

3. Remove one screw (callout 4).


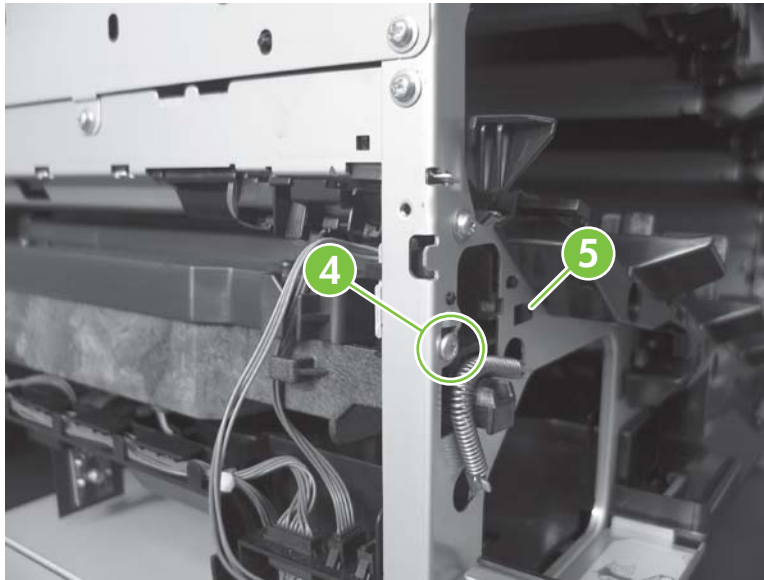
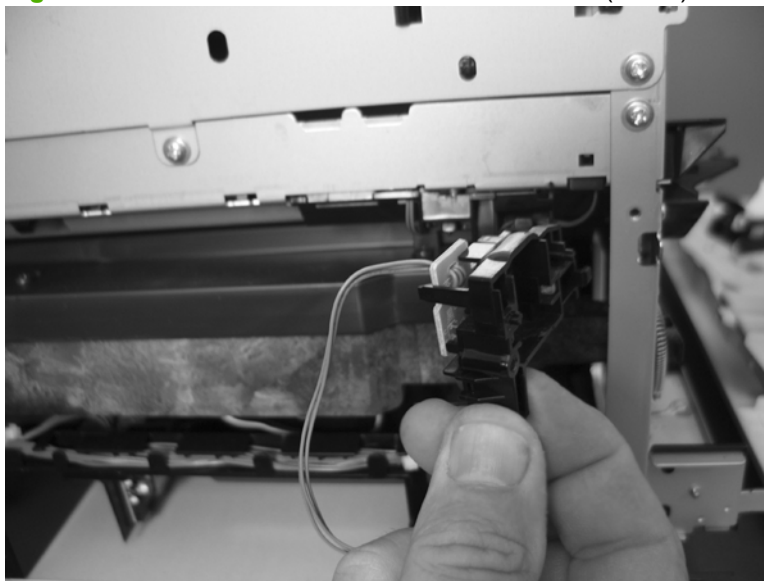
 **Reinstallation tip** When you reinstall the sensor, make sure that the tab (callout 5) on the sensor body completely engages the slot in the product chassis.

Figure 6-177 Remove the toner-collection sensor (3 of 4)



4. Remove the toner-collection sensor.

Figure 6-178 Remove the toner-collection sensor (4 of 4)




Residual-toner-feed motor

Before proceeding, remove the following components:

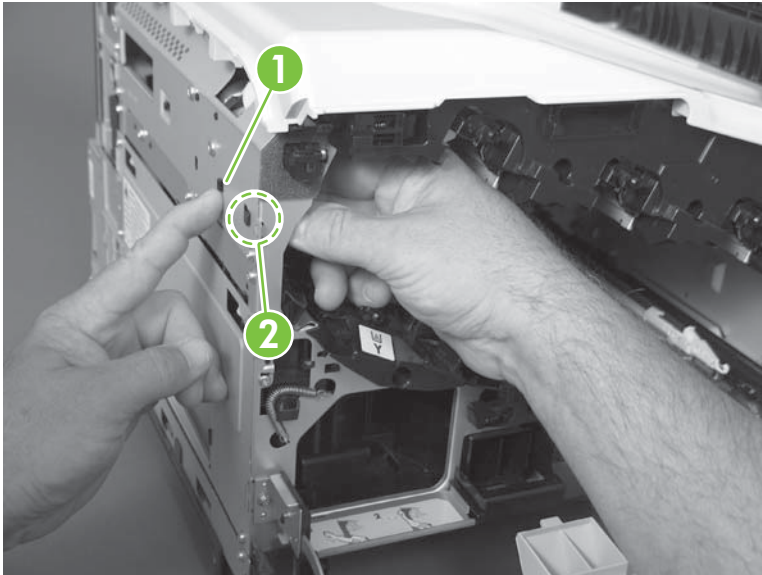
- Toner-collection unit. See [Toner-collection unit on page 190](#).
- Intermediate transfer belt (ITB). See [Intermediate transfer belt \(ITB\) on page 209](#).
- Left cover. See [Left cover on page 233](#).

Remove the residual-toner-feed motor

 **NOTE:** Be careful. Do not dislodge the residual-toner collection door when you remove the assembly. If the door becomes dislodged, see [Reinstall the residual-toner collection door on page 296](#) to reinstall it.

1. Release one tab (callout 1) while you support the cover (callout 2).

Figure 6-179 Remove the residual-toner-feed motor (1 of 7)



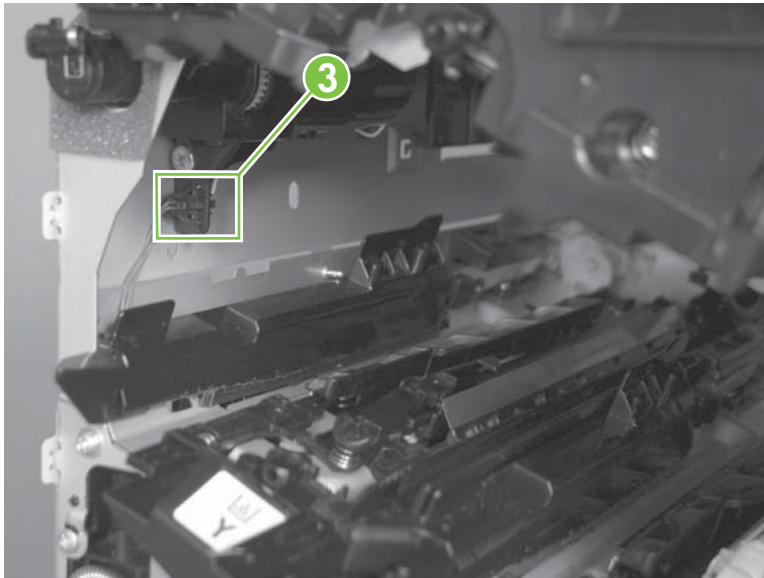
2. Remove the cover.

Figure 6-180 Remove the residual-toner-feed motor (2 of 7)



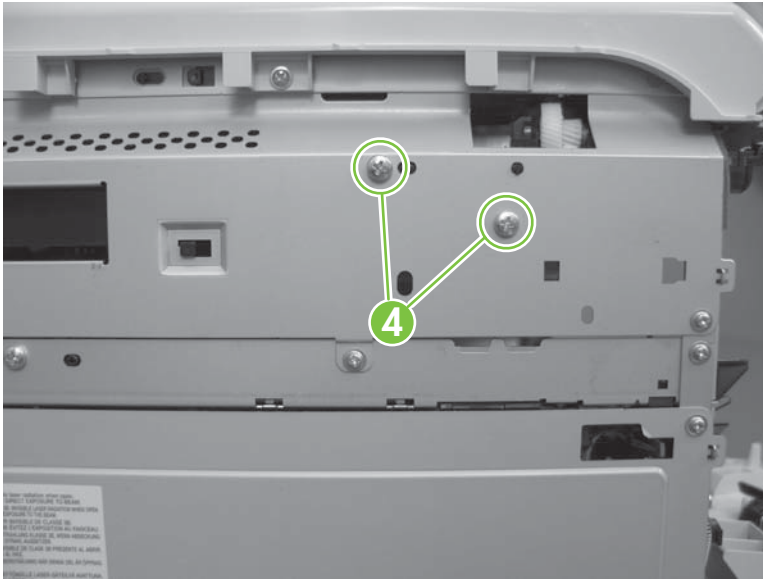
3. Disconnect one connector (callout 3).

Figure 6-181 Remove the residual-toner-feed motor (3 of 7)



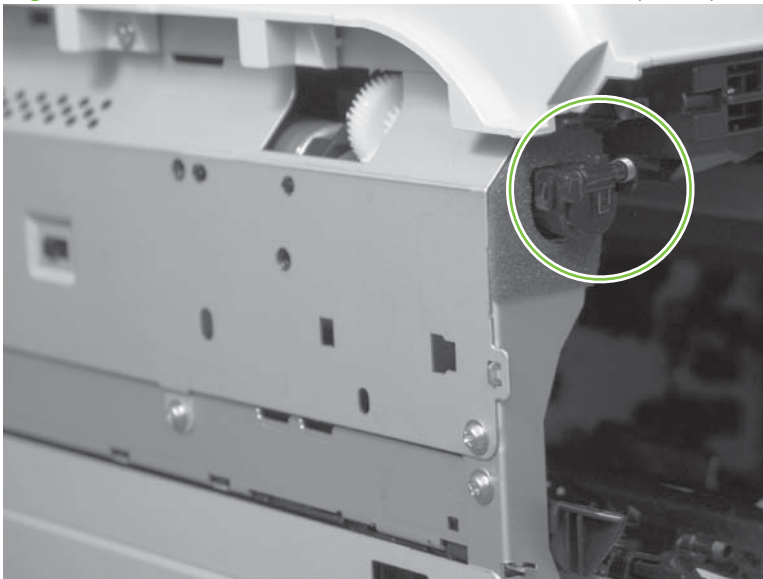
4. Support the assembly, and then remove two screws (callout 4).

Figure 6-182 Remove the residual-toner-feed motor (4 of 7)



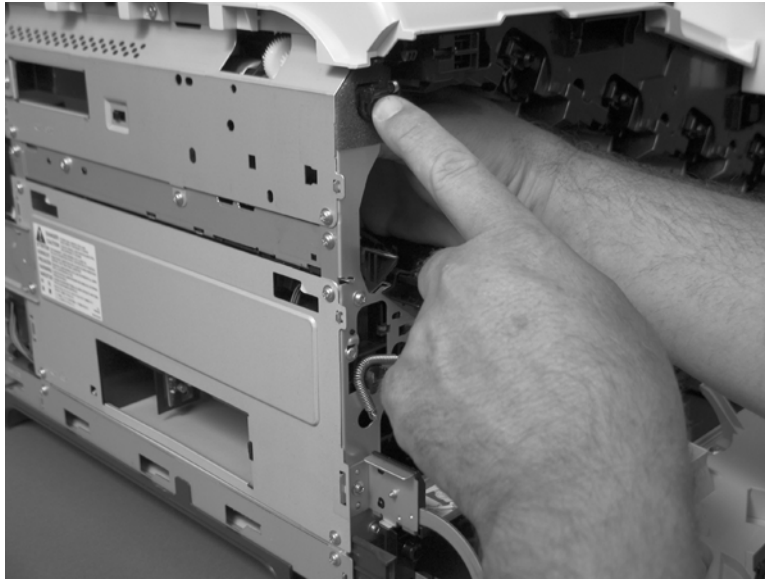
5. Be careful. Do not dislodge the residual-toner collection door when you remove the assembly. If the door becomes dislodged, see [Reinstall the residual-toner collection door on page 296](#) to reinstall it.

Figure 6-183 Remove the residual-toner-feed motor (5 of 7)



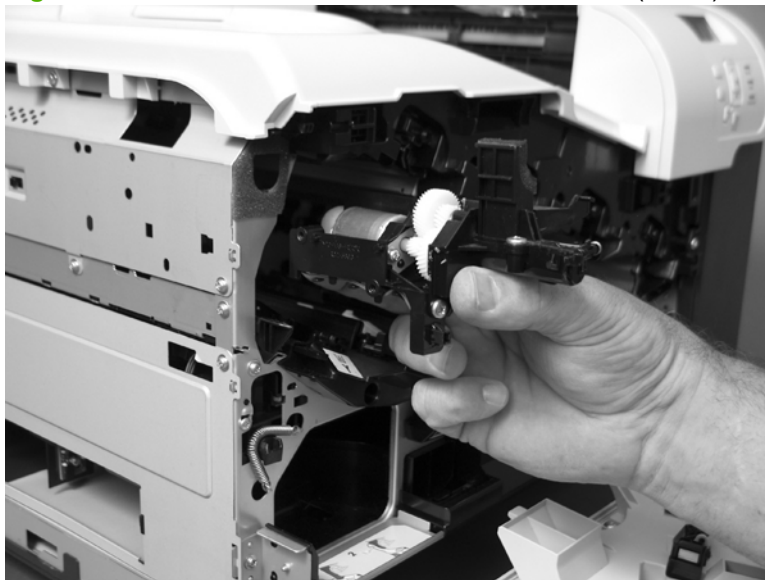
6. Push the assembly into the product to release it.

Figure 6-184 Remove the residual-toner-feed motor (6 of 7)



7. Remove the motor.

Figure 6-185 Remove the residual-toner-feed motor (7 of 7)



Reinstall the residual-toner collection door

Snap the residual-toner collection door into the holders on the assembly. Make sure that the spring is correctly installed.

Figure 6-186 Reinstall the residual-toner collection door



Registration density (RD) sensor assembly

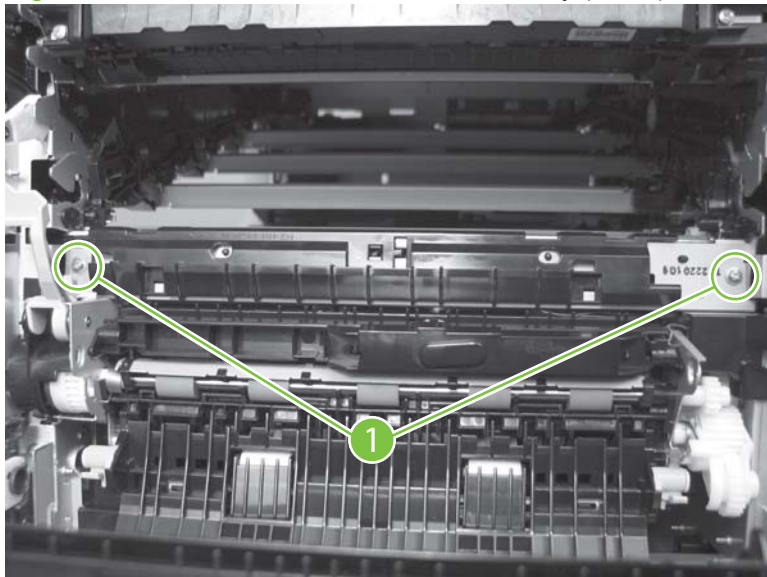
Before proceeding, remove the following components:

- Secondary transfer assembly. See [Secondary transfer assembly on page 207](#).
- Intermediate transfer belt (ITB). See [Intermediate transfer belt \(ITB\) on page 209](#).

Remove the RD sensor assembly

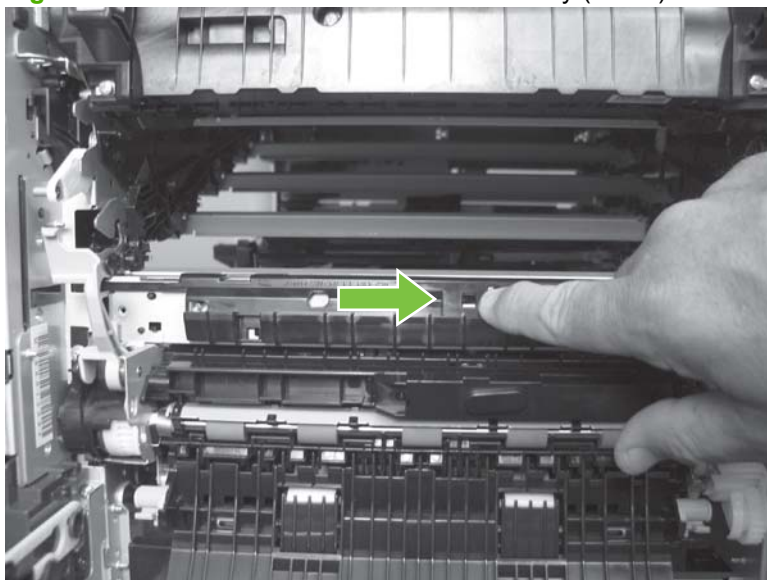
1. Remove two screws (callout 1).

Figure 6-187 Remove the RD sensor assembly (1 of 6)



2. Slide the shutter toward the right side of the product. Keep the shutter in this position for the following step.

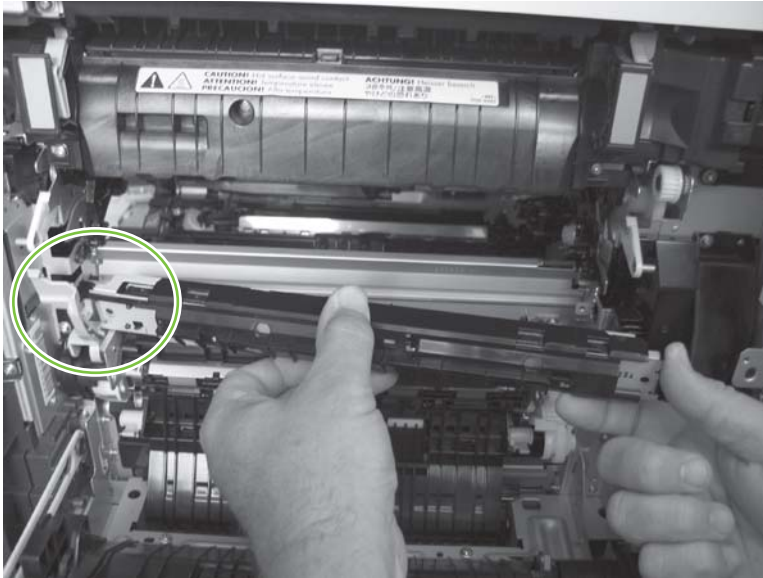
Figure 6-188 Remove the RD sensor assembly (2 of 6)



3. Carefully separate the assembly from the product. The assembly wire harnesses are still attached to the product.

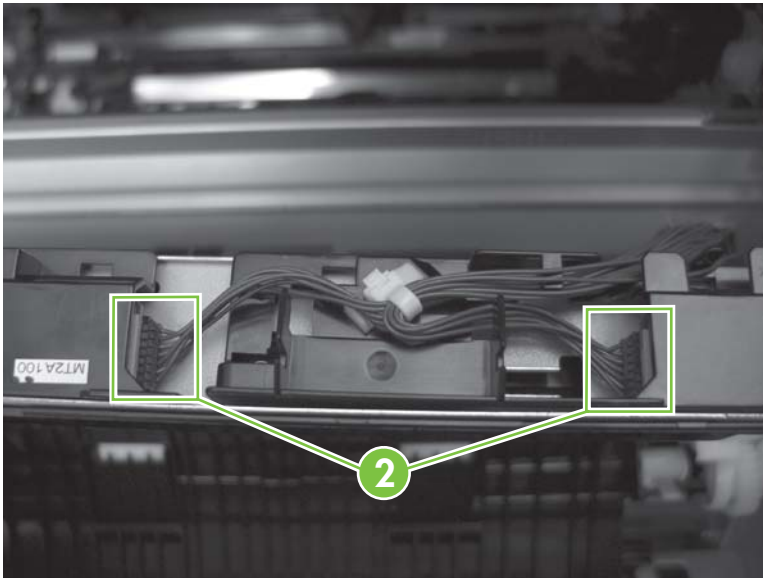
△ **CAUTION:** Do not damage the shutter as it passes through the chassis.

Figure 6-189 Remove the RD sensor assembly (3 of 6)



4. Disconnect two connectors (callout 2) on the back side of the assembly.

Figure 6-190 Remove the RD sensor assembly (4 of 6)



5. Push in on the locking tab to release the retainer (callout 3), and then separate the retainer from the assembly.


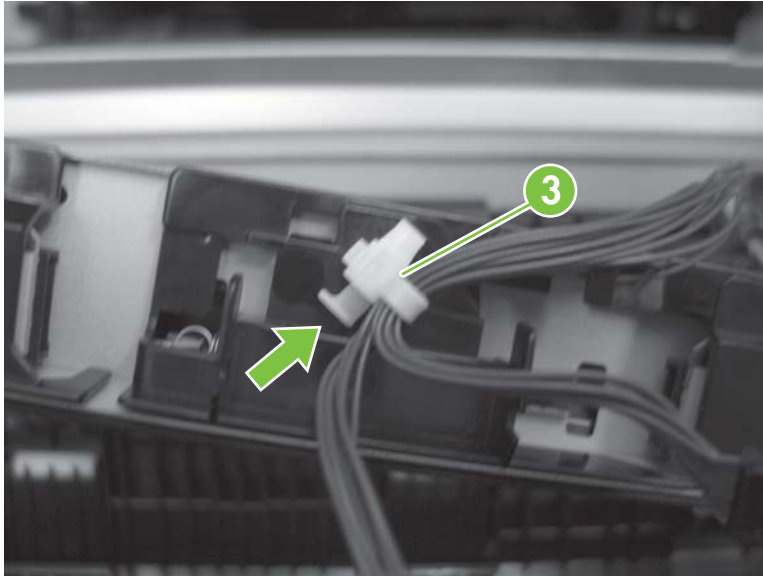
 **NOTE:** The retainer remains attached to the wire harness, and disengages from the assembly.

Figure 6-191 Remove the RD sensor assembly (5 of 6)



6. Remove the assembly.

Figure 6-192 Remove the RD sensor assembly (6 of 6)



Power-supply fan and fan duct

Before proceeding, remove the following components:

- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).

Remove the power-supply fan and fan duct

1. Disconnect one connector (callout 1; J119) and release the wire harnesses from the guide (callout 2).


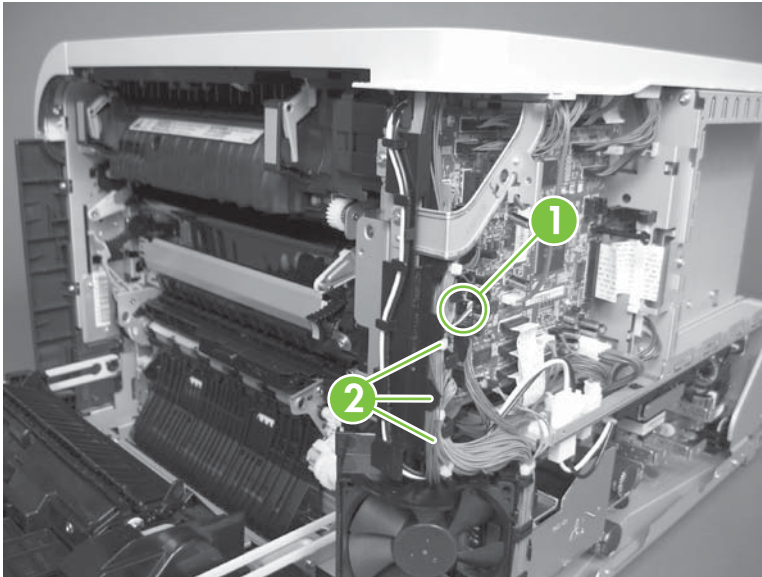
 **NOTE:** To locate DC controller connector locations, see [DC controller PCA on page 183](#).

Figure 6-193 Remove the power-supply fan (1 of 4)



2. **To remove the fan only:** Release two tabs (callout 3), and then remove the fan from the fan duct.


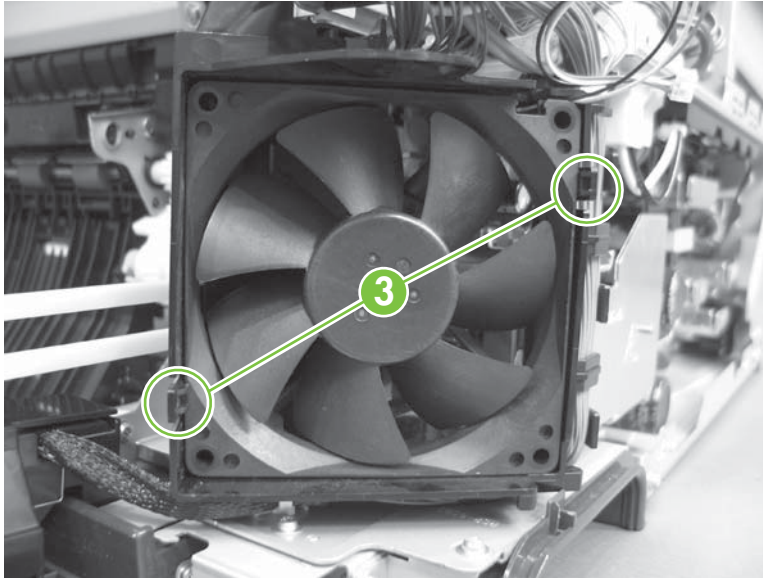
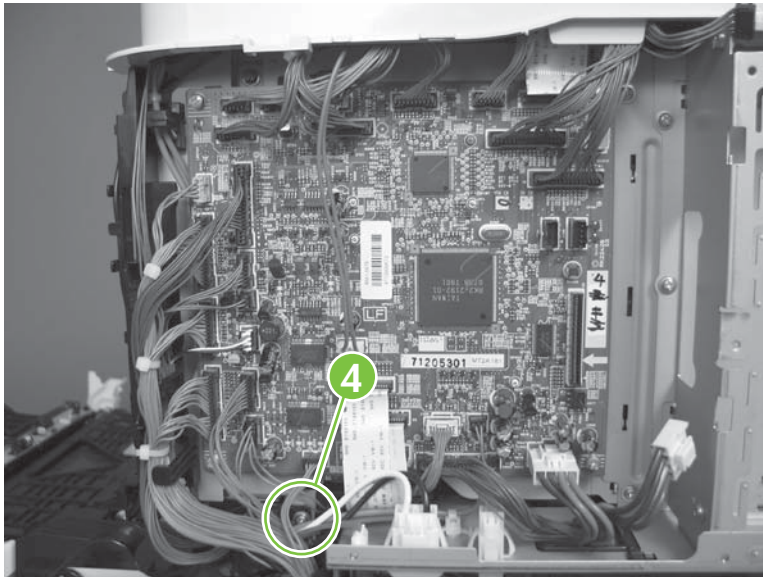
 **Reinstallation tip** When the fan is reinstalled, the air must flow into the product. Look at the arrows embossed on the fan frame that indicate air flow direction.

Figure 6-194 Remove the power-supply fan (2 of 4)



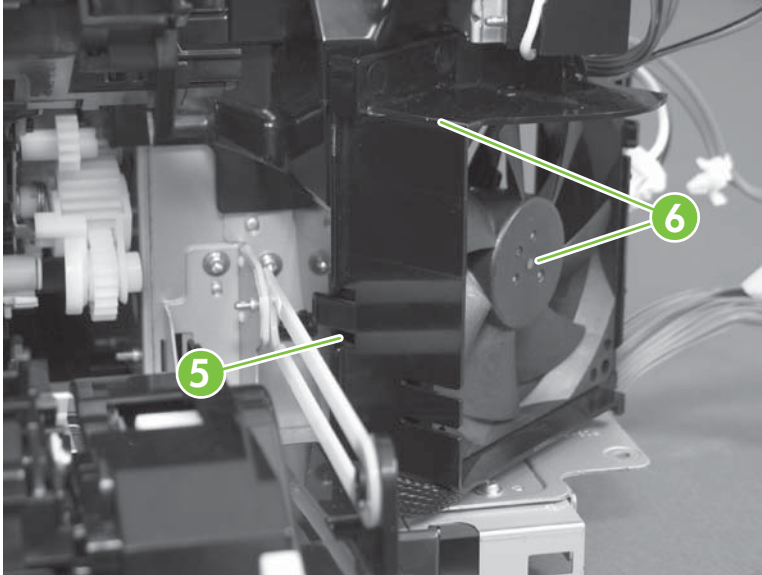
3. **To remove the fan and fan duct:** Remove one screw (callout 4), and then release the wire harnesses from the guides on the fan duct.

Figure 6-195 Remove the power-supply fan (3 of 4)



4. **To remove the fan and fan duct:** Release one tab (callout 5), and then remove the fan and fan duct (callout 6).


Figure 6-196 Remove the power-supply fan (4 of 4)



Registration assembly


Before proceeding, remove the following components:

- Secondary transfer assembly. See [Secondary transfer assembly on page 207](#).
- Intermediate transfer belt (ITB). See [Intermediate transfer belt \(ITB\) on page 209](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear cover. See [Rear cover on page 238](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Registration density (RD) sensor assembly. See [Registration density \(RD\) sensor assembly on page 297](#).

 **TIP:** Removing the RD sensor assembly makes it much easier to reinstall the registration assembly.

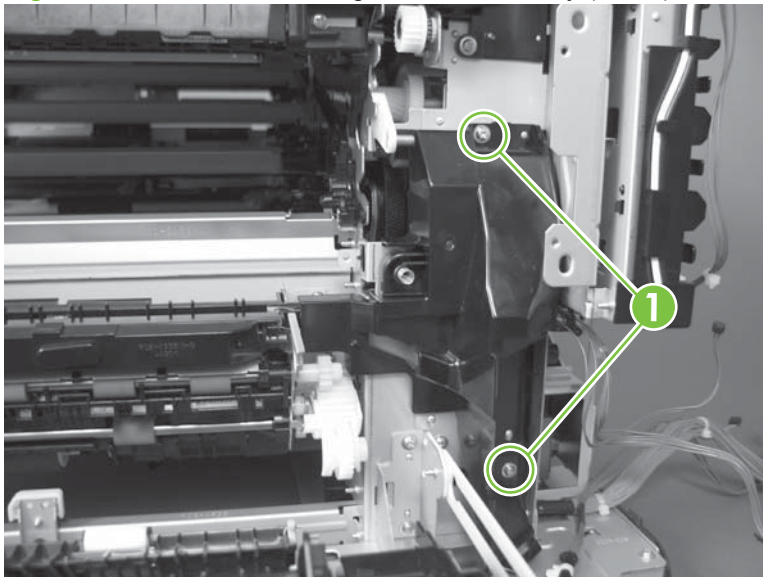
- Power-supply fan and fan duct. See [Power-supply fan and fan duct on page 300](#).

Remove the registration assembly

 **NOTE:** If a replacement registration assembly is installed, you must use the control-panel menus to reset the registration-roller count.

1. Remove two screws (callout 1).

Figure 6-197 Remove the registration assembly (1 of 8)



2. Pull down on the cover to release one tab, and then rotate the cover away from the product to remove it.

Figure 6-198 Remove the registration assembly (2 of 8)



3. Release two green latches (callout 2), and then lower the feed guide.


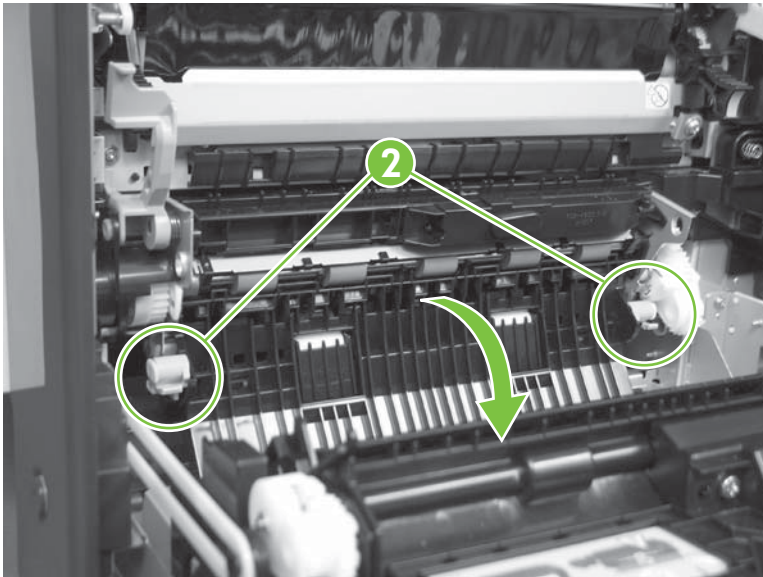
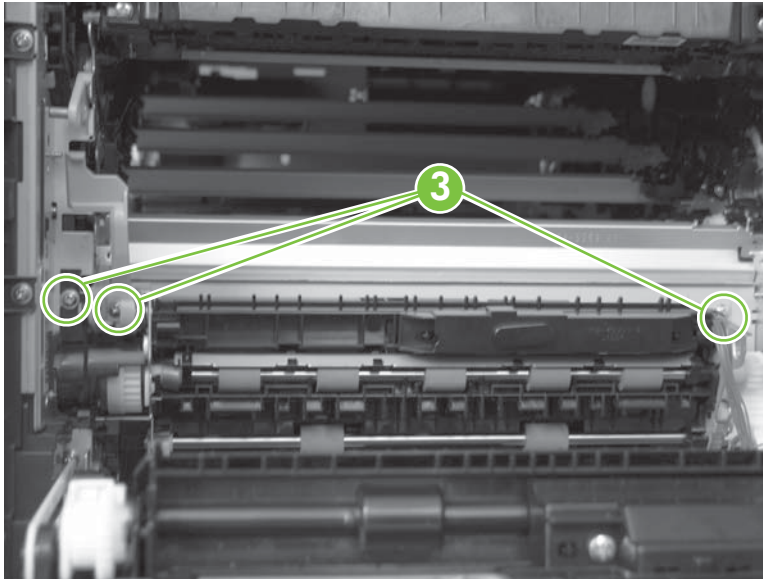
 **Reinstallation tip** Make sure that the feed guide snaps into the closed position when you reinstall the registration assembly.

Figure 6-199 Remove the registration assembly (3 of 8)



4. Remove three screws (callout 3).

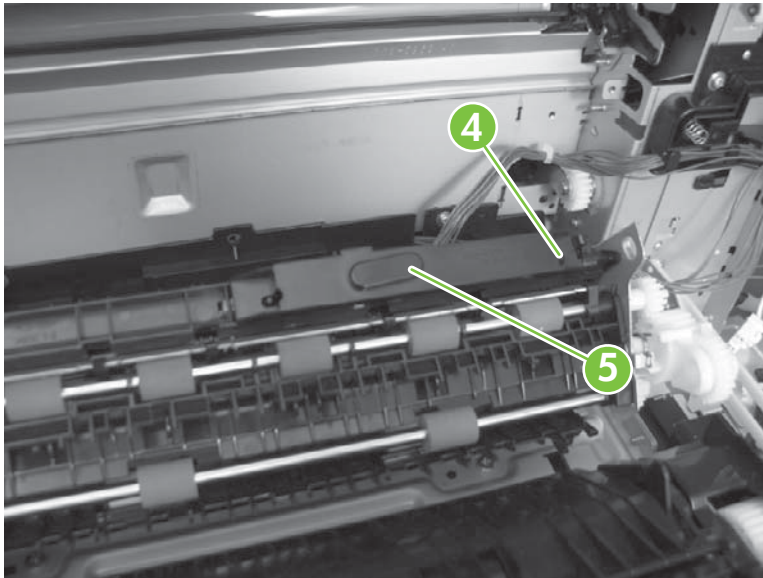
Figure 6-200 Remove the registration assembly (4 of 8)



5. Separate the assembly from the product, release one tab (callout 4), and then remove the cover (callout 5).

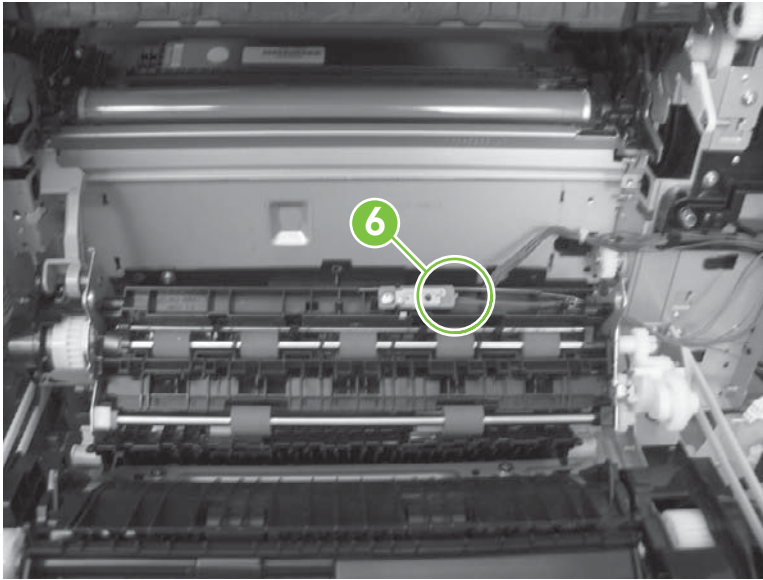
△ **CAUTION:** The assembly is still attached to the product by the wire harnesses.

Figure 6-201 Remove the registration assembly (5 of 8)



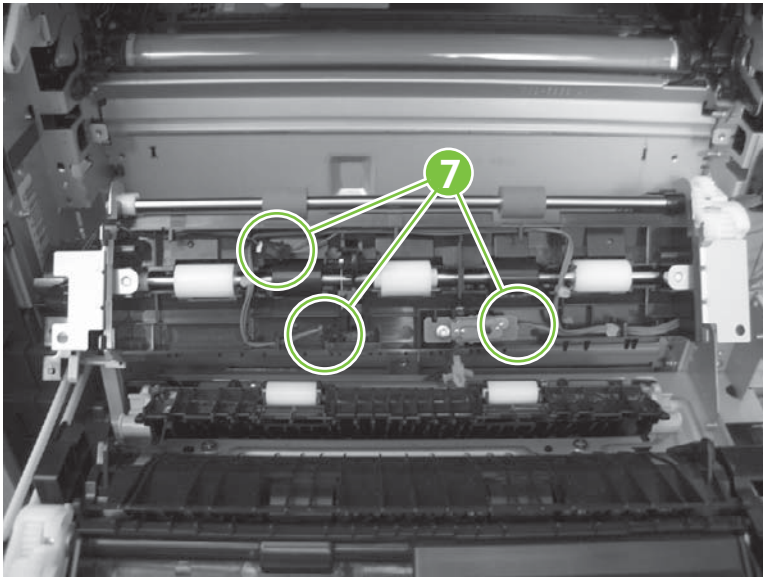
6. Disconnect one connector (callout 6), and then release the wire harness from the retainer.

Figure 6-202 Remove the registration assembly (6 of 8)



7. Disconnect three connectors (callout 7) on the back side of the assembly, and then release the wires from the retainers.

Figure 6-203 Remove the registration assembly (7 of 8)



8. Remove the assembly.


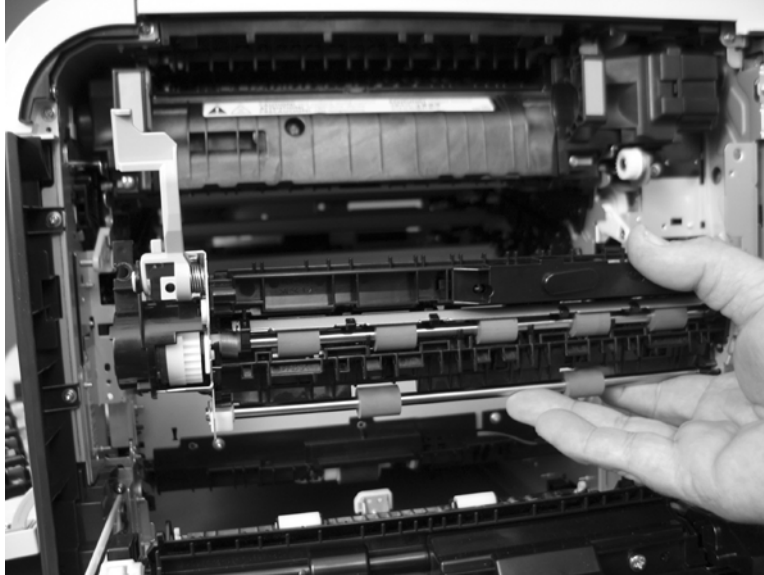
 **Reinstallation tip** When you reinstall the registration assembly, make sure that it is correctly positioned in the product. The tabs on the assembly must fit into the slots in the product chassis and the assembly should fit securely up against the product chassis.


Figure 6-204 Remove the registration assembly (8 of 8)



High-voltage power supply lower

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).

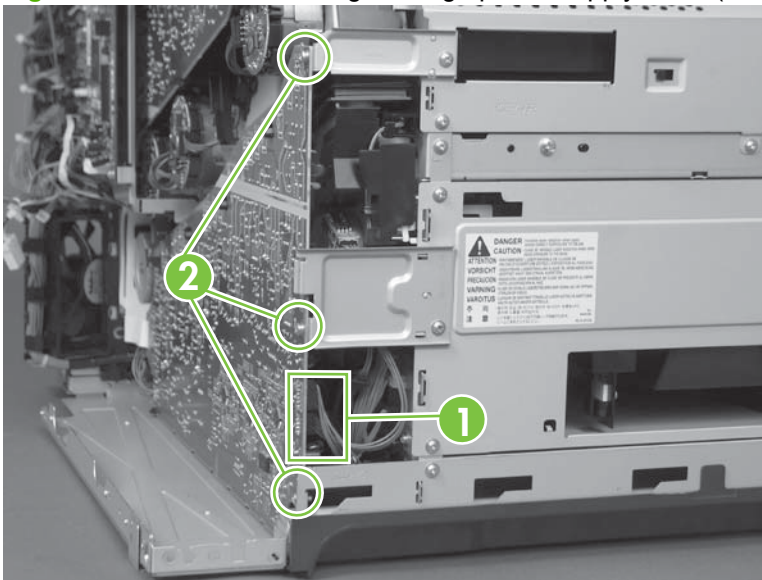
Remove the high-voltage power supply lower



CAUTION:  ESD-sensitive part.

