tray 3 paper size switches



2. Check the control-panel display for sensor response.
3. If there is no response, replace the lifter drive assembly.

Output bin full sensor (SR4)

1. Raise and then lower the output-bin levers to activate the sensor.

Figure 2-18 Output bin full sensor

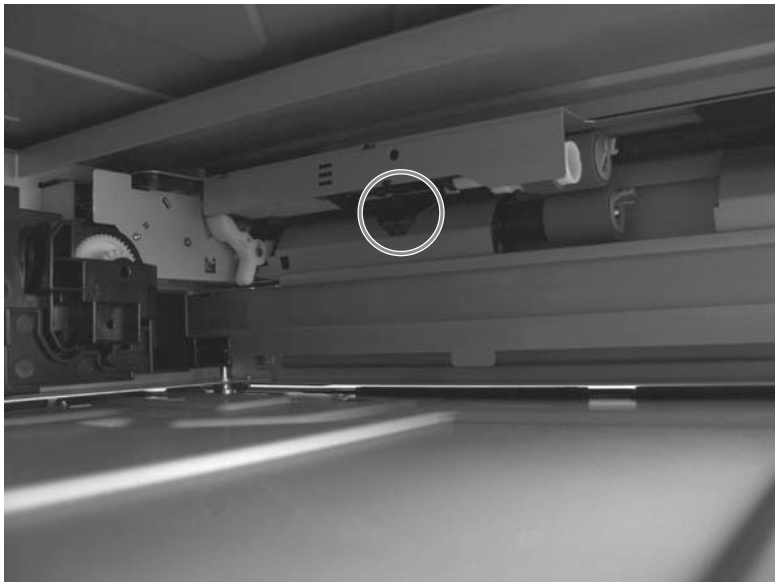
2. Check the control-panel display for sensor response.
3. If there is no response, replace the top-cover flag or the photo interrupter.

Optional 500-sheet paper tray (Tray 4)

Tray 4 paper sensor (SR3)

1. Remove the Tray 4 cassette, and then push the sensor lever on the right side of the cavity to activate the sensor.

Figure 2-19 Tray 4 paper sensor

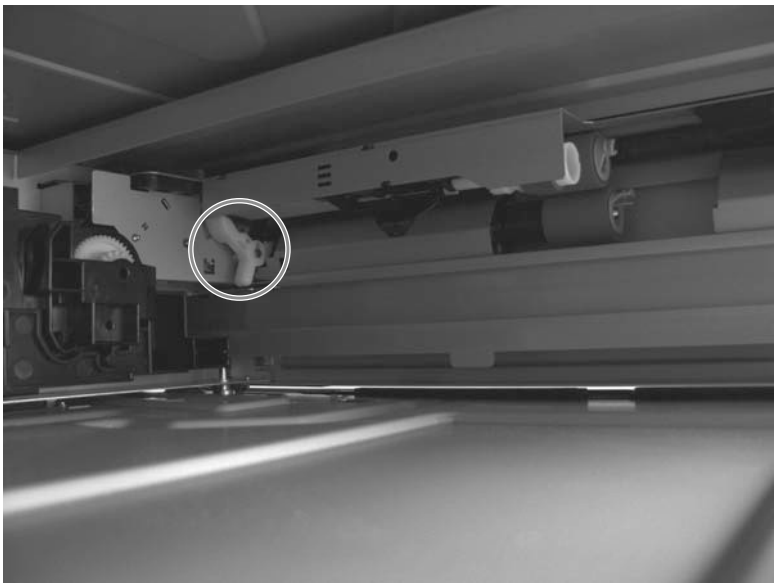


2. Check the control-panel display for sensor response.
3. If there is no response, replace the optional 500-sheet feeder.

Tray 4 paper surface (SR2)

1. Remove Tray 4, and then press the sensor lever in the back right corner of the tray cavity to activate the sensor.

Figure 2-20 Tray 4 paper surface sensor



2. Check the control-panel display for sensor response.
3. If there is no response, replace the optional 500-sheet feeder.

Tray 4 paper size switches (SW2, SW3)

1. Remove Tray 4, and then push the switches at the back of the tray cavity.

Figure 2-21 Tray 4 paper size switches

2. Check the control-panel display for sensor response.
3. If there is no response, replace the optional 500-sheet feeder.

Tray 4 Feed sensor (SR1)

1. Open the lower right door.
2. Use a small flatblade screwdriver to activate the sensor.

Figure 2-22 Tray 4 feed sensor

3. Check the control-panel display for sensor response.
4. If there is no response, replace the optional Tray 4 assembly.

Lower right door sensor (SW1)

1. Open the lower right door, and then use a small screwdriver to activate the sensor.

Figure 2-23 Lower right door sensor

2. Check the control-panel display for sensor response.
3. If there is no response, replace the optional 500-sheet paper tray assembly.

1x500 and 3x500 paper deck trays

Tray 4 paper sensor (SR3)

See Tray 4 paper sensor (SR3) on page 131.

Tray 4 paper surface sensor (SR2)

See Tray 4 paper surface (SR2) on page 132.

Tray 4 paper size switches (SW2, SW3)

See Tray 4 paper size switches (SW2, SW3) on page 133.

Tray 4 feed sensor (SR1)

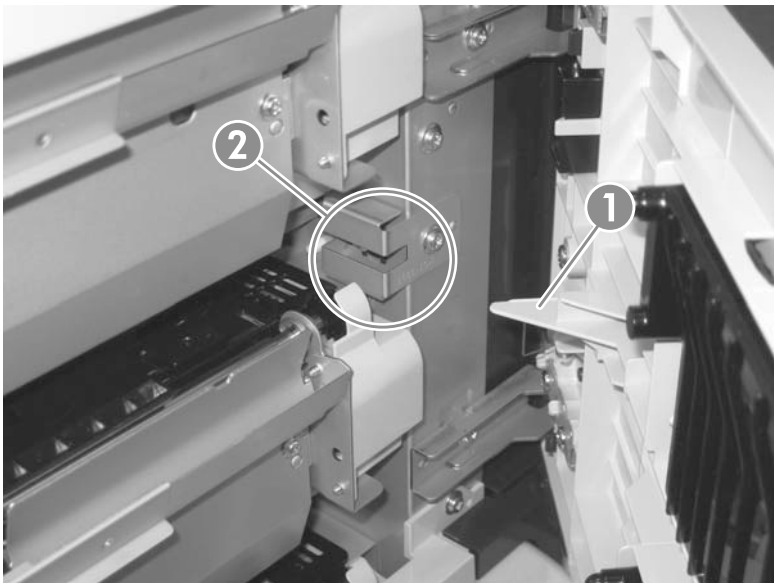
See Tray 4 Feed sensor (SR1) on page 134.

Tray 4 door opening/closing door switch (SW1)

NOTE: Tray 4, Tray 5, and Tray 6 use the same door switch (SW1).

1. Open and then close the paper-feeder door to ensure that the tab on the door (callout 1) activates the switch (callout 2).

Figure 2-24 Test the Tray 4 door switch



2. Check the control-panel display for sensor response.
3. If no response, replace the button switch.

Tray 5 paper sensor (SR83)

See Tray 4 paper sensor (SR3) on page 131.

Tray 5 paper surface sensor (SR82)

See Tray 4 paper surface (SR2) on page 132.

Tray 5 paper size switches (SW82, SW83)

See Tray 4 paper size switches (SW2, SW3) on page 133.

Tray 5 feed sensor (SR81)

See Tray 4 Feed sensor (SR1) on page 134.

Tray 5 door opening/closing switch (SW1)

See Tray 4 door opening/closing door switch (SW1) on page 136.

Tray 6 paper sensor (SR93)

See Tray 4 paper sensor (SR3) on page 131.

Tray 6 paper surface sensor (SR92)

See Tray 4 paper surface (SR2) on page 132.

Tray 6 paper size switches (SW92, SW93)

See Tray 4 paper size switches (SW2, SW3) on page 133.

Tray 6 feed sensor (SR91)

See Tray 4 Feed sensor (SR1) on page 134.

Tray 6 door opening/closing switch (SW1)

See Tray 4 door opening/closing door switch (SW1) on page 136.

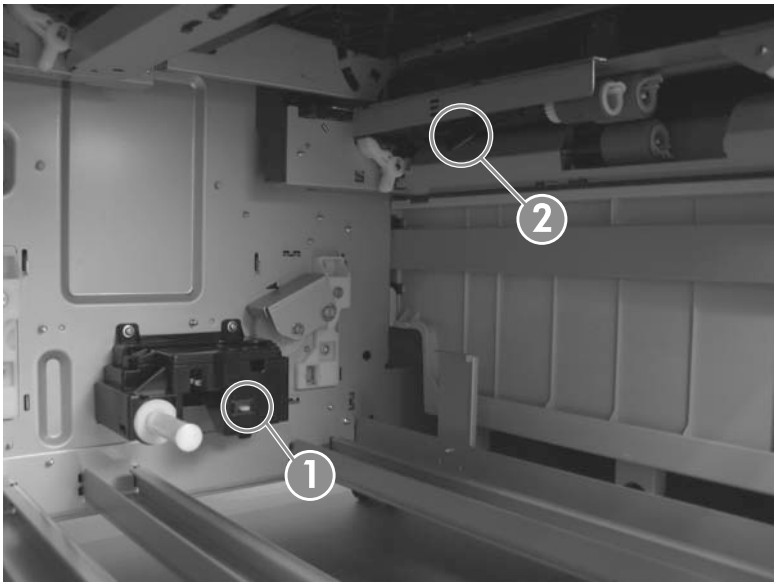
HCI trays

NOTE: For the purposes of this section, the tray numbers reflect a base unit with the HCI installed. If your product has an optional 500-sheet paper feeder (Tray 4) installed, the tray numbers in this section will differ. In this section, Tray 4 refers to the right tray, and Tray 5 refers to the left tray.

Tray 4 paper sensor (PS3103)

1. Remove Tray 4 from the HCI.
2. In the tray cavity, press and hold the tray presence switch (callout 1), and then lift the paper sensor lever (callout 2).

Figure 2-25 Tray 4 paper sensor



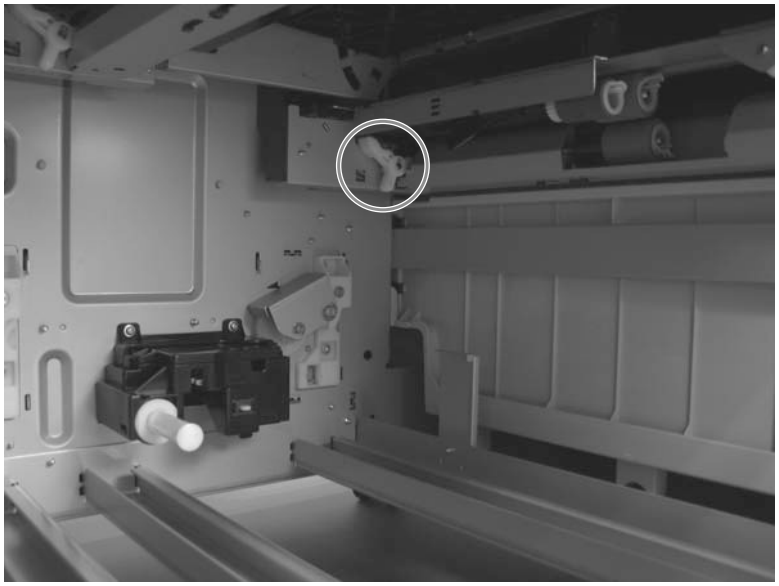
3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray 4 paper surface sensor (PS3101 and PS3102)

1. Remove Tray 4 from the HCI.

2. In the tray cavity, in the upper right-hand corner, toggle the sensor lever.

Figure 2-26 Tray 4 paper surface sensor

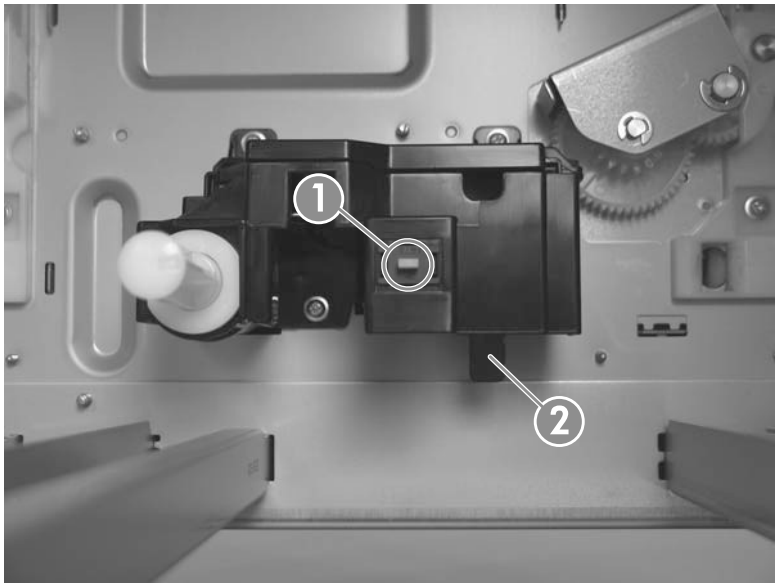


3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray 4 paper size sensor (PS3303)

1. Remove Tray 4 from the HCI.
2. In the tray cavity, press and hold the tray presence switch (callout 1), and then lift the paper size sensor lever (callout 2).

Figure 2-27 Tray 4 paper size sensor



3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray 4 paper feed sensor (PS3302)

1. Remove Tray 4 from the HCI.
2. Place a business card between the feed roller and the separation roller as far as it will go to activate the feed sensor.

Figure 2-28 Tray 4 paper feed sensor

3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray 4 door open sensor (SW3301)

1. Open the HCI right door.

2. Use a small flat-blade screwdriver to activate the door sensor.

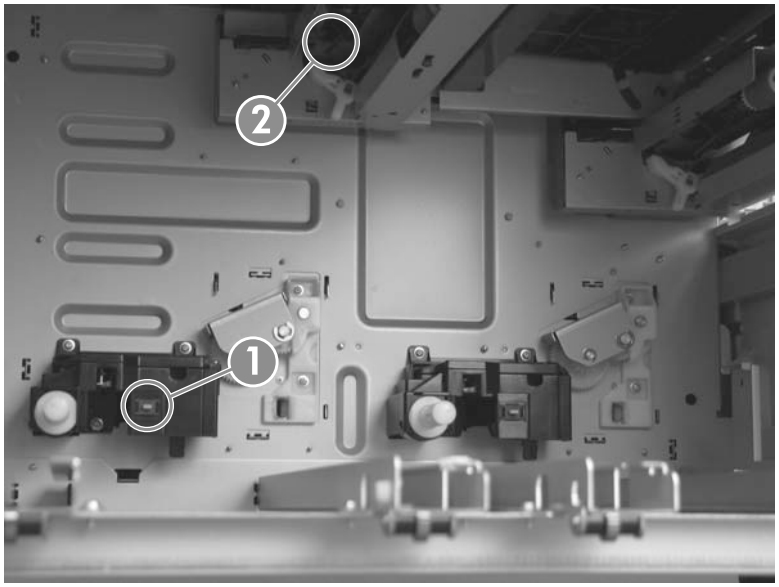
Figure 2-29 Tray 4 door open sensor

3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray 5 paper sensor (PS3203)

1. Remove Tray 5 from the HCI.
2. In the tray cavity, press and hold the tray presence switch (callout 1), and then lift the paper sensor lever (callout 2).

Figure 2-30 Tray 5 paper sensor

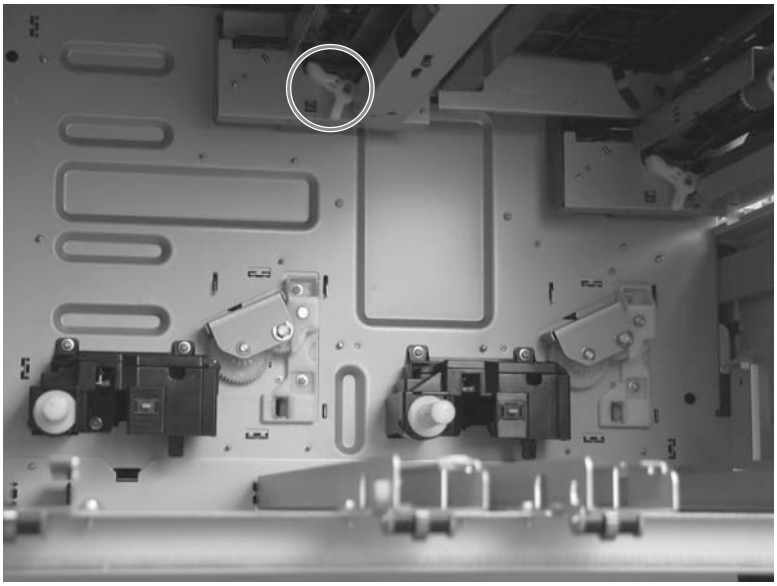


3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray paper surface sensor (PS3201 and PS3202)

1. Remove Tray 5 from the HCI.
2. At the back of the tray cavity, toggle the sensor lever.

Figure 2-31 Tray paper surface sensor



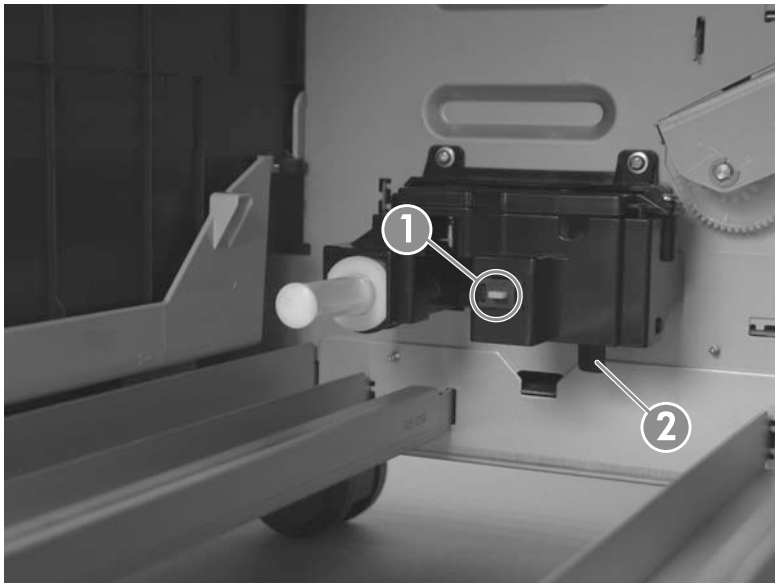
3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray 5 paper size sensor (PS3304)

1. Remove Tray 5 from the HCI.

2. In the tray cavity, press and hold the tray presence switch (callout 1), and then lift the paper size sensor lever (callout 2).

