



Troubleshooting

To better help our customers - this HP Laserjet 1160 & 1320 series troubleshooting page is simply a guide / additional information for your convenience, as you search for assistance in repairing your machine. Although this information is provided for your convenience it is recommended, for the most part, that a technician inspects your office equipment.

It is recommended to consult with a professional when ordering your printer part(s).

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Functional checks

This section includes five functional checks for troubleshooting.

Engine test

The engine test is used to verify that the print engine is functioning correctly. The formatter is bypassed during an engine test, so the engine test is useful for isolating printer problems. The engine test prints horizontal lines down the entire printable area of a page and is also useful for checking and adjusting registration.

Printing an engine test

NOTE

The formatter must be connected to the ECU to perform an engine test.

The engine-test switch is inside the left cover, below the formatter. To print an engine test, remove the left side cover (see [Left-side cover](#)), override the door interlock (SW 301), and then press the engine-test switch (callout 1 in [Figure 7-1. Location of engine-test switch](#)). A single test page prints.

NOTE

Printing a configuration page verifies that the formatter is working correctly.

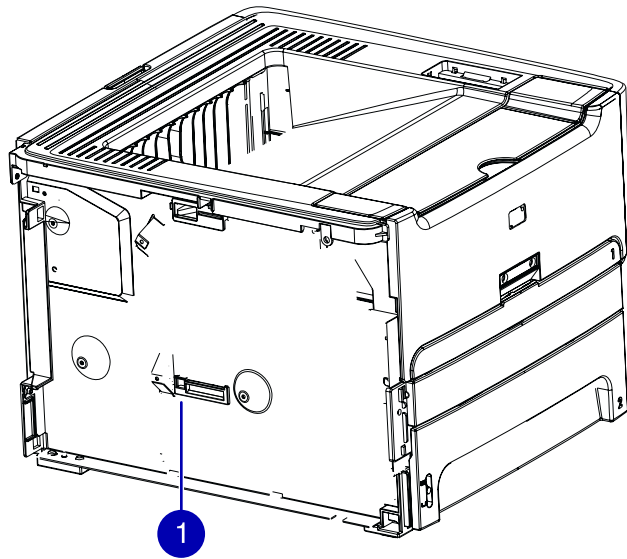


Figure 7-1. Location of engine-test switch

Half self-test functional check

The print process can be subdivided into the following stages:

- image formation stage (charges the drum and writes a latent image to the drum with the laser)
- development stage (forms a toner image on the drum)
- transfer stage (transfers the image to paper)
- cleaning stage (removes excess toner from the drum)
- fusing stage (applies heat and pressure to make the image on paper permanent)

To perform a half self-test check

The purpose of the half self-test check is to determine which process is malfunctioning.

1. Print a configuration page.
2. Open the print cartridge access door after the paper advances halfway through the printer (approximately five seconds after the motor begins rotating). The leading edge of the paper should have advanced past the print cartridge.
3. Remove the print cartridge.
4. Open the print cartridge drum shield to view the drum surface. If a dark and distinct toner image is present on the drum surface, assume that the first two functions of the electrophotographic process are functioning (image formation and development). Troubleshoot the failure as a transfer or fusing problem.

To perform other checks

If there is no image on the photosensitive drum, perform these checks:

1. Make sure you removed the entire length of the sealing tape from the print cartridge before you installed the cartridge.
2. Perform a drum rotation functional check to ensure that the drum is rotating (see [Drum rotation functional check](#)).
3. Perform a high-voltage power-supply check. (See below.)

Drum rotation functional check

The photosensitive drum, located in the print cartridge, must rotate for the print process to work. The photosensitive drum receives its drive from the main drive assembly.

NOTE

This test is especially important if refilled print cartridges have been used.

1. Open the print-cartridge door.
2. Remove the print cartridge.
3. Mark the drive gear on the cartridge with a felt-tipped marker. Note the position of the mark.
4. Install the print cartridge and close the print-cartridge door. The startup sequence should rotate the drum enough to move the mark.
5. Open the print-cartridge door and inspect the gear that was marked in step 3. Verify that the mark moved.

