ZT411/ZT421

Industrial Printers

Maintenance Manual

ZEBRA

P1106464-001

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We have determined that the Zebra printers identified as the

ZT411 and ZT421

manufactured by:

Zebra Technologies Corporation

3 Overlook Point

Lincolnshire, Illinois 60069 U.S.A.

Have been shown to comply with the applicable technical standards of the FCC

For Home, Office, Commercial, and Industrial use

If no unauthorized change is made in the equipment,

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Compliance Information

FCC Compliance Statement

This device complies with Part 15 of the FCC 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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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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.

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Printer Configuration and Adjustment

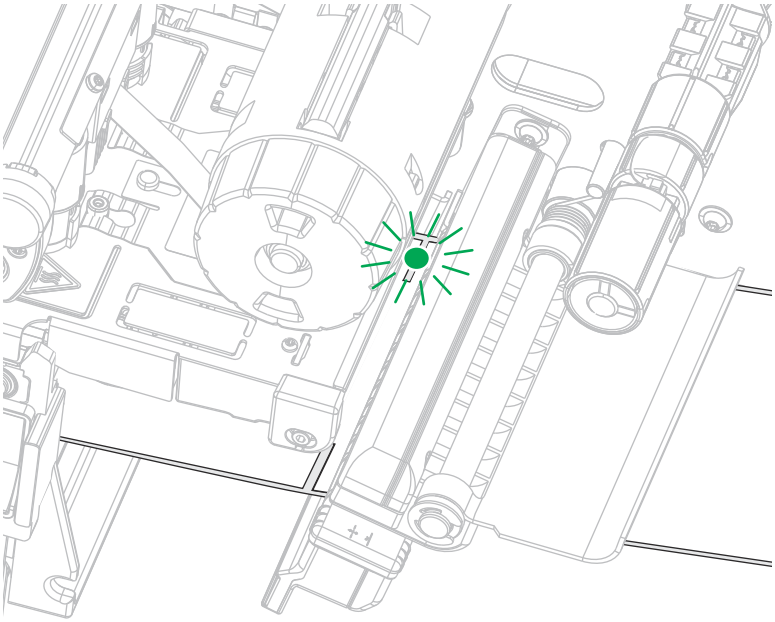
This section assists you with configuration of and adjustments to the printer.

Adjust the Sensor Position

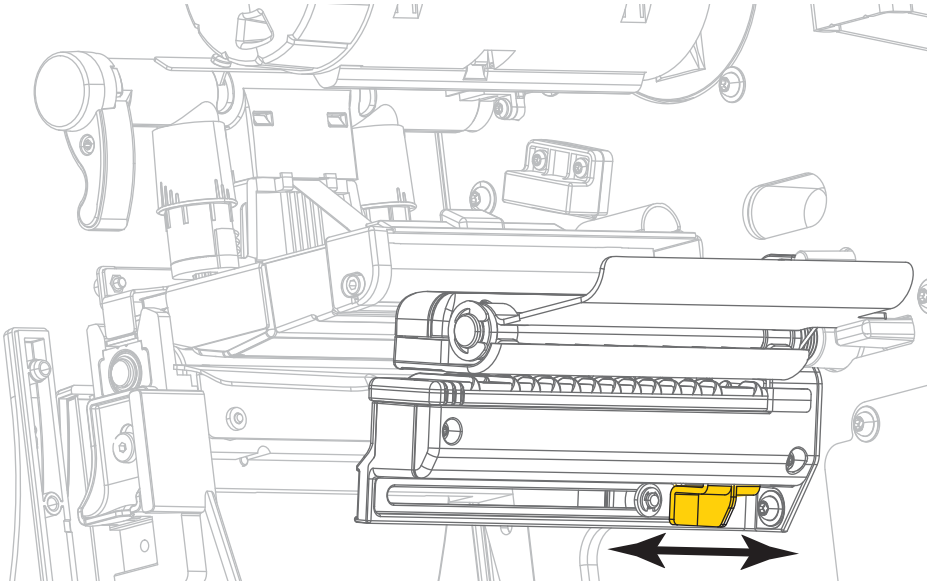
The media sensor assembly consists of two parts: a light source and a light sensor. The lower part of the media sensor is the light source, and the upper part of the media sensor is the light sensor. The media passes between the two parts.

Adjust the position of the sensor only if the printer cannot detect the top of the labels. In this situation, the display shows a media out error even though there is media loaded in the printer. For non-continuous media with a notch or hole, the sensor must be positioned directly at the notch or hole.

1. Remove the ribbon so you can clearly see the media path.
2. Load the media so that the green light from the media sensor is shining through a gap, notch, or hole.



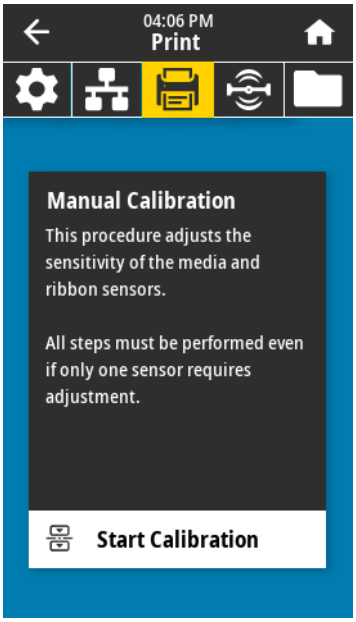
3. If necessary, slide the media sensor horizontally using the media sensor adjustment.



Calibrate the Ribbon and Media Sensors

Use the procedure in this section to calibrate the printer, which adjusts the sensitivity of the media and ribbon sensors.

1. Touch **Print > Sensors > Manual Calibration**.



2. Touch **Start Calibration**.
3. Follow the steps in the calibration procedure.

IMPORTANT: Follow the calibration procedure exactly as presented. You may press and hold **CANCEL** at any step in the procedure to cancel the calibration process.

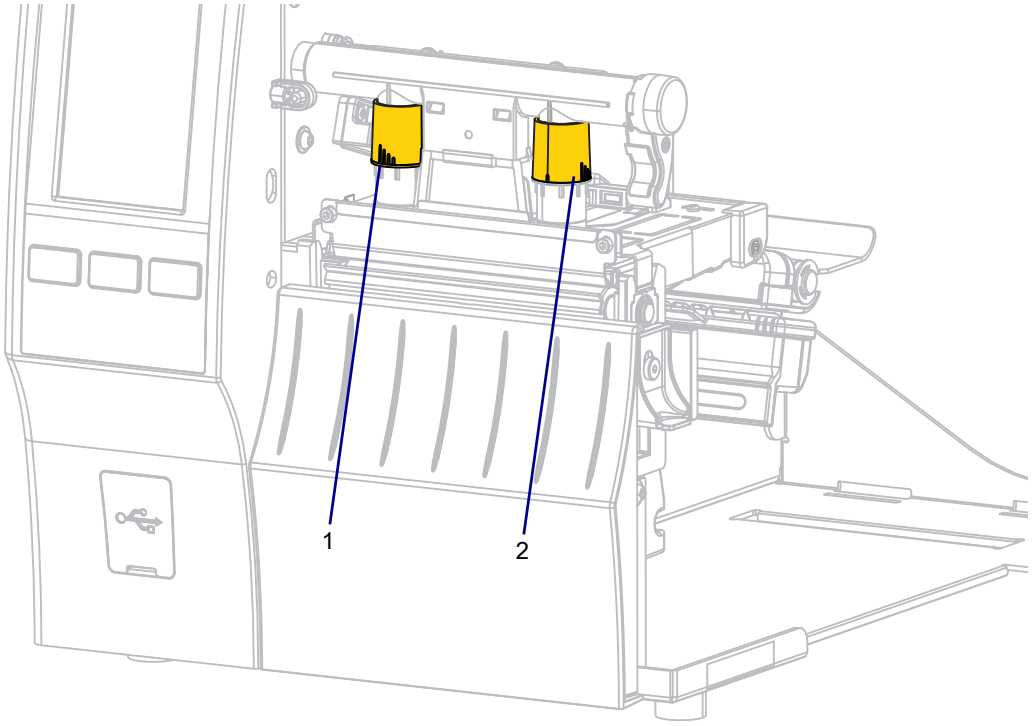
4. When calibration is complete, press **PAUSE** to exit pause mode and enable printing.

Adjust the Printhead Pressure

You may need to adjust printhead pressure if printing is too light on one side, if you use thick media, or if the media drifts from side to side during printing. Use the lowest printhead pressure necessary to produce good print quality.

See Figure 1. The printhead pressure adjustment dials have setting marks from 1 to 4.

Figure 1 Printhead Pressure Adjustment Dials



1	Inside dial
2	Outside dial

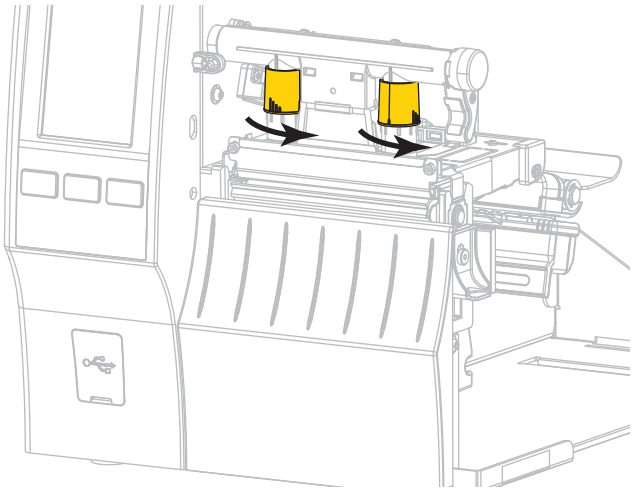
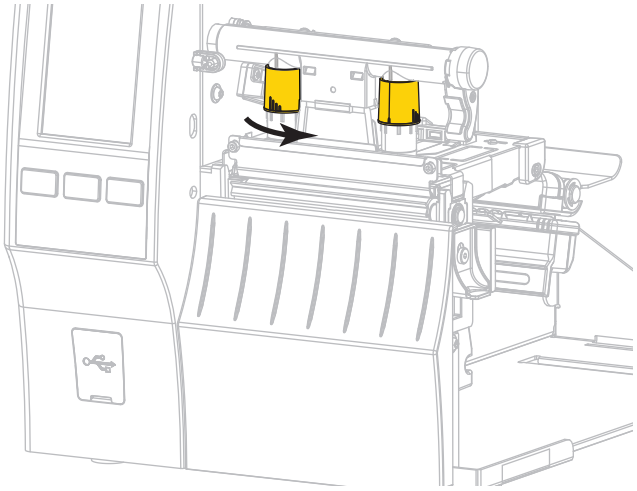
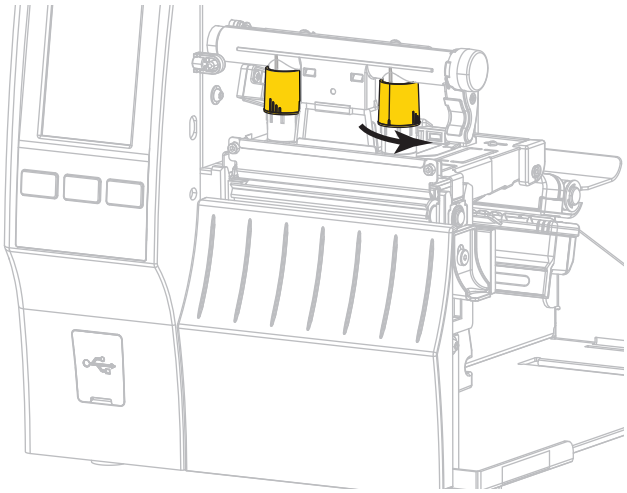
See Table 1. Begin with the following pressure settings, based on your printer and media width, and make adjustments as necessary.

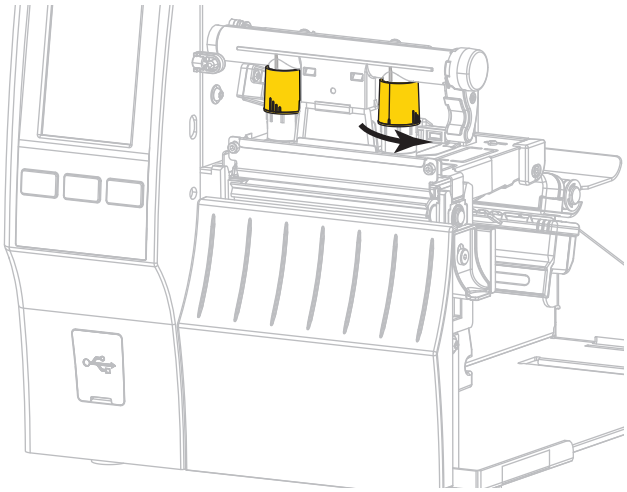
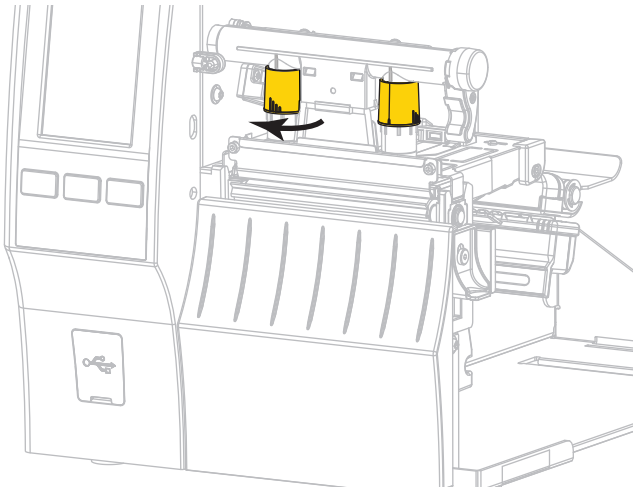
Table 1 Pressure Setting Starting Points

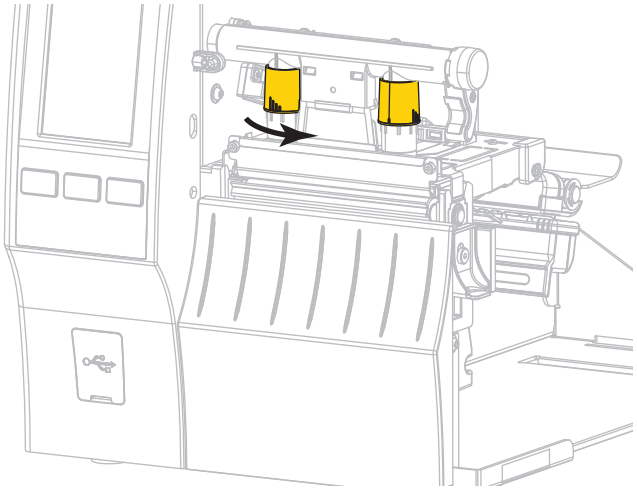
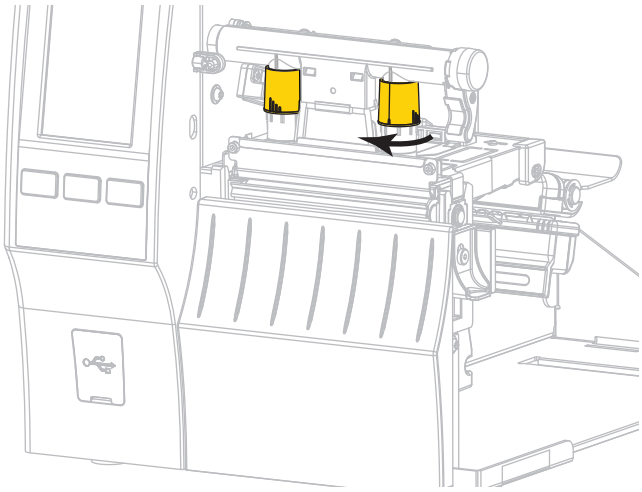
Printer	Media Width	Inside Dial Setting	Outside Dial Setting
ZT411	1 in. (25 mm)	4	1
	2 in. (51 mm)	3	1
	3 in. (76 mm)	2.5	1.5
	≥ 3.5 in. (89 mm)	2	2
ZT421	2 in. (51 mm)	4	1
	3 in. (76 mm)	3.5	1
	4 in. (102 mm)	3	2
	≥ 5 in. (127 mm)	2.5	2.5

Adjust the Printhead Pressure

If necessary, adjust the printhead pressure adjustment dials as follows:

If the media...	Then...
Requires higher pressure to print well	Increase both dials one position. 
Prints too lightly on the left side of the label.	Increase the inside dial setting one position. 
Prints too lightly on the right side of the label.	Increase the outside dial setting one position. 

If the media...	Then...
Shifts left while printing	Increase the outside dial setting one position.  OR Decrease the inside dial setting one position. 

If the media...	Then...
Shifts right while printing	Increase the inside dial setting one position.  OR Decrease the outside dial setting one position. 

Routine Maintenance

This section provides routine cleaning and maintenance procedures.

Cleaning Schedule and Procedures

Routine preventive maintenance is a crucial part of normal printer operation. By taking good care of your printer, you can minimize the potential problems that you might have with it and help to achieve and to maintain your standards for print quality.

Over time, the movement of media or ribbon across the printhead wears through the protective ceramic coating, exposing and eventually damaging the print elements (dots). To avoid abrasion:

- Clean the printhead frequently.
- Minimize printhead pressure and burn temperature (darkness) settings by optimizing the balance between the two.
- When using Thermal Transfer mode, ensure that the ribbon is as wide or wider than the media to prevent exposing the printhead elements to the more abrasive label material.

IMPORTANT: Zebra is not responsible for damage caused by the use of cleaning fluids on this printer.

Specific cleaning procedures are provided on the following pages. Table 2 shows the recommended cleaning schedule. These intervals are intended as guidelines only. You may have to clean more often, depending upon your application and media.

Table 2 Recommended Cleaning Schedule

Area		Method	Interval
Printhead		Solvent*	**Direct Thermal Mode:** After every roll of media (or 500 feet of fanfold media). **Thermal Transfer Mode:** After every roll of ribbon.
Platen roller		Solvent*	
Media sensors		Air blow	
Ribbon sensor		Air blow	
Media path		Solvent*	
Ribbon path		Solvent*	
Pinch roller (part of Peel-Off option)		Solvent*	
Cutter module	If cutting continuous, pressure-sensitive media	Solvent*	After every roll of media (or more often, depending upon your application and media).
	If cutting tag stock or label liner material	Solvent* and air blow	After every two or three rolls of media.
Tear-off/peel-off bar		Solvent*	Once a month.
Take-label sensor		Air blow	Once every six months.

***Zebra recommends using the Preventive Maintenance Kit (p/n 47362 or p/n 105950-035 - multipack). In place of this kit, you may use a clean swab dipped in 99.7% isopropyl alcohol.**
For 600 dpi printers, use Save-a-Printhead cleaning film. This specially coated material removes contamination buildup without damaging the printhead. Call your authorized reseller or distributor for more information.

Clean the Exterior, the Media Compartment, and the Sensors

Over time, dust, grime, and other debris may build up on the outside and inside of your printer, particularly in a harsh operating environment.