Figure 2-32 Tray 5 paper size sensor

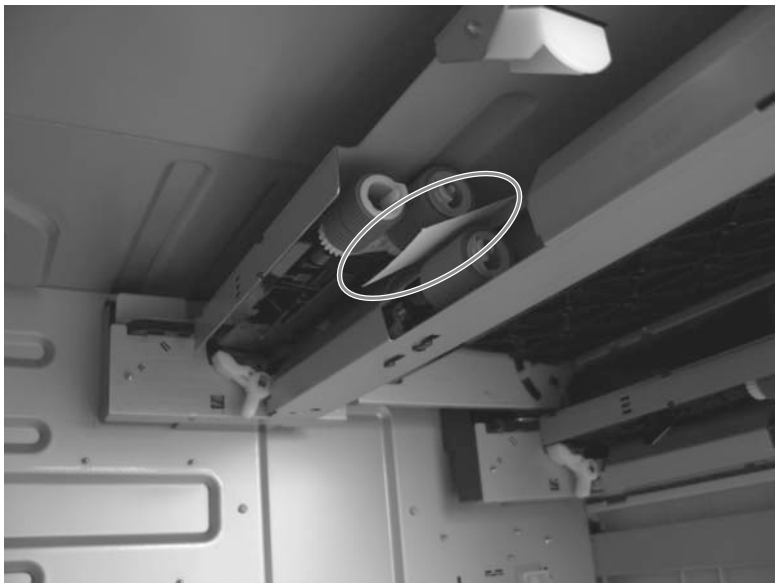


3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Tray 5 feed sensor (PS3305)

1. Remove Tray 5 from the HCI.
2. Place a business card between the feed roller and the separation roller as far as it will go to activate the feed sensor.

Figure 2-33 Tray 5 feed sensor

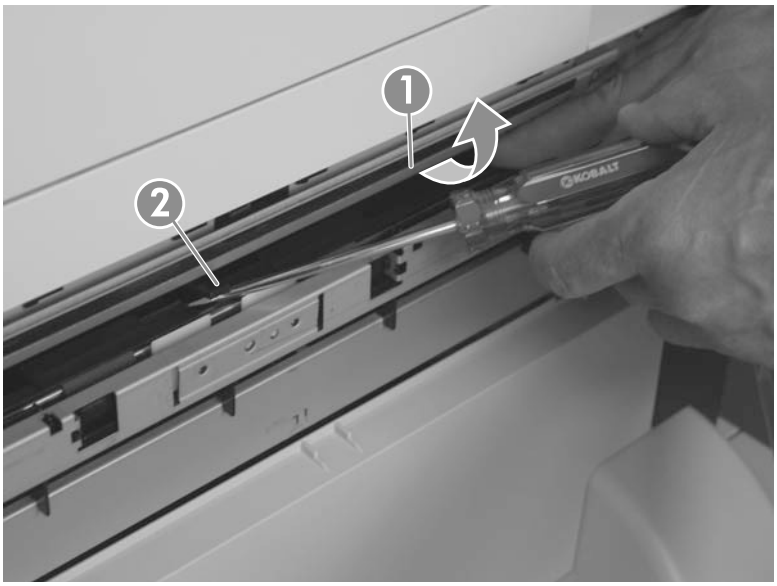


3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

HCI exit sensor (PS3301)

1. Open the HCI right door.
2. Lift the jam access flap (callout 1), and then use a small flat-blade screwdriver to lift the sensor lever (callout 2).

Figure 2-34 HCI exit sensor



3. Check the control-panel display for sensor response.
4. If there is no response, replace the sensor.

Print/stop test

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

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Troubleshooting**
   - **Diagnostic Tests**

3. Scroll to the **Print/Stop Test** item, and then press theOK button .
4. Enter a range, and then pess the OK button.

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

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

Component tests

Control-panel tests

Open the following menus:

- **Administration**
- **Troubleshooting**
- **Diagnostic Tests**

Available control-panel tests

- LEDs: test the LEDs on the control panel.
- Display: sequence through display tests.
- Buttons: tests the key pad and other buttons.

Half self-test

Perform a half self-test to determine which image-formation process might be malfunctioning.

NOTE: It might be easier to perform the print/stop test to stop the product during the printing process. See Print/stop test on page 144.

1. Print a configuration page from the control panel.
2. Open the cartridge door after the paper advances half-way through the product, which is about 3 to 5 seconds after the main motor begins to rotate. The leading edge of the paper should have advanced past the toner cartridge.
3. Remove the toner cartridge.
4. Open the toner cartridge drum shield to view the drum surface.

   If a dark and distinct toner image is present on the drum surface, assume that the cleaning, conditioning, writing, and developing functions of the electrophotographic process are functioning correctly. Troubleshoot the failure as a transfer or fusing problem. If no image is present on the drum, perform the drum rotation test check. See Drum rotation test check on page 146.

Drum rotation test check

NOTE: This test is especially important if refilled toner cartridges are in use.

The photosensitive drum, which is located in the toner cartridge, must rotate in order for the print process to work. The photosensitive drum receives its drive from the main gear assembly. Use this procedure to determine whether the drum is rotating.

1. Open the cartridge door.
2. Remove the toner cartridge.
3. Mark the cartridge drive gear with a felt-tipped marker. Note the position of the mark.
4. Install the toner cartridge, and then close the cartridge door. The start-up sequence should rotate the drum enough to move the mark on the gear.
5. Open the product and inspect the mark on the cartridge drive gear.

   Verify that the mark moved. If there was no movement, inspect the main gear assembly to make sure that it connects with the toner-cartridge gears. If the drive gears function but the drum does not move, replace the toner cartridge.

Component test (special-mode test)

This test activates individual parts independently to isolate problems.

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

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Troubleshooting**
   - **Diagnostic Tests**
   - **Component Test**
3. Select the component test options for the test you want to run.

Table 2-12 Component tests

Component test	Item	Control-panel display message	Description
Main motor test	M8001	Drum Motor	Activates the main motor for 10 seconds.
Fuser motor test	M8002	Fuser Motor	Activates the fuser motor for 10 seconds.
Tray 1 (multipurpose tray) pickup solenoid test	SL1	Tray 1 Pickup Solenoid	Activates the Tray 1 pickup solenoid for 10 seconds.

Table 2-12 Component tests (continued)

Component test	Item	Control-panel display message	Description
Tray 2 pickup solenoid test	SL2	Tray 2 Pickup Solenoid	Activates the Tray 3 cassette pickup solenoid for 10 seconds.
Clutch drive test	CL1	Feed Roller Clutch	Activates the main motor to activate the paper feeder pickup clutch for 10 seconds.
Scanner motor test	Not applicable	Laser Scanner Motor	Activates the laser scanner motor for 10 seconds.
Tray 3 pickup solenoid test	SL3[1]	Tray 3 Pickup Solenoid	Activates the Tray 4 cassette pickup solenoid for 10 seconds.
Tray 4 pickup solenoid test	SL3[1]	Tray 4 Pickup Solenoid	Activates the Tray 4 cassette pickup solenoid for 10 seconds.

[1] Tray 3 and Tray 4 both use an SL3.

Diagrams

Block diagrams

Figure 2-35 Product cross section

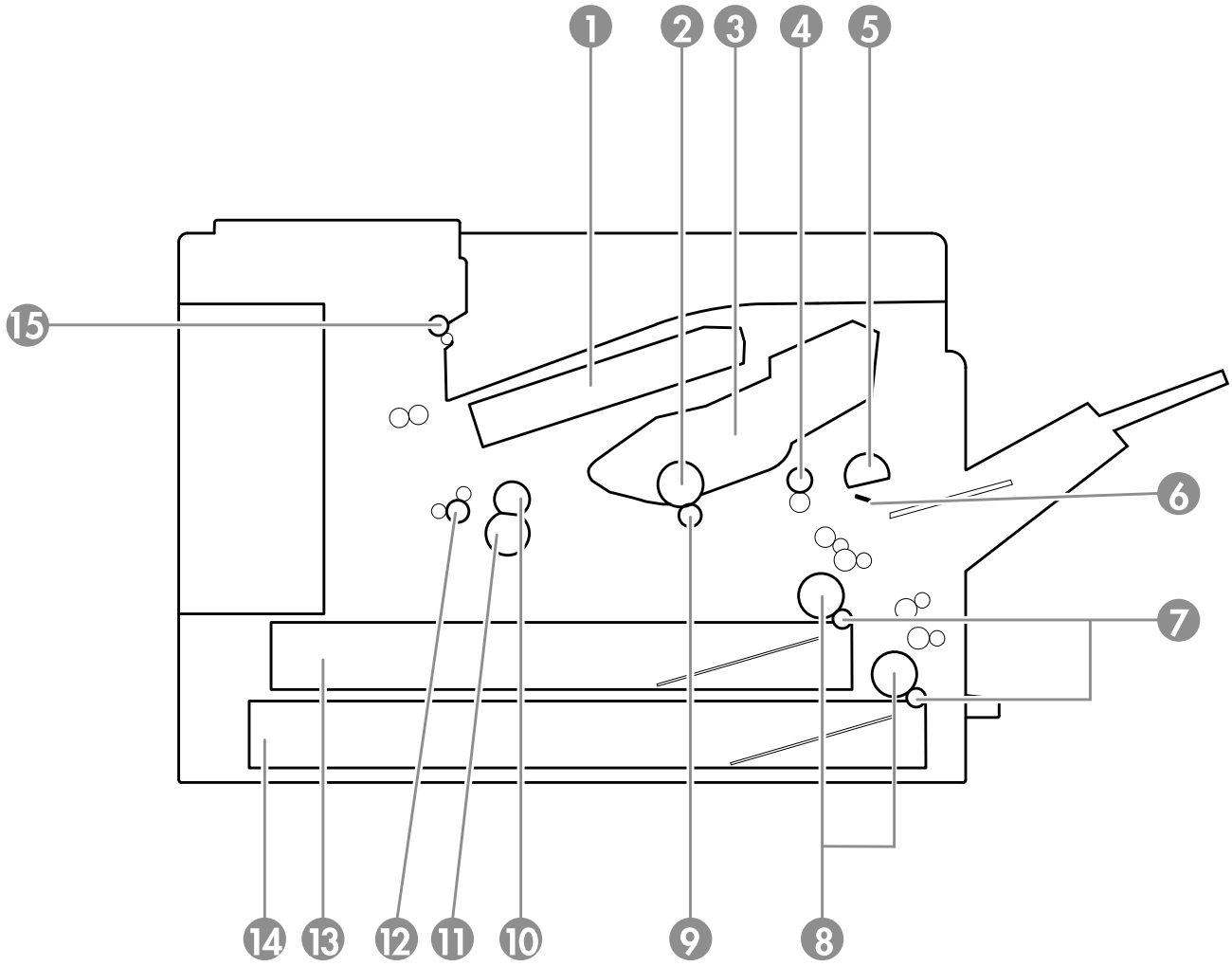


Table 2-13 Product cross section

Item	Description	Item	Description
1	Laser scanner	9	Transfer roller
2	Photosensitive drum	10	Fuser film
3	Toner cartridge	11	Pressure roller
4	Registration roller	12	Fuser output roller
5	Tray 1 (multipurpose tray) pickup roller	13	Upper cassette
6	Tray 1 (multipurpose tray) separation pad	14	Lower cassette
7	Cassette separation roller	15	Output roller
8	Cassette pickup roller		

Figure 2-36 Optional paper feeder (Tray 4) cross section

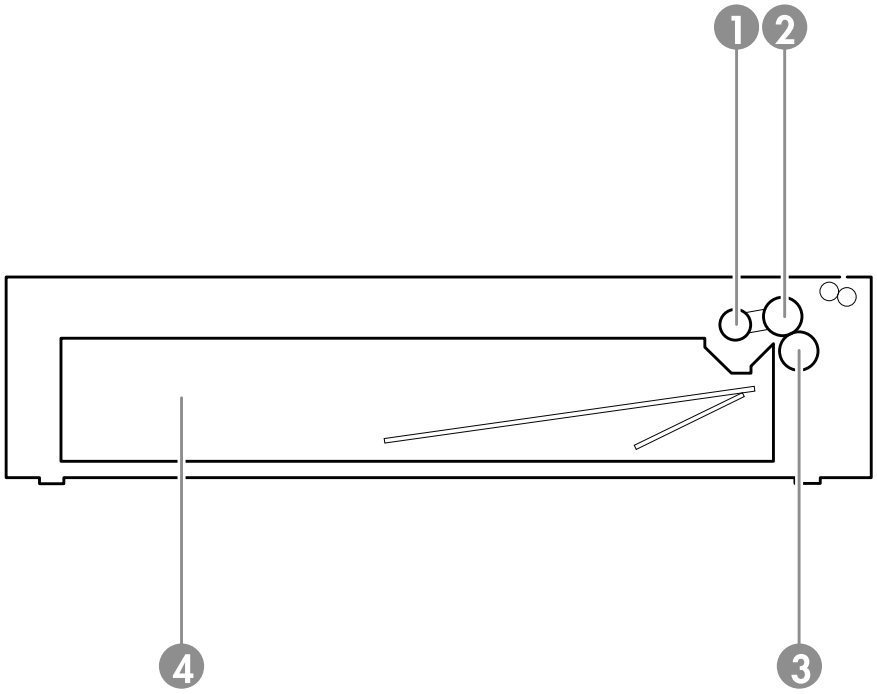


Table 2-14 Optional paper feeder (Tray 4) cross section

Item	Description	Item	Description
1	Pickup roller	3	Separation roller
2	Feed roller	4	Cassette

Figure 2-37 1x500-sheet paper deck cross section

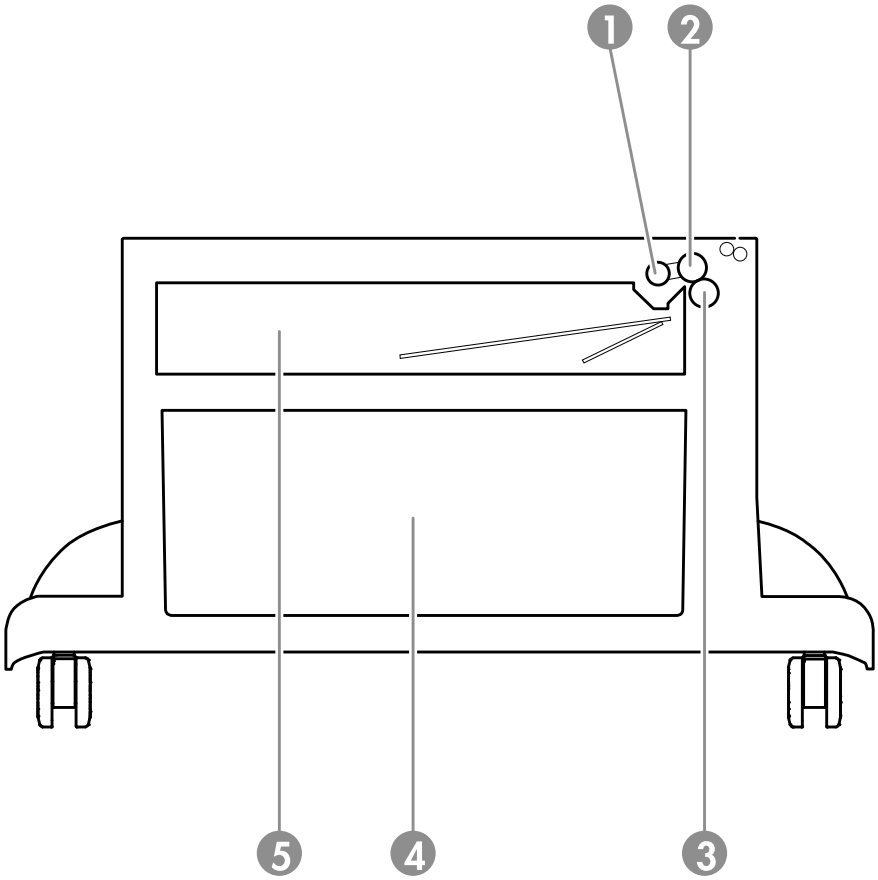


Table 2-15 **1x500-sheet paper deck cross section**

Item	Description	Item	Description
1	Pickup roller	4	Storage box
2	Feed roller	5	Cassette
3	Separation roller		

Figure 2-38 3x500-sheet paper deck cross section

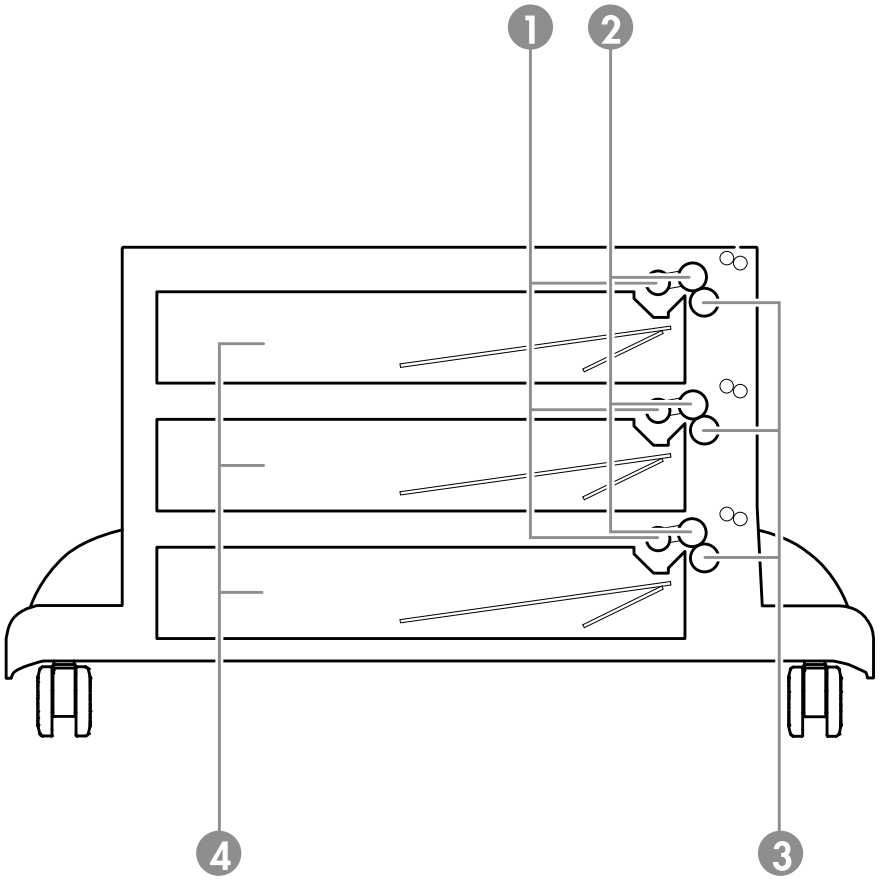


Table 2-16 **3x500-sheet paper deck cross section**

Item	Description	Item	Description
1	Pickup roller	3	Separation roller
2	Feed roller	4	Cassette

