ZebraNet® Internal Wireless Plus Print Server for 110*PAX*4™ and the 170*PAX*4™

Installation Instructions

This kit includes the parts and documentation necessary to install the ZebraNet® Internal Wireless Plus Print Server into 110PAX4™ and 170PAX4™ print engines. Read these instructions thoroughly prior to kit installation.

Caution • A qualified service technician must perform this installation.

Prepare for Installation

Parts List

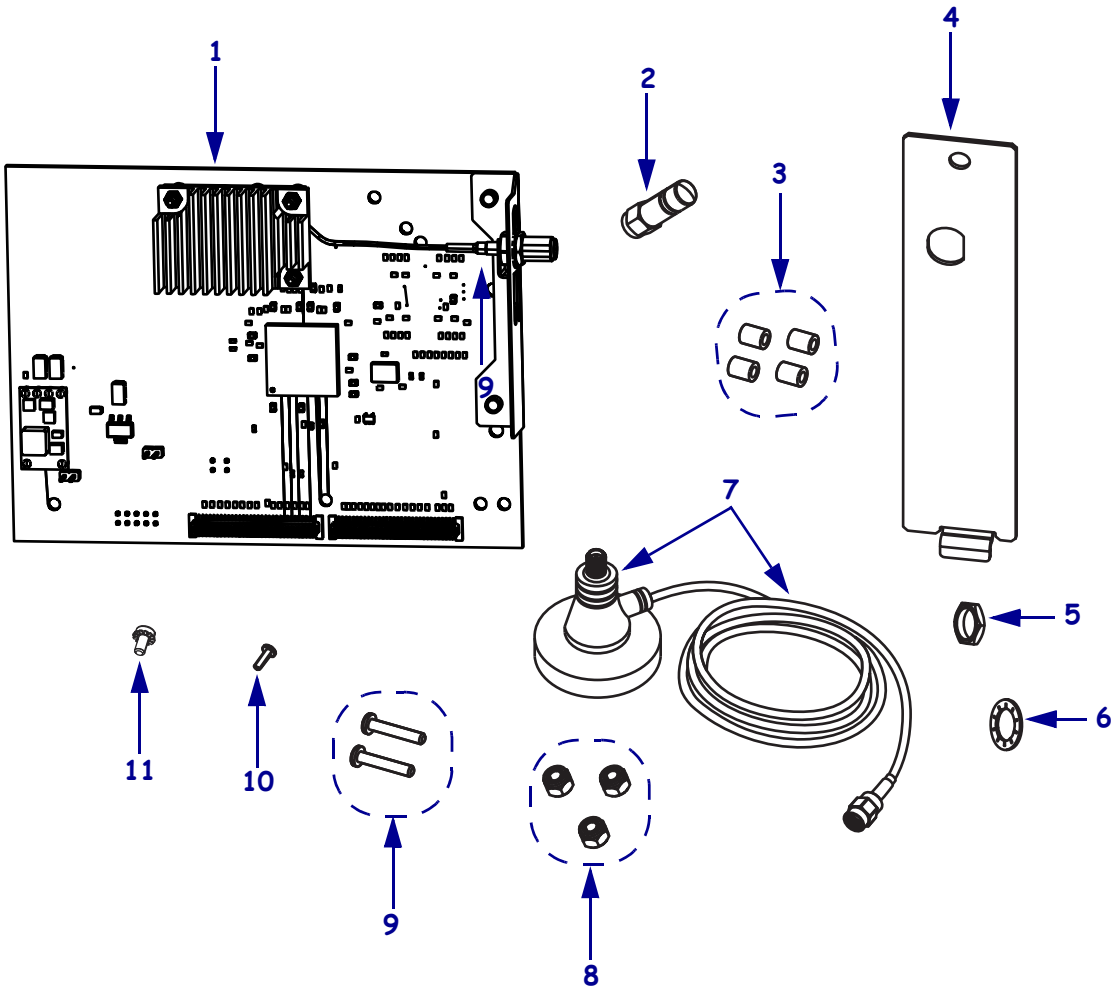
Before proceeding, verify that your kit contains the items listed below.

Table 1 • Parts List

✓	Item	Qty	Part Number	Description
	Ref	1	**29652-004M**	Internal Wireless Plus Print Server Option Maintenance Kit
	1	1	*29652-094*	Internal Wireless Plus PC Board
	2	1	*39538*	Antenna, 1 in. Stub 802.11G
	3	4	*33291*	Spacer, 0.25 x 0.14 x 0.313
	4	1	*39551*	Internal Wireless Plus PC Board Cover
	5	1	*39526*	Washer, 1/4 in. Internal Lock
	6	1	*39527*	Nut, 1/4 in. 36 Uns 2B Hex
	7	1	*39518-001*	Magnetic Mount and Cable
	8	3	*43896*	Nut, M3 x 0.5 with NY Insert
	9	2	*57215*	Screw, M3 x 0.5 16 SO Cap H BO
	10	1	*57214*	Screw, M3 x 0.5 23
	11	1	*43495*	Screw, M3 x 0.5 x 6 Phillips Head with Ext T Lock
		2	*39545-xxx*	Wireless Agency Labels for 110*PAX*4, and 170*PAX*4 (Not shown)

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.

- ZebraNet® Wireless User Guide
- *PAX*4 User CD
- 110*PAX*4 / *R*110*PAX*4 User Guide
- 110*PAX*4 / *R*110*PAX*4 Quick Reference Guide
- 170*PAX*4 User Guide
- 170*PAX*4 Quick Reference Guide
- *PAX* Series Maintenance Manual CD
- 110*PAX*4 Print Engine Maintenance Manual
- 170*PAX*4 Print Engine Maintenance Manual

Tools Required

Tools • You need these tools to complete this procedure:

- ❑ Phillips Screwdriver Set
- ❑ Flat-blade Screwdriver Set
- ❑ Metric Nutdriver Set
- ❑ Antistatic Wriststrap and Mat

Before You Begin

Before starting this installation, you must download firmware version V60.16.x (or later) from: www.zebra.com/firmware.

Installation Instructions

1. Which model print engine do you have?

If you have a…	Then…
110*PAX*4	Continue with *Remove the 110PAX4 Print Engine from the Applicator* on page 4.
170*PAX*4	Go to *170PAX Installation Instructions* on page 27.

110PAX4 Installation Instructions

Remove the 110*PAX*4 Print Engine from the Applicator

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

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. **Caution •** Turn off (**O**) the print engine and disconnect it from the power source before performing the following procedure.

   Turn off (**O**) the printer and disconnect the AC power cord and all data cables.

3. **Caution •** While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

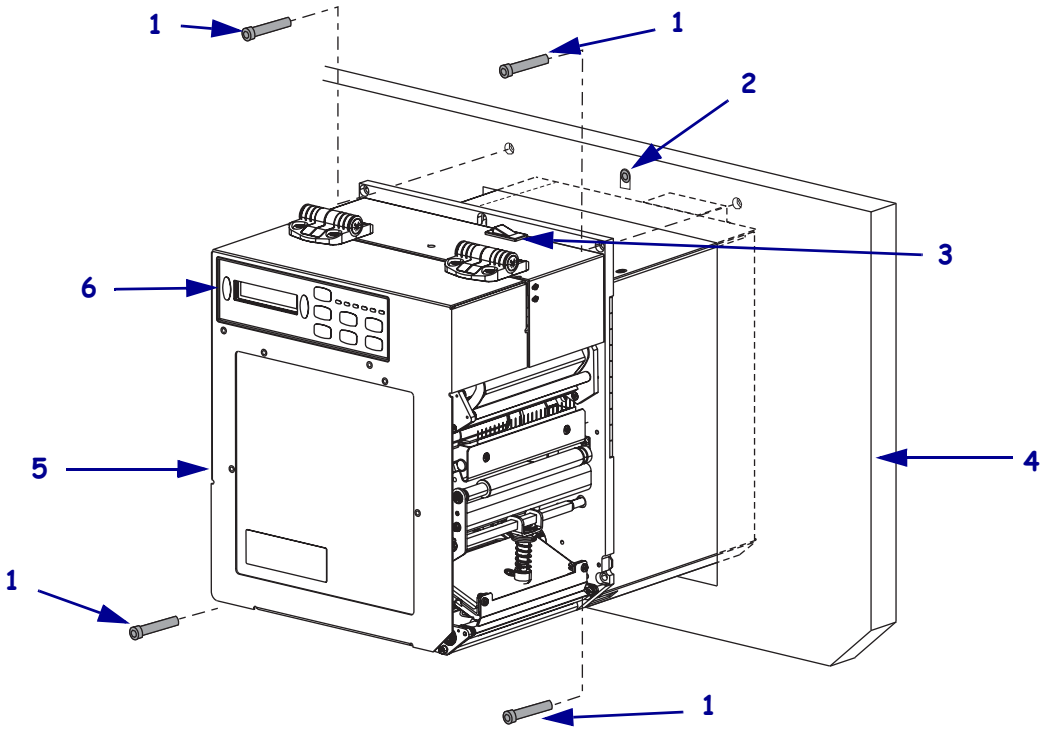
   Open the front cover, unlatch the printhead lever, and remove media and ribbon from the print engine.

4. Close and latch the printhead lever, and then close the front cover.

5. See Figure 2. Remove the four corner mounting screws securing the print engine to the applicator.

Leave the center mounting bolt until last.

Figure 2 • Front View of 110*PAX*4 Print Engine in Applicator



1	Applicator mounting screws (4)	4	Applicator
2	Center mounting bolt	5	Front cover
3	On/Off switch	6	Control panel

Note • The keyhole and the center mounting bolt are designed to support the print engine and assist in installing and removing the four mounting screws.

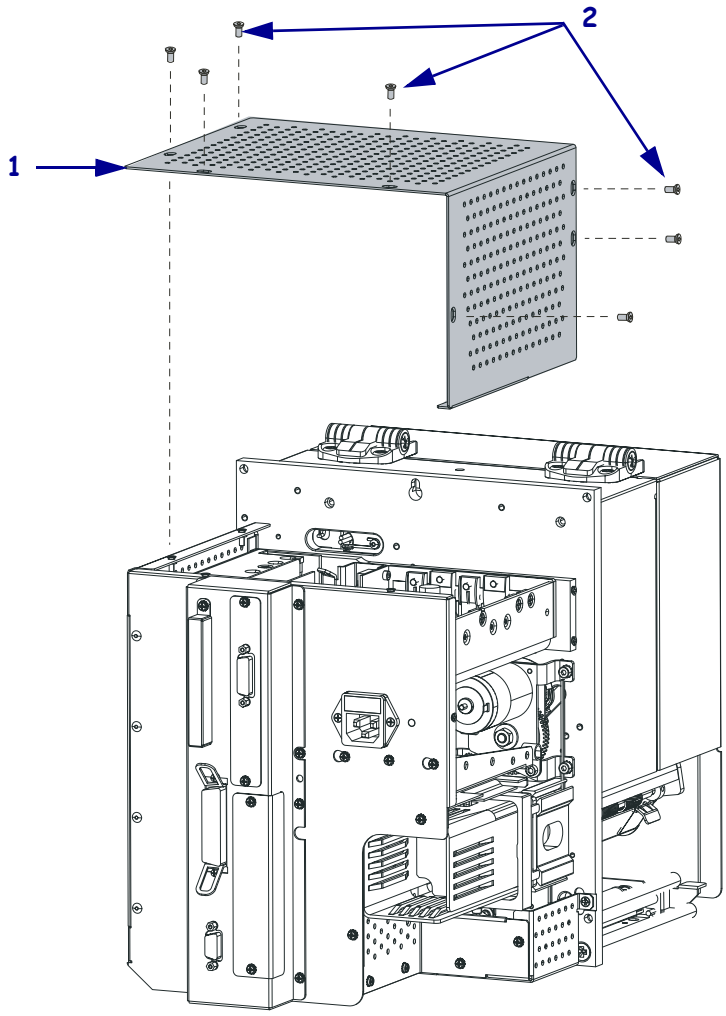
6. Loosen, but do not remove the center mounting bolt.

