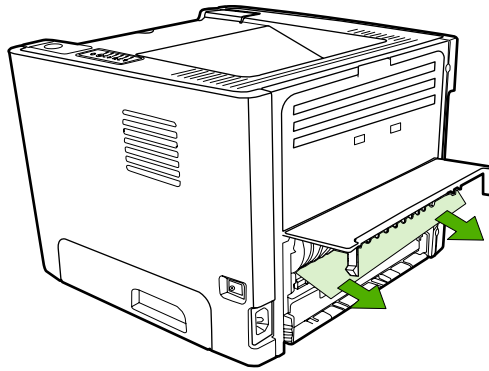
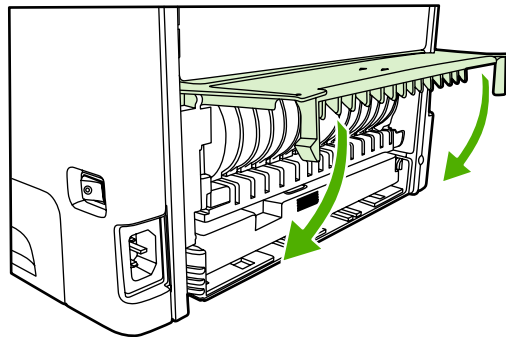


9. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.



10. Close the automatic two-sided printing path door.



# Diagnostic resources

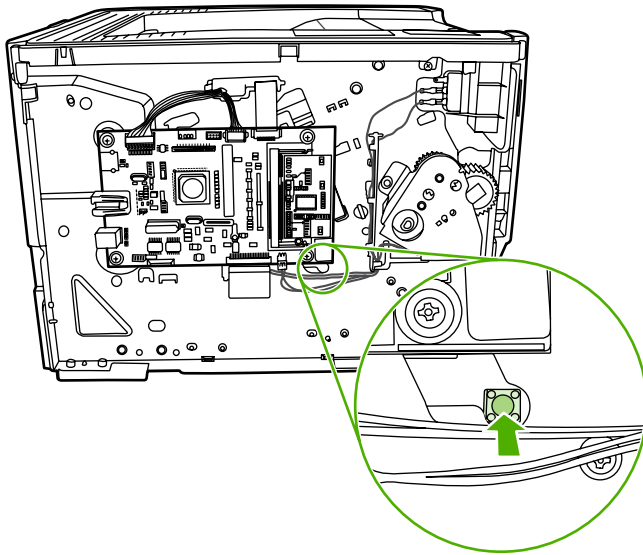
## Engine test

The engine test verifies that the print engine is functioning correctly. During the test, the printer prints horizontal lines down the entire printable area of a page. The formatter is bypassed during the engine test.



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

1. Remove the left side cover.
2. Press the engine-test switch. A single test page prints.



**Figure 7-1** Location of engine-test switch

## Continuous self-test

The continuous self-test puts the device into a continuous printing mode without having to send jobs to it.

1. Turn off the printer.
2. Press and hold the **Go** button.
3. Turn on the printer and continue to hold the **Go** button for approximately 20 seconds, but no longer than 30 seconds, until the **Attention** and **Ready** lights illuminate.
4. Release the **Go** button.



**NOTE** If the **Attention**, **Ready**, and **Go** lights illuminate before you release the **Go** button, start again at step 1.

5. The **Ready** light starts blinking, indicating that the device is performing a continuous self-test.

To terminate the continuous self-test, press the **Cancel** button.

## Half self-test functional check

The half self-test check determines which printing process is malfunctioning.

1. Print a Configuration page.
2. Press the print-cartridge-door button 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.

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.
3. Perform a high-voltage contacts check.

## 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.



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

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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).

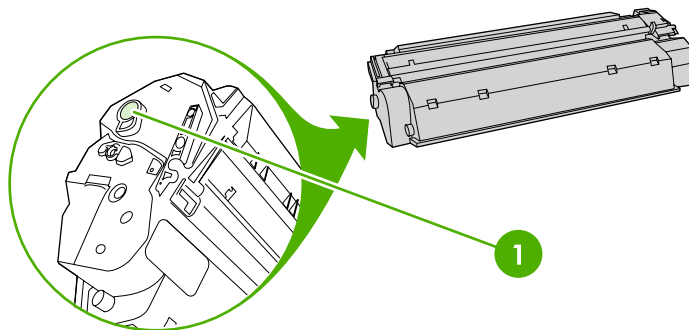
5. If no resistance is measured, replace the fuser.

## High-voltage contacts check

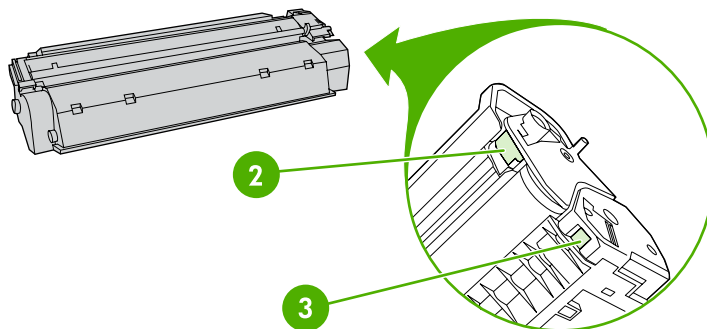
The high-voltage contacts in the printer must have a good connection with the contacts on the print cartridge to provide the necessary voltages for the electrophotographic processes.

### Checking the print cartridge contacts

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



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



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



**CAUTION** After removing the print cartridge, handle it only on the ends.

## **Checking 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 with isopropyl alcohol.

# Network-setup problemsolving

If the computer cannot discover the networked HP LaserJet 2015 Series 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. Verify that the computer network connections are working correctly (Windows only):
  - On the Windows desktop, double-click **My Network Places** or **Network Neighborhood**.
  - Click the **Entire Network** link.
  - Click the **Entire Contents** link.
  - Double-click one of the network icons, and make sure that some devices are listed.
3. Verify that the network connection is active:
  - 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.
4. Print a Network Configuration page.
  - On the Network Configuration page, 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 HP internal network port to the factory defaults by pressing the **Go** and **Cancel** buttons at the same time.

After the Attention, Ready, and Go lights finish cycling, the printer returns to a Ready state and the reset is complete.
  - Two 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 the IP address is still zeros, contact the network administrator.

# Reset the printer

## 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

Use the following procedure to perform an 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 lights begin cycling. After the NVRAM initialization is complete, the printer returns to the ready state.