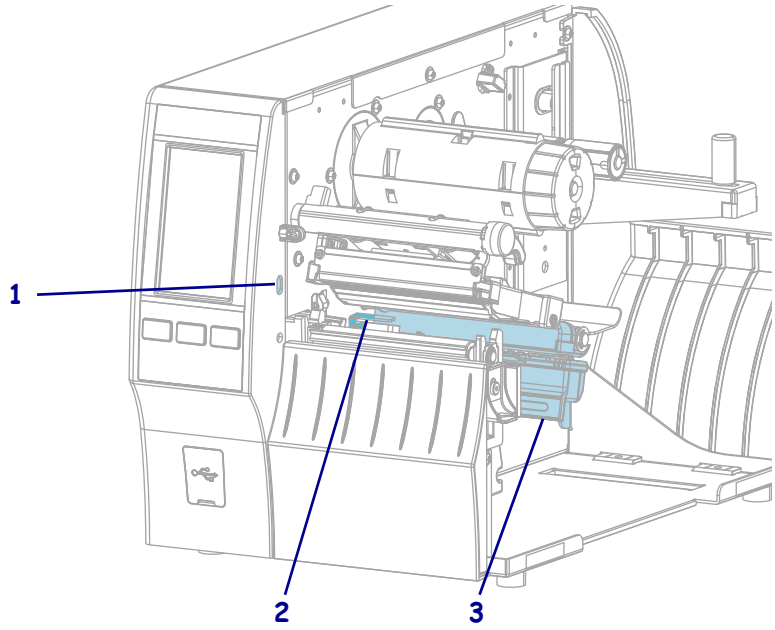
Printer Exterior

You may clean the exterior surfaces of the printer with a lint-free cloth and a small amount of a mild detergent, if necessary. Do not use harsh or abrasive cleaning agents or solvents.

IMPORTANT: Zebra is not responsible for damage caused by the use of cleaning fluids on this printer.

Media Compartment and Sensors

1. Brush, air blow, or vacuum any accumulated paper lint and dust away from the media and ribbon paths.
2. Brush, air blow, or vacuum any accumulated paper lint and dust away from the sensors.



1	Take-label sensor
2	Ribbon sensor
3	Media sensor

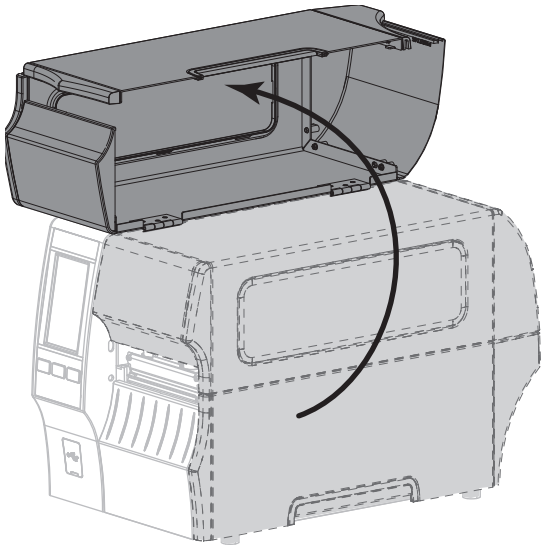
Clean the Printhead and Platen Roller

Inconsistent print quality, such as voids in the barcode or graphics, may indicate a dirty printhead. For the recommended cleaning schedule, see Cleaning Schedule and Procedures on page 24.

IMPORTANT: You are not required to turn off the printer power when working near an open printhead, but Zebra recommends it as a precaution. If you turn off the power, you will lose all temporary settings, such as label formats, and you must reload them before you resume printing.

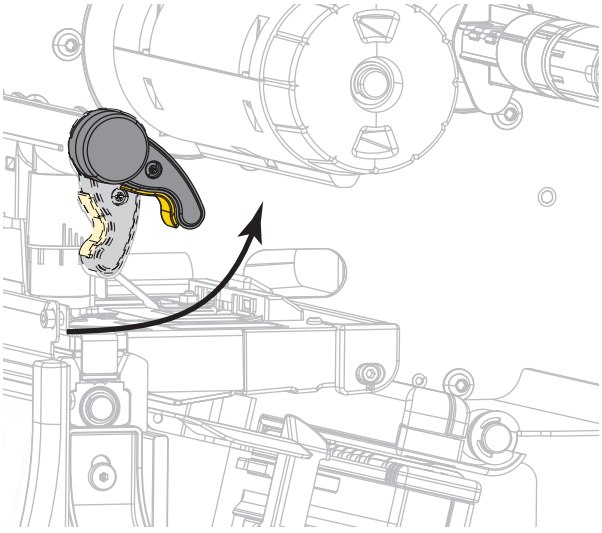
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Raise the media door.



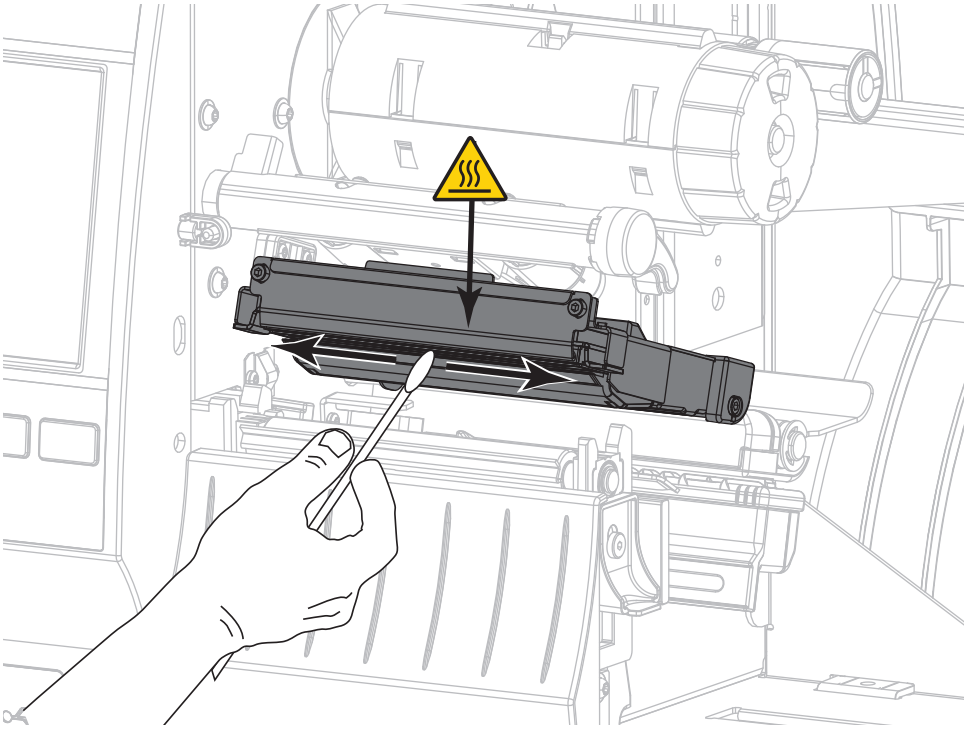
CAUTION—HOT SURFACE: The printhead may be hot and could cause severe burns. Allow the printhead to cool.

2. Open the printhead assembly by rotating the printhead-open lever upward.

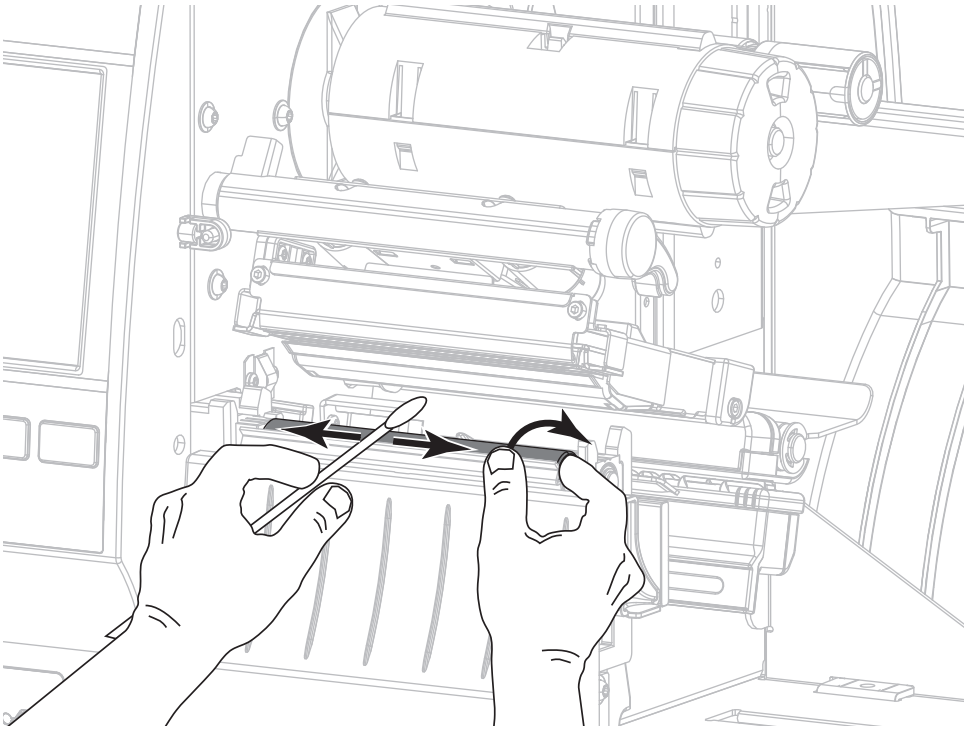


3. Remove the ribbon (if used) and the media.

4. Using the swab from a Zebra Preventive Maintenance Kit, wipe along the brown strip on the printhead assembly from end to end. In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 99.7% isopropyl alcohol. Allow the solvent to evaporate.

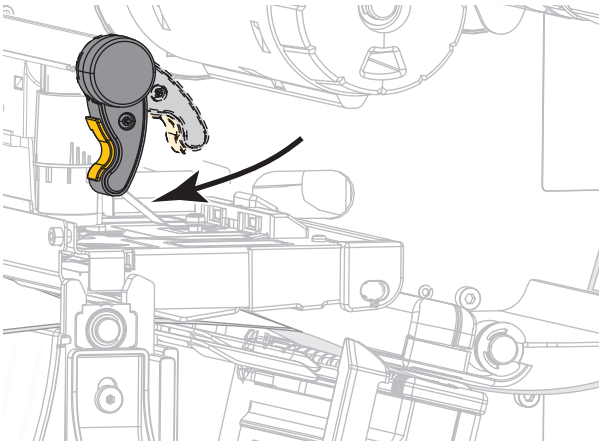


5. While manually rotating the platen roller, clean it thoroughly with the swab. Allow the solvent to evaporate.



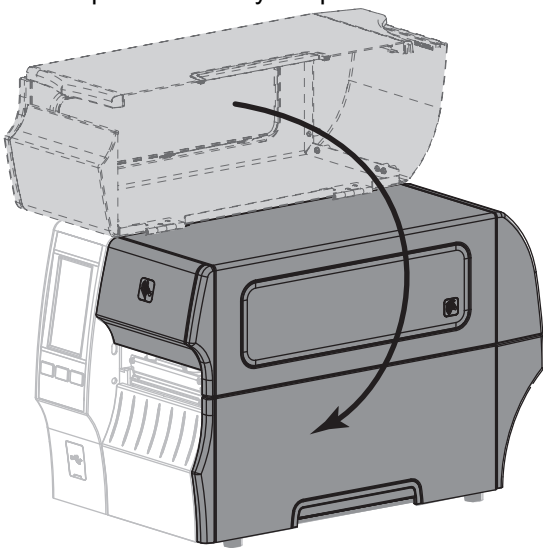
6. Reload the ribbon (if used) and the media. Refer to the User Guide for instructions.

7. Rotate the printhead-open lever downward until it locks the printhead in place.



8. Close the media door.

   The printer is ready to operate.



9. Press PAUSE to exit pause mode and enable printing.

   The printer may perform a label calibration or feed a label, depending on your settings.

NOTE: If performing this procedure does not improve print quality, try cleaning the printhead with ***Save-A-Printhead*** cleaning film. This specially coated material removes contamination buildup without damaging the printhead. Call your authorized Zebra reseller for more information.

Replacing Printer Components

Some printer components, such as the printhead and platen roller, may wear out over time and can be replaced easily. Regular cleaning may extend the life of some of these components. See Cleaning Schedule and Procedures on page 24 for the recommended cleaning intervals.

Ordering Replacement Parts

Zebra printers are designed to work only with genuine Zebra printheads, thus maximizing safety and print quality.

Recycling Printer Components

The majority of this printer's components are recyclable. The printer's main logic board may include a battery that you should dispose of properly.

Do not dispose of any printer components in unsorted municipal waste. Please dispose of the battery according to your local regulations, and recycle the other printer components according to your local standards. For more information, see http://www.zebra.com/environment.

Storing the Printer

If you are not placing the printer into immediate operation, repackage it using the original packing materials. You may store the printer under the following conditions:

- Temperature: –40°F to 140°F (–40° to 60°C)
- Relative humidity: 5% to 85% non-condensing

Lubrication

The only lubrication needed for this printer is for the cutter module. Do not lubricate any other parts of the printer.

CAUTION—PRODUCT DAMAGE: Some commercially available lubricants will damage the finish and the mechanical parts if used on this printer.

Diagnostics and Troubleshooting

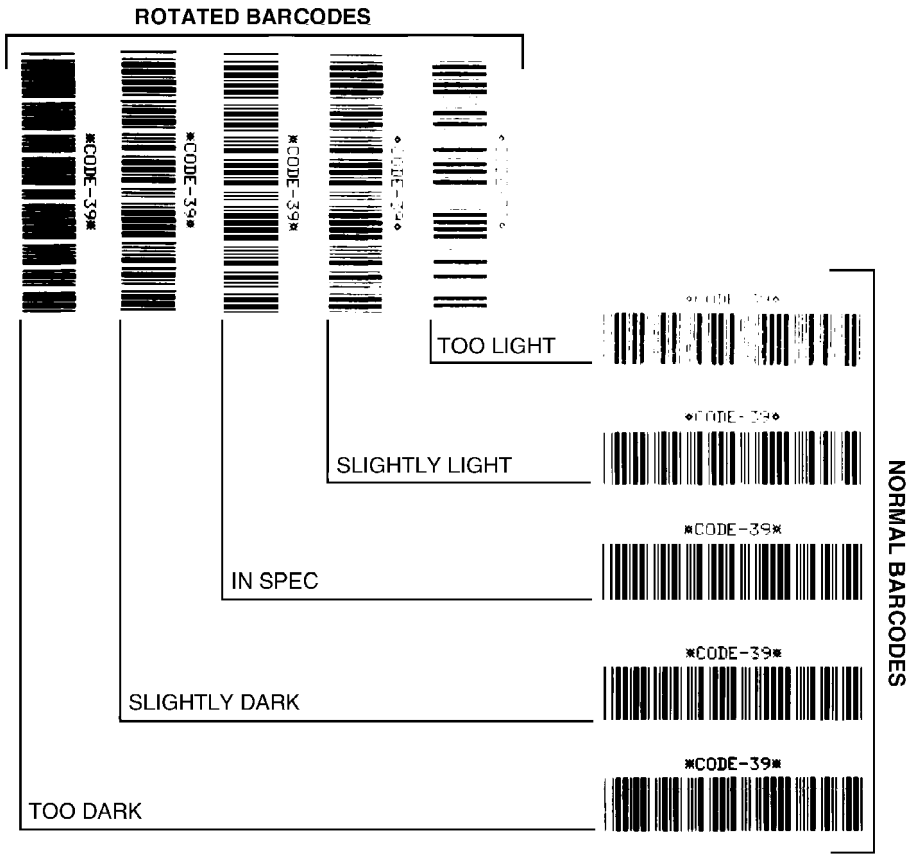
This section provides diagnostic tests and other information that may help you to optimize printing or to troubleshoot issues with your printer.

Go to www.zebra.com/zt400-info for access to videos and additional online information designed to assist you.

Judging Barcode Quality

Figure 2 shows how printer settings such as darkness and print speed can affect the quality of barcodes. Set the print darkness to the lowest setting that provides good print quality. The Print Quality Assistant can help you determine the best settings.

Figure 2 Barcode Darkness Comparison



Too Dark Labels that are too dark are fairly obvious. They may be readable but not “in-spec.”

- The normal barcode bars increase in size.
- The openings in small alphanumeric characters may fill in with ink.
- Rotated barcode bars and spaces run together.

Slightly Dark Slightly dark labels are not as obvious.

- The normal barcode will be “in-spec.”
- Small character alpha numerics will be bold and could be slightly filled in.
- The rotated barcode spaces are small when compared to the “in-spec” code, possibly making the code unreadable.

“In-Spec” The “in-spec” barcode can only be confirmed by a verifier, but it should exhibit some visible characteristics.

- The normal barcode will have complete, even bars and clear, distinct spaces.
- The rotated barcode will have complete, even bars and clear, distinct spaces. Although it may not look as good as a slightly dark barcode, the barcode will be “in-spec.”
- In both normal and rotated styles, small alphanumeric characters look complete.

Slightly Light Slightly light labels are, in some cases, preferred to slightly dark ones for “in-spec” barcodes.

- Both normal and rotated barcodes will be in spec, but small alphanumeric characters may not be complete.

Too Light Labels that are too light are obvious.

- Both normal and rotated barcodes have incomplete bars and spaces.
- Small alphanumeric characters are unreadable.

Configuration Labels

Some of the most commonly used diagnostic items are the printer configuration label and the network configuration label. Sample labels are shown in Figure 3. Analyzing the information on these labels can help you to troubleshoot potential issues.

To print a printer configuration label, touch **Menu > Settings > Print: System Settings**.

To print a network configuration label, touch **Menu > Networks > Print: Network Info**.

