



# S4M Printhead Upgrade Option Kit

## Installation Instructions

This kit includes the parts and documentation necessary to change the drive system and printhead from 203 dpi to 300 dpi or 300 dpi to 203 dpi on the S4M™ printer. Read these instructions thoroughly before attempting to changeover the printhead and drive system.



**Caution** • Turn Off (O) the printer and disconnect it from the power source before performing the following procedure.

## Prepare for Installation

### Parts List

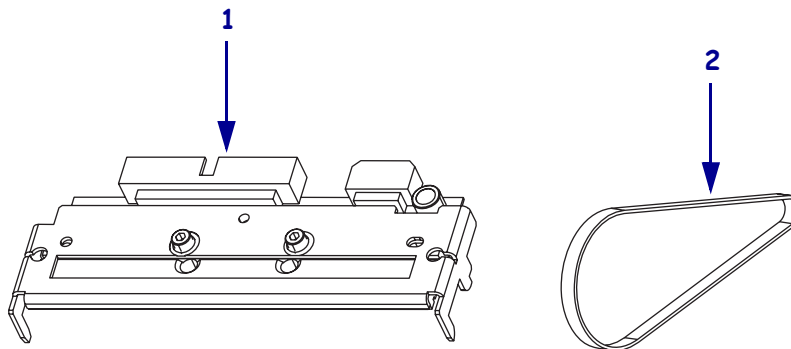
Before proceeding, verify that your kit contains the items for your printer listed below.

**Table 1 • Kit List**

✓	Item	Qty	Part Number	Description
	<b>1</b>	1	<b>20111</b>	300 to 203 dpi Conversion Kit
	<b>2</b>	1	<b>20006</b>	Belt, 0.080P 139T
	<b>1</b>	1	<b>20112</b>	203 to 300 dpi Conversion Kit
	<b>2</b>	1	<i>20005</i>	Belt, 0.080P 128T

**Bold** = Part available for purchase.  
*Italic* = Part not available for purchase, listed and shown for reference only.

**Figure 1 • Kit Contents**



## Reference Materials

The following manuals and CDs may be helpful references while performing this procedure.

- S4M User Guide
- S4M User Guide CD
- S4M Maintenance Manual (contact your authorized Zebra reseller for purchasing information)
- S4M Maintenance Manual CD

## Tools Required



**Tools** • You need these tools to complete this procedure:

- |  |   |
|--|---|
| <input type="checkbox"/> Phillips Screwdriver Set                  | <input type="checkbox"/> Anti-Static Wriststrap and Mat                                 |
| <input type="checkbox"/> Metric Nutdriver Set                      | <input type="checkbox"/> Metric and inch Feeler Gauges, must include: 0.060 in. (1.5mm) |
| <input type="checkbox"/> 47362* Zebra Preventative Maintenance Kit | <input type="checkbox"/> Metric Hex Key (Allen wrench) Set                              |

\*. A solution of 90% isopropyl alcohol and 10% deionized water and clean swabs may be used in place of the Preventative Maintenance Kit.