7. To remove the print engine from the applicator, lift the print engine off the center mounting bolt and place on a workbench.

Open the Rear Enclosure

1. See Figure 3. Remove the seven electronics enclosure cover mounting screws.
2. Lift up on the electronics enclosure cover to remove it.

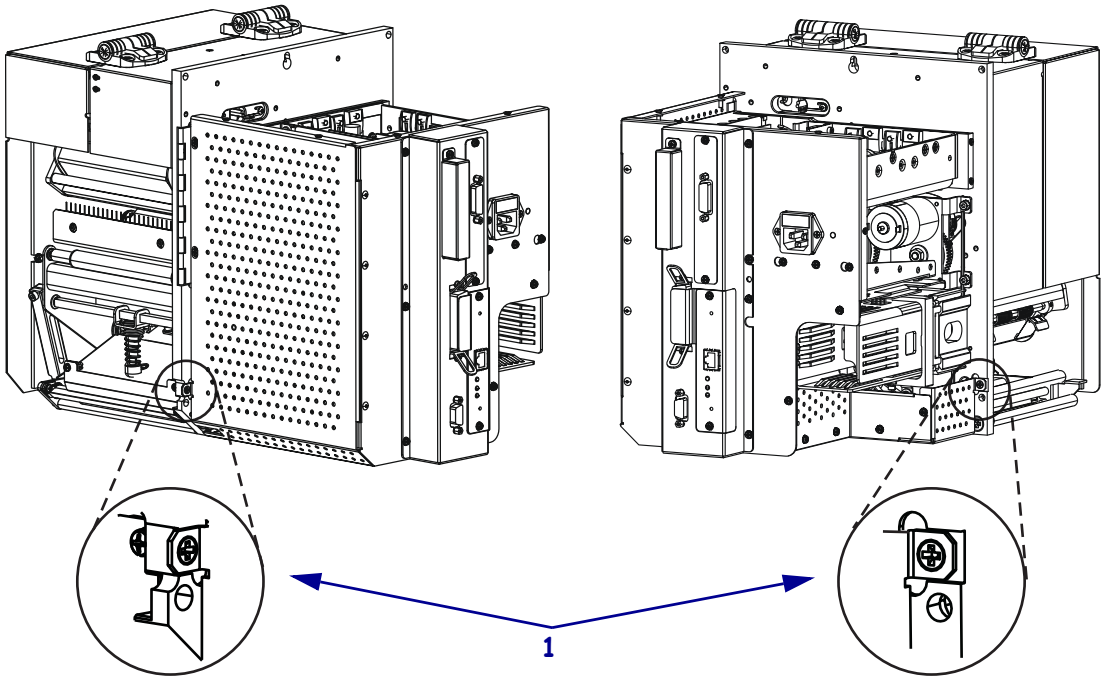
Figure 3 • Rear View of the Electronics Enclosure Cover on the 110*PAX*4



1	Electronics enclosure
2	Electronics enclosure mounting screws (7)

3. See Figure 4. From the back of the print engine, remove the two screws securing the rear enclosure.

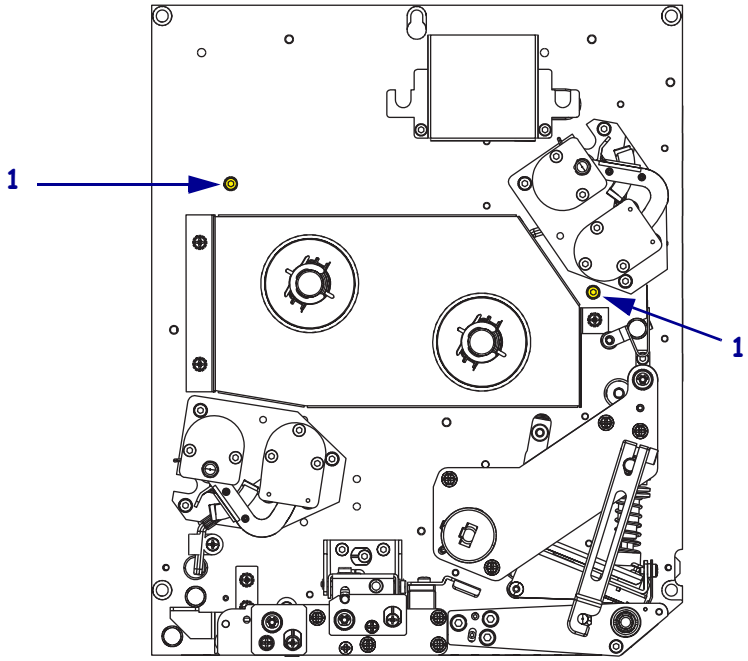
Figure 4 • Rear View of 110*PAX*4 Rear Enclosure Mounting Screw Location (Right-Hand Print Engine Shown)



1	Electronics enclosure mounting screws (2)

4. See Figure 5. From inside the front of the print engine, remove the two recessed rear enclosure mounting screws with star washers.

Figure 5 • Front View of 110*PAX*4 Recessed Enclosure Mounting Screw Locations (Right-Hand Print Engine Shown with Front Cover Open)



1	Recessed rear mounting screws (2)

5. Carefully swing the electronics enclosure open.

Remove the PCMCIA Option Card

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

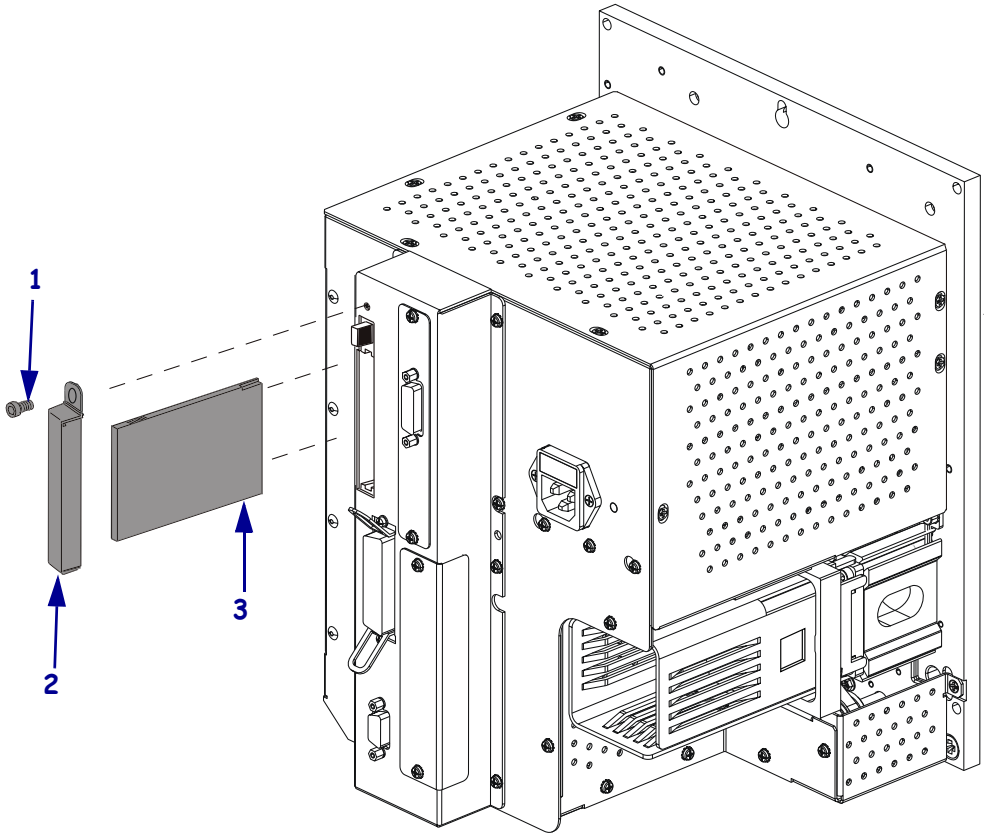
   Connect yourself to an antistatic device.

2. See Figure 6. Remove and discard the PCMCIA card shield and mounting screw.

3. Remove and discard the PCMCIA card from the PCMCIA slot by pressing the card release button.

   The card release button is located inside the card slot.

Figure 6 • PCMCIA Card Removal for the 110*PAX*4

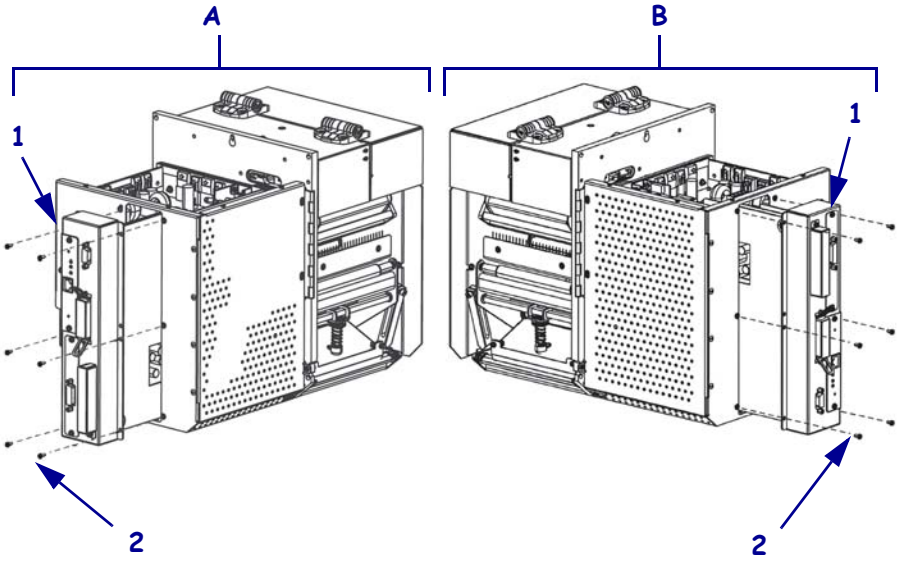


1	Mounting screw
2	PCMCIA card shield
3	PCMCIA card

Remove the 110*PAX*4 PCB Access Panel

1. See Figure 7. Remove the six screws and star washers that hold the printed circuit board (PCB) access panel in place.

Figure 7 • PCB Access Panel on the 110*PAX*4



A	Left-Hand model
1	PCB access panel
2	PCB access panel mounting screws (6)

B	Right-Hand model
1	PCB access panel
2	PCB access panel mounting screws (6)

2. Which model print engine do you have?

If you have…	Then…
A right-hand print engine	Continue with *For the Right-Hand Print Engine* on page 11.
A left-hand print engine	Go to *For the 110PAX4 Left-Hand Print Engine* on page 14.