Figure 3 Sample Labels

Printer Configuration Label

```
PRINTER CONFIGURATION

Zebra Technologies
ZTC ZT620R-203dpi ZPL
76J162700886

+30.0.............. DARKNESS
6.0 IPS............ PRINT SPEED
-007............... TEAR OFF
TEAR OFF........... PRINT MODE
CONTINUOUS......... MEDIA TYPE
TRANSMISSIVE....... SENSOR SELECT
DIRECT-THERMAL..... PRINT METHOD
1344............... PRINT WIDTH
2000............... LABEL LENGTH
P1085892/00005 2... PRINT HEAD ID
15.0IN  380MM..... MAXIMUM LENGTH
MAINT. OFF......... EARLY WARNING
CONNECTED.......... USB COMM.
BIDIRECTIONAL...... PARALLEL COMM.
RS232.............. SERIAL COMM.
9600............... BAUD
8 BITS............. DATA BITS
NONE............... PARITY
XON/XOFF........... HOST HANDSHAKE
NONE............... PROTOCOL
NORMAL MODE........ COMMUNICATIONS
<~>  7EH........... CONTROL PREFIX
<^>  5EH........... FORMAT PREFIX
<,>  2CH........... DELIMITER CHAR
ZPL II............. ZPL MODE
INACTIVE........... COMMAND OVERRIDE
FEED............... MEDIA POWER UP
LENGTH............. HEAD CLOSE
DEFAULT............ BACKFEED
+000............... LABEL TOP
+0000.............. LEFT POSITION
OFF................ APPLICATOR PORT
ENABLED............ ERROR ON PAUSE
PULSE MODE......... START PRINT SIG
DISABLED........... REPRINT MODE
080................ WEB SENSOR
090................ MEDIA SENSOR
255................ TAKE LABEL
027................ MARK SENSOR
027................ MARK MED SENSOR
000................ TRANS GAIN
005................ TRANS BASE
060................ TRANS LED
002................ MARK GAIN
100................ MARK LED
DPCSWFXM........... MODES ENABLED
.................. MODES DISABLED
1344 8/MM FULL..... RESOLUTION
4.0................ LINK-OS VERSION
V80.20.03 <-....... FIRMWARE
1.3................ XML SCHEMA
6.6.0 22.89........ HARDWARE ID
32768k..........R: RAM
524288k.........E: ONBOARD FLASH
NONE............... FORMAT CONVERT
MM/DD/YYYY 24HR.... IDLE DISPLAY
05/11/17........... RTC DATE
06:40.............. RTC TIME
ENABLED............ ZBI
2.1................ ZBI VERSION
READY.............. ZBI STATUS
TM:M6E MICRO....... RFID READER
20.00.00.01........ RFID HW VERSION
01.03.00.18........ RFID FW VERSION
USA/CANADA......... RFID REGION CODE
USA/CANADA......... RFID COUNTRY CODE
RFID OK............ RFID ERR STATUS
16................. RFID READ PWR
16................. RFID WRITE PWR
FO................. PROG. POSITION
0.................. RFID VALID CTR
0.................. RFID VOID CTR
NONE............... ADAPTIVE ANTENNA
A4..............R: RFID ANTENNA
570 LABELS......... NONRESET CNTR
570 LABELS......... RESET CNTR1
570 LABELS......... RESET CNTR2
2,798 IN........... NONRESET CNTR
2,798 IN........... RESET CNTR1
2,798 IN........... RESET CNTR2
7,107 CM........... NONRESET CNTR
7,107 CM........... RESET CNTR1
7,107 CM........... RESET CNTR2
001 WIRELESS....... SLOT 1
*** EMPTY.......... SLOT 2
0.................. MASS STORAGE COUNT
0.................. HID COUNT
OFF................ USB HOST LOCK OUT
FIRMWARE IN THIS PRINTER IS COPYRIGHTED
```

Network Configuration Label

```
Network Configuration

Zebra Technologies
ZTC ZT620R-203dpi ZPL
76J162700886

Wired.............. PRIMARY NETWORK
PrintServer........ LOAD LAN FROM?
INTERNAL WIRED..... ACTIVE PRINTSRVR

Wired*
ALL................ IP PROTOCOL
192.168.000.017.... IP ADDRESS
255.255.255.000.... SUBNET
192.168.000.254.... GATEWAY
000.000.000.000.... WINS SERVER IP
YES................ TIMEOUT CHECKING
300................ TIMEOUT VALUE
000................ ARP INTERVAL
9100............... BASE RAW PORT
9200............... JSON CONFIG PORT

Wireless
ALL................ IP PROTOCOL
000.000.000.000.... IP ADDRESS
255.255.255.000.... SUBNET
000.000.000.000.... GATEWAY
000.000.000.000.... WINS SERVER IP
YES................ TIMEOUT CHECKING
300................ TIMEOUT VALUE
000................ ARP INTERVAL
9100............... BASE RAW PORT
9200............... JSON CONFIG PORT
INSERTED........... CARD INSERTED
02dfH.............. CARD MFG ID
9134H.............. CARD PRODUCT ID
ac:3f:a4:82:05:9c.. MAC ADDRESS
YES................ DRIVER INSTALLED
INFRASTRUCTURE..... OPERATING MODE
125................ ESSID
1.0................ CURRENT TX RATE
OPEN............... WEP TYPE
WPA PSK............ WLAN SECURITY
1.................. WEP INDEX
000................ POOR SIGNAL
LONG............... PREAMBLE
NO................. ASSOCIATED
ON................. PULSE ENABLED
15................. PULSE RATE
OFF................ INTL MODE
USA/CANADA......... REGION CODE
USA/CANADA......... COUNTRY CODE
0x7FF.............. CHANNEL MASK

Bluetooth
4.3.1p1............ FIRMWARE
02/13/2015......... DATE
on................. DISCOVERABLE
3.0/4.0............ RADIO VERSION
on:.:.:.:.:.:.:.:.. ENABLED
AC:3F:A4:82:05:9D.. MAC ADDRESS
76J162700886....... FRIENDLY NAME
no................. CONNECTED
1.................. MIN SECURITY MODE
nc................. CONN SECURITY MODE
supported.......... iOS

FIRMWARE IN THIS PRINTER IS COPYRIGHTED
```

PAUSE Self Test

This self test can be used to provide the test labels required when making adjustments to the printer's mechanical assemblies or to determine if any printhead elements are not working. Figure 4 shows a sample printout.

1. Turn off (**O**) the printer.
2. Press and hold **PAUSE** while turning on (**I**) the printer. Hold **PAUSE** until the first control panel light turns off.
   - The initial self test prints 15 labels at the printer's slowest speed, and then automatically pauses the printer. Each time **PAUSE** is pressed, an additional 15 labels print. Figure 4 shows a sample of the labels.

Figure 4 PAUSE Test Label

   - While the printer is paused, pressing **CANCEL** alters the self test. Each time **PAUSE** is pressed, 15 labels print at 6 in. (152 mm) per second.
   - While the printer is paused, pressing **CANCEL** again alters the self test a second time. Each time **PAUSE** is pressed, 50 labels print at the printer's slowest speed
   - While the printer is paused, pressing **CANCEL** again alters the self test a third time. Each time **PAUSE** is pressed, 50 labels print at 6 in. (152 mm) per second.
   - While the printer is paused, pressing **CANCEL** again alters the self test a fourth time. Each time **PAUSE** is pressed, 15 labels print at the printer's maximum speed.
3. To exit this self test at any time, press and hold **CANCEL**.

Sensor Profile

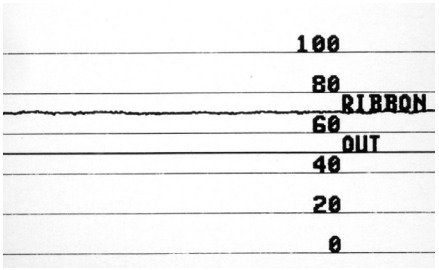
Tap **Menu > Print > Sensors > Print: Sensor Profile** to print a sensor profile image (which will extend across several actual labels or tags). Use the sensor profile image to troubleshoot the following situations:

- The printer experiences difficulty in determining gaps (web) between labels.
- The printer incorrectly identifies preprinted areas on a label as gaps (web).
- The printer cannot detect ribbon.

Compare your results to the examples shown in this section. If the sensitivity of the sensors must be adjusted, calibrate the printer (see Calibrate the Ribbon and Media Sensors on page 19).

Ribbon Sensor Profile (Figure 5**)** The line labeled **RIBBON** (**1**) on the sensor profile indicates the ribbon sensor readings. The ribbon sensor threshold setting is indicated by **OUT** (**2**). If the ribbon readings are below the threshold value, the printer does not acknowledge that ribbon is loaded.

Figure 5 Sensor Profile (Ribbon Section)



Media Sensor Profile (Figure 6 **and** Figure 7**)** The line labeled **MEDIA** (**1**) on the sensor profile indicates the media sensor readings. The media sensor threshold settings is indicated by **WEB (2)**. The media out threshold is indicated by **OUT** (**3**). The upward or downward spikes (**4**) indicate divisions between labels (the web, notch, or black mark), and the lines between the spikes (**5**) indicate where labels are located.

If you compare the sensor profile printout to a length of your media, the spikes should be the same distance apart as the gaps on the media. If the distances are not the same, the printer may be having difficulty determining where the gaps are located.

Figure 6 Media Sensor Profile (Gap/Notch Media)

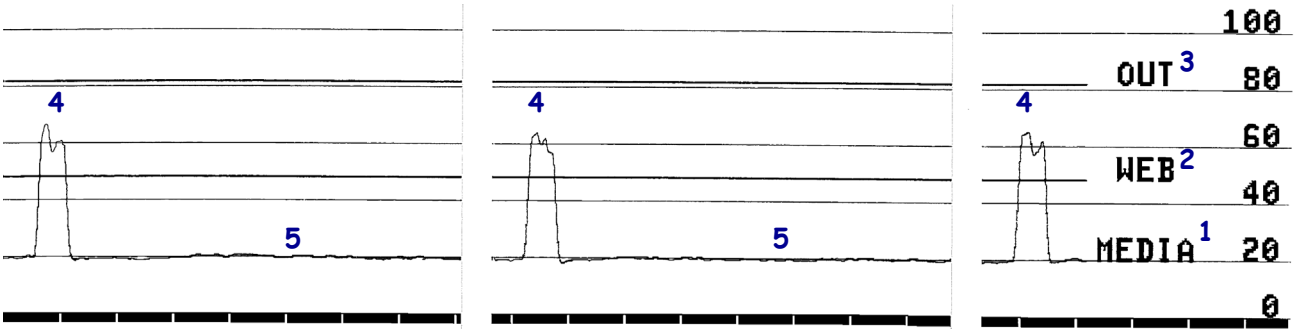
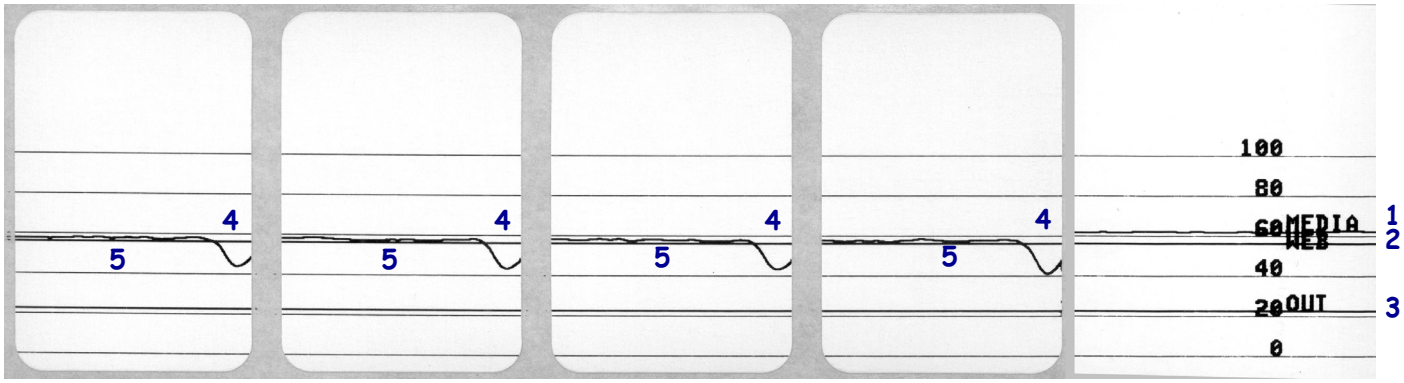


Figure 7 Media Sensor Profile (Black Mark Media)

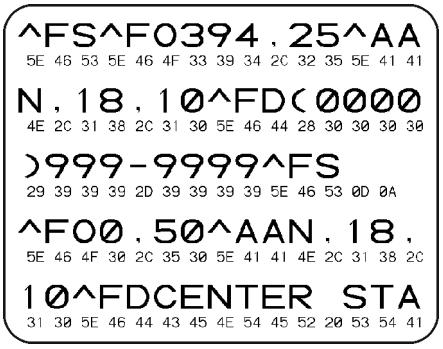


Communication Diagnostics Mode

The communication diagnostics test is a troubleshooting tool for checking the interconnection between the printer and the host computer. When the printer is in diagnostics mode, it prints all data received from the host computer as straight ASCII characters with the hex values below the ASCII text. The printer prints all characters received, including control codes such as CR (carriage return). Figure 8 shows a typical test label from this test.

NOTE: The test label prints upside-down.

Figure 8 Sample Communications Diagnostics Mode Label



1. Set the label width equal to or less than the actual media width being used for the test. Tap **Menu > Print > Print Quality > Label Width** to access the label width setting.
2. Tap **Menu > System > Program Language**, and set the **Diagnostic Mode** option to **ENABLED**.

   The printer enters diagnostics mode and prints any data received from the host computer on a test label
3. Check the test label for error codes. For any errors, check that your communication parameters are correct.

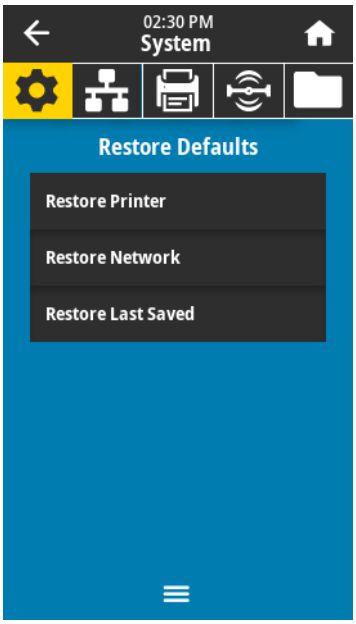
   Errors show on the test label as follows:

   - **FE** indicates a framing error.
   - **OE** indicates an overrun error.
   - **PE** indicates a parity error.
   - **NE** indicates noise.
4. To exit this self test and return to normal operation, power cycle the printer or set the **Diagnostic Mode** option to **DISABLED**.

Load Defaults or Last Saved Values

Restoring the printer to default values or to the last saved values can help if things are not working as expected.

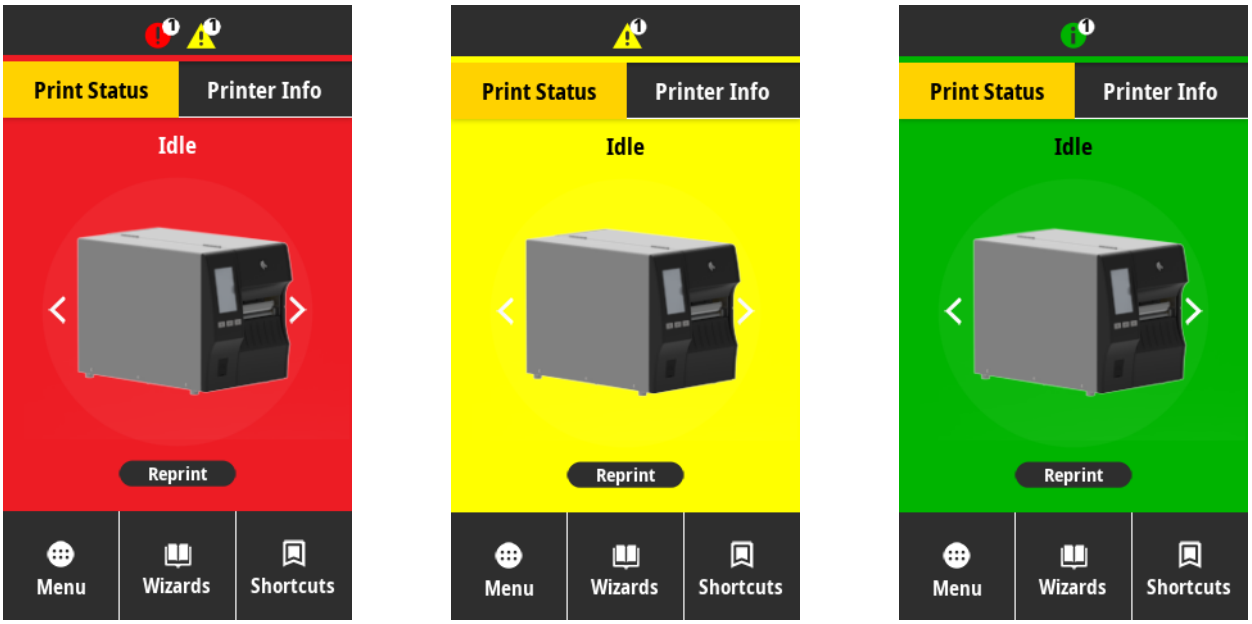
Touch **Menu > System > Restore Defaults** to see the available options.



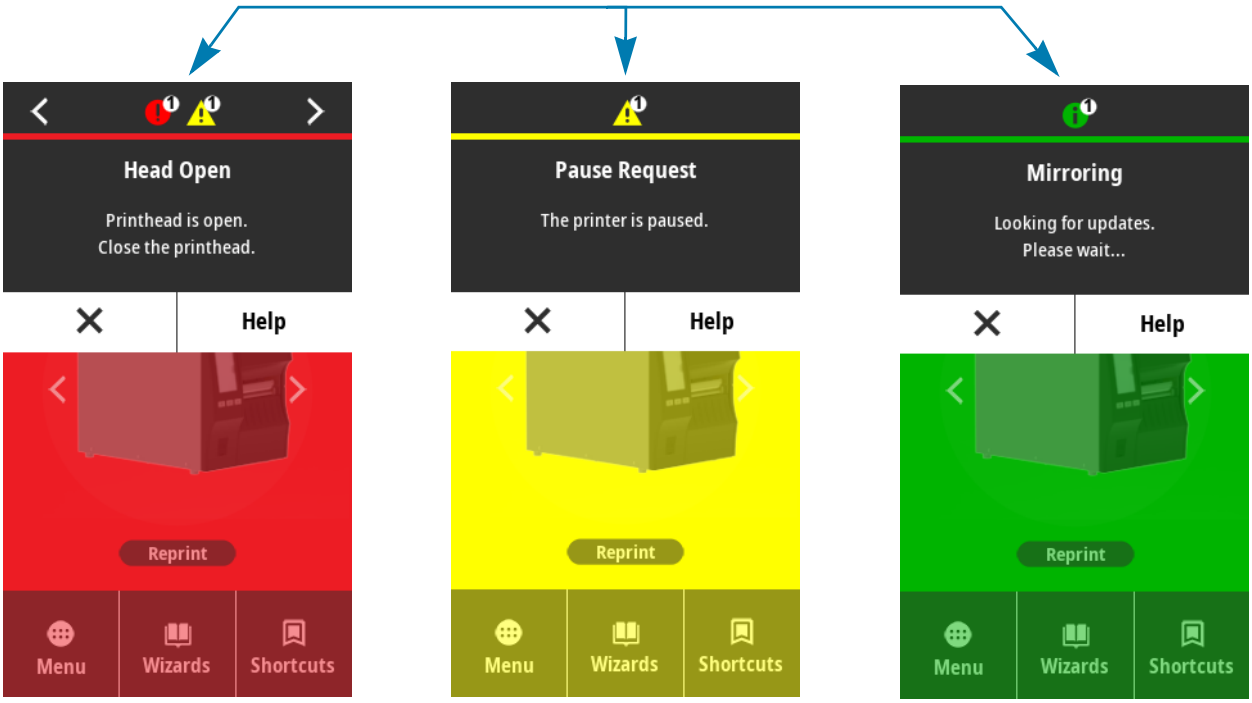
- PRINTER—Restores all printer settings other than the network settings back to the factory defaults. Use care when loading defaults because you will need to reload all settings that you changed manually.
- NETWORK—Reinitializes the printer's wired or wireless print server. With a wireless print server, the printer also reassociates with your wireless network.
- LAST SAVED—Loads settings from the last permanent save.

Alert and Error States

If the background color of the Home screen changes, you may need to take an action to restore the printer to a Ready status. Red and yellow backgrounds typically halt printing until the issue is resolved. Informational messages with a green background usually disappear without user intervention, and printing continues as normal.