## Super NVRAM initialization

This feature is similar to NVRAM initialization, except all of NVRAM is re-initialized (including the configuration parameters not reset by an NVRAM initialization).

Use the following procedure to perform an NVRAM initialization.

1. Turn off the printer.
2. Press and hold the **Go** button.
3. Turn on the printer and continue to hold the **Go** button for at least 50 seconds. During this process, the **Attention**, **Ready**, **Go** lights turn on. Then the **Attention** and **Ready** lights turn off, leaving only the **Go** light illuminated.
4. Release the **Go** button. The **Go**, **Ready** and **Attention** lights turn on.
5. Press and hold the **Go** button. All lights turn off. During the next three seconds, the **Go**, **Ready** and **Attention** lights turn on in that order, one per second.
6. Release the **Go** button to perform the initialization. The control panel lights begin cycling from front to back. After the Super NVRAM initialization process is complete, the printer returns to the ready state.

## Network reset

A network reset changes all network system parameters in NVRAM to the factory defaults. During the network-reset process, all button presses are ignored.

Use the following procedure to perform a network reset.

1. Turn off the printer.
2. Press and hold the **Job Cancel** button.
3. Turn on the printer and continue to hold the **Job Cancel** button for approximately 10 seconds, but no longer than 20 seconds. During this process, the **Attention** light turns on.
4. Release the **Job Cancel** button. The **Attention**, **Ready**, and **Go** lights begin cycling from front to back. After the network-reset process is complete, the device returns to the ready state.



---

**NOTE** If the **Attention** and **Ready** lights illuminate before you release the **Job Cancel** button, start again at step 1.

---

## 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.



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

---

Use the following procedure to perform a cold reset.

1. Turn off the printer.
2. Press and hold 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 7-6 Repetitive image defects on page 179](#) to determine which part needs to be replaced based on the measured distance between the repetitions of the defect.

**Table 7-6** 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.
44.0 mm (1.73 inches)	Developing cylinder	Replace the print cartridge.
46.2 mm (1.82 inches)	Transfer roller	Replace the transfer roller.
56.5 mm (2.22 inches)	Fuser film	Replace the fuser.
69.0 mm (2.72 inches)	Pressure roller	Replace the fuser.
75.4 mm (2.97 inches)	Photosensitive drum	Replace the print cartridge.