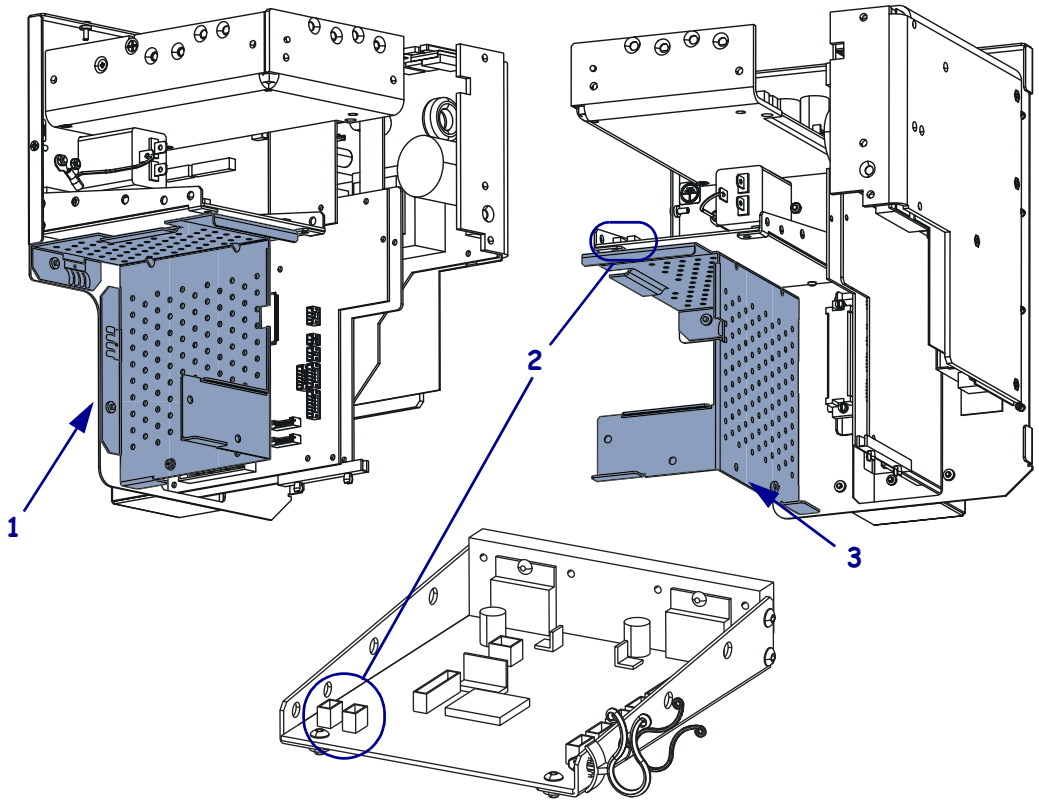
For the Right-Hand Print Engine

1. See Figure 8. Disconnect the cables from J1 and J2 of the motor control board.

   Note the orientation of the wires: yellow is J1 and white is J2.

2. Remove the six screws and star washers on the lower enclosure panel.

Figure 8 • View of 110*PAX*4 Lower Enclosure Panel on Right-Hand Model Only



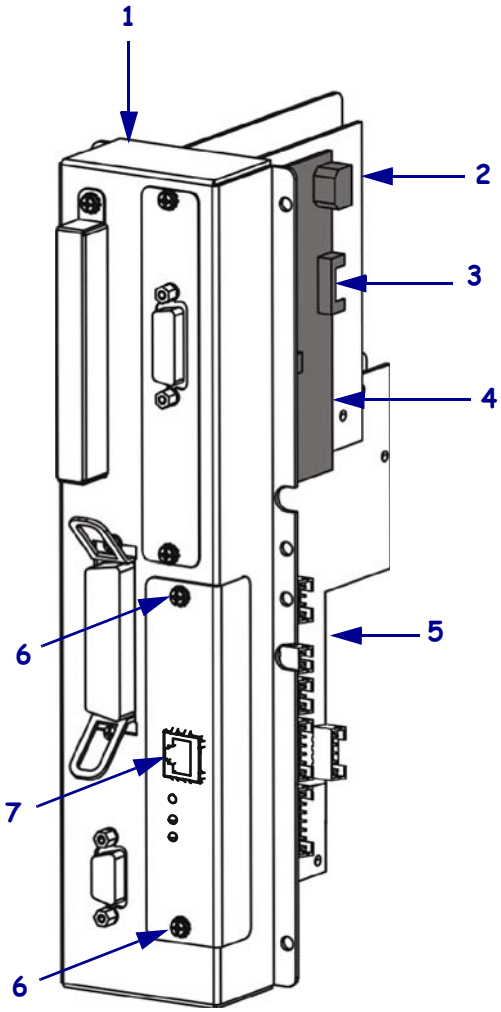
1	Outside view of the lower enclosure panel
2	J1 and J2 on the motor control board
3	Inside view of the lower enclosure panel

3. Pull out the lower enclosure panel and swing the panel to the right to gain access to the main logic board connectors.

   The two cables, which were disconnected from J1 and J2 of the motor control board, will remain attached to the lower enclosure panel.

4. See Figure 9. If you have a 10/100 Print Server installed, you must remove the two screws securing the 10/100 PS board and unplug the ribbon cable attached to P21 on the main logic board.

Figure 9 • 110*PAX*4 Main Logic Board and Applicator Interface Board Electrical Connections

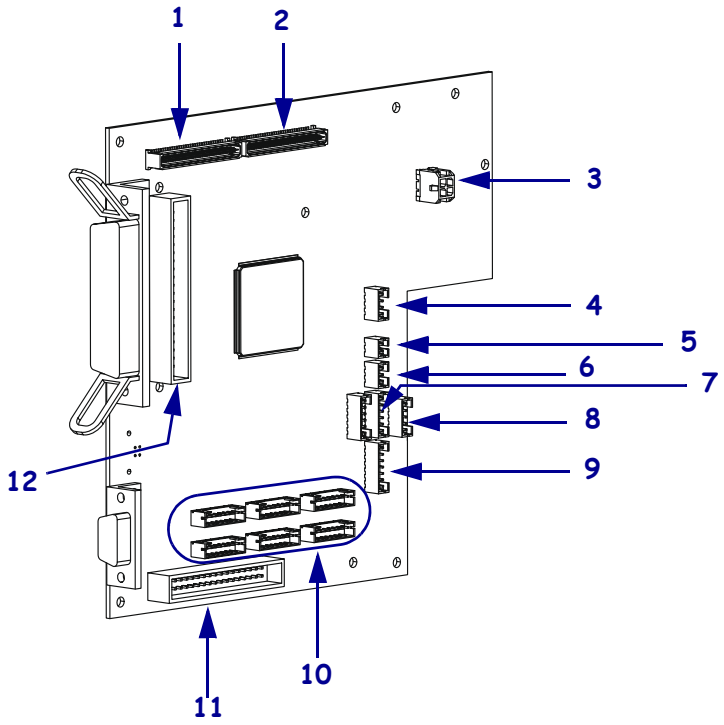


1	PCB access panel
2	J3 power connector
3	J1 SPI port connector
4	Applicator interface board
5	MLB
6	Mounting screws (2)
7	Internal 10/100 Print Server

5. See Figure 10. Disconnect all of the cables from the MLB.

Note the location of the MLB connectors and cables.

Figure 10 • 110*PAX*4 Main Logic Board Electrical Connections



	Connector	Description
1	P24	PCMCIA option board interface
2	P23	PCMCIA option board interface
3	P27	Power connector
4	P6	Reflective media sensor
5	P10	Transmissive media sensor
6	P8	Transmissive media sensor
7	P5	Ribbon sensor
8	P3	Head-Open sensor
9	P2	Door-Open sensor
10	P30 — P35	
	P30	SPI peripheral
	P31	SPI peripheral
	P32	SPI peripheral
	P33	SPI peripheral
	P34	SPI peripheral
	P35	SPI peripheral
11	P19	Printhead data cable
12	P21	Internal 10/100 PS connector

6. See Figure 9 on page 12. Disconnect the J1 and J3 cables on the applicator interface board.
7. Carefully pull the PCB access panel completely out of the rear enclosure along with the MLB still attached.
8. Go to *Remove the Applicator Interface Board* on page 15.

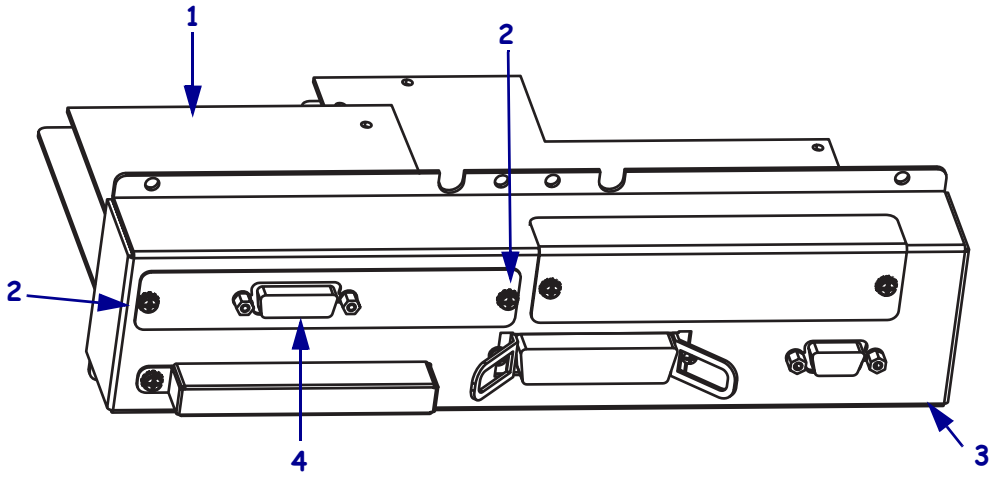
For the 110*PAX*4 Left-Hand Print Engine

1. See Figure 9 on page 12. If you have a 10/100 Print Server installed, remove the two screws securing the 10/100 PS board and unplug the ribbon cable attached to P21 on the main logic board (MLB). (See Figure 10 on page 13 for main logic board electrical connections.)
2. See Figure 10 on page 13. Unplug the 34-pin ribbon cable from P19 on the MLB.
3. See Figure 9 on page 12. Unplug the cables connected to J1 and J3 on the applicator interface board.
4. See Figure 10 on page 13. Remove the SPI cables, P30-P35, and then pull the PCB access panel partially out of the opening.
5. Remove the remaining cables connected to the MLB.
6. Continue with *Remove the Applicator Interface Board* on page 15.