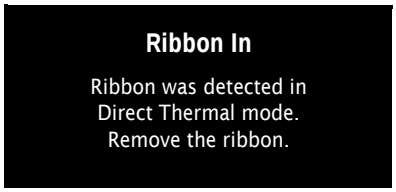
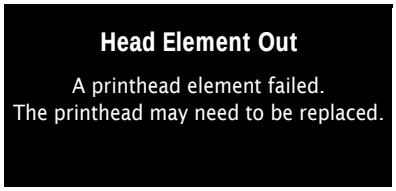
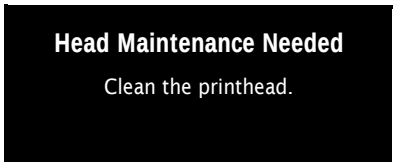


Touch the icons in the bar at the top of the Home screen to view the error, alert, or informational message. See Alerts and Error Messages on page 41 for recommended actions.



Alerts and Error Messages

Display/Indicator Lights	Possible Causes	Recommended Solutions
Head Open Printhead is open. Close the printhead.	The printhead is not fully closed.	Close the printhead completely.
	The printhead open sensor is not working properly.	Call a service technician to replace the sensor.
Media Out Media is out. Load additional media.	The media is not loaded or is loaded incorrectly.	Load media correctly.
	Misaligned media sensor.	Check the position of the media sensor.
	The printer is set for noncontinuous media, but continuous media is loaded.	1. Install the proper media type, or reset printer for the current media type. 2. Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.
Paper Jam Media jammed. Check the media.	There is an issue with the media in the media path.	1. Check for media that is loaded incorrectly or stuck to components in the media path. 2. Check if media is wrapped around the platen roller. Carefully remove any labels. If necessary, clean the platen roller to remove adhesive (Reference the User Guide).
Ribbon Out Ribbon is out. Replace the ribbon.	In thermal transfer mode: • ribbon is not loaded • ribbon is loaded incorrectly • the ribbon sensor is not detecting ribbon • media is blocking the ribbon sensor	1. Load ribbon correctly. Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.
	In thermal transfer mode, the printer did not detect the ribbon even though it is loaded correctly.	Calibrate the printer (see Calibrate the Ribbon and Media Sensors on page 19) or load printer defaults by touching ***Menu > System > Settings > Restore Defaults > Restore Printer***.
	If you are using direct thermal media, the printer is waiting for ribbon to be loaded because it is incorrectly set for thermal transfer mode.	Set the printer for Direct Thermal mode. Refer to the User Guide.

Display/Indicator Lights	Possible Causes	Recommended Solutions
	Ribbon is loaded, but the printer is set for direct thermal mode.	Ribbon is not required with direct thermal media. If you are using direct thermal media, remove the ribbon. This error message will not affect printing.
		If the message persists with no ribbon in the printer, Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.
		If you are using thermal transfer media, which requires ribbon, set the printer for Thermal Transfer mode.
		If you are using thermal transfer media, which requires ribbon, set the printer for Thermal Transfer mode. Refer to the *User Guide* for information about changing the print type.
	The printhead was replaced with one that is not a genuine Zebra printhead.	Install a genuine Zebra printhead.
	A printhead element is no longer working.	If the location of the failed element affects printing, replace the printhead.
	The printhead is nearing the end of its life and should be replaced.	Replace the printhead.
	The printhead needs to be cleaned.	Follow the cleaning instructions in the User Guide.

Display/Indicator Lights	Possible Causes	Recommended Solutions
Head Over Temp Printhead is too hot. All printing is halted.	The printhead may be hot enough to cause severe burns. Allow the printhead to cool.	
	The printhead is over temperature.	Allow the printer to cool. Printing automatically resumes when the printhead elements cool to an acceptable operating temperature. If this error persists, consider changing where the printer is located or using a slower print speed.
Head Under Temp Printhead is too cold. All printing is halted. **Head Thermistor Fault** Faulty thermistor detected. Replace the printhead. The printer shows one of these messages or cycles between them.	An improperly connected printhead data or power cable can cause these error messages. The printhead may be hot enough to cause severe burns. Allow the printhead to cool.	
	The printhead data cable is not properly connected.	Call a service technician to hook up the printhead properly.
	The printhead has a faulty thermistor.	Call a service technician to replace the printhead.
Head Under Temp Printhead is too cold. All printing is halted.	An improperly connected printhead data or power cable can cause this error message. The printhead may be hot enough to cause severe burns. Allow the printhead to cool.	
	The printhead temperature is approaching its lower operating limit.	Continue printing while the printhead reaches the correct operating temperature. If the error remains, the environment may be too cold for proper printing. Relocate the printer to a warmer area.
	The printhead data cable is not properly connected.	Call a service technician to hook up the printhead properly.
	The printhead has a faulty thermistor.	Call a service technician to replace the printhead.
	The printhead data cable is not properly connected.	Hook up the printhead properly. Refer to the *User Guide* for instructions.
	The printhead has a faulty thermistor.	Replace the printhead. Refer to the *User Guide* for instructions.
Cutter Error A cutter error occurred. Restart the printer.	The cutter blade is sharp. Do not touch or rub the blade with your fingers.	
	The cutter blade is in the media path.	Turn off the printer power and unplug the printer. Inspect the cutter module for debris and clean as needed.

Display/Indicator Lights	Possible Causes	Recommended Solutions
	There is not enough memory to perform the function specified.	Free up some of the printer's memory by adjusting the label format or printer parameters. One way to free up memory is to adjust the print width to the actual width of the label instead of leaving the print width set to the default.
		Ensure that the data is not directed to a device that is not installed or is unavailable. If the problem persists, call a service technician.

Indicator Lights

The indicator lights located above the printer's display also communicate the printer's status.

Table 3 Status of Printer As Shown by Indicator Lights

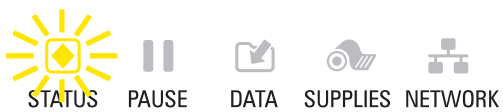
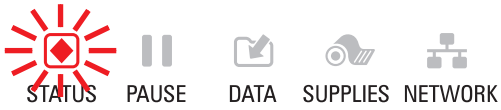
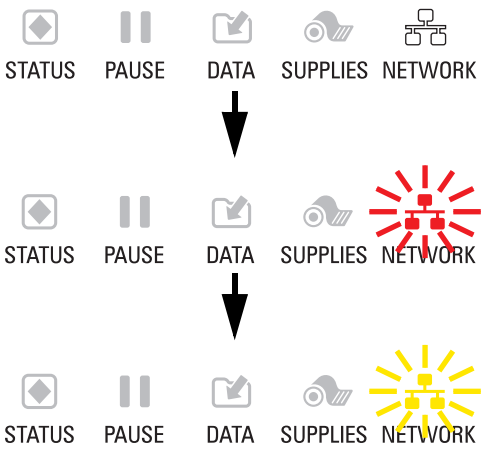
	• *STATUS light steady green (other lights steady yellow for 2 seconds during printer power-up)* The printer is ready.
	• PAUSE light steady yellow. The printer is paused.
	• *STATUS light steady red* • *SUPPLIES light steady red* The media supply is out. The printer needs attention and cannot continue without user intervention.
	• *STATUS light steady red* • *SUPPLIES light flashing red* The ribbon supply is out. The printer needs attention and cannot continue without user intervention.
	• *STATUS light steady yellow* • *SUPPLIES light flashing yellow* The printer is in Direct Thermal mode, which does not require ribbon; however, ribbon is installed in the printer.
	• *STATUS light steady red* • *PAUSE light steady yellow* The printhead is open. The printer needs attention and cannot continue without user intervention.
	• *STATUS light steady yellow* The printhead is over temperature. The printhead may be hot and could cause severe burns. Allow the printhead to cool.
	• *STATUS light flashing yellow* This indicator light flashing indicates one of the following: **a.** The printhead is under temperature. **b.** The power supply is over temperature. **c.** The main logic board (MLB) is over temperature.

Table 3 Status of Printer As Shown by Indicator Lights (Continued)

	• *STATUS light steady red* • *PAUSE light steady red* • *DATA light steady red* The printhead was replaced with one that is not a genuine Zebra ™ printhead. Install a genuine Zebra ™ printhead to continue.
	• *STATUS light flashing red* The printer is unable to read the dpi setting of the printhead.
Printers with a wired Ethernet option	
	• *NETWORK light off* No Ethernet link is available.
	• *NETWORK light steady green* A 100 Base-T link was found.
	• *NETWORK light steady yellow* A 10 Base-T link was found.
	• *NETWORK light steady red* An Ethernet error condition exists. The printer is not connected to your network.
Printers with a wireless option	
	• *NETWORK light off* A radio was found during power-up. The printer is attempting to associate with the network. The light flashes red while the printer associates with the network. The light then flashes yellow while the printer is authenticating with the network.
	• *NETWORK light steady green* The radio is associated with your network and authenticated, and the WLAN signal is strong.
	• *NETWORK light flashing green* The radio is associated with your network and authenticated, but the WLAN signal is weak.
	• *NETWORK light steady red* A WLAN error condition exists. The printer is not connected to your network.

Troubleshooting

Printing or Print Quality Issues

Barcode Does Not Scan		
Issue	**Possible Cause**	**Recommended Solution**
The barcode printed on a label does not scan.	The barcode is not within specifications because the printer is set at an incorrect darkness level.	**1.** Run the Print Wizard and print a test label. **2.** If necessary, manually adjust the darkness or print speed settings. • Set the print darkness to the lowest setting that provides good print quality. If you set the darkness too high, the label image may print unclearly, barcodes may not scan correctly, the ribbon may burn through, or the printhead may wear prematurely. • Slower print speeds typically yield better print quality. Access the darkness and print speed settings from the Home screen by touching ***Menu > Print > Print Quality***. **1.** If the issue is not resolved, check the printhead pressure and toggle position. See Printhead Pressure Adjustment Dials on page 20
	There is not enough blank space around the barcode.	Leave at least 1/8 in. (3.2 mm) between the barcode and other printed areas on the label and between the barcode and the edge of the label.
Wrong Image Size		
Issue	**Possible Cause**	**Recommended Solution**
My label prints too small (or too large)	The wrong printer driver is being used, or other settings are not correct for your printing application.	Check the printer driver or software communications settings (if applicable) for your connection. You may wish to reinstall the printer drivers.
Poor Print Quality		
Issue	**Possible Cause**	**Recommended Solution**
Smudge marks on labels	The media or ribbon is not designed for high-speed operation.	Replace supplies with those recommended for high-speed operation. For more information, see http://www.zebra.com/supplies.
Poor results with thick labels	The print line is not at an optimal position for your media.	Refer to the *Maintenance Manual* for instructions on how to adjust the print line for thick media.
Print Consistently Too Light or Too Dark		
Issue	**Possible Cause**	**Recommended Solution**
Printing is too light or too dark on one side of the label	Uneven printhead pressure.	Adjust the printhead pressure as needed for good print quality. See Printhead Pressure Adjustment Dials on page 20.
Issue	**Possible Cause**	**Recommended Solution**
	The label format is scaling a font that is not scalable.	Check the label format for font issues.

Angled Gray Lines on Blank Labels		
Issue	**Possible Cause**	**Recommended Solution**
Fine, angular gray lines on blank labels	Wrinkled ribbon.	See wrinkled ribbon causes and solutions in Ribbon Issues on page 49.
Loss of Registration		
Issue	**Possible Cause**	**Recommended Solution**
Misregistration/skips labels	The printer is not calibrated.	Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.
	Improper label format.	Check your label format, and correct it as necessary.
Misregistration and misprint of one to three labels	The platen roller is dirty.	Clean the printhead and platen roller.
	Media does not meet specifications.	Use media that meets specifications. Refer to Media Specifications on page 67.
Vertical drift in top-of-form position	The printer is out of calibration.	Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.
	The platen roller is dirty.	Clean the printhead and platen roller.
Horizontal movement in placement of the label image.	The previous labels were torn off incorrectly.	Pull down and to the left when tearing off labels so that the tear-off bar assists in tearing through the label backing. Pulling up or down and to the right can shift the media sideways.

Ribbon Issues

For videos of some common procedures, go to http://www.zebra.com/zt400-info.

Broken Ribbon		
Issue	**Possible Cause**	**Recommended Solution**
Broken or melted ribbon	Darkness setting too high.	**1.** Reduce the darkness setting. Refer to the *User Guide* for information about changing the darkness setting. **2.** Clean the printhead thoroughly.
	The ribbon is coated on the wrong side and cannot be used in this printer.	Replace the ribbon with one coated on the correct side. Refer to the *User Guide* for information about determining the coated side of ribbon.
Wrinkled Ribbon		
Issue	**Possible Cause**	**Recommended Solution**
Wrinkled ribbon	Ribbon was loaded incorrectly.	Load the ribbon correctly. Refer to the *User Guide* for instructions for loading ribbon and media.
	Incorrect burn temperature.	**1.** Print a test label. **2.** If necessary, manually adjust the darkness or print speed settings. • Set the print darkness to the lowest setting that provides good print quality. If you set the darkness too high, the label image may print unclearly, barcodes may not scan correctly, the ribbon may burn through, or the printhead may wear prematurely. • Slower print speeds typically yield better print quality. Access the darkness and print speed settings from the Home screen by touching ***Menu > Print > Print Quality***.
	Incorrect or uneven printhead pressure.	Set the printhead pressure to the minimum needed for good print quality. See Printhead Pressure Adjustment Dials on page 20.
	Media not feeding properly; “walking” from side to side.	Make sure that media is snug by adjusting the media guide.
	The printhead or platen roller may be installed incorrectly.	Check that the printhead and platen roller are installed correctly. Refer to the *User Guide* for instructions.

Ribbon Detection Issues		
Issue	**Possible Cause**	**Recommended Solution**
The printer does not detect when the ribbon runs out.	The printer may have been calibrated without ribbon or without the ribbon loaded properly.	**1.** Make sure that ribbon is loaded correctly so that it can be detected by the ribbon sensor. Under the printhead, the ribbon should track all the way back, near the printer's firewall. Refer to the *User Guide* for instructions for loading ribbon. **2.** Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.
In thermal transfer mode, the printer did not detect the ribbon even though it is loaded correctly.		
The printer indicates that ribbon is out, even though ribbon is loaded correctly.	The printer was not calibrated for the label and ribbon being used.	Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.

RFID Issues

Printer Stops at RFID Inlay		
Issue	**Possible Cause**	**Recommended Solution**
The printer stops at the RFID inlay.	The printer calibrated the label length only to the RFID inlay instead of to the interlabel gap.	**1.** Tap the Advanced icon and then select FEED for the Power Up and Head Close actions. **2.** Manually calibrate the printer (see Calibrate the Ribbon and Media Sensors on page 19).
Voided Labels		
Issue	**Possible Cause**	**Recommended Solution**
The printer voids every label.	The printer is not calibrated for the media being used.	Manually calibrate the printer (see Calibrate the Ribbon and Media Sensors on page 19).
	You are using an RFID label with a tag type that is not supported by your printer.	These printers support only Gen 2 RFID labels. For more information, refer to the **RFID Programming Guide 3,** or contact an authorized Zebra RFID reseller.
	The printer is unable to communicate with the RFID reader.	**1.** Turn off (**O**) the printer. **2.** Wait 10 seconds. **3.** Turn on (**I**) the printer. **4.** If the problem persists, you may have a bad RFID reader or a loose connection between the RFID reader and the printer. Contact Technical Support or an authorized Zebra RFID service technician for assistance.
	Radio frequency (RF) interference from another RF source.	Do one or more of the following as necessary: • Move the printer away from fixed RFID readers or other RF sources. • Make sure that the media door is closed at all times during RFID programming.
	The settings are incorrect in your label designer software.	The software settings override the printer settings. Make sure that the software and printer settings match.
	You are using an incorrect programming position, particularly if the tags being used are within printer specifications.	Do one or more of the following as necessary: • Check the RFID programming position or the program position setting in your label designer software. If the position is incorrect, change the setting. • Restore the RFID programming position back to the default value. For more information, refer to the **RFID Programming Guide 3.** For transponder placement details, go to http://www.zebra.com/transponders.
	You are sending RFID ZPL or SGD commands that are incorrect.	Check your label formats. For more information, refer to the **RFID Programming Guide 3**.

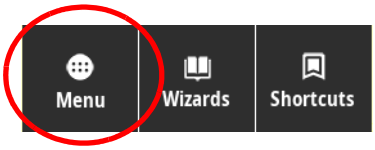
Voided Labels (Continued)		
Issue	**Possible Cause**	**Recommended Solution**
Low yields. Too many RFID tags per roll are voided.	The RFID labels are not within specifications for the printer, which means that the transponder is not in an area that can be programmed consistently.	Make sure that the labels meet transponder placement specifications for your printer. See http://www.zebra.com/transponders for transponder placement information. For more information, refer to the **RFID Programming Guide 3,** or contact an authorized Zebra RFID reseller.
	Incorrect read and write power levels.	Change the RFID read and write power levels. For instructions, refer to the **RFID Programming Guide 3**.
	Radio frequency (RF) interference from another RF source.	Do one or more of the following as necessary: • Move the printer away from fixed RFID readers. • Make sure that the media door is closed at all times during RFID programming.
	The printer is using outdated printer firmware and reader firmware versions.	Go to http://www.zebra.com/firmware for updated firmware.

Other RFID Issues		
Issue	**Possible Cause**	**Recommended Solution**
RFID parameters do not appear in Setup mode, and RFID information does not appear on the printer configuration label. The printer does not void RFID labels that are not programmed correctly.	The printer was powered off (**O**) and then back on (**I**) too quickly for the RFID reader to initialize properly.	Wait at least 10 seconds after turning the printer power off before turning it back on. **1.** Turn off (**O**) the printer. **2.** Wait 10 seconds. **3.** Turn on (**I**) the printer. **4.** Check for the RFID parameters in Setup mode or for RFID information on a new configuration label.
	An incorrect version of printer or reader firmware was loaded on the printer.	**1.** Verify that the correct firmware version is loaded on your printer. For more information, refer to the **RFID Programming Guide 3**. **2.** Download the correct printer or reader firmware if necessary. **3.** If the problem persists, contact Technical Support.
	The printer is unable to communicate with the RFID subsystem.	**1.** Turn off (**O**) the printer. **2.** Wait 10 seconds. **3.** Turn on (**I**) the printer. **4.** If the problem persists, you may have a bad RFID reader or a loose connection between the RFID reader and the printer. Contact Technical Support or an authorized service technician for assistance.
The DATA light flashes indefinitely after you attempt to download printer or reader firmware.	The download was not successful. For best results, cycle power on the printer before downloading any firmware.	**1.** Turn off (**O**) the printer. **2.** Wait 10 seconds. **3.** Turn on (**I**) the printer. **4.** Attempt to download the firmware again. **5.** If the problem persists, contact Technical Support.

Communications Issues

Label Formats Not Recognized		
Issue	**Possible Cause**	**Recommended Solution**
A label format was sent to the printer but was not recognized. The DATA light does not flash.	The communication parameters are incorrect.	Check the printer driver or software communications settings (if applicable) for your connection. You may wish to reinstall the printer driver.
A label format was sent to the printer but was not recognized. The DATA light flashes but no printing occurs.	The prefix and delimiter characters set in the printer do not match the ones in the label format.	**1.** Verify the prefix and delimiter characters.
	Incorrect data is being sent to the printer.	Check the communication settings on the computer. Ensure that they match the printer settings.
		If the problem continues, check the label format.
Labels Stop Printing Correctly		
Issue	**Possible Cause**	**Recommended Solution**
A label format was sent to the printer. Several labels print, then the printer skips, misplaces, misses, or distorts the image on the label.	The serial communication settings are incorrect.	Ensure that the flow control settings match.
		Check the communication cable length. See the *User Guide* for requirements.
		Check the printer driver or software communications settings (if applicable).