# General timing chart

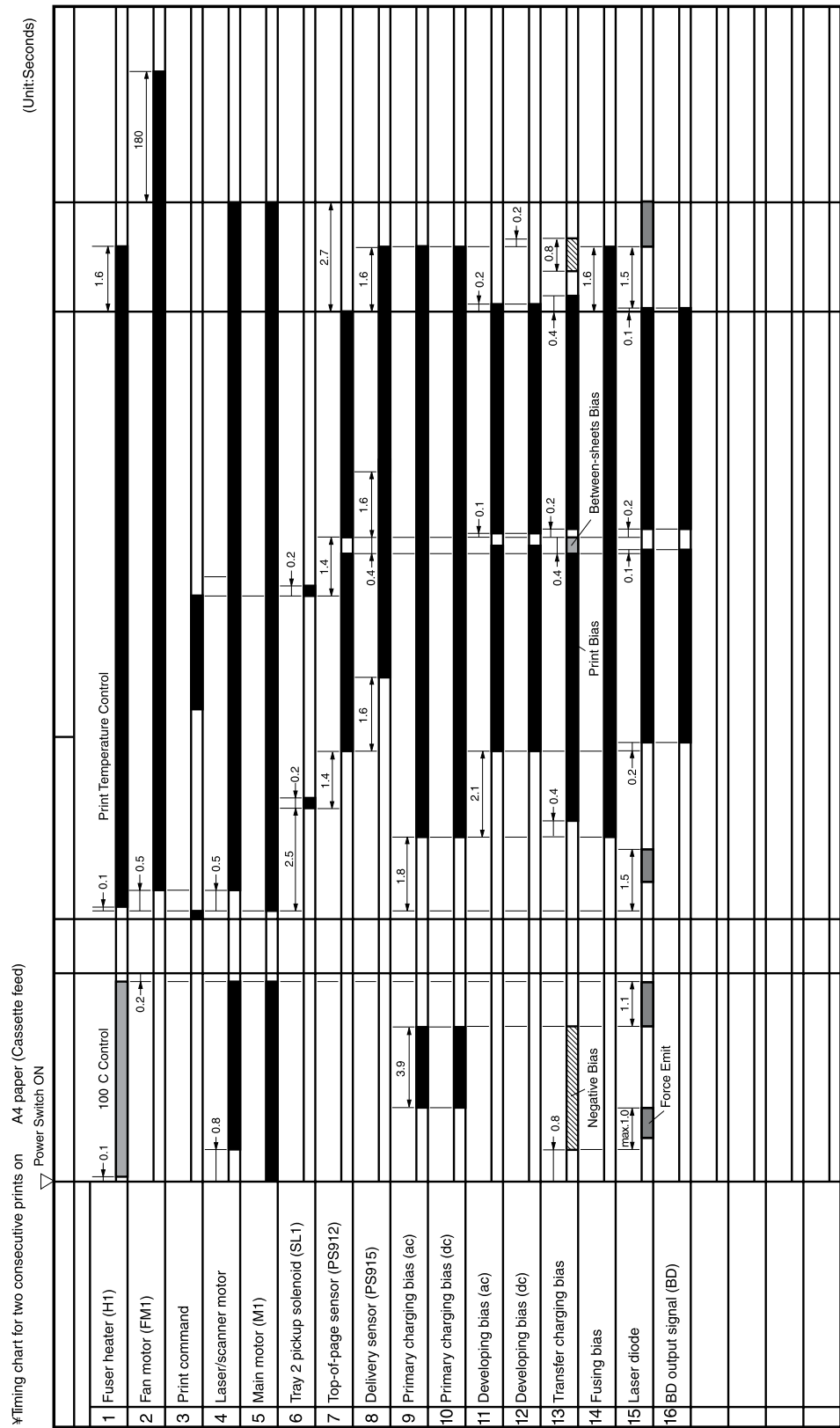


Figure 7-4 General timing chart

# Circuit diagram