Figure 2-39 3,500-sheet HCI cross section

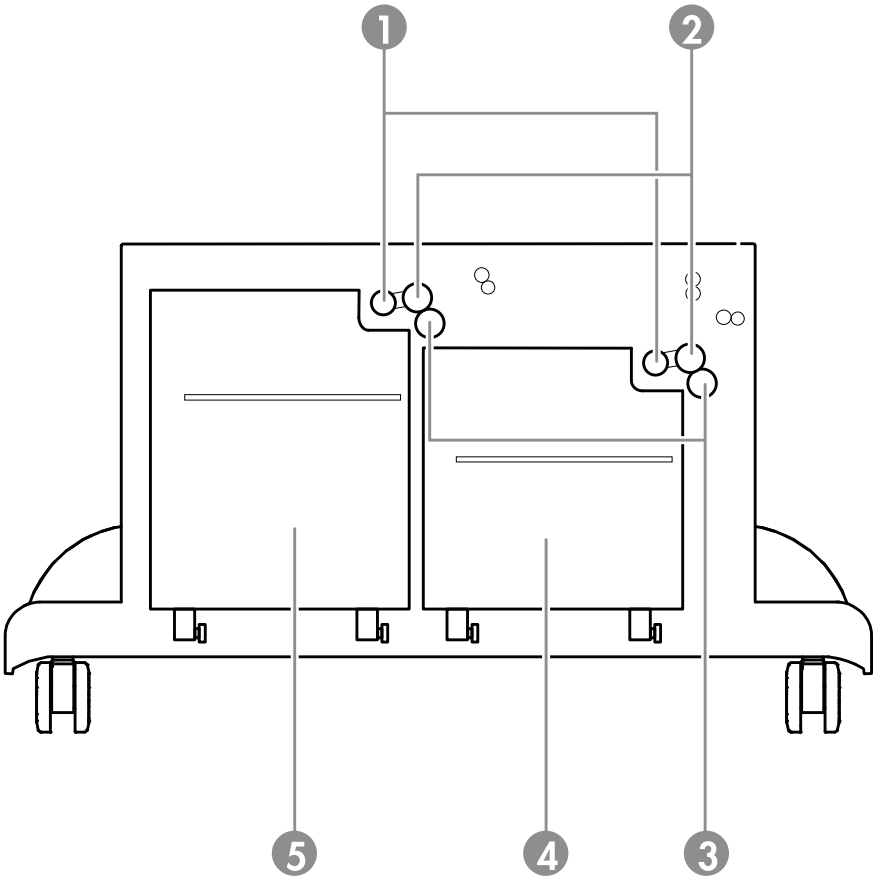


Table 2-17 **3,500-sheet HCI cross section**

Item	Description	Item	Description
1	Pickup roller	4	Right cassette
2	Feed roller	5	Left cassette
3	Separation roller		

Location of connectors

DC controller connections

Figure 2-40 DC controller connections

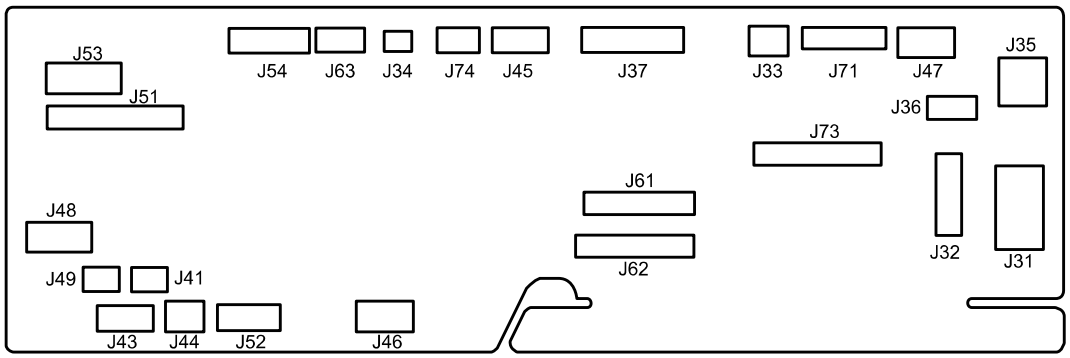


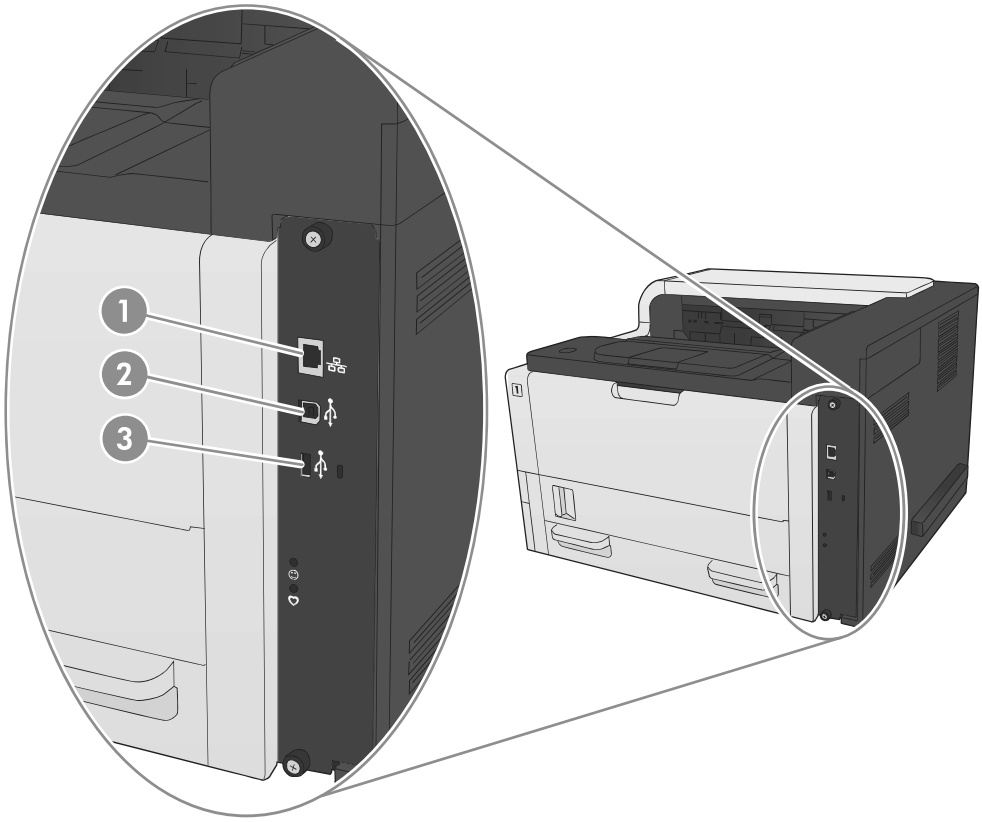
Table 2-18 DC controller connections

Item	Description	Item	Description	Item	Description
J31	Low-voltage power supply	J44	Right door sensor	J53	Upper cassette media end switch Lower cassette media end switch
J32	Low-voltage power supply	J45	Output sensor Output bin media full sensor	J54	Input accessory
J33	Rear fan	J46	Drum motor	J61	High-voltage power supply
J34	Power switch	J47	Fuser motor	J62	High-voltage power supply
J35	Left door interlock switch	J48	Upper cassette media out sensor Upper cassette pickup clutch	J63	Environment sensor
J36	Cartridge door interlock switch	J49	Tray 1 (multipurpose tray) pickup solenoid	J71	Laser scanner

Table 2-18 DC controller connections (continued)

Item	Description	Item	Description	Item	Description
J37	Cartridge presence sensor Front fan Scanner motor Fuser fan	J51	Upper cassette lifter motor Lower cassette lifter motor Upper cassette lift up sensor Lower cassette lift-up sensor Upper cassette media width switch Lower cassette media width switch	J73	Connector PCA
J41	Tray 1 (multipurpose tray) media out sensor	J52	Duplexer	J74	Cartridge memory tag Cartridge door switch
J43	Lower cassette media out sensor Lower cassette pickup clutch				

Plug/jack locations



1	Local area network (LAN) Ethernet (RJ-45) network port
2	Hi-Speed USB 2.0 printing port
3	Host USB port (for connecting third-party devices)

Locations of major components

Figure 2-41 External component locations

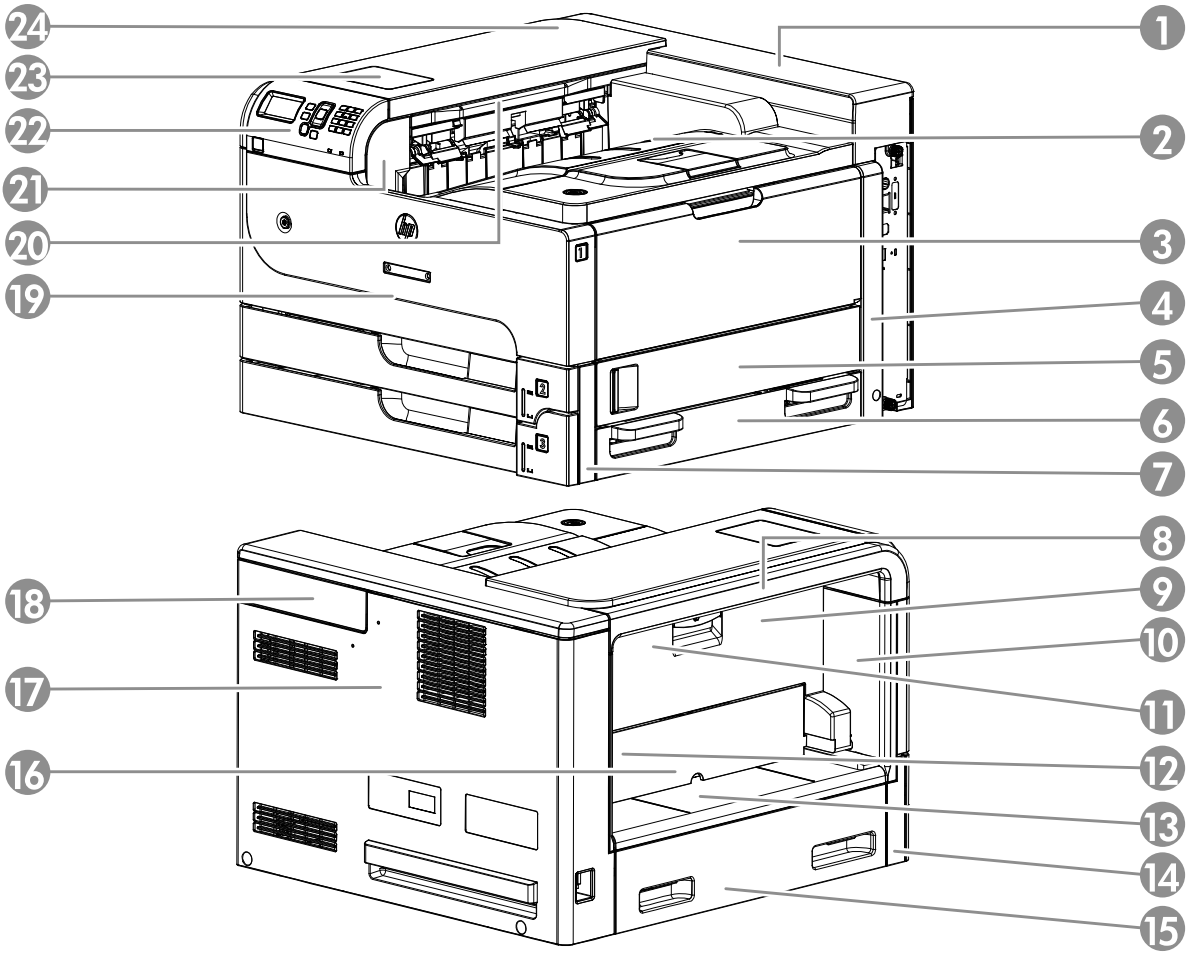


Table 2-20 External component locations

Item	Description	Item	Description
1	Top rear cover	13	Left inner lower cover
2	Face-down cover	14	Front left lower cover
3	Tray 1 (multipurpose tray) cover	15	Left handle cover
4	Right rear cover	16	Duplex blanking cover
5	Right door	17	Rear cover
6	Right handle cover	18	Rear pocket cover
7	Front right lower cover	19	Front cover
8	Left upper cover	20	Face-down upper cover
9	Left door	21	Face-down side cover
10	Left inner front cover	22	Control panel

Table 2-20 External component locations (continued)

Item	Description	Item	Description
11	Left inner upper cover	23	HIP cover
12	Left inner rear cover	24	Top cover

Figure 2-42 Major component locations (1 of 3)

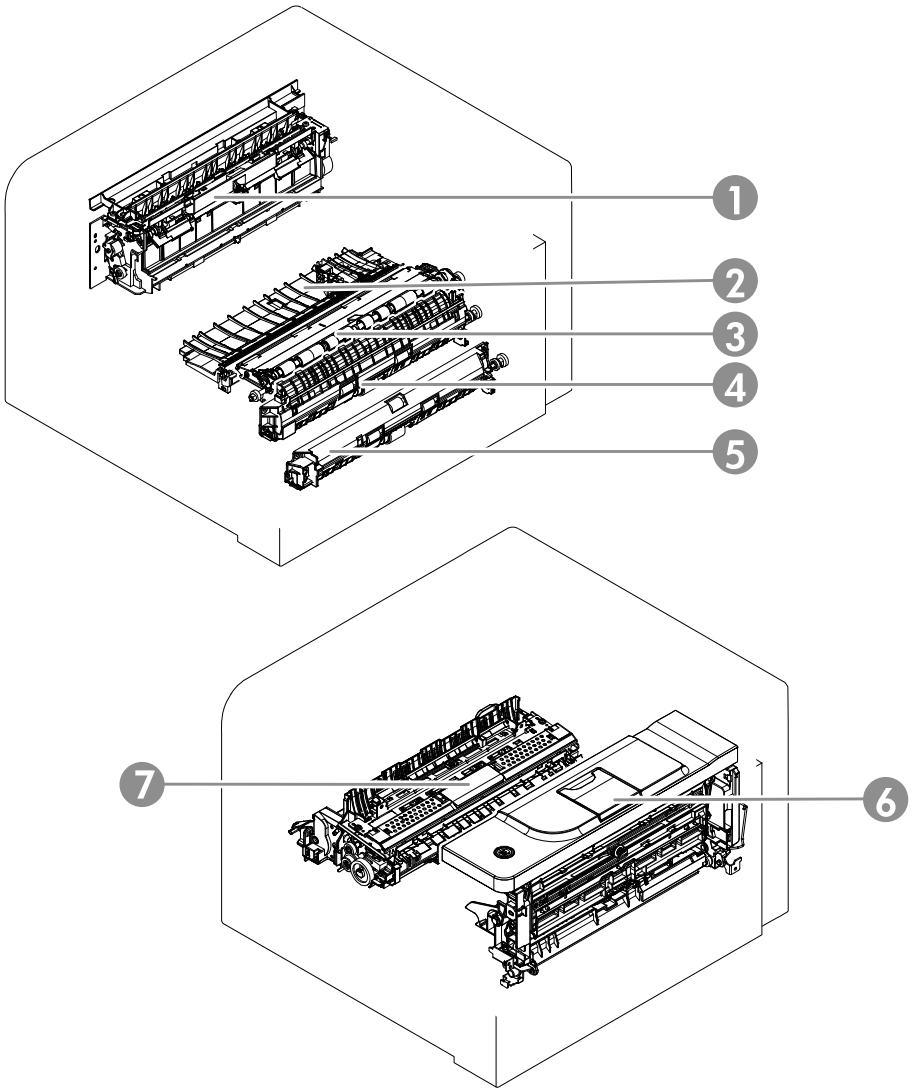


Table 2-21 Major component locations (1 of 3)

Item	Description	Item	Description
1	Output assembly	5	Lower cassette pickup assembly
2	Feed assembly	6	Cartridge door
3	Registration assembly	7	Fuser
4	Upper cassette pickup assembly		

Figure 2-43 Major component locations (2 of 3)

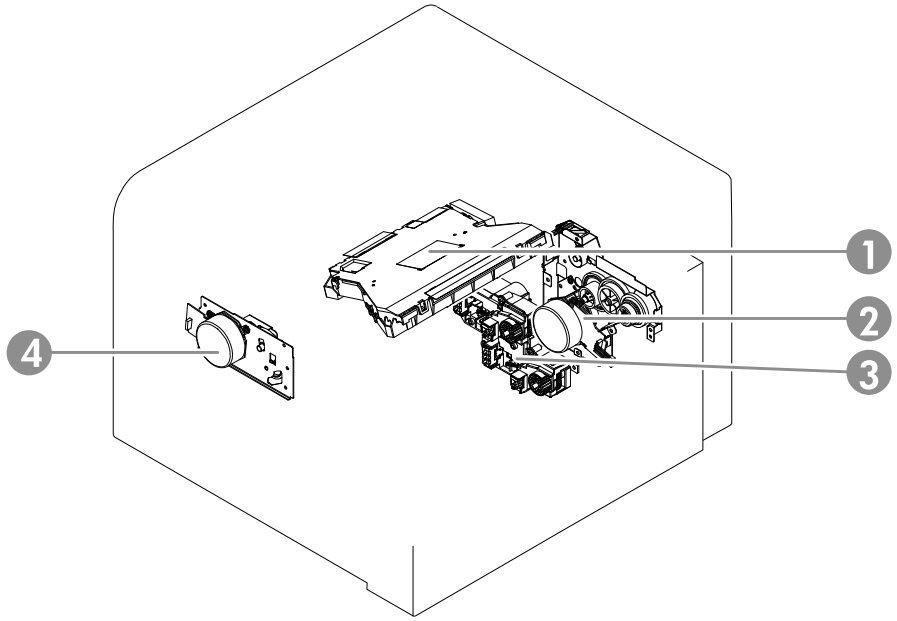


Table 2-22 Major component locations (2 of 3)