Miscellaneous Issues

Issues with the Display		
Issue	**Possible Cause**	**Recommended Solution**
The control panel display shows a language that I cannot read	The language parameter was changed through the control panel or a firmware command.	1. On the Home screen, touch **Menu**, which is the icon on the bottom-left.  2. Touch the top selection on the screen. 3. Scroll through the language selections under this menu option. The selections for this parameter are displayed in the actual languages to make it easier for you to find one that you are able to read. 4. Touch the language that you want to display to select it. 5. Touch the Home icon to return to the Home screen.
The display is missing characters or parts of characters	The display may need replacing.	Replace the display.
The USB Host Port Is Not Acknowledging a USB Device		
Issue	**Possible Cause**	**Recommended Solution**
The printer is not acknowledging a USB device or is not reading the files on a USB device that is plugged into the USB host port.	The printer currently supports USB drives only up to 1 TB in size.	Use a USB drive that is 1 TB or smaller.
	The USB device may require its own external power.	If your USB device requires external power, make sure that it is plugged into a working power supply.
Printer Parameters Are Not Set As Expected		
Issue	**Possible Cause**	**Recommended Solution**
Changes in parameter settings did not take effect. OR Some parameters changed unexpectedly.	A firmware setting or command prevented the ability to change the parameter.	Check your label formats or the settings of the software that you use to send formats to the printer. If necessary, refer to the *Programming Guide for ZPL, ZBI, Set-Get-Do, Mirror, and WML* or call a service technician. A copy of the manual is available at http://www.zebra.com/manuals.
	A command in a label format changed the parameter back to the previous setting.	
	If the problem persists, there may be a problem with the main logic board.	Replace the main logic board. Refer to the **User Guide**.

IP Address Changing		
Issue	**Possible Cause**	**Recommended Solution**
My printer reassigns a new IP address to the print server after the printer has been off for a while.	The settings for your network are causing the network to reassign a new IP address.	If the printer changing IP addresses causes issues for you, follow these steps to assign it a static IP address: 1. Find out what values need to be assigned to the IP address, subnet mask, and gateway for your print server (wired, wireless, or both). 2. Change the appropriate IP protocol value to PERMANENT. 3. Change the values for the IP address, subnet mask, and gateway for the appropriate print server to what you want them to remain. 4. Reset the network by touching **Menu > Connections > Networks > Reset Network** and then touching the check mark to save the changes.
Cannot Connect through Wired or Wireless Connections		
Issue	**Possible Cause**	**Recommended Solution**
I manually entered a wireless IP address, subnet, and gateway on my printer, but it won't connect to my wired or wireless network.	The printer's network must be reset after values are changed.	Reset the network by touching **Menu > Connections > Networks > Reset Network** and then touching the check mark to save the changes.
	An ESSID value has not been specified.	1. For a wireless connection, specify the ESSID value that matches the value used by your wireless router using the following Set/Get/Do command: `! U1 setvar "wlan.essid" "value"` where `"value"` is the ESSID (sometimes called a network SSID) for your router. You can look on the back of your router for a sticker with the router's default information. If the information has been changed from the default, check with your network administrator for the ESSID value to use. 2. If the printer still does not connect, reset the network by touching **Menu > Connections > Networks > Reset Network** and then touching the check mark to save the changes, and then power cycle the printer.
	The ESSID or other value was not specified correctly.	1. Print a network configuration label and verify that your values are correct. 2. Make corrections as necessary. 3. Reset the network by touching **Menu > Connections > Networks > Reset Network** and then touching the check mark to save the changes.

Calibration Issues		
Issue	**Possible Cause**	**Recommended Solution**
Non-continuous labels are being treated as continuous labels.	The printer was not calibrated for the media being used.	Calibrate the printer. See Calibrate the Ribbon and Media Sensors on page 19.
	The printer is configured for continuous media.	Set the printer for the correct media type (gap/notch, continuous, or mark). Refer to the **User Guide** for information about changing the media type.
Printer Locks Up		
Issue	**Possible Cause**	**Recommended Solution**
All indicator lights are on, nothing is on the display, and the printer locks up.	Internal electronic or firmware failure.	Flash the printer firmware. Refer to the **User Guide** for information about flashing the printer firmware.
The printer locks up while booting up.	Main logic board failure.	Replace the main logic board.

Specifications

This section lists general printer specifications, printing specifications, ribbon specifications, and media specifications.

General Specifications

		ZT411	ZT421
Height		12.8 in.(325 mm)	12.8 in. (325 mm)
Width		10.7 in. (272 mm)	13.2 in. (335 mm)
Depth		19.7 in. (500 mm)	19.7 in. (500 mm)
Weight		36 lb (16 kg)	40 lb (18 kg)
Temperature	Operating	Thermal Transfer: 40° to 105°F (5° to 40°C) Direct Thermal: 32° to 105°F (0° to 40°C)	
	Storage	–40° to 140°F (–40° to 60°C)	
Relative Humidity	Operating	20% to 85%, non-condensing	
	Storage	5% to 85%, non-condensing	
Memory		1 Gigabyte DRAM (32 MB user available) 2 Gigabyte Flash (512 MB user available on-board Flash)	

Power Specifications

The following are typical values. Actual values vary from unit to unit and are affected by such things as the options installed and the printer settings.

	ZT411	ZT421
Electrical	100–240 VAC, 50-60 Hz	
Power consumption	120 VAC, 60 Hz	
Inrush Current	< 35A peak 8A RMS (half cycle)	< 40A peak 8A RMS (half cycle)
Energy Star Off Power (W)	0.08	0.08
Energy Star Sleep Power (W)	4.14	4.14
Print Power* (W)	98	215
Print Power* (VA)	108	261
Power consumption	230 VAC, 50 Hz	
Inrush Current	< 80A peak 12A RMS (half cycle)	< 90A peak 15A RMS (half cycle)
Energy Star Off Power (W)	0.22	0.24
Energy Star Sleep Power (W)	4.26	4.26
Print Power* (W)	97	209
Print Power* (VA)	127	261

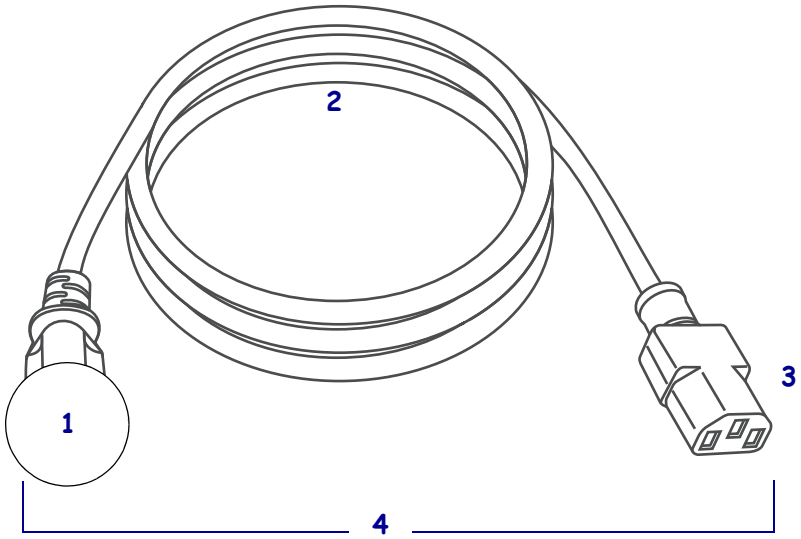
*** Printing Pause self test labels at 6 ips with 4x6-in. or 6.5x4 in. labels, darkness 10, and direct thermal media.**

Power Cord Specifications

Depending on how your printer was ordered, a power cord may or may not be included. If one is not included or if the one included is not suitable for your requirements, see Figure 9 for specifications.

CAUTION—PRODUCT DAMAGE: For personnel and equipment safety, always use an approved three-conductor power cord specific to the region or country intended for installation. This cord must use an IEC 320 female connector and the appropriate region-specific, three-conductor grounded plug configuration.

Figure 9 Power Cord Specifications

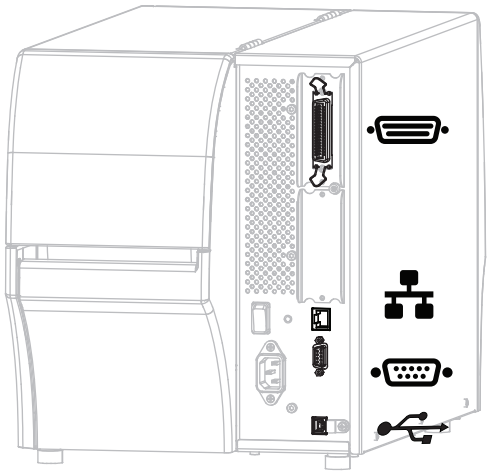


1	AC power plug for your country—This should bear the certification mark of at least one of the known international safety organizations (Figure 10). The chassis ground (earth) **must** be connected to ensure safety and reduce electromagnetic interference.
2	3-conductor HAR cable or other cable approved for your country.
3	IEC 320 connector—This should bear the certification mark of at least one of the known international safety organizations (Figure 10).
4	Length ≤ 9.8 ft. (3 m). Rating 10 Amp, 250 VAC.

Figure 10 International Safety Organization Certification Symbols

Communication Interface Specifications

Figure 11 Location of Communication Interfaces



	Parallel port
	Internal wired Ethernet print server
	Serial port
	USB port

NOTE: You must supply all data cables for your application. The use of cable strain relief clamps is recommended.

Ethernet cables do not require shielding, but all other data cables must be fully shielded and fitted with metal or metalized connector shells. Unshielded data cables may increase radiated emissions above the regulated limits.

To minimize electrical noise pickup in the cable:

- Keep data cables as short as possible.
- Do not bundle the data cables tightly with the power cords.
- Do not tie the data cables to power wire conduits.

Standard Connections

Bluetooth® Version 4.1

Limitations and Requirements Many mobile devices can communicate with the printer within a 30-foot radius of the printer.

Connections and Configuration Refer to the ***Zebra Bluetooth User Guide*** for specific instructions for configuring your printer to use a Bluetooth interface. A copy of this manual is available at http://www.zebra.com/manuals.

Two USB Host Ports

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: ZTxxxxx – **Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter **P**, your printer DOES NOT include these features.

Limitations and Requirements You can only plug one device into each of the printer's two USB host ports. You cannot use a third device by plugging it into a USB port on one of the devices, nor can you use an adapter to split a USB host port on the printer to accept more than one device at a time.

Connections and Configuration No additional configuration is necessary.

Zebra PrintTouch/Near Field Communication (NFC)‡

Limitations and Requirements NFC communication must be initiated by touching your device to the appropriate location on the printer.

Connections and Configuration Some devices may not support NFC communication with the printer until you alter their settings.

USB 2.0 Data Interface

Limitations and Requirements **a.**Maximum cable length of 16.4 ft (5 m).

Connections and Configuration No additional configuration is necessary.

Wired 10/100 Internal Ethernet Print Server

Limitations and Requirements

- The printer must be configured to use your LAN.
- A second wired print server can be installed in the bottom option slot.

Connections and Configuration Refer to the ***ZebraNet Wired and Wireless Print Servers User Guide*** for configuration instructions. A copy of this manual is available at http://www.zebra.com/manuals.

RS-232/C Serial Data Interface

- 2400 to 115000 baud
- parity, bits/character
- 7 or 8 data bit
- XON-XOFF, RTS/CTS, or DTR/DSR handshake protocol required
- 750mA at 5 V from pins 1 and 9

Limitations and Requirements **a.**You must use a null-modem cable to connect to the printer or a null-modem adapter if using a standard modem cable.

- Maximum cable length of 50 ft (15.24 m).
- You may need to change printer parameters to match the host computer.

Connections and Configuration The baud rate, number of data and stop bits, the parity, and the XON/XOFF or DTR control must match those of the host computer.

Optional Connections

Wireless print server

See Wireless Specifications on page 65 for more details.

Limitations and Requirements

- Can print to the printer from any computer on your Wireless Local Area Network (WLAN).
- Can communicate with the printer through the printer's web pages.
- The printer must be configured to use your WLAN.
- Can be installed only in the top option slot.

Configuration Refer to the ***ZebraNet Wired and Wireless Print Servers User Guide*** for configuration instructions. A copy of this manual is available at http://www.zebra.com/manuals.

IEEE 1284 Bidirectional Parallel data interface

Limitations and Requirements

- Maximum cable length of 10 ft (3 m).
- Recommended cable length of 6 ft (1.83 m).
- No printer parameter changes required to match the host computer.
- Can be installed in either the top or bottom option slot.
- An IEEE 1284 cable is required.

Connections and Configuration No additional configuration is necessary.

Applicator interface

with DB15F connector

External 10/100 Print Server

Requires the parallel data interface option

Wireless Specifications

Antenna Information

- Type = chip antenna gain 1.69dBi
- Type = Omni directional antenna gain 3dBi @ 2.4GHz; 5dBi @ 5GHz
- Type = PCBA antenna gain = –30dBi @ 900MHz

WLAN Specifications

802.11 b

- 2.4 GHz
- DSSS (DBPSK, DQPSK, and CCK)
- RF power 17.77 dBm (EIRP)

802.11 g

- 2.4 GHz
- OFDM

(16-QAM and 64-QAM with BPSK, and QPSK)

- RF power 18.61 dBm (EIRP)

802.11 n

- 2.4 GHz
- OFDM

(16-QAM and 64-QAM with BPSK, and QPSK)

- RF power 18.62 dBm (EIRP)

802.11 a/n

- 5.15-5.25 GHz, 5.25-5.35 GHz, 5.47-5.725 GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 17.89 dBm (EIRP)

802.11 ac

- 5.15-5.25 GHz, 5.25-5.35 GHz, 5.47-5.725 GHz
- OFDM (16-QAM and 64-QAM with BPSK and QPSK)
- RF power 13.39 dBm (EIRP)

Bluetooth 4.1 + Low Energy (LE)

- 2.4 GHz
- FHSS (BDR/EDR), GFSK (Bluetooth Low Energy)
- RF power 9.22 dBm (EIRP)

Bluetooth Classic + Low Energy (LE)

- 2.4 GHz
- FHSS (BDR/EDR), DSSS (Bluetooth LE)
- RF power 9.22 dBm (EIRP)
- FHSS (BDR/EDR), DSSS (Bluetooth LE)
- RF power 9.22 dBm (EIRP)

RFID M6e Radio Module

- 865-928 MHz
- FHSS
- RF power 27.893 dBm

Printing Specifications

		ZT411	ZT421
Print resolution		203 dpi (dots/in.)/8 dots/mm	203 dpi (dots/in.)/8 dots/mm
		300 dpi/12 dots/mm	300 dpi/12 dots/mm
		600 dpi/24 dots/mm	N/A
Maximum print width	203 dpi	4.09 in. (104 mm)	6.6 in. (168 mm)
	300 dpi	4.09 in. (104 mm)	6.6 in. (168 mm)
	600 dpi	4.09 in. (104 mm)	N/A
Programmable constant print speeds	203 dpi	2.4 in. to 14 in. (61 mm to 356 mm) per second in 1-in. (25.4 mm) increments	2.4 in. to 12 in. (61 mm to 305 mm) per second in 1-in. (25.4 mm) increments
	300 dpi	2.4 in. to 10 in. (61 mm to 254 mm) per second in 1-in. (25.4 mm) increments	2.4 in. to 10 in. (61 mm to 203 mm) per second in 1-in. (25.4 mm) increments
	600 dpi	1.5 in. to 4 in. (38 mm to 102 mm) per second in 1-in. (25.4 mm) increments	N/A
Dot size (nominal) (width x length)	203 dpi	0.0049 in. x 0.0049 in. (0.125 mm x 0.125 mm)	0.0049 in. x 0.0049 in. (0.125 mm x 0.125 mm)
	300 dpi	0.0033 in. x 0.0039 in. (0.084 mm x 0.099 mm)	0.0033 in. x 0.0039 in. (0.084 mm x 0.099 mm)
	600 dpi	0.0016 in. x 0.0016 in. (0.042 mm x 0.042 mm)	N/A
First dot location (measured from the inside edge of the media)	203 dpi	0.14 in. ±0.05 in. (3.5 mm ±1.25 mm)	0.10 in. ±0.035 in. (2.5 mm ±0.9mm)
	300 dpi	0.08 in. ±0.05 in. (2.1 mm ±1.25 mm)	0.10 in. ±0.035 in. (2.5 mm ±0.9mm)
	600 dpi	0.08 in. ±0.05 in. (2.1 mm ±1.25 mm)	N/A
Barcode modulus (X) dimension			
Picket fence (nonrotated) orientation	203 dpi	4.9 mil to 49 mil	5 mil to 50 mil
	300 dpi	3.3 mil to 33 mil	3.3 mil to 33 mil
	600 dpi	1.6 mil to 16 mil	N/A
Ladder (rotated) orientation	203 dpi	4.9 mil to 49 mil	5 mil to 50 mil
	300 dpi	3.9 mil to 39 mil	3.9 mil to 39 mil
	600 dpi	1.6 mil to 16 mil	N/A
Vertical registration	all print speeds and dpi	±1.0 mm	±1.0 mm

Media Specifications

			ZT411	ZT421
Label length	Minimum	Non-RFID		
		Tear-off	0.5 in. (12.7 mm)	0.5 in. (12.7 mm)
		Peel-off	0.5 in (12.7 mm)	0.5 in (12.7 mm)
		Rewind	0.5 in. (12.7 mm)	0.5 in. (12.7 mm)
		Cutter	1.0 in. (25.4 mm)	1.0 in. (25.4 mm)
		RFID	Varies for each transponder type	
	Maximum	200 or 300 dpi	39 in. (991 mm)	39 in. (991 mm)
		600 dpi	20 in. (508 mm)	N/A
Maximum continuous media print length		200 dpi	157 in. (3988 mm)	102 in. (2590 mm)
		300 dpi	73 in. (1854 mm)	45 in. (1143 mm)
		600 dpi	39 in. (991 mm)	N/A
Label width	Minimum	Non-RFID	1.0 in. (25.4 mm)	2 in. (51 mm)
		RFID	Varies for each transponder type	
	Maximum	Tear/Cutter	4.5 in. (114 mm)	7.0 in. (178 mm)
		Peel/Rewind	4.25 in. (108 mm)	6.75 in. (171 mm)
Total thickness (includes liner, if any)		Minimum	0.0023 in. (0.058 mm)	0.0023 in. (0.058 mm)
		Maximum	0.010 in. (0.25 mm)	
Maximum roll outside diameter			8 in. (203 mm) on a 3-in. (76-mm) inside diameter core	
Inter-label gap		Minimum	0.079 in. (2 mm)	
		Preferred	0.118 in. (3 mm)	
		Maximum	0.157 in. (4 mm)	
Ticket/tag notch size (width x length)			0.25 in. x 0.12 in. (6 mm x 3 mm)	
Hole diameter			0.125 in. (3.18 mm)	
Notch or hole position (centered from inner media edge)		Minimum	0.15 in. (3.8 mm)	
		Maximum	2.25 in. (57 mm)	3.5 in. (90 mm)
Density, in Optical Density Units (ODU) (black mark)			> 1.0 ODU	
Maximum media density			≤ 0.5 ODU	
Media sensor (fixed position)			7/16 in. (11 mm) from inside edge	

Ribbon Specifications

Standard printers use ribbon that is coated on the outside. An optional ribbon spindle is available to use ribbon that is coated on the inside. Contact your authorized Zebra reseller for ordering information.