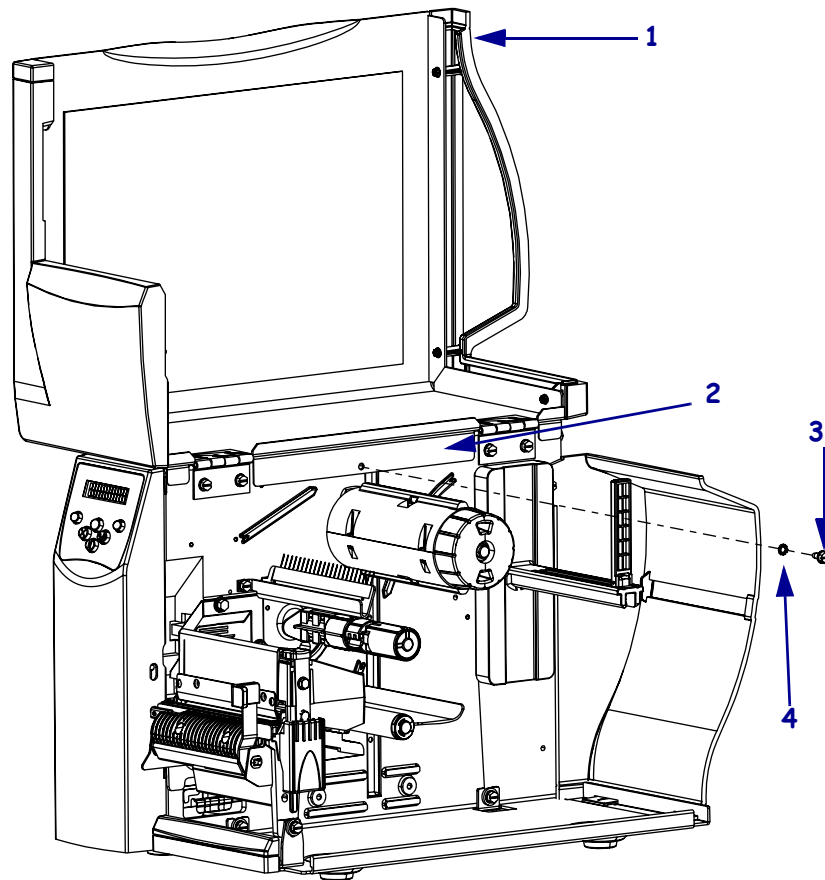
## Remove the S4M Electronics Cover



**Note** • Retain all parts removed during disassembly, unless otherwise directed.

1. Turn Off (O) the printer and disconnect the AC power cord and all data cables.
2. See [Figure 2](#). Remove the electronics cover mounting screw and washer and then close the media door.

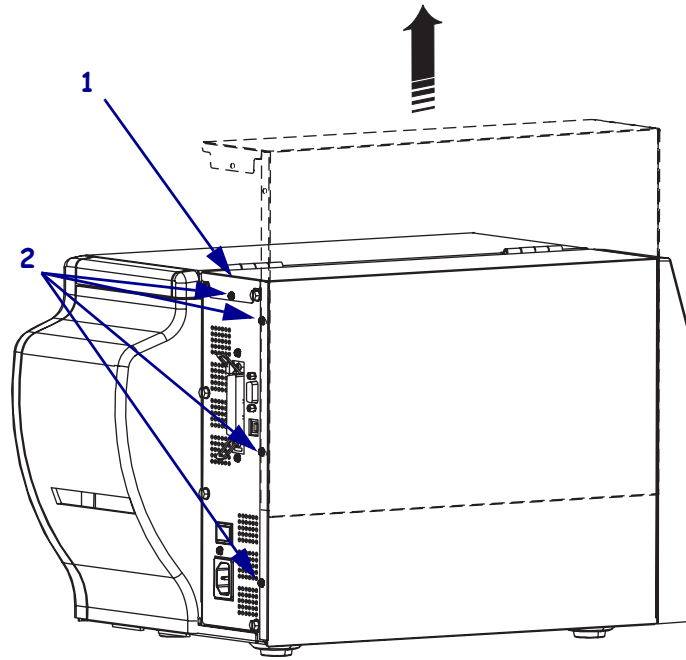
**Figure 2 • Remove the Mounting Screw**



<b>1</b>	Media Door
<b>2</b>	Electronics Cover Upper Flange
<b>3</b>	Electronics Cover Mounting Screw
<b>4</b>	Washer

3. See [Figure 3](#). Remove the four remaining mounting screws securing the electronics cover.
4. Remove the electronics cover by lifting straight up on the bottom lip of the electronics cover.

**Figure 3 • Electronics Cover Removal**

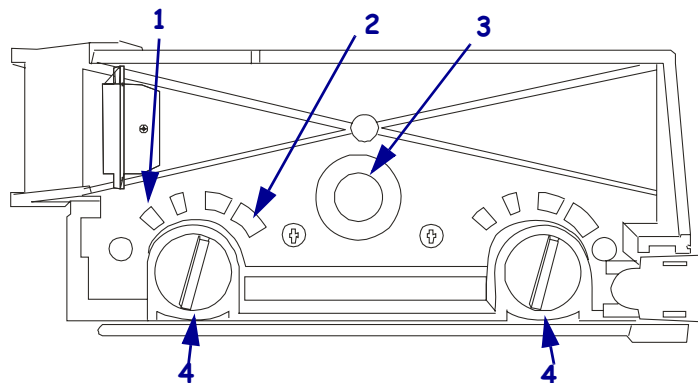


<b>1</b>	Electronics Cover
<b>2</b>	Mounting Screws (4)