Item	Description	Item	Description
1	Laser scanner	3	Lifter drive assembly
2	Main drive assembly	4	Fuser drive assembly

Figure 2-44 Major component locations (3 of 3)

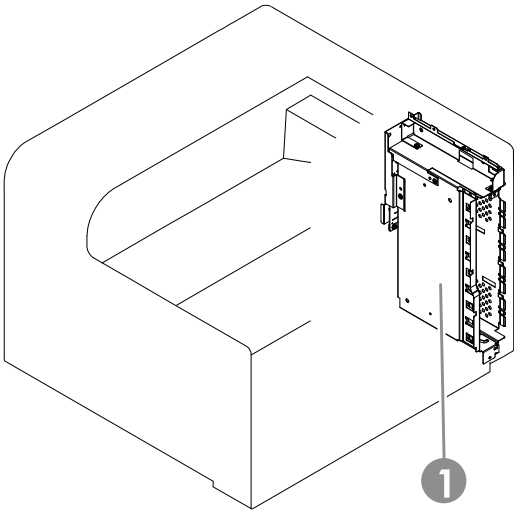


Table 2-23 Major component locations (3 of 3)

Item	Description
1	Formatter

Figure 2-45 PCA locations

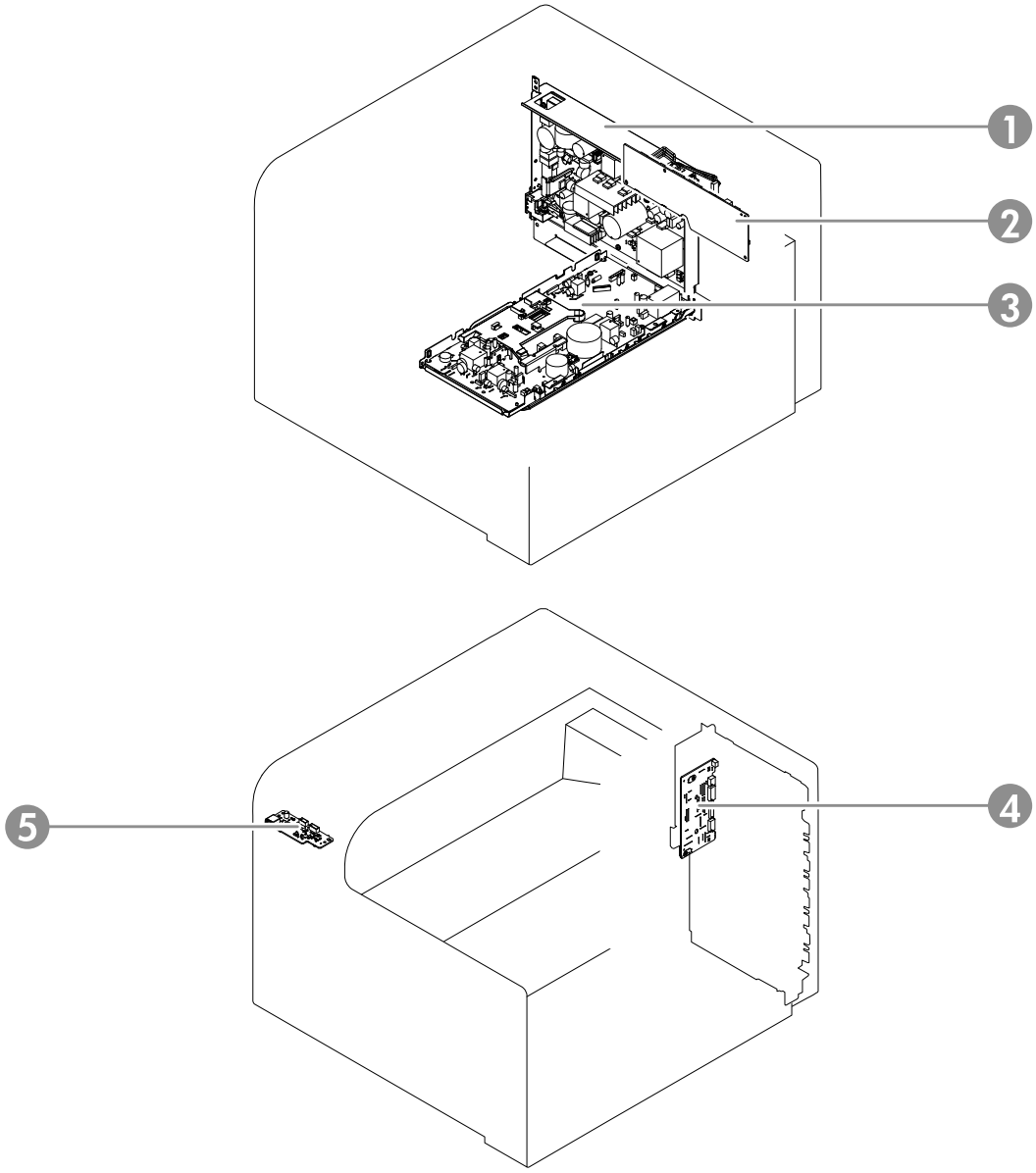


Table 2-24 PCA locations

Item	Description	Item	Description
1	Low-voltage power supply	4	USB PCA
2	DC controller PCA	5	Connector PCA
3	High-voltage power supply		

Figure 2-46 Motor locations

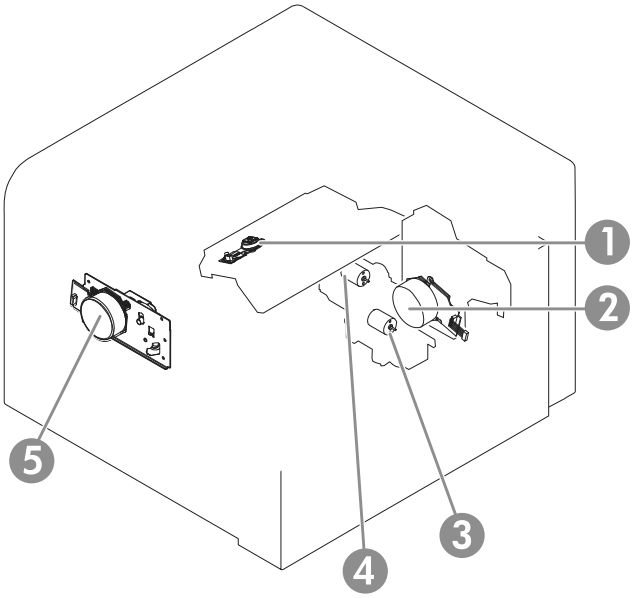


Table 2-25 **Motor locations**

Item	Description	Item	Description
1	Scanner motor	4	Lower cassette lifter motor
2	Drum motor	5	Fuser motor
3	Upper cassette lifter motor		

Figure 2-47 Fan locations

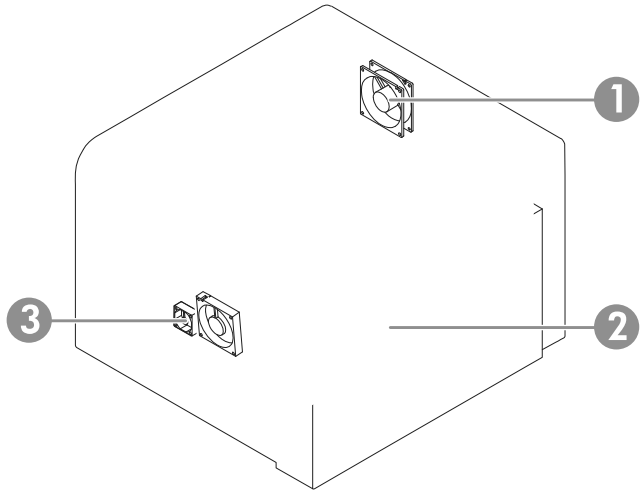


Table 2-26 **Fan locations**

Item	Description	Item	Description
1	Rear fan	3	Fuser fan
2	Front fan		

Figure 2-48 Roller locations

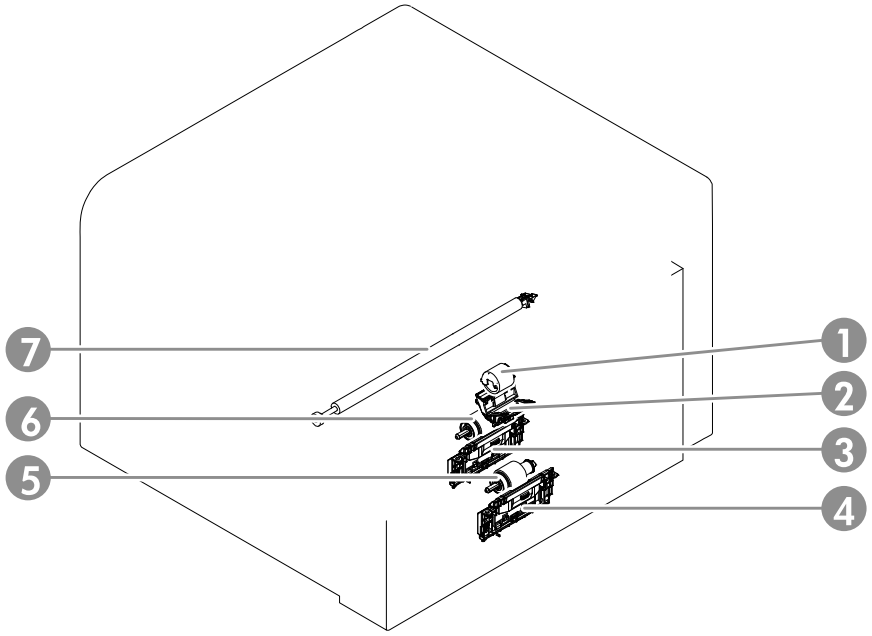


Table 2-27 Roller locations

Item	Description	Item	Description
1	Tray 1 (multipurpose tray) pickup roller	5	Upper cassette pickup roller
2	Tray 1 (multipurpose tray) separation pad	6	Lower cassette pickup roller
3	Upper cassette separation roller	7	Transfer roller
4	Lower cassette separation roller		

Figure 2-49 500-sheet feeder external component locations

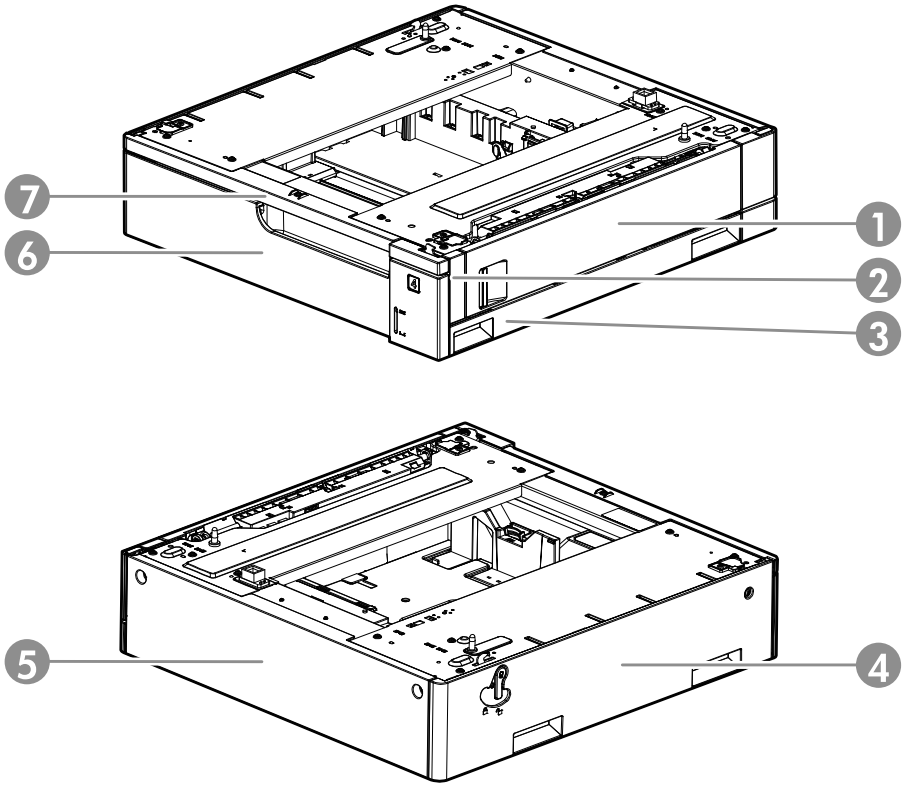


Table 2-28 500-sheet feeder external component locations

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

Figure 2-50 500-sheet feeder internal component locations

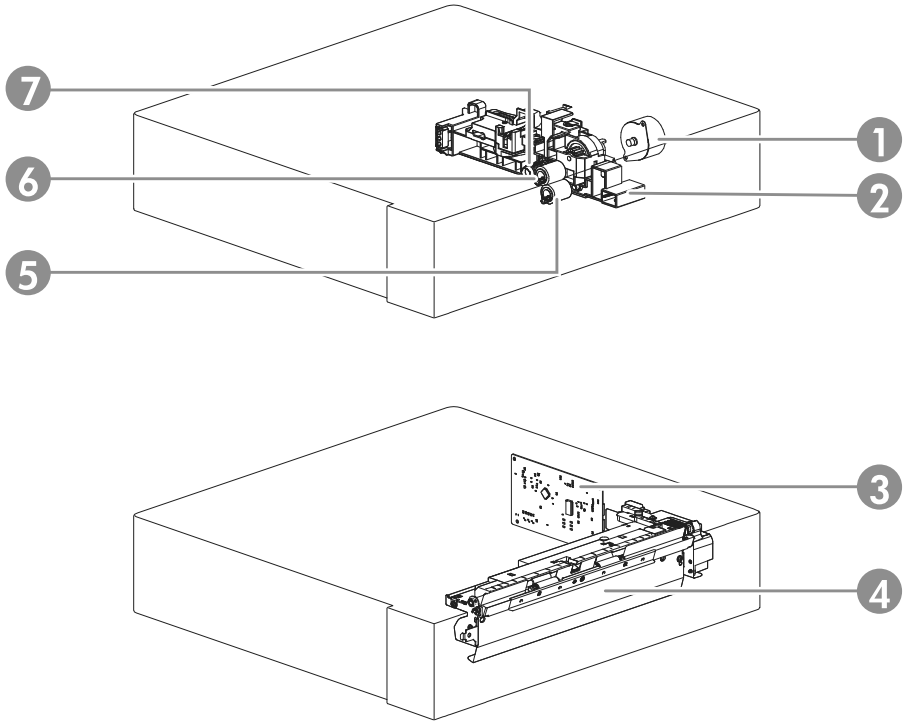


Table 2-29 **500-sheet feeder internal component locations**

Item	Description	Item	Description
1	Pickup motor	5	Separation roller
2	Lifter drive	6	Feed roller
3	Controller PCA	7	Pickup roller
4	Pickup assembly		