Remove the Applicator Interface Board

1. See Figure 11. Remove the two screws that hold the applicator interface board in place.

Figure 11 • Removal and Installation of Applicator Interface Board



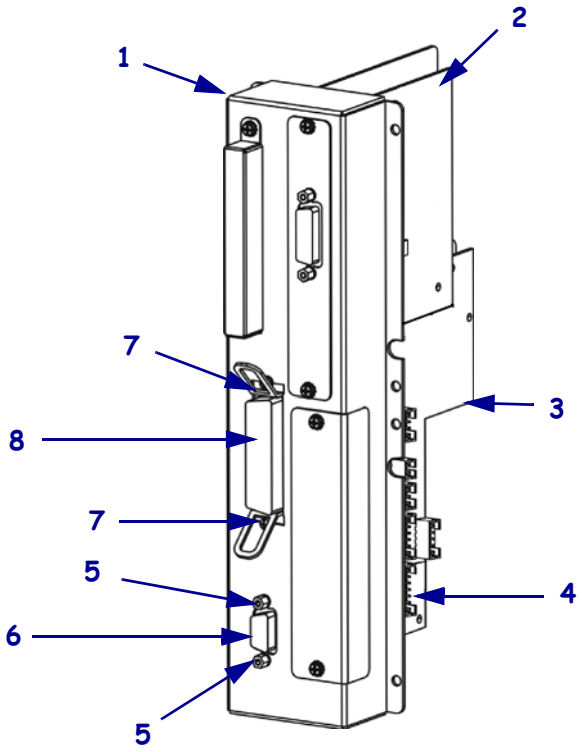
1	Applicator interface board
2	Mounting screws (2)
3	PCB access panel
4	Applicator port

2. Slide the applicator interface board out.
   The cable connected to J1 will remain connected to the board.

3. See Figure 12. Remove the two mounting studs and washers on either side of the serial interface connector.

4. Remove the two mounting screws and washers on either side of the parallel interface connector.

Figure 12 • Removing or Installing Main Logic Board

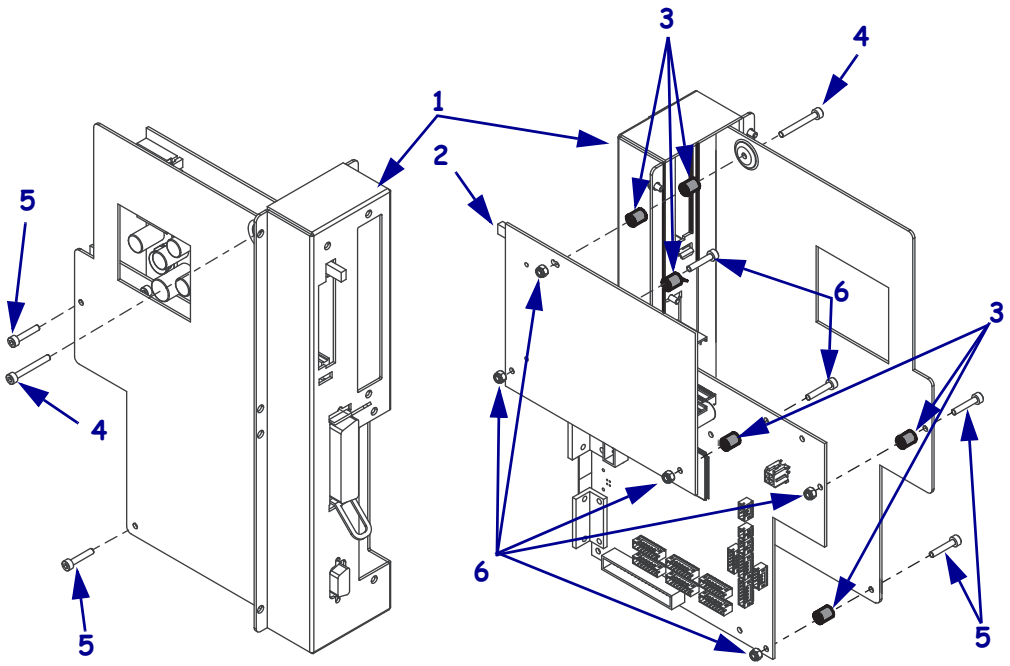


1	PCB access panel
2	PCMCIA option board
3	Main logic board (MLB)
4	P2 connector on MLB
5	Mounting stud and lock washers (2)
6	Serial port
7	Mounting screws (2)
8	Parallel port

5. See Figure 13. Carefully remove the three hex screws and spacers that secure the MLB and the PCMCIA board to the PCB access panel.

Note • The longer screw and two spacers separate the PCMCIA option board from the PCB access panel.

Figure 13 • Spacer Locations on PCB Access Panel



1	PCB access panel
2	PCMCIA board (back side shown)
3	Spacers (6)
4	Long screw to PCMCIA board
5	Mounting screws (4)
6	Mounting nuts (5)

6. Remove the two hex screws and spacers fastening the PCMCIA board to the main logic board.

7. Separate the PCMCIA board from the MLB using the following technique:

Note • The circuit boards will withstand a small amount of flexing; however, they are not designed to bend.

   a. Grasp the boards by their edges.

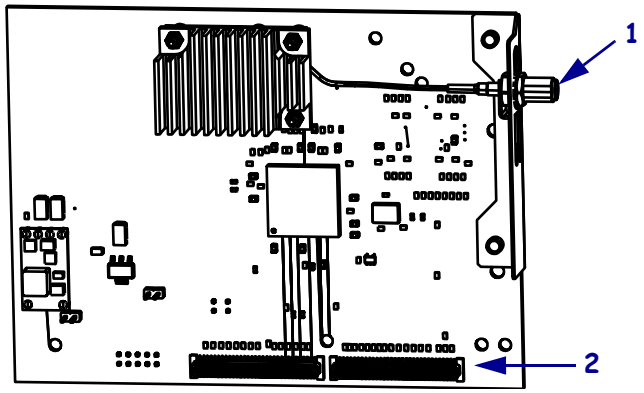
   b. With a gentle rocking and pulling motion, separate the connectors.

Install the Internal Wireless Plus Print Server Board Assembly

1. **Caution** • Before touching the printhead assembly, discharge any built-up static electricity by touching the metal printer frame or by using an anti-static wriststrap and mat.

   See Figure 14. To attach the Internal Wireless Plus Print Server board to the MLB, align the two connectors, supporting both boards under the connectors, and gently press the two connectors together until fully seated.

Figure 14 • Internal Wireless Plus Print Server Board Components



1	RF connector
2	MLB connectors (2)

2. See Figure 13 on page 17. Reinstall the two hex screws, spacers, and nuts to secure the new Internal Wireless Plus Print Server board to the main logic board.
3. Reattach the main logic board/Internal Wireless Plus Print Server board to the PCB access panel by reinstalling the two hex screws, spacers, and nuts.

   Snug the screws, but do not tighten at this time.
4. Install the longer hex screw, two spacers, and nut that separate the PCB access panel and the new Internal Wireless Plus Print Server board.

   Snug the screw, but do not tighten at this time.
5. See Figure 12 on page 16. Install the screws, studs, and washers for the parallel interface and serial interface connectors and tighten.
6. Tighten the three hex screws that secure the boards to the PCB access panel.
7. See Figure 11 on page 15. Reattach the applicator interface board to the PCB access panel.
8. See Figure 7 on page 10. Reinsert the PCB access panel, and reconnect all of the cables to the main logic board.

Note • The SPI connectors are all the same electrically, and the components that plug into an SPI connector can plug into any of the SPI connectors, P30-P35. At this time, only four of the six SPI connectors are used.

9. See Figure 9 on page 12. Reconnect J1 and J3 cables to the applicator interface board.

Important • Ensure that all logic board cable leads are tucked in without being pinched and the access panel's metal frame slides into plastic guide on the bottom of the rear enclosure.

10. See Figure 7 on page 10. Secure the PCB access panel using the six screws with star washers.

11. See Figure 9 on page 12. If you had an internal 10/100 Print Server installed, complete the following steps:
    a. Plug the ribbon cable into the main logic board connector, P21. The connector is polarized with a center key. Ensure the center key aligns with the slot in the main logic board connector.
    b. Insert the 10/100 PS into the opening while guiding the ribbon cable into the printer.
    c. Secure the new print server cover plate to the PCB access panel by reinstalling the two cover plate mounting screws.

Note • Do not force the PCB access panel into position. If required, reroute wire leads to ensure the PCB access panel is properly positioned.

12. For the right-hand model only, replace the lower enclosure panel.

Note • The removable lower enclosure cover has two tabs that fit on top and inside of the bottom stationary cover. See Figure 8 on page 11 for the proper position of the panel in the lower enclosure.

13. For the right-hand model only, reinstall the six screws with star washers to secure the lower enclosure cover.

14. For the right-hand model only, reconnect cables to J1 and J2 on the motor control board.

    The cable with the yellow wire connects to J1; the cable with the white wire connects to J2.

Close the Print Engine

1. Carefully swing the electronics enclosure closed.

   Ensure that wires are routed properly and are not causing any obstructions.

2. See Figure 5 on page 8. From inside the front of the print engine, replace the two recessed rear enclosure mounting screws with star washers.

3. See Figure 4 on page 7. From the back of the print engine, replace the two screws securing the rear enclosure.

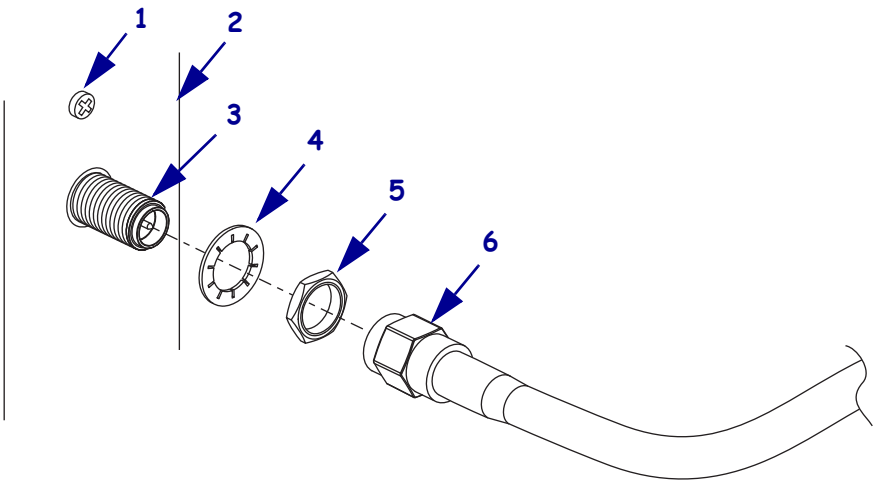
4. See Figure 3 on page 6. Replace the electronics cover and the seven mounting screws.

   Ensure that the wires are routed properly and are not causing any obstructions.

Install the Cover and the Tethered Antenna

1. See Figure 5. Install the new board cover on the back of the printer.
   a. Insert the bottom edge of the cover in the small slot below the option card slot.
   b. Fasten the top of the cover into place using the cover mounting screw provided in the kit.

Figure 15 • Closeup of Tethered Cable Installation

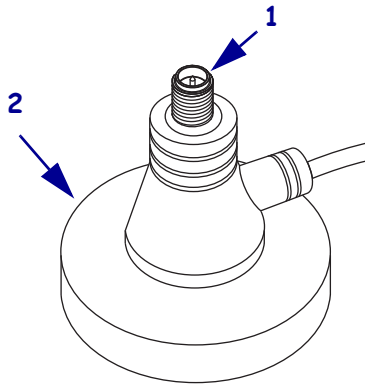


1	Cover mounting screw
2	Right edge of the board cover
3	RF connector
4	Lock washer
5	Nut
6	Tethered cable connector attached to magnetic mount base

2. Install the lock washer, the nut and hand tighten.

3. Using an open-end wrench, tighten the brass nut by turning it clockwise one quarter of a turn.
4. To install the tethered cable, screw the end of the cable connector onto the RF connector extending out from the back plate of the printer.
5. See Figure 16. Screw the small antenna onto the connector on top of the magnetic mount base.

Figure 16 • Magnetic Mount Base and Connector (Shown without Antenna)



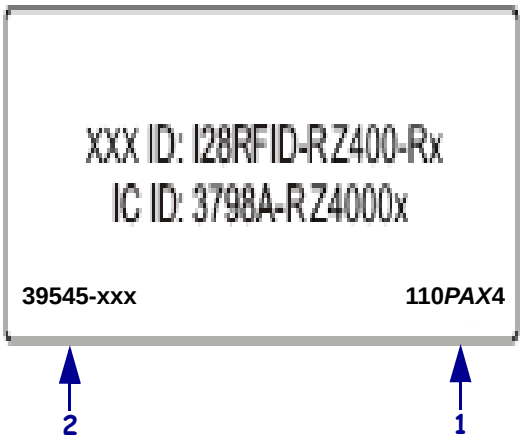
1	Connector for small antenna
2	Magnetic mount base

Attach Labels

1. See Figure 17. Examine the labels included with the kit.

   There may be several labels included with your kit.