If the mark did not move, inspect the main drive assembly to make sure that it is meshing with the print cartridge gears. If the drive gears appear functional and the drum does not move, replace the print cartridge.

Heating element check

Paper passes between the heating element and a soft pressure roller to fuse toner to the paper.

1. Unplug the printer for at least ten minutes.
2. Verify that the thermistor connector is seated into both the printer chassis and the ECU.
3. Remove the heating element connector from the ECU. To measure the continuity of the heating element, measure the resistance between the two pins at the end of the cable.

NOTE

Normal resistance is 25 ohms +/- 10 ohms for the 110 V printer and 80 ohms +/- 20 ohms for the 220 V printer.

If no resistance is measured, replace the fuser.

4. Remove the thermistor connector, and then measure the resistance between J206 pins one and two and between J206 pins three and four.

NOTE

Normal resistance between both pairs of pins is 370K ohms +/- 50K ohms at 20° C (68° F).

5. If no resistance is measured, replace the fuser.

High-voltage contacts check

The high-voltage contacts in the printer must have a good connection with the contacts on the print cartridge to provide the necessary voltages for the electrophotographic processes.

To check the print cartridge contacts

Remove the print cartridge and visually inspect the three connection points on the ends of the print cartridge: drum ground (callout 1), charging (callout 2), and developing roller (callout 3). If they are dirty or corroded, clean the connection. If they are damaged, replace the print cartridge.

NOTE

Use only isopropyl alcohol to clean the connections.

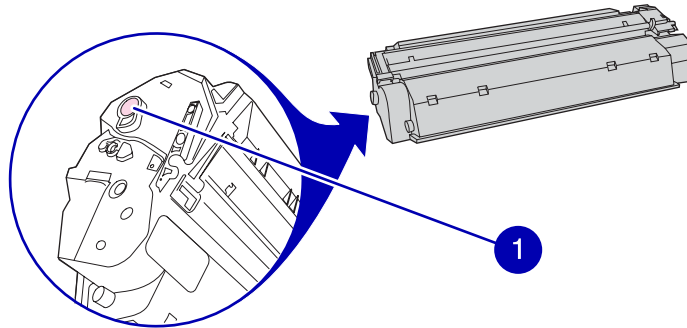


Figure 7-2. Print cartridge high-voltage connection points (right side)

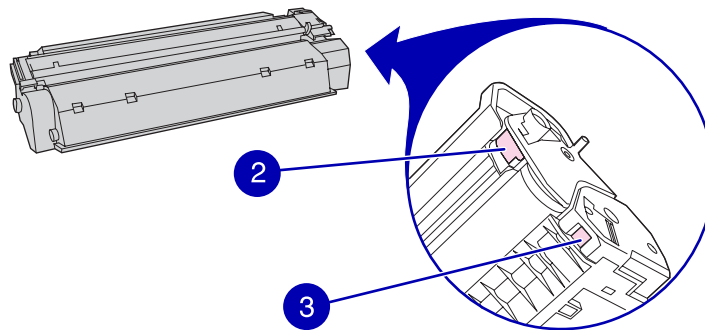


Figure 7-3. Print cartridge high-voltage connection points (left side)

To check the high-voltage connector assembly

Visually inspect the cartridge connection points inside the printer to make sure that they are not dirty or corroded. If the pins are dirty, clean them using isopropyl alcohol only.

Wired network setup problemsolving

If the computer is unable to discover the HP LaserJet 1320n, HP LaserJet 1320tn, or HP LaserJet 1320nw printer, perform the following steps:

1. Check the cables to ensure that they are properly connected. Check all of the following connections:
 - Power cables
 - Cables between the printer and the hub or switch
 - Cables between the hub or switch and the computer
 - Cables to and from the modem or Internet connection, if applicable
2. To verify that the network connection is active, perform the following steps:
 - Check the network light on the network (RJ-45) connector on the back of the printer.
 - If one of the lights is on solid, the printer is connected to the network.
 - If both network lights are off, check the cable connections from the printer to the gateway, switch, or hub to ensure that the connections are secure.
 - If the connections are secure, turn off the power to the printer for at least 10 seconds, and then turn on the power to the printer.
3. To print a Network Configuration page, press the network Reset button located on the back of the printer.