Figure 2-51 1x500 paper deck external component locations

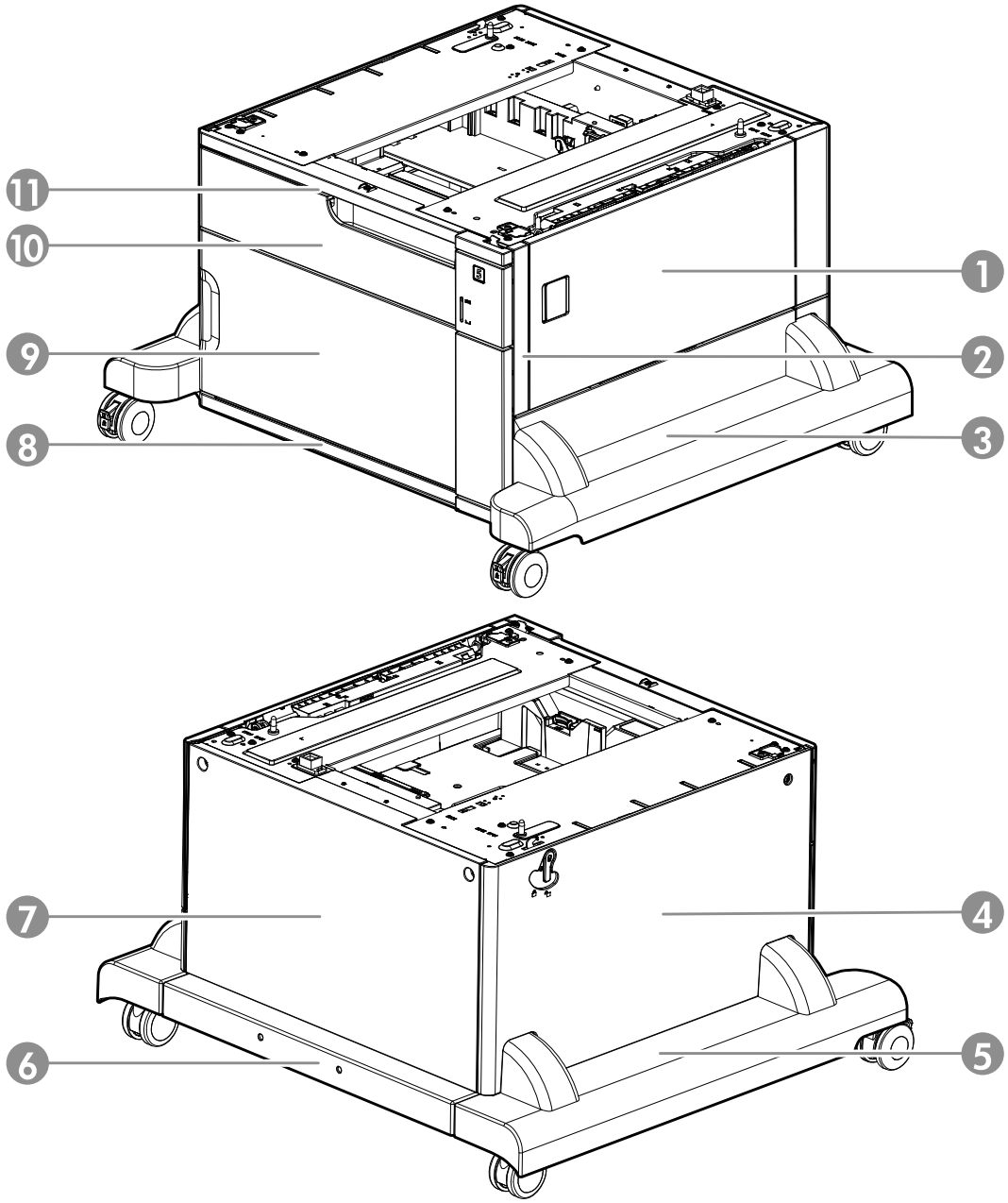


Table 2-30 **1x500 paper deck external component locations**

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

Figure 2-52 1x500 paper deck internal component locations

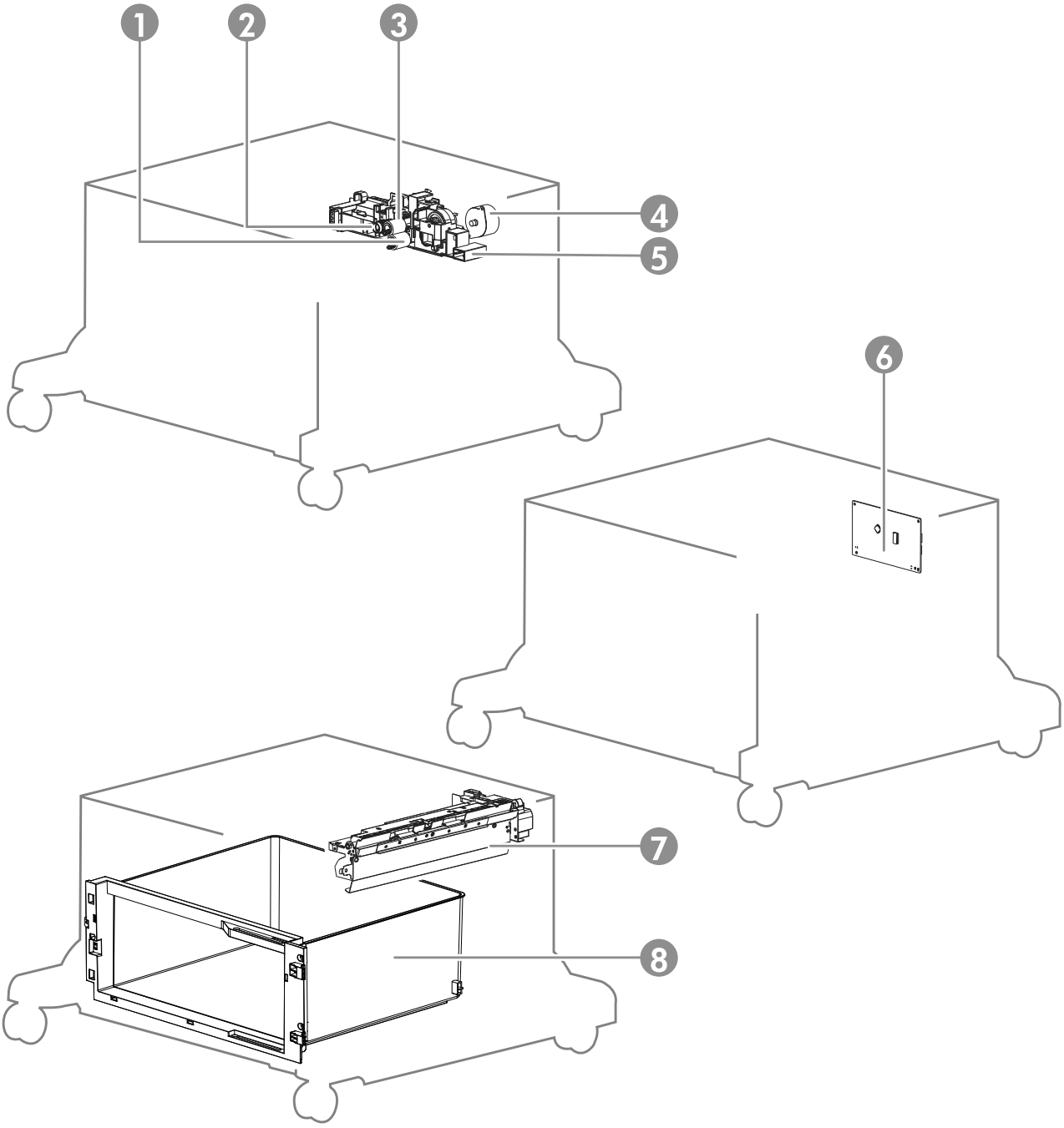


Table 2-31 **1x500 paper deck internal component locations**

Item	Description	Item	Description
1	Separation roller	5	Lifter drive assembly
2	Pickup roller	6	Controller PCA
3	Feed roller	7	Cassette pickup assembly
4	Pickup motor	8	Storage box

Figure 2-53 3x500 paper deck external component locations

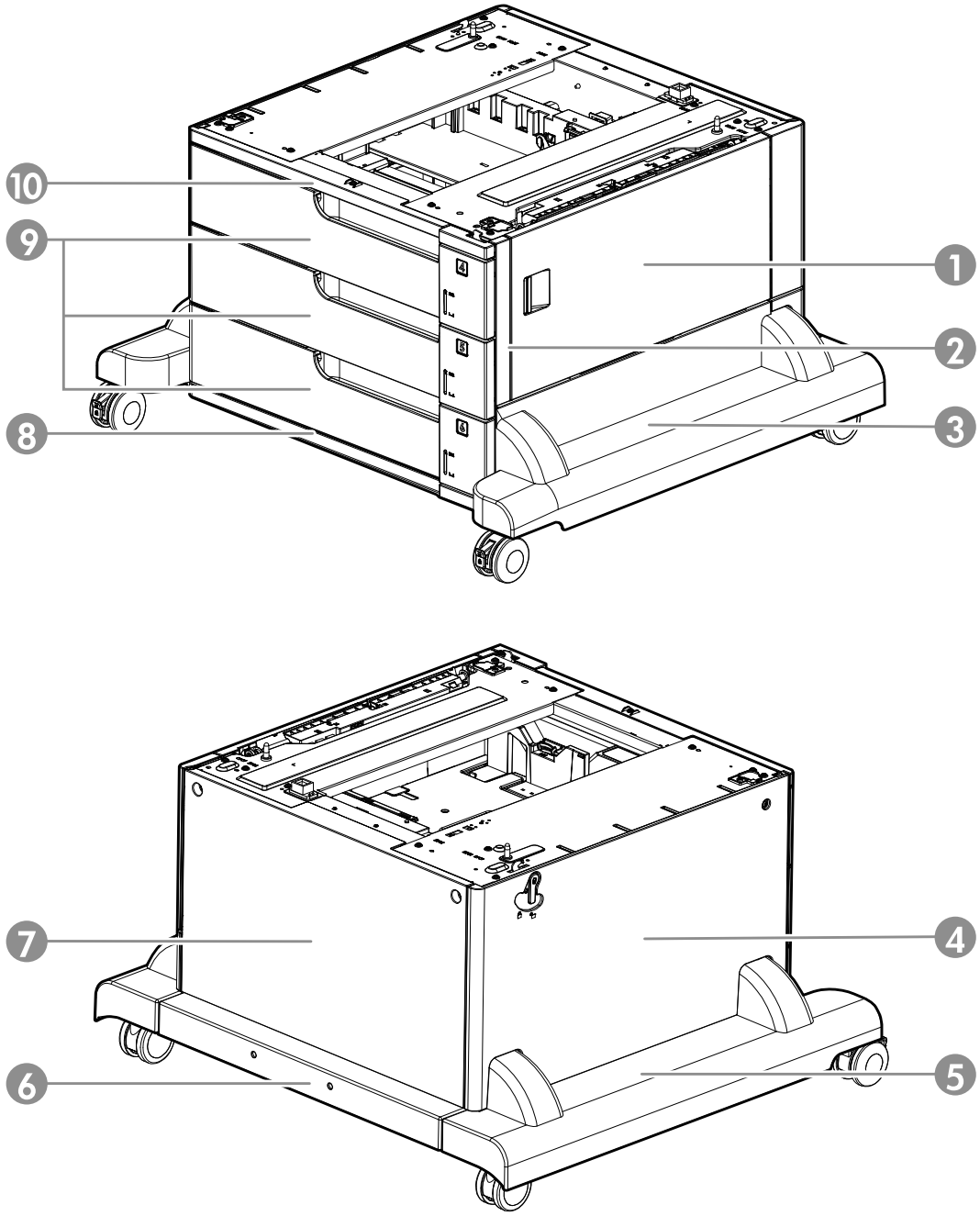


Table 2-32 **3x500 paper deck external component locations**

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

Figure 2-54 3x500 paper deck internal component locations

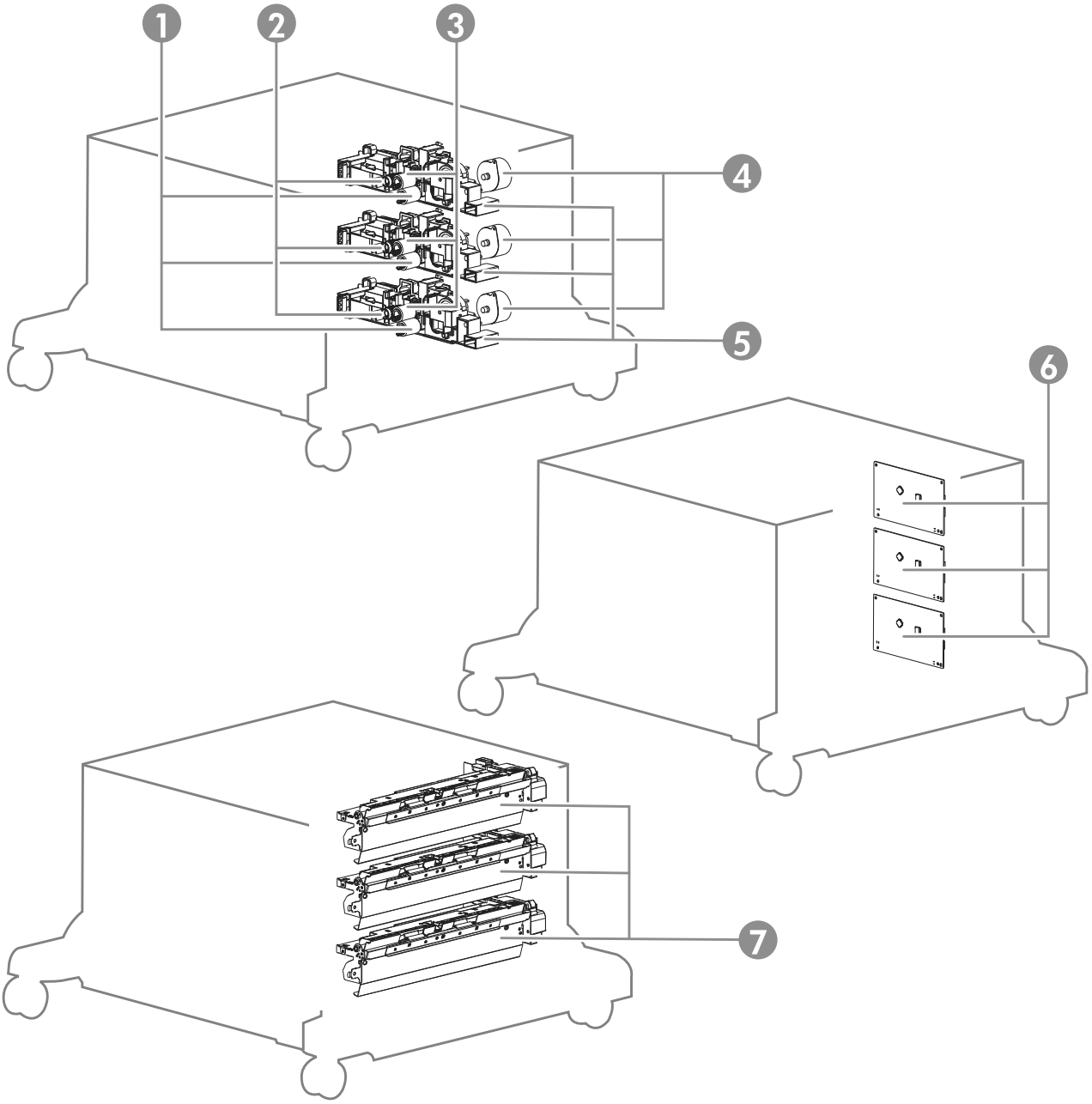


Table 2-33 3x500 paper deck internal component locations

Item	Description	Item	Description
1	Separation roller	5	Lifter drive assembly
2	Pickup roller	6	Controller PCA
3	Feed roller	7	Cassette pickup assembly
4	Pickup motor		

Figure 2-55 HCI external component locations

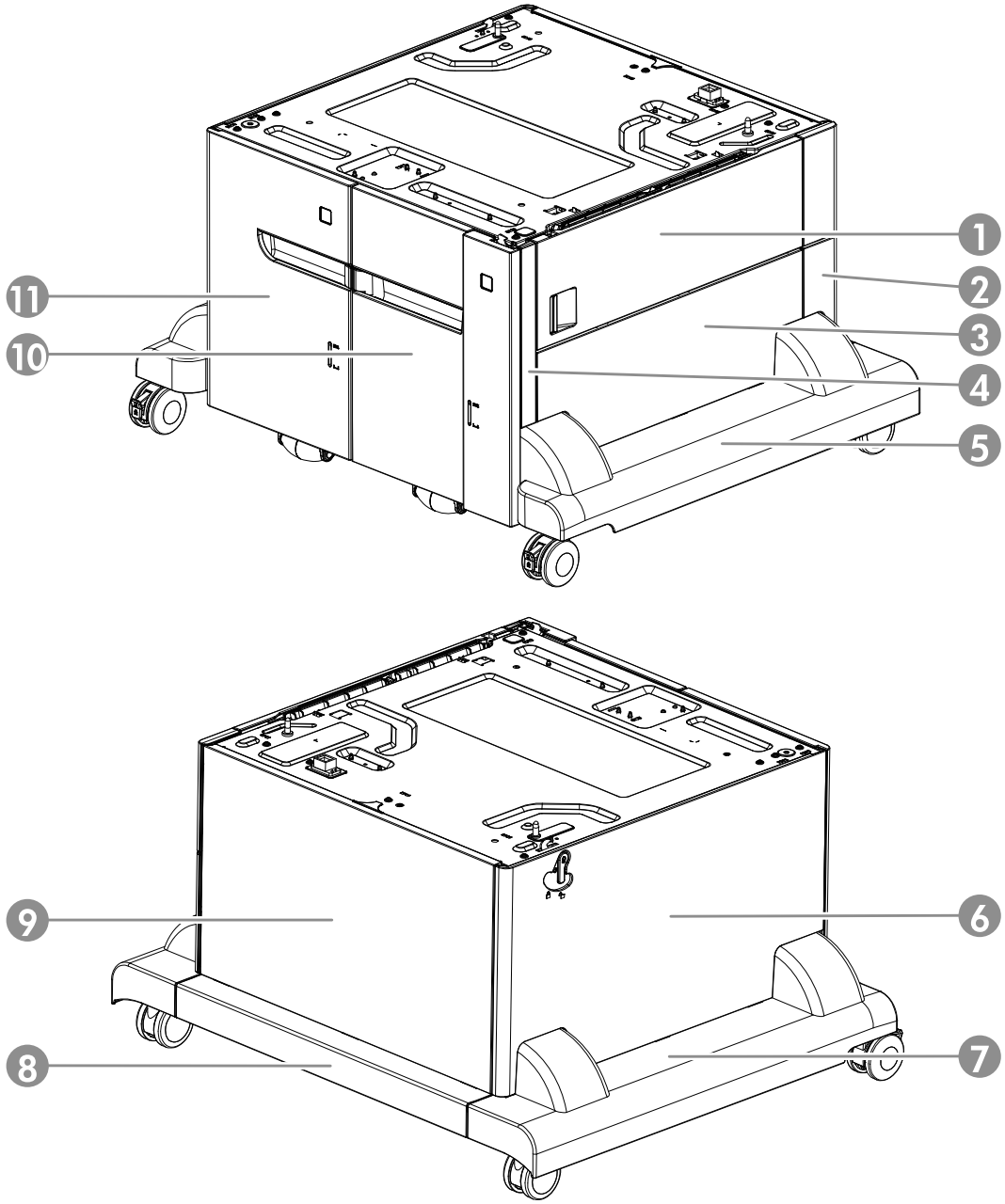


Table 2-34 **HCI external component locations**

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

Figure 2-56 HCI internal component locations (1 of 2)

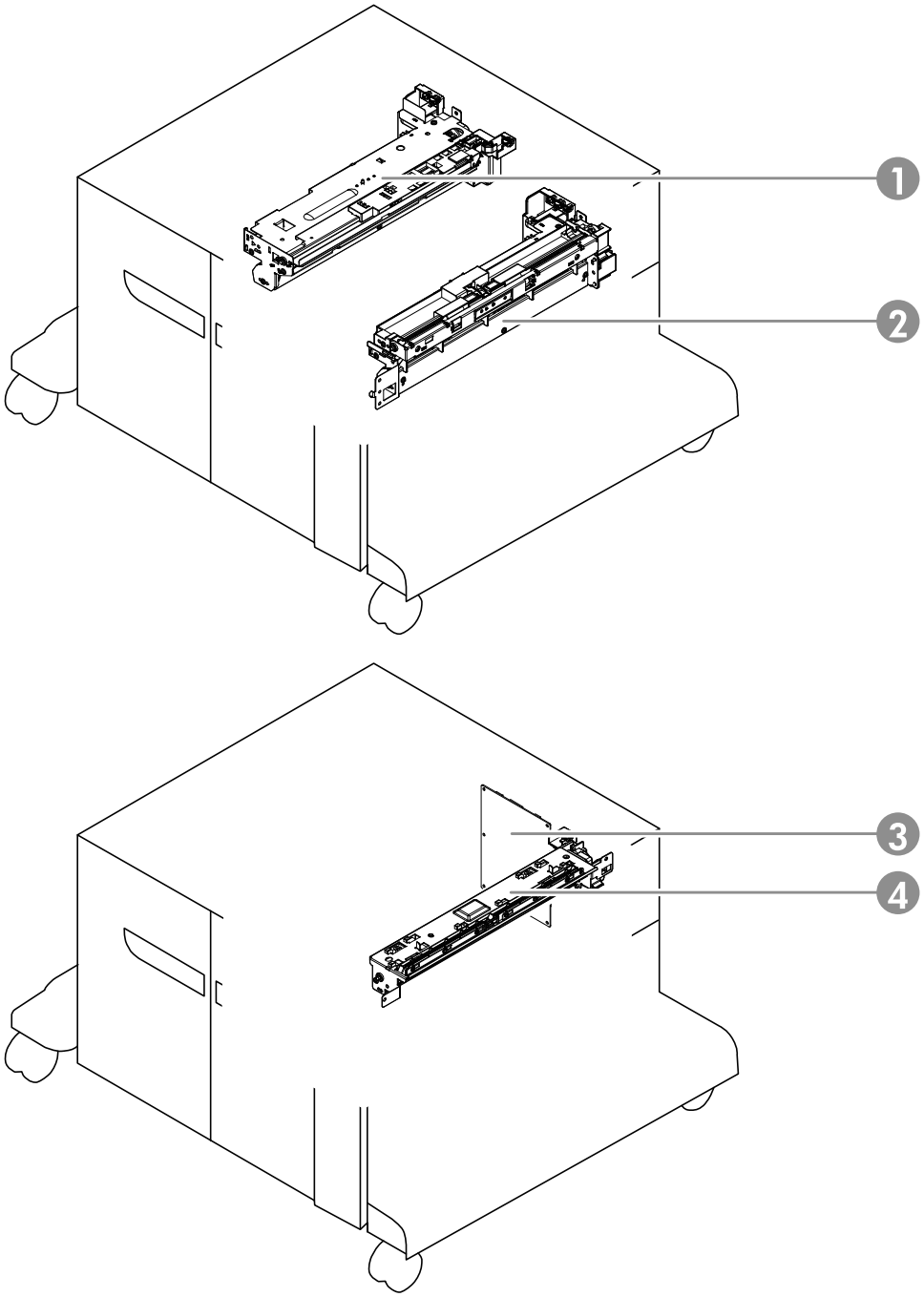


Table 2-35 HCI internal component locations (1 of 2)