## Remove the Printhead

1. See [Figure 4](#). Rotate the two printhead pressure dials to the #1 position.

**Figure 4 • Locate the Printhead Pressure Dials**



<b>1</b>	Position number one
<b>2</b>	Position number four
<b>3</b>	Thumbscrew
<b>4</b>	Printhead Pressure Dials (2)

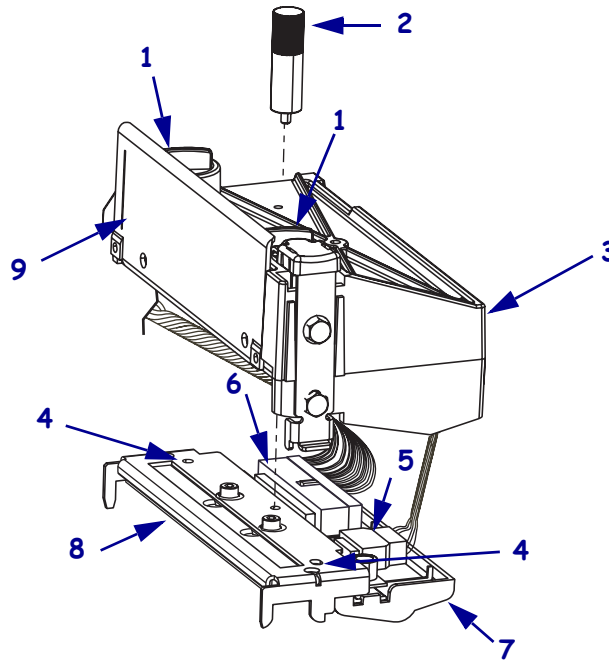
- See Figure 5. Remove the thumbscrew to loosen the printhead fork assembly.



- Caution** • Be sure the printhead is fully open and latched in the open position.

Unlatch the print mechanism and lift and latch it in the open position.

**Figure 5 • Printhead Removal and Installation**



1	Printhead Pressure Dial	6	Printhead Data Connector
2	Thumbscrew	7	Lower Guide
3	Print Mechanism Assembly	8	Printhead Fork Assembly
4	Locating Hole	9	Mounting Plate
5	Printhead Power Connector		



- Caution** • The printhead may be hot and could cause severe burns. Allow the printhead to cool.

Slide the printhead fork assembly out from the print mechanism assembly to expose the printhead cable connectors.

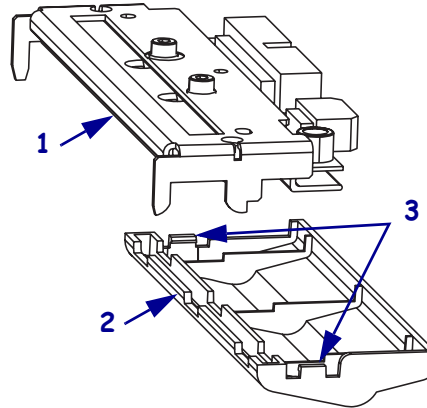


- Caution** • Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

Connect yourself to an antistatic device and disconnect both the printhead power and data cables and remove the printhead assembly.

6. See [Figure 6](#). Remove the lower printhead guide by pushing the tabs away from the fork assembly.

Figure 6 • Remove the Lower Guide



1	Printhead Fork Assembly
2	Lower Guide
3	Tabs (2)

## Install the Printhead

1. See [Figure 6 on page 6](#). Install the lower guide on the new printhead fork assembly
2. Connect both printhead power and data cables to the printhead connectors and carefully slide them into position. Ensure the cables are in their proper channels and are not binding the printhead.



3. **Caution** • An improperly connected printhead data or power cable may cause the printhead to generate excessive heat and/or a false HEAD COLD message to display while the printhead is hot enough to cause severe burns. Allow the printhead to cool.

See [Figure 5 on page 5](#). Install the new printhead fork assembly.



**Important** • When mounting the printhead fork assembly onto the print mechanism, visually inspect and ensure the following:

- the cables are in their channels at the back of their carrier assembly
  - the power cable is under data cable
  - they are not binding on the print mechanism
4. Ensure the two locating protrusions on the print mechanism mounting plate snap into the locating holes on the printhead fork assembly. Move the assembly back and forth to be sure that it is engaged. There should be no movement.



**Note** • The printhead must be properly engaged with the ribbon guide plate to have the proper print quality.

5. Secure the printhead fork assembly to the printhead housing using the previously removed thumbscrew.
  6. See [Figure 4 on page 4](#). Rotate the two printhead pressure dials back to their original position.
- 
7. **Caution •** Do not use sharp objects to clean printhead or platen roller.