1. Disconnect two connectors (callout 1), and then remove three screws (callout 2).

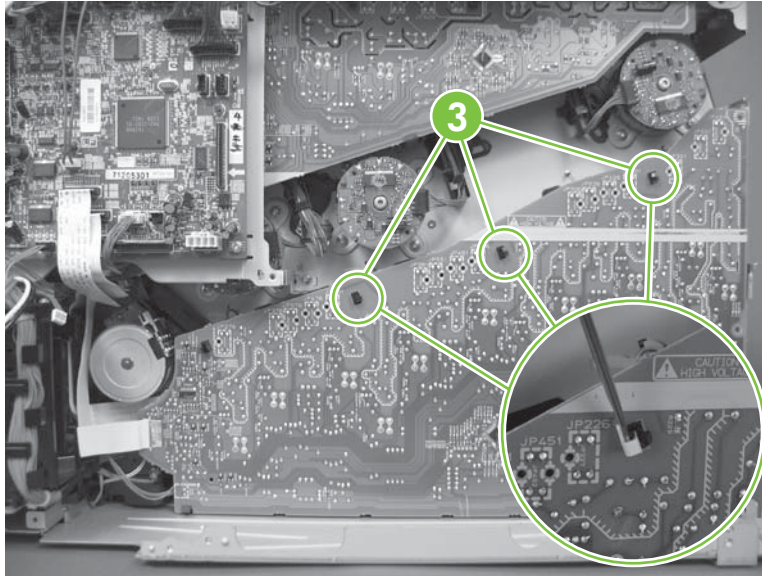
Figure 6-205 Remove the high-voltage power supply lower (1 of 4)



2. Use a small flat blade screwdriver to carefully remove three locking clips (callout 3).

△ **CAUTION:** Do not damage the PCA with the screwdriver.

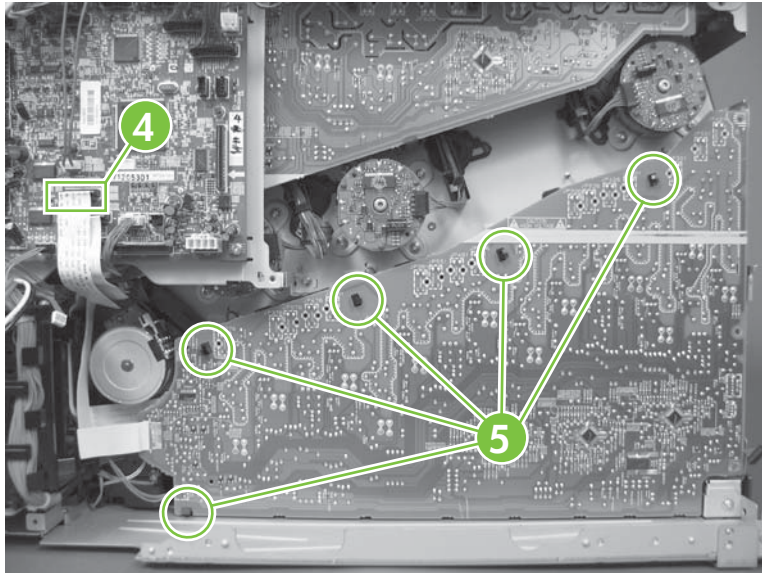
Figure 6-206 Remove the high-voltage power supply lower (2 of 4)



3. Disconnect one connector (callout 4; J114), and then release five clips (callout 5).

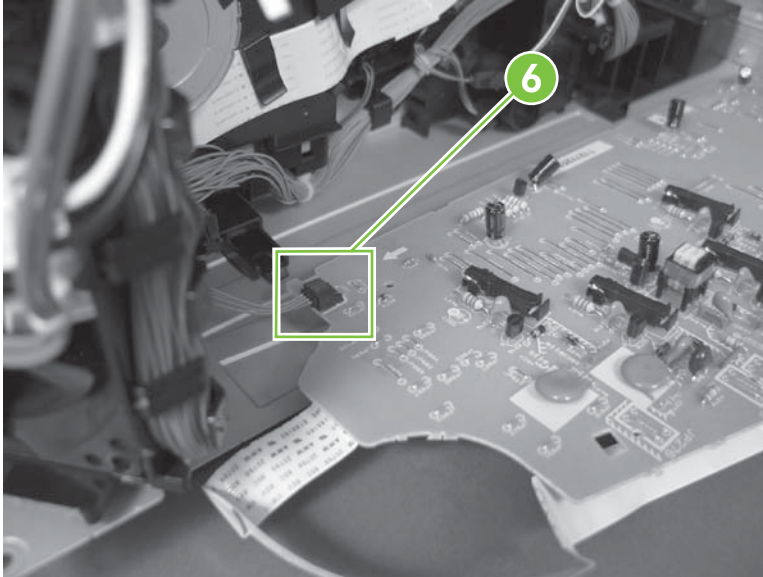
📝 **NOTE:** To locate DC controller connector locations, see [DC controller PCA on page 183](#).

Figure 6-207 Remove the high-voltage power supply lower (3 of 4)



4. Rotate the top of the power supply away from the chassis, and then disconnect one connector (callout 6). Remove the power supply

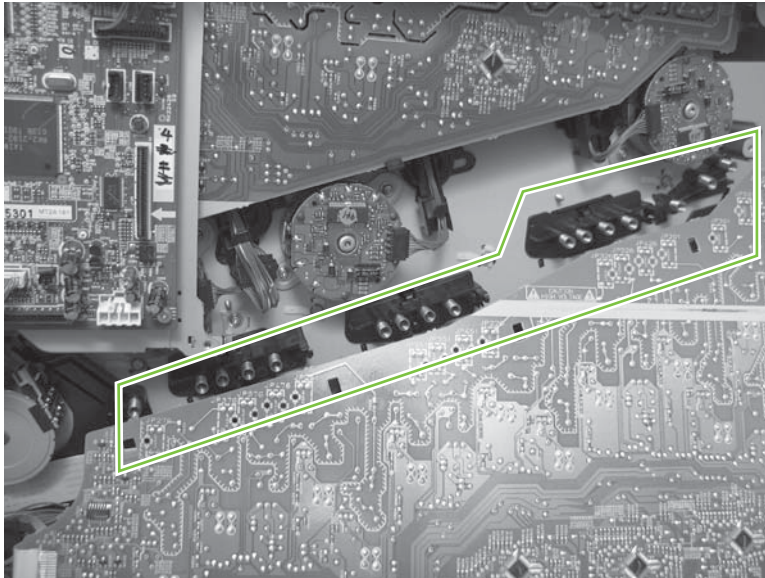
Figure 6-208 Remove the high-voltage power supply lower (4 of 4)



Reinstall the high-voltage power supply lower

When you reinstall the power supply, look through the holes in the PCA and make sure that the high-voltage contact springs are correctly seated against the PCA.


Figure 6-209 Reinstall the high-voltage power supply lower



Developing-disengagement motor

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

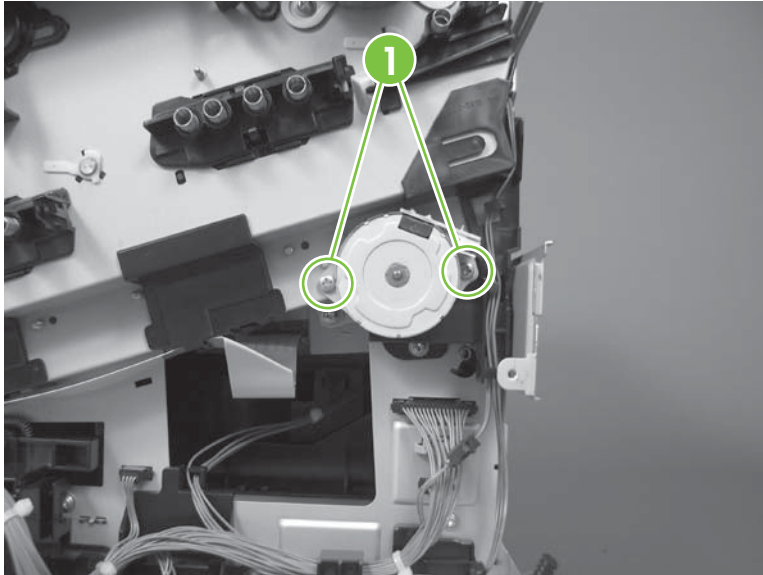
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).

Remove the developing-disengagement motor

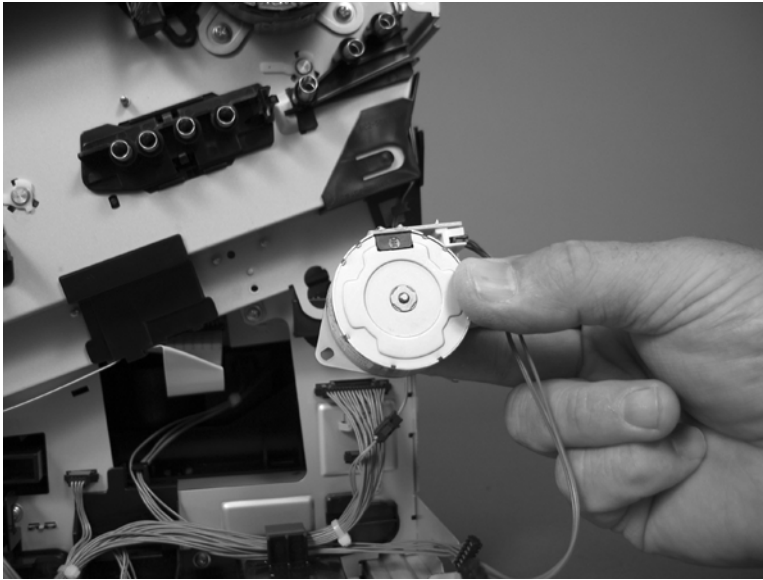
1. Remove two screws (callout 1).

Figure 6-210 Remove the developing-disengagement motor (1 of 2)



2. Remove the motor.


Figure 6-211 Remove the developing-disengagement motor (2 of 2)



Pickup motor

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

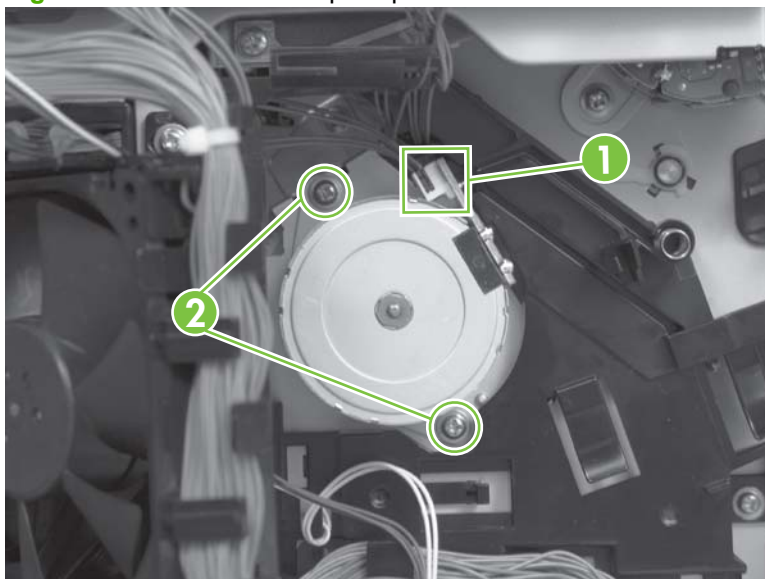
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- Low-voltage power supply. See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).

Remove the pickup motor

Disconnect one connector (callout 1), remove two screws (callout 2), and then remove the motor.


Figure 6-212 Remove the pickup motor



Lifter-drive assembly

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

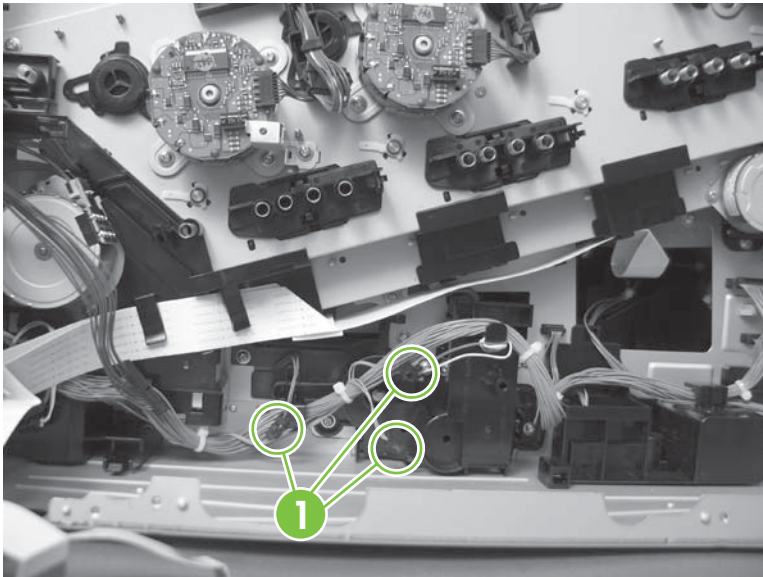
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).

Remove the lifter-drive assembly

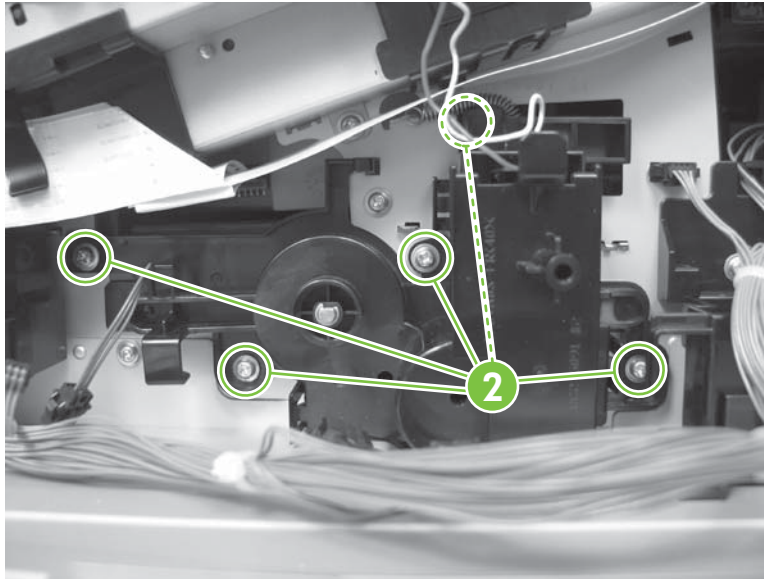
1. Disconnect three connectors (callout 1), and then release the wire harness from the retainers.

Figure 6-213 Remove the lifter-drive assembly (1 of 2)



2. Remove five screws (callout 2), and then remove the assembly.


Figure 6-214 Remove the lifter-drive assembly (2 of 2)



Cassette-pickup drive assembly

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

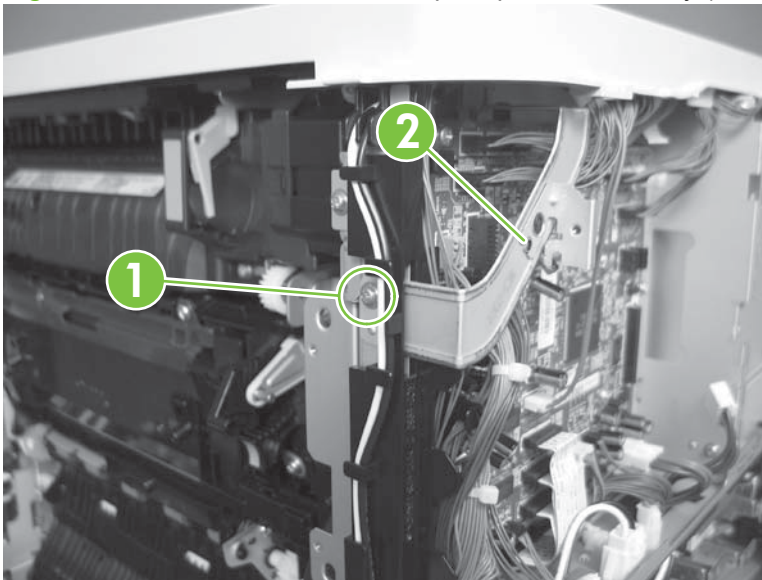
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).

Remove the cassette-pickup drive assembly

 **NOTE:** To remove the pickup motor only, see [Pickup motor on page 313](#).

1. Remove one screw (callout 1), and then remove the sheet-metal bracket (callout 2).

Figure 6-215 Remove the cassette-pickup drive assembly (1 of 10)



2. Disconnect six connectors (callout 3; J106, J107, J108, J137, J138, J140).


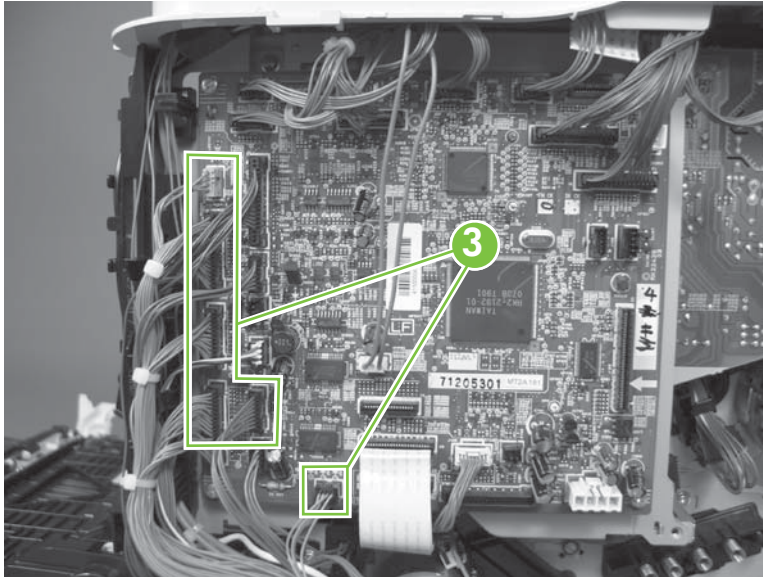
 **NOTE:** To locate DC controller connector locations, see [DC controller PCA on page 183](#).

Figure 6-216 Remove the cassette-pickup drive assembly (2 of 10)



3. Disconnect one connector (callout 4; J119), remove one screw (callout 5), and then release the wire harness from the guides.


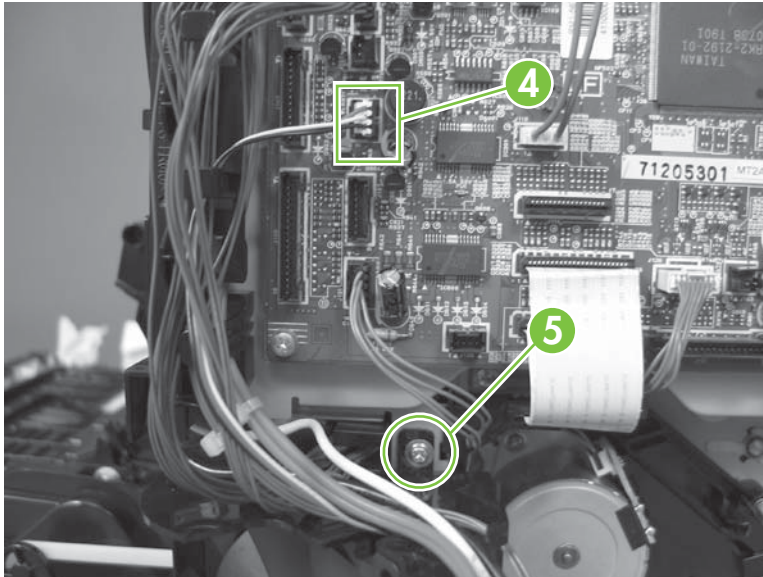
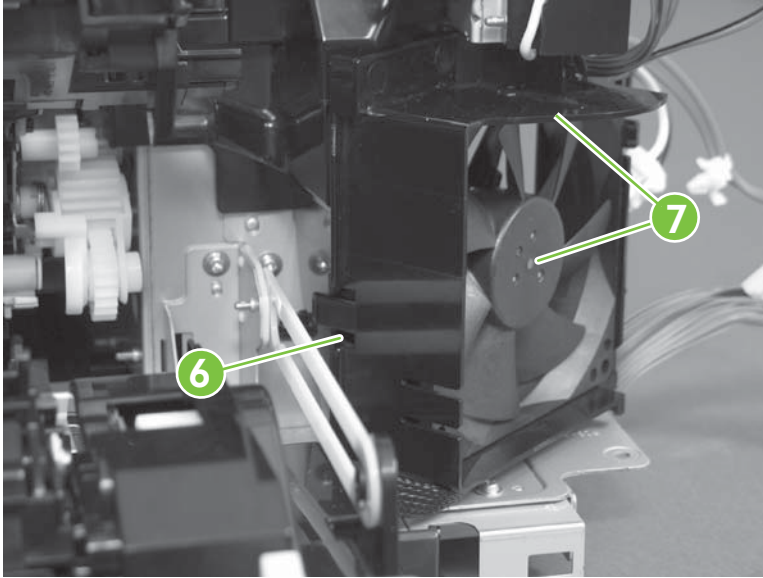
 **NOTE:** To locate DC controller connector locations, see [DC controller PCA on page 183](#).

Figure 6-217 Remove the cassette-pickup drive assembly (3 of 10)



4. Release one tab (callout 6), and then remove the fan and fan duct (callout 7).

Figure 6-218 Remove the cassette-pickup drive assembly (4 of 10)



5. Disconnect five connectors (callout 8; J110, J111 on the DC controller PCA), release the FFCs from the guide (callout 9), and then release the wire harnesses from the guides.


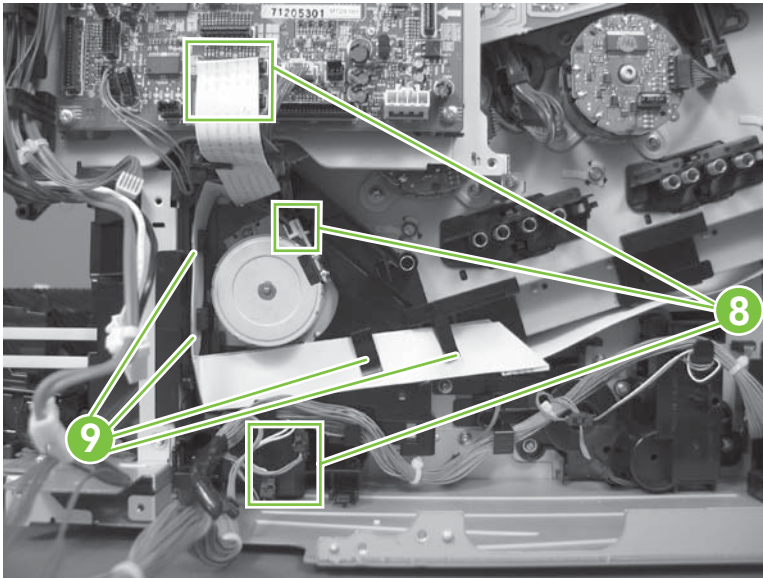
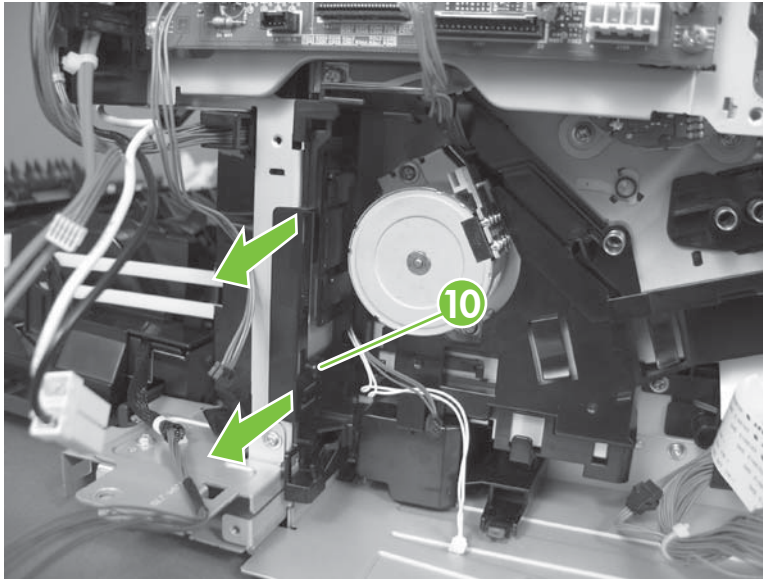
 **NOTE:** To locate DC controller connector locations, see [DC controller PCA on page 183](#).

Figure 6-219 Remove the cassette-pickup drive assembly (5 of 10)



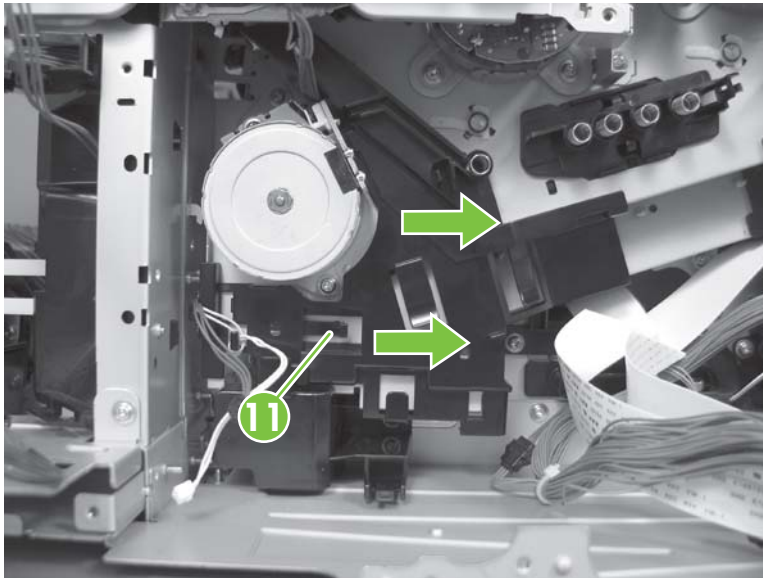
6. Release one tab (callout 10), and then remove the guide.

Figure 6-220 Remove the cassette-pickup drive assembly (6 of 10)



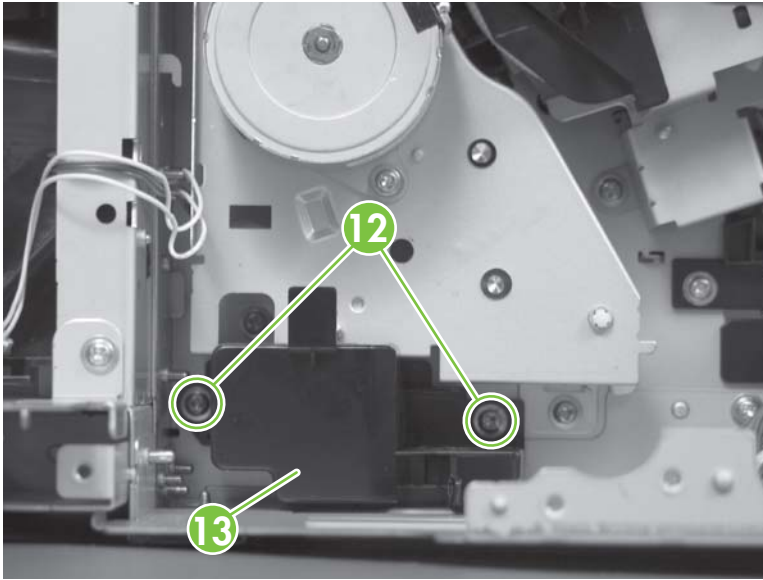
7. Release one tab (callout 11), and then remove the guide.

Figure 6-221 Remove the cassette-pickup drive assembly (7 of 10)



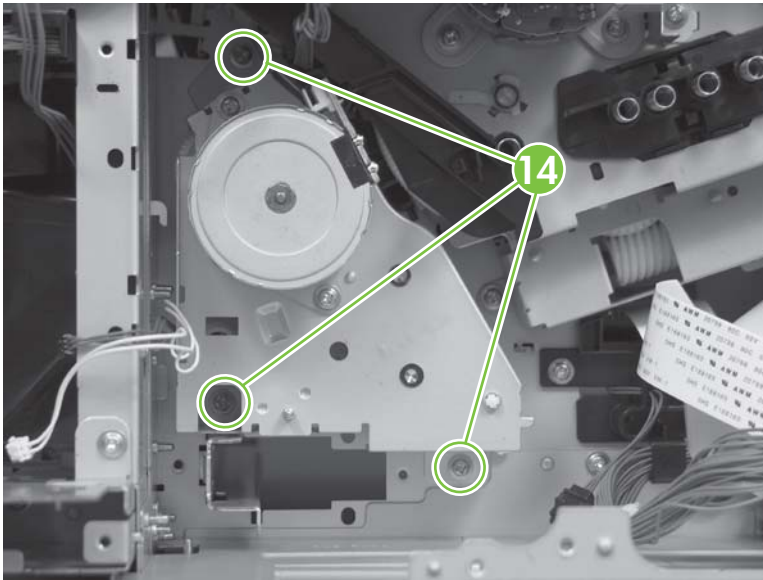
8. Remove two screws (callout 12), and then remove the high-voltage bracket (callout 13).

Figure 6-222 Remove the cassette-pickup drive assembly (8 of 10)



9. Remove three screws (callout 14).

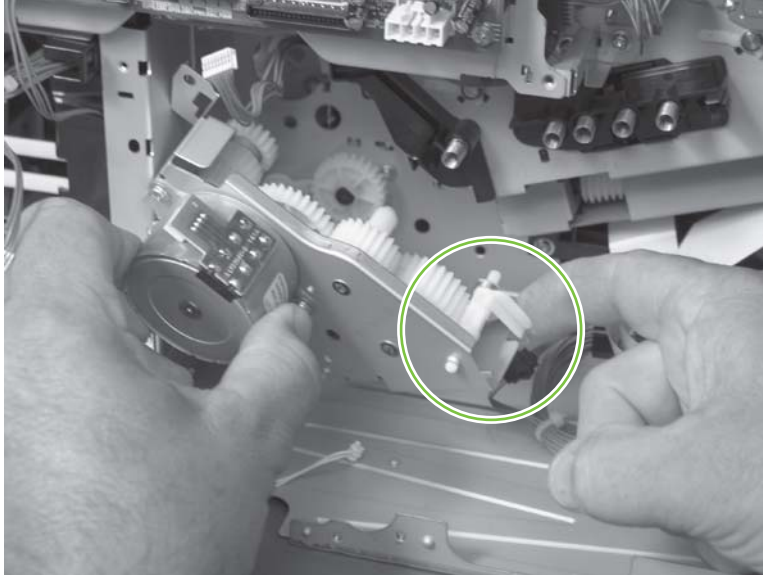
Figure 6-223 Remove the cassette-pickup drive assembly (9 of 10)



10. Carefully remove the assembly.

△ **CAUTION:** The gears, arm, and spring on the assembly are not captive. Use your finger to secure the arm and spring as you remove the assembly. If the gears, arm, or spring become dislodged, see [Reinstall the cassette-pickup drive assembly on page 321](#).

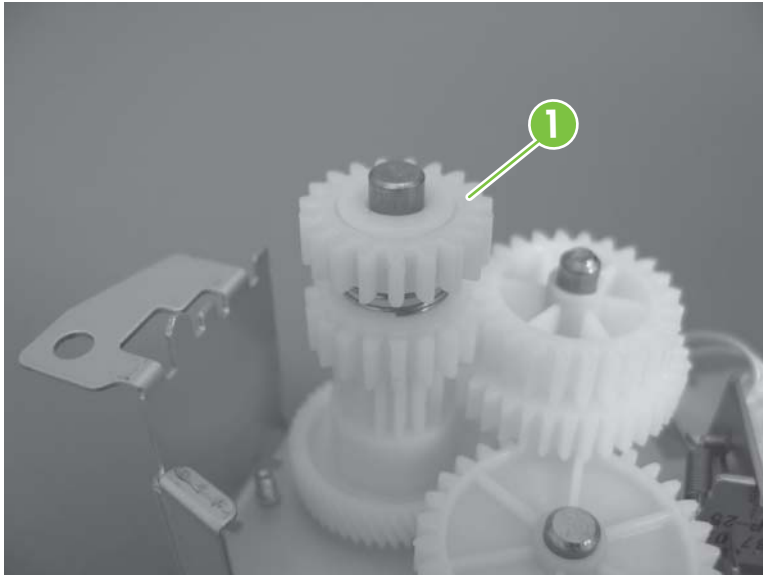
Figure 6-224 Remove the cassette-pickup drive assembly (10 of 10)



Reinstall the cassette-pickup drive assembly

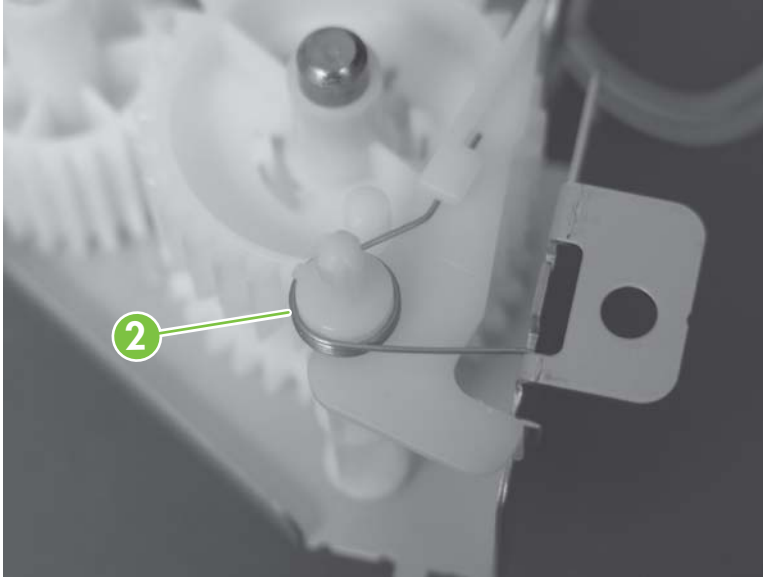
1. Make sure that the spring-loaded gear (callout 1) is correctly installed.

Figure 6-225 Reinstall the cassette-pickup drive assembly (1 of 3)



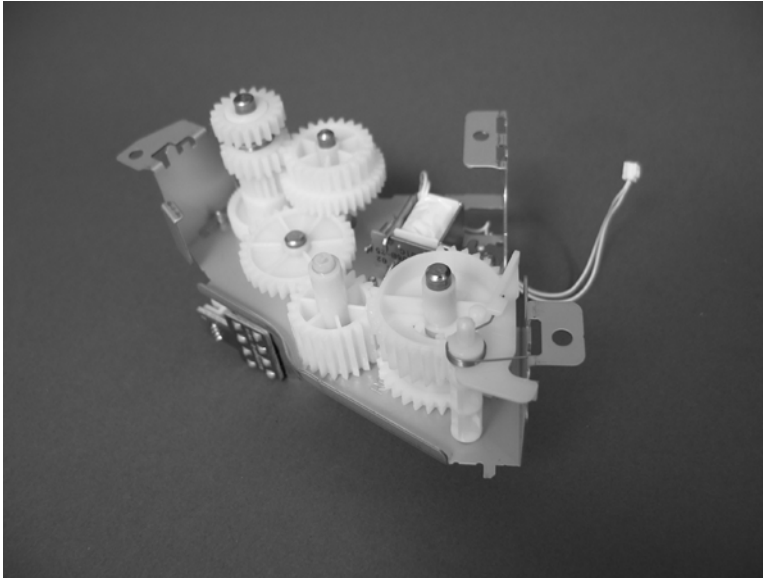
2. Make sure that the spring (callout 2) is correctly installed.

Figure 6-226 Reinstall the cassette-pickup drive assembly (2 of 3)



3. Make sure that the gears, arm, and spring are correctly installed.


Figure 6-227 Reinstall the cassette-pickup drive assembly (3 of 3)



Cassette-pickup assembly

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

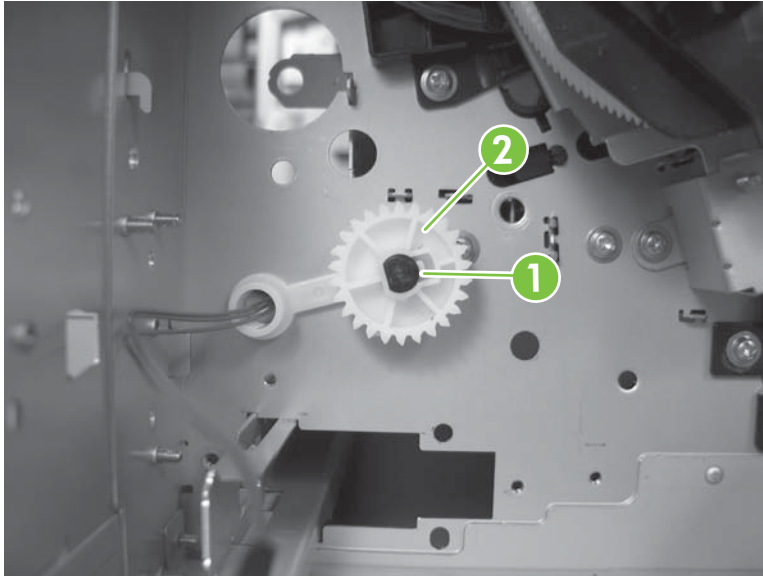
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- Registration assembly. See [Registration assembly on page 303](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).
- Cassette-pickup drive assembly. See [Cassette-pickup drive assembly on page 316](#).

Remove the cassette-pickup assembly

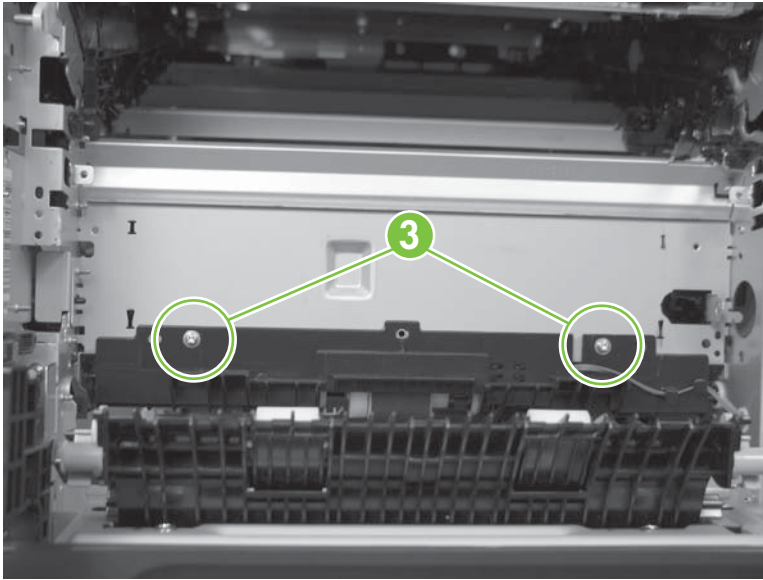
1. Release one tab (callout 1), and then remove the gear (callout 2).

Figure 6-228 Remove the cassette-pickup assembly (1 of 3)



2. Remove two screws (callout 3).

Figure 6-229 Remove the cassette-pickup assembly (2 of 3)



3. Remove the assembly.


Figure 6-230 Remove the cassette-pickup assembly (3 of 3)



Laser/scanner assembly (Y/M)

Before proceeding, remove the following components:

- Toner collection unit. See [Toner-collection unit on page 190](#).
- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

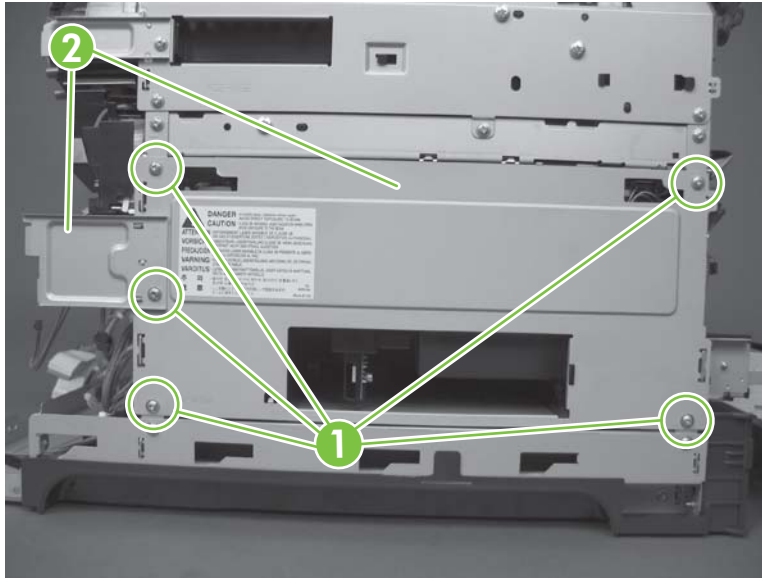
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).

Remove the laser/scanner assembly (Y/M)

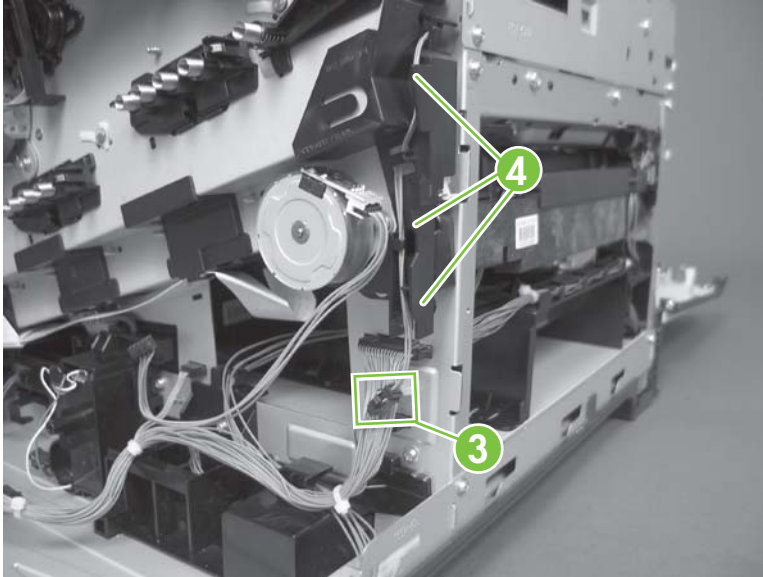
1. Remove five screws (callout 1), and then remove the sheet-metal plate (callout 2).

Figure 6-231 Remove the laser/scanner assembly (Y/M) (1 of 12)



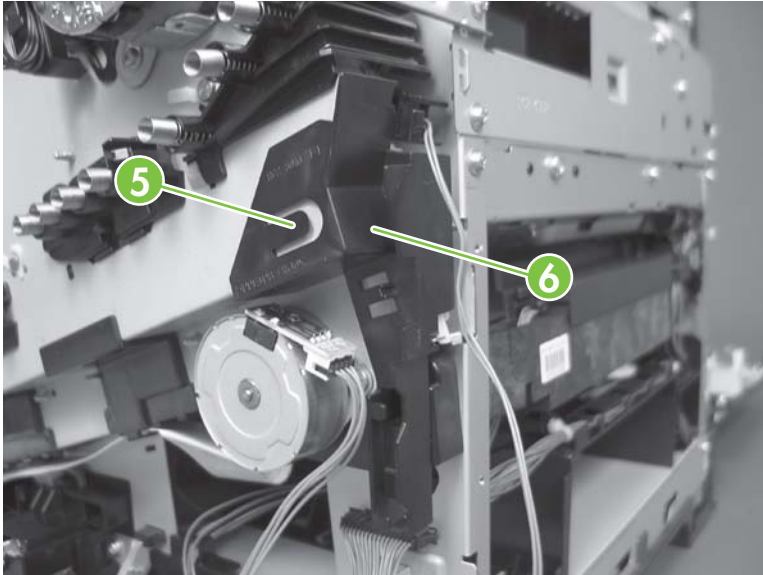
2. Disconnect in-line one connector (callout 3), and then release the wire harnesses from the guide (callout 4).