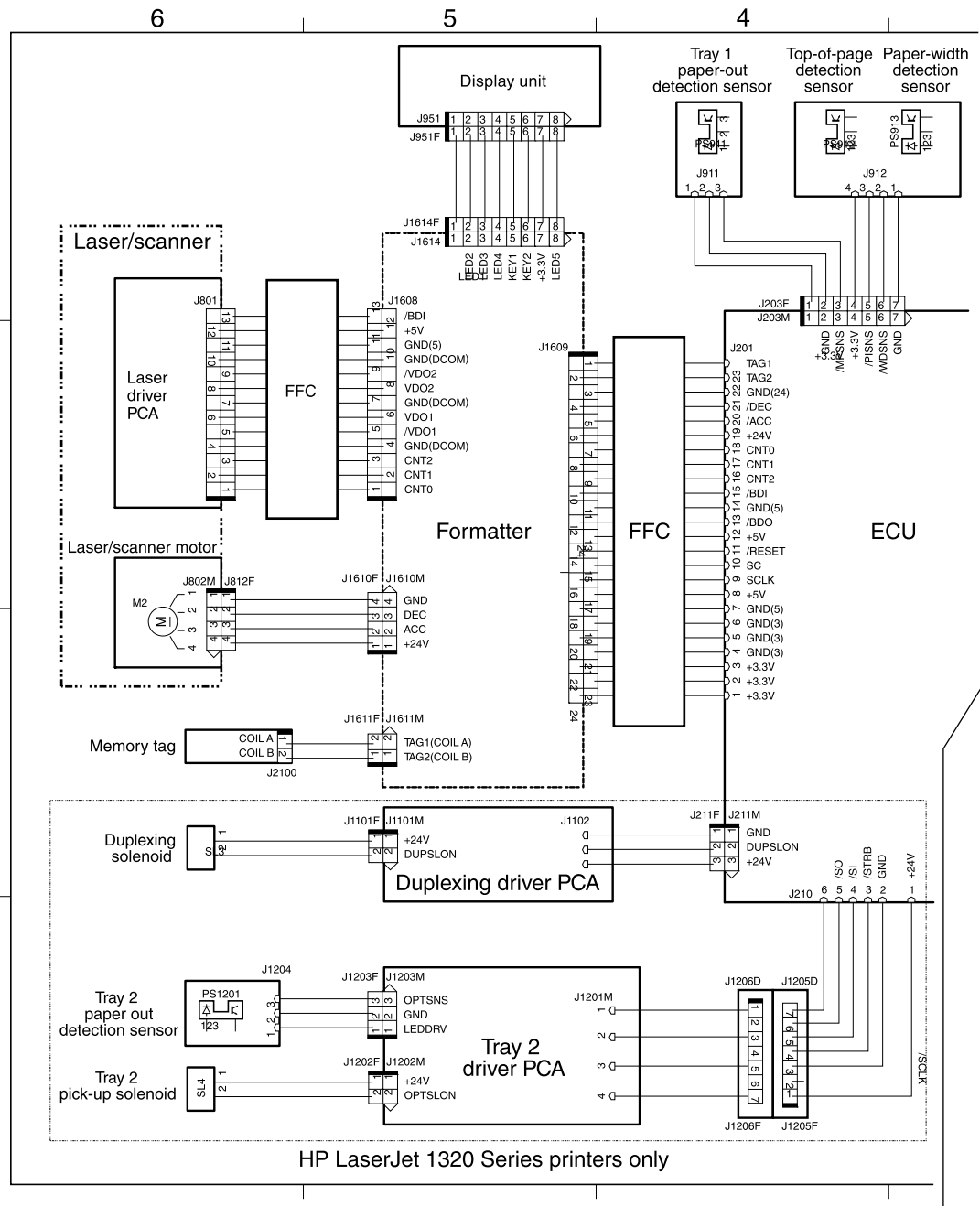
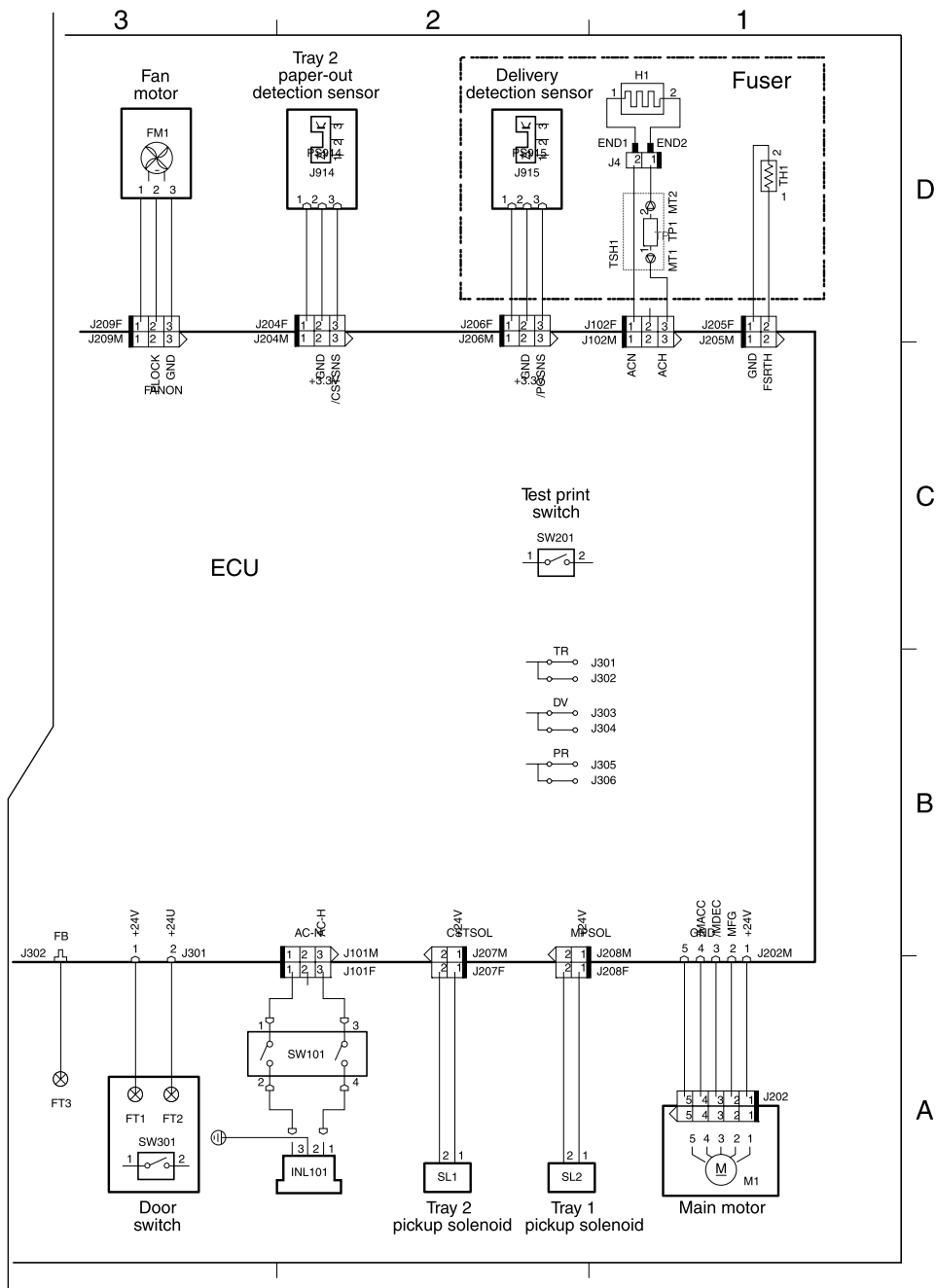
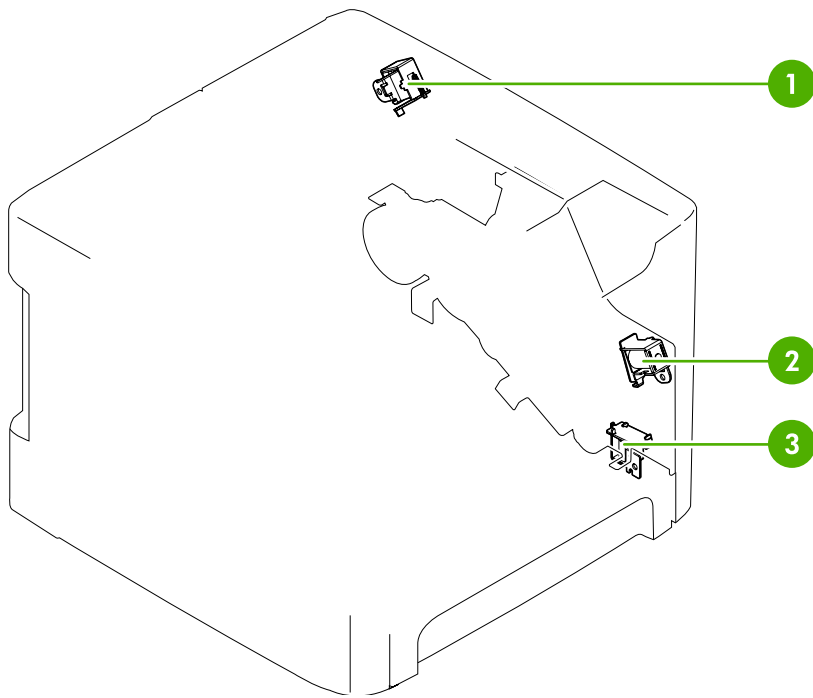