Clean the printhead and the platen roller.

## Remove the Main Logic Board



1. **Caution •** Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

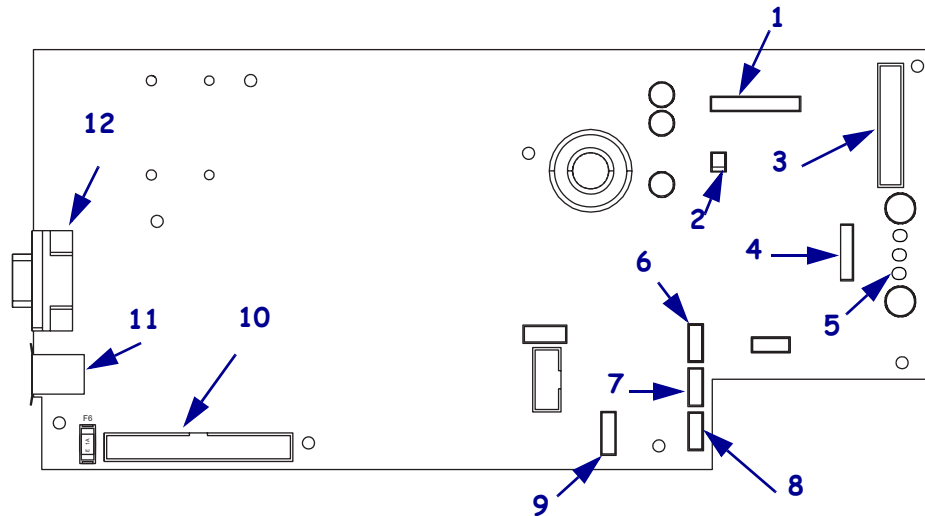
Connect yourself to an antistatic device.

2. See [Figure 7](#). Remove all cables from the main logic board (MLB).



**Note •** Take note of the location of all connectors on the main logic board.

**Figure 7 • Remove the Main Logic Board Connections**



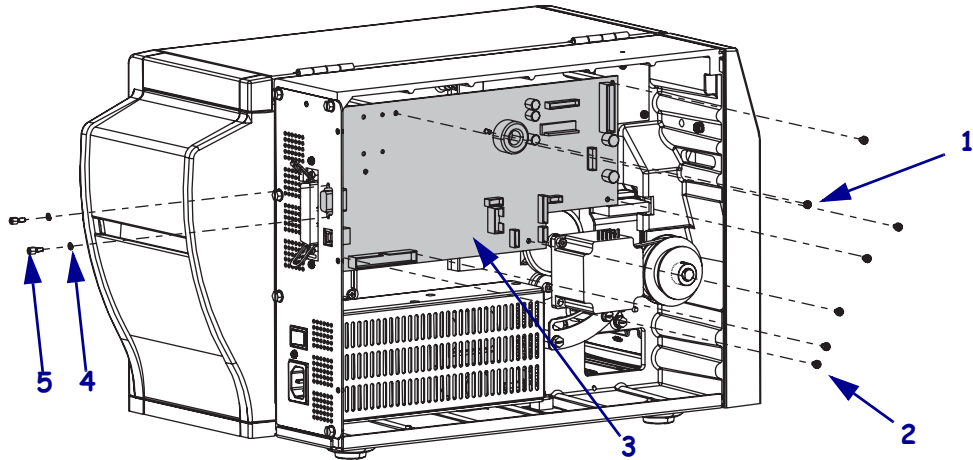
1	Printhead Data (J3)	7	Transmissive Sensor (P9)
2	Power-in (J8)	8	Reflective Sensor (P7)
3	Front Panel (J2)	9	Take Label Sensor (J19)
4	Stepper Motor (J9)	10	Communication Expansion Port (J17)
5	Booster Board (J7)	11	USB Port (J14)
6	Ribbon Sensor (P4)	12	Serial Port (J10)

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### Remove the Main Logic Board

3. See [Figure 8](#). Remove the six screws and one nut securing the main logic board to the main frame of the printer.
4. Remove the two studs and washers securing the serial port connector to the back of the printer.