Item	Description	Item	Description
1	Left pickup assembly	3	Controller PCA
2	Right pickup assembly	4	Merge assembly

Figure 2-57 HCI internal component locations (2 of 2)

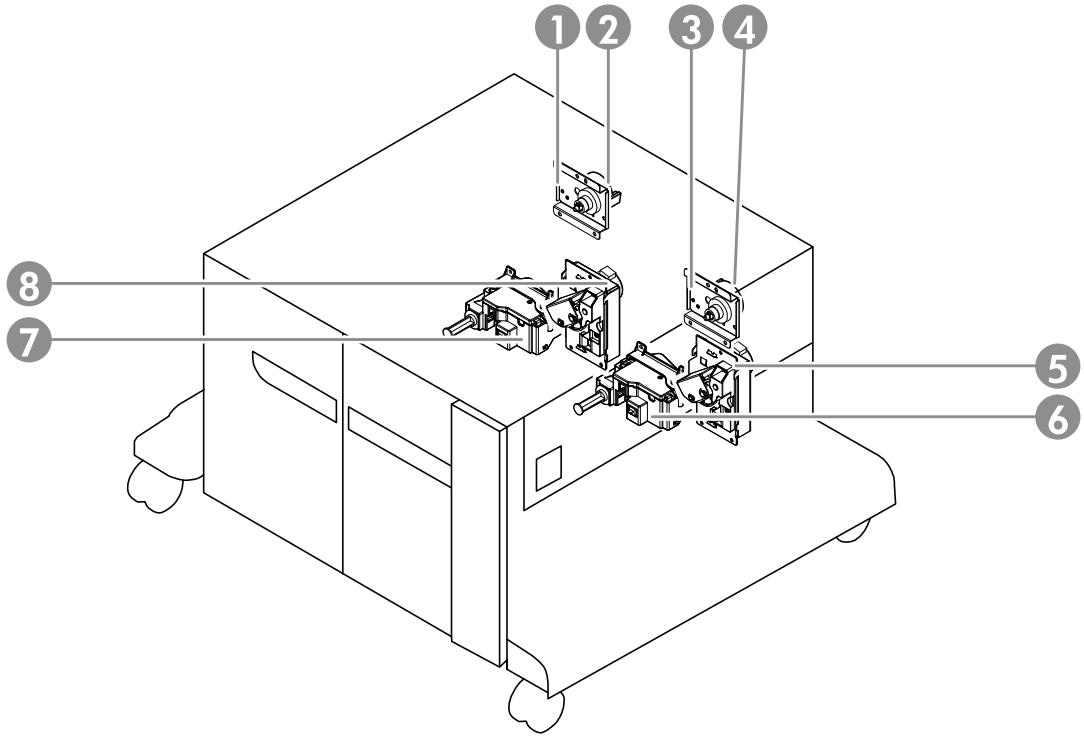


Table 2-36 HCI internal component locations (2 of 2)

Item	Description	Item	Description
1	Left cassette pickup drive	5	Right cassette lifter drive assembly
2	Left cassette pickup motor	6	Right cassette automatic close assembly
3	Right cassette pickup drive	7	Left cassette automatic close assembly
4	Right cassette pickup motor	8	Left cassette lifter drive assembly

General timing charts

Figure 2-58 General timing chart

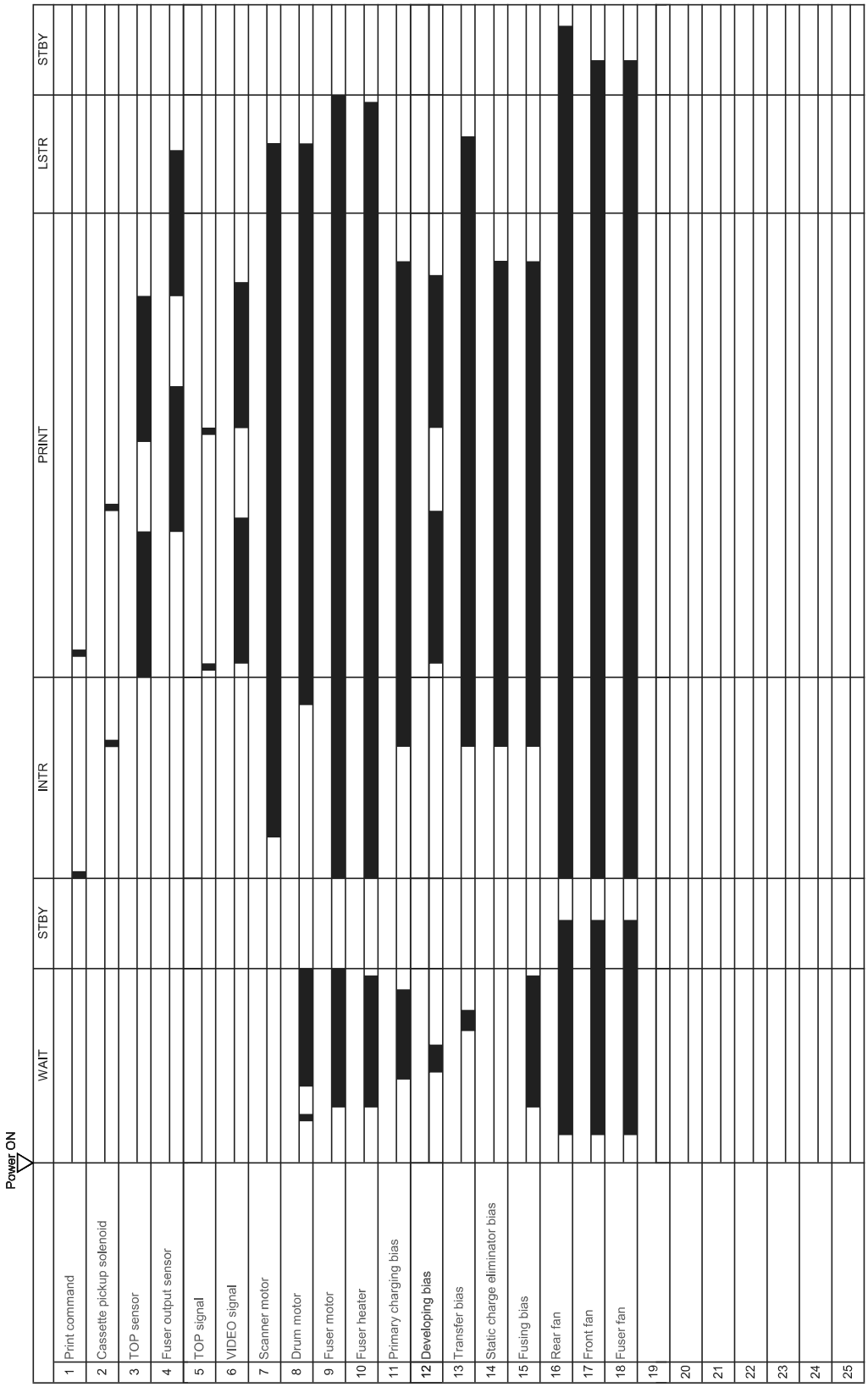


Figure 2-59 General circuit diagram (1 of 2)

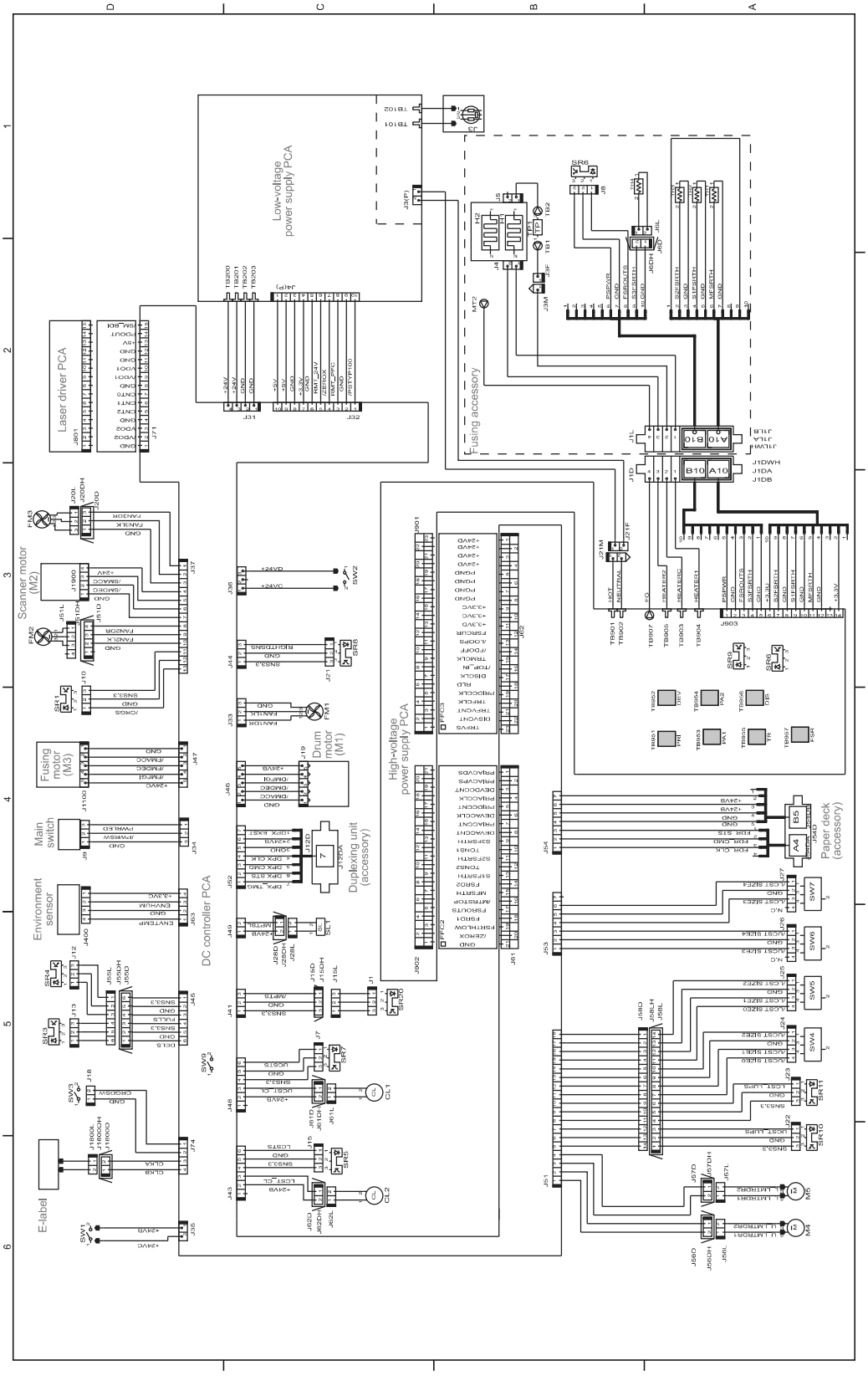
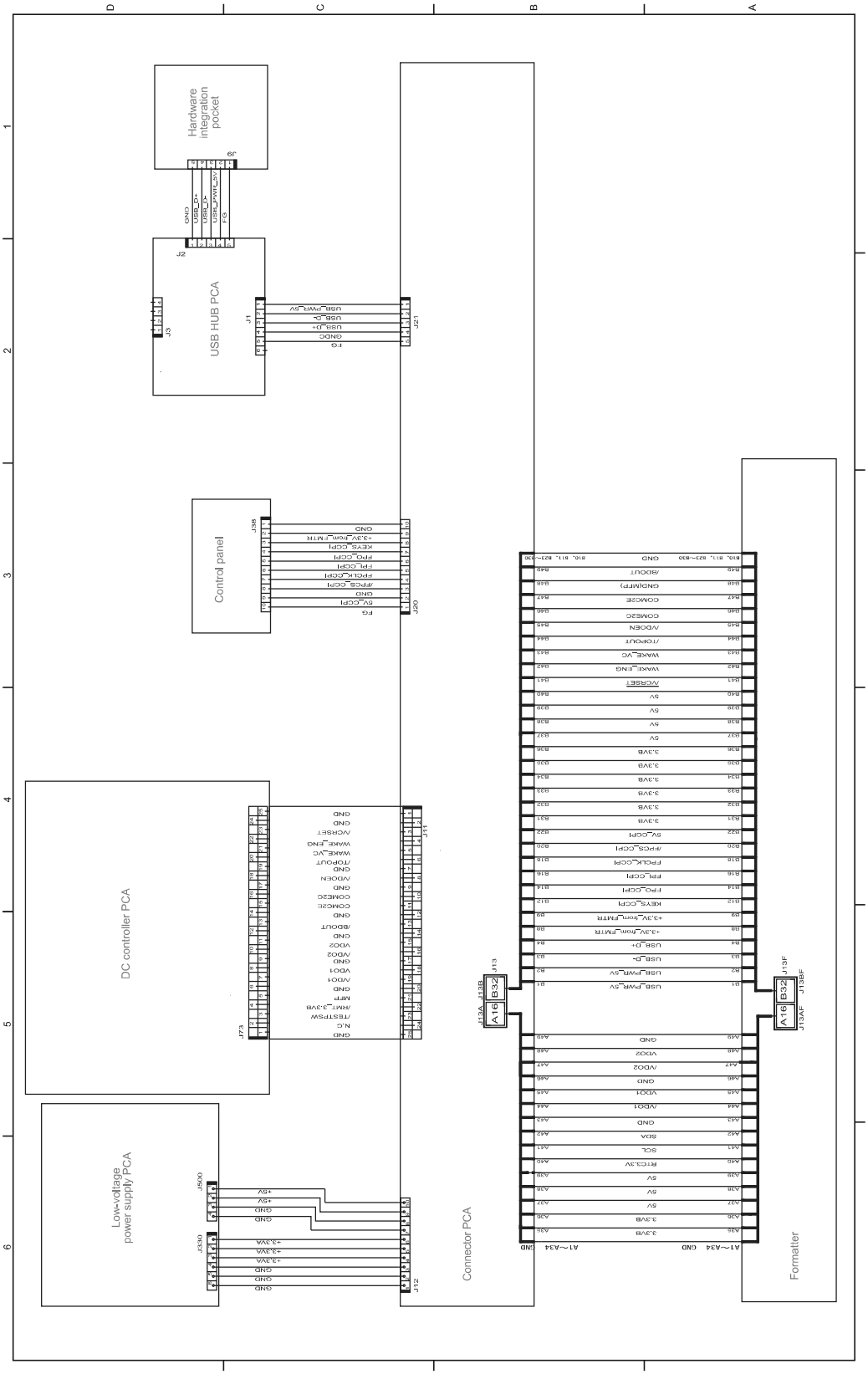


Figure 2-60 General circuit diagram (2 of 2)



Internal test pages

Clean the paper path

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Device Maintenance**
   - **Calibration/Cleaning**
   - **Print Cleaning Page**
3. The cleaning process can take several minutes. When it is finished, discard the printed page.

Set up an auto cleaning page

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

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Device Maintenance**
   - **Calibration/Cleaning**
   - **Auto Cleaning**
3. Select the **Enabled** item, and then press the OK button.
4. Scroll to the **Cleaning Interval** option, and then press the OK button.
5. Scroll to the correct interval value, and then press the OK button.
6. Scroll to the **Auto Cleaning Size** option, and then press the OK button.
7. Scroll to the correct paper size option, and then press the OK button.
8. Press the Home button to return the product to the ready state.

Print a configuration page

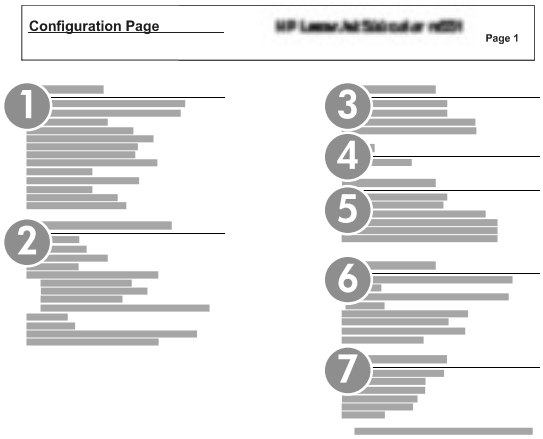
Depending on the model, up to three pages print when you print a configuration page. In addition to the main configuration page, the embedded Jetdirect configuration pages print.

Configuration page

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

1. At the product control panel, press the Home button.
2. Open the following menus:
   - **Administration**
   - **Reports**
   - **Configuration/Status Pages**
3. Scroll to the **Configuration Page** item, and then press the OK button.
4. Scroll to the **Print** item, and then press the OK button to print the pages.