Figure 6-232 Remove the laser/scanner assembly (Y/M) (2 of 12)



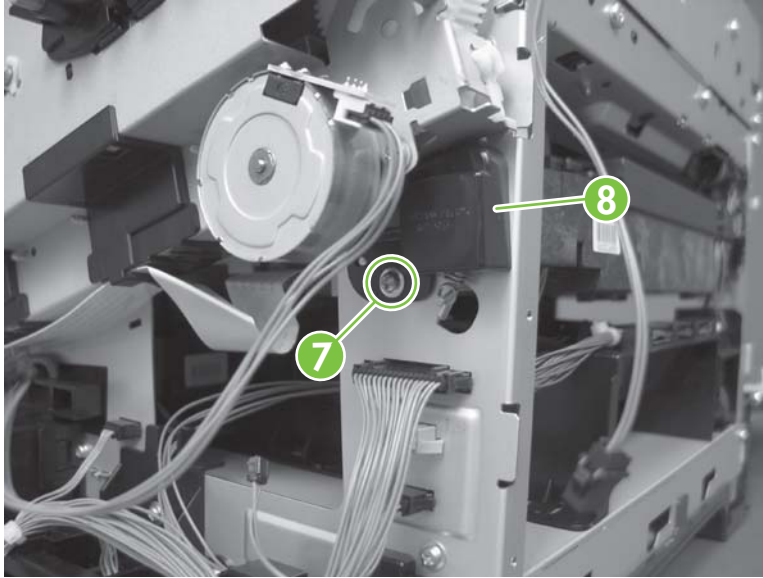
3. Release one tab (callout 5), and then remove the guide (callout 6).

Figure 6-233 Remove the laser/scanner assembly (Y/M) (3 of 12)



4. Remove one screw (callout 7), and then remove the cover (callout 8).

Figure 6-234 Remove the laser/scanner assembly (Y/M) (4 of 12)

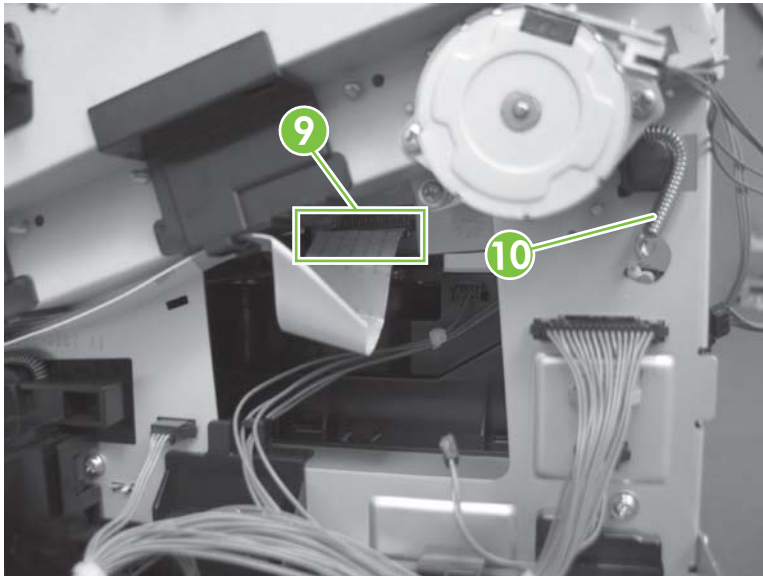


5. Disconnect one FFC (callout 9), and then release one spring (callout 10).

△ **CAUTION:** The spring is not captive. Do not lose the spring when it is removed. Use a pair of needle-nose pliers to safely retain the spring when it is removed. Do not use a flat blade screwdriver to remove the spring; the spring could forcibly leave the product and strike you.

💡 **Reinstallation tip** When you reinstall the spring, make sure that the laser/scanner fits tightly up against the product chassis, and make sure that the FFC is fully seated in the connector. The locator tabs on the front and rear of the scanner must be firmly seated in the slots in the chassis.

Figure 6-235 Remove the laser/scanner assembly (Y/M) (5 of 12)



6. Disconnect six connectors (callout 11).


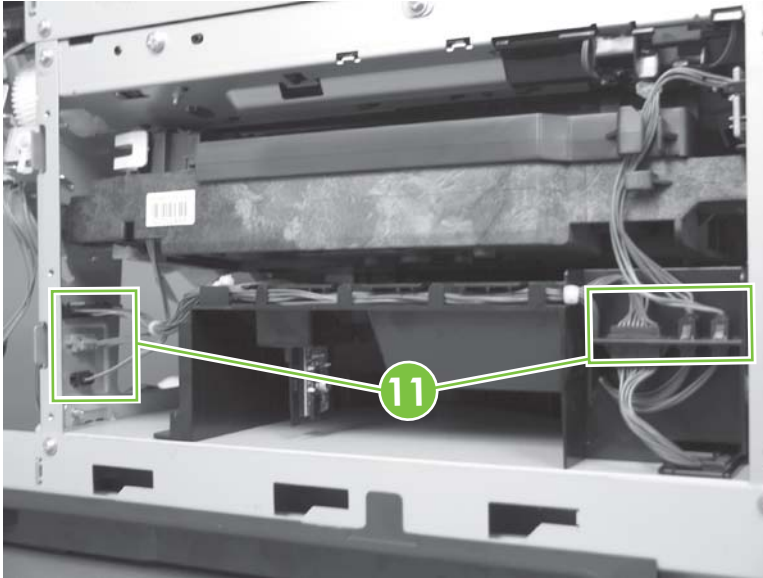
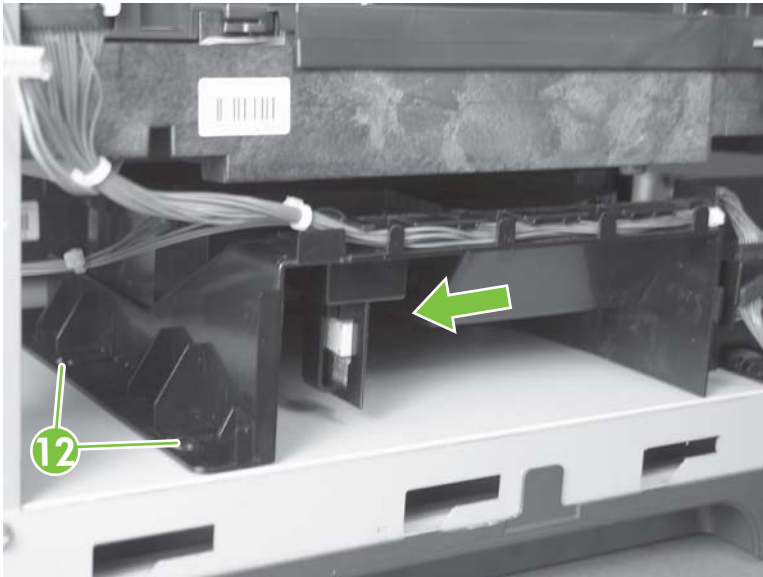
 **NOTE:** Disconnect the larger connector on the right side from the bottom. Disconnect the two smaller connectors on the right side from the top.

Figure 6-236 Remove the laser/scanner assembly (Y/M) (6 of 12)



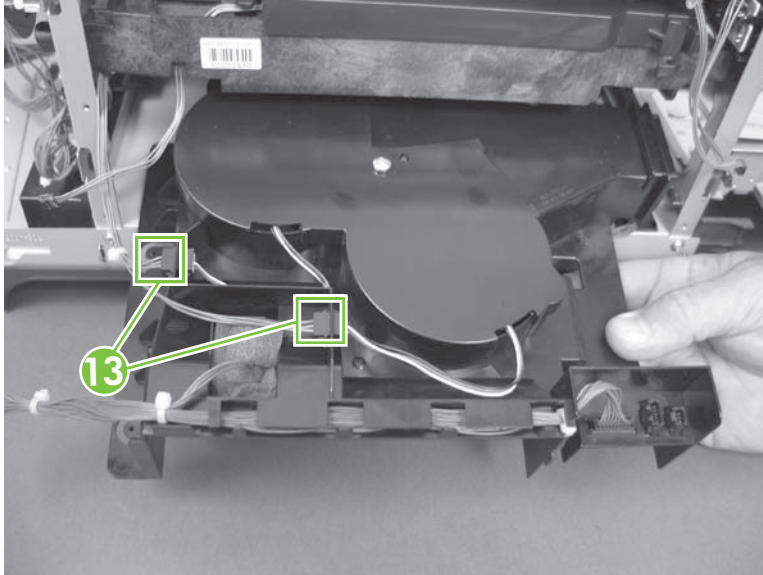
7. Release two tabs (callout 12), and then slide the fan assembly toward the power-supply side of the product to release it.

Figure 6-237 Remove the laser/scanner assembly (Y/M) (7 of 12)



8. Pull the fan assembly slightly out of the product, disconnect two connectors (callout 13), and then remove the assembly.

Figure 6-238 Remove the laser/scanner assembly (Y/M) (8 of 12)

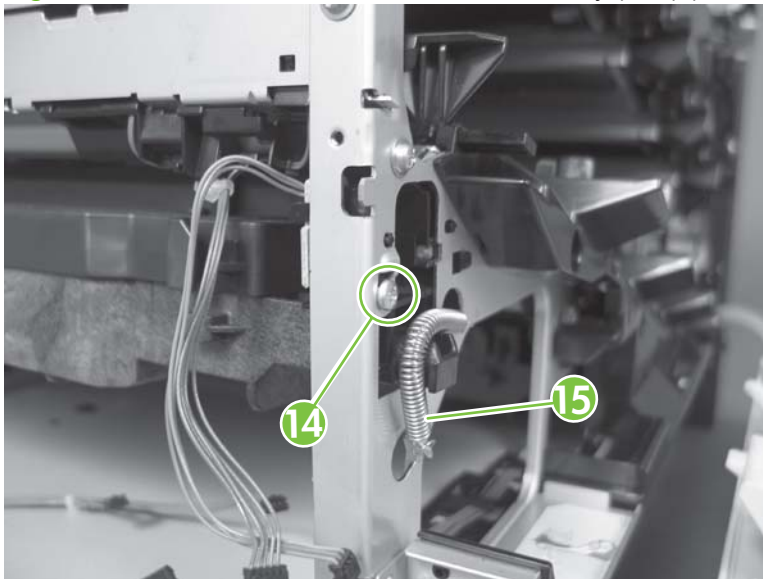


9. Remove one screw (callout 14), and then release one spring (callout 15).

△ **CAUTION:** The spring is not captive. Do not lose the spring when it is removed. Use a pair of needle-nose pliers to safely retain the spring when it is removed. Do not use a flat blade screwdriver to remove the spring; the spring could forcibly leave the product and strike you.

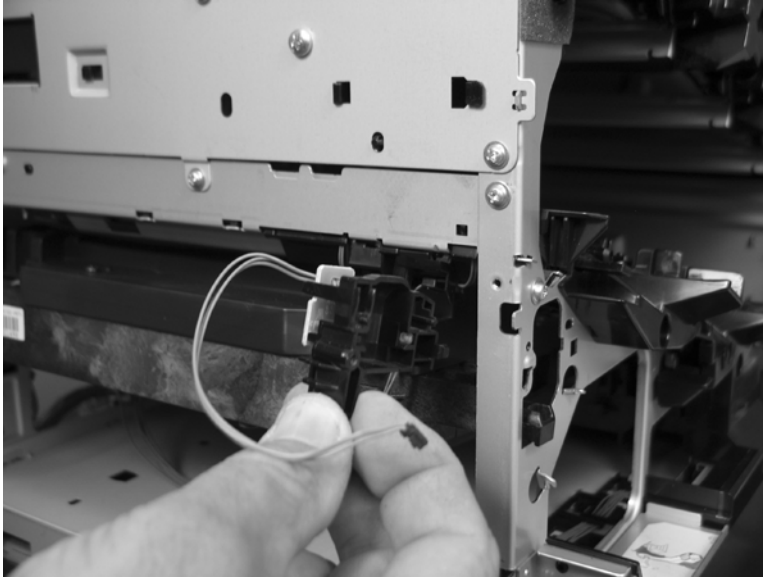
💡 **Reinstallation tip** When the laser/scanner is properly positioned in the chassis, the plastic parts which protrude at the front and rear of the product will be firmly seated against the locator tabs on the chassis. Verify that the assembly is correctly seated, and then install the spring.

Figure 6-239 Remove the laser/scanner assembly (Y/M) (9 of 12)



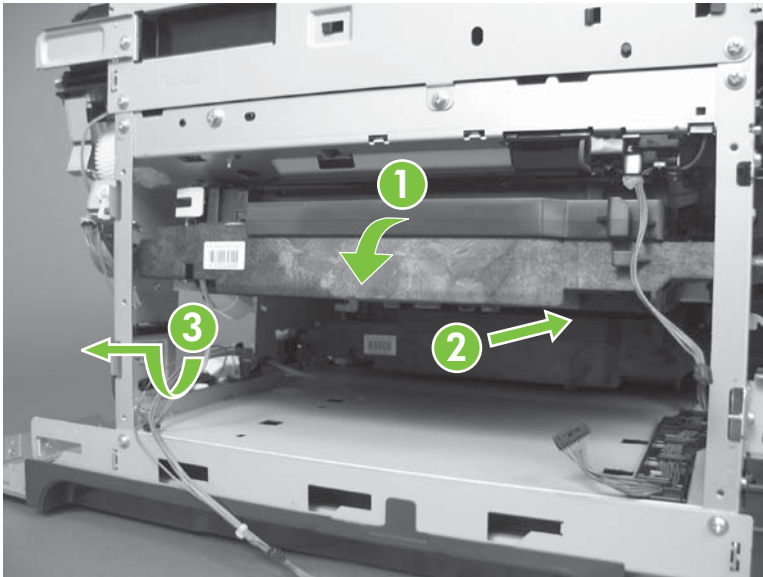
10. Remove the toner collection sensor.

Figure 6-240 Remove the laser/scanner assembly (Y/M) (10 of 12)



11. Rotate the front of the laser/scanner assembly down (callout 1), and then slide it toward the right (callout 2). Lower the left corner, and then rotate the left corner out of the product (callout 3).

Figure 6-241 Remove the laser/scanner assembly (Y/M) (11 of 12)



12. Pull the laser/scanner assembly straight out of the product to remove it.

Figure 6-242 Remove the laser/scanner assembly (Y/M) (12 of 12)



Laser/scanner assembly (C/Bk)

Before proceeding, remove the following components:

- Toner collection unit. See [Toner-collection unit on page 190](#).
- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).
- Lifter drive assembly. See [Lifter-drive assembly on page 314](#).
- Laser/scanner assembly (Y/M). See [Laser/scanner assembly \(Y/M\) on page 325](#).

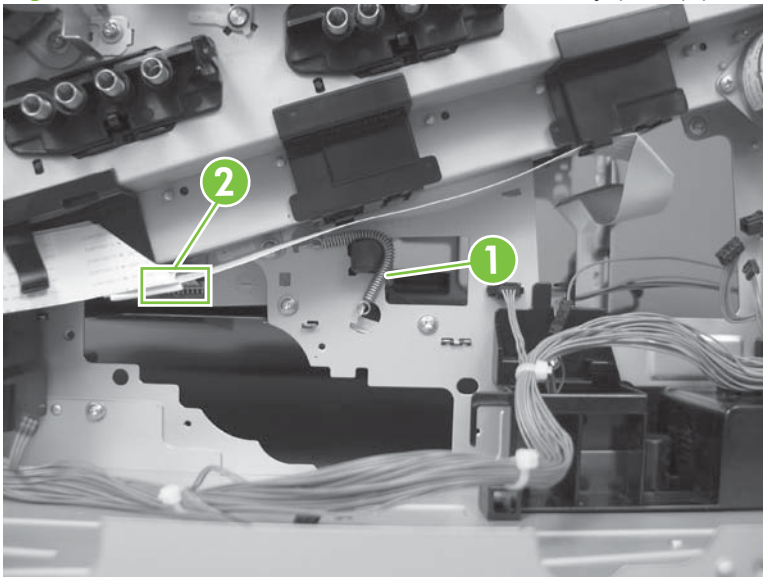
Remove the laser/scanner assembly (C/Bk)

1. Release one spring (callout 1), and then disconnect one connector (callout 2).

△ **CAUTION:** The spring is not captive. Do not lose the spring when it is removed. Use a pair of needle-nose pliers to safely retain the spring when it is removed. Do not use a flat blade screwdriver to remove the spring; the spring could forcibly leave the product and strike you.

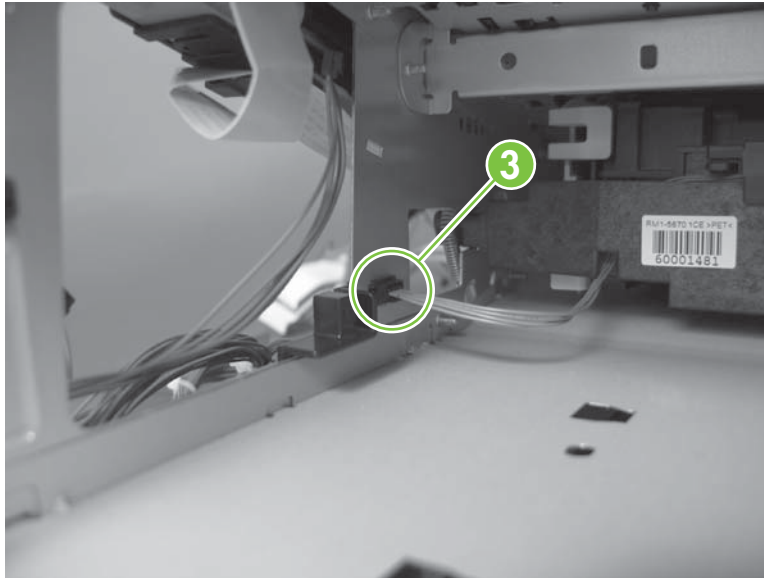
💡 **Reinstallation tip** When you reinstall the spring, make sure that the laser/scanner fits tightly up against the product chassis, and make sure that the FFC is fully seated in the connector. The locator tabs on the front of the scanner must be firmly seated in the slots in the chassis.

Figure 6-243 Remove the laser/scanner assembly (C/Bk) (1 of 7)



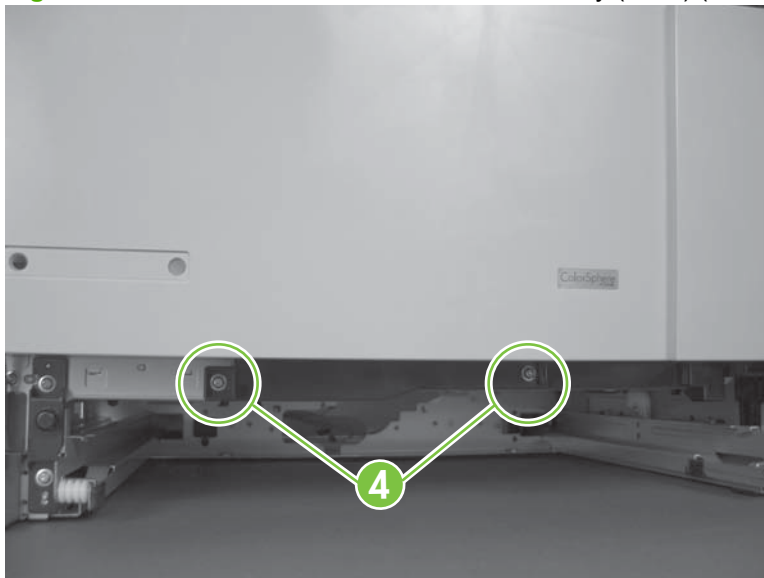
2. Disconnect one connector (callout 3).

Figure 6-244 Remove the laser/scanner assembly (C/Bk) (2 of 7)



3. Remove two screws (callout 4) located below the front door.

Figure 6-245 Remove the laser/scanner assembly (C/Bk) (3 of 7)



4. Open the front door, and then remove one screw (callout 5) and the cover (callout 6).

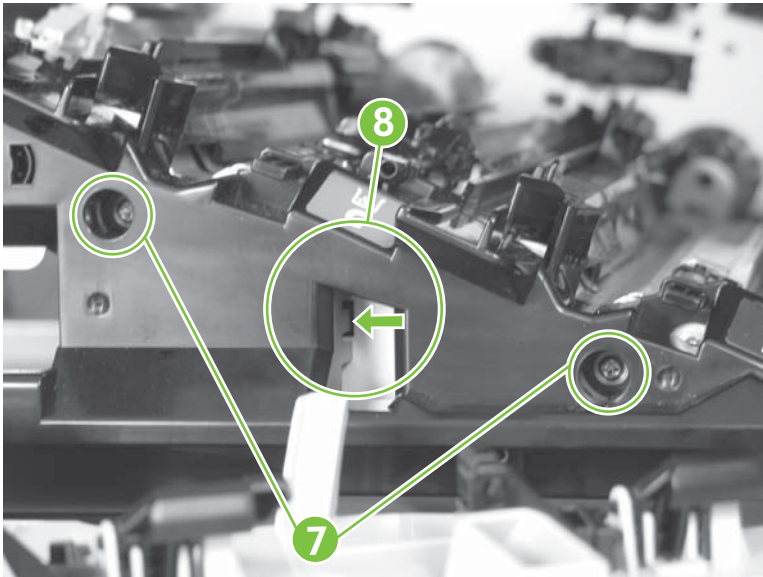
Figure 6-246 Remove the laser/scanner assembly (C/Bk) (4 of 7)



5. Remove two screws (callout 7). Use your finger to release the locking tab (callout 8), and then remove the cover.

△ **CAUTION:** Be careful. The PGC actuators are easily dislodged when the cover is removed. See [Figure 6-250 Reinstall the PGC actuators \(1 of 5\) on page 336](#). To reinstall the actuators, see [Reinstall the protective glass cleaner \(PGC\) actuators on page 336](#).

Figure 6-247 Remove the laser/scanner assembly (C/Bk) (5 of 7)

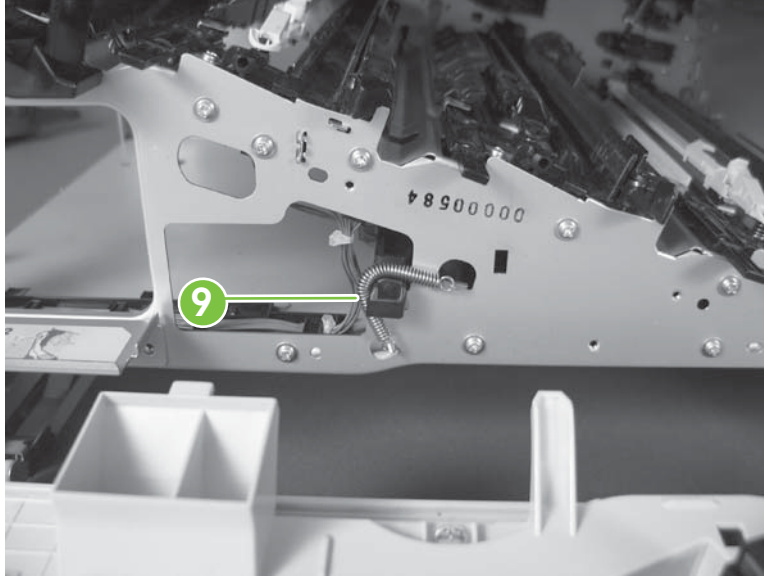


6. Release one spring (callout 9).

△ **CAUTION:** The spring is not captive. Do not lose the spring when it is removed. Use a pair of needle-nose pliers to safely retain the spring when it is removed. Do not use a flat blade screwdriver to remove the spring; the spring could forcibly leave the product and strike you.

💡 **Reinstallation tip** When you reinstall the spring, make sure that the laser/scanner fits tightly up against the product chassis.

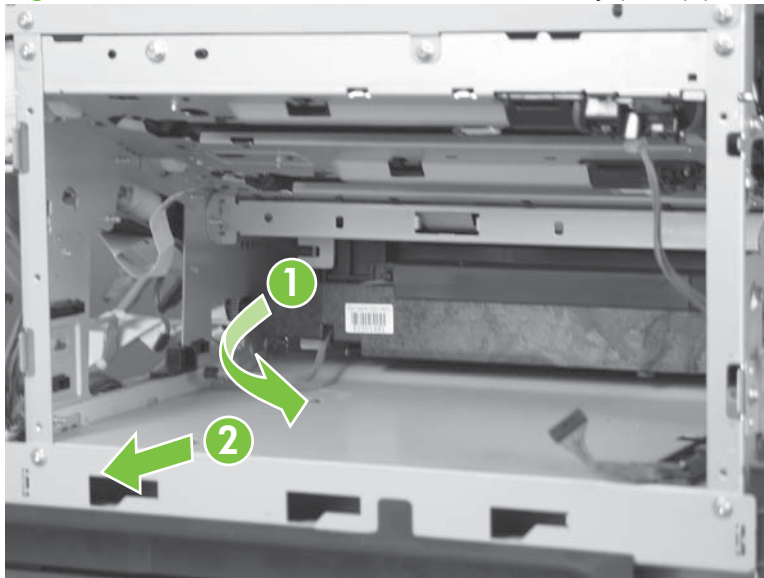
Figure 6-248 Remove the laser/scanner assembly (C/Bk) (6 of 7)



7. Rotate the corner of the assembly away from the product until you can see the PCA, and then remove the assembly from the product.

💡 **Reinstallation tip** When the laser/scanner is properly positioned in the chassis, the plastic parts which protrude at the front and rear of the product will be firmly seated against the locator tabs on the chassis. Verify that the assembly is correctly seated, and then install the spring.

Figure 6-249 Remove the laser/scanner assembly (C/Bk) (7 of 7)



Reinstall the protective glass cleaner (PGC) actuators

1. The following figure shows a dislodged PGC actuator.


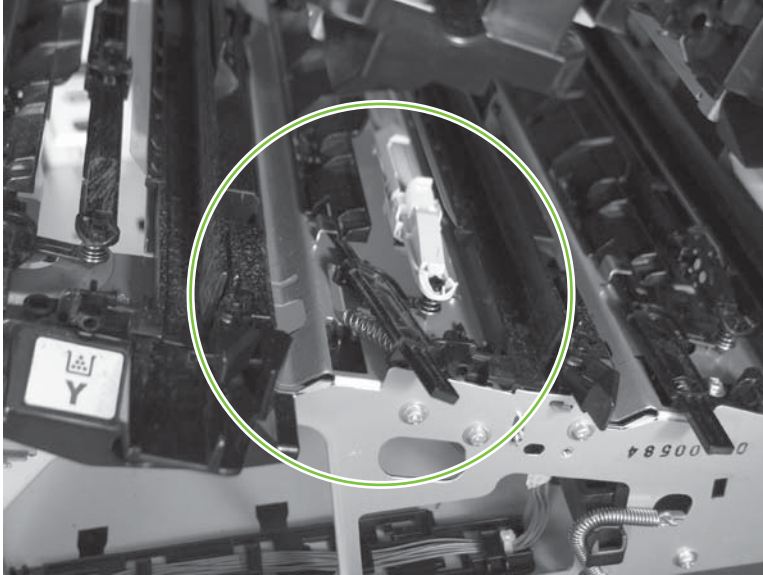
 **TIP:** If the actuator and spring are only slightly dislodged, you might be able to easily push them back into place.

Figure 6-250 Reinstall the PGC actuators (1 of 5)



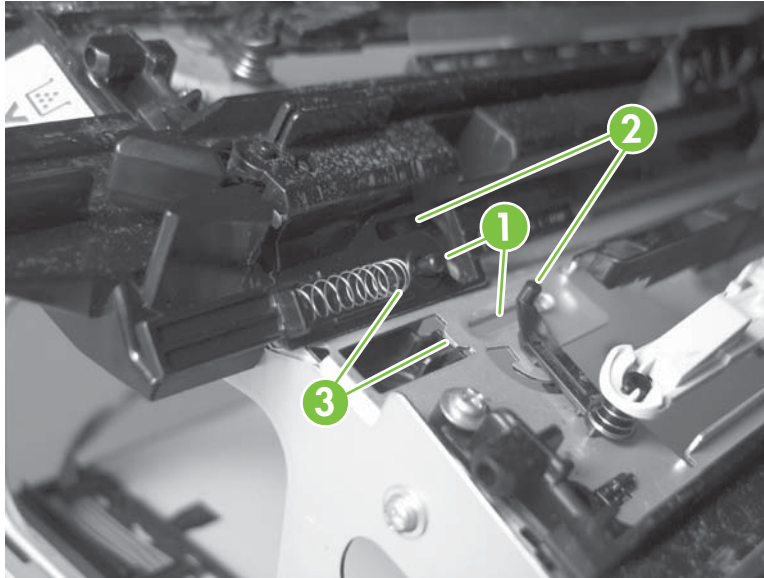
2. Remove the actuator and spring from the product. Install the spring on the actuator.

Figure 6-251 Reinstall the PGC actuators (2 of 5)



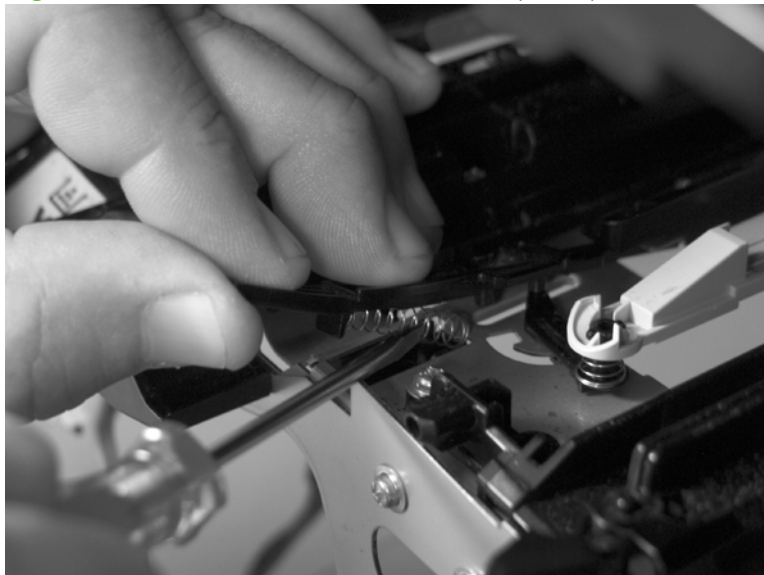
3. Before proceeding, take note of the following:
- **Callout 1:** The pin on the actuator will be installed into the slot in the chassis.
 - **Callout 2:** The pin on the pivot arm will be installed into the slot on the actuator.
 - **Callout 3:** The end of the spring will be installed onto the tab on the chassis.

Figure 6-252 Reinstall the PGC actuators (3 of 5)



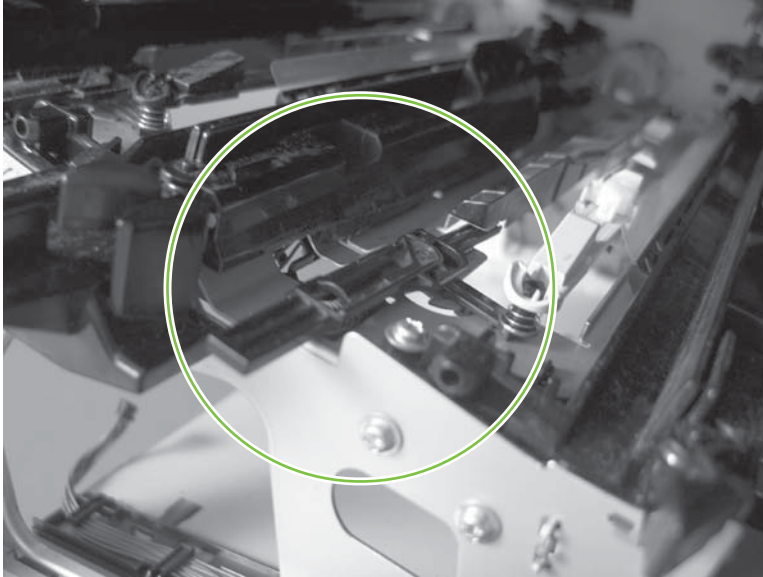
4. Place the end of the actuator into the PGC rod, and then use a small flat blade screw driver to fasten the end of the spring on the tab on the chassis.

Figure 6-253 Reinstall the PGC actuators (4 of 5)



5. Push down on the actuator to seat it into place. Verify that the actuators is correctly installed. The PGC actuator should freely move when you push in on the actuator.

Figure 6-254 Reinstall the PGC actuators (5 of 5)



High-voltage power supply upper

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).
- DC controller. See [DC controller PCA and tray on page 270](#).
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).

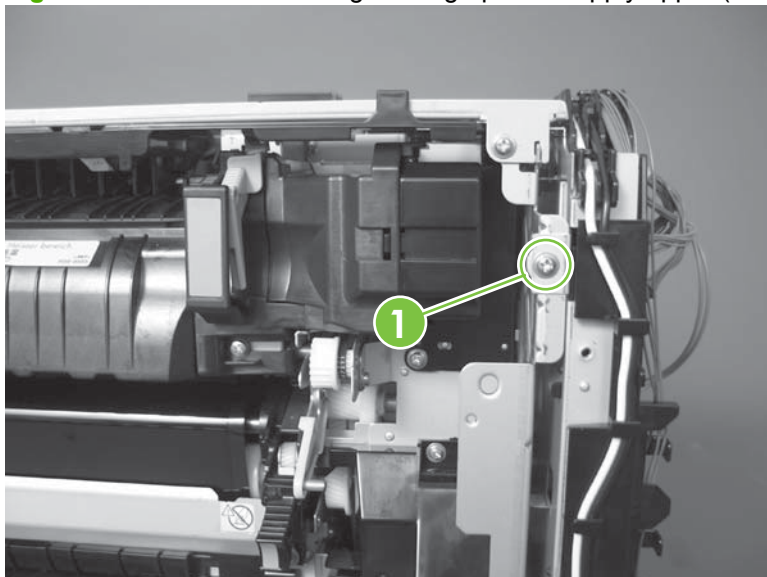
Remove the high-voltage power supply upper



CAUTION:  ESD-sensitive part.

1. Remove one screw (callout 1).

Figure 6-255 Remove the high-voltage power supply upper (1 of 5)



2. Remove four screws (callout 2), and then rotate the sheet-metal plate away from the power supply.


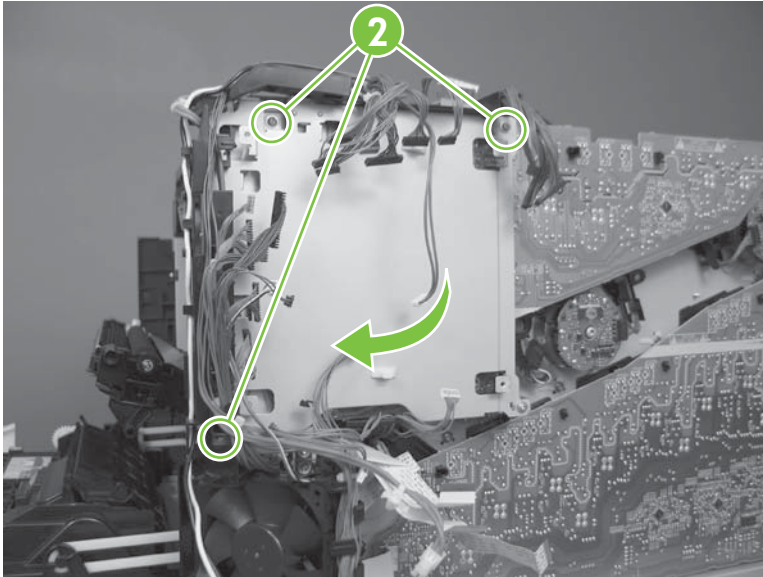
 **NOTE:** You do not need to completely remove the sheet-metal plate to access the power supply.

Figure 6-256 Remove the high-voltage power supply upper (2 of 5)



3. Disconnect two connectors (J201, J202; callout 3) from the back side of the power supply.


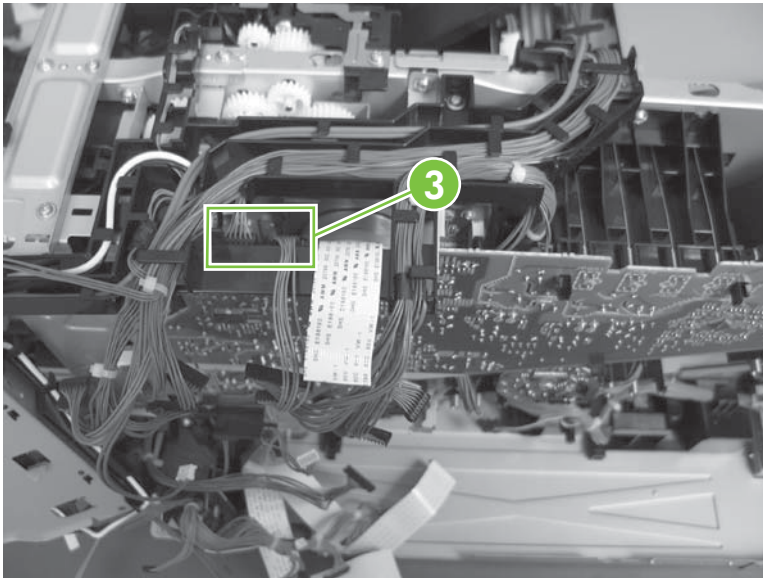
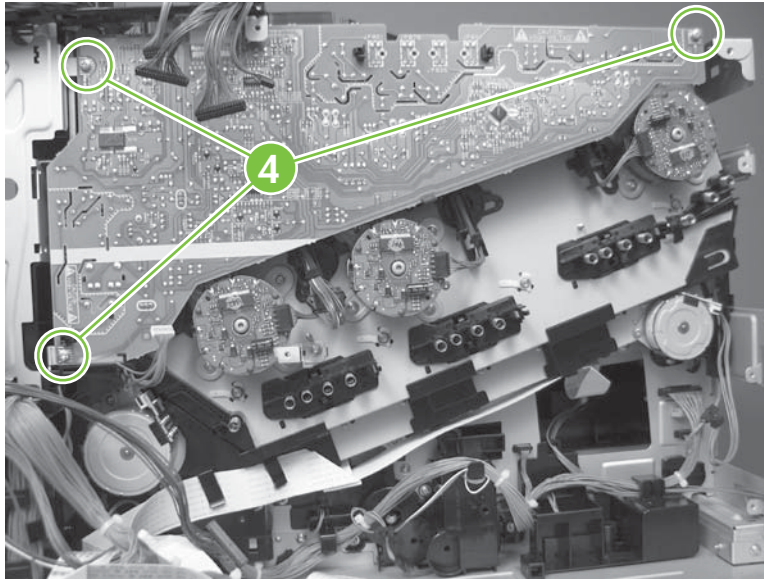
 **NOTE:** For clarity, the figure in this step shows the ADF and scanner removed. Carefully reach under these components to access the two connectors.

Figure 6-257 Remove the high-voltage power supply upper (3 of 5)



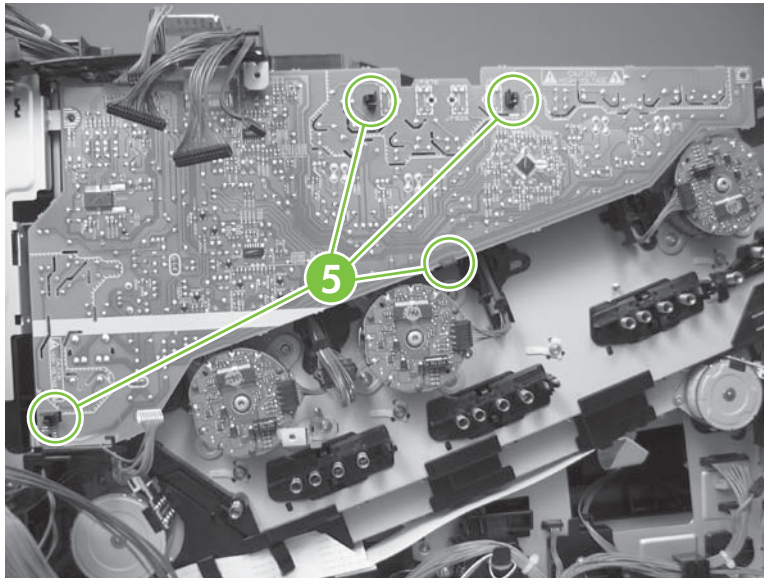
4. Remove three screws (callout 4).

Figure 6-258 Remove the high-voltage power supply upper (4 of 5)




5. Release four tabs (callout 5), and then remove the power supply.

Figure 6-259 Remove the high-voltage power supply upper (5 of 5)



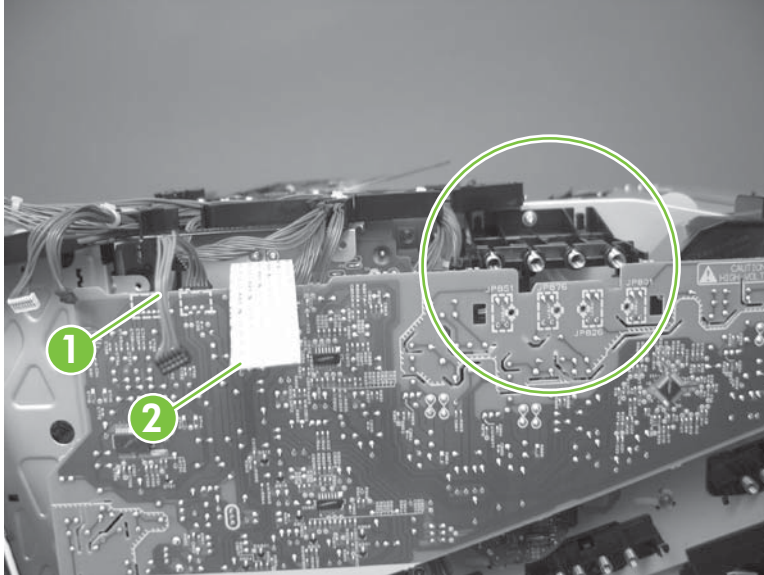
Reinstall the high-voltage power supply upper

When you reinstall the power supply, look through the holes in the PCA and make sure that the high-voltage contact springs are correctly seated against the PCA.