**Figure 8 • Remove the Main Logic Board**



1	Main Logic Board Nut
2	Main Logic Board Mounting Screws (6)
3	Main Logic Board
4	Lock Washer (2)
5	Serial Port Mounting Stud (2)

5. Remove the main logic board from the printer.

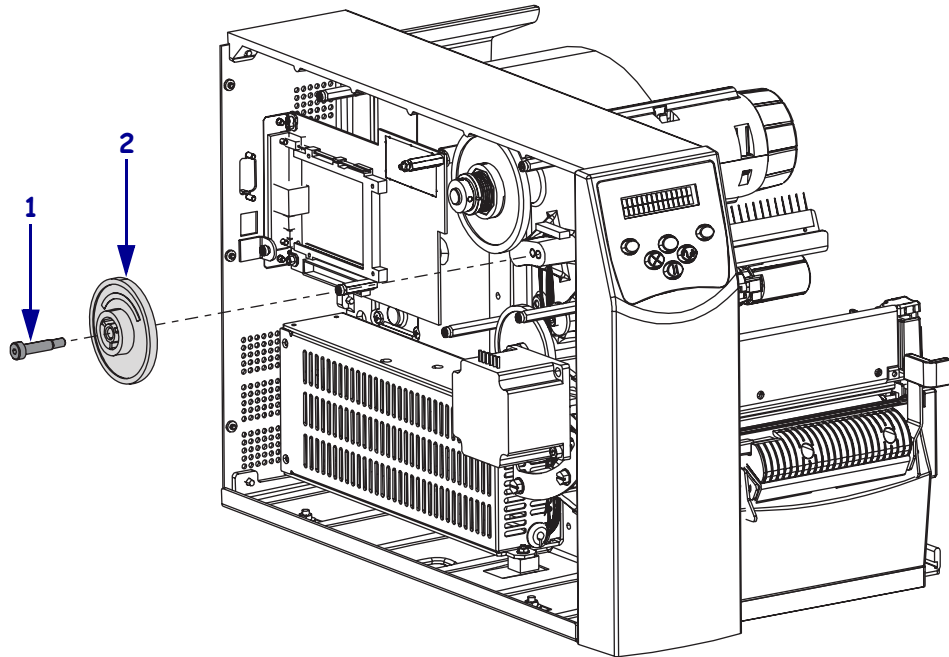


## Conversion Procedure

The following steps will convert your printer from 203 dpi to 300 dpi. (To convert from 300 dpi to 203 dpi, the gears are installed in the opposite direction, with the smaller side of the pulley away from the printer when placed on the platen roller.)

1. See [Figure 9](#). Remove the compound gear mounting screw.

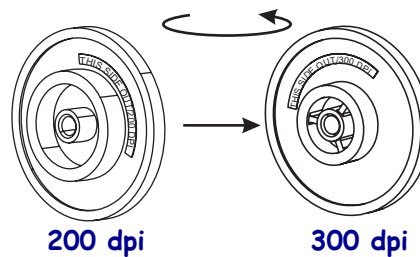
**Figure 9 • Remove the Compound Gear**



<b>1</b>	Mounting Screw
<b>2</b>	Compound Gear

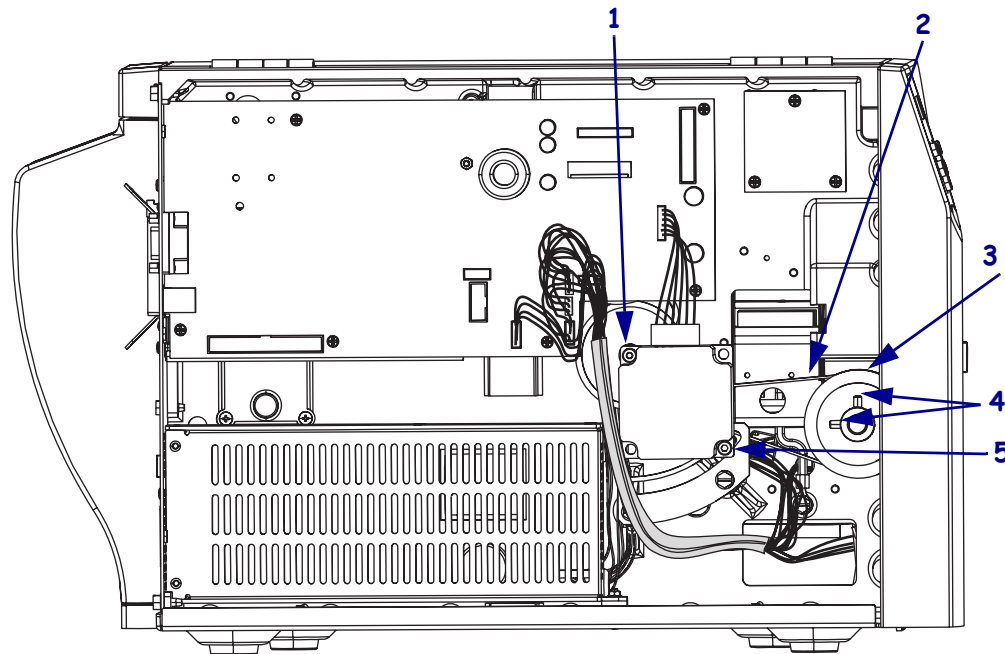
2. See [Figure 10](#). Turn the gear around and reinstall it in the adjacent mounting hole.
3. Ensure that it meshes properly with the clutch and the intermediate gears.