	ZT411	ZT421
Ribbon width MINIMUM*	2 in.** (51 mm**)	2 in.** (51 mm**)
Ribbon width MAXIMUM	4.33 in. (110 mm)	6.85 in. (174 mm)
Ribbon length MAXIMUM	1476 ft (450 m)	
Ribbon core inside diameter	1 in. (25 mm)	
Ribbon roll outside diameter MAXIMUM	3.2 in. (81.3 mm)	

*** Zebra recommends using ribbon that is at least as wide as the media to protect the printhead from wear.**
**** Depending on your application, you may be able to use ribbon narrower than 2 in. (51 mm), as long as the ribbon is wider than the media being used. To use a narrower ribbon, test the ribbon's performance with your media to assure that you get the desired results.**

Print Mechanism Components

This section supplies you with the parts information and installation procedures for the print system.

Print Mechanism Components Parts and Drawings

Figure 12 Print Mechanism Components Overview

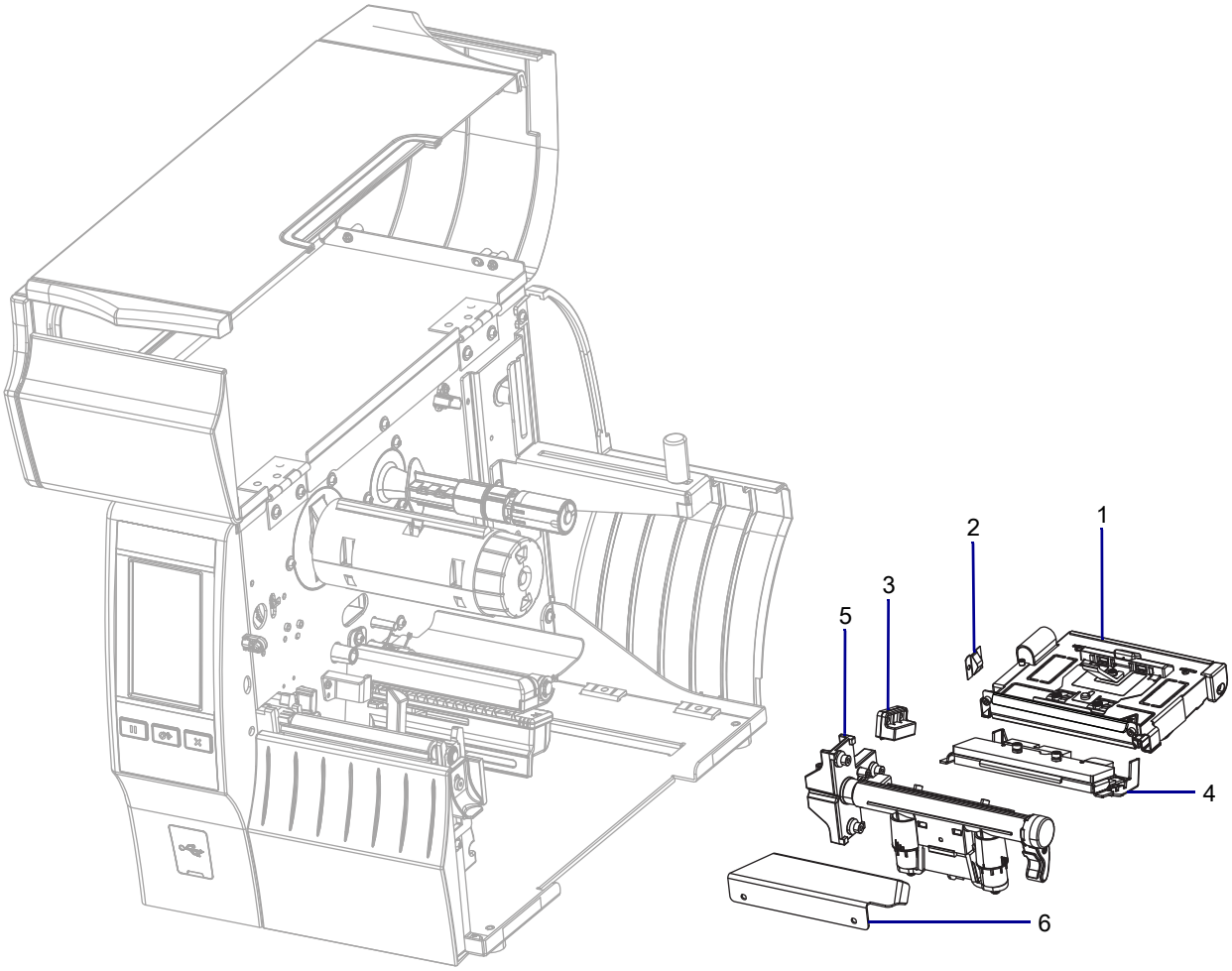


Table 4 Print Mechanism Components Kit List

Item	Part Number	Description
1	P1058930-016	ZT411 Print Mechanism Maintenance Kit
	P1058930-017	ZT421 Print Mechanism Maintenance Kit
2	P1058930-083	Ground Contact Maintenance Kit
3	P1058930-082	ZT411/ZT421 Printers Print Mechanism Magnet Maintenance Kit
4	P1058930-009	ZT411 Printhead Assembly Maintenance Kit, 203 dpi
	P1058930-010	ZT411 Printhead Assembly Maintenance Kit, 300 dpi
	P1058930-011	ZT411 Printhead Assembly Maintenance Kit, 600 dpi
	P1058930-012	ZT421 Printhead Assembly Maintenance Kit, 203 dpi
	P1058930-013	ZT421 Printhead Assembly Maintenance Kit, 300dpi
	P1105147-300	ZT411R On-Metal Printhead Solution Printhead Assembly Maintenance Kit, 203 dpi*
	P1105147-301	ZT411R On-Metal Printhead Solution Printhead Assembly Maintenance Kit, 300dpi*
5	P1058930-018	ZT411 Toggle Bar Maintenance Kit
	P1058930-019	ZT421 Toggle Bar Maintenance Kit
6	P1058930-047	ZT411 Media Shelf Maintenance Kit
	P1058930-048	ZT421 Media Shelf Maintenance Kit

* Only for use in ZT411 RFID Printer with the On-Metal Printing Solution.

Figure 13 Print Mechanism Component Kits Parts List

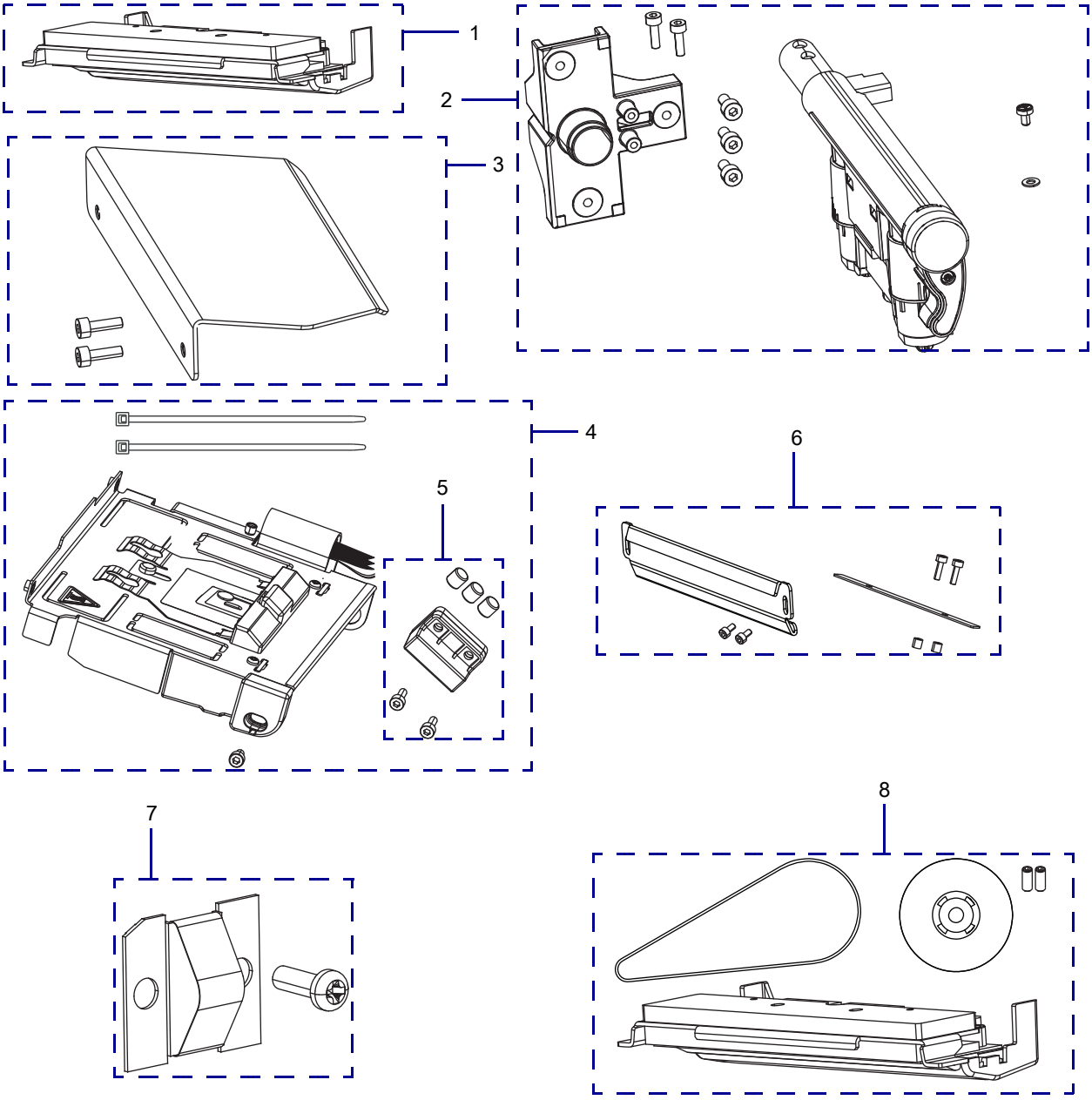


Table 5 Print Mechanism Component Kits Parts List

Item	Part Number	Description
1	P1058930-009	ZT411 Printhead Assembly Maintenance Kit, 203 dpi
	P1058930-010	ZT411 Printhead Assembly Maintenance Kit, 300 dpi
	P1058930-011	ZT411 Printhead Assembly Maintenance Kit, 600 dpi
	P1058930-012	ZT421 Printhead Assembly Maintenance Kit, 203 dpi
	P1058930-013	ZT421 Printhead Assembly Maintenance Kit, 300dpi
	P1105147-300	ZT411R On-Metal Printhead Solution Printhead Assembly Maintenance Kit, 203 dpi*
	P1105147-301	ZT411R On-Metal Printhead Solution Printhead Assembly Maintenance Kit, 300dpi*
2	P1058930-018	ZT411 Toggle Bar Maintenance Kit
	P1058930-019	ZT421 Toggle Bar Maintenance Kit
3	P1058930-047	ZT411 Media Shelf Maintenance Kit
	P1058930-048	ZT421 Media Shelf Maintenance Kit
4	P1058930-016	ZT411 Print Mechanism Maintenance Kit
	P1058930-017	ZT421 Print Mechanism Maintenance Kit
5	P1058930-082	ZT411/ZT421 Printers Print Mechanism Magnet Maintenance Kit
6	P1058930-094	ZT411 Ribbon Strip Plate and Antistatic Brush Kit
	P1058930-095	ZT421 Ribbon Strip Plate and Antistatic Brush Kit
7	P1058930-083	ZT411/ZT421 Printers Ground Contact Maintenance Kit
8	P1058930-022	ZT411 Printhead 203 or 600 dpi to 300 dpi Conversion Kit
	P1058930-023	ZT411 Printhead 300 or 600 dpi to 203 dpi Conversion Kit
	P1058930-024	ZT411 Printhead 203 or 300 dpi to 600 dpi Conversion Kit
	P1058930-025	ZT421 Printhead 203 to 300 dpi Conversion
	P1058930-026	ZT421 Printer 300 dpi to 203 dpi Conversion

* Only for use in ZT411 RFID Printer with the On-Metal Printing Solution.

ZT411/ZT421 Printers Ground Contact Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Ground Contact Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 14 Kit Contents

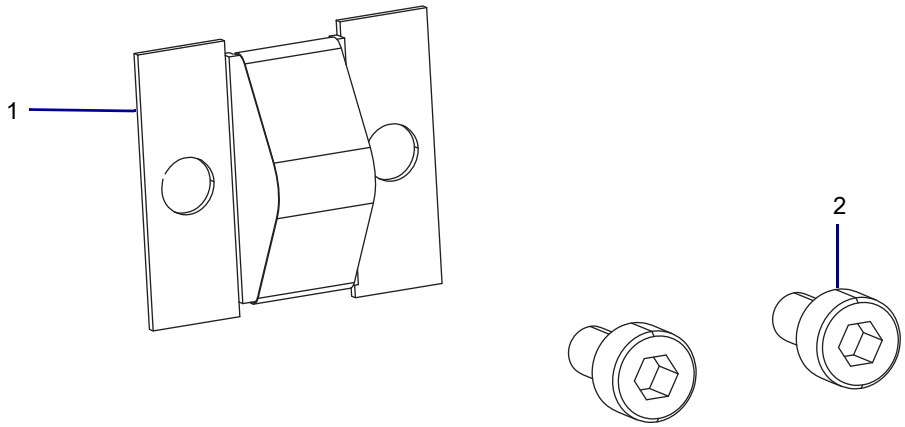


Table 6 Parts List

Item	Description	Qty
Ref	Ground Contact Maintenance Kit	
1	Ground Contact	1
2	Screw, M3 × 0.5 × 8	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

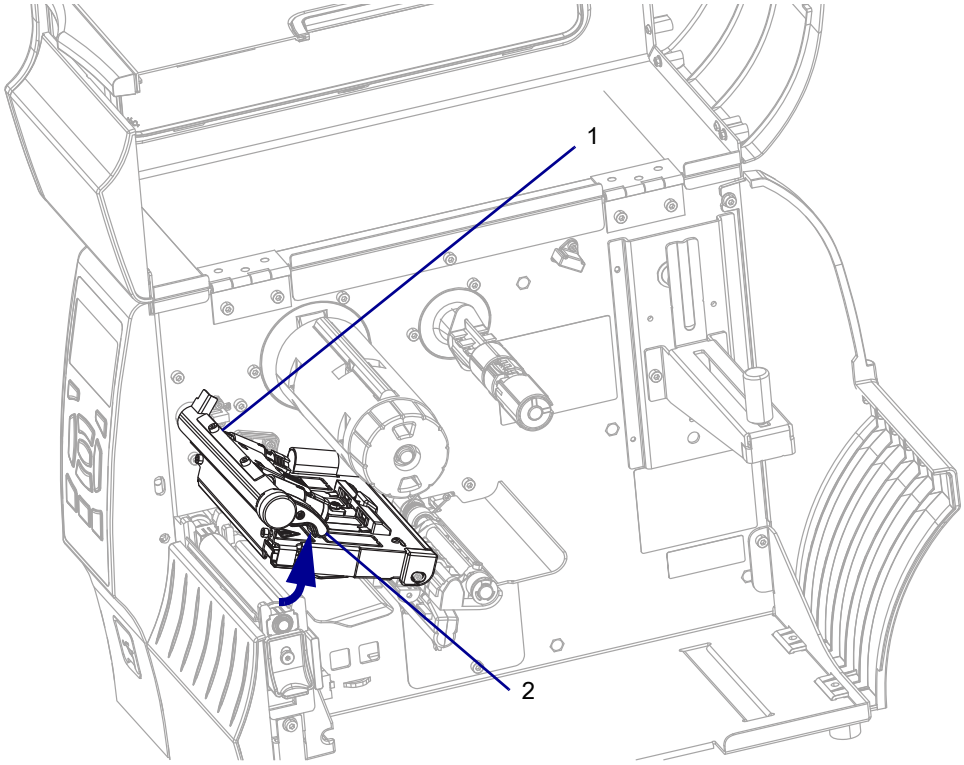
- Phillips Screwdriver Set
- Flat-blade Screwdriver Set
- Adhesive Cleaner

Replace the Ground Contact

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Disconnect the AC power cord and all data cables.
2. Open the media door.
3. See Figure 15. Raise the toggle bar and printhead.

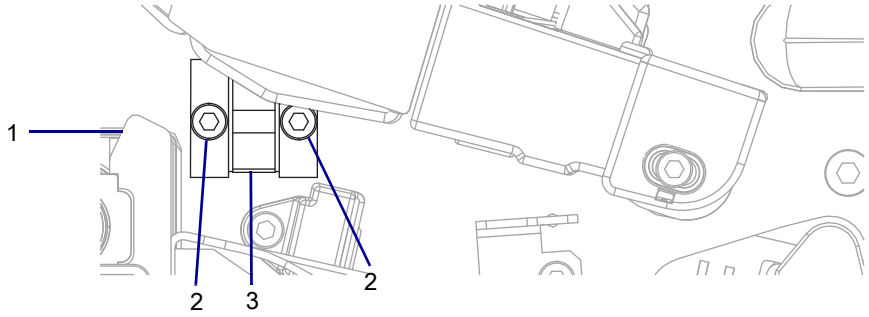
Figure 15 Riase the Toggle Bar (ZT410 Printer Shown)



1	Toggle bar
2	Toggle bar handle

4. See Figure 16. Remove the ground contact mounting screw.

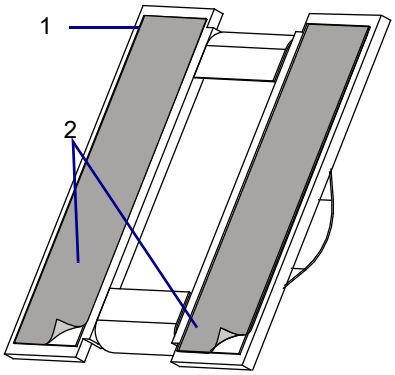
Figure 16 Remove the Ground Contact Mounting Screws



1	Platen housing
2	Ground contact mounting screws (2)
3	Ground contact

5. Peel the old ground contact from the main frame.
6. Using an adhesive cleaner, remove any residual adhesive from the main frame.
7. See Figure 17. Peel the double-sided tape backing off the new ground contact.

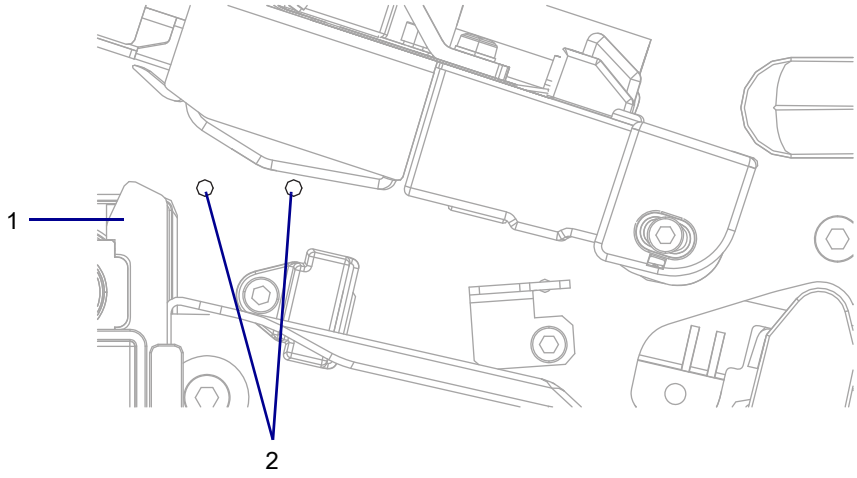
Figure 17 Ground Contact



1	Ground contact
2	Backing

8. See Figure 18.Align the ground contact holes with the mounting holes in the main frame.
9. See Figure 16 on page 76. Install the ground contact mounting screws.