 **NOTE:** One wire harness (callout 1) is disconnected at both ends. Do not lose the wire harness.

Position the FFC (callout 2) over the cable guide when you reinstall the power supply.


Figure 6-260 Reinstall the high-voltage power supply upper



Drum motor 1

Before proceeding, remove the following components:

- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Reinstall the ICB on page 269](#).

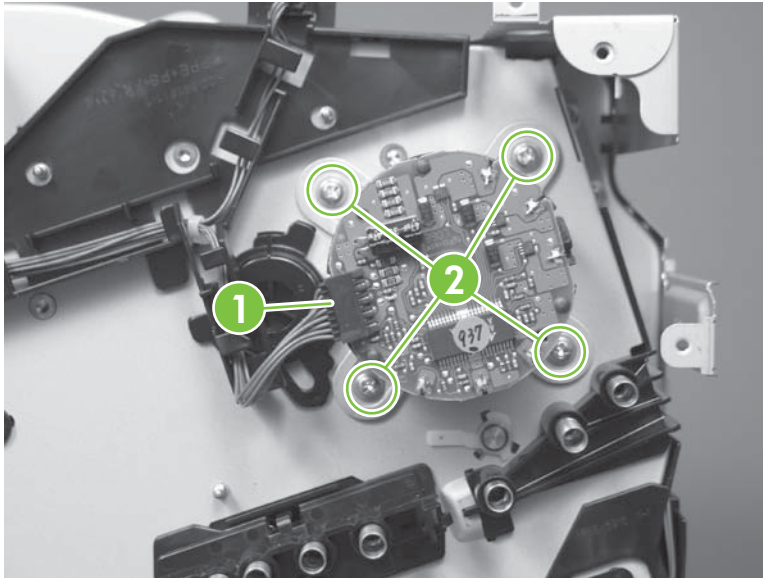
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply upper. See [High-voltage power supply upper on page 339](#).

Remove the drum motor 1

- ▲ Disconnect one connector (callout 1), remove four screws (callout 2), and then remove the motor.


Figure 6-261 Remove the drum motor 1



Drum motor 2 or drum motor 3

Before proceeding, remove the following components:

- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

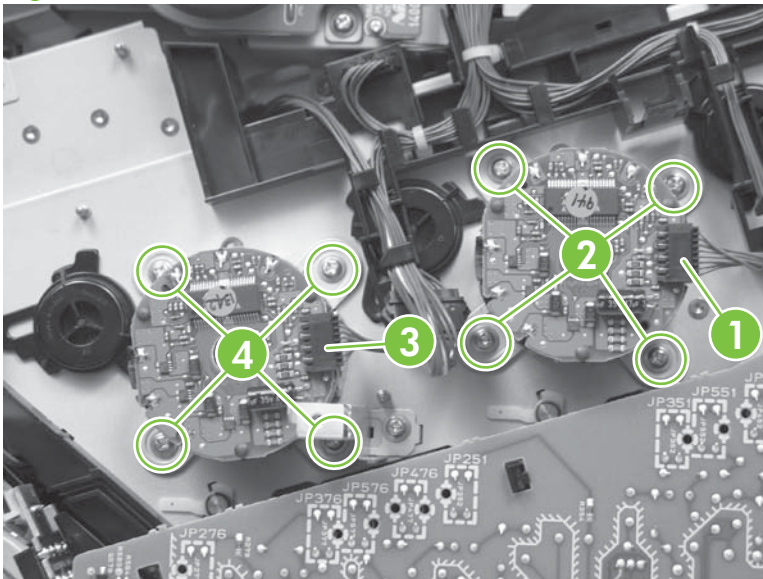
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply upper. See [High-voltage power supply upper on page 339](#).

Remove the drum motor 2 or drum motor 3

▲ Do one of the following:

- Remove drum motor 2: Disconnect one connector (callout 1), remove four screws (callout 2), and then remove the motor.
- Remove drum motor 3: Disconnect one connector (callout 3), remove four screws (callout 4), and then remove the motor.


Figure 6-262 Remove the drum motor 2 or drum motor 3



Fuser motor

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#)
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

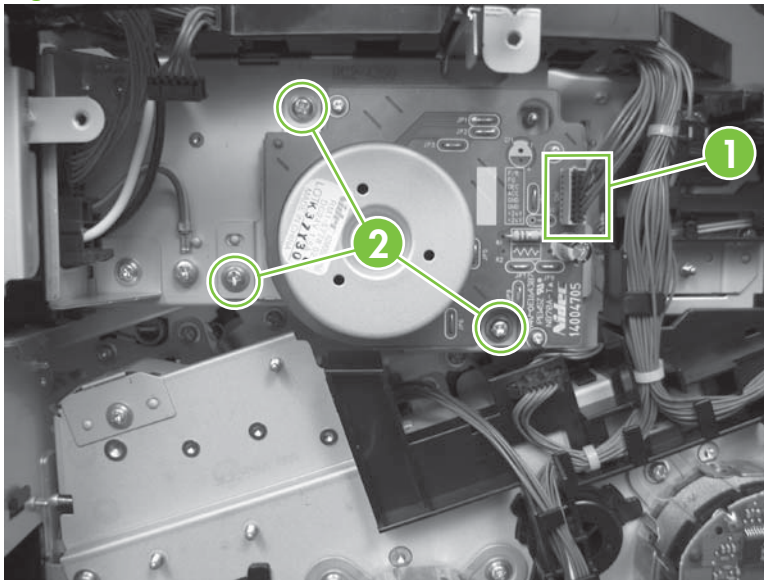
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- DC controller PCA and tray. See [DC controller PCA and tray on page 270](#).
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- High-voltage power supply upper. See [High-voltage power supply upper on page 339](#).

Remove the fuser motor

Disconnect one connector (callout 1), remove three screws (callout 2), and then remove the motor.


Figure 6-263 Remove the fuser motor



Main-drive assembly

Before proceeding, remove the following components:

- Formatter PCA. See [Formatter PCA on page 192](#).
- Secondary transfer assembly. See [Secondary transfer assembly on page 207](#).
- Intermediate transfer belt (ITB). See [Intermediate transfer belt \(ITB\) on page 209](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).

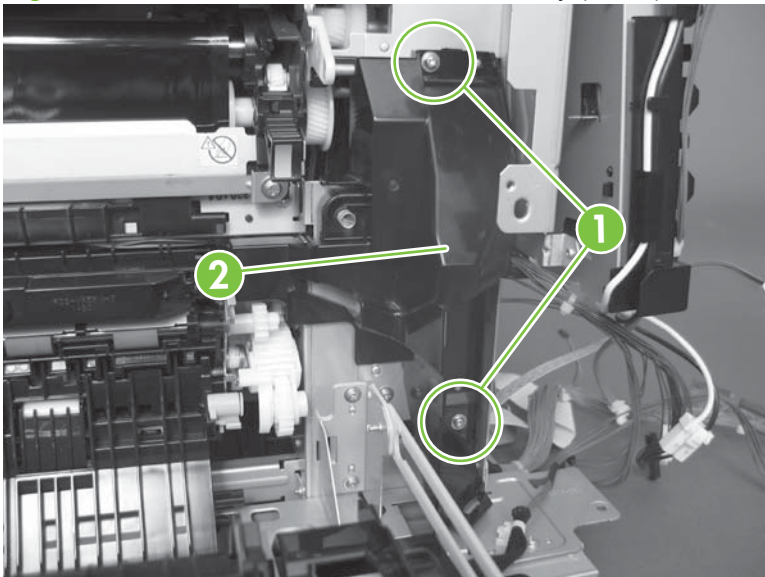
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- DC controller PCA. See [DC controller PCA and tray on page 270](#).
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- Power-supply fan and fan duct. See [Power-supply fan and fan duct on page 300](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).
- High-voltage power supply upper. See [High-voltage power supply upper on page 339](#).

Remove the main-drive assembly

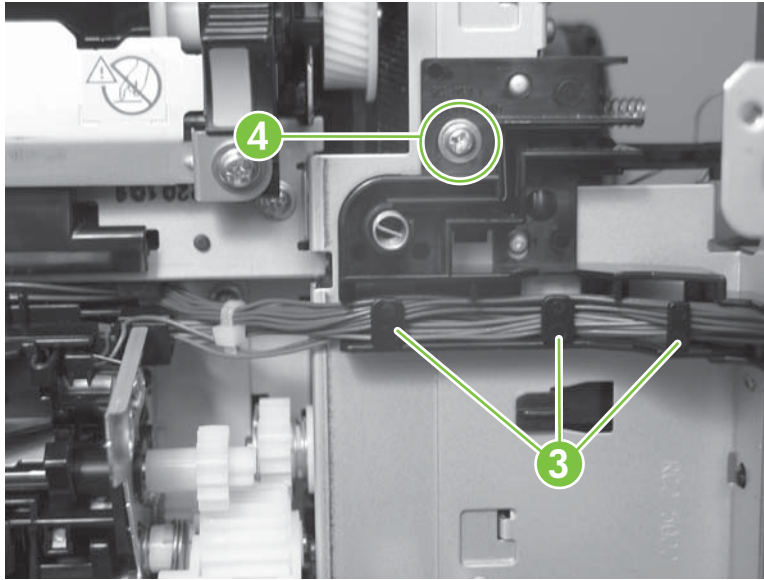
1. Remove two screws (callout 1), and then remove the cover (callout 2).

Figure 6-264 Remove the main-drive assembly (1 of 7)



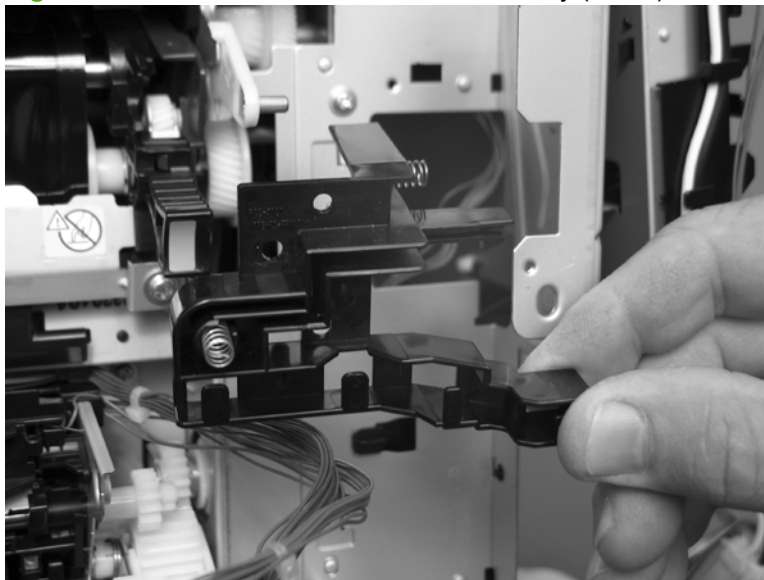
2. Release the wire harnesses from the guide (callout 3), and then remove one screw (callout 4).

Figure 6-265 Remove the main-drive assembly (2 of 7)



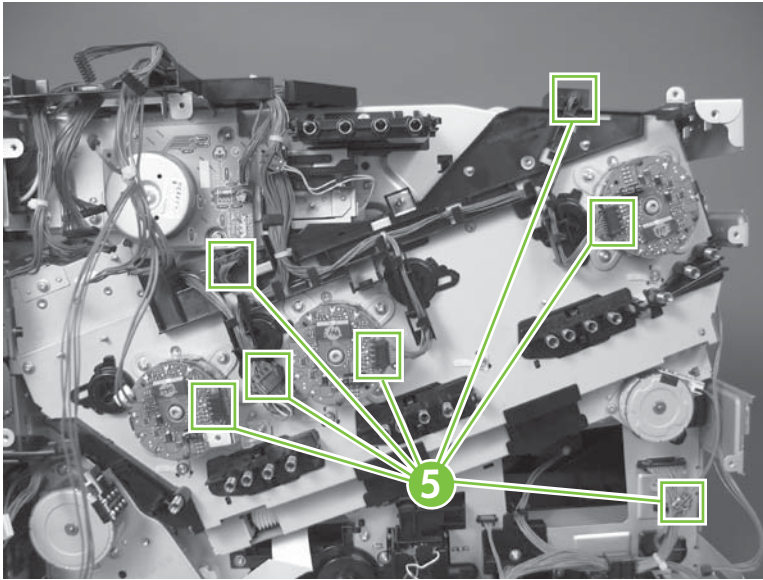
3. Lift the high-voltage bracket up to release it, and then remove the bracket.

Figure 6-266 Remove the main-drive assembly (3 of 7)



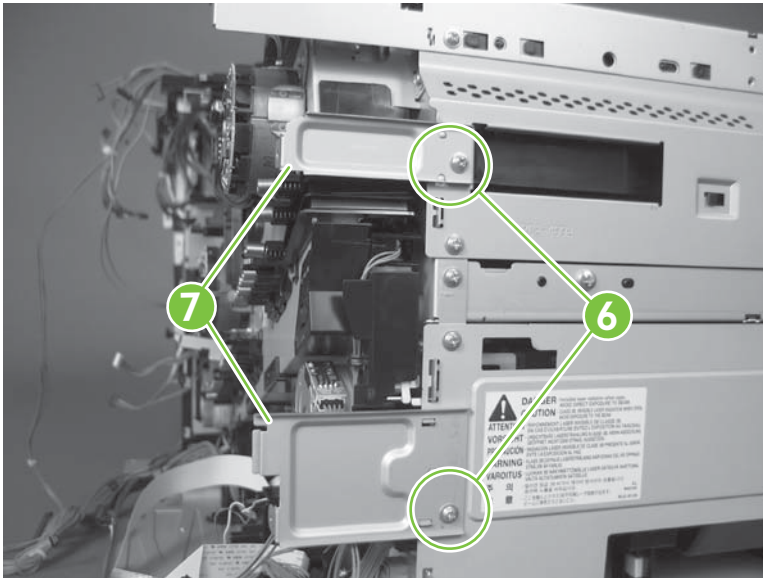
4. Disconnect seven connectors (callout 5), and then release the wire harnesses from the guides.

Figure 6-267 Remove the main-drive assembly (4 of 7)



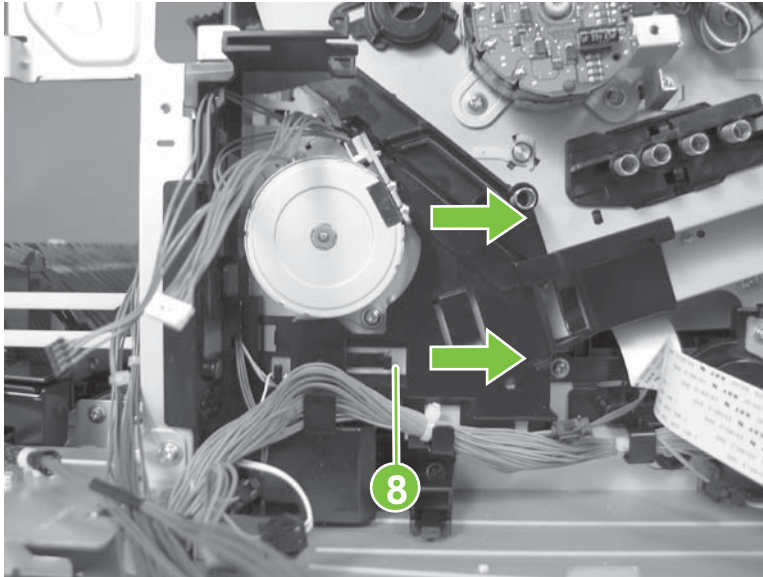
5. Remove two screws (callout 6), and then remove the sheet-metal plates (callout 7).

Figure 6-268 Remove the main-drive assembly (5 of 7)



6. Release the FFCs and lower wiring harness from the guide, and then release one tab (callout 8) and remove the guide.

Figure 6-269 Remove the main-drive assembly (6 of 7)

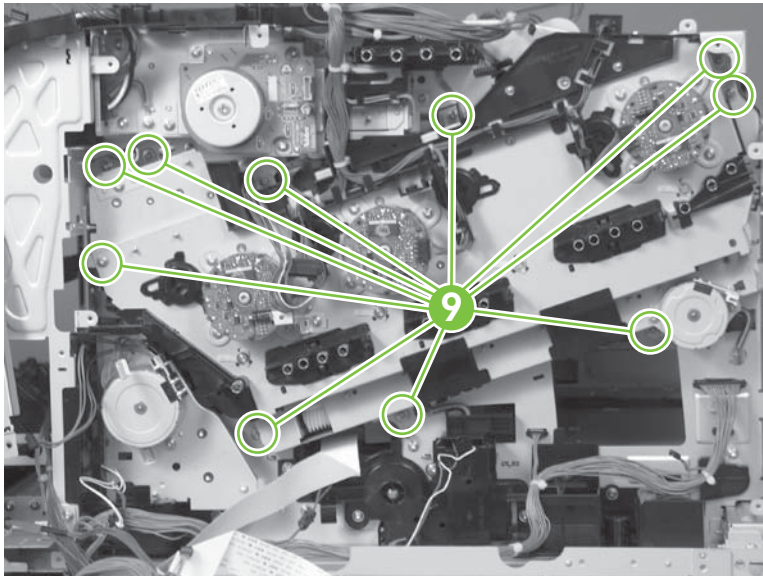


7. Remove ten screws (callout 9), and then carefully remove the assembly.

△ **CAUTION:** Be careful when you remove the assembly. The cams on the backside of the assembly can be dislodged. If the cams become dislodged, install them on the shafts as shown in [Figure 6-272 Reinstall the main-drive assembly \(2 of 11\) on page 350](#).

The black cam must be installed on the shaft furthest away from the developing-disengagement motor. The white cams are interchangeable.

Figure 6-270 Remove the main-drive assembly (7 of 7)



Reinstall the main-drive assembly

1. Remove the bracket (callout 1), two guides (callout 2), and the developing-disengagement motor (callout 3).

Install the bracket and guides on the replacement main-drive assembly.


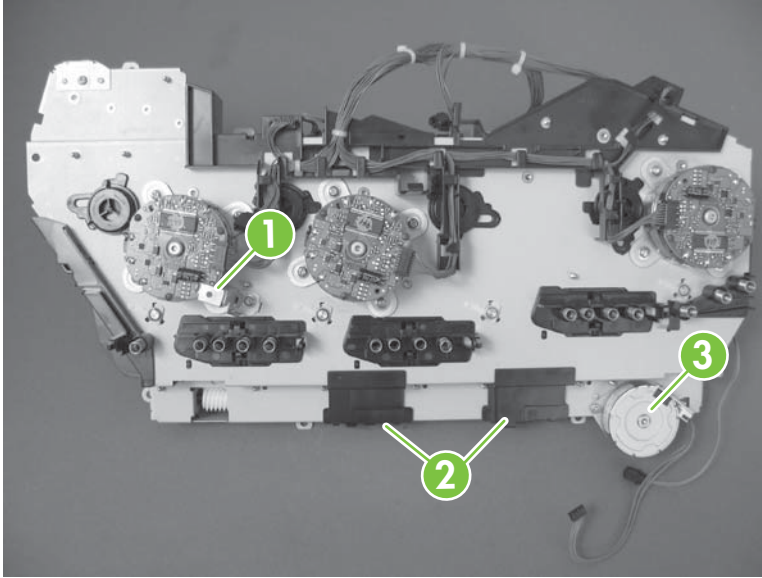
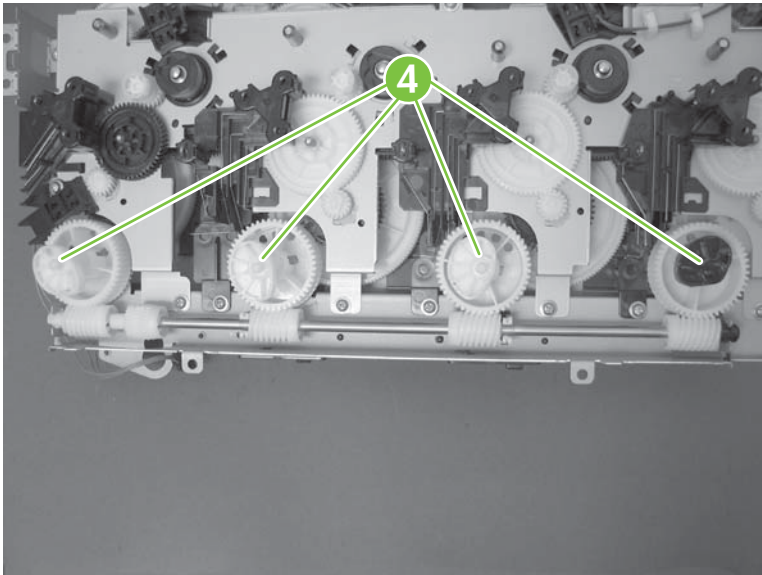
 **NOTE:** Do not install the developing-disengagement motor on the assembly (this motor must be removed from the assembly to align the main-drive cams).

Figure 6-271 Reinstall the main-drive assembly (1 of 11)



2. Locate the cams (callout 4) on the back side of the assembly.

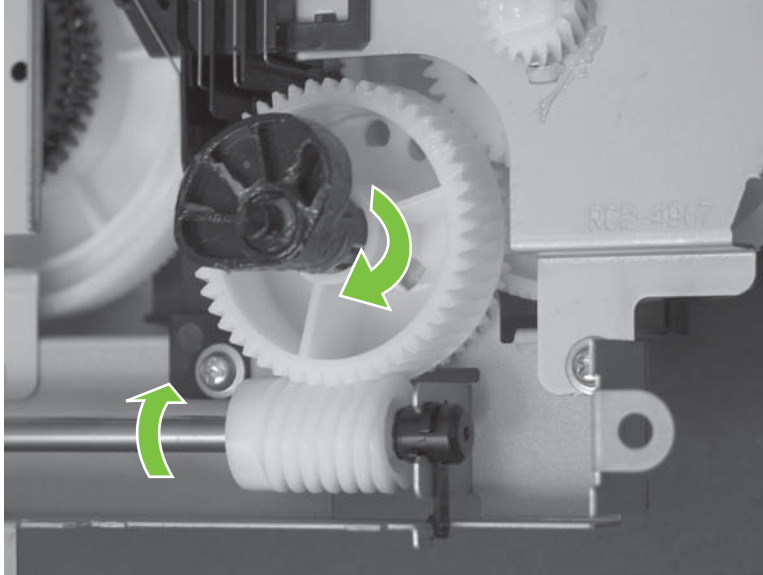
Figure 6-272 Reinstall the main-drive assembly (2 of 11)



3. Slowly rotate the shaft near the black cam.

⚠ WARNING! Do not touch the plastic gears or cams. You must not wipe away any of the grease that is applied to these components. Always rotate the gears and cams by rotating the metal drive shaft.

Figure 6-273 Reinstall the main-drive assembly (3 of 11)

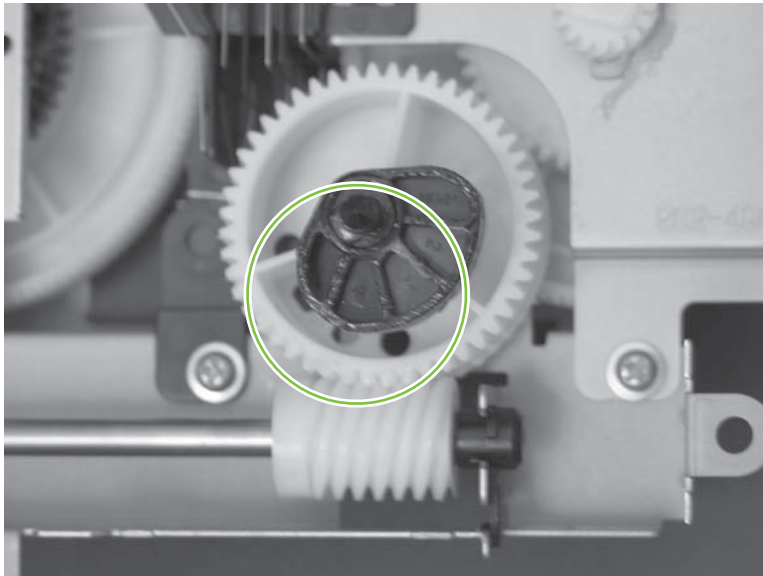


4. Continue to rotate the shaft until the holes in the black-cam gear align as shown below.


When correctly aligned, the *bottom-most* hole in the gear is aligned with a hole in the sheet-metal chassis.

📝 NOTE: The holes in the other cam gears have a different alignment. You must make sure that the holes in the black-cam gear are correctly aligned.

Figure 6-274 Reinstall the main-drive assembly (4 of 11)



5. Verify that the cams (callout 5) align correctly.

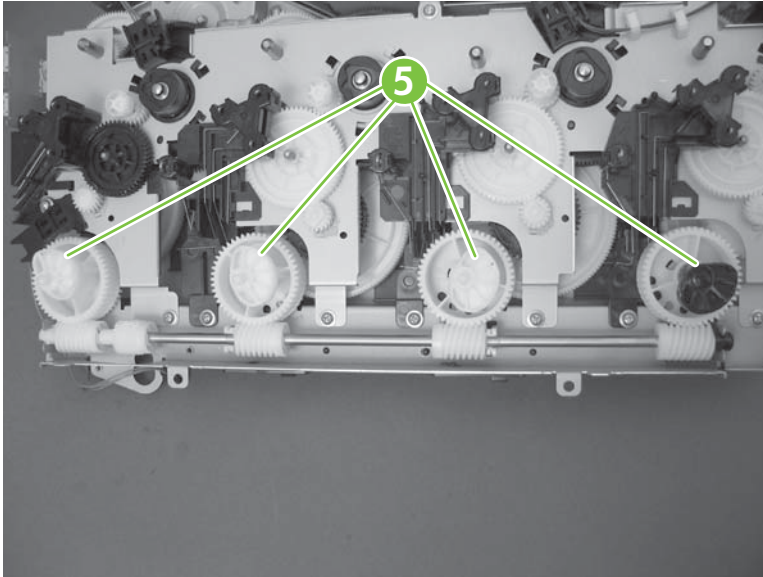
 **TIP:** The second cam in from the right (the white cam to the left of the black cam), should have the *second* hole aligned with the hole in the sheet-metal chassis.

The third cam in from the right, should have the *third* hole aligned with the hole in the sheet-metal chassis.

The fourth cam in from the right (the cam nearest the developing-disengagement motor), should have the *fourth* hole aligned with the hole in the sheet-metal chassis.

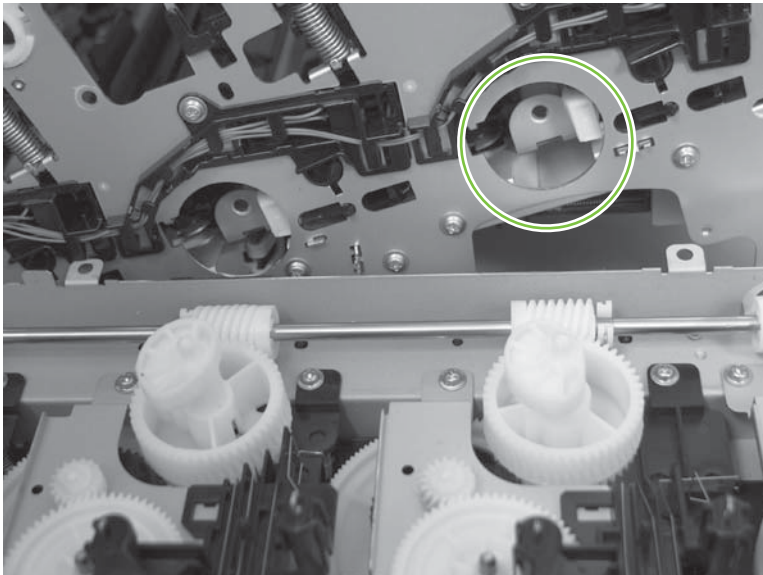
If the second, third, or fourth cams do not correctly align, do the following. Hold the long drive shaft, gently tilt the cam and gear away from the shaft to allow clearance to rotate the gear until the correct hole in the gear aligns with the hole in the chassis.

Figure 6-275 Reinstall the main-drive assembly (5 of 11)



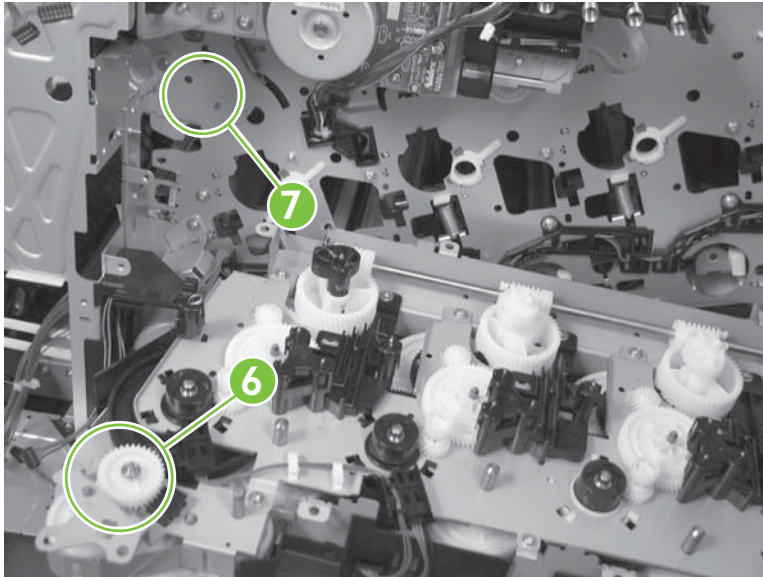
6. When the cams align correctly, they easily fit into the holes in the chassis.

Figure 6-276 Reinstall the main-drive assembly (6 of 11)



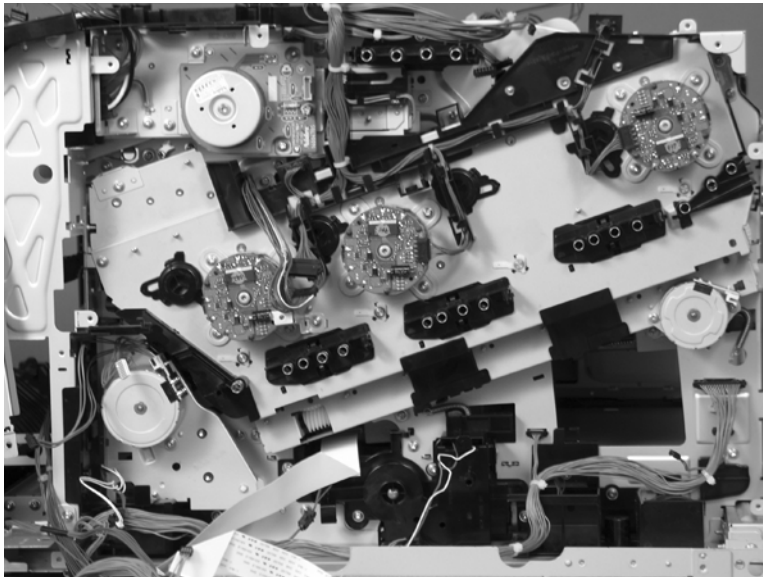
7. When the assembly is placed on the chassis, the pin on the swing gear and on the bracket (callout 6), must align with the holes in the chassis (callout 7).

Figure 6-277 Reinstall the main-drive assembly (7 of 11)



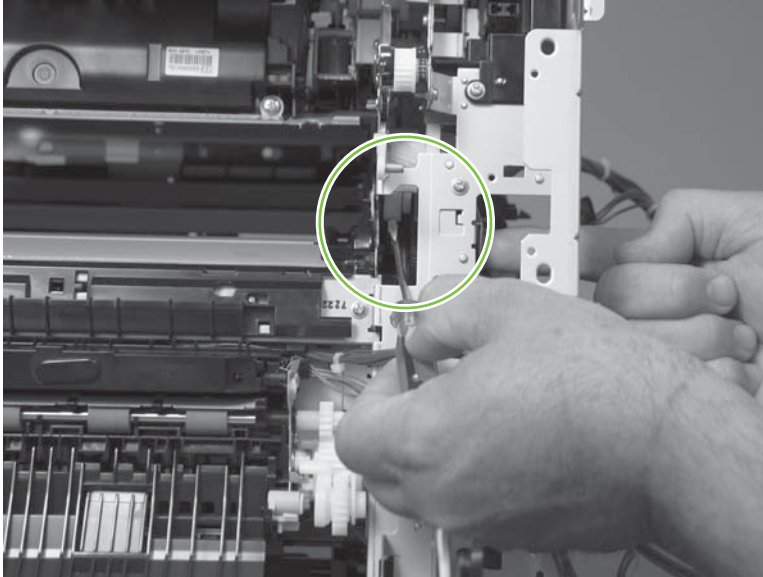
8. Position the assembly on the chassis.

Figure 6-278 Reinstall the main-drive assembly (8 of 11)



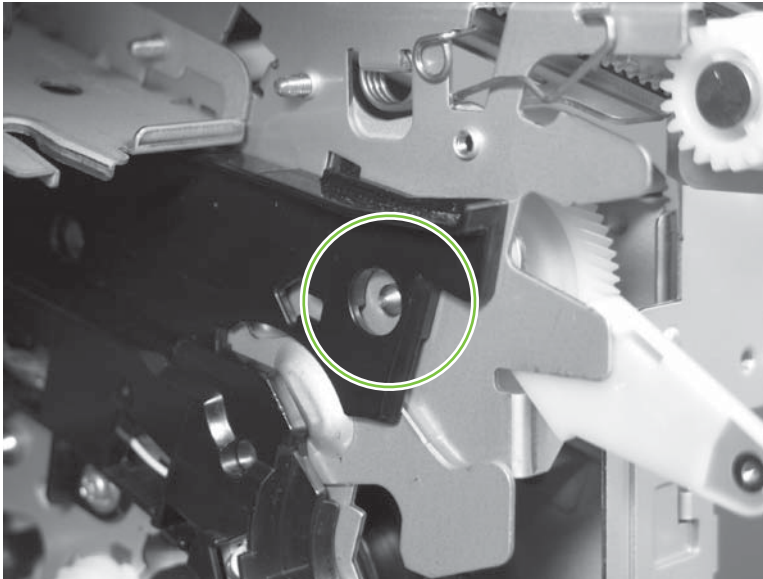
9. Use your finger to push in on the assembly, and use a small flat blade screwdriver to align the pin on the swing gear with the hole in the chassis.

Figure 6-279 Reinstall the main-drive assembly (9 of 11)



10. When the assembly is correctly installed against the chassis, the pin above the swing gear protrudes through the hole in the chassis.

Figure 6-280 Reinstall the main-drive assembly (10 of 11)

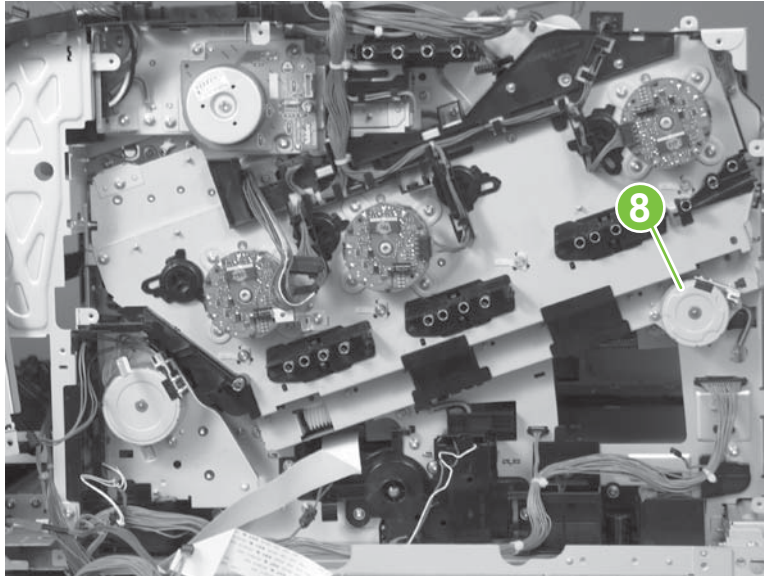


11. Install the main-drive assembly mounting screws, and then reinstall the developing-disengagement motor (callout 8).

 **TIP:** After reassembling the product, use the **Diagnostics** menu to print a **Color Band Test** page.

If the test page shows one or more color planes are not printing (usually in the upper left corner of the page), the cam or cams for the missing color plane are not correctly aligned. Repeat the reinstall the main-drive assembly procedure.


Figure 6-281 Reinstall the main-drive assembly (11 of 11)



Fuser-drive assembly

Before proceeding, remove the following components:

- Formatter PCA. [Formatter PCA on page 192.](#)
- Fuser. See [Fuser on page 200.](#)
- Secondary transfer assembly. See [Secondary transfer assembly on page 207.](#)
- Front-upper cover. See [Front-upper cover on page 225](#)
- Right-rear cover. See [Right-rear cover on page 231.](#)
- Left cover. See [Left cover on page 233.](#)
- Rear-upper cover. See [Rear-upper cover on page 236.](#)
- Rear cover. See [Rear cover on page 238.](#)
- Scanner assembly. See [Scanner assembly on page 242.](#)
- Front-top cover. See [Front-top cover on page 261.](#)
- Rear-top cover. See [Rear-top cover on page 262](#)
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267.](#)

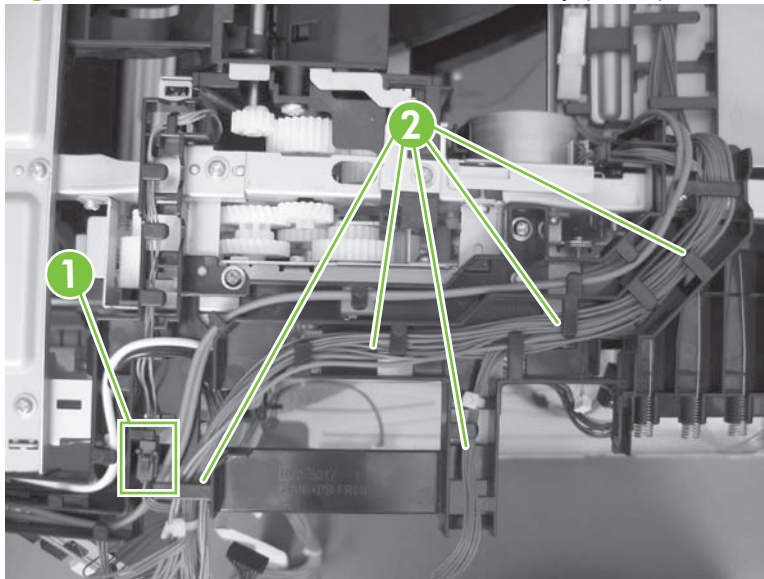
 **TIP:** For internal product access, you can remove the ICB and the low-voltage power supply as a single component.

- DC controller PCA. See [DC controller PCA and tray on page 270.](#)
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273.](#)
- Power-supply fan and fan duct. See [Power-supply fan and fan duct on page 300.](#)
- High-voltage power supply lower. See [High-voltage power supply lower on page 308.](#)
- High-voltage power supply upper. See [High-voltage power supply upper on page 339.](#)
- Main-drive assembly. See [Main-drive assembly on page 346.](#)

Remove the fuser-drive assembly

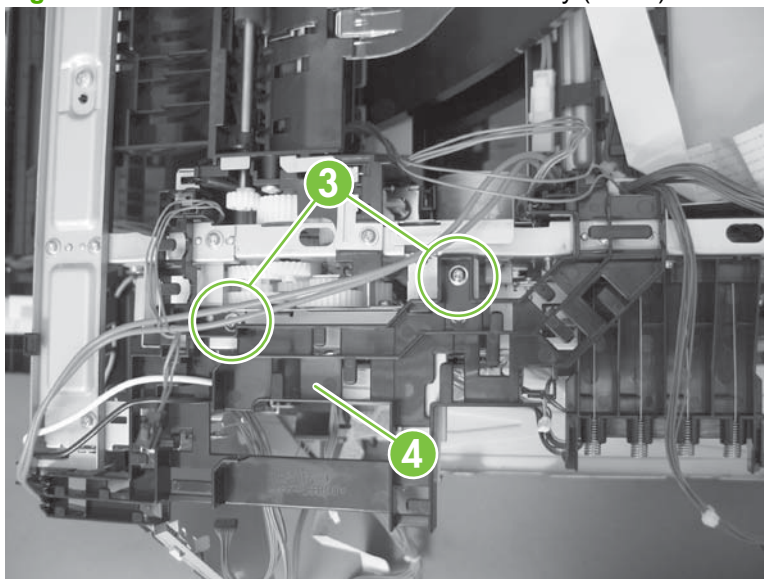
1. Disconnect one connector (callout 1), and then release the wire harnesses from the guide (callout 2).

Figure 6-282 Remove the fuser-drive assembly (1 of 6)



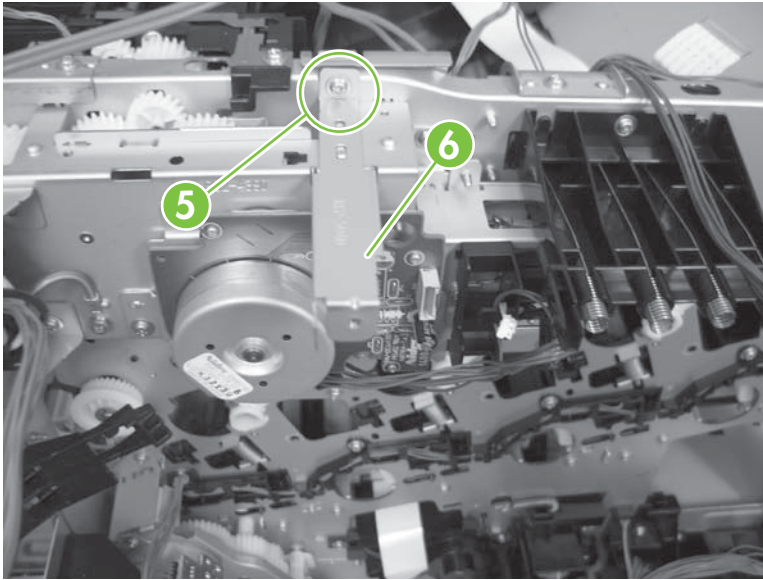
2. Remove two screws (callout 3), and then remove the guide (callout 4).