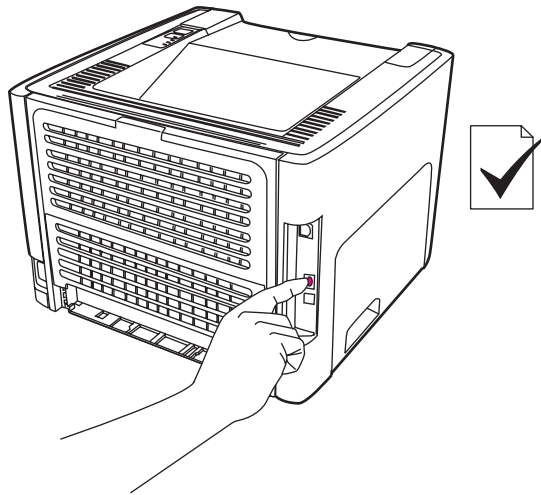


Figure 7-4.

Network Reset button

- On the Network Configuration page, check to see if a non-zero IP address is assigned to the printer.
- If the Network Configuration page does not have a valid, non-zero IP address, reset the Internal HP Jetdirect print server to the factory defaults. To cold reset the Internal HP Jetdirect print server, turn off the printer. While pressing the Reset button on the back of the printer, turn on the printer. Continue to press the Reset button until the printer is in the Ready state (from 5 to 30 seconds).
- Five minutes after the printer reaches the Ready state, print another Network Configuration page, and check to see if a valid IP address is assigned to the printer.
- If after 30 minutes the IP address still shows zeros, replace the formatter.

NVRAM initialization

CAUTION

Only perform the following procedure if absolutely necessary. Performing an NVRAM initialization resets some parameters that cannot be restored later.

NVRAM initialization sets all default variables stored in NVRAM back to factory default values or to a default ROM value, depending on the variable. It also performs a system reset.

NVRAM initialization resets the following:

- All menu settings to factory default values
- Factory settings such as formatter number, page counts, and factory paper settings

To perform NVRAM initialization

1. Turn the printer off.
2. Press and hold down the **Go** button.
3. Turn the printer on, and continue to hold the **Go** button for at least 20 seconds. During this process, the **Go** button, Attention, and Ready LEDs each turn on.
4. Release the Go button.

The printer LEDs will begin cycling. The NVRAM-unit process runs until the printer is in the ready state.

Cold reset

A cold reset changes most system parameters in NVRAM to the factory defaults. However, unlike NVRAM initialization, a cold reset does not reset the page count, the paper tray sizes, language, or formatter number.

NOTE

A cold reset also resets all the HP Jetdirect settings as well as the printer settings.

To perform a cold reset

1. Turn the printer off.
2. Press and hold down the **Go** button.
3. Turn the printer on, and continue to hold the **Go** button for at least 5 seconds, but not longer than 15 seconds. During this process, the Attention LED turns on.
4. Release the **Go** button.

NOTE

If both the Attention and the Ready LEDs turn on before you release the **Go** button, you must start the procedure again with step 1.

The printer's LEDs begin cycling. The cold-reset process runs until completion, and the printer returns to the ready state.

Troubleshooting tools and reference diagrams

Repetitive image defects

If the printer output has a consistent, repetitive defect, then use [Table 7-9. Repetitive image defects](#) to determine which part needs to be replaced based on the measured distance between the repetitions of the defect.

Table 7-9. Repetitive image defects

Distance between identical defects	Dirty or damaged roller	Solution
37.7 mm (1.48 inches)	Primary charging roller	Replace the print cartridge.
43.0 mm (1.69 inches)	Registration roller	Replace the registration assembly (see Registration assembly).
44.0 mm (1.73 inches)	Developing cylinder	Replace the print cartridge.
46.2 mm (1.82 inches)	Transfer roller	Replace the transfer roller (see Transfer roller).
56.5 mm (2.22 inches)	Fuser film	Replace the fuser (see Fuser).
69.0 mm (2.72 inches)	Pressure roller	Replace the fuser (see Fuser).
75.4 mm (2.97 inches)	Photosensitive drum	Replace the print cartridge.