Figure 7-5 Circuit diagram (1 of 2)



**Figure 7-6** Circuit diagram (2 of 2)

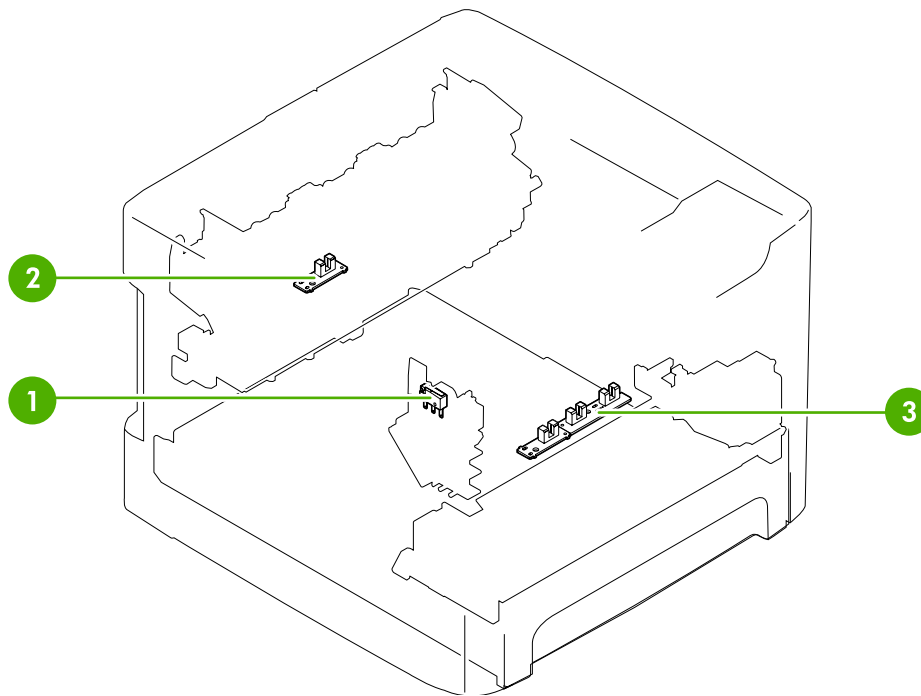
## Solenoids



**Figure 7-7** Solenoids

1	Duplex solenoid
2	Tray 1 pickup solenoid
3	Tray 2 pickup solenoid

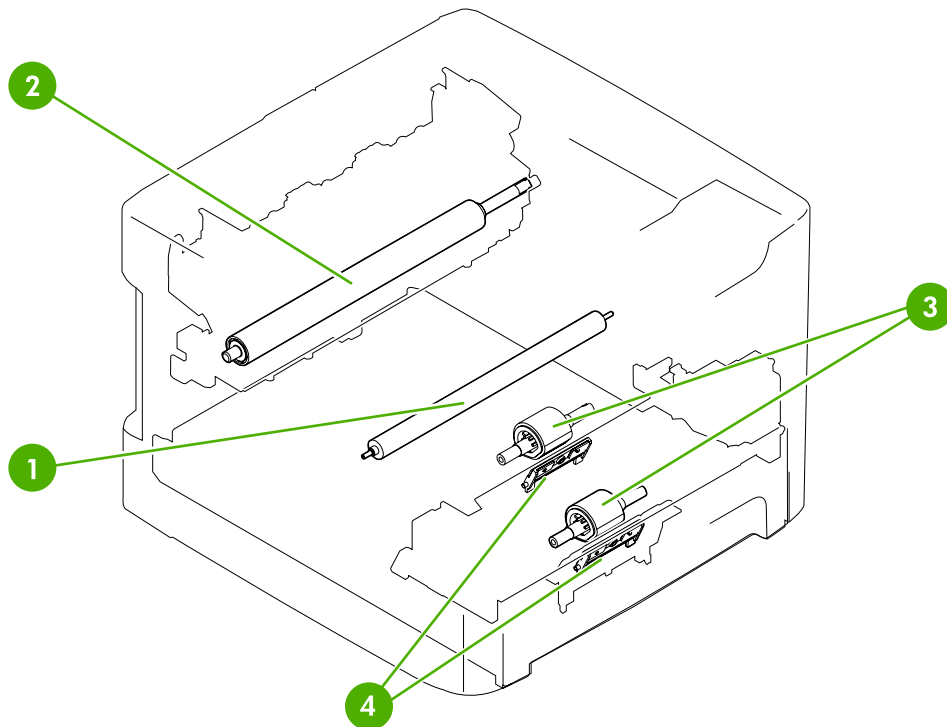
## Switches and sensors



**Figure 7-8** Switches and sensors

1	Interlock switch
2	Delivery sensor
3	Top-of-page sensor

## Rollers and pads



**Figure 7-9** Rollers and pads

1	Transfer roller
2	Pressure roller
3	Pickup roller
4	Separation pad





## 8 Parts and diagrams

- [Order parts and supplies](#)
- [Assembly locations](#)
- [Covers](#)
- [Internal assemblies](#)
- [Alphabetical parts list](#)
- [Numerical parts list](#)

# Order parts and supplies

## Parts

Order replacement parts from the following Web sites:

<http://h30074.www3.hp.com/csn-aux/srvcdlvry/epdo/default/ePDOLogin.asp> (technicians)

<http://h20141.www2.hp.com/hpparts> (customers)

## Related documentation and software

Order documentation and software from the companies listed in the following table; some documentation and software is available at the following Web sites.

**Table 8-1** Technical support Web sites

<b>HP Customer Care Online</b>	<a href="http://www.hp.com/support">http://www.hp.com/support</a>
Software drivers, support documentation, and answers to frequently asked questions	
<b>HP Technical Training</b>	<a href="http://education.itrc.hp.com/TrainerII/en-US/index.jsp">http://education.itrc.hp.com/TrainerII/en-US/index.jsp</a>
(North America)	
Classes and schedules	

## Supplies

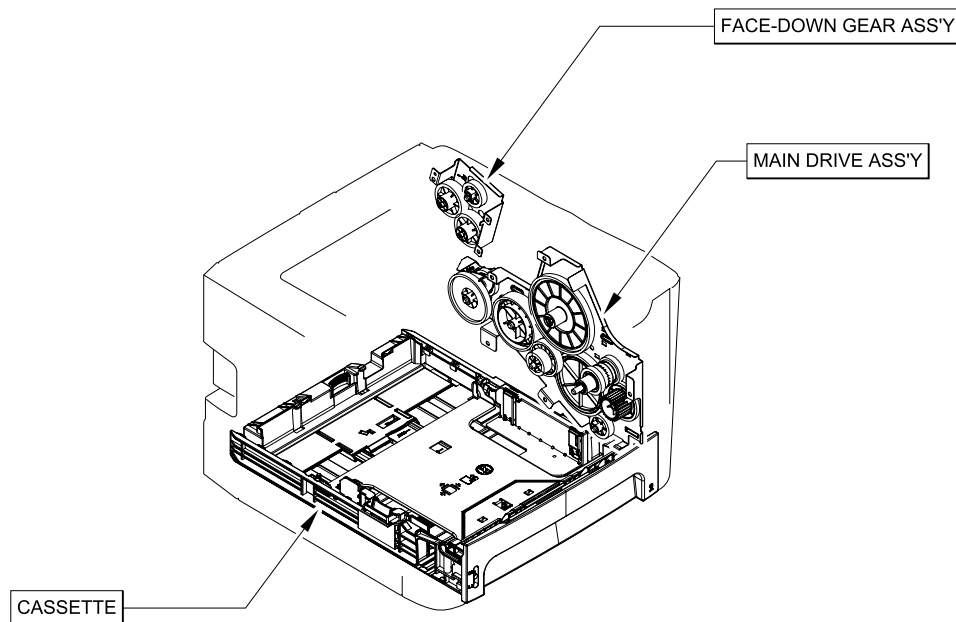
Printer supplies are listed in this chapter. Consumables are available directly from HP at the following numbers.

- US: 800-538-8787
- Canada: 800-387-3154 (in Toronto: 416-671-8383)
- United Kingdom: 0734-441212
- Germany: 0130-3322

Contact your local HP Parts Coordinator for other local phone numbers.



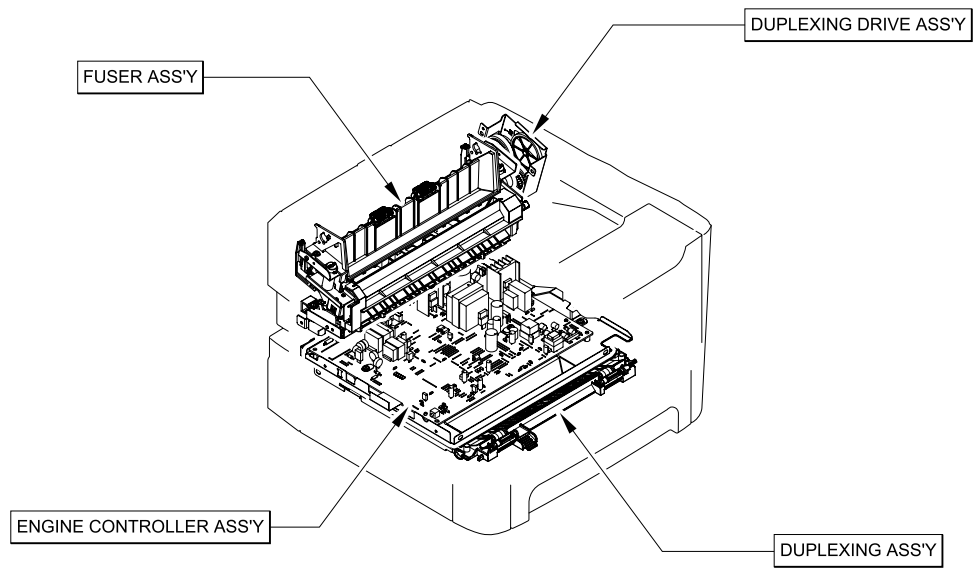
## Assembly locations



**Figure 8-1** Assembly locations (1 of 2)

**Table 8-2** Assembly locations (1 of 2)

Ref	Description	Part number	Qty
	Face-down gear assembly	RM1-1305-000	
	Main drive assembly	RM1-4253-000	
	Cassette	RM1-4251-000	
	Registration assembly	RM1-4244-000	1