Figure 6-283 Remove the fuser-drive assembly (2 of 6)



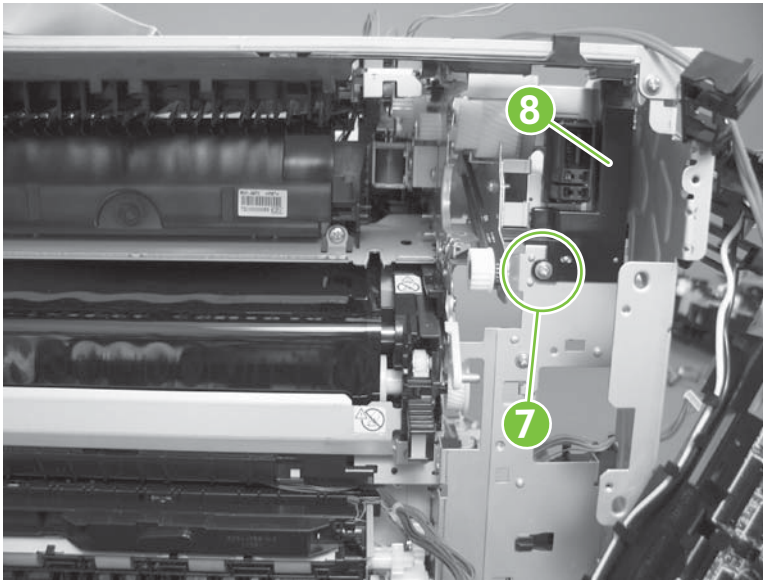
3. Remove one screw (callout 5), and then remove the sheet-metal plate (callout 6).

Figure 6-284 Remove the fuser-drive assembly (3 of 6)



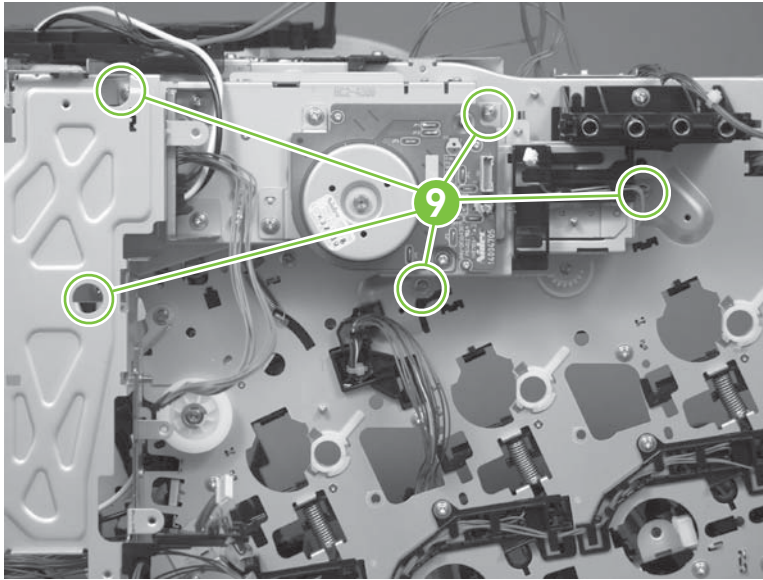
4. Remove one screw (callout 7), and then remove the cover (callout 8).

Figure 6-285 Remove the fuser-drive assembly (4 of 6)



5. Remove five screws (callout 9).

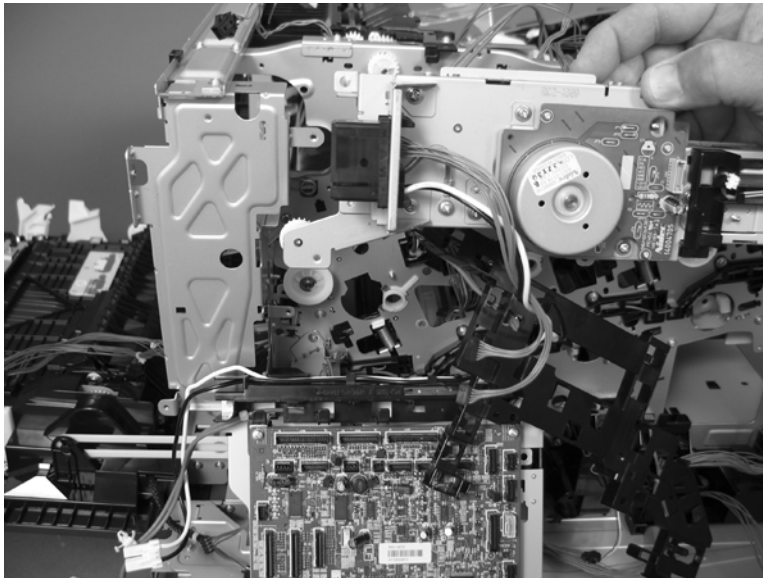
Figure 6-286 Remove the fuser-drive assembly (5 of 6)



6. Carefully remove the assembly.

△ **CAUTION:** A gear on the assembly is not captive. Do not lose the gear when you remove the assembly. If the gear becomes dislodged, see [Reinstall the fuser-drive assembly on page 360](#).

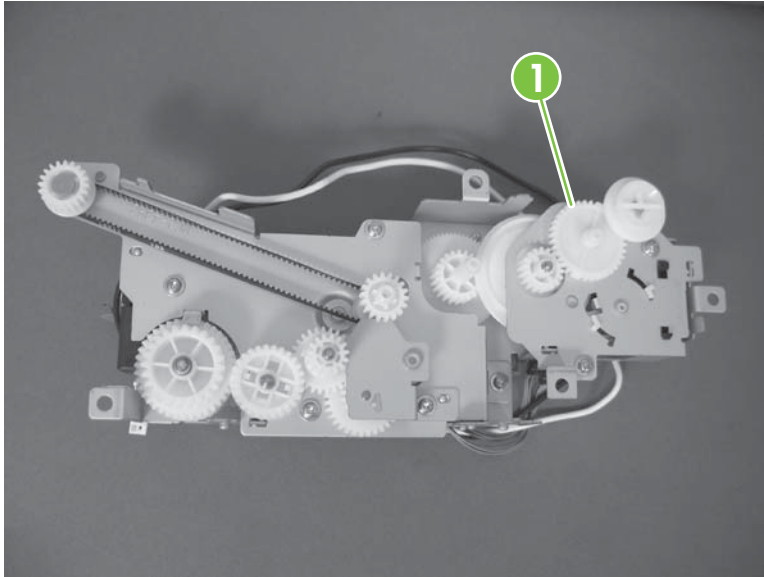
Figure 6-287 Remove the fuser-drive assembly (6 of 6)



Reinstall the fuser-drive assembly

If the gear (callout 1) is dislodged when the assembly is removed, use the figure below to correctly install it on the assembly.

Figure 6-288 Reinstall the fuser-drive assembly



Delivery assembly

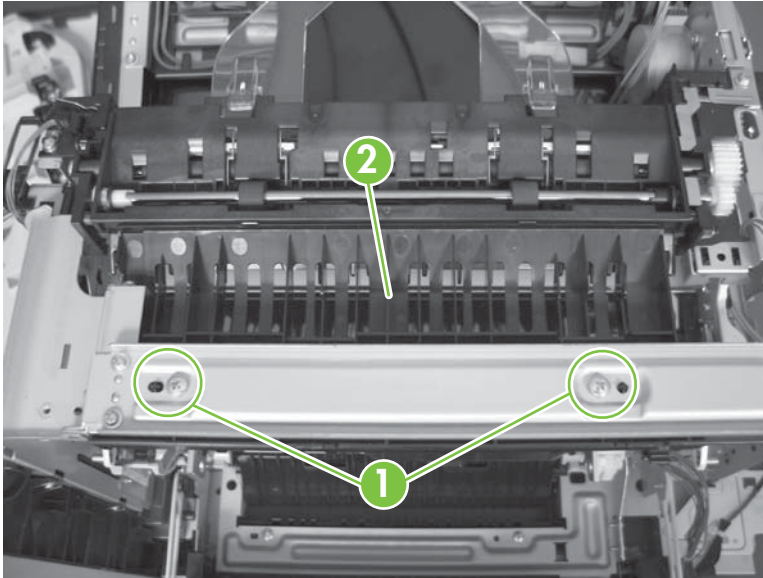
Before proceeding, remove the following components:

- Fuser. See [Fuser on page 200](#).
- Secondary transfer assembly. See [Secondary transfer assembly on page 207](#).
- Front-upper cover. See [Front-upper cover on page 225](#).
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Scanner assembly. See [Scanner assembly on page 242](#).
- Front-top cover. See [Front-top cover on page 261](#).
- Rear-top cover. See [Rear-top cover on page 262](#).
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).
- DC controller PCA. See [DC controller PCA and tray on page 270](#).
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- Power-supply fan and fan duct. See [Power-supply fan and fan duct on page 300](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).
- High-voltage power supply upper. See [High-voltage power supply upper on page 339](#).
- Main-drive assembly. See [Main-drive assembly on page 346](#).
- Fuser-drive assembly. See [Fuser-drive assembly on page 356](#).

Remove the delivery assembly

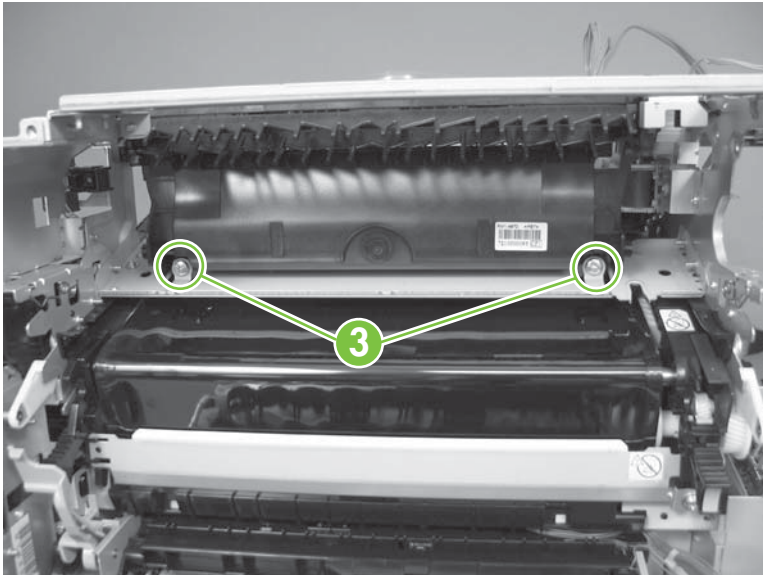
1. Remove two screws (callout 1), and then remove the guide (callout 2).

Figure 6-289 Remove the delivery assembly (1 of 5)



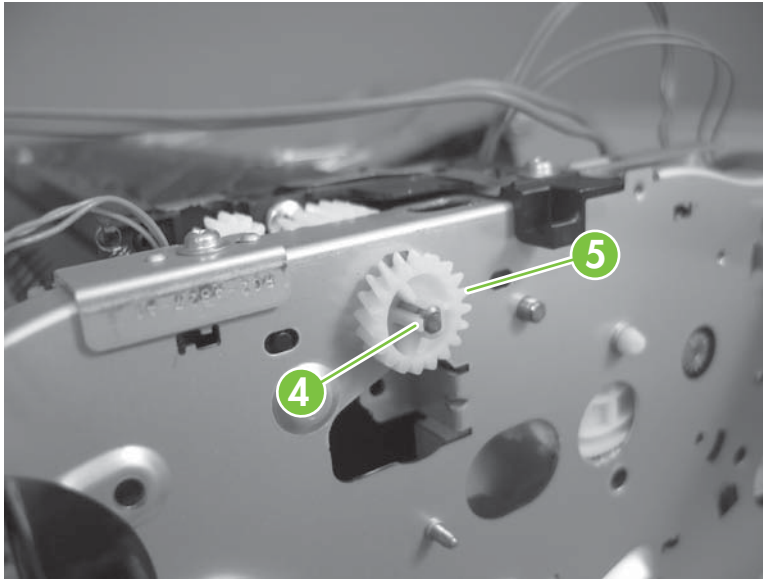
2. Remove two screws (callout 3).

Figure 6-290 Remove the delivery assembly (2 of 5)



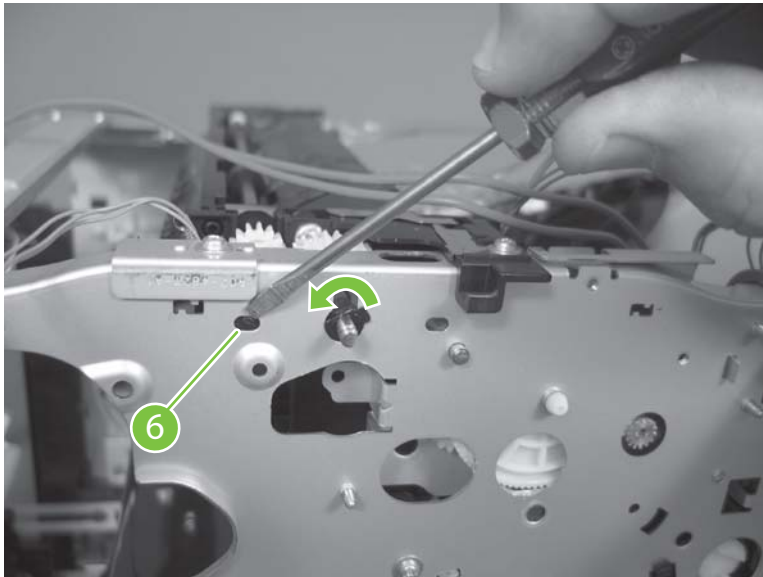
3. Release one tab (callout 4), and then remove the gear (callout 5).

Figure 6-291 Remove the delivery assembly (3 of 5)



4. Release one tab (callout 6), and then rotate the locking clip until the tab on the clip aligns with the slot in the chassis.

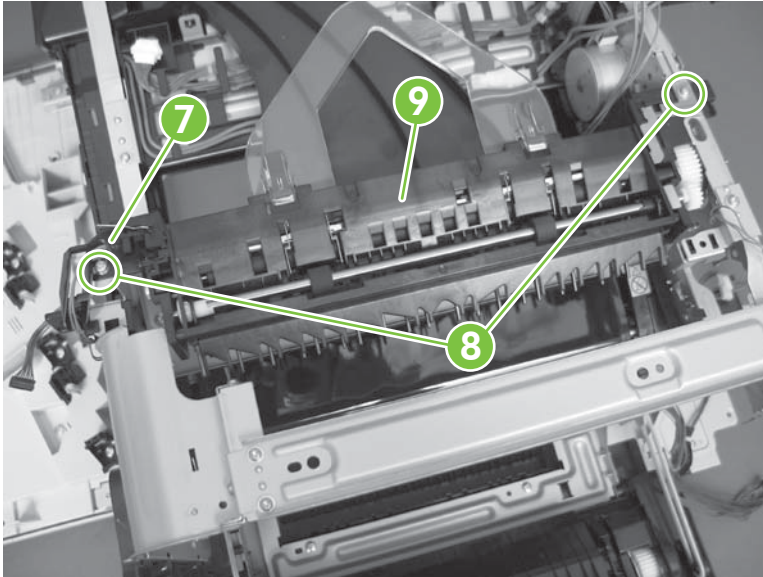
Figure 6-292 Remove the delivery assembly (4 of 5)



5. Disconnect one connector (callout 7), remove two screws (callout 8), and then carefully lift the assembly (callout 9) off of the product to remove it.

△ **CAUTION:** A solenoid arm (on the right side) and a spring (on the left side) on the assembly are not captive. Do not lose the solenoid arm or spring when you remove the assembly. If the solenoid arm or spring become dislodged, see [Reinstall the delivery assembly on page 365](#).

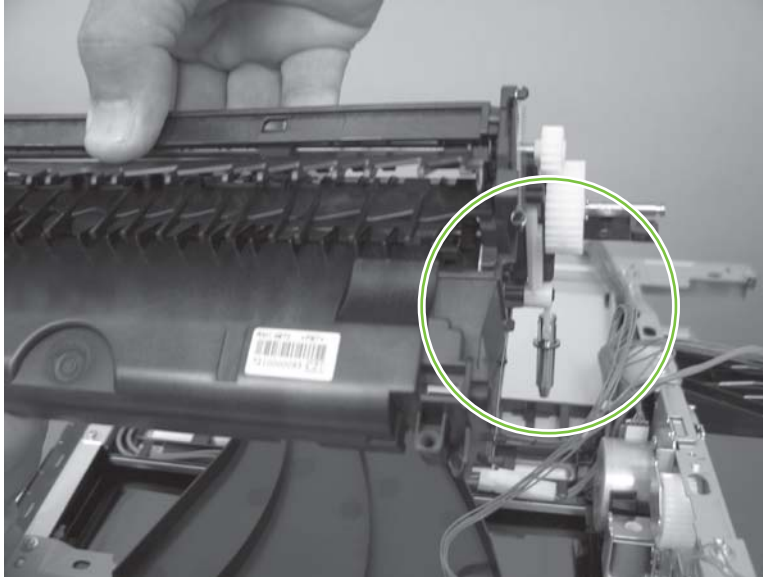
Figure 6-293 Remove the delivery assembly (5 of 5)



Reinstall the delivery assembly

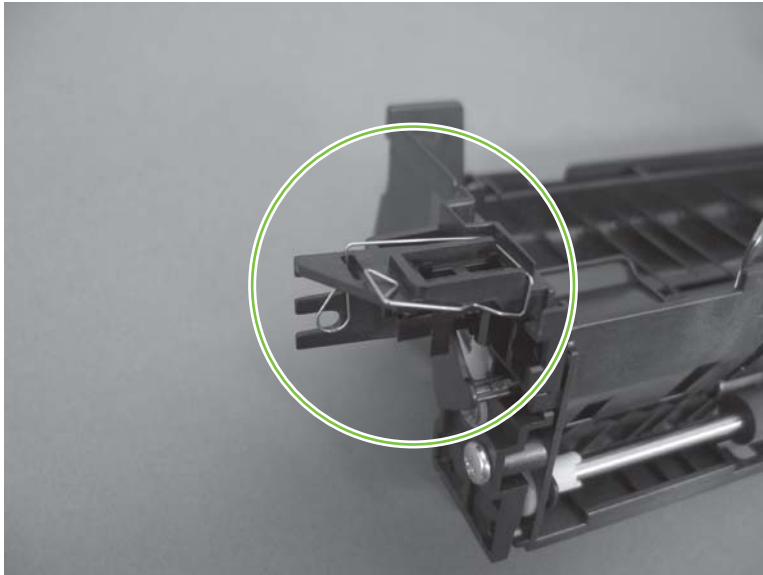
1. Make sure that the solenoid arm is correctly installed on the assembly.

Figure 6-294 Reinstall the delivery assembly (1 of 2)



2. Make sure that the spring is correctly installed on the assembly.

Figure 6-295 Reinstall the delivery assembly (2 of 2)



Duplex-drive assembly

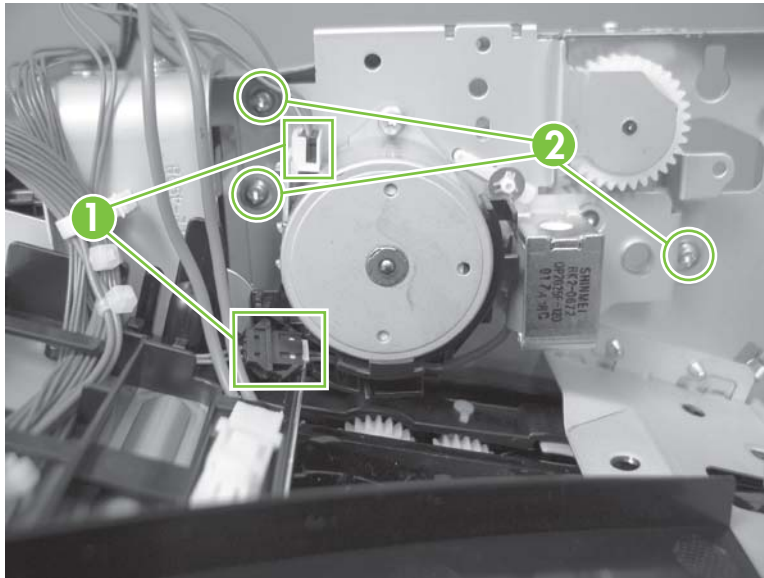
Before proceeding, remove the following components:

- Fuser. See [Fuser on page 200](#).
- Secondary transfer assembly. See [Secondary transfer assembly on page 207](#).
- Intermediate transfer belt. See [Intermediate transfer belt \(ITB\) on page 209](#)
- Front-upper cover. See [Front-upper cover on page 225](#)
- Right-rear cover. See [Right-rear cover on page 231](#).
- Left cover. See [Left cover on page 233](#).
- Rear-upper cover. See [Rear-upper cover on page 236](#).
- Rear cover. See [Rear cover on page 238](#).
- Scanner assembly. See [Scanner assembly on page 242](#).
- Front-top cover. See [Front-top cover on page 261](#).
- Rear-top cover. See [Rear-top cover on page 262](#)
- Interconnect board (ICB). See [Interconnect board \(ICB\) on page 267](#).
- DC controller PCA. See [DC controller PCA and tray on page 270](#).
- Low-voltage power supply (LVPS). See [Low-voltage power supply \(LVPS\) on page 273](#).
- Power-supply fan and fan duct. See [Power-supply fan and fan duct on page 300](#).
- High-voltage power supply lower. See [High-voltage power supply lower on page 308](#).
- High-voltage power supply upper. See [High-voltage power supply upper on page 339](#).
- Main-drive assembly. See [Main-drive assembly on page 346](#).
- Fuser-drive assembly. See [Fuser-drive assembly on page 356](#).
- Delivery assembly. See [Delivery assembly on page 361](#).

Remove the duplex-drive assembly

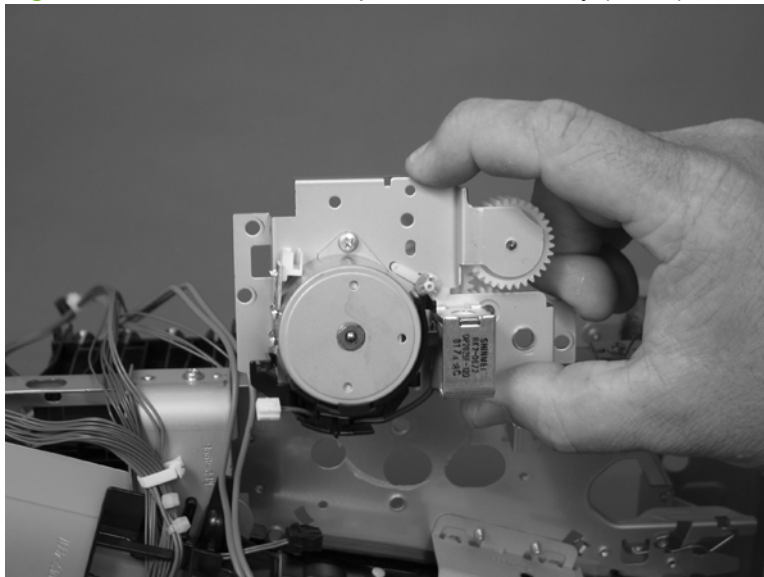
1. Disconnect two connectors (callout 1), and then remove three screws (callout 2).

Figure 6-296 Remove the duplex-drive assembly (1 of 2)




2. Remove the assembly.

Figure 6-297 Remove the duplex-drive assembly (2 of 2)



Optional paper feeder assembly (Tray 3)

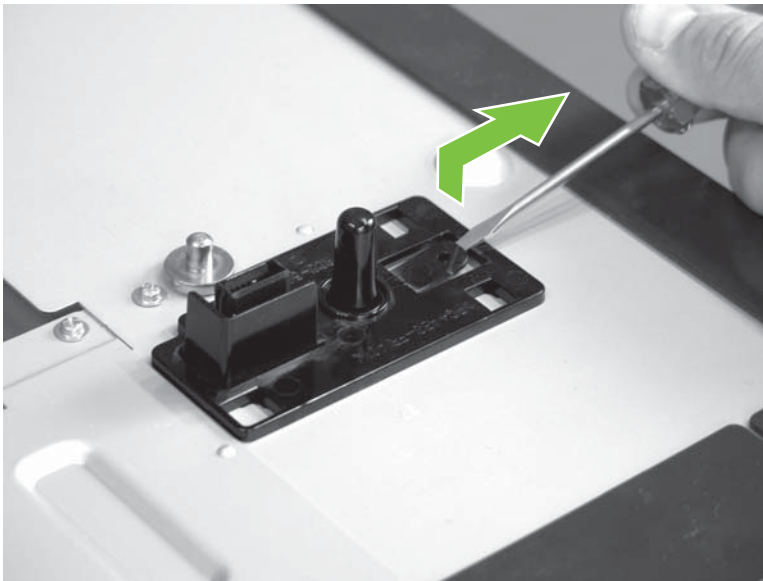
 **NOTE:** For information about removing the Tray 3 pickup roller, see [Pickup and feed rollers \(Tray 3\) on page 203](#).

For information about removing the Tray 3 cassette, see [Tray cassette on page 199](#).

For information about removing the right door (optional paper feeder), see [Right door \(optional paper feeder\) on page 221](#)

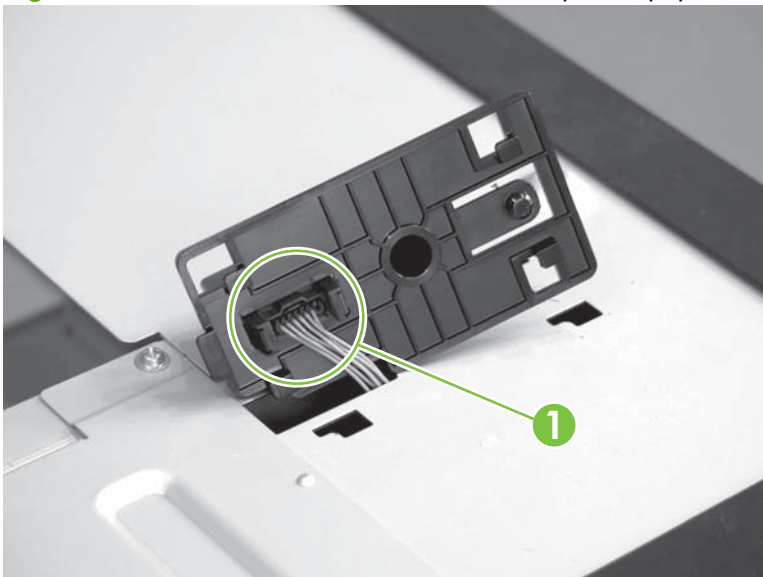
Drawer connector

1. With a small screwdriver, lift one tab and then slide the drawer connector to release.



2. Remove one connector (callout 1).

Figure 6-298 Remove the drawer connector; optional paper feeder



7 Solve problems

To use the information in this chapter, you should have a basic understanding of the HP LaserJet printing process. Explanations of each mechanical assembly, the product systems, and the basic theory of operation are contained in [Theory of operation on page 115](#). Do not perform any of these troubleshooting processes unless you understand the function of each product component.

- [Solve problems checklist](#)
- [Menu map](#)
- [Troubleshooting process](#)
- [Tools for troubleshooting](#)
- [Control-panel messages](#)
- [Event log messages](#)
- [Clear paper jams](#)
- [Solve paper-handling problems](#)
- [Use manual print modes](#)
- [Solve image-quality problems](#)
- [Solve performance problems](#)
- [Solve connectivity problems](#)
- [Service mode functions](#)
- [Solve fax problems](#)
- [Solve e-mail problems](#)

Solve problems checklist

If the product is not responding correctly, complete the steps in the following checklist, in order. If the product does not pass a step, follow the corresponding troubleshooting suggestions. If a step resolves the problem, you can stop without performing the other steps on the checklist.

1. Make sure one of the following messages display on the control panel: **Ready**, **Paused**, or **Sleep Mode On**. If no lights are on or the display does not say **Ready**, **Paused**, or **Sleep Mode On**, see [Power subsystem on page 376](#).
2. Check the cables.
 - a. Check the cable connection between the product and the computer or network port. Make sure that the connection is secure.
 - b. Make sure that the cable itself is not faulty by using a different cable, if possible.
 - c. Check the network connection. See [Solve connectivity problems on page 501](#).
3. Ensure that the print media that you are using meets specifications. See [Supported paper and print media on page 56](#).
4. Print a configuration page. See [Configuration pages on page 436](#). If the product is connected to a network, an HP Jetdirect page also prints.
 - a. If the pages do not print, check that at least one tray contains print media.
 - b. If the page jams in the product, see [Clear paper jams on page 472](#).
5. If the configuration page prints, check the following items.
 - a. If the page prints correctly, then the product hardware is working. The problem is with the computer you are using, with the printer driver, or with the program.
 - b. If the page does not print correctly, the problem is with the product hardware.
6. Does the image quality meet the user's requirements? If yes, go to step 7. If no, check the following items:
 - Print the print-quality (PQ) troubleshooting pages See [Print-quality-troubleshooting pages on page 431](#) in this chapter.
 - Solve the print-quality problems, and then go to step 7.
7. At the computer, check to see if the print queue is stopped, paused, or set to print offline.

Windows: Click **Start**, click **Settings**, and then click **Printers** or **Printers and Faxes**. Double-click **HP Color LaserJet CM3530**.

-or-

Mac OS X: Open **Printer Setup Utility**, and then double-click the line for the **HP Color LaserJet CM3530**.

8. Verify that you have installed the HP Color LaserJet CM3530 MFP Series printer driver. Check the program to make sure that you are using the HP Color LaserJet CM3530 MFP Series printer driver.
9. Print a short document from a different program that has worked in the past. If this solution works, then the problem is with the program you are using. If this solution does not work (the document does not print) complete these steps:
 - a. Try printing the job from another computer that has the product software installed.
 - b. If you connected the product to the network, connect the product directly to a computer with a USB cable. Redirect the product to the correct port, or reinstall the software, selecting the new connection type that you are using.

Menu map

The menu map can be an important troubleshooting tool. It shows each control-panel menu and submenu to aid navigation through the menu system. Print the menu map from the control panel by completing the following steps.

1. Touch **Administration**.
2. Touch **Information**.
3. Touch **Configuration/Status Pages**.
4. Touch **Administration Menu Map**.
5. Touch **Print**.

Troubleshooting process

Determine the problem source

When the product malfunctions or encounters an unexpected situation, the product control panel alerts you to the situation. This section contains a pre-troubleshooting checklist to filter out many possible causes of the problem. A troubleshooting flowchart helps you diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

- Use the pre-troubleshooting checklist to evaluate the source of the problem and to reduce the number of steps that are required to fix the problem.
- 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.

Pre-troubleshooting checklist

The list below describes basic questions to ask the customer to help quickly define the problem.

Table 7-1 Pre-troubleshooting checklist

Environment	<ul style="list-style-type: none">● Is the product installed on a solid, level surface?● Is the product exposed to particle matter or dust?● Is the power-supply voltage within ± 10 volts of the specified power source?● Is the power supply plug inserted in the product and directly to the wall outlet (not a power strip)?● Is the operating environment within the specified parameters, as listed in the appendix of this manual?● Is the product exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials?● Is the product exposed to direct sunlight?
Media	<ul style="list-style-type: none">● Does the customer use only supported media?● Is the media in good condition (contains no curls, folds, and so forth)?● Is the media stored correctly and within environmental limits?
Input trays	<ul style="list-style-type: none">● Is the amount of media in the tray within specifications?● Is the media correctly placed in the tray?

Table 7-1 Pre-troubleshooting checklist (continued)

	<ul style="list-style-type: none">• Are the paper guides aligned with the stack?• Is the paper tray correctly installed in the product?
Print cartridges	<ul style="list-style-type: none">• Is each print cartridge installed correctly?• Are original HP print cartridges installed?• Are the cartridges damaged?
ITB and fuser	<ul style="list-style-type: none">• Are the ITB and fuser correctly installed?• Is the ITB or fuser damaged?
Covers	<ul style="list-style-type: none">• Are the top cover and front cover closed?
Condensation	<ul style="list-style-type: none">• Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe the affected area dry or leave the product on for 10 to 20 minutes.• Was a print cartridge opened soon after being moved from a cold to a warm room? If so, allow the product to sit at room temperature for one to two hours.
Miscellaneous	<ul style="list-style-type: none">• Check for and remove any non-HP components (print cartridges, memory modules, and EIO cards) from the product.• Remove the product from the network, and ensure that the failure is associated with the product before beginning troubleshooting.• For any print-quality issues, calibrate the product. See Calibrate the product on page 430.

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 additional testing is needed. Proceed to the appropriate section in this chapter, and follow the instructions there. After completing the instructions, proceed to the next major step in this troubleshooting flowchart.

Table 7-2 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 376 .
	Yes ↓	No →	After the control-panel display is functional, go to step 2.
2 Control panel messages	Does the message Ready display on the control panel?		If an error message appears, see Control-panel messages on page 441 .
	Yes ↓	No →	After the errors have been corrected, go to step 3.
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, see Print an event log on page 468 . If paper jams inside the product, see Clear paper jams on page 472 .
	Yes ↓	No →	If error messages appear on the control-panel display when you try to print an event log, see Control-panel messages on page 441 . After successfully printing and evaluating the event log, go to step 4.
4 Information pages	Open the Information menu and print the configuration pages to verify that all of 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, go to 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 Image defects table on page 494 .
	Yes ↓	No →	After the print quality is acceptable, go to step 6.
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.
	Yes. This is the end of the troubleshooting process.	No →	If error messages display on the control panel, see Control-panel messages on page 441 . When the customer can print from the host computer, this is the end of the troubleshooting process.

Power subsystem

Power-on checks


The basic product functions should start up when the product is plugged 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 the normal initialization display does not appear, perform power-on checks to find the cause of the problem.

Power-on sequence

- 00 seconds: power on button LED (+5 VA from LVPS)
- 02 seconds: control-panel display with HP logo (check USB cable from ICB, 12 v from formatter)
- 04 seconds: output bin LED (+5 v from SCB)
- 06 seconds: scanner lamp and initialization (24 v from LVPS)
- 10 seconds: ADF initialization (check ADF cable)
- 12 seconds: LVPS fan (right rear corner, 24 v from LVPS)
- 22 seconds: engine initialization

 **NOTE:** The LVPS includes an over current and over voltage crowbar circuit. If the power supply does not come on, unplug the power cord, wait five minutes, and then plug the power cord in and try turning the product on again.

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 (see [Engine-test button on page 386](#)). 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 plugged 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 flashing.
6. Remove any HP Jetdirect or other EIO cards, and then try to turn the product on again.



NOTE: If the control panel remains blank, lift the control and verify the USB cable is seated. Next, remove the rear upper cover and check the other end of the control panel USB cable where it connects to the ICB.

The control panel operates on +12 v which originates on the formatter and is delivered through connections on the ICB.

The control panel diagnostic mode can be accessed to verify functionality. Touching “+” and “*” together at any time accesses the diagnostic mode.

Tools for troubleshooting

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

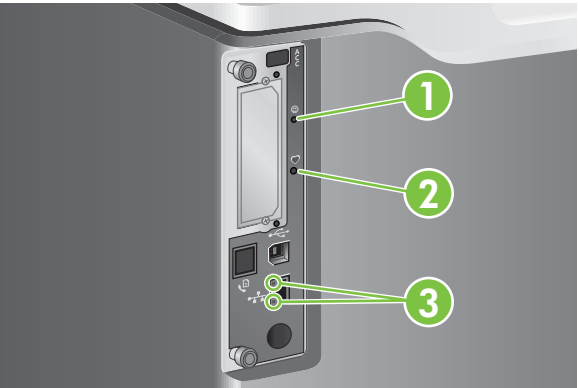
Individual component diagnostics

LED diagnostics

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

Understand lights on the formatter

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

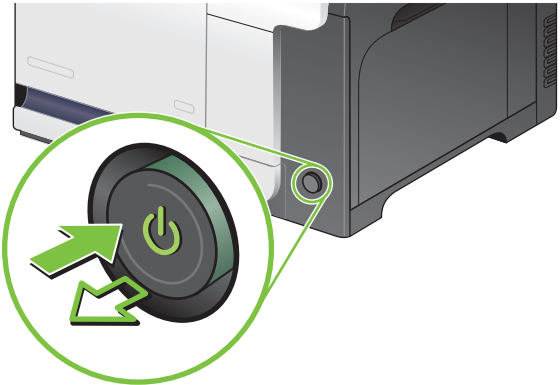


1	Formatter connectivity LED (lit when formatter is correctly seated)
2	Heartbeat LED
3	HP Jetdirect LEDs


Formatter connectivity LED

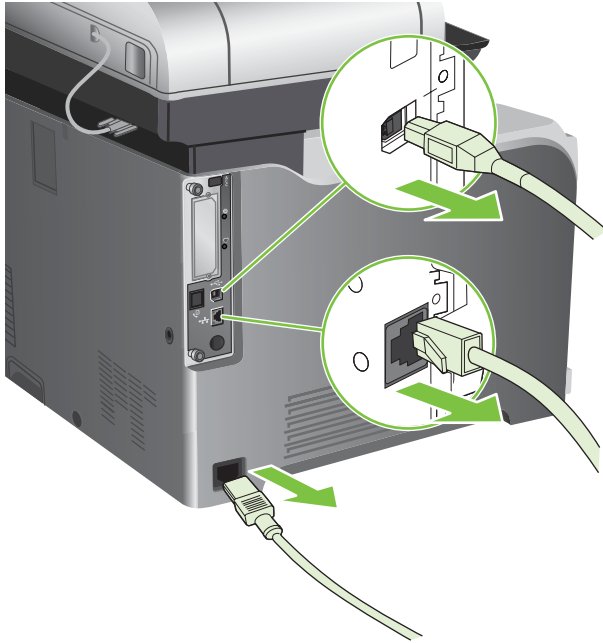
The formatter connectivity LED indicates when the formatter is correctly seated in the product. If the LED is not lit, follow this procedure to correct the problem.

1. Turn the product off.

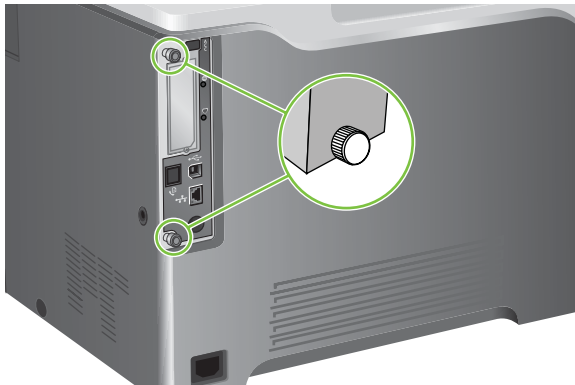


2. Disconnect all power and interface cables.

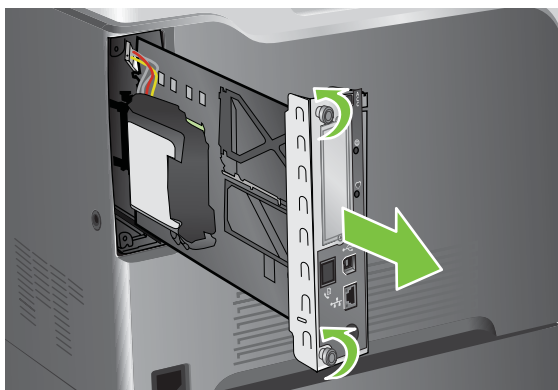
 **NOTE:** This illustration might not show all the cables.




3. Locate the thumb screws on the formatter in the rear of the product.




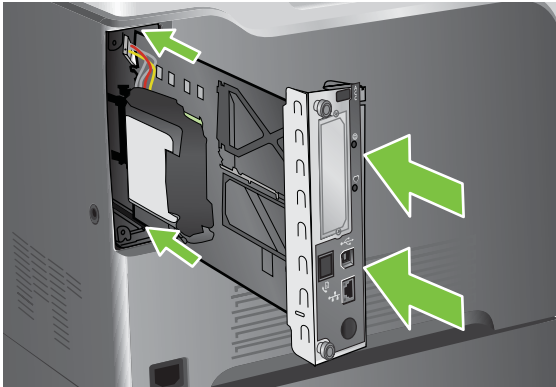
4. Unscrew the thumb screws and pull the formatter from the product.



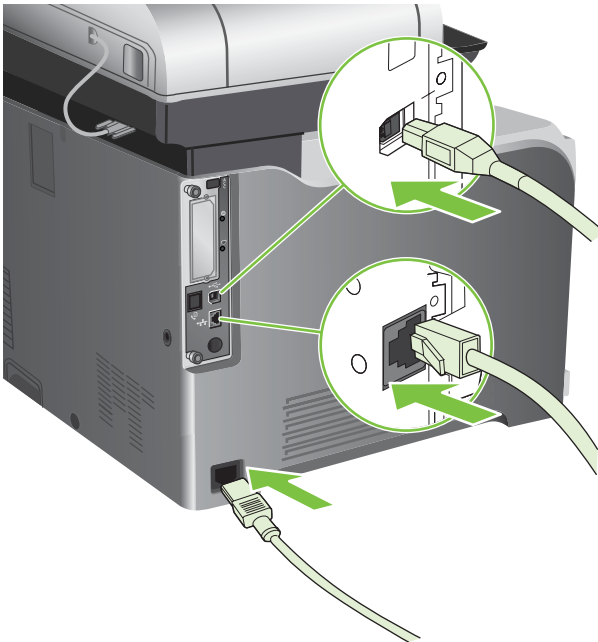
5. Align the formatter in the tracks at the bottom of the slot, and then slide it back into the product. Push firmly on the right side of the formatter to make sure it is fully inserted.

 **NOTE:** To prevent damage to the formatter, ensure the formatter is aligned in the tracks at the top and the bottom of the opening.

 **Reinstallation tip** To prevent the formatter from flexing and not fully seating, firmly push in on the formatter along the edge opposite of the thumb screws.



6. Reconnect the power cable and interface cables, and turn the product on.



Heartbeat LED

The heartbeat LED indicates that the formatter is functioning correctly. While the product is initializing after you turn it on, the LED blinks rapidly, and then turns off. When the product has finished the initialization sequence, the heartbeat LED pulses on and off.

If the heartbeat LED is off, the formatter might have a problem. Turn the product off and then on. If the LED is still off, replace the formatter. See [Formatter PCA on page 192](#).

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. Scroll to and touch **Administration**.
2. Touch **Initial Setup**.
3. Touch **Networking and I/O**.
4. Touch **Embedded Jetdirect** or **EIO <X> Jetdirect**.
5. Touch **Link Speed**.
6. Select the appropriate link speed.
7. Touch **Save**.

Engine diagnostics

This section provides an overview of the engine diagnostics that are available in the HP Color LaserJet CM3530 MFP Series product. The product contains extensive internal diagnostics that help in troubleshooting print quality, paper path, noise, component, and timing issues.

Troubleshooting menu

The Troubleshooting menu allows you to run tests that can help you identify and solve problems with the product.