Figure 17 • Sample Label



1	Printer model
2	Zebra part number

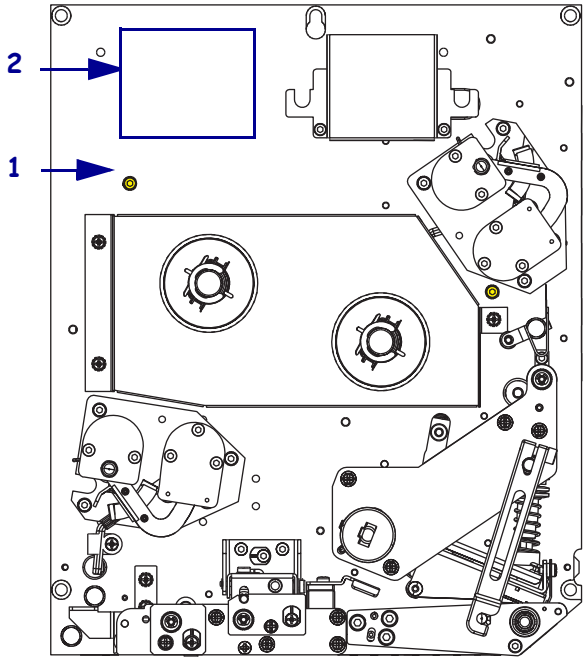
2. Locate the label with your printer model in the lower right-hand corner.
3. If present, remove the old plastic label with part number 39545-xxx affixed to the back of your printer.

Note • Do not remove the electrical ratings label, also known as the model plate. The model plate contains essential user information.

4. See Figure 17. Remove the backing from the new label (part number 39545-xxx included in this kit) for your specific printer.

5. See Figure 18. Affix the new printer label on the main frame inside the media compartment.

Figure 18 • Label Location
Inside Media Compartment of the 110*PAX*4



1	Main frame of print engine
2	Affix label here

6. Discard any additional labels included in the kit.

Reinstall the 110*PAX4* Print Engine into the Applicator

1. To reinstall the print engine into the applicator, carefully place the keyhole on the center mounting bolt.

Note • The keyhole and the center mounting bolt are designed to support the print engine and assist in installing and removing the four mounting screws.

2. See Figure 2 on page 5. Replace and tighten the four corner mounting screws securing the print engine to the applicator.
3. Tighten the center mounting bolt.
4. Thread the cable and the magnetic mount base to the outside of the applicator.
5. Place the magnetic mount base and antenna in the location that yields the best RF reception.

   This location may be up to 5 ft. away from the printer.

Resume Printer Operation

1. **Caution** • When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

   Open the front cover, unlatch the printhead lever, and reinsert the media and ribbon in the print engine.
2. Close and latch the printhead lever.
3. Reconnect the AC power cord and interface cables.
4. Turn on (**I**) the print engine.

Important • After you have completed this installation, you **must** download the latest version of firmware for your printer.

After You Complete the Installation

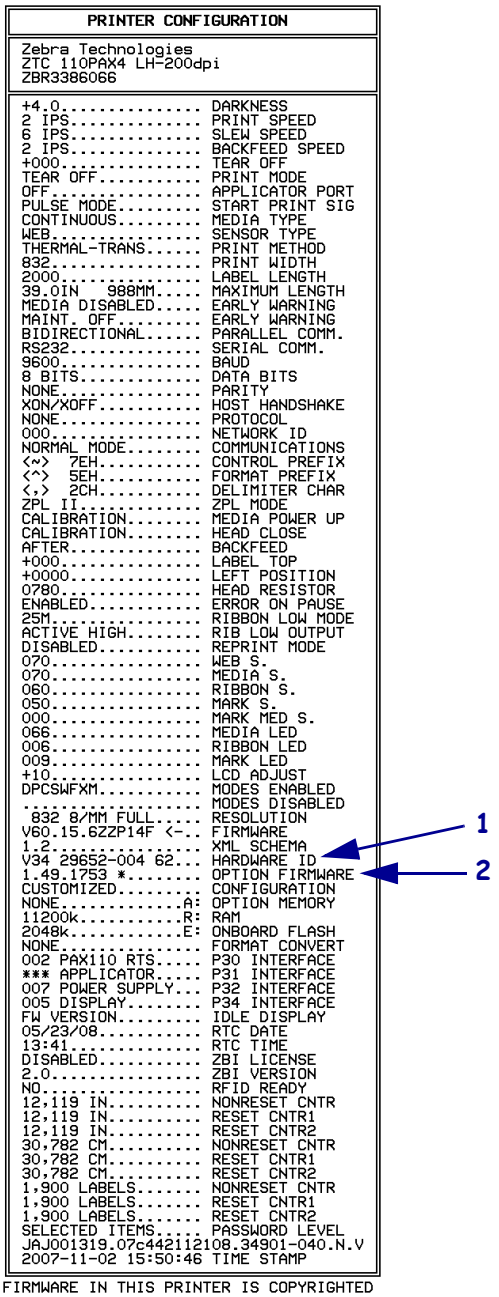
Firmware

1. After you have completed this installation, you must download firmware version V60.16.x (or later) a second time from: www.zebra.com/firmware.
2. At the end of the firmware download, a configuration label prints.

3. See Figure 19. To verify that the Internal Wireless Plus Print Server installation is recognized by the printer, ensure your configuration label shows the Hardware ID and the Option Firmware identified below.

The Option Firmware must contain a version number of 1.50.1753 or greater for the Internal Wireless Plus Print Server.

Figure 19 • 110*PAX*4 Configuration Label



1	Hardware ID of the Internal Wireless Plus Print Server
2	Option Firmware for the print server board

Compliance Information

FCC Compliance Statement

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this print engine must be used with Shielded Communication Cables.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

170PAX Installation Instructions

Remove the 170*PAX*4 Print Engine from the Applicator

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

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. **Caution •** Turn off (**O**) the print engine and disconnect it from the power source before performing the following procedure.

   Turn off (**O**) the printer and disconnect the AC power cord and all data cables.

3. **Caution •** While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

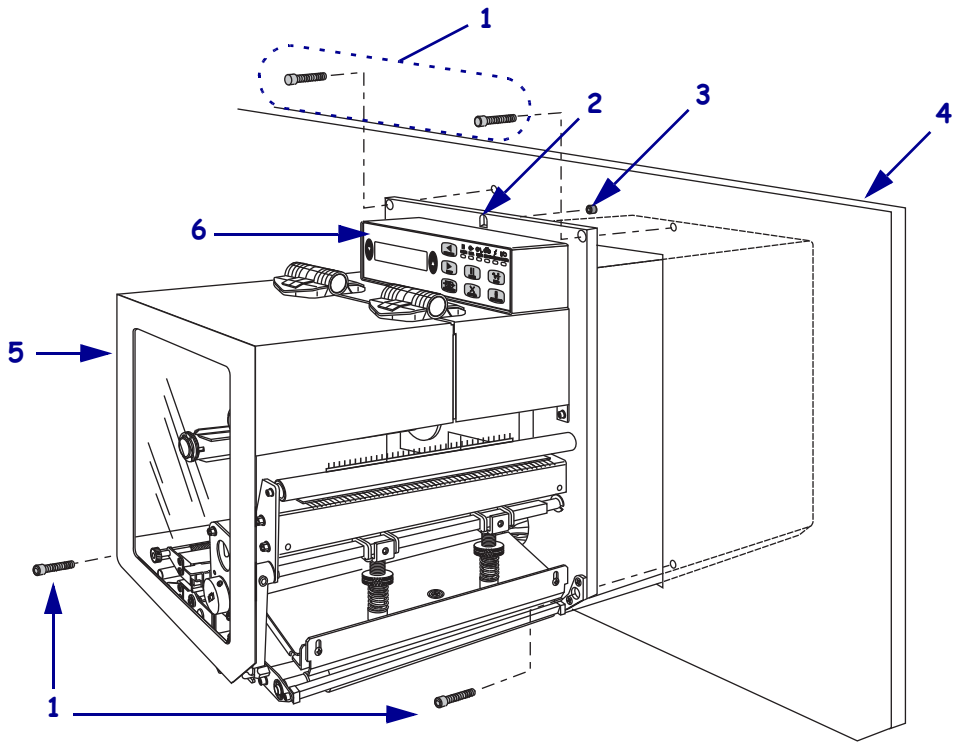
   Open the front cover, unlatch the printhead lever, and remove media and ribbon from the print engine.

4. Close and latch the printhead lever, and then close the front cover.

5. See Figure 20. Remove the four corner applicator mounting screws.

   Leave the center mounting bolt until last.

Figure 20 • Front View of 170*PAX*4 Print Engine in Applicator (Right-Hand Model Shown)



1	Applicator mounting screws (4)	4	Applicator
2	Center mounting keyhole	5	Front cover
3	Center mounting bolt	6	Control panel

Note • The keyhole and the center mounting bolt are designed to support the print engine and assist in installing and removing the four mounting screws.

6. Loosen the center mounting screw, but do not remove it.

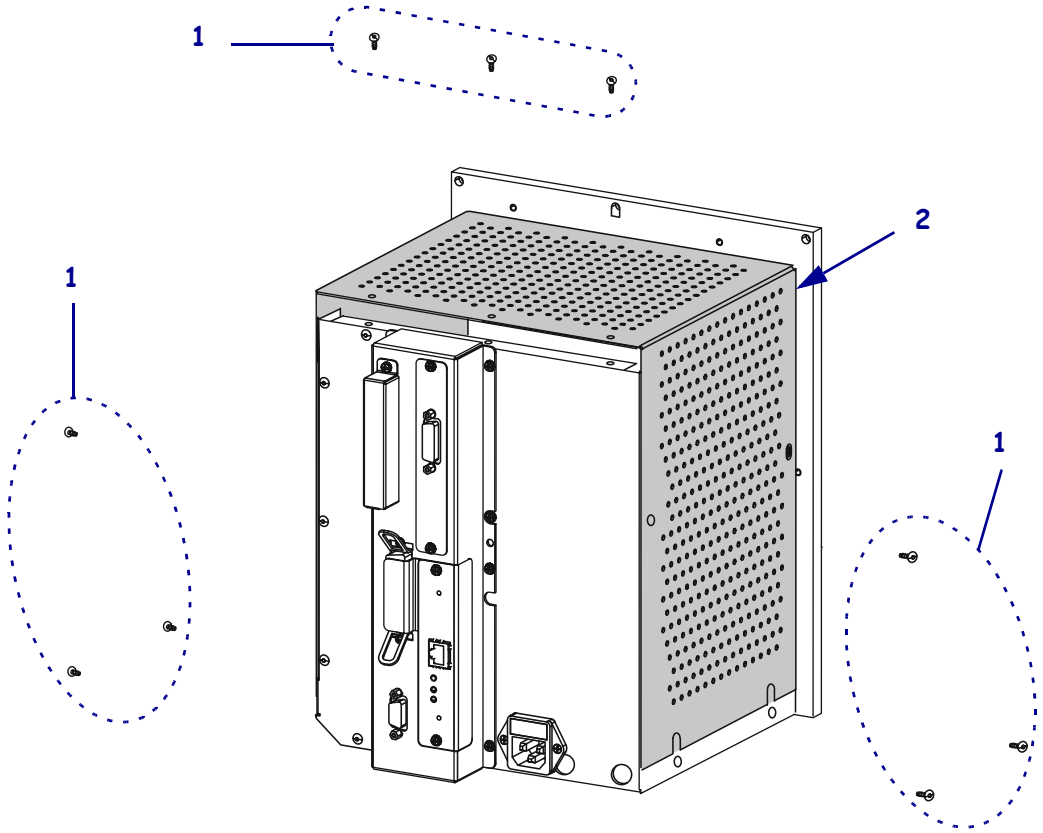
7. To remove the print engine from the applicator, lift the print engine off the center mounting bolt and place on a workbench.