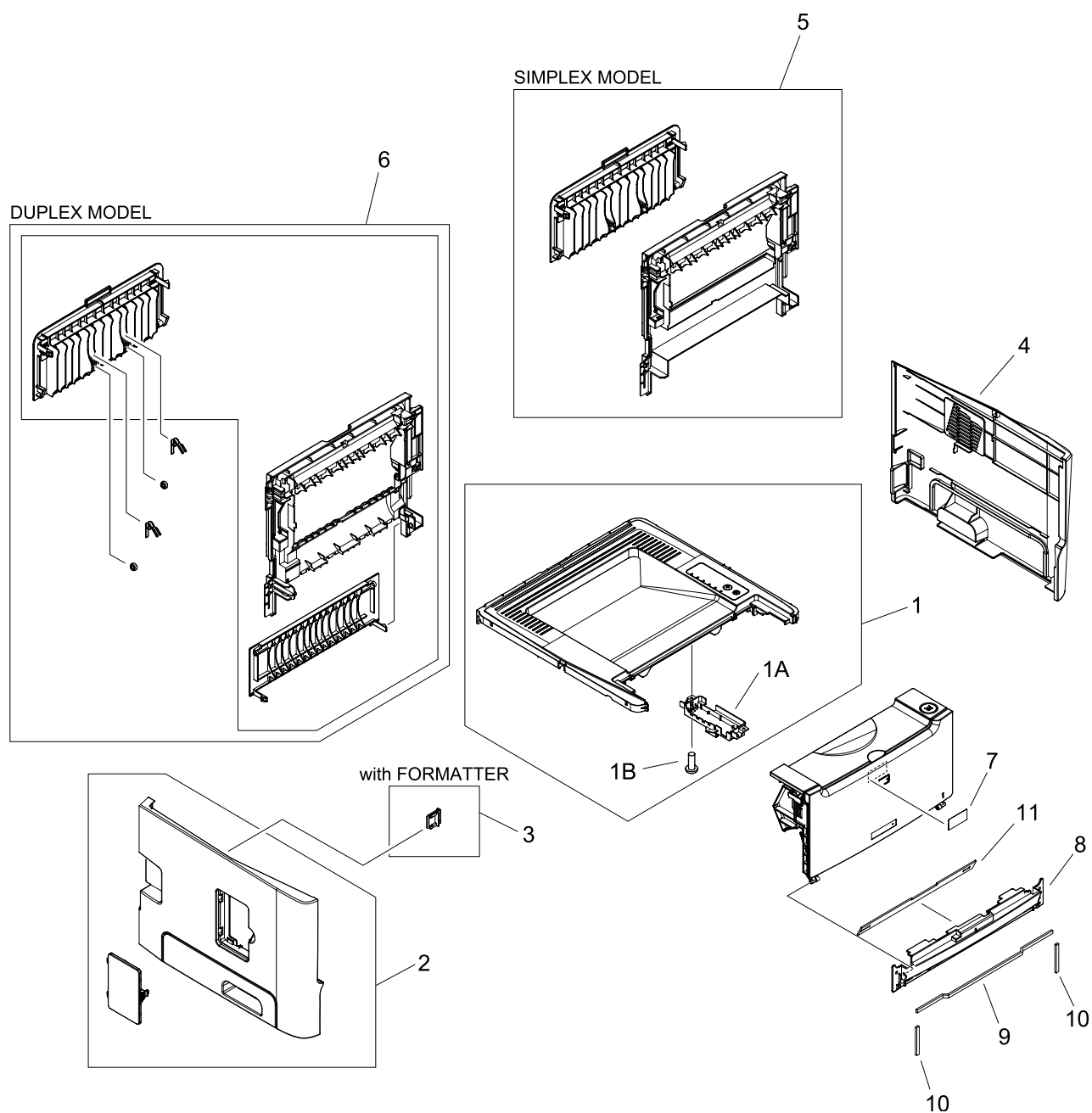


**Figure 8-2** Assembly locations (2 of 2)

**Table 8-3** Assembly locations (2 of 2)

Ref	Description	Part number	Qty
	Fuser assembly (110 V)	RM1-4247-000	1
	Fuser assembly (220 V)	RM1-4248-000	
	Duplex-drive assembly	RM1-4255-000	
	Duplexing assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4258-000	
	ECU assembly (110 V)	RM1-4273-000	
	ECU assembly (220 V)	RM1-4273-000	