Menu item	Description
Event Log	This shows the event codes and their corresponding engine cycles on the control-panel display. See Event log messages on page 468 .
Calibrate Scanner	Use this feature to compensate for offsets in the scanner imaging system (carriage head) for ADF and flatbed scans. You might need to calibrate the scanner if it is not capturing the correct sections of scanned documents.
PQ Troubleshooting	This item prints a series of eight pages that include instructions, pages for each color, a demo page, and a configuration page. These pages can help isolate print-quality problems. See Solve image-quality problems on page 494 .
Fax T.30 Trace	Print or configure the fax T.30 trace report. T.30 is the standard that specifies handshaking, protocols, and error correction between fax machines. See Solve fax problems on page 507 .
Fax Transmit Signal Loss	Set loss levels to compensate for phone-line signal loss. Do not modify this setting unless requested to do so by an HP service representative because it could cause the fax to stop functioning. See Solve fax problems on page 507 .
Fax V.34	Disable V.34 mode if several fax failures have occurred or if phone line conditions require it. See Solve fax problems on page 507 .

Menu item	Description
Fax Speaker Mode	A technician can use this feature to evaluate and diagnose fax issues by listening to the sounds of fax modulations. See Solve fax problems on page 507 .
Diagnostic Page	Print a diagnostic page that includes color swatches and the EP parameters table. See Diagnostics page on page 434 .
Disable Cartridge Check	This item allows you to remove a print cartridge to help determine which cartridge is the source of a problem. See Disable cartridge check on page 385 .
Paper Path Sensors	This item displays the status of each sensor in the paper path. See Paper-path sensors test on page 408 .
Paper Path Test	This item tests the paper handling features of the product, such as the configuration of the trays. See Paper-path test on page 386 .
Manual Sensor Test	This item displays the status of each sensor, and allows manual testing of the sensors. See Manual sensor test (special-mode test) on page 387 .
Component Test	This item activates individual parts independently to isolate noise, leaking, and other hardware issues. See Component tests on page 409 .
Print/Stop Test	This item isolates print-quality faults more accurately by stopping the product in mid-print cycle. Stopping the product in mid print cycle allows you to see where the image begins to degrade. It also causes a jam that might need to be manually removed. A service representative should perform this test. See Print/Stop test on page 409 .
Color Band Test	Print a color-band test page to identify arcing in the high-voltage power supply. See Color-band test on page 440 .
Scanner Tests	<p>Use this item to diagnose potential problems with the product scanner. See Troubleshooting menu on page 50.</p> <ul style="list-style-type: none"> ● Lower-lamp ● ADF read motor ● Sensors <ul style="list-style-type: none"> ◦ ADF empty sensor ◦ Top-of-page sensor ◦ Register/deskew sensor ◦ ADF width sensor ◦ ADF jam cover sensor ◦ ADF length sensor ◦ Flatbed cover sensor ◦ Flatbed width sensor ◦ Flatbed length sensor ● ADF read motor reverse ● ADF input motor ● ADF duplex solenoid ● ADF input reverse

Menu item	Description
	<ul style="list-style-type: none"> • ADF indicator light • Flatbed motor
Control Panel	<p>Use this item to make sure that the control-panel is functioning. See Troubleshooting menu on page 50.</p> <ul style="list-style-type: none"> • test control-panel LEDs by turning them on and off • display a test pattern on the display (if the test pattern does not display the control panel is not correctly functioning) • test the functionality of the control-panel buttons • display a test grid on the touch screen (touch each section of the grid to verify touch screen sensitivity)
PTT test mode	Manufacturing test only. Not a service test.

Defeating interlocks

Different tests can be used to isolate different types of issues. For component or noise isolation, you can run the diagnostic test after removing the covers for a better view of the areas that are being tested. To operate the product with the covers removed, the door-switch levers (SW1, callout 1) must be depressed (this is the door-closed position) with a folded piece of paper.

⚠ WARNING! Be careful when performing product diagnostics to avoid the risk of injury. Only trained service personnel should open and run the diagnostics with the covers removed or with the door switch levers depressed. Never touch any of the power supplies when the product is turned on.

WARNING! If the front- or right-door switch levers are depressed, the laser/scanners can be activated while a door is open.

Figure 7-1 Front-door interlock

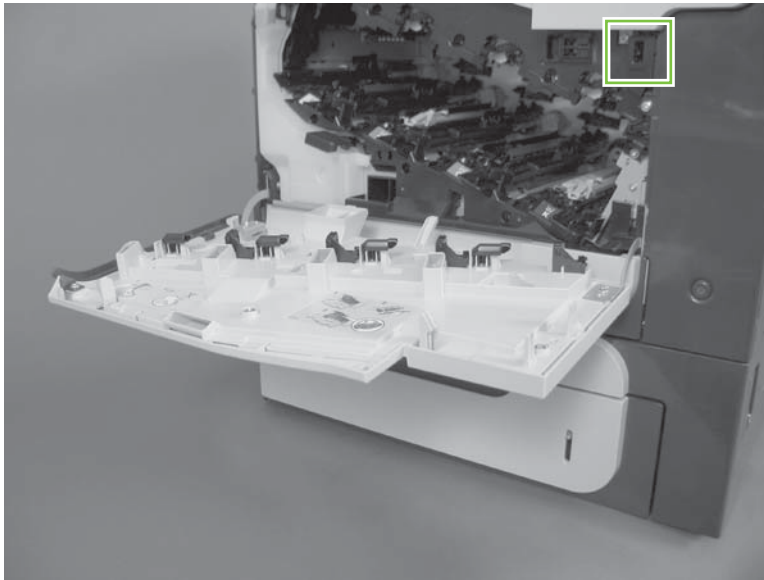


Figure 7-2 Right-door interlock





NOTE: Anytime that a cartridge is installed or removed while the covers are removed, the door interlock must be manually cycled to simulate opening and closing the top cover in order for the engine to recognize the change. When the covers are installed, the door switch and fuser interlock are automatically operated.

Disable cartridge check

Use this diagnostic test to print internal pages or send an external job to the product when one or more print cartridges or image drum pairs are removed or exchanged. While the product is in this diagnostics mode, consumable supply errors are ignored, and you can navigate the menus. This test can be used to isolate problems, such as noise, and to isolate print-quality problems that are related to individual print cartridges.



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

NOTE: Anytime a print cartridge is installed or removed while the covers are removed, the front door interlock must be manually cycled to simulate opening and closing the front door in order for the engine to recognize the change. When the covers are installed, the front-door switch is automatically operated.

1. Touch **Administration**.
2. Scroll to and touch **Troubleshooting**.
3. Touch **Disable Cartridge Check**.

Engine-test button

To verify that the product engine is functioning, print an engine-test page. Use a small pointed object to depress the test-page switch located on the back of the product. The test page should have a series of horizontal lines. The test page can use only Tray 2 as the paper source, so make sure that paper is loaded in Tray 2.

Figure 7-3 Engine-test button



Paper-path test

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

To isolate a problem, specify which input tray to use, specify whether to use the duplex path, and specify the number of copies to print. Multiple copies can be printed to help isolate intermittent problems. The following options become available after you open 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.** Select Tray 1, Tray 2, or the optional trays.
 - **Duplex.** Enable or disable 2-sided printing.
 - **Copies.** Set the number of copies to be printed; the choices are 1, 10, 50, 100, or 500.
1. Touch **Administration**.
 2. Scroll to and touch **Troubleshooting**.
 3. Touch **Paper Path Test**.
 4. Select the paper-path test options for the test you want to run.

Manual sensor test (special-mode test)

Use this diagnostic test to test the product sensors and switches. Each sensor is represented by a letter and number on the control panel display. Following is the default state of the sensors when the test is accessed (J is not used on this product).

- A1 B1 C1 D1 E0 F0 G0 H1 I0 K0 L1 M0 N1 O0 P0 Q0 R0 S0 T0 U0



NOTE: For the *K right and front door interlock switches* test: Sensor K displays as **0** when *both* the front and side doors are closed. When *either* door is opened, sensor K displays as **1**.

There is only one interlock switch for both doors. If sensor K displays as **1**, check both door actuators. If the actuators are not damaged, check connector J118 on the DC controller.



TIP: If a sensor test fails and the solution is to replace an assembly, try the following. Before you replace the entire assembly, try replacing the failed sensor with the sensor from a replacement assembly. If the problem persists, replace the indicated assembly.

1. Touch **Administration**.
2. Scroll to and touch **Troubleshooting**.
3. Scroll to and touch **Manual Sensor Test**.
4. To exit this test, touch **Exit** on the touchscreen.

Table 7-3 Manual sensor diagnostic tests

Sensor or switch name	Sensor or switch number
Top (A)	SR8
Loop 1 (B)	SR14
Loop 2 (C)	SR15
Fuser delivery (D)	SR5
Duplex re-feed (E)	SR22
Output bin full (F)	SR6
Developing home position sensor (G)	SR11
Fuser pressure release sensor (H)	SR7
ITB alienation sensor (I)	SR17
Front and side door switches (K)	SW1, SW2
Tray 1 (L)	SR9
Tray 2 paper present (M)	SR3
Tray 2 installed (N)	SR4
Tray 2 lift motor (O)	SR1
Tray 3 paper present (P)	SR3
Tray 3 feed (Q)	SR4
Tray 3 installed (R)	SR1
Tray 3 size (bottom) button (S)	SW1

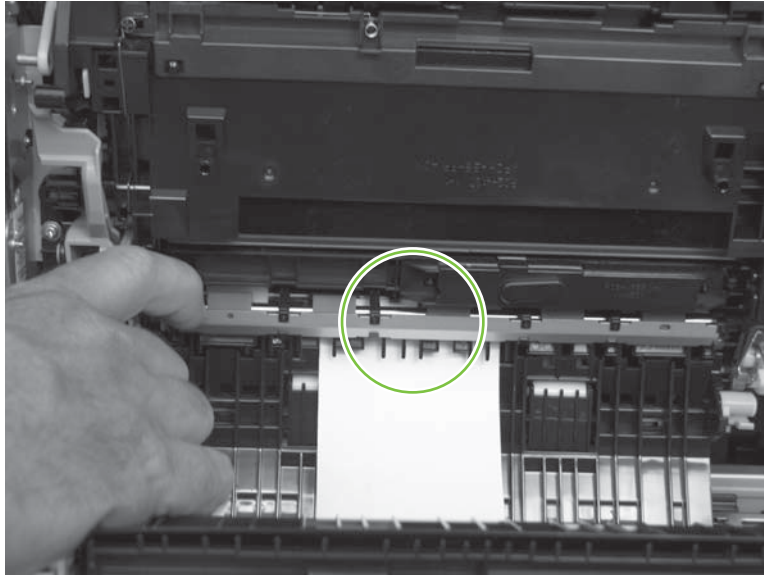
Table 7-3 Manual sensor diagnostic tests (continued)

Sensor or switch name	Sensor or switch number
Tray 3 (middle) button (T)	SW1
Tray 3 (top) button (U)	SW1

A TOP (top of page) sensor

1. Open the right door.
2. Lower the secondary transfer assembly.
3. Open the registration shutter.
4. Insert a piece of paper to activate the TOP sensor.

Figure 7-4 Test the TOP sensor

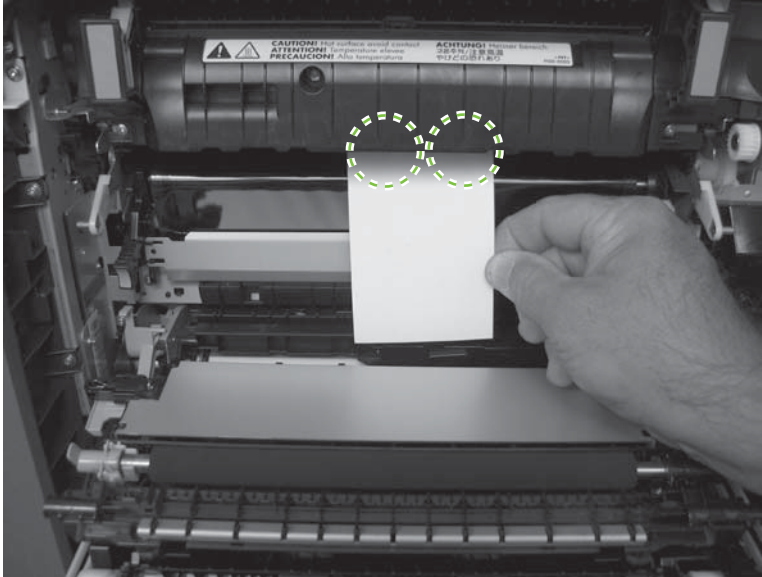


5. Check the control-panel display for sensor response.
6. If no response, replace the registration assembly.

B and C loop sensors

1. Open the right door.
2. Lower the secondary transfer assembly.
3. Slowly insert a piece of paper to activate the B and C loop sensors underneath the fuser.

Figure 7-5 Test the loop sensors

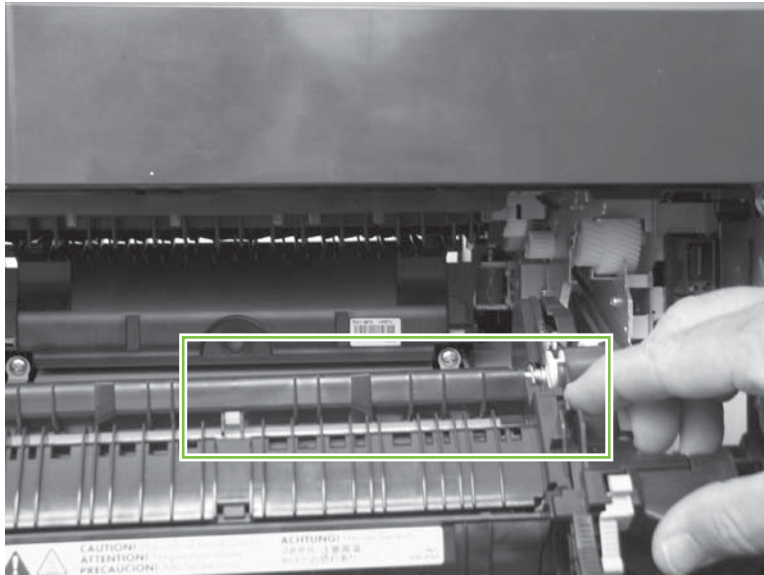


4. Check the control-panel display for a sensor response.
5. If there is no response, replace fuser. See [Fuser on page 200](#).

D fuser (fixing) delivery sensor

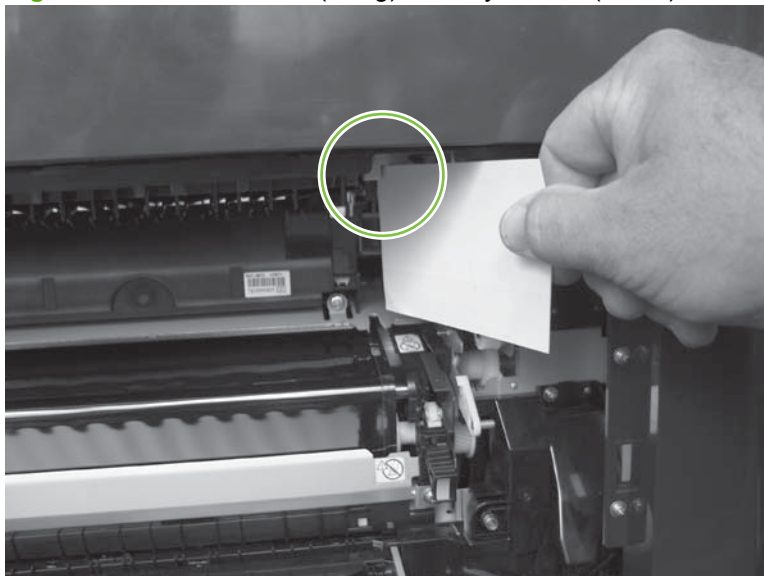
1. Open the right door.
2. Lower the secondary transfer assembly.
3. Remove the fuser assembly, and then verify that the sensor flag on the fuser assembly moves freely. If the sensor flag does not move freely, replace the fuser. See [Fuser on page 200](#).

Figure 7-6 Test the fuser delivery sensor (1 of 2)



4. Insert a piece of paper to activate the fuser (fixing) delivery sensor.

Figure 7-7 Test the fuser (fixing) delivery sensor (2 of 2)

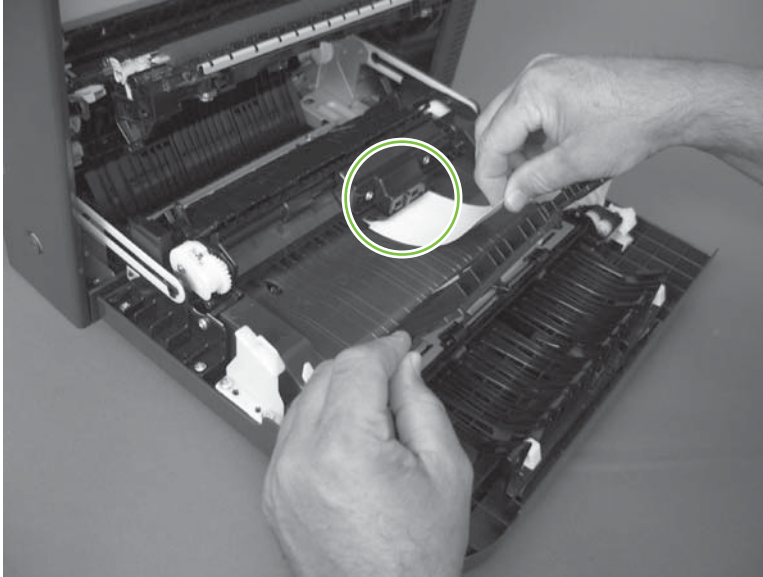


5. Check the control-panel display for a sensor response.
6. If there is no response, replace the fuser (fixing) delivery sensor.

E duplex re-pickup sensor


1. Open the right door.
2. Use the green handle to lift the duplex jam cover.
3. Insert a piece of paper to activate the duplex re-pickup sensor (8492).

Figure 7-8 Test the duplex re-pickup sensor



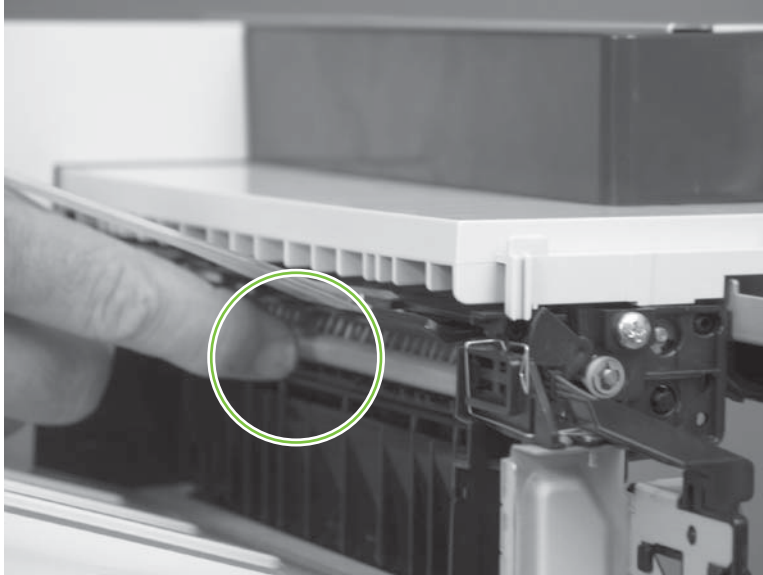
4. Check the control-panel display for sensor response.
5. If no response, replace the right door assembly. See [Right-door assembly on page 227](#).

F output bin full sensor

 **NOTE:** Upper-front cover has been removed for clarity.

1. Open the right door.
2. Lower the secondary transfer assembly.
3. Remove the fuser.
4. Move the output-bin full sensor flag.

Figure 7-9 Test the output-bin-full sensor



5. Check the control-panel display for sensor response.
6. If no response, remove the control panel and verify that the flag is moving. If not, replace the delivery assembly. If the sensor is malfunctioning, replace the delivery assembly. See [Delivery assembly on page 361](#).

G developing home-position sensor

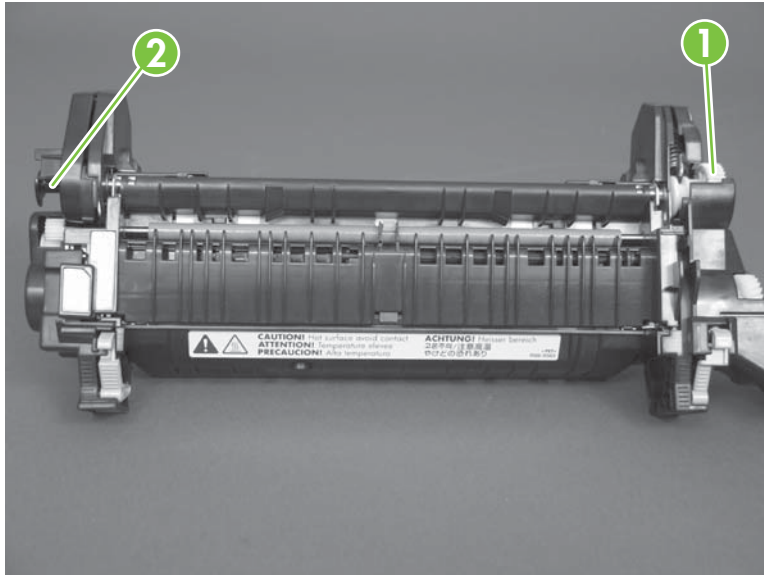
The normal status of sensor G is 0. Testing the sensor requires the following steps:

1. Turn off the product and then remove the formatter and left side cover.
2. Reinstall the formatter and turn on the product. Resume the manual sensor test.
3. Disconnect the 3-pin connector to the right of the power cord connection. Sensor G should change to 1.
4. Reconnect the connector. Sensor G should change to 0.
5. If sensor G does not change, replace the main drive assembly. See [Main-drive assembly on page 346](#).

H fuser (fixing) pressure-release sensor

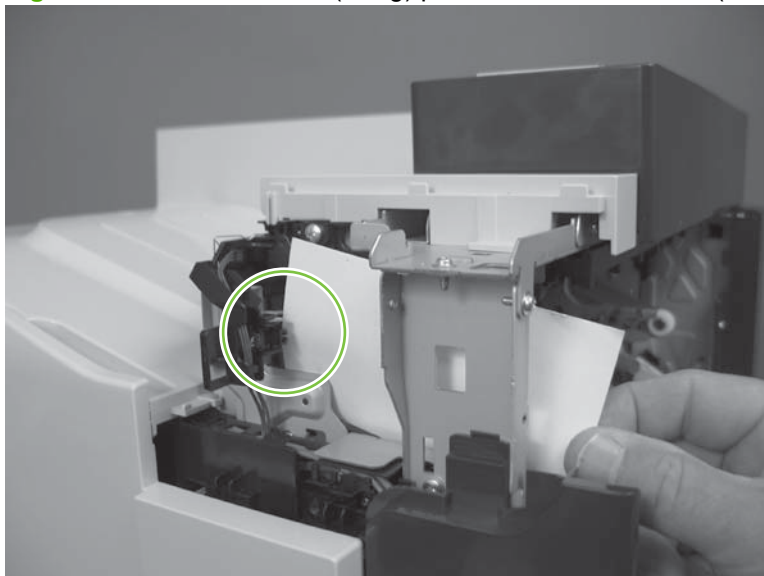
1. Open the right door.
2. Lower the secondary transfer assembly.
3. Remove the fuser, and then rotate the gear (callout 1) to move the flag (callout 2). If the flag does not actuate, replace the fuser. See [Fuser on page 200](#).

Figure 7-10 Test the fuser (fixing) pressure-release sensor (1 of 2)



4. Insert a piece of paper to activate the fuser (fixing) pressure-release sensor.

Figure 7-11 Test the fuser (fixing) pressure-release sensor (2 of 2)

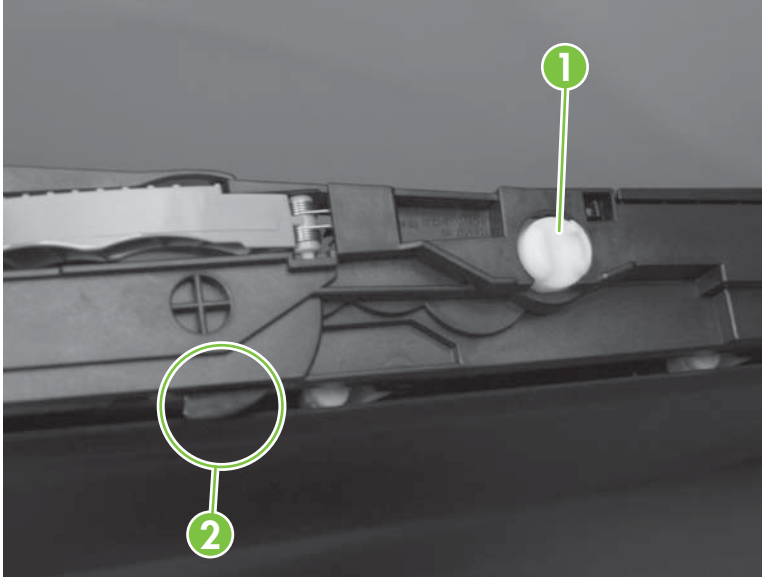


5. Check the control-panel display for sensor response.
6. If there is no response, replace fuser (fixing) pressure-release sensor.

I primary transfer-roller disengagement sensor

1. Open the right door.
2. Lower the secondary transfer assembly.
3. Remove the ITB.
4. Rotate the gear (callout 1) to move the flag (callout 2). If the flag does not actuate, replace the ITB. See [Intermediate transfer belt \(ITB\) on page 209](#).

Figure 7-12 Test the primary transfer-roller disengagement sensor (1 of 2)



5. Remove all print cartridges.

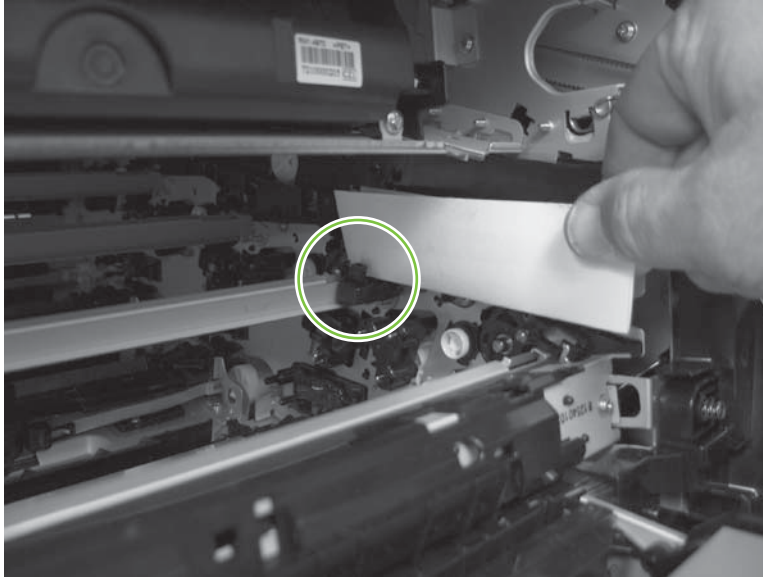


NOTE: Cover all removed print cartridges with paper.

6. Locate the sensor behind the cyan OPC drum position.

7. Insert a piece of paper to activate the primary transfer-roller disengagement sensor.

Figure 7-13 Test the primary transfer-roller disengagement sensor (2 of 2)

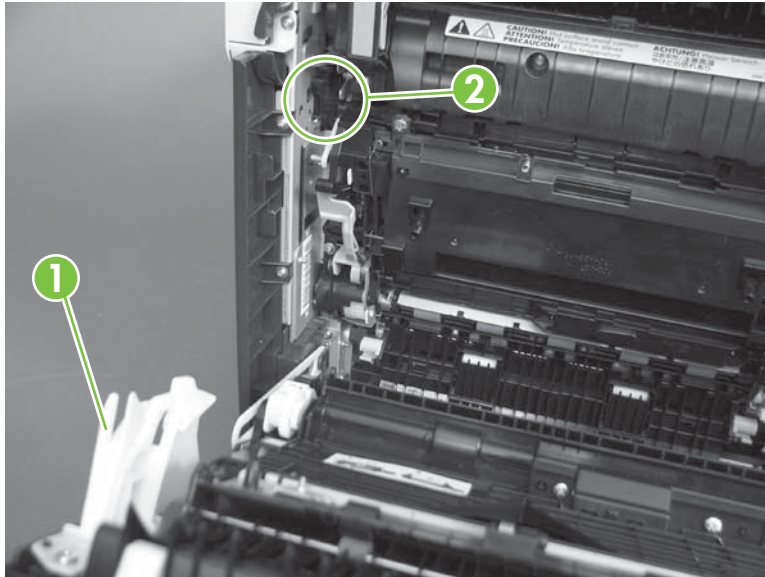


8. Check the control-panel display for sensor response.
9. If no response, replace the sensor.

K right and front door interlock switches

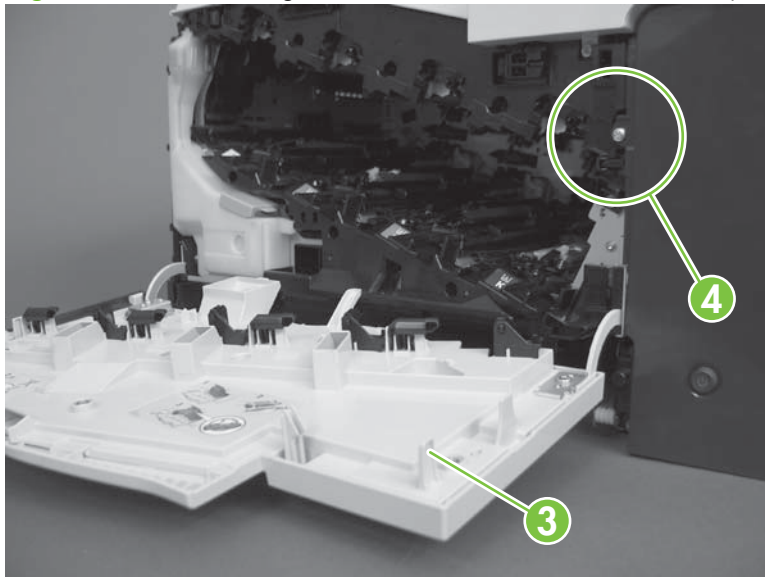
1. Open the right door (callout 1) to disengage the right-door switch (callout 2).

Figure 7-14 Test the right- and front-door interlock switches (1 of 4)



2. Close the right door and check the control panel on the product for sensor response.
3. Open the front door (callout 3) to disengage the front-door switch (callout 4).

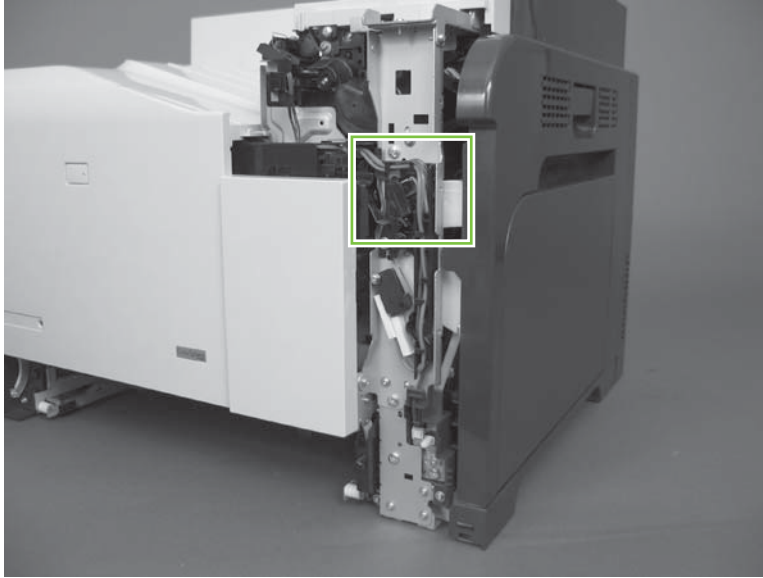
Figure 7-15 Test the right- and front-door interlock switches (2 of 4)



4. Close the front door and check the control panel on the product for sensor response.
5. If either interlock switch failed to respond, remove the upper-front cover and right-front cover. By removing the right-front cover, you can tell if the linkages are properly closing the switches.

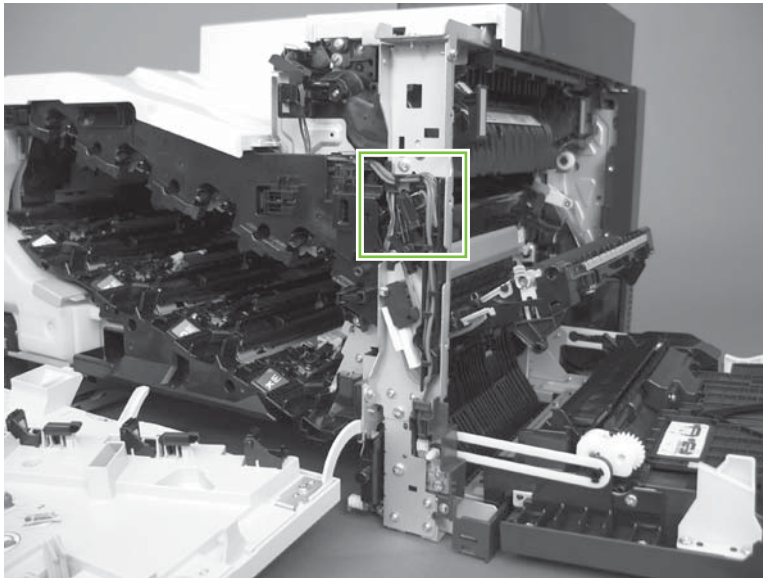
6. Close the right door and front door to verify that the switches close.

Figure 7-16 Test the right- and front-door interlock switches (3 of 4)



7. Open the right door and front door to verify that the switches open.

Figure 7-17 Test the right- and front-door interlock switches (4 of 4)

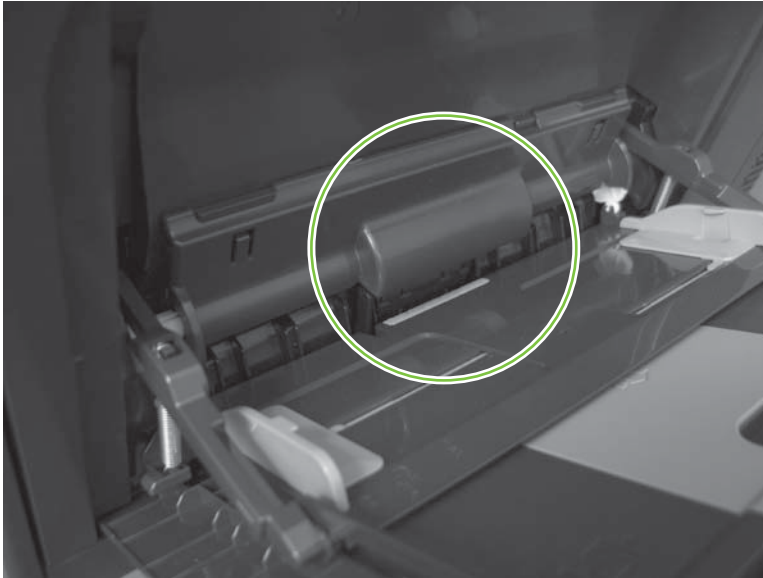


8. If the switches do not close, check the connectors on the DC controller PCA.
9. If the switches are opening/closing correctly when either door is open or closed, then check J118 on the DC controller.
10. If the connectors are securely connected to the DC controller PCA and the switches still do not close, replace the DC controller PCA. See [DC controller PCA and tray on page 270](#).

L Tray 1 media present sensor

1. Open Tray 1.
2. Move the Tray 1 media-present sensor flag.

Figure 7-18 Test the Tray 1 media-present sensor

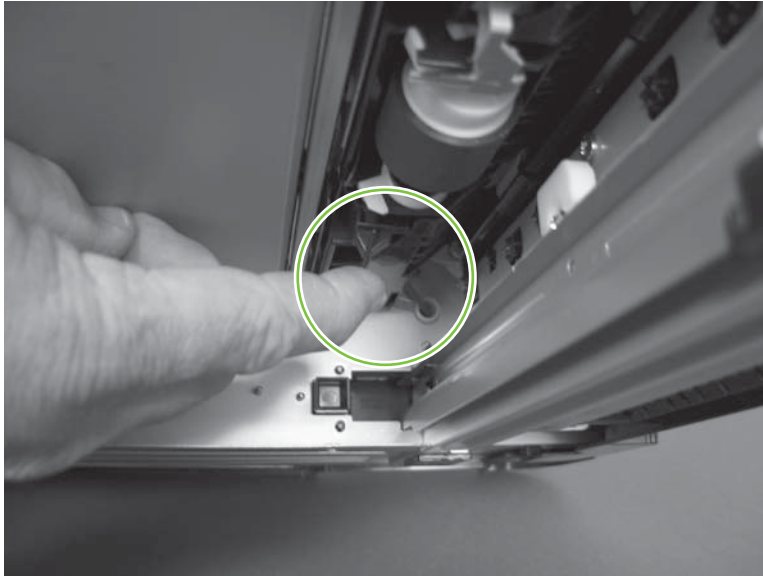


3. Check the control-panel display for sensor response.
4. If no response, replace Tray 1.

M Tray 2 paper out sensor

1. Remove Tray 2.
2. Move the tray 2 paper-out sensor flag.

Figure 7-19 Test the tray 2 paper-out sensor



3. Check the control-panel display for sensor response.
4. If there is no response, replace the tray 2 paper-out sensor.

N Tray 2 closed sensor

1. Remove Tray 2.


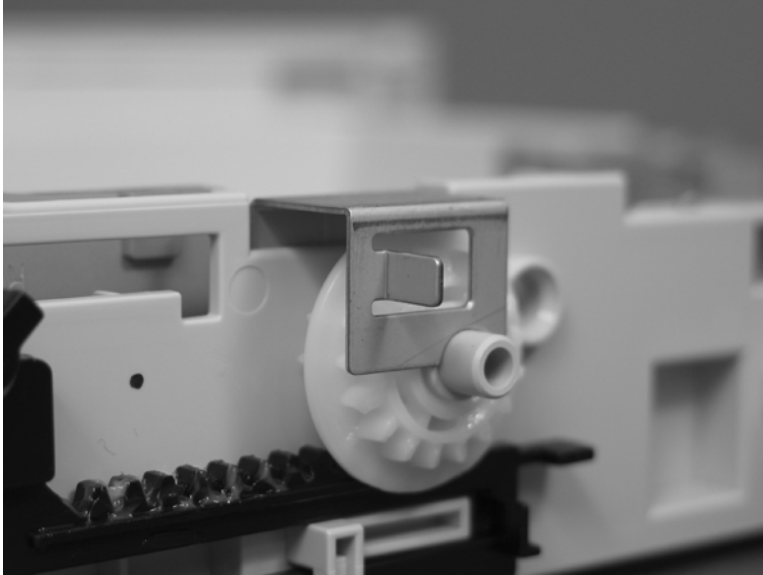
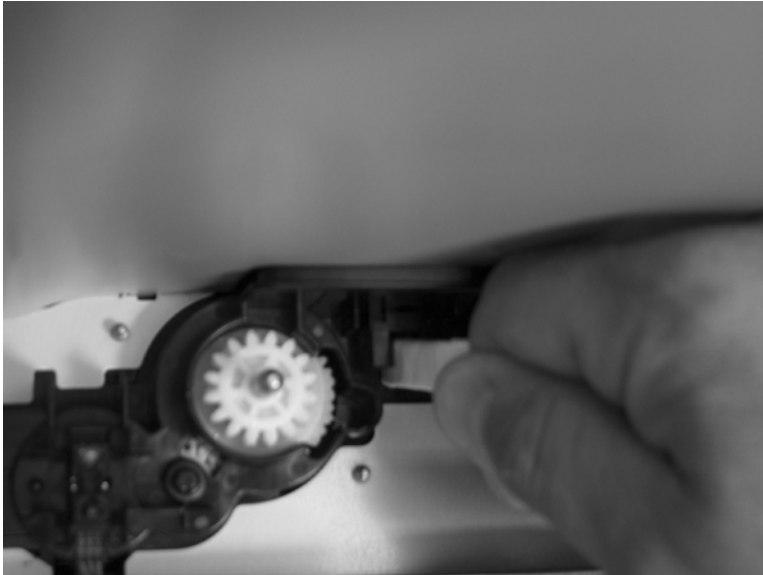
 **NOTE:** The Tray 2 closed sensor flag is on the back of Tray 2. Inspect the flag to verify that it is aligned correctly. If it is bent upward, it might miss the sensor when installed.

Figure 7-20 Test the Tray 2 closed sensor (1 of 2)



2. Insert a piece of paper in the Tray 2 closed sensor.

Figure 7-21 Test the Tray 2 closed sensor (2 of 2)

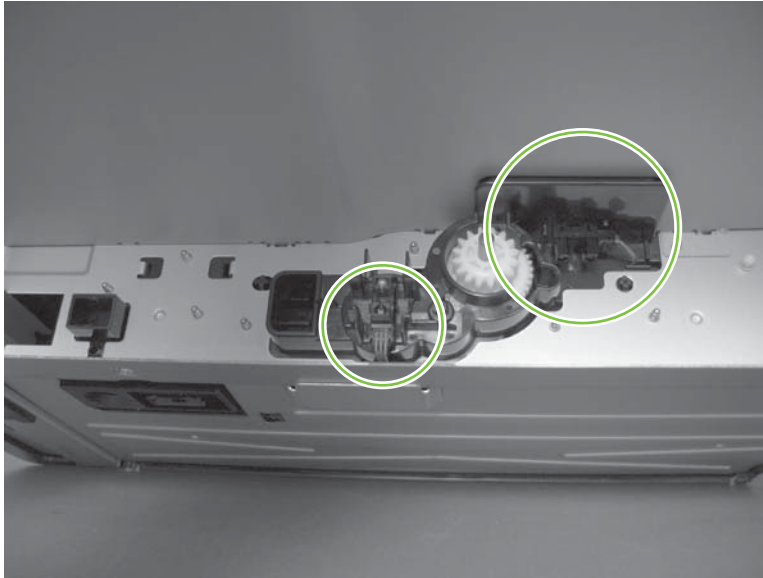


3. Check the control-panel display for sensor response.
4. If there is no response, replace the lifter-drive assembly. See [Lifter-drive assembly on page 314](#).