Open the 170*PAX*4 Rear Enclosure

1. See Figure 21. Remove the nine electronics enclosure cover mounting screws.
2. Lift up on the electronics enclosure cover to release it from the guide.

   The cover has a flange that fits into a guide and snugs it to the main frame.

Figure 21 • Rear View of the Electronics Enclosure Cover on the 170PAX4 (Right-Hand Print Engine Shown)



1	Electronics enclosure cover screws (9)
2	Electronics enclosure cover

Remove the 170PAX4 PCMCIA Card

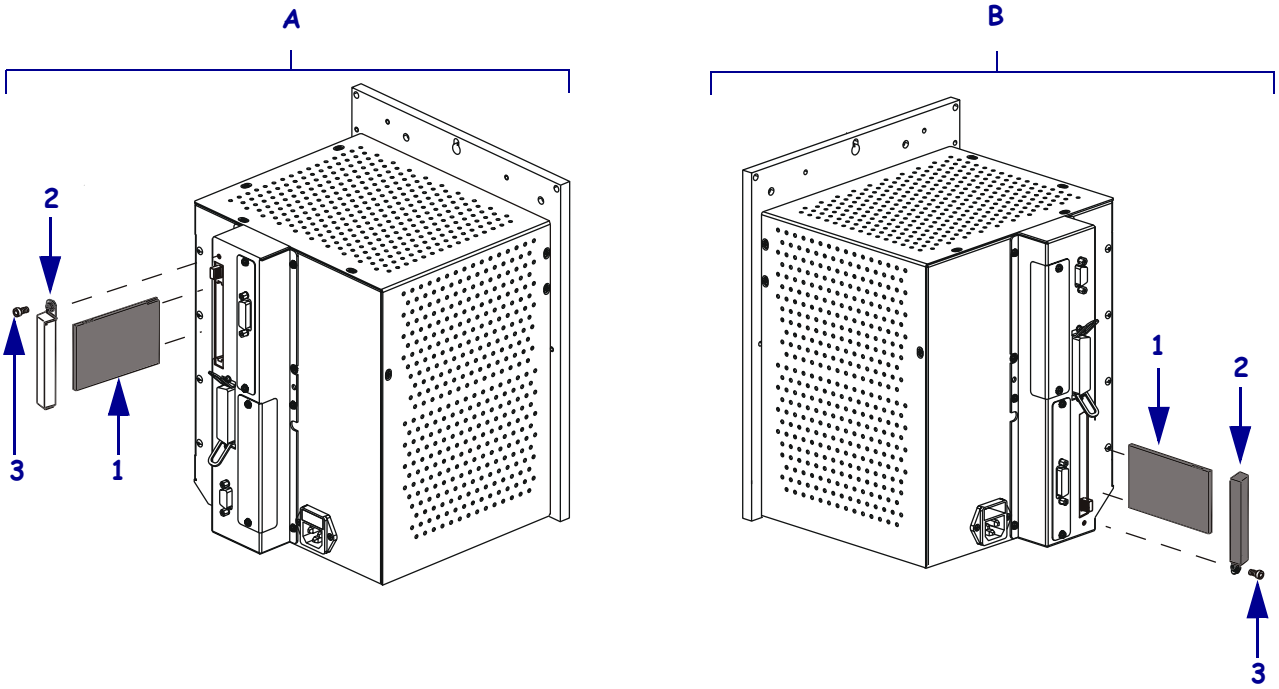
1. **Caution** • Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

   Connect yourself to an antistatic device.

2. See Figure 22. Remove and discard the PCMCIA card shield by removing the shield screw.
3. Remove any PCMCIA card from the card slot by pressing the card release button, if necessary.

   The card release button is located inside the card slot.

Figure 22 • PCMCIA Card Removal for the 170*PAX*4



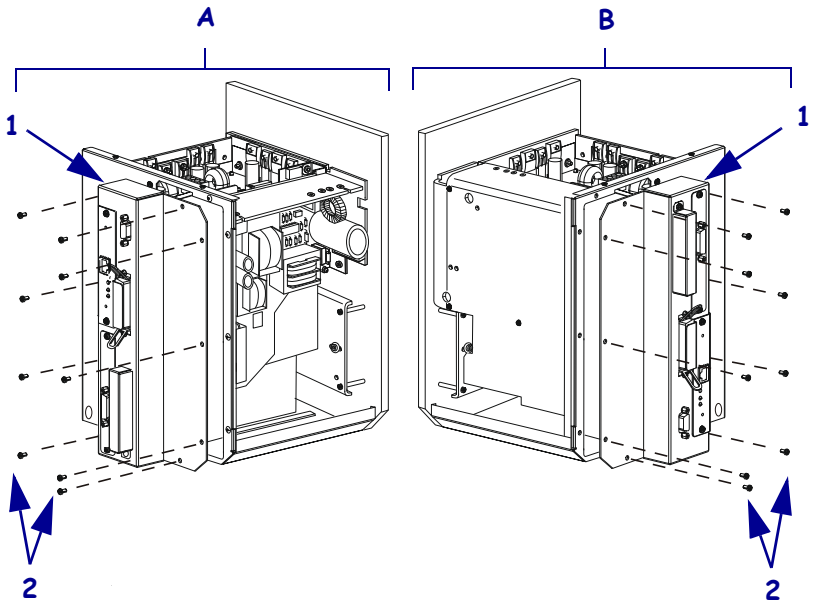
A	Right-hand model
1	PCMCIA card
2	PCMCIA card shield
3	Shield screw

B	Left-hand model
1	PCMCIA card
2	PCMCIA card shield
3	Shield screw

Remove the 170PAX4 PCB Access Panel

1. See Figure 23. Remove the nine screws with star washers that hold the printed circuit board (PCB) access panel in place.

Figure 23 • Removal and Installation of PCB Access Panel from 170*PAX*4 Print Engine



A	Right-hand model	B	Left-hand model
1	PCB Access panel	1	PCB Access panel
2	PCB Access panel screws (9)	2	PCB Access panel screws (9)

2. Which model print engine do you have?

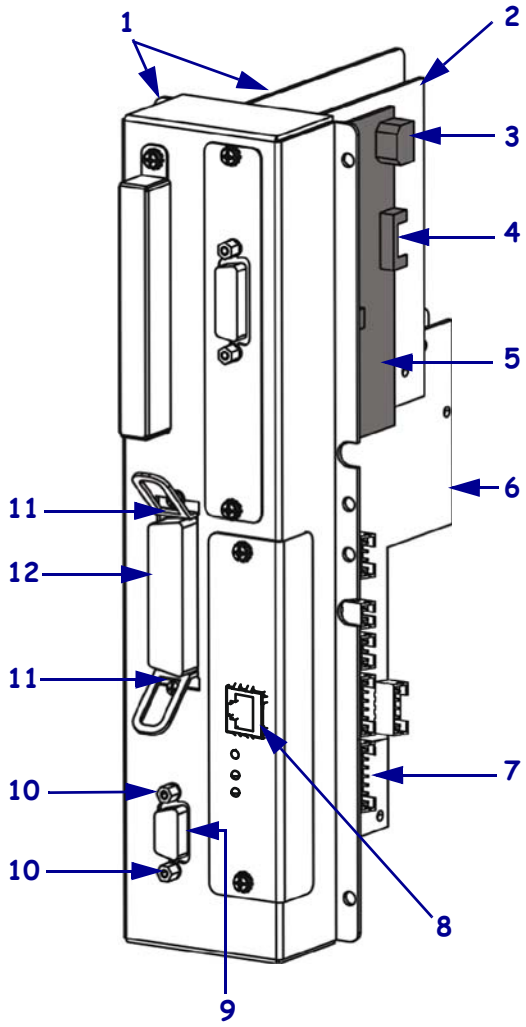
If you have a...	Then...
A right-hand print engine	Continue with *For the 170PAX4 Right-Hand Print Engine*.
A left-hand print engine	Go to *For the 170PAX4 Left-Hand Print Engine* on page 34.

For the 170*PAX*4 Right-Hand Print Engine

1. See Figure 24 on page 32. Disconnect the cable connected to J3 on the applicator interface board.
2. Carefully pull the PCB access panel partially out of the rear enclosure with the main logic board still attached.

3. See Figure 24. If you have a 10/100 PrintServer installed, you must remove the two screws securing the 10/100 PS board and unplug the ribbon cable attached to P21 on the main logic board.

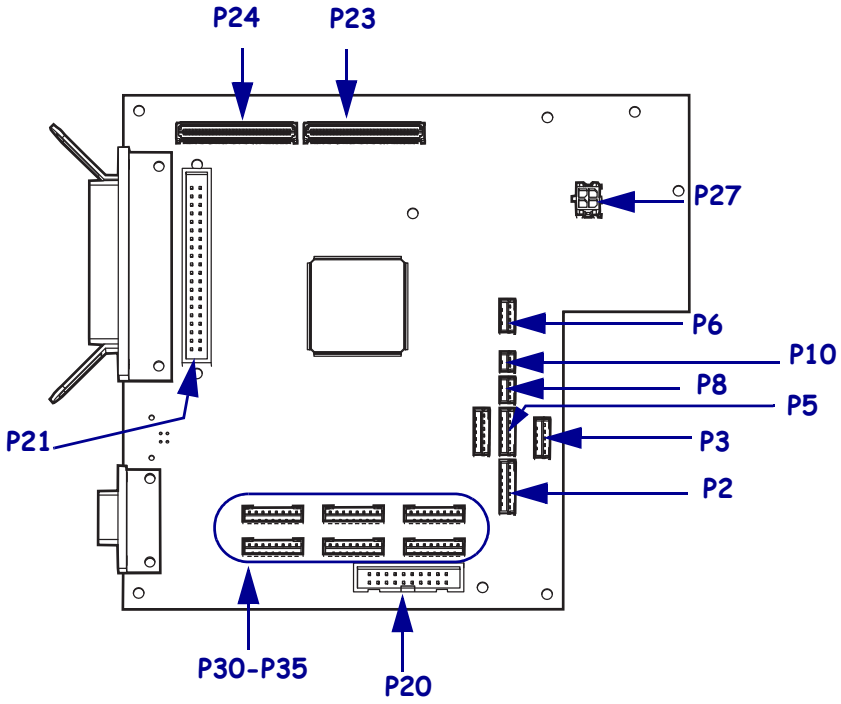
Figure 24 • 10/100 Print Server, Main Logic Board, and Applicator Interface Board Electrical Connections



1	PCB access panel	7	P2 connector on MLB
2	PCMCIA option board	8	Internal 10/100 Print Server (optional)
3	J3 power connector	9	Serial interface connector
4	J1 SPI port connector	10	Mounting studs (2)
5	Applicator interface board	11	Mounting screws and lock washers (2)
6	Main logic board	12	Parallel interface connector

4. See Figure 25 on page 33. Disconnect all of the cables from the MLB
   Note the location of the main logic board connectors and cables.