Figure 18 Ground Contact Mounting Holes



1	Platen housing
2	Mounting holes (2)

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Print Mechanism Magnet Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Print Mechanism Magnet Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 19 Kit Contents

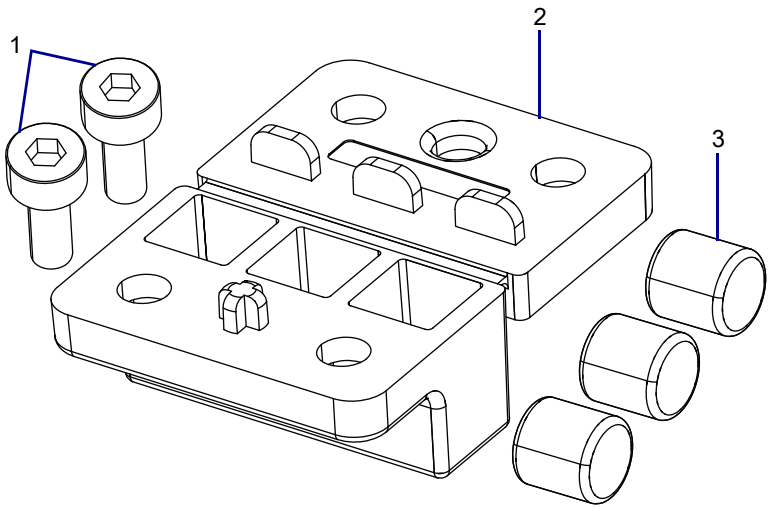


Table 7 Parts List

Item	Description	Qty
Ref	Print Mechanism Magnet Maintenance Kit	
1	Screw, M3 × 0.5 × 8	2
2	Magnet Holder	1
3	Magnet, 0.25 × 0.25	3

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

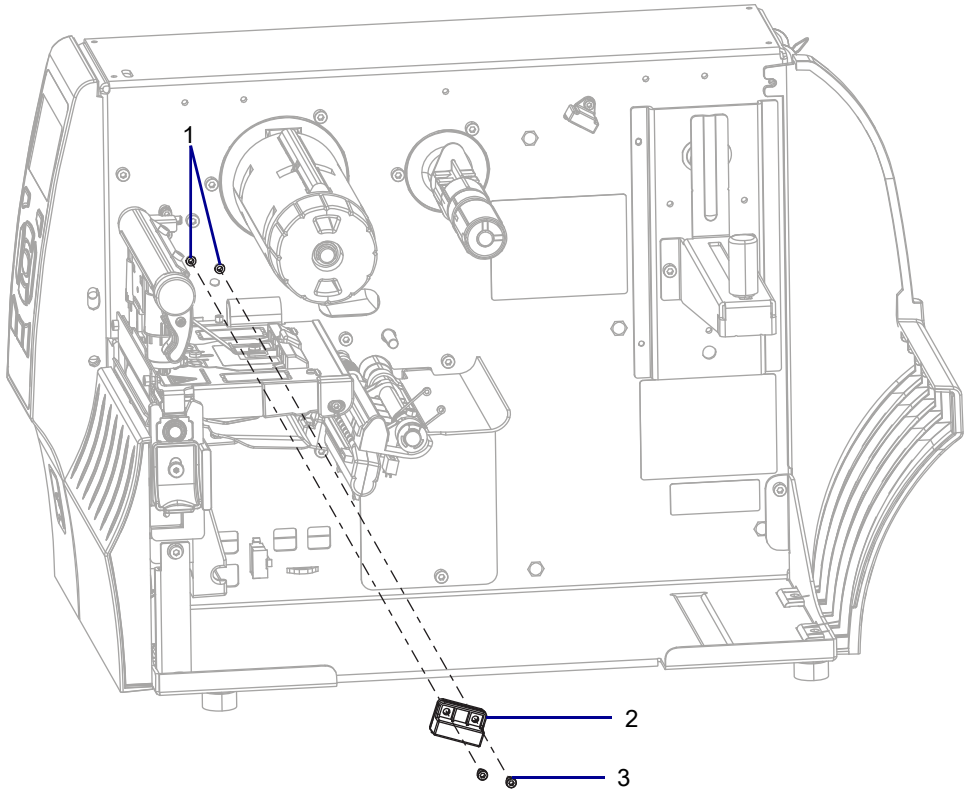
- Metric Hex Key Set

Remove the Old Magnet Holder

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media cover and remove the media and ribbon.
2. See Figure 20. Remove the old magnet holder by removing the two mounting screws.

Figure 20 Remove the Magnet Holder (ZT410 Printer Shown)



1	Magnet holder mounting holes
2	Magnet holder
3	Magnet holder mounting screws (2)

3. Pull the magnet holder out of the printer.

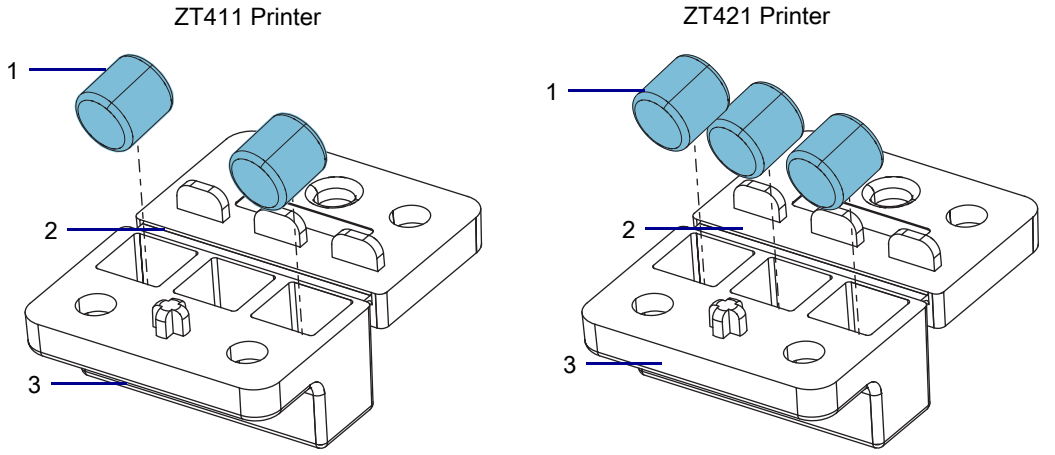
Install the Magnet Holder

The ZT411 uses two magnets and the ZT421 uses three magnets.

1. See Figure 21. Insert the two magnets in the ends of the magnet holder for the ZT411. Insert all three for the ZT421.

   If you put three magnets in for the ZT411 it will take much more force to close the print mechanism.

Figure 21 Insert the Magnets



1	Magnet (2 or 3)
2	Magnet holder slots (3)
3	Magnet holder

2. See Figure 20 on page 79. Fold the magnet holder together, and then align the holder with the mounting holes.
3. Install the two new mounting screws.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Printhead Assembly Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Printhead Assembly Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

Before proceeding, verify that your kit contains one or the other of the kits for your printer listed below.

Figure 22 Kit Contents

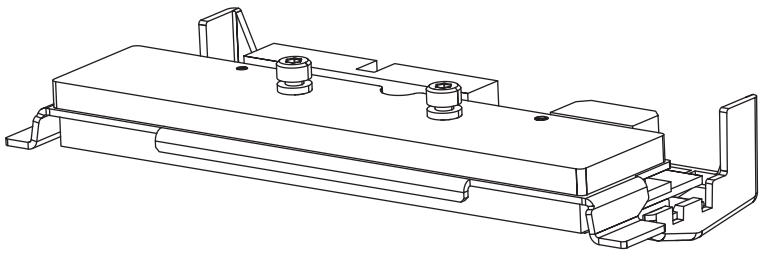


Table 8 Parts List

Item	Description	Qty
Ref	ZT411 Printhead Assembly Maintenance Kit, 203 dpi	1
	ZT411 Printhead Assembly Maintenance Kit, 300 dpi	
	ZT411 Printhead Assembly Maintenance Kit, 600 dpi	
	ZT421 Printhead Assembly Maintenance Kit, 203 dpi	
	ZT421 Printhead Assembly Maintenance Kit, 300 dpi	
	ZT411R On-Metal Printing Solution Printhead Assembly Maintenance Kit, 203 dpi*	

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

* Only for use in ZT411 RFID Printer with the On-Metal Printing Solution.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- 47362 Zebra Preventive Maintenance Kit*
- Antistatic Wriststrap and Mat
- Save-a-Printhead film**

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol. **Not for use on the ZT411 RFID Printer with the On-Metal Printing Solution.**

** Only for the ZT411 RFID Printer with the On-Metal Printing Solution.

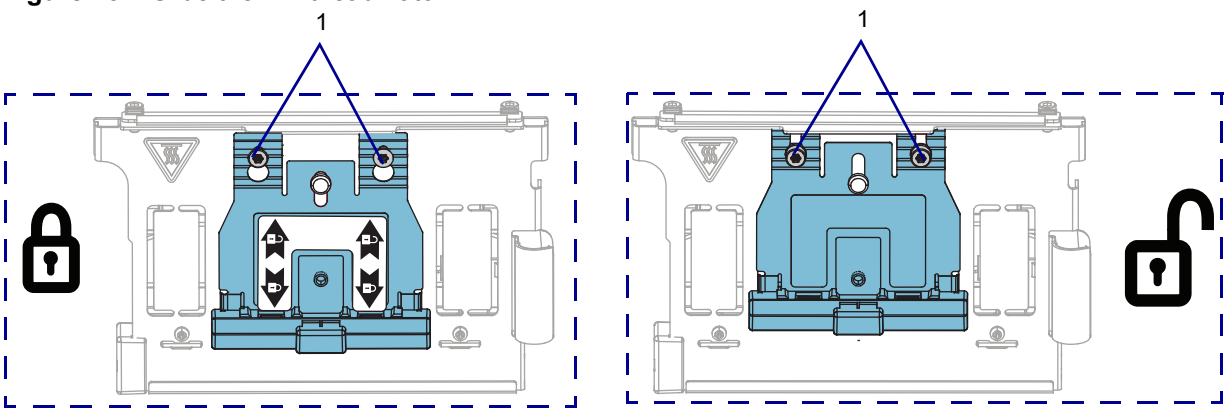
Remove the Old Printhead Assembly

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

CAUTION—HOT SURFACE: The printhead may be hot and could cause severe burns. Allow the printhead to cool. Remove the media and ribbon from the printer.

1. See Figure 23. Slide the printhead latch forward until the large holes are aligned with the two printhead locking posts.

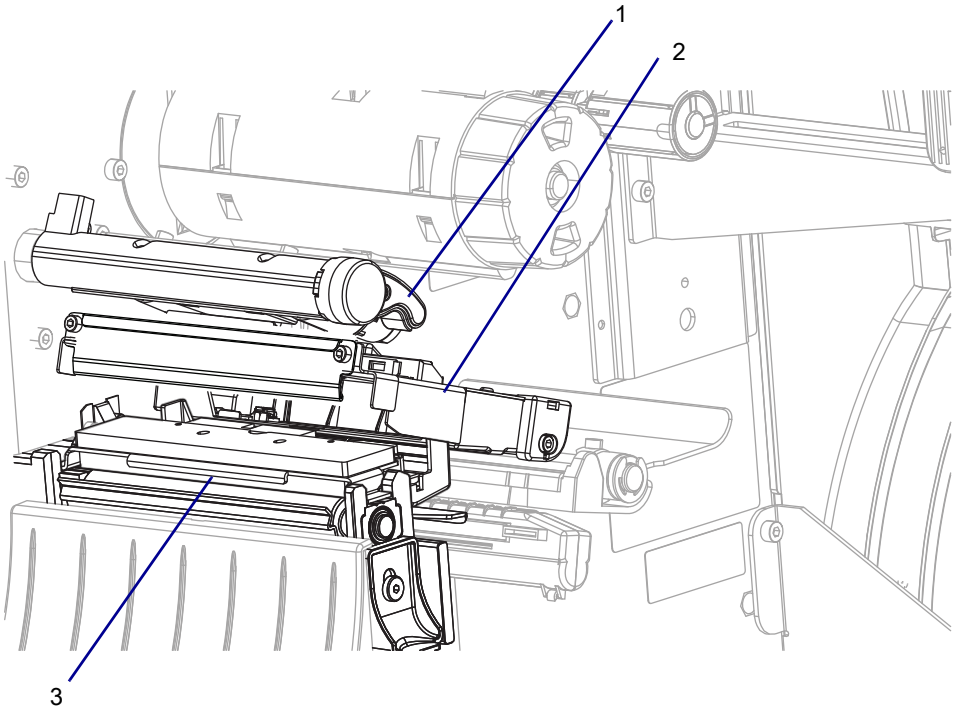
Figure 23 Slide the Printhead Latch



1	Printhead locking posts (2)

2. See Figure 24. Open the print mechanism.

Figure 24 Open the Print Mechanism



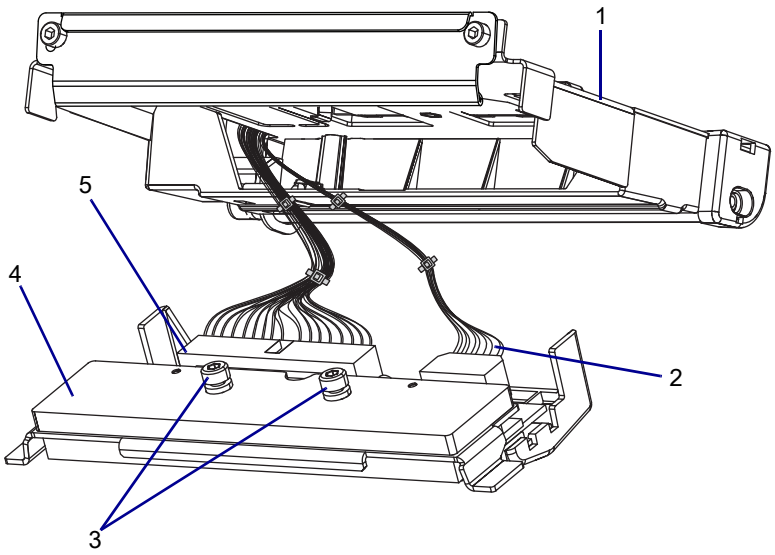
1	Toggle bar handle
2	Print mechanism assembly
3	Printhead assembly

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

3. Connect yourself to an antistatic device.

4. See Figure 25. Pull the printhead out of the upper print mechanism, and then disconnect the printhead power and data cables.

Figure 25 Disconnect the Printhead Cable



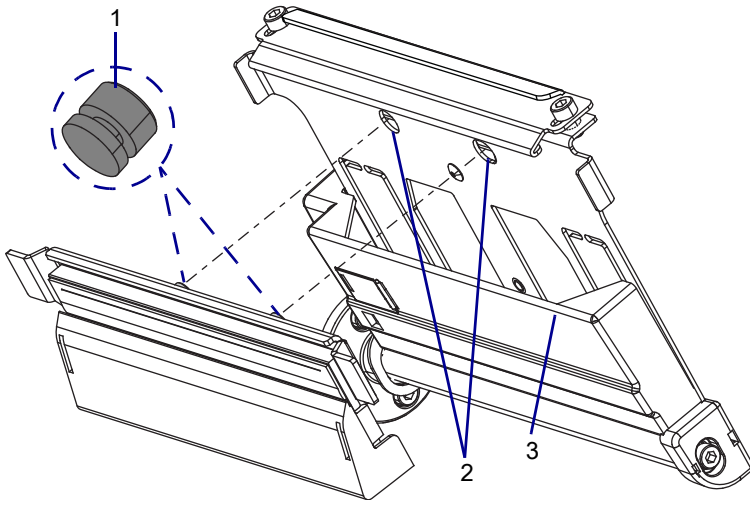
1	Upper print mechanism assembly
2	Printhead cable cover
3	Printhead locking posts (2)
4	Printhead assembly
5	Printhead data cable

5. Remove the printhead from the printer.

Install the New Printhead Assembly

1. See Figure 25 on page 84. Connect the printhead to the printhead power and data cables.
2. Carefully slide the printhead cable back into the printhead cable cover.
3. See Figure 26. Insert the printhead assembly locking posts into the printhead latch holes. Ensure the printhead assembly is making full contact with the upper print mechanism support bracket.

Figure 26 Install the Printhead



1	Locking posts (2)
2	Printhead latch holes (2)
3	Printhead cable cover

4. See Figure 23 on page 82. While holding the printhead in place, lock the printhead into the print mechanism by sliding the printhead latch toward the rear of the printer.

Clean the Printhead.

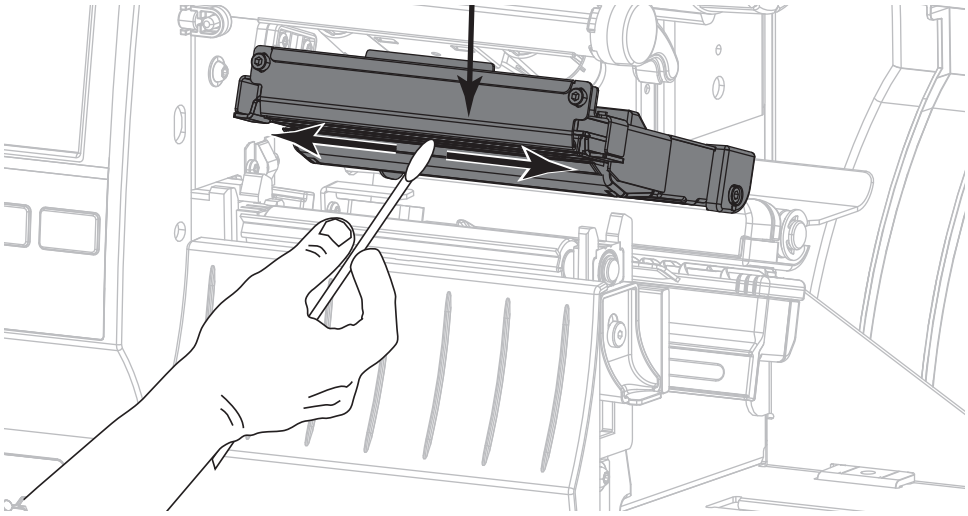
If you have a…	Then…
ZT411/ZT421 Printers	Go to on page 86.
ZT411R Printer with the On-Metal Printing Solution	Go to Clean the Printhead and Platen Roller on a ZT411R Printer with the On-Metal Printing Solution on page 88.