O Tray 2 stack-surface sensor

1. Remove Tray 2.
2. Move the Tray 2 stack-surface sensor flag.

Figure 7-22 Test the Tray 2 stack-surface sensor

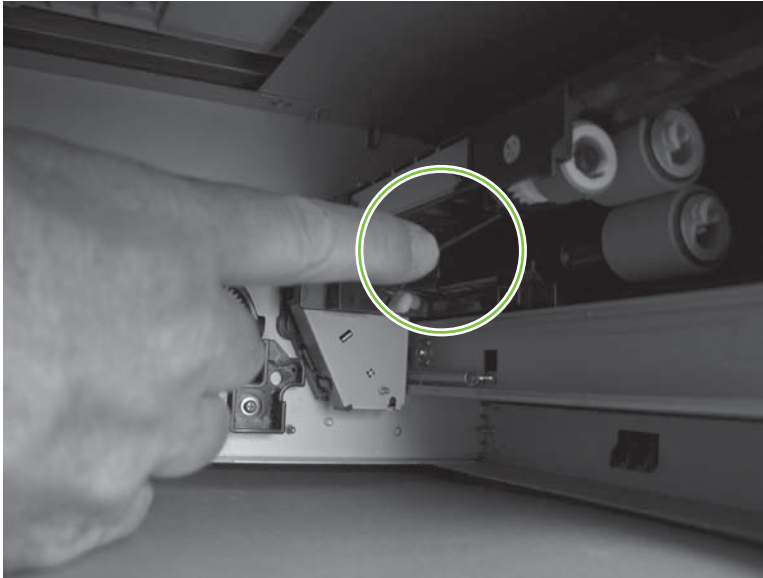


3. Check the control-panel display for sensor response.
4. If no response, replace the lifter-drive assembly. See [Lifter-drive assembly on page 314](#).

P optional Tray 3-empty sensor

1. Remove the optional Tray 3 cassette.
2. Move the optional Tray 3-empty sensor flag.

Figure 7-23 Test the optional Tray 3-empty sensor

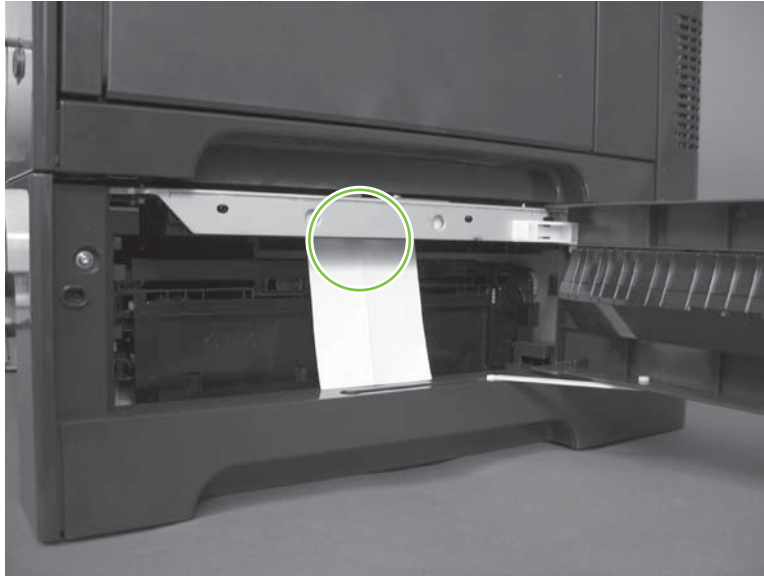


3. Check the control-panel display for sensor response.
4. If no response, replace the optional Tray 3.

Q optional Tray 3 media-feed sensor (Q)

1. Open the right door on optional Tray 3.
2. Insert a piece of paper to activate the optional Tray 3 media-feed sensor

Figure 7-24 Test the optional Tray 3 media-feed sensor

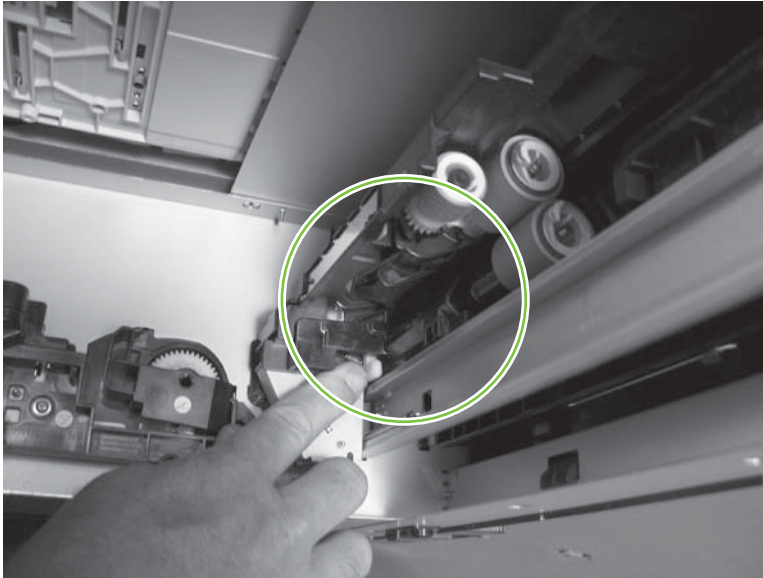


3. Check the control-panel display for sensor response.
4. If there is no response, replace the optional Tray 3.

R optional Tray 3 stack-surface sensor (R)

1. Remove the optional Tray 3 cassette.
2. Push the lever to activate the sensor arms.

Figure 7-25 Test the optional Tray 3 stack-surface sensor

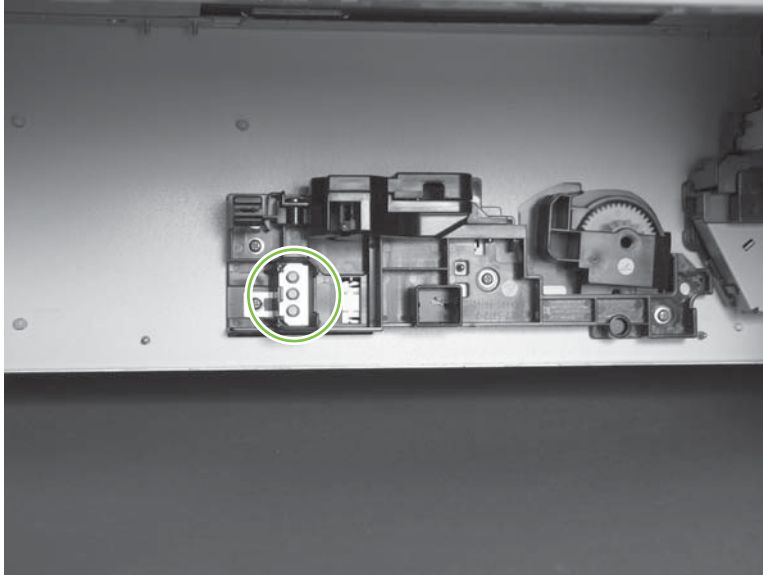


3. If there is no response, replace the optional Tray 3.

S, T, and U optional Tray 3 media-size sensors

1. Push any of the three buttons to see if the control panel changes for sensors S, T or U.
 - S: top button on size switch
 - T: middle button on size switch
 - U: bottom button on size switch

Figure 7-26 Test the optional Tray 3 media-size sensors




2. If any of the tests fail, replace the 500-sheet feeder

Paper-path sensors test

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

1. Touch **Administration**.
2. Scroll to and touch **Troubleshooting**.
3. Touch **Paper Path Test**.
4. Select the paper-path test options for the test you want to run.

 **NOTE:** The default state of the sensors when first entering the test is shown below. Sensor J is not used on this product.

A1 B1 C1 D1 E0 F0 G0 H1 I0 K0 L1 M0 N1 O0 P0 Q0 R0 S0 T0 U0

Table 7-4 Paper-path sensors diagnostic tests

Sensor name	Sensor number
TOP (A)	SR8
Loop 1 (B)	SR14
Loop 2 (C)	SR15
Fusing delivery (D)	SR5
Duplex re-feed (E)	SR22
Output bin full (F)	SR6
Developing home position sensor (G)	SR11□
Fuser pressure release sensor (H)	SR7
Alienation sensor (I)	SR17
Front and side door switches (K)	SW1, SW2
MP Tray 1 (L)	SR21
Tray 2 paper present (M)	SR20
Tray 2 installed (N)	SR13
Tray 2 lift motor (O)	SR9
Tray 3 paper present (P)	SR3
Tray 3 feed (Q)	SR4
Tray 3 installed (R)	SR1
Tray 3 size (bottom) button (S)	
Tray 3 (middle) button (T)	
Tray 3 (top) button (U)	

Print/Stop test

Use this diagnostic test to isolate the cause of problems such as image-formation defects and jams in 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. Touch **Administration**.
2. Scroll to and touch **Troubleshooting**.
3. Scroll to and touch **Print/Stop Test**.
4. Select the number of milliseconds and then touch **OK**.

Component tests

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 select **CONTINUOUS** from the drop-down menu as the repeat option, the test cycles the component on and off. This process continues for two minutes, and then the test ends.



NOTE: The door interlock switch must be defeated to run any of the component tests. If covers are removed, the door switch must be manually cycled during some tests in order for the engine to recognize a change. Print cartridges can be installed or removed during certain tests. The control-panel display prompts you to remove some or all cartridges during certain tests to rotate and isolate certain components, and to protect the cartridges and ITB.

1. Touch **Administration**.
2. Scroll to and touch **Troubleshooting**.
3. Touch **Component Test**.
4. Select the component test options for the test you want to run.

Table 7-5 Component test details

Component test	Motor or solenoid number	Comments
TRANSFER MOTOR	M5	
BELT ONLY	M10	Rotates the transfer belt.
CARTRIDGE MOTOR	<ul style="list-style-type: none">• M3: yellow• M4: magenta and cyan• M5: black	Activates three drum motors at a specified speed for 10 seconds.
BLACK LASER SCANNER	M8	Activates the black/cyan scanner motor for 10 seconds.
CYAN LASER SCANNER	M8	Activates the black/cyan scanner motor for 10 seconds.
MAGENTA LASER SCANNER	M9	Activates the yellow/magenta scanner motor for 10 seconds.

Table 7-5 Component test details (continued)

Component test	Motor or solenoid number	Comments
YELLOW LASER SCANNER	M9	Activates the yellow/magenta scanner motor for 10 seconds.
FUSER MOTOR	M2	Activate the fuser motor at a specified speed for 10 seconds.
FUSER PRESSURE RELEASE MOTOR	M2 reverse	Reverses the fuser motor and pressurizes or depressurizes the pressure release motor.
ALIENATION MOTOR	M10	Disengages the developer from the primary charge roller.
ITB CONTACT ALIENATION MOTOR	M2	Activates the ITB drive motor at a specified speed for 10 seconds.
TCU MOTOR	M12	Activates the motor at a specified speed for 10 seconds.
TRAY 1 PICKUP SOLENOID	SL3	Activates the solenoid for 10 seconds.
TRAY 2 PICKUP MOTOR	M13	Activates the motor at a specified speed for 10 seconds.
TRAY 2 PICKUP SOLENOID	SL4	Activates the solenoid for 10 seconds.
TRAY 3 PICKUP MOTOR	M1	Activates the motor at a specified speed for 10 seconds.
TRAY 3 PICKUP SOLENOID	SL1	Activates the solenoid for 10 seconds.
DUPLEX PICKUP MOTOR	M11	Activates the motor at a specified speed for 10 seconds.
DUPLEX REFEED CLUTCH SOLENOID	CL1, SL2	Activates the clutch for 10 seconds.

Diagrams

Formatter PCA

Figure 7-27 Formatter PCA

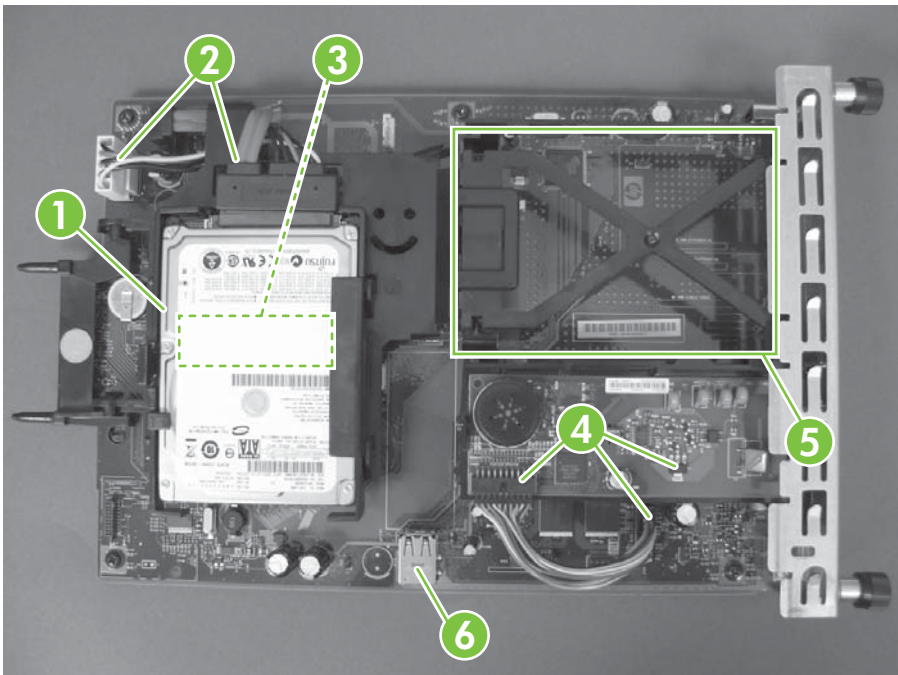


Table 7-6 Formatter PCA

Item	Description
1	Hard drive
2	Hard drive cable
3	DIMM slot (under the hard drive)
4	Fax card and cable
5	EIO slot
6	Internal USB ports

Location of connectors

DC controller PCA

Figure 7-28 DC controller PCA

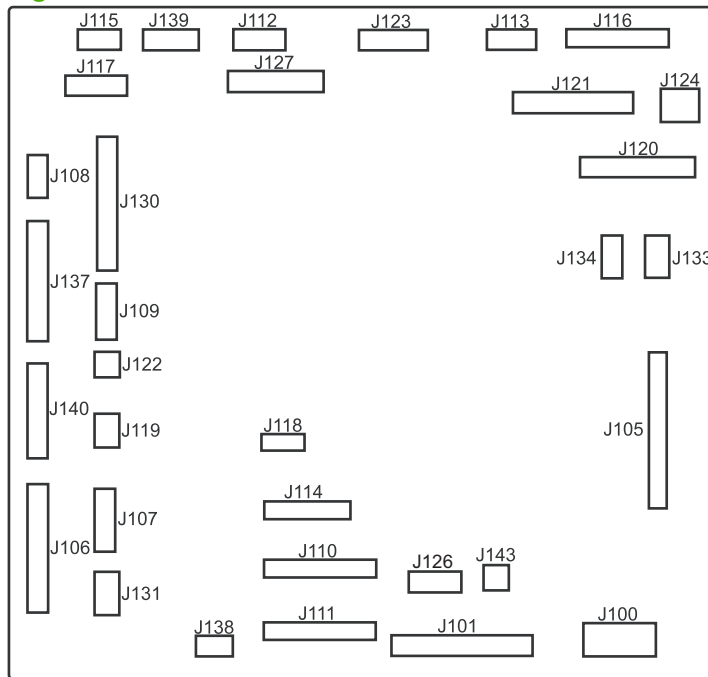


Table 7-7 DC controller connectors

J100: 24 v from low-voltage power supply (LVPS) and interlock	J114: HVPS lower	J126: memory tag connector
J101: LVPS	J115: fuser sensors	J127: pre-exposure LEDs (rear), SR17, SL1
J105: interconnect board (ICB)	J116: HVPS upper	J130: registration density (RD) sensors (front and rear)
J106: 500-sheet feeder, developing home position, laser motors	J117: fuser motor	J131: pickup motor
J107: duplex sensor, tray 1 solenoid, paper present sensor	J118: 5 v interlock	J133: not used
J108: environmental sensor	J119: LVPS fan	J134: not used
J109: duplex clutch, overhead transparency (OHT) in, top-of-page sensor	J120: drum motor 1 and drum motor 2	J137: toner collection unit (TCU) full, TCU motor, toner level detection
J110: YM laser	J121: drum motor 3, drum position 1,2,3	J138: 24 v to HVPS lower
J111: CK laser	J122: OHT out	J139: fuser sensors
J112: pre-exposure LEDs (front)	J123: pressure release, bin full, fuser delivery	J140: lift motor, tray present, stack surface
J113: 24 v to high-voltage power supply (HVPS) upper	J124: 24 v to scanner-control board (SCB)	J143: 24 v present from LVPS

Paper feeder driver PCA

Figure 7-29 Paper feeder driver PCA

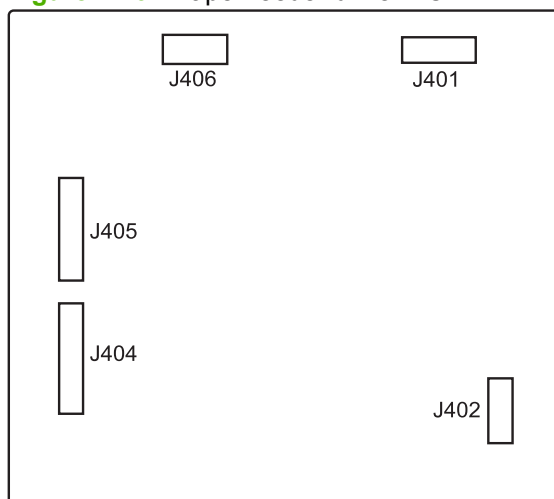


Table 7-8 Paper feeder driver PCA connectors

J401: engine connector

J402: not used

J404: SW1, SW2, lifter motor

J405: SR1, SR2, SR3, SR4, SL1

J406: feed motor

PCAs, motors, fans, switches, solenoids, and clutches

Use the diagrams to locate components. For a list of components, see [Table 7-9 PCAs, motors, fans, switches, solenoids, and clutches on page 418](#)

Base product

Figure 7-30 Component locations (1 of 5)

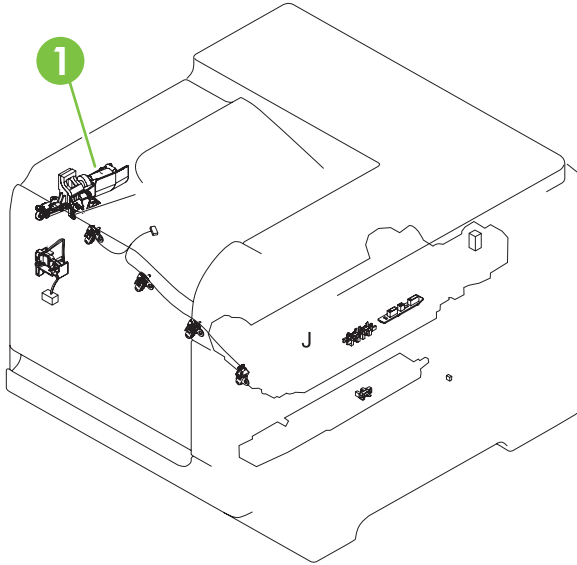


Figure 7-31 Component locations (2 of 5)

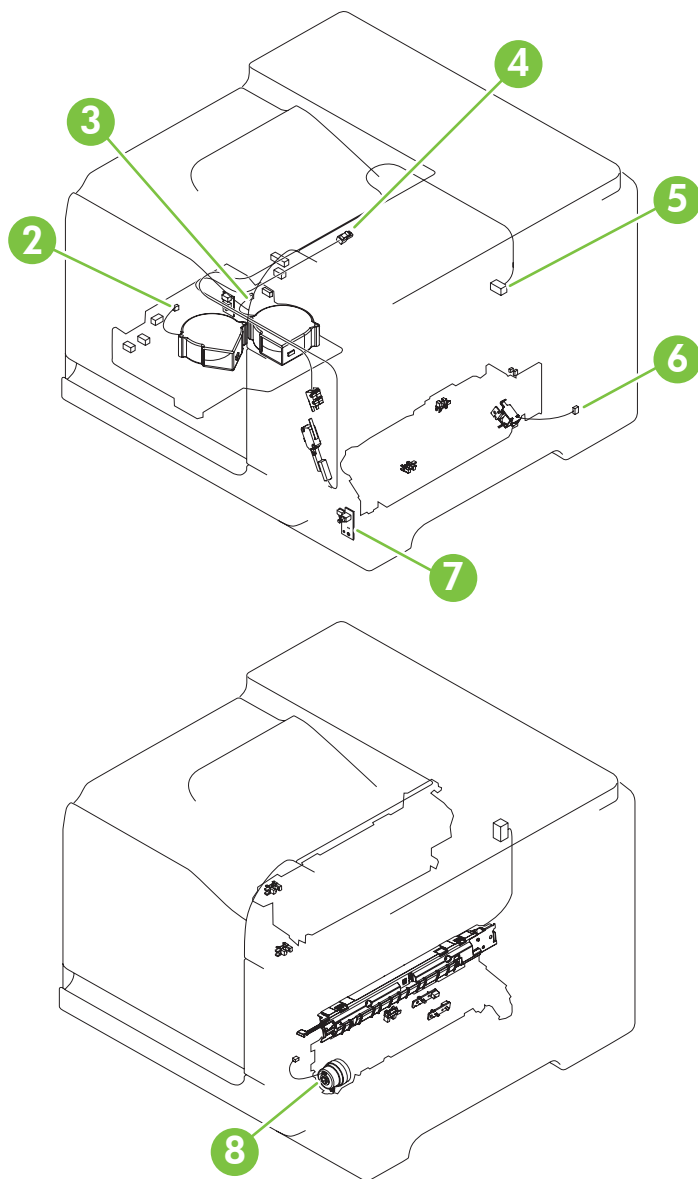


Figure 7-32 Component locations (3 of 5)

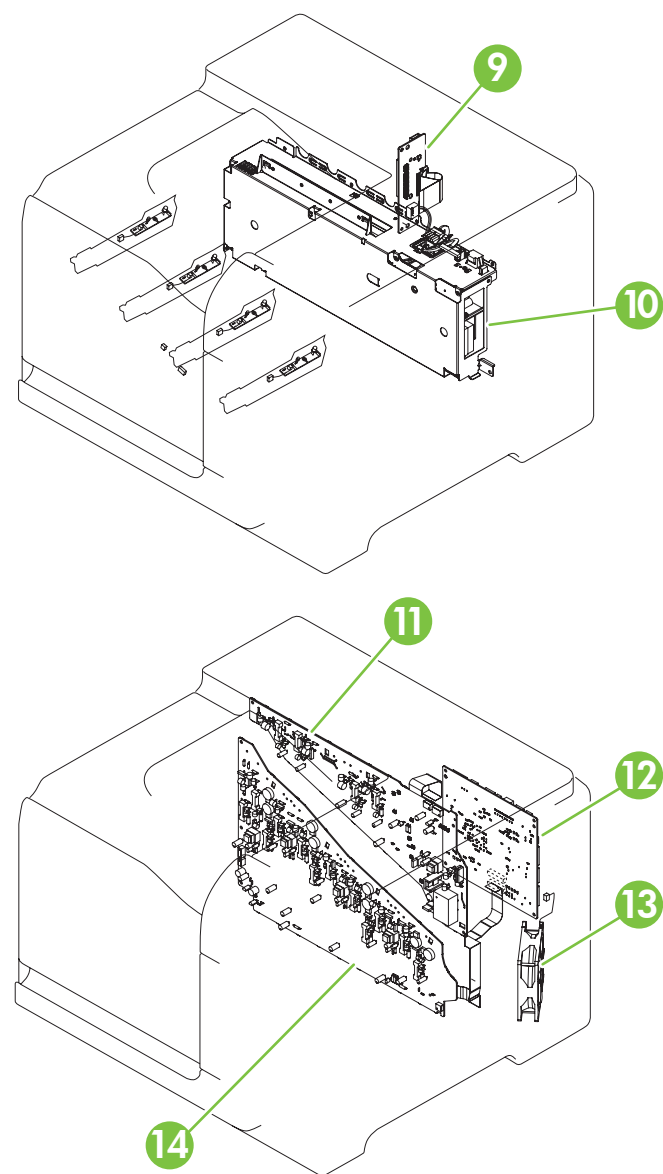


Figure 7-33 Component locations (4 of 5)

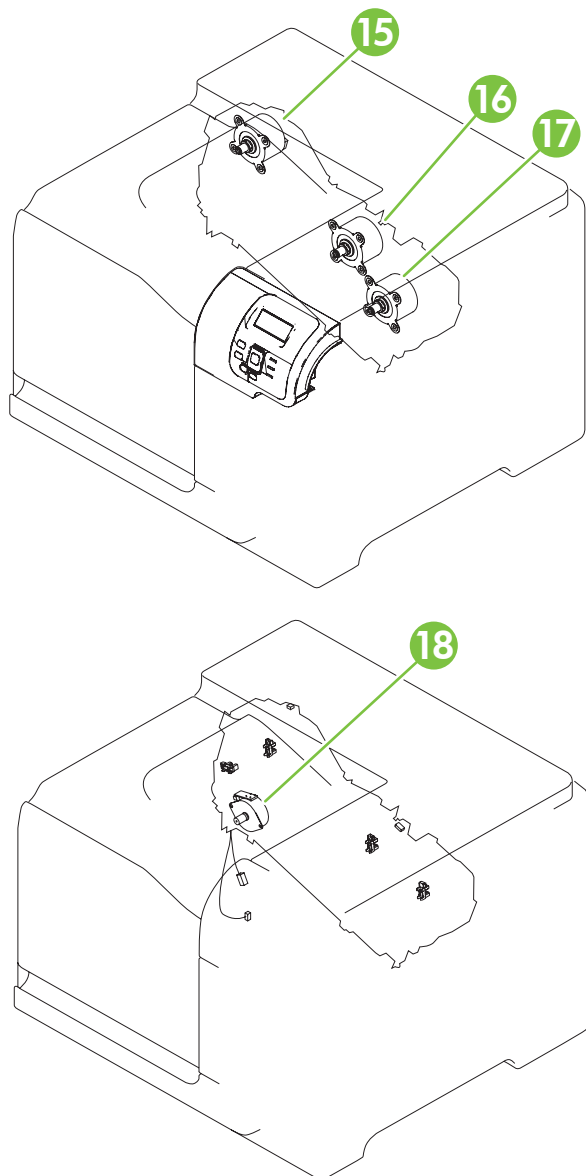


Figure 7-34 Component locations (5 of 5)

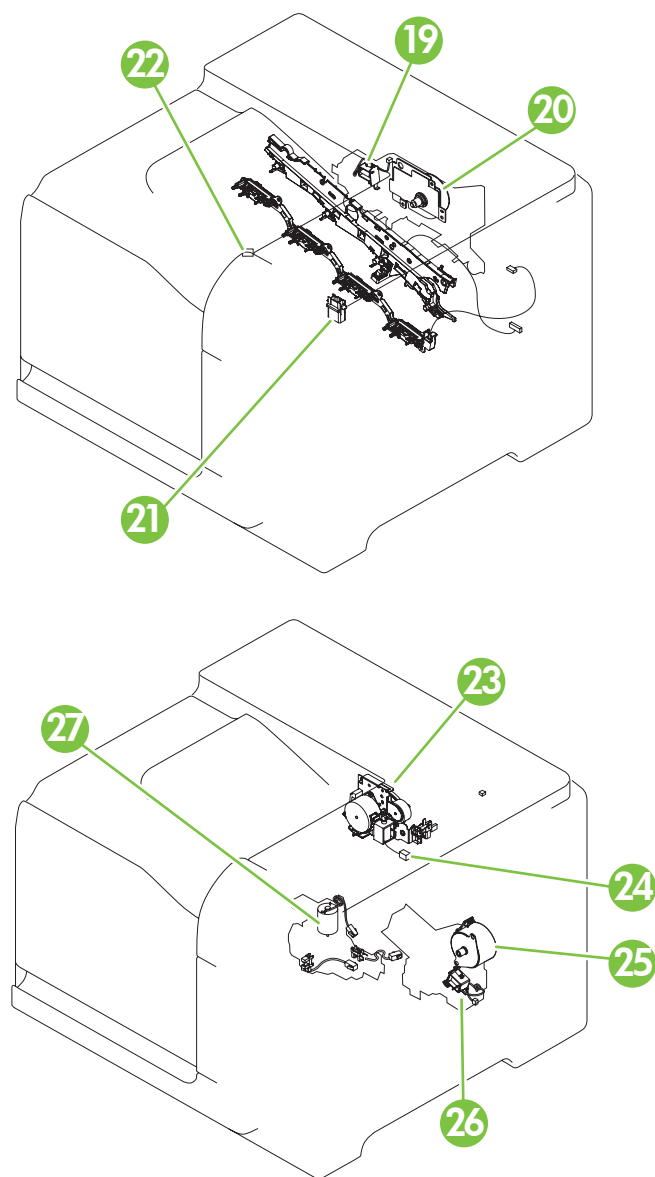


Table 7-9 PCAs, motors, fans, switches, solenoids, and clutches

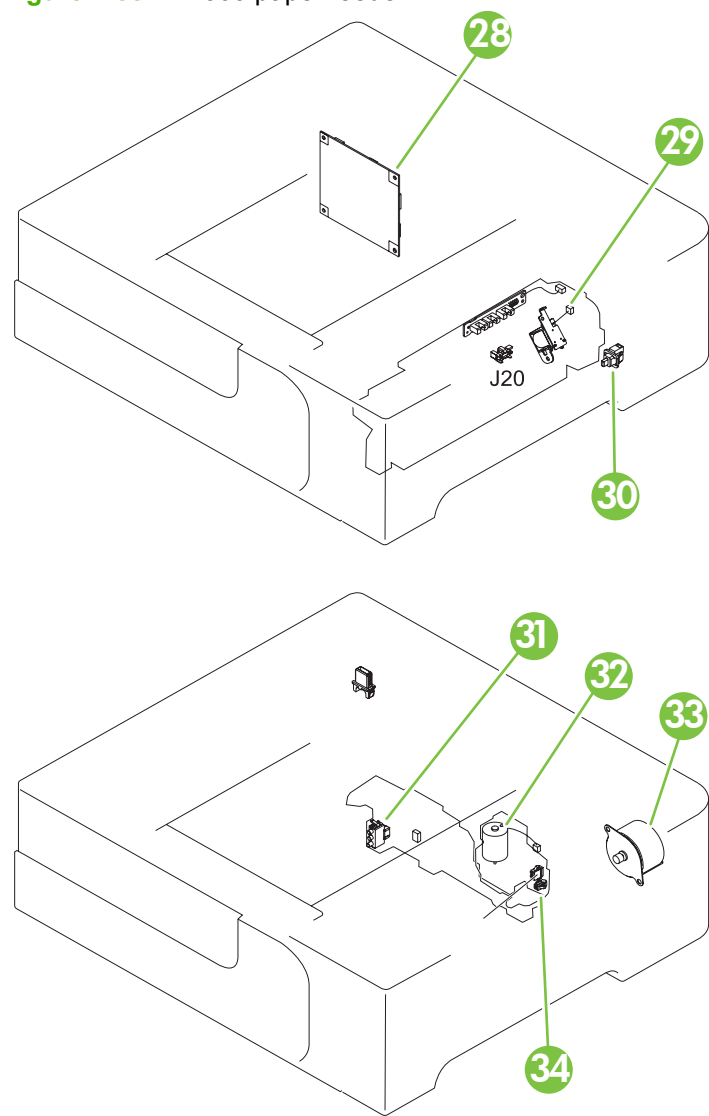
Location	Connector	Component abbreviation	Component name
1	J89	M12	Residual toner-feed motor
2	J26	FM2	Cartridge fan
3	J27	FM3	Delivery fan
4	J62	SW3	24V interlock switch
5	J118	SW1, SW2	5V interlock switch
6	J84	SL3	Multipurpose-tray pickup solenoid
7	J780	SW4	Power switch
8	J86	CL1	Duplex re-pick clutch

Table 7-9 PCAs, motors, fans, switches, solenoids, and clutches (continued)

Location	Connector	Component abbreviation	Component name
9		ICB	Interconnect board (ICB)
10		LVPS	Low-voltage power supply
11		HVPS (t)	HVPS-T upper
12		DCC	DC Controller
13	J119	FM1	Power-supply fan
14		HVPS (d)	HVPS-D (lower)
15	J41	M3	Drum motor 1
16	J40	M4	Drum motor 2
17	J42	M5	Drum motor 3
18	J25	M10	Development-disengagement motor
19	J8	SL1	Primary transfer roller disengagement solenoid
20	J15	M2	Fuser motor
21	J55	M9	Yellow/magenta scanner motor
22	J56	M8	Cyan/black scanner motor
23	J20	M11	Duplex reverse motor
24	J21	SL2	Duplex reverse solenoid
25	J6	M13	Pickup motor
26	J83	SL4	Cassette-pickup solenoid
27	J79	M7	Tray 2 lifter motor

1 x 500 paper feeder

Figure 7-35 1 x 500 paper feeder



Location	Connector	Component abbreviation	Component name
28		PF PCA	Paper-feeder driver PCA
29, 34	J18	SL1	Paper-feeder pickup solenoid
30	J21	SW2	Paper-feeder door switch
31	J16	SW1	Paper feeder cassette media size switch
32	J15	M2	Paper-feeder lifter motor
33	J14	M1	Paper-feeder motor

Sensors

Figure 7-36 Sensors

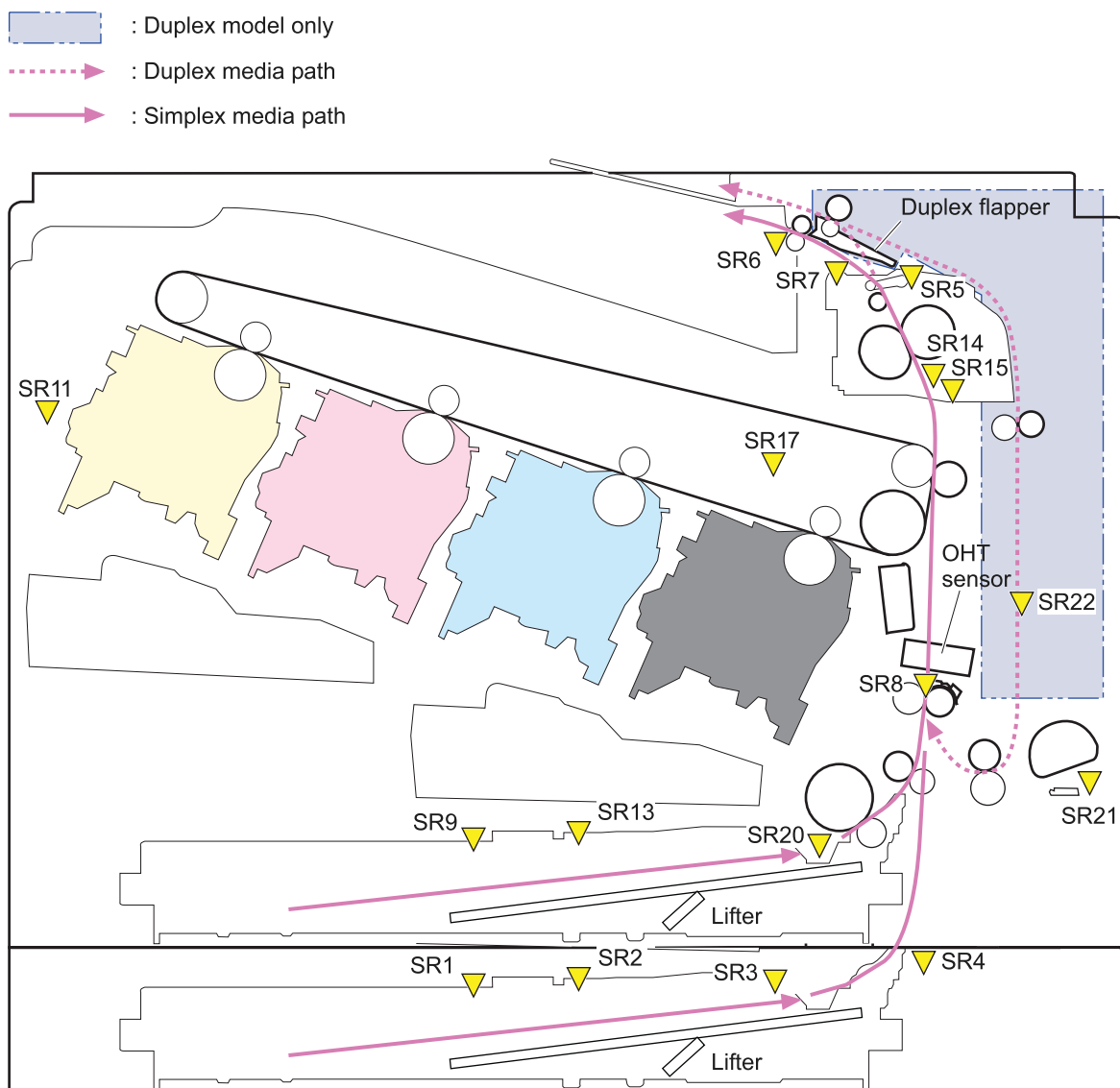


Table 7-10 Sensors

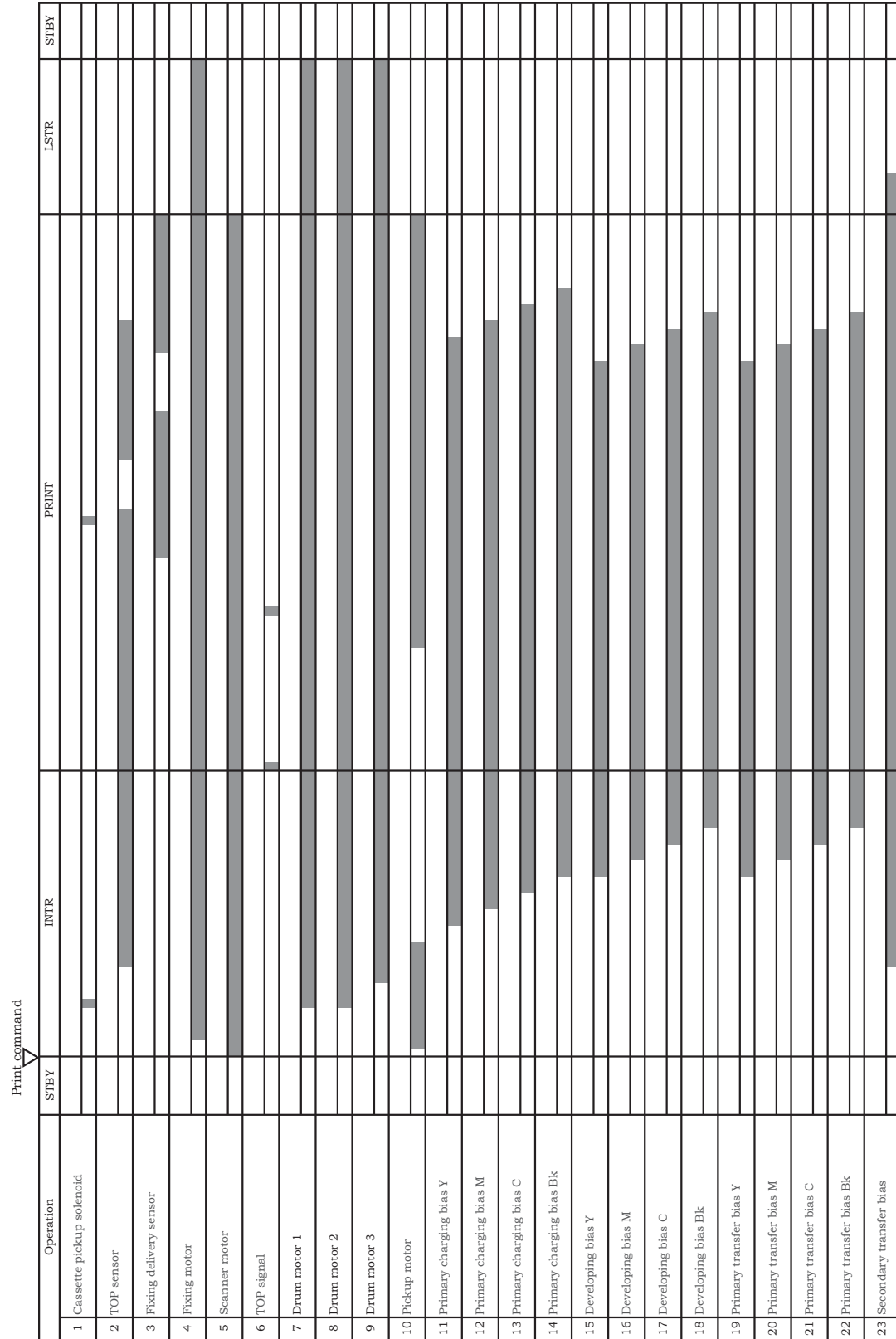
Component abbreviation	Component name
SR1	Tray 3 paper surface sensor 1
SR2	Tray 3 paper surface sensor 2
SR3	Tray 3 paper sensor
SR4	Tray 3 feed sensor
SR5	Fuser (fixing) output sensor
SR6	Output bin full sensor
SR7	Fuser (fixing) pressure release sensor
SR8	TOP sensor

Table 7-10 Sensors (continued)

Component abbreviation	Component name
SR9	Tray 2 lift sensor
SR11	Developing home position sensor
SR13	Cassette presence sensor
SR14	Loop sensor 1
SR15	Loop sensor 2
SR17	ITB disengagement sensor
SR20	Cassette-media presence sensor
SR21	MP-tray-media-presence sensor
SR22	Duplex re-pickup sensor