Figure 25 • 170*PAX*4 Main Logic Board Electrical Connections



Connector	Description
P2	Door-Open Sensor
P3	Head-Open Sensor
P5	Ribbon Sensor
P6	Reflective Media Sensor
P8	Transmissive Media Sensor
P10	Transmissive Media Sensor
P19	Printhead Data Cable (110*PAX*4)
P20	Printhead Data Cable (170*PAX*4)
P21	Internal 10/100 PS Connector
P23	PCMCIA Option Board Interface
P24	PCMCIA Option Board Interface
P27	Power Connector
P30	SPI Peripheral
P31	SPI Peripheral
P32	SPI Peripheral
P33	SPI Peripheral
P34	SPI Peripheral
P35	SPI Peripheral

5. See Figure 24 on page 32. Disconnect the J1 and J3 cables on the applicator interface board.
6. Carefully pull the PCB access panel completely out of the rear enclosure along with the MLB still attached.
7. Go to *Remove the 170PAX4 Applicator Interface Board* on page 35.

For the 170*PAX*4 Left-Hand Print Engine

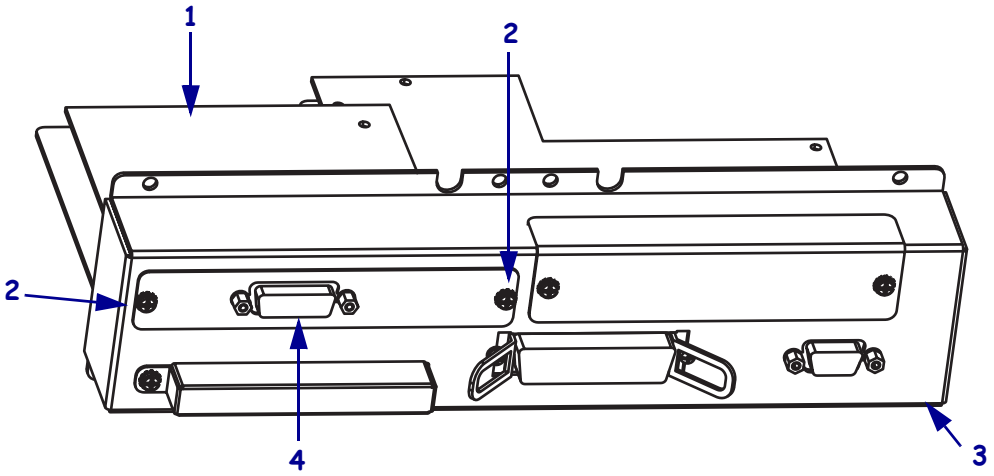
1. See Figure 24 on page 32. If you have a 10/100 PrintServer installed, remove the two screws securing the 10/100 PS board and unplug the ribbon cable attached to P21 on the main logic board. (See Figure 25 on page 33 for main logic board electrical connections.)
2. See Figure 25 on page 33. Unplug the 20-pin ribbon cable connected to P20 on the main logic board.
3. Carefully pull the PCB access panel partially out of the rear enclosure with the main logic board still attached.
4. See Figure 24 on page 32. Disconnect the cable connected to J3 on the applicator interface board.
5. See Figure 25 on page 33. Unplug all remaining cables from the main logic board.

   Note the location of the main logic board connectors and cables.
6. Continue with *Remove the 170PAX4 Applicator Interface Board*.

Remove the 170*PAX*4 Applicator Interface Board

1. See Figure 26. Remove the two screws that hold the applicator interface board in place.

Figure 26 • Removal and Installation of 170PAX4 Applicator Interface Board

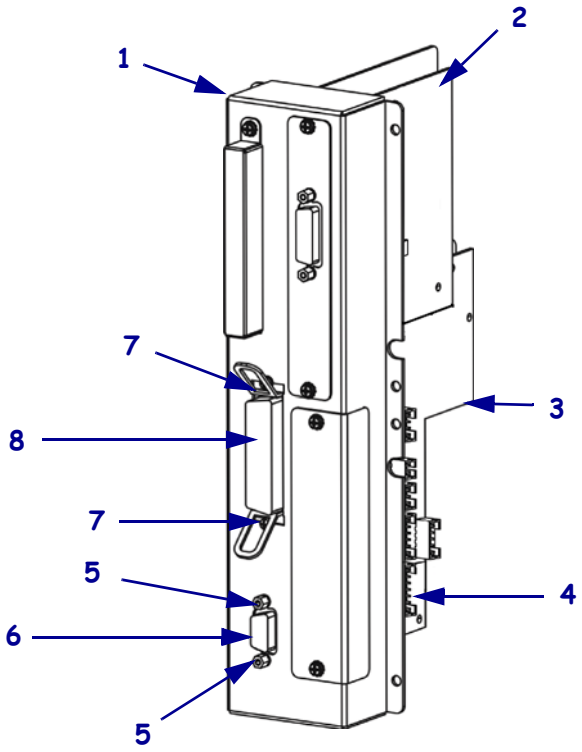


1	Applicator interface board
2	Mounting screws (2)
3	PCB access panel
4	Applicator port

2. Slide the applicator interface board out.
   The cable connected to J1 will remain connected to the board.

3. See Figure 27. Remove the two mounting studs and washers on either side of the serial interface connector.
4. Remove the two mounting screws and washers on either side of the parallel interface connector.

Figure 27 • Removing or Installing Main Logic Board

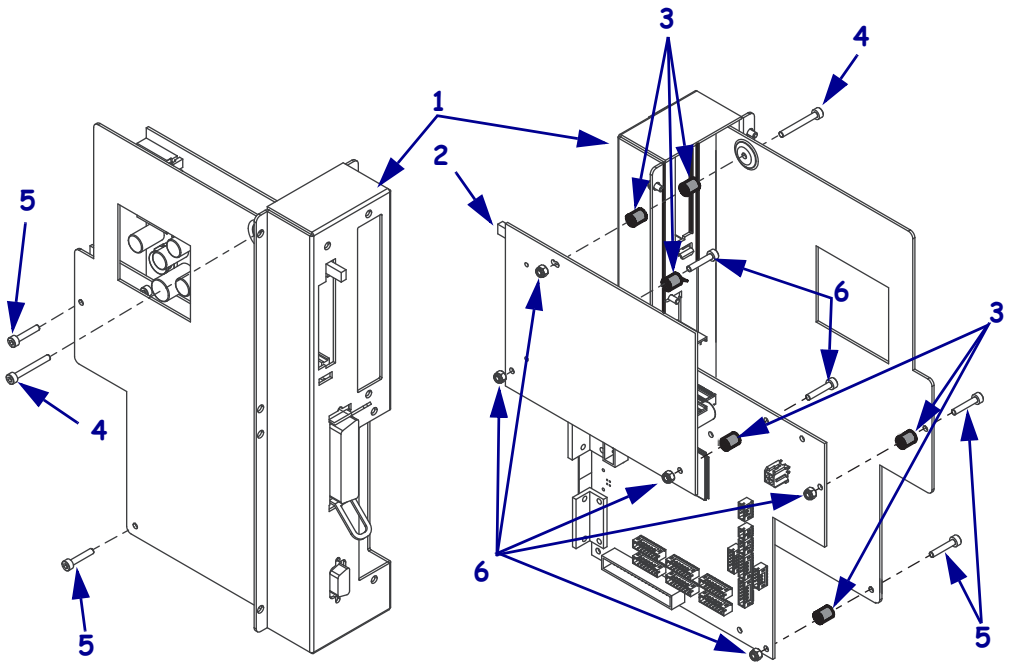


1	PCB access panel
2	PCMCIA option board
3	Main logic board (MLB)
4	P2 connector on MLB
5	Mounting stud and lock washers (2)
6	Serial port
7	Mounting screws (2)
8	Parallel port

5. See Figure 28. Carefully remove the three hex screws, spacers, and nuts that secure the MLB and the PCMCIA board to the PCB access panel.

Note • The longer screw and two spacers separate the PCMCIA option board from the PCB access panel.

Figure 28 • Spacer Locations on PCB Access Panel



1	PCB access panel
2	PCMCIA board (back side shown)
3	Spacers (6)
4	Long screw to PCMCIA board
5	Mounting screws (4)
6	Mounting nuts (5)

6. Remove the two hex screws and spacers fastening the PCMCIA board to the main logic board.
7. Separate the PCMCIA board from the MLB using the following technique:

Note • The circuit boards will withstand a small amount of flexing; however, they are not designed to bend.

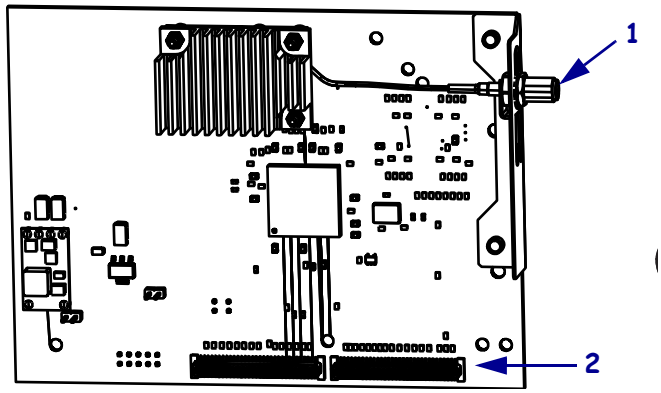
a. Grasp the boards by their edges.
b. With a gentle rocking and pulling motion, separate the two connectors.

Install the Internal Wireless Plus Print Server Board Assembly

1. **Caution** • Before touching the printhead assembly, discharge any built-up static electricity by touching the metal printer frame or by using an anti-static wriststrap and mat.

   See Figure 29. To attach the Internal Wireless Plus Print Server board to the MLB, align the two connectors, supporting both boards under the connectors, and gently press the two connectors together until fully seated.

Figure 29 • Internal Wireless Plus Print Server Board Components



1	RF connector
2	MLB connectors (2)

2. See Figure 28 on page 37. Reinstall the two hex screws, spacers, and nuts to secure the new Internal Wireless Plus Print Server board to the main logic board.
3. Reattach the main logic board/Internal Wireless Plus Print Server board to the PCB access panel by reinstalling the two hex screws, spacers, and nuts.

   Snug the screws, but do not tighten at this time.
4. Install the longer hex screw and two spacers that separate the PCB access panel and the Internal Wireless Plus Print Server board.

   Snug the screw, but do not tighten at this time.
5. See Figure 27 on page 36. Install the screws, studs, and washers for the parallel interface and serial interface connectors and tighten.
6. Tighten the three hex screws that secure the boards to the PCB access panel.
7. See Figure 28 on page 37. Reattach the applicator interface board to the PCB access panel.

8. Which model print engine do you have?

If you have a...	Then...
A right-hand print engine	Continue with *For the 170PAX4 Right-Hand Print Engine*.
A left-hand print engine	Go to *For the 170PAX4 Left-Hand Print Engine*.

For the 170*PAX*4 Right-Hand Print Engine

1. Partially reinsert the PCB access panel into the electronics enclosure.
2. See Figure 25 on page 33. Reconnect all cables to the main logic board.

Note • The SPI connectors are all the same electrically, and the components that plug into an SPI connector can plug into any of the SPI connectors, P30-P35. At this time, only four of the six SPI connectors are used.