**Figure 10 • Select the Compound Gear Position**



4. See [Figure 11](#). Using a hex key, loosen the stepper motor pivot screw and locking screw.

**Figure 11 • Loosen the Stepper Motor**



<b>1</b>	Pivot Screw
<b>2</b>	Belt
<b>3</b>	Platen Pulley
<b>4</b>	Platen Pulley Set Screws (2)
<b>5</b>	Locking Screw

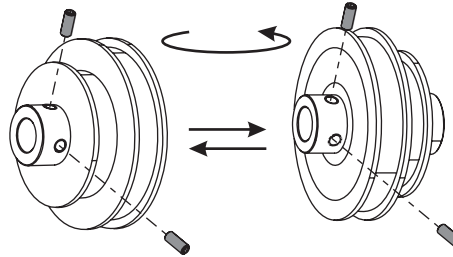
5. Swing the stepper motor up to remove tension from the belt and tighten the locking screw in this position.
6. Remove the belt from the stepper motor drive gear/pulley.
7. Remove and retain the two set screws on the platen roller pulley. Remove the pulley and belt. Discard the belt.

- See [Figure 12](#). Turn the pulley around and place it on the platen roller shaft.



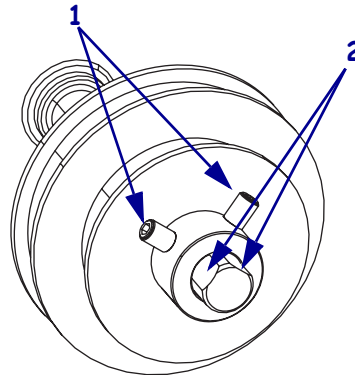
**Note** • Make sure there is approximately a 0.020 in. (0.5 mm) clearance between the platen roller pulley and the printer frame.

**Figure 12 • Turn the Compound Pulley Around**



- Install the set screws in the outboard compound pulley. Rotate the compound pulley to align the set screws with the flat spots on the platen roller shaft.

**Figure 13 • Align the Platen Roller Shaft**



<b>1</b>	Set Screws (2)
<b>2</b>	Flat Spots (2)

- Tighten the two set screws to secure the pulley to the platen roller shaft.
- See [Figure 11](#) on page 10. Install the new belt supplied in the kit.
- Loosen the locking screw and nut.



**Note** • The belt should deflect under finger pressure, but no more than ¼ inch (6 mm).

- Caution** • Do not over tighten the belt or damage to the bearings and platen roller will occur.

Rotate the motor down until the drive belt is just taut. Tighten the locking screw and then the pivot screw.

## Reinstall the MLB

1. See [Figure 8 on page 8](#). Reinstall the MLB in the printer using the screws, nut, and studs and washers previously removed.
2. See [Figure 7 on page 7](#). Reconnect all the cables previously removed from the main logic board. Visually inspect and ensure the cables are in their proper location and seated in the connectors.
3. See [Figure 3 on page 4](#). Install the cover by aligning it and sliding down, ensuring the lower tabs are inside the base and the upper flanges are between the main frame and the media door.
4. Install the four mounting screws on the back of the printer.
5. See [Figure 2 on page 3](#). Open the media door and install the mounting screw and washer to secure the electronics cover.

## Verify the Installation

1. Reinstall the media and ribbon.
2. Reconnect AC power cord and data cables.
3. Press and hold CANCEL while turning On (I) the printer. A configuration label will print after the Power-On Self Test (POST) is completed.



**Note** • A 300 dpi configuration label prints smaller than a 203 dpi label.