General timing chart

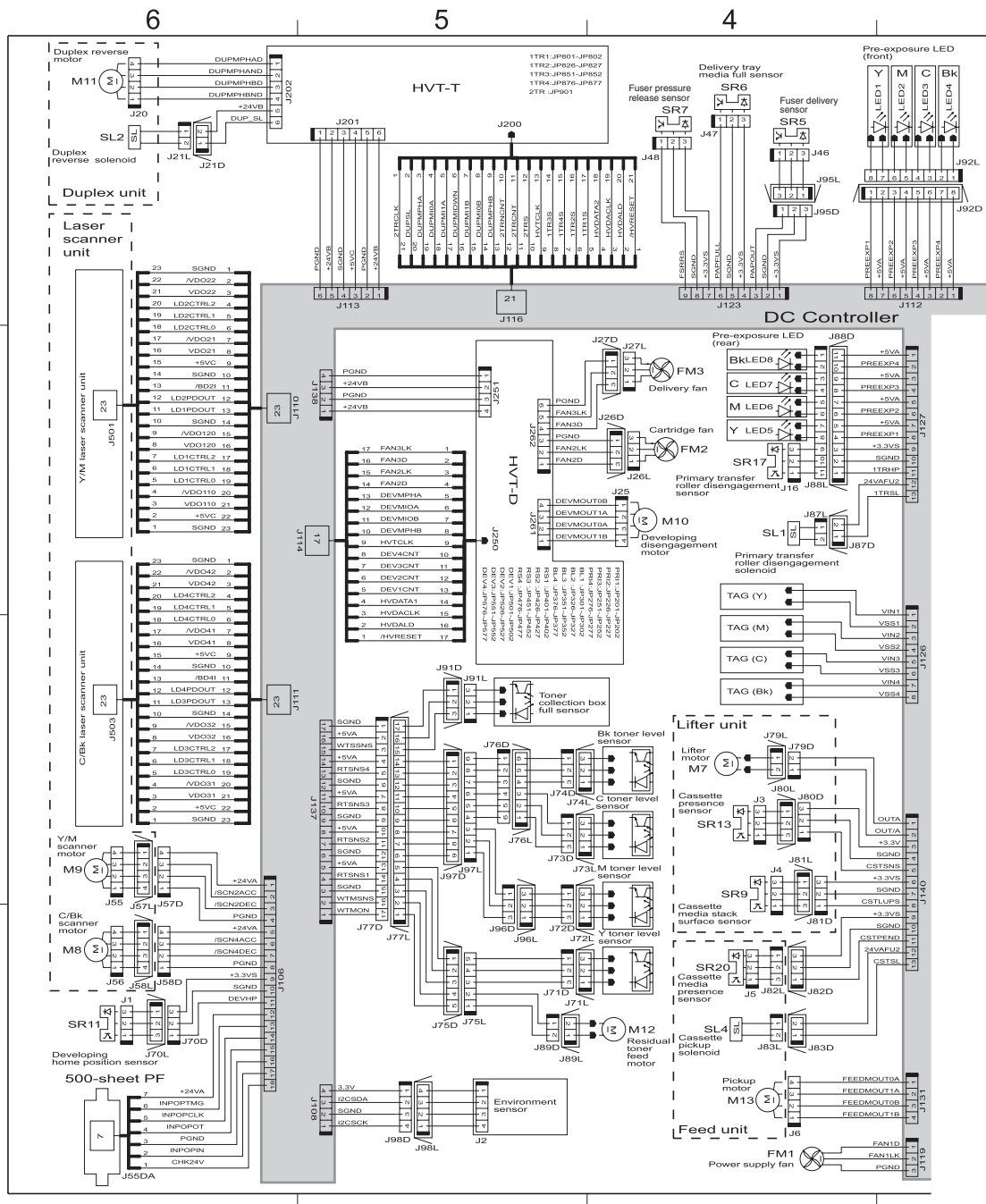
Figure 7-37 General timing chart



Timing chart is two consecutive print jobs on letter-size paper (full color using one-to-one speed mode)

Circuit diagrams

Figure 7-38 General circuit diagram (1 of 2)



[illegible]

Figure 7-40 Product circuit block diagram

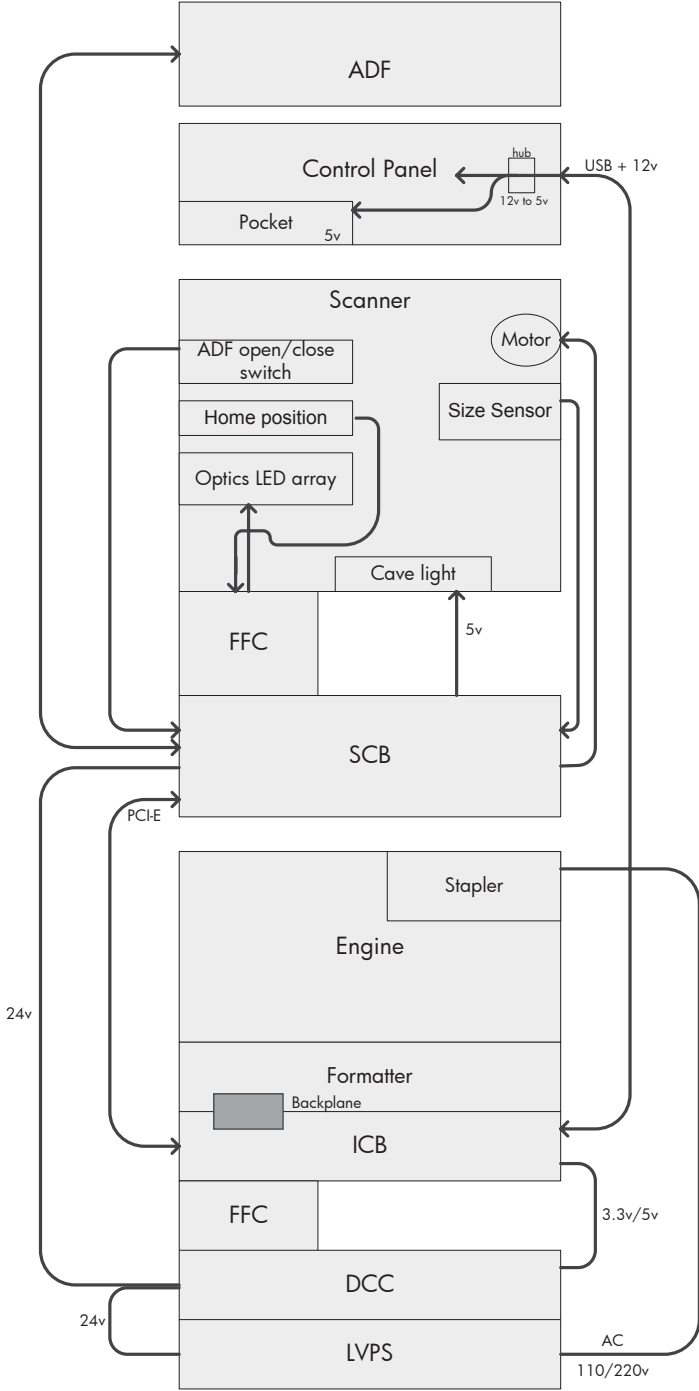
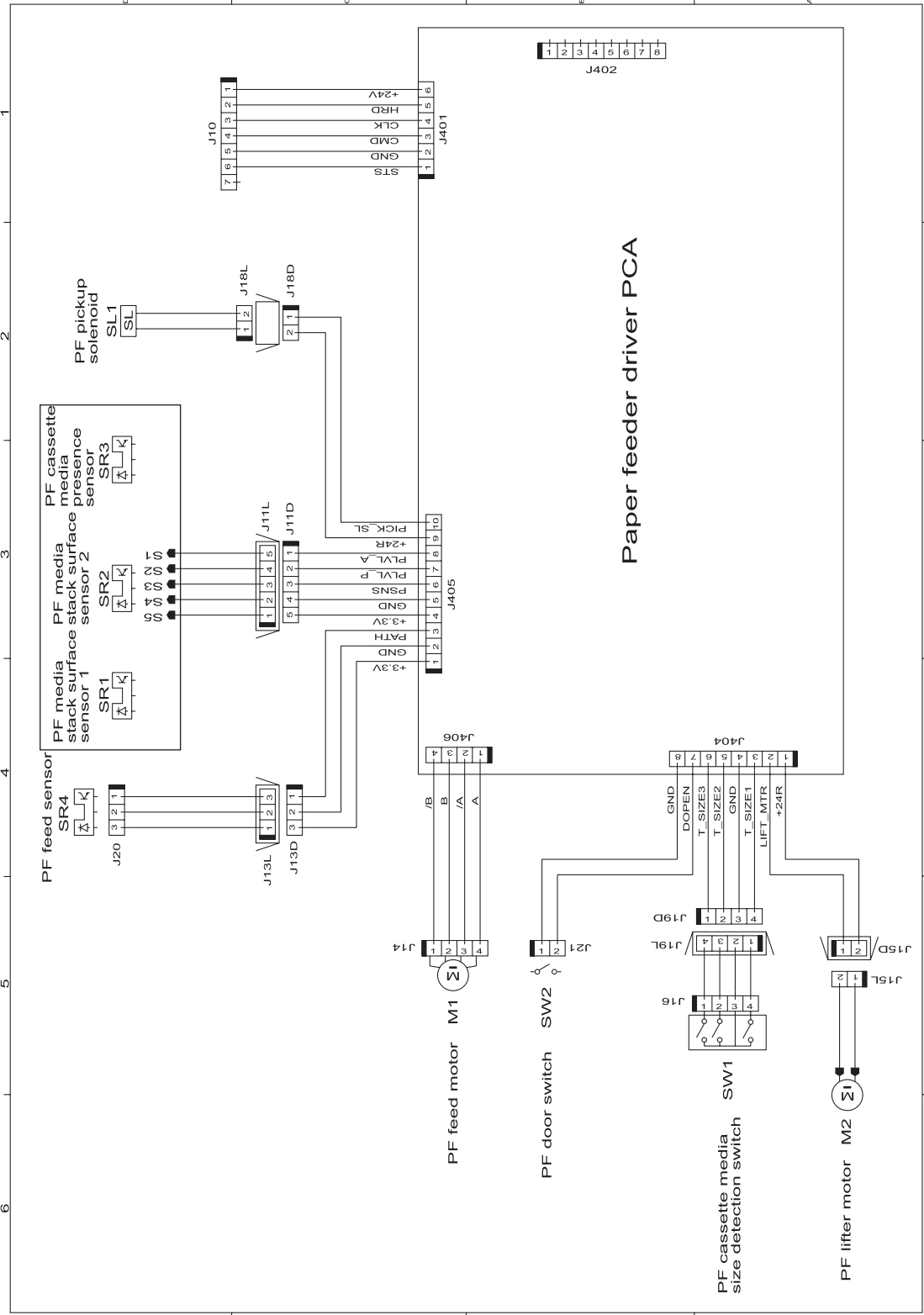


Figure 7-41 Paper feeder circuit diagram

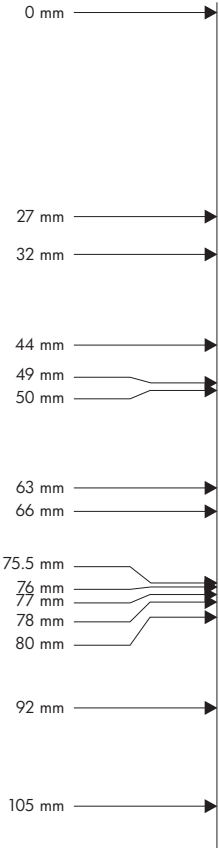


Print-quality troubleshooting tools

Repetitive defects ruler

If defects repeat at regular intervals on the page, use this ruler to identify the cause of the defect. Place the top of the ruler at the first defect. The marking that is beside the next occurrence of the defect indicates which component needs to be replaced.


Figure 7-42 Repetitive defects ruler



Distance between defects	Product components that cause the defect
27 mm	Print cartridge: primary charge roller
32 mm	Print cartridge: developer roller
44 mm	Printer: primary transfer roller
49 mm	Print cartridge: RS roller
50 mm	Printer: secondary transfer roller
63 mm	ITB: secondary transfer backing roller
66 mm	Printer: distance from secondary transfer roller to fuser
75.5 mm	Print cartridge: OPC drum
76 mm	ITB: driven roller
77 mm	Fuser sleeve
78 mm	Fuser pressure roller

Distance between defects	Product components that cause the defect
80 mm	Printer: distance from primary transfer roller to secondary transfer roller for black
92 mm	Print cartridge station to station pitch: distance from the centerline of one OPC to the centerline of the adjacent OPC ITB: drive roller
105 mm	Printer: distance from registration to secondary transfer roller

Calibrate the product

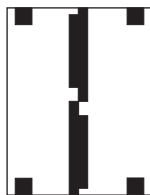
 **NOTE:** The procedure below is used to calibrate the scanner portion of the product. To perform an internal print-quality calibration from the control panel, open the **Print Quality** menu.

Calibrate the scanner to compensate for offsets in the scanner imaging system (carriage head) for ADF and flatbed scans. Because of mechanical tolerances, the scanner's carriage head might not read the position of the image accurately. During the calibration procedure, scanner offset values are calculated and stored. The offset values are then used when producing scans so that the correct portion of the document is captured.

Scanner calibration should be carried out only if you notice offset problems with the scanned images. The scanner is calibrated before it leaves the factory. It needs to be calibrated again only rarely.

Before calibrating the scanner, print the calibration target.

1. Place letter- or A4-size paper in tray 1, and adjust the side guides.
2. On the control-panel Home screen, scroll to and touch **Administration**.
3. Touch **Troubleshooting**.
4. Touch **Calibrate Scanner**.
5. Touch **Calibrate** to print the first pass of the calibration target.
6. Place the first pass of the calibration target face-down in tray 1 so that the arrows are facing into the product.
7. Touch **Start** to print the second pass. The final calibration target *must* look similar to the following figure.



△ **CAUTION:** If the calibration target does not look similar to the figure shown here, the calibration process will fail and the quality of scans will be degraded. *The black areas must extend completely to the short edges of the page. If they do not, use a black marker to extend the black areas to the edge of the page.* Make sure that the paper is loaded correctly.

8. Place the calibration target face-up into the ADF, and adjust the side guides.
9. After the calibration target has passed through the ADF once, reposition it face down in the ADF and touch **Start**.
10. Place the calibration target face-down on the scanner glass, touch **Start**, and scan the page. After this pass, the calibration is complete.

Internal print-quality test pages

Print-quality-troubleshooting pages

Use the built-in print-quality-troubleshooting pages to help diagnose and solve print-quality problems.

1. Scroll to and touch **Administration**.
2. Scroll to and touch **Troubleshooting**.
3. Touch **PQ Troubleshooting**.
4. Touch **Print**.

The product returns to the **Ready** state after printing the print-quality-troubleshooting pages. Follow the instructions on the pages that print out.

Figure 7-43 Print-quality troubleshooting procedure



Figure 7-44 Yellow print-quality troubleshooting page

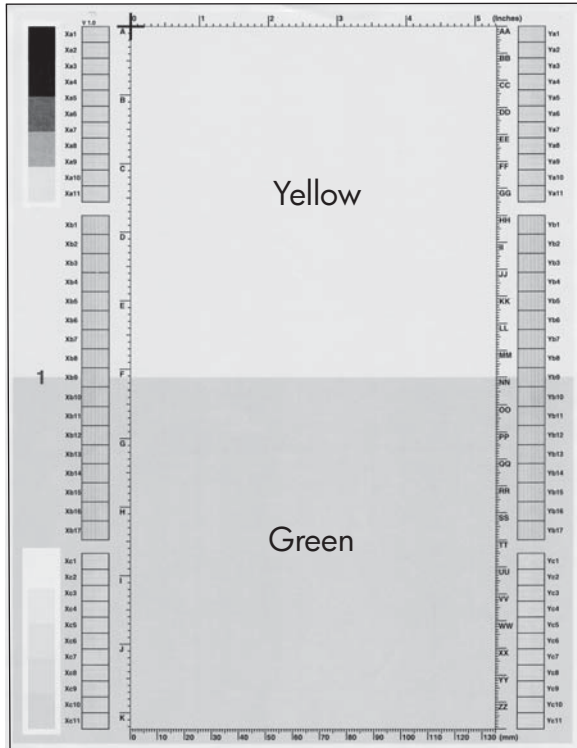
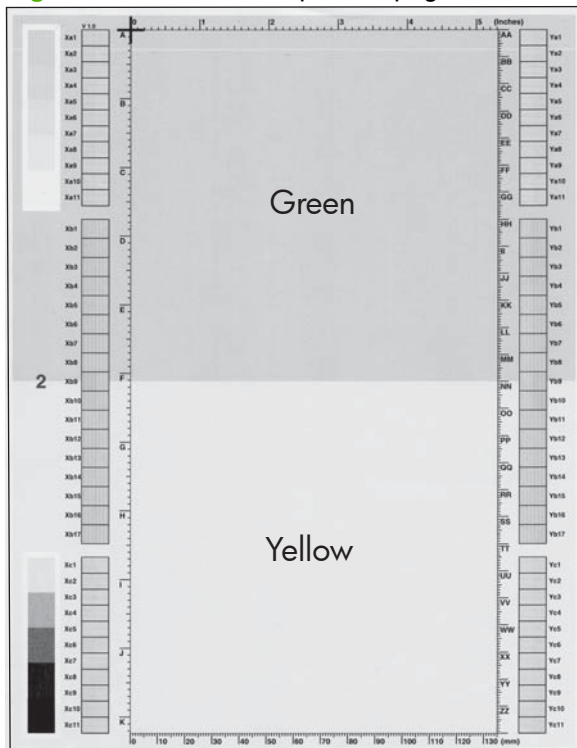
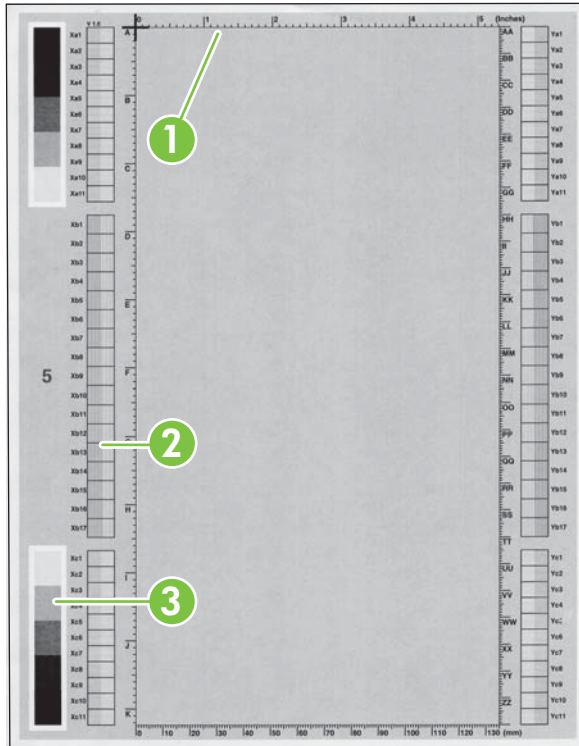


Figure 7-45 Yellow comparison page



Yellow cannot be easily seen unless combined with cyan, so half of each page is yellow and the other half is an amplified version of yellow problems (green half). Compare the yellow on page one with the corresponding green on page two for defects. You can also check the cyan page for defects.

Figure 7-46 Black print-quality troubleshooting page

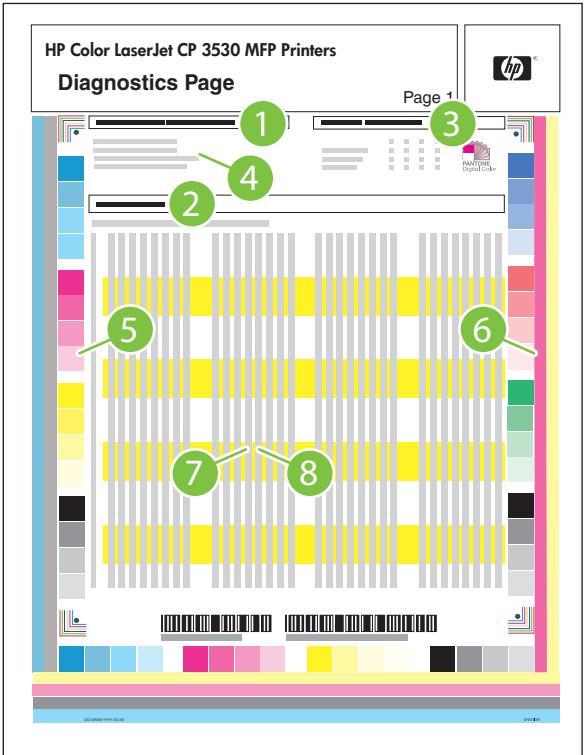


1. Grids	The grids are in inches and millimeters. They are label with letters and numbers so that defects can be described by position and by distance between repeats.
2. Color plane registration (CPR) bars	After printing, the box with no extra color in each area on each page shows how far off the CPR of that color is. Each page has two process direction areas and three scan direction areas that are labeled x and y and 1–11. The page should be fed by the long edge. Each square from the center equals 42 microns.
3. Color ramp patches	Used to detect offset for the OPC or developer in the image drum or offset in the fuser.

Diagnostics page

Use the diagnostics page to evaluate problems with color-plane registration, EP parameters, and print quality.

1. Touch **Administration**.
2. Touch **Troubleshooting**.
3. Touch **Diagnostics Page**.



1	Calibration information
2	Parameters
3	Color density
4	Color-plane registration
5	Primary colors
6	Secondary colors
7	Temperature values (22 M)
8	Humidity values (22 N)

Cleaning page

Run the product cleaning page to keep the fuser free of toner and paper particles that can sometimes accumulate and cause specks to appear on the front or back side of your print jobs.

HP recommends that you use the cleaning page when there is a print-quality issue.

A **Cleaning** message appears on the product control-panel display while the cleaning is taking place.

In order for the cleaning page to work correctly, print the page on copier-grade paper (not bond, heavy, or rough paper).

Create and use the cleaning page

1. Scroll to and touch **Administration**.
2. Scroll to and touch **Print Quality**.
3. Touch **Calibration/cleaning**.
4. Touch **Process cleaning page**.

Configuration pages

Depending on the model, up to three pages print when you select **PRINT CONFIGURATION**. In addition to the main configuration page, an embedded Jetdirect configuration page also prints.

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 printer languages.

1. Touch **Administration**.
2. Touch **Information**.
3. Touch **Configuration/Status Pages**.
4. Touch **Configuration Page**.
5. Touch **Print**.

The message **Printing Configuration** displays on the control panel until the product finishes printing the configuration page. The product returns to the **Ready** state after printing the configuration page.


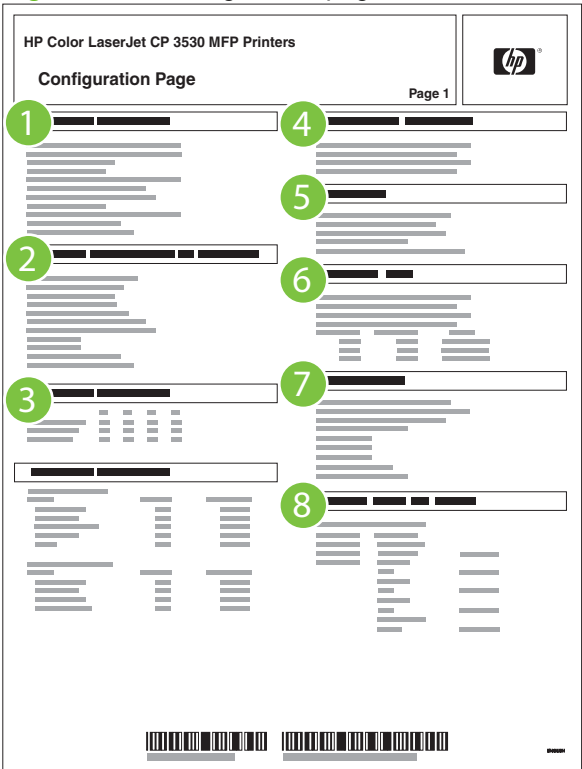
 **NOTE:** If the product is configured with EIO cards (for example, an HP Jetdirect Print Server) or an optional hard-disk drive, an additional configuration page will print that provides information about those devices.

Figure 7-47 Configuration page



- | | |
|---|-------------------------------------|
| 1 | Printer information |
| 2 | Installed personalities and options |

3	Color density
4	Calibration information
5	Memory
6	Event log
7	Security
8	Paper trays and options

HP embedded Jetdirect page

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

Figure 7-48 HP embedded Jetdirect page



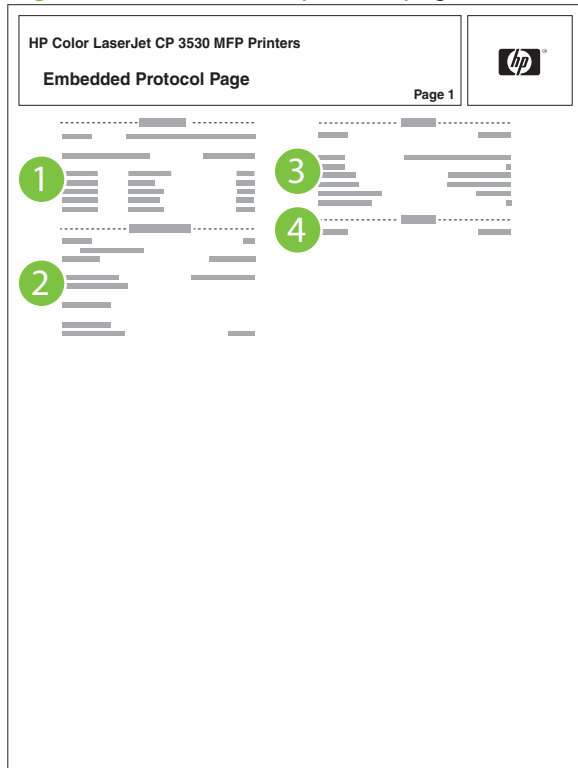
1	HP Jetdirect Configuration indicates the product status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2	Security Settings information
3	Network Statistics indicates the total packets received, unicast 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

Always make sure the status line under the HP Jetdirect configuration lines indicates "I/O Card Ready".

Embedded protocol page

The embedded protocol page contains the following information:

Figure 7-49 Embedded protocol page



1	IPX/SPX
2	Novell/NetWare
3	AppleTalk
4	DLC/LLC

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 7-11 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 "HP Jetdirect Configuration."
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 and the fax accessory. 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."
	Pages since last maintenance (print engine maintenance count)	Look on the main configuration page, under "Device Information."
	Event-log information	Look on the main configuration page, under "Event log."

Color-band test

The color-band test page shows bands of colors that can indicate whether or not the product is producing colors correctly.

1. Scroll to and touch **Administration**.
2. Touch **Troubleshooting**.
3. Touch **Color Band Test**.
4. Touch **Print**.

Control-panel messages

Table 7-12 Control-panel messages

Control panel message	Description	Recommended action
Output Bin Full Remove all paper from bin	The output bin is full and must be emptied for printing to continue.	Empty the bin to continue printing.
10.00.YY Supply memory error	<p>The product is unable to read the cartridge data. The print cartridge is present but defective.</p> <ul style="list-style-type: none"> 10.00.00 Supply memory error (black print cartridge) 10.00.01 Supply memory error (cyan print cartridge) 10.00.02 Supply memory error (magenta print cartridge) 10.00.03 Supply memory error (yellow print cartridge) 10.10.00 Supply memory error (e-label for the black print cartridge) 10.10.01 Supply memory error (e-label for the cyan print cartridge) 10.10.02 Supply memory error (e-label for the magenta print cartridge) 10.10.03 Supply memory error (e-label for the yellow print cartridge) 10.10.05 Supply memory error (e-label for the black image drum) 10.10.06 Supply memory error (e-label for the cyan image drum) 10.10.07 Supply memory error (e-label for the magenta image drum) 10.10.08 Supply memory error (e-label for the yellow image drum) 	<ol style="list-style-type: none"> Open the front door and remove the print cartridge, and then reinsert it. Close the front door. If the message reappears, turn the product off and then on. If the error reappears, replace the print cartridge.
11.XX Internal clock error To continue touch OK	The product's real time clock experienced an error.	<p>Whenever the product is turned off and then turned on again, set the time and date at the control panel. See the user guide for more information.</p> <p>If the error persists, you might need to replace the formatter.</p>
13.01 Jam In Tray 3	The leading edge of the paper fed from Tray 3 stopped before reaching the media feed sensor (SR4).	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.04 Jams inside right door	The paper stopped at the registration sensor (A).	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.05 Fuser area jam	The leading edge of the paper stopped between registration and the input to the	Follow the onscreen instructions to locate and remove the paper or obstruction.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
	fuser. The paper did not reach the loop sensors (SR14, SR15)	
13.06 Fuser area jam	The paper stopped at the fuser-delivery sensor (D).	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.12 Jam inside right door	The duplex refeed paper stopped before it reached duplex re-pickup sensor (SR22).	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.13 Jam inside right door	The duplex refeed paper stopped between the duplex re-pickup sensor (SR22) and registration.	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.1C Fuser Wrap Jam	The paper is stopped in the fuser.	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.20 Jams inside right door	The paper is stopped at either the registration sensor (SR8), the loop sensors (SR14,SR15) or the fuser-delivery sensor (SR5).	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.21 Jams inside right door	Either the front or right side door was opened while paper was in the path.	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.2E Paper Late Jam Near Fuser at Sensors F - J	The paper stopped between the fuser-output sensor (F) and the output-bin-full sensor (J).	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.30.00 Jam in Tray 1	Paper being fed from Tray 1 did not reach registration sensor.	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.30.00 Jam in Tray 2	Paper from Tray 2 did not reach registration sensor (SR8).	Follow the onscreen instructions to locate and remove the paper or obstruction.
13.30.00 Jam inside lower right door	Paper being fed from Tray 3 did not reach registration sensor.	Follow the onscreen instructions to locate and remove the paper or obstruction.
20 INSUFFICIENT MEMORY To continue touch OK	The product does not have enough memory to print the page.	Touch OK to print a partial page. Reduce the page complexity or add product memory.
22 - USB I/O buffer overflow To continue touch OK	The product's USB buffer overflowed during a busy state.	Touching OK resumes printing but results in a loss of data.
22 EMBEDDED I/O BUFFER OVERFLOW To continue touch OK	Too much data was sent to the embedded HP Jetdirect print server. An incorrect communications protocol might be in use.	Touch OK to print the transferred data. Some data might be lost. Check the host configuration.
30.01.02 Scanner failure	The document feeder is jammed.	<ol style="list-style-type: none"> 1. Remove all originals from the document feeder. 2. Open the document feeder top cover and check for torn paper or other objects, such as paper clips.
30.01.03 Scanner failure	An ADF pickup failure occurred.	<ol style="list-style-type: none"> 1. Verify that the original documents are not damaged. If one edge is damaged, try rotating the originals. 2. Verify that the document feeder guides are not too tight against the stack of originals. 3. Clean or replace the document feeder rollers and the separation pad.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
30.01.08 Scanner failure	The scanner carriage is locked or it has not returned to the home position within the expected time.	<ol style="list-style-type: none"> 1. Verify that the scanner is not locked. 2. Verify that the scanner carriage can move freely. If it cannot move, replace the scanner. See Scanner assembly on page 242.
30.01.14 Scanner failure	The SCB firmware failed.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the SCB. See Scanner-control board (SCB) on page 279.
30.01.18 Scanner failure	The SCB ASIC failed.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the SCB. See Scanner-control board (SCB) on page 279.
30.01.19 Scanner failure	The scanner lamp failed.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the scanner. See Scanner assembly on page 242.
30.01.23 Scanner failure	A scanner calibration error has occurred.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the scanner. See Scanner assembly on page 242.
30.01.25 Scanner failure	The scanner-control board (SCB) cannot communicate with the product.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Check the SCB LED. 3. Verify that the SCB connections are correct. 4. Verify the cable from the scanner to the formatter is not plugged in backwards. 5. Replace the SCB. See Scanner-control board (SCB) on page 279.
30.01.36 Scanner failure	An error occurred during the SCB firmware upgrade.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Resend the firmware upgrade. 3. Replace the SCB. See Scanner-control board (SCB) on page 279.
30.01.39 Scanner failure	There was an AFE1 (analog front-end) failure.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the scanner. See Scanner assembly on page 242.
30.01.40 Scanner failure	The scanner AFE 2 failed.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the scanner. See Scanner assembly on page 242.
30.01.41 Scanner failure	There was a SCB error.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the SCB. See Scanner-control board (SCB) on page 279.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
30.01.42 Scanner failure	The PCI-E (peripheral component interconnect express) cable is faulty or disconnected.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Check the PCI-E cable connections at the SCB and the ICB. 3. Replace the PCI-E cable. See Scanner-control board (SCB) on page 279.
30.01.43 Scanner failure	The SCB memory has failed.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the SCB. See Scanner-control board (SCB) on page 279.
30.01.44 Scanner failure	Communication failed on the SCB.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the SCB. See Scanner-control board (SCB) on page 279.
30.01.45 Scanner failure	The SCB has failed.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Replace the SCB. See Scanner-control board (SCB) on page 279.
30.01.46 Scanner failure	The SCB enumeration failed.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Check the PCI cable at the scanner and formatter. 3. Check the SCB connections. 4. Replace the SCB. See Scanner-control board (SCB) on page 279.
40 Embedded I/O Bad Transmission To continue touch OK	A temporary printing error occurred. The connection between the product and the EIO card in the specified slot has been broken.	Touch OK to clear the error message and continue printing. Turn the product off and then on.
41.3 Load Tray <XX>: [Type] [Size]	The specified tray is loaded with media that is longer or shorter in the feed direction than the size adjusted for the tray. This message also appears if two or more sheets of media stick together in the product or if the tray is not adjusted correctly. If using glossy paper, ensure that it has been acclimated.	Touch OK to use another tray. Reconfigure the size in a tray so that the product will use a tray that is loaded with the correct media size. If the message does not clear automatically from the control-panel display, turn the product off and then on.
41.5 Load Tray <XX>: [Type], [Size] To use another tray, touch OK	<p>The product detected an unexpected paper size. There is a tray type mismatch.</p> <p>The tray is a cassette and there is another tray available for use.</p>	To continue, load the tray with the size and type indicated. Or, if another tray is available, touch OK to use it. This problem affects printing, but some scan functions might still be available.
41.X ERROR	A temporary printing error occurred.	Touch OK to clear the error. If the error is not cleared, turn the product off and then on.
49.XXXXX ERROR To continue turn off then on	<p>A firmware error has occurred.</p> <p>This type of error can be caused by corrupted print jobs or software program issues, non product-specific printer drivers, poor-quality USB or network cables, bad network connections or incorrect network configurations, invalid firmware operations, or unsupported accessories.</p>	<p>The following steps should help to identify possible causes and a resolution to the error condition:</p> <ol style="list-style-type: none"> 1. Turn the product off then on. If the error returns, disconnect all interface cables and turn the product off and then on again.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
		<p>If the error recurs only after connecting one of the interface cables or it happens randomly, go to step 2.</p> <p>If the error returns after the second time you turn the product off and on, follow these steps:</p> <ol style="list-style-type: none"> The error has been isolated to when the product is in stand-alone condition. Turn the product off and remove the hard drive, fax card (if equipped), any HP paper-handling accessories, all third-party DIMMs (leave the minimum HP memory installed), and all third-party accessories. After you have removed all components, turn the product on and print a configuration page. <p>If the configuration page prints, the error has been isolated to one or more components you removed. Go to step c.</p> <p>If the configuration page does not print, go to step e.</p> Turn the product off, reinstall one of the components onto the formatter, and turn the product on. Print the configuration page after the individual component is added. Continue reinstalling one component at a time and printing the configuration page until you identify the faulty component. Replace the faulty component, or contact the third-party accessory supplier. If the configuration page did not print in step b, turn the product off and reinstall all components removed from the formatter. Reinstall the formatter. Perform a Cold Reset, Disk INIT and NVRAM INIT. <p>NOTE: Customer settings or data from the disk might be lost.</p> If the product does not come to a ready state after performing all steps listed above, contact your Hewlett Packard support center.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
		<p>NOTE: HP LaserJet formatter PCAs are rarely the cause of 49 service errors. Do not replace the formatter unless troubleshooting identifies it as the cause.</p> <p>2. If the error clears after turning the product off and then on, it is possible that a print job, an action performed on the product, or a connectivity issue is responsible for the error.</p> <p>a. If the error recurs only after connecting an interface cable try the following actions, if applicable:</p> <ul style="list-style-type: none"> • Try a new cable. • Move the product to a new network port, fax-line port, or USB port. • Verify that all unused network protocols are disabled and that all settings are correctly set for the network configuration being used. • Reset the fax settings to factory defaults. Configure only the basic settings needed to operate: country/region, company name, and fax number. • Verify that the fax card firmware revision is the correct version for the formatter firmware version on the product. <p>b. If the error happens only when performing certain actions, such as making a copy, sending an e-mail, or sending a fax, try the following actions, if applicable:</p> <ul style="list-style-type: none"> • Try different configuration settings • Increase or decrease the file resolution • Use black and white file format instead of color, or vice-versa. • Use different file formats, for example .PDF or .TIFF. • Use different copy settings, such as eliminating duplex printing or printing multiple pages on one sheet.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
		<ul style="list-style-type: none"> • Reduce the number of originals. • Reset the fax settings to factory defaults. Configure only the basic settings needed to operate: country/region, company name, and fax number. • Verify that the fax card firmware revision is the correct version for the formatter firmware version on the product. <p>c. If the error occurs only when printing a job, try the following actions:</p> <ul style="list-style-type: none"> • Verify that the printer driver is correct for your product. • Try printing another file from the same software program or from another software program. • Reduce the number of features being used in the print job, such as printing watermarks, printing multiple pages on one sheet, or using job-storage features. • If other files or software programs are successful, try making changes to the file, such as using different fonts, changing driver settings, or printing with another driver language, such as PCL 6. <p>d. If the error continues to occur, update the product firmware. Obtain the latest firmware from www.hp.com/go/cljcm3530mfp_firmware.</p> <p>3. If the error persists after performing these steps, contact your Hewlett Packard support center.</p>
50.1 FUSER ERROR	The fuser has experienced a low-temperature error.	<ol style="list-style-type: none"> 1. Remove any paper jams from the fuser area. 2. Remove the fuser. Check the connector (J50) between the fuser and the product. Replace the cable or fuser if the connector is damaged. 3. If the problem persists, replace the fuser. See Fuser on page 200.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
50.2 FUSER ERROR	The fuser has experienced a warm-up error.	<ol style="list-style-type: none"> 1. Reinstall the fuser. Check the connector (J50) between the fuser and the product. Replace the cable or fuser if the connector is damaged. 2. Reconnect the connectors (J138, J115) of the DC controller PCA. Reconnect connector (J60), on the power line between the low voltage power supply and the fuser. 3. If the problem persists, replace the fuser. See Fuser on page 200.
50.3 FUSER ERROR	The fuser has experienced a high-temperature error.	<ol style="list-style-type: none"> 1. Reinstall the fuser. Check the connector (J50) between the fuser and the product. Replace the cable or fuser if the connector is damaged. 2. If the problem persists, replace the fuser. See Fuser on page 200.
50.4 FUSER ERROR	The fuser driver circuit has experienced an error.	<ol style="list-style-type: none"> 1. Check the power source. If a power generator is used, improve the situation. NOTE: If the product does not meet the power requirement of 43 to 67Hz frequency, the fuser temperature control does not work, which causes a malfunction. 2. Reconnect connector (J101) on the DC controller PCA. 3. If the problem persists, replace the low-voltage power supply. See Low-voltage power supply (LVPS) on page 273.
50.5 FUSER ERROR	The fuser has experienced a type-mismatch error.	<ol style="list-style-type: none"> 1. Reinstall the fuser. Check the connector (J50) between the fuser and the product. Replace the cable or fuser if the connector is damaged. 2. Reconnect the connector (J139) on the DC controller PCA. 3. If the problem persists, replace the fuser. See Fuser on page 200.
50.7 FUSER ERROR	The fuser has experienced a pressure release mechanism error.	<ol style="list-style-type: none"> 1. Reconnect the connectors (J117, J123) on the DC controller PCA. 2. Run the sensor test to test the fuser pressure-release sensor (H) SR7. If the sensor is defective, replace the fuser. See Fuser on page 200.

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
50.8 FUSER ERROR	The fuser has experienced a low-temperature error.	<ol style="list-style-type: none"> 1. Remove any paper jams from the fuser area. 2. Reinstall the fuser. Check the connector (J50) between the fuser and the product. Replace the cable or fuser if the connector is damaged. 3. If the problem persists, replace the fuser. See Fuser on page 200.
50.9 FUSER ERROR	The fuser has experienced a high-temperature error.	<ol style="list-style-type: none"> 1. Reinstall the fuser. Check the connector (J150) between the fuser and the product. Replace the cable or fuser if the connector is damaged. 2. If the problem persists, replace the fuser. See Fuser on page 200.
51.1Y Error To continue turn off and then on	<p>There is a beam detect error.</p> <ul style="list-style-type: none"> • 51.10=black • 51.11=cyan • 51.12=magenta • 51.13=yellow 	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Check the flat flexible cable (FFC) connections to the laser scanners. Also check connectors J111 and J110 at the DC controller, and check connectors J503 and J501 at the laser scanners 3. Replace the specific laser scanner. See Laser/scanner assembly (C/Bk) on page 332 or Laser/scanner assembly (Y/M) on page 325.
51.2Y Error To continue turn off and then on	<p>There is a laser error.</p> <ul style="list-style-type: none"> • 51.20=black • 51.21=cyan • 51.22=magenta • 51.23=yellow 	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Check the connectors on the laser scanner. 3. Replace the specific laser scanner. See Laser/scanner assembly (C/Bk) on page 332 or Laser/scanner assembly (Y/M) on page 325.
52.00 Error To continue turn off and then on	The laser scanner experienced a startup error.	<ol style="list-style-type: none"> 1. Perform the laser scanner component tests in the Troubleshooting menu. 2. Depending on the test results, perform one of the following steps: <ul style="list-style-type: none"> ◦ If the cyan or black component tests showed a startup failure, reconnect the connectors of the cyan/black scanner motor (J56 and J58) and the DC controller PCA (J106). ◦ If the yellow or magenta component tests showed a startup failure, reconnect the connectors of the yellow/magenta scanner motor (J55 and J57) and the DC controller PCA (J106). 3. Replace the cyan/black laser scanner unit or the yellow/magenta laser

Table 7-12 Control-panel messages (continued)

Control panel message	Description	Recommended action
		scanner unit. See Laser/scanner assembly (C/Bk) on page 332 or Laser/scanner assembly (Y/M) on page 325 .
52.20 Error To continue turn off and then on	The laser scanner experienced a rotational error.	<ol style="list-style-type: none"> 1. Perform the laser scanner component tests in the Troubleshooting menu. 2. Depending on the test results, perform one of the following steps: <ul style="list-style-type: none"> ◦ If the cyan or black component tests showed a startup failure, reconnect the connectors of the cyan/black scanner motor (J56 and J58) and the DC controller PCA (J106). ◦ If the yellow or magenta component tests showed a startup failure, reconnect the connectors of the yellow/magenta scanner motor (J55 and J57) and the DC controller PCA (J106). 3. Replace the cyan and black laser-scanner assembly or the yellow and magenta laser-scanner assembly. See Laser/scanner assembly (C/Bk) on page 332 or Laser/scanner assembly (Y/M) on page 325.
53.10.0X Unsupported DIMM	An unsupported DIMM is installed.	Turn the product off, and then replace the DIMM that caused the error.
54.01 Error	The environmental sensor experienced an error.	<ol style="list-style-type: none"> 1. Reconnect the connector of the DC controller PCA (J108). 2. Replace the environmental sensor. See Delivery fan, cartridge fan, and environmental sensor on page 285.
55.00.YY DC Controller Communication Error To continue turn off and then on	The DC controller experienced a communication error.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Perform an engine test. See Engine-test button on page 386. 3. Verify the connectors on the DC controller. 4. Replace the DC controller. See DC controller PCA and tray on page 270.
55.01.YY DC Controller Memory Error To continue turn off and then on	There is an error with the DC controller memory.	<ol style="list-style-type: none"> 1. Turn the product off and then on. 2. Perform an engine test. See Engine-test button on page 386. 3. Verify the connectors on the DC controller. 4. Replace the DC controller. See DC controller PCA and tray on page 270.