3. See Figure 24 on page 32. Reconnect J1, if required, and J3 cables to the applicator interface board.
4. Slide the PCB access panel the rest of the way into the rear enclosure.

Important • Ensure that all logic board cable leads are tucked in without being pinched and the access panel's metal frame slides into plastic guide on the bottom of the rear enclosure.

5. Go to *Install the 170PAX4 PCB Access Panel* on page 40.

For the 170*PAX*4 Left-Hand Print Engine

1. Partially reinsert the PCB access panel into the rear enclosure.
2. See Figure 24 on page 32. Reconnect J1, if required, and J3 cables to the applicator interface board.
3. See Figure 25 on page 33. Reconnect the cables to the main logic board.

Note • The SPI connectors are all the same electrically, and the components that plug into an SPI connector can plug into any of the SPI connectors, P30-P35. At this time, only four of the six SPI connectors are used.

4. Slide the PCB access panel the rest of the way into the rear enclosure.

Important • Ensure that all logic board cable leads are tucked in without being pinched and the access panel's metal frame slides into plastic guide on the bottom of the rear enclosure.

5. Continue with *Install the 170PAX4 PCB Access Panel*.

Install the 170*PAX*4 PCB Access Panel

1. See Figure 23 on page 31. Secure the PCB access panel using the nine screws with star washers.
2. See Figure 24 on page 32. If you had an internal 10/100 Print Server installed, complete the following steps:
   a. Plug the ribbon cable into the main logic board connector, P21. The connector is polarized with a center key. Ensure the center key aligns with the slot in the main logic board connector.
   b. Insert the 10/100 PS into the opening while guiding the ribbon cable into the printer.
   c. Secure the print server cover plate to the PCB access panel by reinstalling the two cover plate mounting screws.

Note • Do not force the PCB access panel into position. If required, reroute wire leads to ensure the PCB access panel is properly positioned.

Close the 170*PAX*4 Print Engine

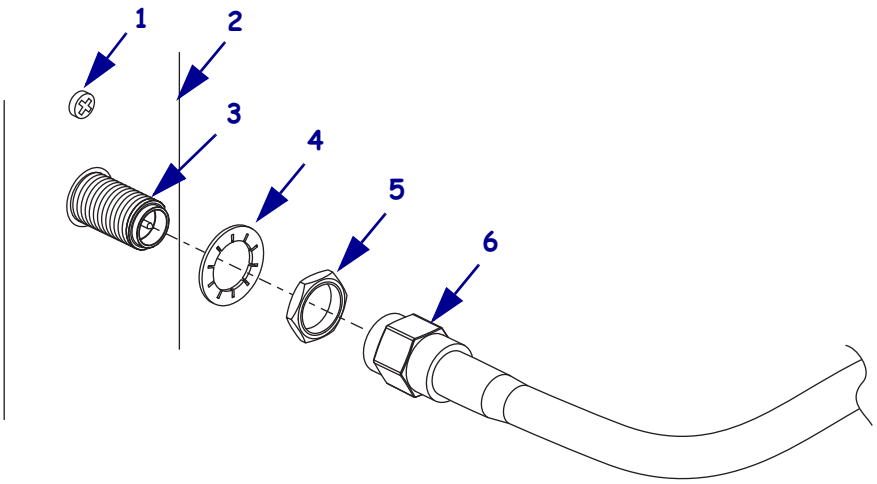
1. See Figure 21 on page 29. Replace the electronics enclosure cover flange in the guide that snugs it to the main frame.

   Ensure that wires are routed properly and are not causing any obstructions.
2. Replace the nine electronics enclosure cover mounting screws.

Install the Cover and the Tethered Antenna

1. See Figure 5. Install the new board cover on the back of the printer.
   a. Insert the bottom edge of the cover in the small slot below the option card slot.
   b. Fasten the top of the cover into place using the cover mounting screw provided in the kit.

Figure 30 • Closeup of Tethered Cable Installation

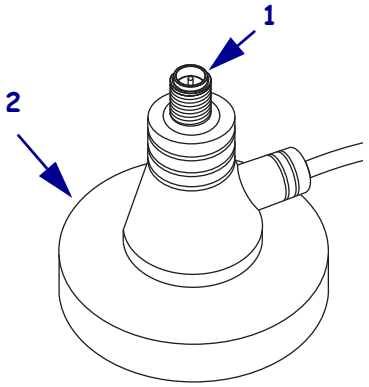


1	Cover mounting screw
2	Right edge of the board cover
3	RF connector
4	Lock washer
5	Nut
6	Tethered cable connector attached to magnetic mount base

2. Install the lock washer, the nut and hand tighten.
3. Using an open-end wrench, tighten the brass nut by turning it clockwise one quarter of a turn.
4. To install the tethered cable, screw the end of the cable connector onto the RF connector extending out from the back plate of the printer.

5. See Figure 31. Screw the small antenna onto the connector on top of the magnetic mount base.

Figure 31 • Magnetic Mount Base and Connector (Shown without Antenna)



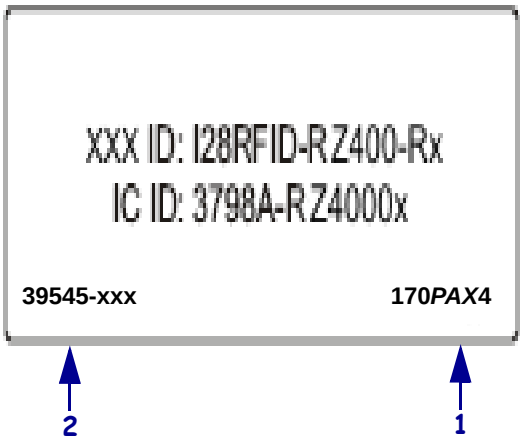
1	Connector for small antenna
2	Magnetic mount base

Attach Labels

1. See Figure 32. Examine the labels included with the kit.

   There may be several labels included with your kit.

Figure 32 • Sample Label



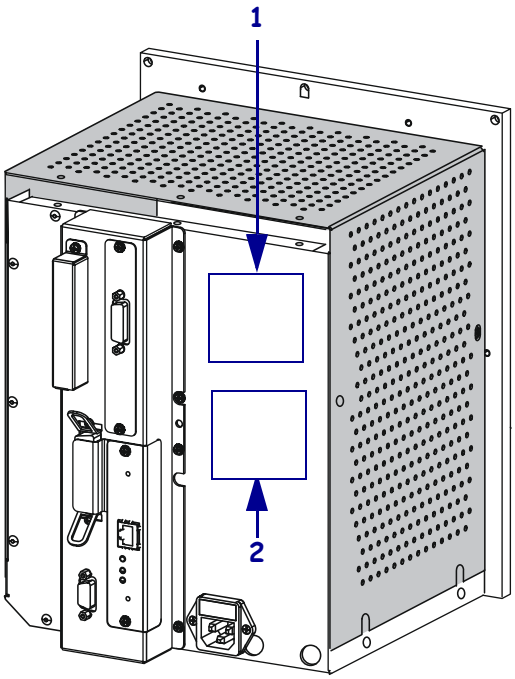
1	Printer model
2	Zebra part number

2. Locate the label with your printer model in the lower right-hand corner.

3. See Figure 33. If present, remove the old plastic label with part number 39545-xxx affixed to the back of your printer.

Note • Do not remove the electrical ratings label, also known as the model plate. The model plate contains essential user information.

Figure 33 • Label Location (170PAX4 Right-Hand Model Shown)



1	Affix label directly above the model plate
2	Model plate (Do not remove)

4. See Figure 32 on page 42. Remove the backing from the new label (part number 39545-xxx included in this kit) for your specific printer.

5. See Figure 33. Affix the new printer label directly above the model plate.

6. Discard any additional labels included in the kit.

Reinstall the 170*PAX4* in the Applicator

1. See Figure 20 on page 28. To reinstall the print engine into the applicator, carefully place the print engine's keyhole on the center mounting bolt.

Note • The keyhole and the center mounting bolt are designed to support the print engine and assist in installing and removing the four mounting screws.

2. Replace and tighten the four corner mounting screws securing the print engine to the applicator.
3. Tighten the center mounting bolt.
4. Thread the cable and the magnetic mount base to the outside of the applicator.
5. Place the magnetic mount base and antenna in the location that yields the best RF reception.

   This location may be up to 5 ft. away from the printer.

Resume 170*PAX4* Operation

1. **Caution** • While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

   Open the front cover, unlatch the printhead lever, and reinstall the media and ribbon.
2. Close and latch the printhead lever.
3. Reconnect the AC power cord and interface cables.
4. Turn on (**I**) the print engine.

Important • After you have completed this installation, you **must** download the latest version of firmware for your printer.

After You Complete the Installation

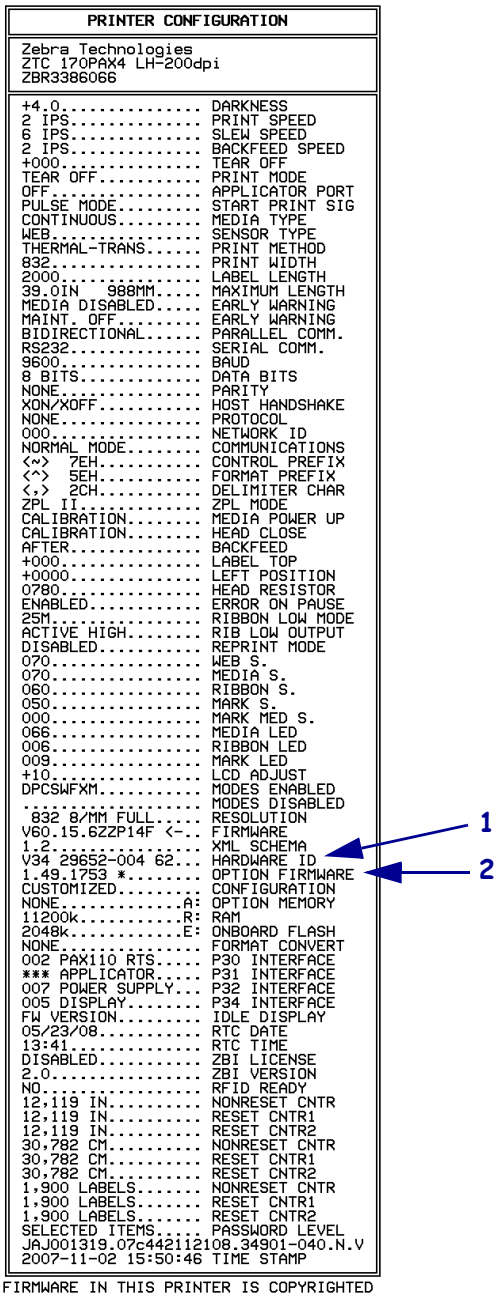
Firmware

1. After you have completed this installation, you must download firmware version V60.16.x (or later) a second time from: www.zebra.com/firmware.
2. At the end of the firmware download, a configuration label prints.

3. See Figure 19. To verify that the Internal Wireless Plus Print Server installation is recognized by the printer, ensure your configuration label shows the Hardware ID and the Option Firmware identified below.

The Option Firmware must contain a version number of 1.50.1753 or greater for the Internal Wireless Plus Print Server.

Figure 34 • 110*PAX*4 Configuration Label



1	Hardware ID of the Internal Wireless Plus Print Server
2	Option Firmware for the print server board

Compliance Information

FCC Compliance Statement

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment. To ensure compliance, this print engine must be used with Shielded Communication Cables.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Canadian DOC Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.