# Covers

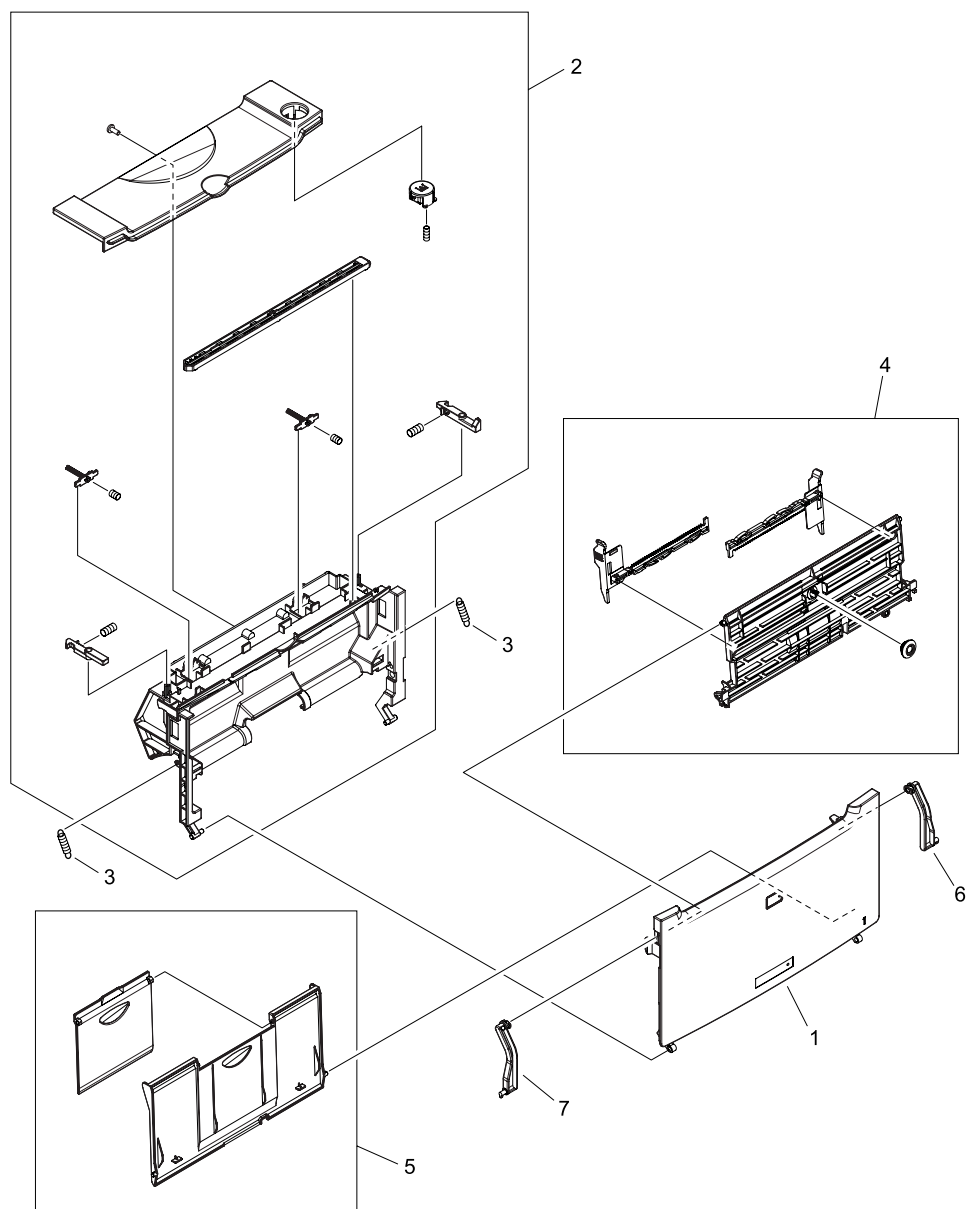


**Figure 8-3** Covers



**Table 8-4** Covers

Ref	Description	Part number	Qty
1	Top cover assembly	RM1-4272-000	1
1A	Holder, panel PCB	RC2-0316-000	1
1B	Screw, tap, binding head, M3x8	XB4-7300-809	2
2	Left cover assembly	RL1-1529-000	1
3	Cover, connector	RC2-0332-000	1
4	Right cover assembly	RL1-1530-000	1
5	Rear cover assembly (HP LJ P2015)	RM1-4277-000	1
6	Rear cover assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4270-000	1
7	Label, stapler prohibition	RC1-3794-000	1
8	Cover, front	RC2-0330-000	1
9	Sheet, noise absorb	RC2-0312-000	1
10	Sheet, noise absorb	RC2-0311-000	2
11	Sheet, insulator	RC2-0314-000	1

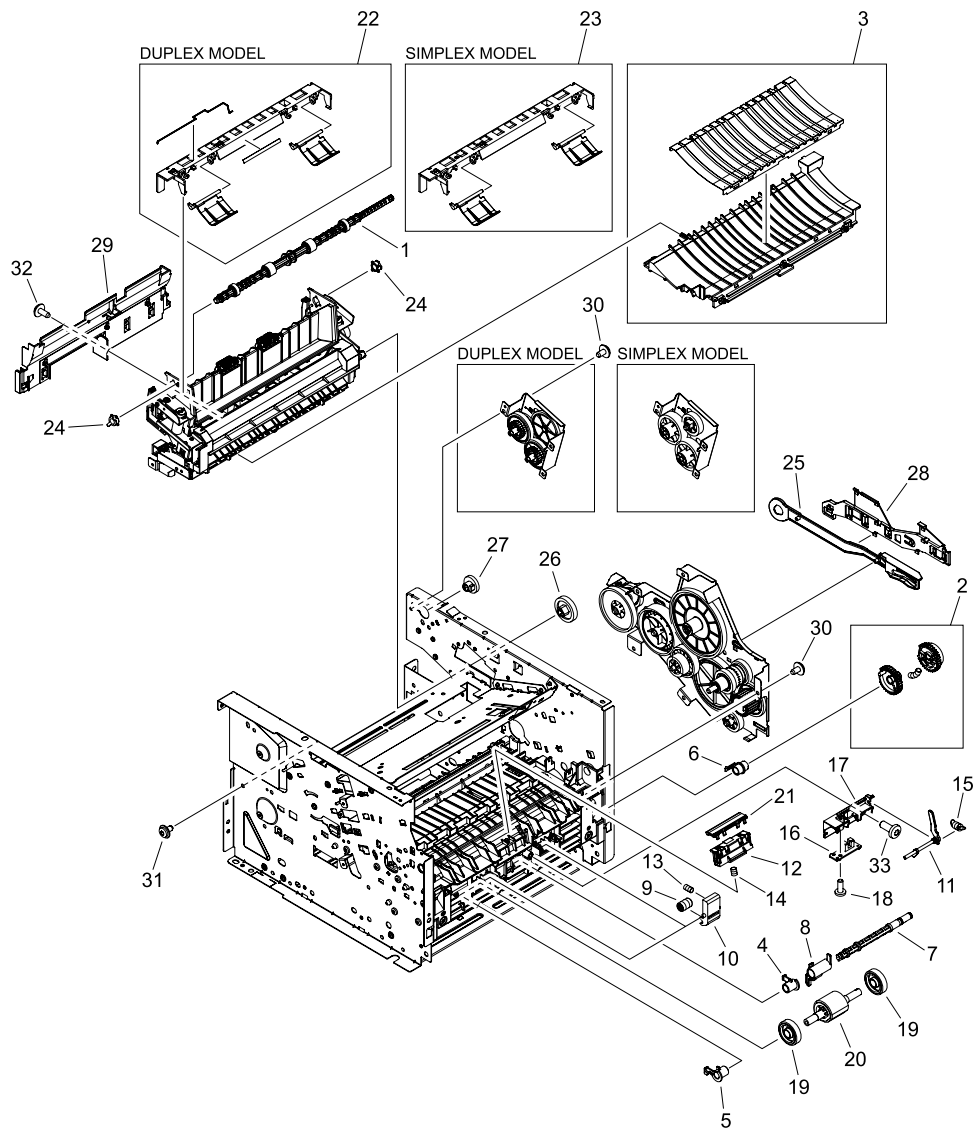


**Figure 8-4** Cartridge-door assembly

**Table 8-5** Cartridge-door assembly

Ref	Description	Part number	Qty
	Cartridge-door assembly	RM1-4266-000	1
1	Cover, multipurpose	RM2-0407-000	1
2	Inner cover assembly	RM1-4267-000	1
3	Spring, tension	RU5-2895-000	2
4	M.P. lifting-plate assembly	RM1-4268-000	1
5	Expansion-tray assembly	RM1-4269-000	1
6	Hinge, multipurpose, right	RC2-0422-000	1
7	Hinge, multipurpose, left	RC2-0421-000	1