Figure 2-61 Configuration page



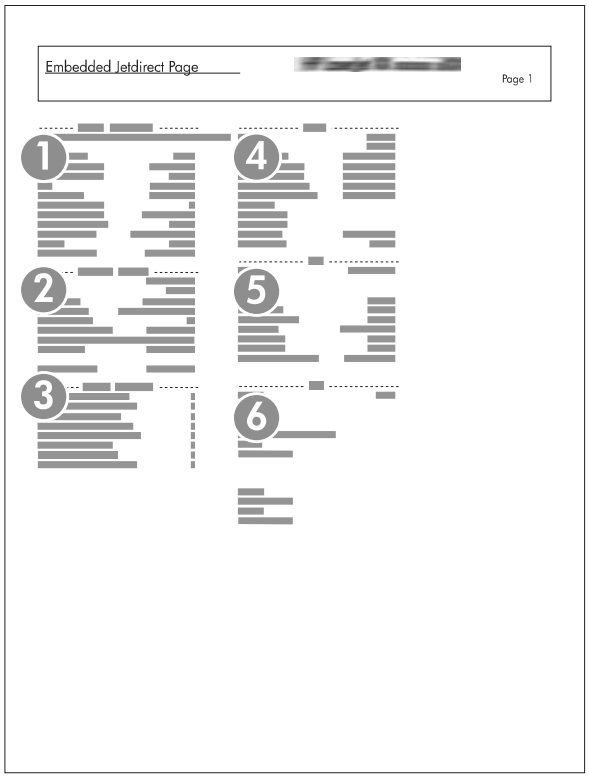
1	Device information
2	Installed personalities and options
3	HP Web services
4	Memory
5	Event log
6	Security
7	Paper trays and options

HP embedded Jetdirect page

The second configuration page is the HP embedded Jetdirect page, which contains the following information:

Always make sure the status line under the general information line indicates "I/O Card Ready."

Figure 2-62 HP embedded Jetdirect page



1	**General Information** indicates the product status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2	**Security Settings** information
3	**Network Statistics** indicates the total packets received, unicast packets received, bad packets received, framing errors received, total packets transmitted, unsendable packets, transmit collisions, and transmit late collisions.
4	**TCP/IP** information, including the IP address
5	**IPv4** information
6	**IPv6** information

Finding important information on the configuration pages

Certain information, such as the firmware date codes, the IP address, and the e-mail gateways, is especially helpful while servicing the product. This information is on the various configuration pages.

Table 2-37 Important information on the configuration pages

Type of information	Specific information	Configuration page
Firmware date codes When you use the remote firmware upgrade procedure, all of these firmware components are upgraded.	DC controller	Look on the main configuration page, under "Device Information."
	Firmware datecode	Look on the main configuration page, under "Device Information."
	Embedded Jetdirect firmware version	Look on the embedded Jetdirect page, under "General Information."
Accessories and internal storage All optional devices that are installed on the product should be listed on the main configuration page. In addition, separate pages print for the optional paper handling devices. These pages list more-detailed information for those devices.	External disk (optional)	Look on the main configuration page, under "Installed Personalities and Options." Shows model and capacity.
	Embedded HP Jetdirect	Look on the main configuration page, under "Installed Personalities and Options." Shows model and ID.
	Total RAM	Look on the main configuration page, under "Memory."
	Duplex unit	Look on the main configuration page, under "Paper Trays and Options."
Additional 500-sheet feeders	Additional 500-sheet feeders	Look on the main configuration page, under "Paper Trays and Options."
Engine cycles and event logs Total page counts and maintenance kit counts are important for ongoing product maintenance. The configuration page lists only the three most recent errors. To see a list of the 50 most recent errors, print an event log from the **Diagnostics** menu.	Engine cycles	Look on the main configuration page, under "Device Information."
Event-log information	Event-log information	Look on the main configuration page, under "Event log."

Control panel menus

Administration menu

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

Reports menu

To display: At the product control panel, open the **Administration** menu, and then open the **Reports** menu.

Table 2-38 Reports menu

First level	Second level	Values	Description
Configuration/Status Pages	**Administration Menu Map**	**Print** **View**	Shows a map of the entire **Administration** menu and the selected values for each setting.
	Current Settings Page	**Print** **View**	Print a summary of the current settings for the product. This might be helpful if you plan to make changes and need a record of the present configuration.
	Configuration Page	**Print** **View**	Shows the product settings and installed accessories.
	Supplies Status Page	**Print** **View**	Shows the approximate remaining life for the supplies; reports statistics on total number of pages and jobs processed, serial number, page counts, and maintenance information. HP provides approximations of the remaining life for the supplies as a customer convenience. The actual remaining supply levels might be different than the approximations provided.
	Usage Page	**Print** **View**	Shows a count of all paper sizes that have passed through the product; lists whether they were simplex, duplex, monochrome, or color; and reports the page count.
	File Directory Page	**Print** **View**	Shows the file name and folder name for files that are stored in the product memory.

Table 2-38 **Reports menu (continued)**

First level	Second level	Values	Description
	Web Services Status Page	**Print** **View**	Shows the detected Web Services for the product.
Other Pages	**PCL Font List**	**Print**	Prints the available PCL fonts.
	PS Font List	**Print**	Prints the available PS fonts.

General Settings menu

To display: At the product control panel, open the **Administration** menu, and then open the **General Settings** menu.

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

Table 2-39 **General Settings menu**

First level	Second level	Third level	Fourth level	Values	Description
Date/Time Settings	**Date/Time Format**	**Date Format**		**DD/MMM/YYYY** **MMM/DD/YYYY** **YYYY/MMM/DD**	Use the **Date/Time Settings** menu to specify the date and time and to configure date/time settings.
		Time Format		**12 hour (AM/PM)** **24 hours**	Select the format that the product uses to show the date and time, for example 12-hour format or 24-hour format.
	Date/Time	**Time Zone**		Select the time zone from a list.	
		Date		Select the date from a pop-up calendar.	
		Time		Select the time from a pop-up keypad.	
		Adjust for Daylight Savings		Checkbox	If you are in an area that uses daylight savings time, select the **Adjust for Daylight Savings** box.
Energy Settings	**Sleep Timer Settings**	**Sleep/Auto Off Timer**		**Enabled*** **Disabled**	Enable or disable the product sleep or auto off function.

Table 2-39 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Sleep/Auto Off After		Range: 1 to 120 minutes Default = 60 minutes	Set the number of minutes after which the product enters Sleep or Auto Off mode. Use the arrow buttons on the control panel to increase or decrease the number of minutes.
Print Quality	**Image Registration**	**Adjust Tray <X>**	**Print Test Page**		Shift the margin alignment to center the image on the page from top to bottom and from left to right. You can also align the image on the front with the image printed on the back. Use the **Adjust Tray <X>** menu to adjust the registration settings for each tray. Before adjusting these values, print a registration test page. It provides alignment guides in the X and Y directions so you can determine which adjustments are necessary. You can adjust values for X1 Shift, X2 Shift, Y1 Shift, and Y2 Shift. Use the **Print Test Page** option to print a page to test the image registration. It provides alignment guides in the X and Y directions so you can determine which adjustments are necessary.

Table 2-39 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			X1 Shift **Y1 Shift** **X2 Shift** **Y2 Shift**	-5.00 mm to 5.00 mm	The direction that is perpendicular to the way the paper passes through the product is referred to as X. This is also known as the scan direction. X1 is the scan direction for a single-sided page or for the second side of a two-sided page. X2 is the scan direction for the first side of a two-sided page. The direction that the paper feeds through the product is referred to as Y. Y1 is the feed direction for a single-sided page or for the second side of a two-sided page. Y2 is the feed direction for the first side of a two-sided page.
	Adjust Paper Types	Select from a list of paper types that the product supports. The available options are the same for each paper type.	**Print Mode**	Select from a list of print modes.	Changing the **Print Mode** setting is usually the first thing to try to resolve print-quality problems. Problems can include toner not sticking well to the page, a faint image of the page repeated on the same or following page, incorrect gloss level, etc.
			Separation Mode	**Normal*** **Alternate**	Use the **Alternate** setting when you are having issues with light-weight paper during duplex print jobs.

Table 2-39 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			Resistance Mode	**Normal*** **Up** **Down**	Use this setting to correct print quality problems in low-humidity environments and highly resistive paper. Use the **Up** option to solve print quality problems that are related to poor toner-transfer. Use the **Down** option in the event that small, "pin-hole" defects occur.
			Pre-Rotation Mode	**Off** **On***	
			Fuser Temp Mode	**Up** **Down** **Normal***	Use this feature to eliminate ghost images on printed pages.
			Paper Curl Mode	**Normal*** **Alternate 1** **Alternate 2** **Alternate 3**	Use this setting to reduce paper curl in print jobs.
	Optimize	**Line Detail**		**Normal*** **Alternate 1** **Off**	Use this setting if you are experiencing issues with scattered lines in printed pages.
		Restore Optimize			Use to return all the settings in the **Optimize** menu to the factory-default values.
	Resolution			**600 x 600 dpi*** **FastRes 1200** **ProRes 1200**	Sets the resolution at which the product prints.

Table 2-39 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	REt			**On** **Off**	Use this setting to enable or disable Resolution Enhancement technology (REt), which produces smoother angles, curves, and edges.
	Economode			**On** **Off***	Use this setting to enable or disable the Economode feature, which conserves toner.
	Toner density			Range: 1 to 5 The default value is 3.	Use this setting to increase or decrease the toner density on printed pages.

Table 2-39 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Jam Recovery				**Auto*** **Off** **On**	This product provides a jam recovery feature that reprints jammed pages. Select one of the following options: **Auto**: The product attempts to reprint jammed pages when sufficient memory is available. This is the default setting. **Off**: The product does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal. **NOTE:** When using this option, if the product runs out of paper and the job is being printed on both sides, some pages can be lost. **On**: The product always reprints jammed pages. Additional memory is allocated to store the last few pages printed. This might cause overall performance to suffer.
Auto Recovery				**Enabled** **Disabled***	The product attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
Manage Stored Jobs	**Sort Stored Jobs By**			**Job Name*** **Date**	This option allows you list the jobs either alphabetically or chronologically.

Table 2-39 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Quick Copy Job Held Timeout			**Off*** **1 Hour** **4 Hours** **1 Day** **1 Week**	Sets a maximum storage-time limit for stored Quick Copy and Proof and Hold jobs. If a stored job is not printed during this period, it is deleted.
	Quick Copy Job Storage Limit			1-100 Default = 32	Configure global settings for jobs that are stored in the product memory. The **Quick Copy Job Storage Limit** feature specifies the number of Quick Copy and Proof and Hold jobs that can be stored on the product. The maximum allowed value is 100.
	Default Folder Name				Type the name for the stored jobs folder that is accessible to all users.
Enable Retrieve from USB				**Enabled** **Disabled***	Enables the product to open a file from a USB device.
Hold Off Print Job				**Enabled** **Disabled***	Use this setting to prevent network print jobs from starting within a specified period after a job is completed.
Restore Factory Settings				**Cancel** **Reset**	Use this setting to restore all product settings to their factory defaults.

General Print Settings menu

To display: At the product control panel, open the **Administration** menu, and then open the **General Print Settings** menu.

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

Table 2-40 General Print Settings menu

First level	Second level	Values	Description
Manual Feed		**Enabled** **Disabled***	Use to enable or disable the manual-feed feature, which allows the user to feed paper into the product by hand. When this feature is enabled, the user can select manual feed from the control panel as the paper source for a job. If a tray is not specified as part of a job, manual feed is selected.
Courier Font		**Regular*** **Dark**	Select which version of the Courier font you want to use. The factory default setting is **Regular**, which uses an average stroke width. The **Dark** setting can be used if a heavier Courier font is needed.
Wide A4		**Enabled** **Disabled***	Changes the printable area of A4-size paper. If you enable this option, eighty 10-pitch characters can be printed on a single line of A4 paper.
Print PS Errors		**Enabled** **Disabled***	Use this feature to select whether a PostScript (PS) error page is printed when the product encounters a PS error.
Print PDF Errors		**Enabled** **Disabled***	Selects whether a PDF error page is printed when the product encounters a PDF error.
Personality		**Auto*** **PCL** **POSTSCRIPT** **PDF**	Configures the default print language or personality for the product. Normally you should not change the product language. If you change the setting to a specific product language, the product does not automatically switch from one language to another unless specific software commands are sent to it.
PCL	**Form Length**	Range: 5 – 128 Default = 60	Controls the PCL print-command options. PCL is a set of productcommands that Hewlett-Packard developed to provide access to productfeatures. Use the **Form Length** feature to select the user-soft default vertical form length.

Table 2-40 General Print Settings menu (continued)

First level	Second level	Values	Description
	Orientation	**Portrait*** **Landscape**	Select the orientation that is most often used for copy or scan originals. Select the **Portrait** option if the short edge is at the top or select the **Landscape** option if the long edge is at the top.
	Font Source	**Internal***	Selects the font source for the user-soft default font. The list of available options varies depending on the installed product options.
	Font Number	Range: 0 – 110 Default = 0	Specifies the font number for the user-soft default font using the source that is specified in the **Font Source** menu. The product assigns a number to each font and lists it on the PCL font list. The font number displays in the Font # column of the printout.
	Font Pitch	Range: 0.44 – 99.99 Default = 10	If the **Font Source** option and the **Font Number** setting indicate a contour font, then use this feature to select a default pitch (for a fixed-spaced font).
	Font Point Size	Range: 4.00 – 999.75 Default = 12.00	If the **Font Source** option and the **Font Number** setting indicate a contour font, then use this feature to select a default point size (for a proportional-spaced font).
	Symbol Set	Select from a list of symbol sets.	Select any one of several available symbol sets from the control panel. A symbol set is a unique grouping of all the characters in a font. The factory default value for this option is PC-8. Either PC-8 or PC-850 are recommended for line-draw characters.

Table 2-40 General Print Settings menu (continued)

First level	Second level	Values	Description
	Append CR to LF	**No*** **Yes**	Configure whether a carriage return (CR) is appended to each line feed (LF) encountered in backwards-compatible PCL jobs (pure text, no job control). Select **Yes** to append the carriage return. The default setting is **No**. Some environments, such as UNIX, indicate a new line by using only the line-feed control code. This option allows the user to append the required carriage return to each line feed.
	Suppress Blank Pages	**No*** **Yes**	This option is for users who are generating their own PCL, which could include extra form feeds that would cause blank pages to be printed. When the **Yes** option is selected, form feeds are ignored if the page is blank.
	Media Source Mapping	**Standard*** **Classic**	Use to select and maintain input trays by number when you are not using the product driver, or when the software program has no option for tray selection. The following options are available: **Standard**: Tray numbering is based on newer HP LaserJet models. **Classic**: Tray numbering is based on HP LaserJet 4 and older models.

Default Print Options menu

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

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

Table 2-41 Default Print Options menu

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

Table 2-41 Default Print Options menu (continued)

First level	Second level	Values	Description
Default Paper Size		Select from a list of sizes that the product supports.	Configures the default paper size used for print jobs.
Default Custom Paper Size	**inches** **mm**	**X Dimension** **Y Dimension**	Configures the default paper size that is used when the user selects **Custom** as the paper size for a print job. X dimension range: 3-8.5 in X dimension default = 8.5 in Y dimension range: 5-14 in Y dimension default = 14 in
Sides		**1-sided*** **2-sided**	Use to indicate whether the original document is printed on one or both sides, and whether the copies should be printed on one or both sides. For example, select the **1-sided original, 2-sided output** option when the original is printed on one side, but you want to make two-sided copies. Select the **Orientation** setting to specify portrait or landscape orientation and to select the way the second sides are printed.
2-Sided Format		**Book-style*** **Flip-style**	Configures the default style for 2-sided print jobs. If the **Book-style** option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the **Flip-style** option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge.
Edge-to-Edge		**Normal (recommended)*** **Edge-to-Edge output**	Use to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges.

Display Settings menu

To display: At the product control panel, open the **Administration** menu, and then open the **Display Settings** menu.

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

Table 2-42 Display Settings menu

First level	Values	Description
Display Brightness	Range: -10 to 10 The default value is 0.	Use to specify the intensity of the LCD control panel display.
Language	Select from a list of languages that the product supports.	Use to select a different language for control-panel messages and specify the default keyboard layout. When you select a new language, the keyboard layout automatically changes to match the factory default for the selected language.
Show IP Address	**Display*** **Hide**	Use this menu item to display or hide the IP address on the Home screen.
Inactivity Timeout	Range: 10 – 300 seconds Default = 60 seconds	Specifies the amount of time that elapses between any activity on the control panel and when the product resets to the default settings. When the timeout expires, the control-panel display returns to the Home menu, and any user signed in to the product is signed out.
Clearable Warnings	**On** **Job***	Use this feature to set the period that a clearable warning displays on the control panel. If the **On** setting is selected, clearable warnings appear until the **Clearable Warnings** button is pressed. If the**Job** setting is selected, clearable warnings stay on the display during the job that generated the warning and disappear from the display when the next job starts.
Continuable Events	**Auto-continue (10 seconds)*** **Press OK to continue**	Use this option to configure the product behavior when the product encounters certain errors. If the **Auto-continue (10 seconds)** option is selected, the job will continue after 10 seconds. If the**Press OK to continue** option is selected, the job will stop and require the user to press the**OK** button before continuing.

Manage Supplies menu

To display: At the product control panel, open the **Administration** menu, and then open the **Manage Supplies** menu.

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

Table 2-43 Manage Supplies menu

First level	Second level	Third level	Fourth level	Values	Description
Print Supplies Status					Print the supplies status page.
Supply Settings	**Black Cartridge**	**Low Threshold Settings**		1-100% Default = 10%	Set the estimated percentage at which the product notifies you when the toner cartridge is very low.
		Very Low Settings		**Stop** **Prompt to continue*** **Continue**	Specifies how the product notifies you when the toner cartridge is very low. **Stop**: The product stops until you replace the toner cartridge. **Prompt to continue**: The product stops and prompts you to replace the toner cartridge. You can acknowledge the prompt and continue printing. **Continue**: The product alerts you that a toner cartridge is very low, but it continues printing.
	Maintenance Kit	**Low Threshold Settings**		Range of 1% to 100%. The default value is 10%.	Set the estimated percentage at which the product notifies you when the toner cartridge is very low.
		Very Low Settings		**Stop** **Prompt to continue*** **Continue**	Specifies how the product notifies you when the fuser is very low.