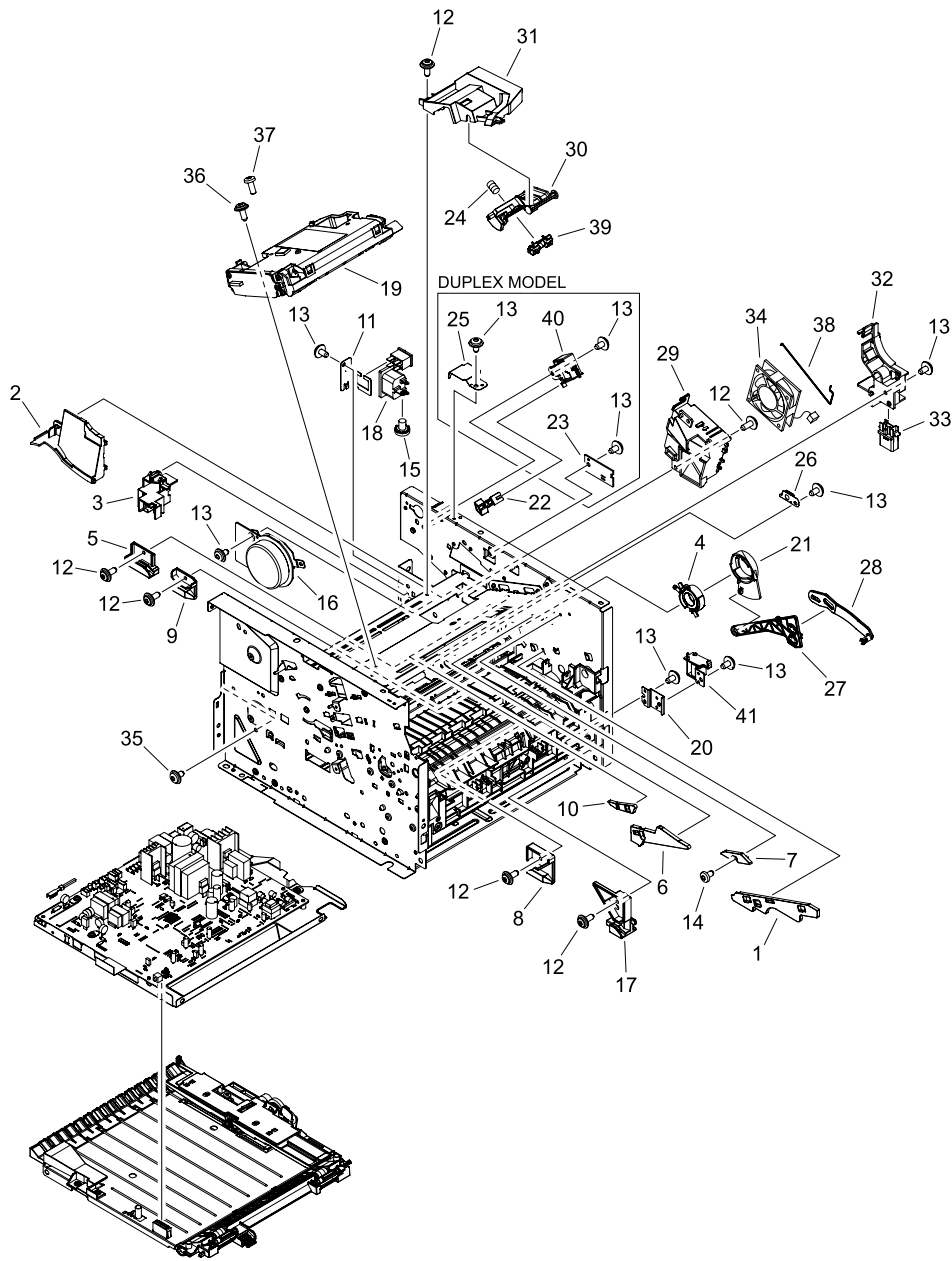
## Internal assemblies



**Figure 8-5** Internal components (1 of 4)

**Table 8-6** Internal components (1 of 4)

Ref	Description	Part number	Qty
1	Roller, face-down	RL1-0527-000	1
2	Paper pick-up gear assembly	RM1-1301-000	1
3	Paper-feed guide assembly	RM1-4263-000	1
4	Bushing, right	RB2-2895-000	1
5	Bushing, left	RB2-2896-000	1
6	Bushing	RB2-2897-000	1
7	Shaft, paper pick-up drive	RC1-3471-000	1
8	Flag, paper-sensing	RC1-3472-000	1
9	Roller, idler	RC1-3481-000	2
10	Arm, idler roller	RC1-3482-000	2
11	Flag, M.P. sensor	RC2-0415-000	1
12	Base, separation pad	RC2-0419-000	1
13	Spring, compression	RU5-2323-000	2
14	Spring compression	RU5-2894-000	1
15	Spring, tension	RU5-2898-000	1
16	M.P. sensor PCB assembly	RM1-4162-000	1
17	Holder, M.P. sensor	RC2-0414-000	1
18	Screw, tap, binding head, M3x8	XB4-7300-809	1
19	Roller, paper pickup idler	RC1-3470-000	2
20	Roller, paper pick-up	RL1-0540-000	1
21	Pad, M.P. separation	RL1-1524-000	1
22	Paper-retaining assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4265-000	1
23	Paper retaining assembly (HP LJ P2015)	RM1-4276-000	1
24	Bushing	RC1-3665-000	2
25	Link, gear release	RC1-3668-000	1
26	Gear, 29T	RU5-0331-000	1
27	Gear, 19T	RU5-0332-000	1
28	Guide, cable	RC2-1569-000	1
29	Guide, reverse	RC2-0323-000	1
30	Screw, RS, M3x6	XA9-1495-000	7
31	Screw, tap, M3x6	XA9-1503-000	6
32	Screw, RS, M3x8	XA9-1504-000	1
33	Screw, tapping, truss head, M4x10	XB4-7401-005	1



**Figure 8-6** Internal components (2 of 4)