Table 2-43 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Store Usage Data			**On supplies** **Not on supplies**	The **Store Usage Data** menu provides a way to suppress the toner cartridges from storing most of the information gathered exclusively for the purpose of understanding the usage of the product. Select the **On supplies** setting to store the data on the toner cartridge memory chip. Select the **Not on supplies** setting to suppress the information from being stored on the memory chip.
Supply Messages	**Low Message**			**On*** **Off**	Use to configure whether a message displays on the control panel when supplies are getting low, but have not yet reached the low threshold.
	Level Gauge			**On*** **Off**	Use this setting to show or hide a supplies level gauge on the product control panel.
Reset Supplies	**New Maintenance Kit**			**Reset** **Cancel**	Select this option if you have installed a new maintenance kit.

Manage Trays menu

To display: At the product control panel, select the **Administration** menu, and then select the **Manage Trays** menu.

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

Table 2-44 Manage Trays menu

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

Table 2-44 **Manage Trays menu (continued)**

First level	Values	Description
Alternative Letterhead Mode	**Disabled*** **Enabled**	Use to load letterhead or preprinted paper into the tray the same way for all print jobs, whether you are printing to one side of the sheet or to both sides of the sheet. When this option is selected, load the paper as you would for printing on both sides. See the user documentation that came with the product for instructions about loading letterhead for printing on both sides. When this option is selected, the product speed slows to the speed required for printing on both sides.
Duplex Blank Pages	**Auto*** **Yes**	Control how the product handles two-sided jobs (duplexing). Two options are available: **Auto**: This option enables Smart Duplexing, which instructs the product not to process blank pages. **Yes**: This option disables Smart Duplexing and forces the duplexer to flip the sheet of paper even if it is printed on only one side. This might be preferable for certain jobs that use paper types such as letterhead or prepunched paper.
Override A4/Letter	**Yes*** **No**	Prints on letter-size paper when an A4 job is sent but no A4-size paper is loaded in the product (or to print on A4 paper when a letter-size job is sent but no letter-size paper is loaded). This option will also override A3 with ledger-size paper and ledger with A3-size paper.

Network Settings menu

To display: At the product control panel, select the **Administration** menu, and then select the **Network Settings** menu.

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

Table 2-45 Network Settings menu

First level	Values	Description
I/O Timeout	Range: 5 – 300 sec Default = 15	Use to set the I/O timeout period in seconds. I/O timeout refers to the elapsed time before a print job fails. If the stream of data that the product receives for a print job gets interrupted, this setting indicates how long the product will wait before it reports that the job has failed.
Jetdirect Menu	See the table that follows for details. These menus have the same structure. If an additional HP Jetdirect network card is installed in the EIO slot, then both menus are available.	

Table 2-46 Jetdirect Menu

First level	Second level	Third level	Fourth level	Values	Description
Information	**Print Sec Report**			**Yes** **No***	**Yes**: Prints a page that contains the current security settings on the HP Jetdirect print server. **No**: A security settings page is not printed.
TCP/IP	**Enable**			**On*** **Off**	**On**: Enable the TCP/IP protocol. **Off**: Disable the TCP/IP protocol.
	Host Name			Use the arrow buttons to edit the host name. **NPIXXXXXX***	An alphanumeric string, up to 32 characters, used to identify the product. This name is listed on the HP Jetdirect configuration page. The default host name is NPIxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.

Table 2-46 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	IPV4 Settings	**Config Method**		**Bootp** **DHCP*** **Auto IP** **Manual**	Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server. **Bootp** (Bootstrap Protocol): Use for automatic configuration from a BootP server. **DHCP** (Dynamic Host Configuration Protocol): Use for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, the **DHCP Release** menu and the **DHCP Renew** menu are available to set DHCP lease options. **Auto IP**: Use for automatic link-local IPv4 addressing. An address in the form 169.254.x.x is assigned automatically. If you set this option to the **Manual** setting, use the **Manual Settings** menu to configure TCP/IPv4 parameters.
		Manual Settings **NOTE:** This menu is available only if you select the **Manual** option under the **Config Method** menu.	**IP Address**	Enter the address.	(Available only if the **Config Method** option is set to the **Manual** option.) Configure parameters directly from the product control panel:
			Subnet Mask	Enter the address.	
			Default Gateway	Enter the address.	

Table 2-46 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Default IP		**Auto IP*** **Legacy**	Specify the IP address to default to when the print server is unable to obtain an IP address from the network during a forced TCP/IP reconfiguration (for example, when manually configured to use BootP or DHCP). **NOTE:** This feature assigns a static IP address that might interfere with a managed network. **Auto IP**: A link-local IP address 169.254.x.x is set. **Legacy**: The address 192.0.0.192 is set, consistent with older HP Jetdirect products.
		Primary DNS		Range: 0 – 255 Default = **xxx.xxx.xx.xx**	Specify the IP address (n.n.n.n) of a Primary Domain Name System (DNS) Server.
		Secondary DNS		Range: 0 – 255 Default = **0.0.0.0**	Specify the IP address (n.n.n.n) of a Secondary DNS Server.
	IPV6 Settings	**Enable**		**Off** **On***	Use this item to enable or disable IPv6 operation on the print server. **Off**: IPv6 is disabled. **On**: IPv6 is enabled.
		Address	**Manual Settings**	**Enable** **Address**	Use this item to enable and manually configure a TCP/IPv6 address.

Table 2-46 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		DHCPV6 Policy		**Router Specified** **Router Unavailable*** **Always**	**Router Specified**: The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address, its configuration information, or both from a DHCPv6 server. **Router Unavailable**: If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server. **Always**: Whether a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.
		Primary DNS			
		Secondary DNS			

Table 2-46 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Proxy Server			Select from a provided list.	Specifies the proxy server to be used by embedded applications in the product. A proxy server is typically used by network clients for Internet access. It caches Web pages, and provides a degree of Internet security, for those clients. To specify a proxy server, enter its IPv4 address or fully-qualified domain name. The name can be up to 255 octets. For some networks, you might need to contact your Internet Service Provider (ISP) for the proxy server address.
	Proxy Port			Default = **00080**	Enter the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network, and can be a value from 0 to 65535.
	Idle Timeout			Default = **0270**	The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).

Table 2-46 Jetdirect Menu (continued)

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

Table 2-46 Jetdirect Menu (continued)

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

Table 2-46 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Diagnostics	**Embedded Tests**	**LAN HW Test**		**Yes** **No***	Provides tests to help diagnose network hardware or TCP/IP network connection problems. Embedded tests help to identify whether a network fault is internal or external to the product. Use an embedded test to check hardware and communication paths on the print server. After you select and enable a test and set the execution time, you must select the **Execute** option to initiate the test. Depending on the execution time, a selected test runs continuously until either the product is turned off, or an error occurs and a diagnostic page is printed. **CAUTION:** Running this embedded test will erase your TCP/IP configuration. This test performs an internal loopback test. An internal loopback test will send and receive packets only on the internal network hardware. There are no external transmissions on your network.

Table 2-46 Jetdirect Menu (continued)

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

Table 2-46 Jetdirect Menu (continued)

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

Table 2-46 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Timeout		Default = **001**	Specify the length of time, in seconds, to wait for a response from the remote host. The maximum is 100.
		Count		Default = **004**	Specify the number of ping test packets to send for this test. Select a value from 0 to 100. To configure the test to run continuously, select 0.
		Print Results		**Yes** **No***	
		Execute		**Yes** **No***	**No**: Do not initiate the selected tests. **Yes**: Initiate the selected tests.
	Ping Results	**Packets Sent**		Default = **00000**	Shows the number of packets (0 - 65535) sent to the remote host since the most recent test was initiated or completed..
		Packets Received		Default = **00000**	Shows the number of packets (0 - 65535) received from the remote host since the most recent test was initiated or completed. The default is 0.
		Percent Lost		Default = **000**	Shows the percent (0 to 100) of ping test packets that were sent with no response from the remote host since the most recent test was initiated or completed.

Table 2-46 Jetdirect Menu (continued)

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

Table 2-46 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Link Speed				**Auto***	The link speed and communication mode of the print server must match the network. The available settings depend on the product and installed print server. Select one of the following link configuration settings: **CAUTION:** If you change the link setting, network communications with the print server and network product might be lost. The print server uses auto-negotiation to configure itself with the highest link speed and communication mode allowed. If auto-negotiation fails, either the **100TX Half** feature or the **10T Half** feature is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.)
				10T Half	10 Mbps, half-duplex operation.
				10T Full	10 Mbps, full-duplex operation.
				10T Auto	100 Mbps, half-duplex operation.
				100TX Half	100 Mbps, full-duplex operation.

Table 2-46 **Jetdirect Menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
				100TX Full	Limits auto-negotiation to a maximum link speed of 100 Mbps.
				100TX Auto	1000 Mbps, full-duplex operation.

Troubleshooting menu

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

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

Table 2-47 **Troubleshooting menu**

First level	Second level	Third level	Fourth level	Values	Description
Print Event Log					Print or view a list of the 1,000 most recent events in the event log. For each event, the printed log shows the error number, page count, error code, and description or personality.
View Event Log					
Print Paper Path Page					Shows how many pages were printed from each tray.
Print Quality Pages	**Print Fuser Test Page**				Use to print pages that help you resolve problems with print quality.
Diagnostic Tests	**Paper Path Sensors**			Select from a list of the product sensors.	Initiates a test of the paper path sensors.
	Paper Path Test	**Print Test Page**			
		Source Tray		Select from a list of the available trays.	Generates a test page for testing paper handling features. You can define the path that is used for the test in order to test specific paper paths.

Table 2-47 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Test Duplex Path		**Off*** **On**	
		Number of Copies		Range: 1–500 Default = 1	Sets the default number of copies for a copy job. This default applies when the Copy or Quick Copy function is initiated from the product Home screen. The factory default setting is 1.
	Manual Sensor Test			Select from a list of available components. **Reset Sensors**	Test the product sensors and switches for correct operation. Each sensor is displayed on the control-panel screen, along with its status. Manually trip each sensor and watch for it to change on the screen. Press the **Stop** button to abort the test.
	Tray/Bin Manual Sensor Test			Select from a list of available components. **Reset Sensors**	Test the sensors in the trays and bins for correct operation. Each sensor is displayed on the control-panel screen, along with its status. Manually trip each sensor and watch for it to change on the screen. Press the **Stop** button to abort the test.

Table 2-47 **Troubleshooting menu (continued)**

First level	Second level	Third level	Fourth level	Values	Description
	Component Test			Select from a list of available components.	Use to exercise individual parts independently to isolate noise, leaking, or other issues. To start the test, select one of the components. The test will run the number of times specified by the **Repeat** option. You might be prompted to remove parts from the product during the test. Press the **Stop** button to abort the test.
	Print/Stop Test				Specify the length of time in milliseconds (0-60,000).
Retrieve Diagnostic Data				**Export to USB** **Diagnostic Files** **Include crash dump files** **Clean up debug info**	Create files that contain information about the product that can help identify the cause of problems.
Generate Debug Data				**Start**	

Device Maintenance menu

Backup/Restore menu

To display: At the product control panel, select the **Device Maintenance** menu, and then select the **Backup/Restore** menu.

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

Table 2-48 **Backup/Restore menu**

First level	Second level	Third level	Values	Description
Backup Data	**Backup Now**			Insert a USB drive to which the product will save a backup file.
Restore Data				Insert a USB drive that contains the backup file.

Calibration/Cleaning menu

To display: At the product control panel, select the **Device Maintenance** menu, and then select the **Calibration/Cleaning** menu.

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

Table 2-49 **Calibration/Cleaning menu**

First level	Second level	Values	Description
Auto Cleaning		**Off*** **On**	Use to set an automatic cleaning period for the product.
Cleaning Interval		Select from a list of cleaning intervals.	Use to set the interval when the automatic cleaning page should be printed. The interval is measured by the number of pages printed.
Auto Cleaning Size		Select from a list of support sizes.	Select the paper size to use for the automatic cleaning page.
Print Cleaning Page			Prints a page to clean the paper path. The process takes up to 1.5 minutes.

USB Firmware Upgrade menu

To display: At the product control panel, select the **Device Maintenance** menu, and then select the **USB Firmware Upgrade** menu.

Insert a USB storage device with a firmware upgrade bundle into the USB port, and follow the on-screen instructions.

Service menu

To display: At the product control panel, select the **Device Maintenance** menu, and then select the **Service** menu.

The **Service** menu is locked and requires a PIN for access. This menu is intended for use by authorized service personnel.

Interpret control-panel messages

Control-panel message types

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

NOTE: Event log errors may or may not appear on the control-panel display. Access the event log to view or print the event log errors.

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

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

Control-panel messages

11.00.YY Internal clock error To continue, touch "OK"

Description

The product real-time clock has experienced an error.

- XX = 01: Clock battery failed
- XX = 02: Real-time clock failed

Recommended action

Whenever the product is turned off and then turned on again, set the time and date at the control panel.

If the error persists, replace the formatter.

20.00.00 Insufficient memory: <Device> To continue, touch "OK"

Description

The product has experienced a memory error. You might have tried to transfer too many fonts or macros.

Recommended action

Press the OK button to print the transferred data. Some data might be lost. Reduce the page complexity or add product memory.

21.00.00 Page too complex To continue, touch “OK”

Description

The page decompression process was too slow for the product.

Recommended action

Press the OK button to continue. There may be some data loss.

33.WX.YZ Used board/disk installed

Description

An encrypted board or disk with existing data previously locked to a different product has replaced the original. If you continue, data is permanently lost.

Recommended action

- To save the data on the board or disk, turn the product off. Replace the board or disk with another board or disk.
- To delete the data on the board or disk and continue, press the OK button.

40.00.01 USB I/O buffer overflow To continue, touch “OK”

Description

The USB buffer overflowed during a busy state.

Recommended action

1. Press the OK button to print the transferred data. Some data might be lost.
2. Check the host configuration.

40.00.02 Embedded I/O buffer overflow To continue, touch “OK”

Description

Too much data was sent to the embedded HP Jetdirect print server. An incorrect communications protocol might be in use.

Recommended action

1. Press the OK button to print the transferred data. Some data might be lost.
2. Check the host configuration.

40.00.03 EIO <X> buffer overflow To continue, touch “OK”

Description

The product displays this message when the EIO card in the indicated slot has overflowed its I/O buffer during a busy state.

Recommended action

Press the OK button to continue.

40.00.04 EIO <X> bad transmission To continue, touch "OK"

Description

The product displays this message when a connection with the card in the indicated slot has been abnormally broken.

Recommended action

Press the OK button to continue.

40.00.05 Embedded I/O bad transmission To continue, touch "OK"

Description

The product experienced a temporary printing error. The connection between the product and the EIO card in the specified slot has been broken.

Recommended action

Press the OK button to clear the error message and continue printing.

41.03.YZ Unexpected size in Tray <X>

Description

The product detected a different paper size than expected.

Y = Size mismatch, Z = Source

- Y = 0: Detected paper is longer or shorter than expected
- Y = A: Detected paper too long
- Y = B: Detected paper too short
- Z = 1: Tray 1
- Z = 2: Tray 2
- Z = 3: Tray 3

Recommended action

1. Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.
2. Use the Tray/Bin manual sensor test to verify that the tray paper switch is correctly functioning.
3. If the error persists, replace the lifter assembly.

41.03.YZ Unexpected size in Tray <X> To use another tray, touch "Options"

Description

The product detected a different paper size than expected.

Y = Size mismatch, Z = Source

- Y = 0: Detected paper is longer or shorter than expected
- Y = A: Detected paper too long
- Y = B: Detected paper too short
- Z = 1: Tray 1
- Z = 2: Tray 2
- Z = 3: Tray 3

Recommended action

1. Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.
2. Use the Tray/Bin manual sensor test to verify that the tray paper switch is correctly functioning.
3. If the error persists, replace the lifter assembly.

41.05.YZ Unexpected type in Tray <X>

Description

The product detected a different paper type than expected.

Y = Expected type, Z = Detected type

- Y = 0: Unknown
- Y = 1: Normal paper
- Y = 3: LBP transparency
- Y = 4 Glossy paper
- Y = 5: Gloss film
- Y = 6: Non-assured transparency
- Y = 7: Heavy paper
- Y = 8: Light paper
- Y = 9: Rough paper
- Y = A: Extra heavy glossy paper (glossy paper 3)
- Y = B: Heavy glossy paper (glossy paper 2)

- Y = C: Heavy paper 3
- Y = D: Heavy paper 2
- Z = 1: Normal paper
- Z = 3: LBP transparency
- Z = 4: Glossy paper
- Z = 5: Gloss film
- Z = 6: Non-assured transparency
- Z = 7: Heavy paper
- Z = 8: Light paper
- Z = 9: Rough paper
- Z = A: Extra heavy glossy paper (glossy paper 3)
- Z = B: Heavy glossy paper (glossy paper 2)
- Z = C: Heavy paper 3
- Z = D: Heavy paper 2

Recommended action

1. Load the tray with the size and type of paper indicated, or use another tray if available.
2. If this message appears and the tray is loaded with the correct paper type, check the print driver settings to make sure that they match the tray type settings.
3. Clean the paper sensor.
4. If the error persists, replace the paper pickup assembly.

41.05.YZ Unexpected type in Tray <X> To use another tray, touch "Options"

Description

The product detected a different paper type than expected and another tray is available for use.

Y = Expected type, Z = Detected type

- Y = 0: Unknown
- Y = 1: Normal paper
- Y = 3: LBP transparency
- Y = 4 Glossy paper
- Y = 5: Gloss film
- Y = 6: Non-assured transparency

- Y = 7: Heavy paper
- Y = 8: Light paper
- Y = 9: Rough paper
- Y = A: Extra heavy glossy paper (glossy paper 3)
- Y = B: Heavy glossy paper (glossy paper 2)
- Y = C: Heavy paper 3
- Y = D: Heavy paper 2
- Z = 1: Normal paper
- Z = 3: LBP transparency
- Z = 4: Glossy paper
- Z = 5: Gloss film
- Z = 6: Non-assured transparency
- Z = 7: Heavy paper
- Z = 8: Light paper
- Z = 9: Rough paper
- Z = A: Extra heavy glossy paper (glossy paper 3)
- Z = B: Heavy glossy paper (glossy paper 2)
- Z = C: Heavy paper 3
- Z = D: Heavy paper 2

Recommended action

1. Load the tray with the size and type of paper indicated, or use another tray if available.
2. If this message appears and the tray is loaded with the correct paper type, check the print driver settings to make sure that they match the tray type settings.
3. Clean the paper sensor.
4. If the error persists, replace the paper pickup assembly.

41.WX.YZ Error To use another tray, touch "Options"

Description

A printer error has occurred.