Clean the Printhead and Platen Roller on a ZT411/ZT421 Printers

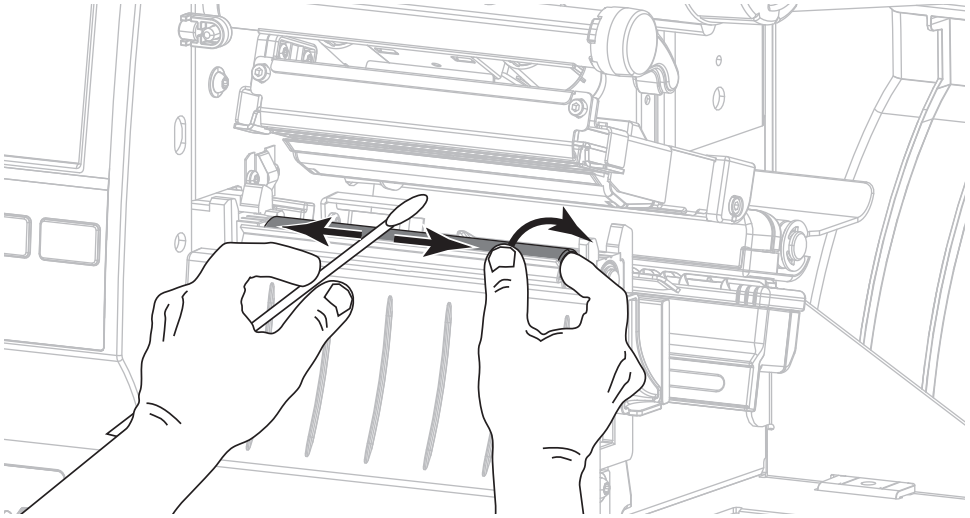
NOTE: For printers with a peel assembly, keep the peel assembly closed while cleaning the platen roller to reduce the risk of bending the tear-off/peel-off bar.

IMPORTANT: Do not use liquids to clean any part of the ZT411 RFID Printer with the On-Metal Printing Solution. Zebra is not responsible for damage caused by the use of cleaning fluids on that printer.

1. See Figure . Using the swab from a Zebra Preventive Maintenance Kit, wipe along the brown strip on the printhead assembly from end to end. In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol. Allow the solvent to evaporate.

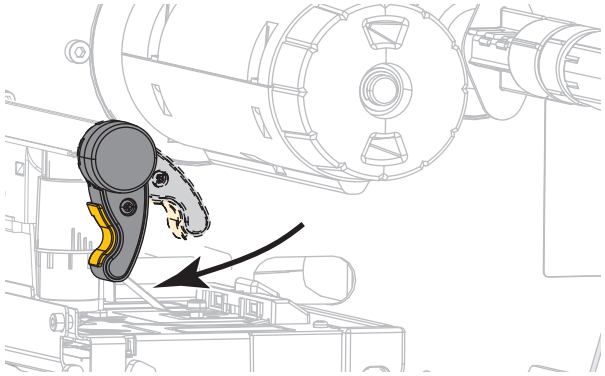


2. See Figure . While manually rotating the platen roller, clean it thoroughly with the swab. Allow the solvent to evaporate.



3. Reload the ribbon (if used) and the media.

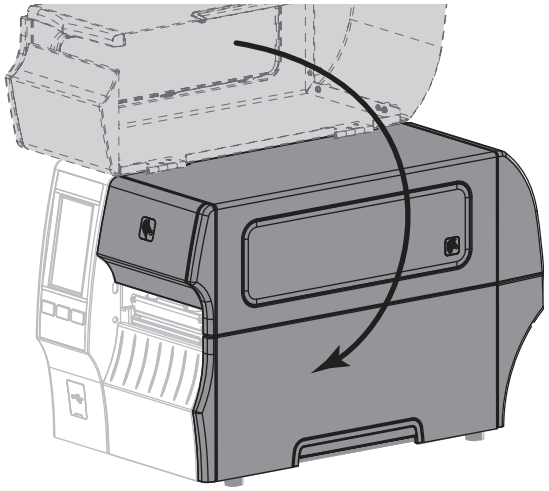
4. See Figure . Rotate the toggle bar handle downward until it locks the printhead in place.



5. See Figure 27. Close the media door.

   The printer is ready to operate.

Figure 27 Close Media Door



6. Press PAUSE to exit pause mode and enable printing.

   The printer may perform a label calibration or feed a label, depending on your settings.

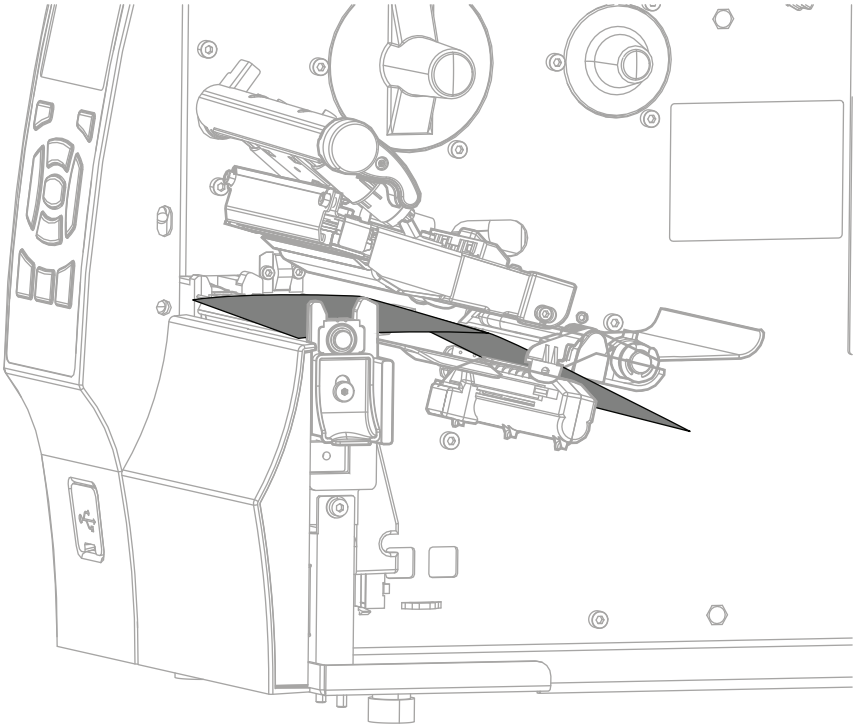
7. Go to Resume Printer Operation on page 89.

Clean the Printhead and Platen Roller on a ZT411R Printer with the On-Metal Printing Solution

IMPORTANT: Do not use liquids to clean any part of this printer, especially the printhead. Zebra is not responsible for damage caused by the use of cleaning fluids on this printer.

1. See Figure 28. Position the Save-a-Printhead film in the print path. Place the film's glossy side down and away from the printhead. (Keep the film's matte side up.)

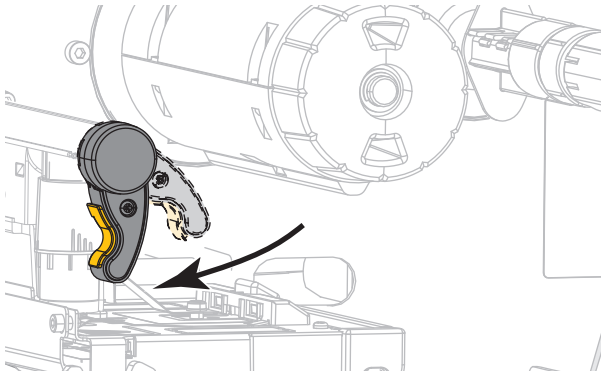
Figure 28 Position Save-a-Printhead Film (ZT410 Printer Shown)



2. Rotate the toggle bar handle downward until it locks the printhead in place over the cleaning film.
3. Slowly pull the full length of the film through the print mechanism.
4. Reload the ribbon (if used) and the media.

5. See Figure 29. Rotate the toggle bar handle downward until it locks the printhead in place.

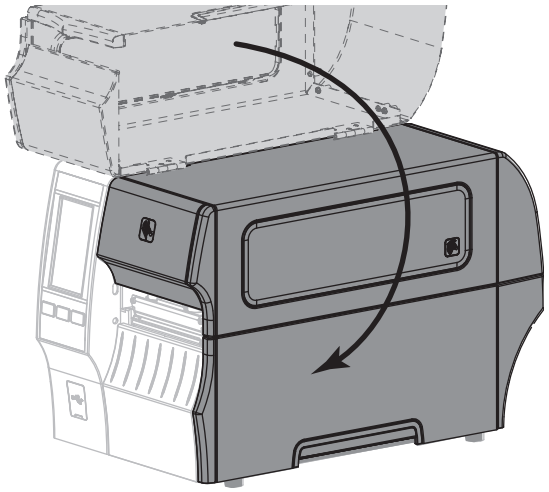
Figure 29 Close the Printhead



6. See Figure 30. Close the media door.

   The printer is ready to operate.

Figure 30 Close the Media Door



7. Press PAUSE to exit pause mode and enable printing.
   i. The printer may perform a label calibration or feed a label, depending on your settings.
8. Go to Resume Printer Operation on page 89.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411R Printer On-Metal Printhead Solution Assembly Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the On-Metal Printhead Assembly Maintenance Kit in the ZT411 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

Before proceeding, verify that your kit contains one of the kits for your printer listed below.

Figure 31 Kit Contents

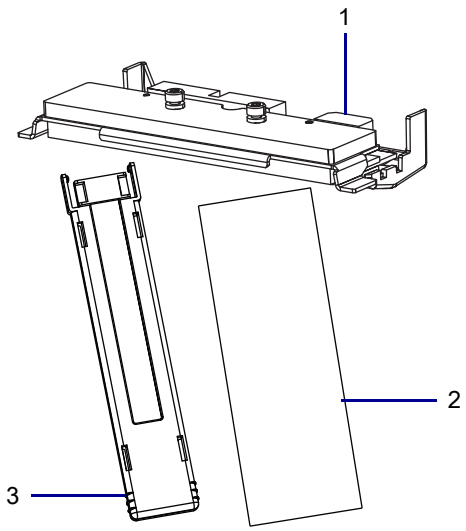


Table 9 Parts List

Item	Description	Qty
Ref	On-Metal Printhead Assembly Maintenance Kit	
1	On-Metal Printhead Assembly Maintenance Kit, 203/300 dpi*	1
2	Save-a-Printhead Film	1
3	On-Metal Printing Media Carrier	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

* Only for use in ZT411R RFID Printer with the On-Metal printing solution.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Save-a-Printhead film*
- Antistatic Wriststrap and Mat

* Only for the ZT411R RFID Printer with the On-Metal printing solution.

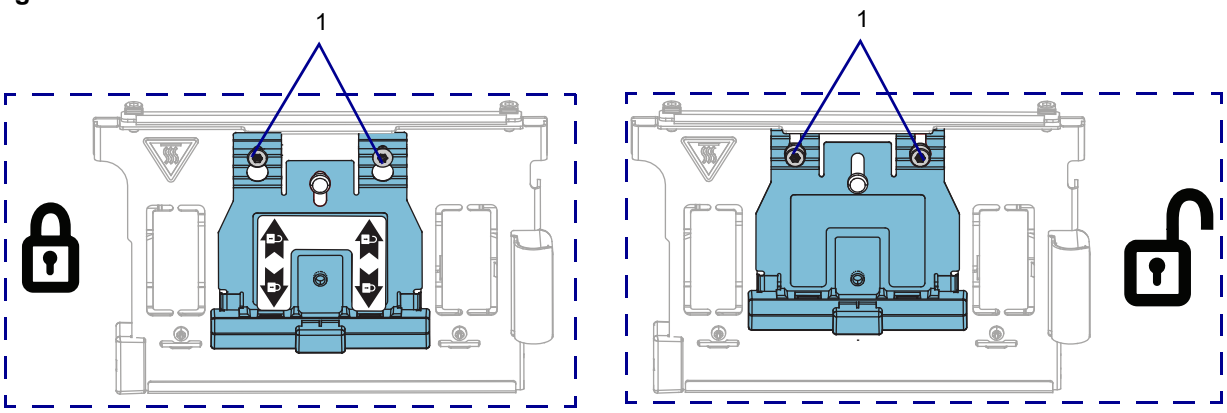
Remove the Old Printhead Assembly

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

CAUTION—HOT SURFACE: The printhead may be hot and could cause severe burns. Allow the printhead to cool.

1. Remove the media and ribbon from the printer.
2. See Figure 32. Slide the printhead latch forward until the large openings are aligned with the two printhead locking posts.

Figure 32 Slide the Printhead Latch



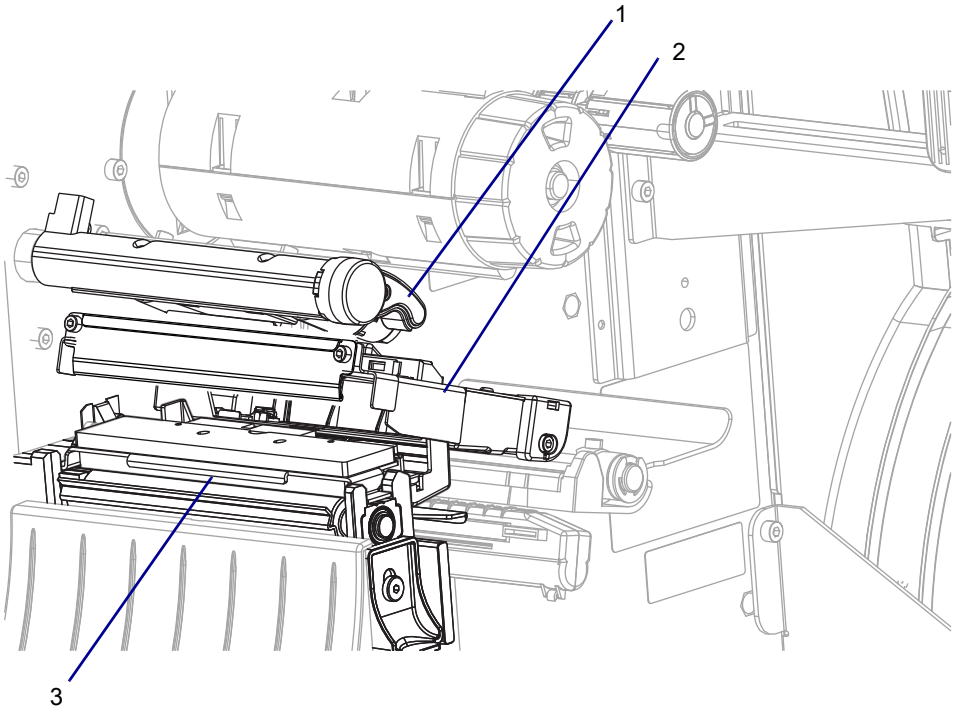
1	Printhead locking posts (2)

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

3. Connect yourself to an antistatic device.

4. See Figure 33. Unlatch the print mechanism.

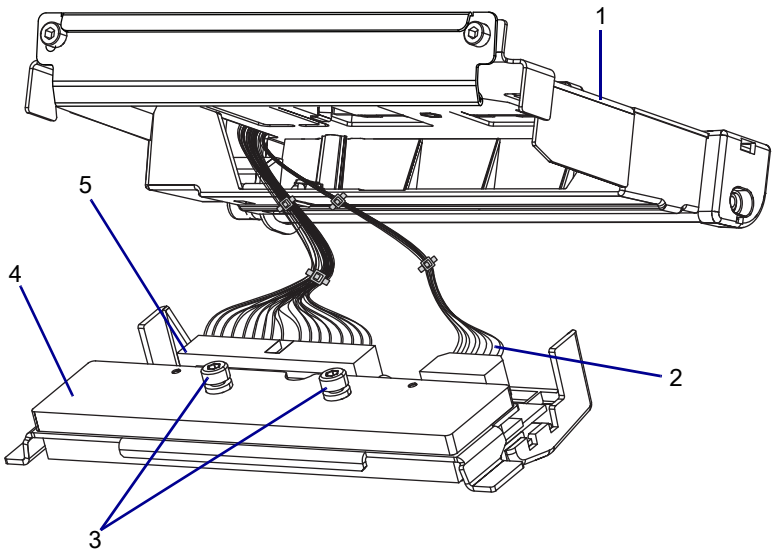
Figure 33 Unlatch the Print Mechanism



1	Toggle bar handle
2	Print mechanism assembly
3	Printhead assembly

5. See Figure 34. Pull the printhead out of the upper print mechanism, and then disconnect the printhead power and data cables.

Figure 34 Disconnect the Printhead Cable



1	Upper print mechanism assembly
2	Printhead power cable
3	Printhead locking posts (2)
4	Printhead assembly
5	Printhead data cable

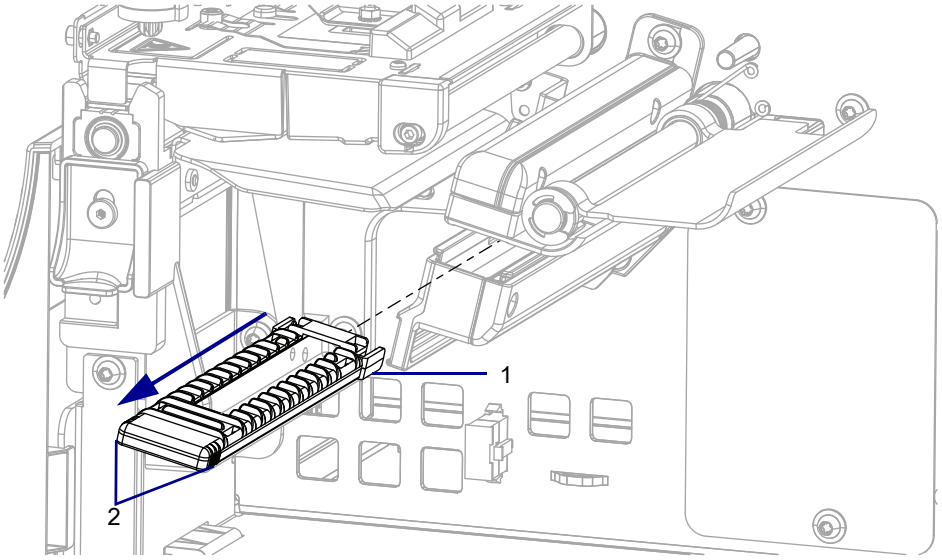
6. Remove the printhead from the printer.

Replace the Media Sensor Guide

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

1. See Figure 35. Grasp the media sensor guide by the end and pull it away from the printer.

Figure 35 Media Sensor Guide (Standard Guide Shown)



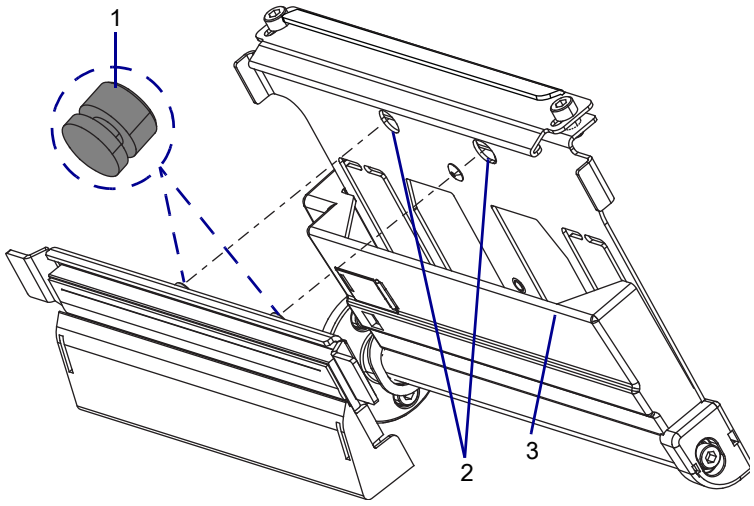
1	Media sensor guide
2	Grasp points

2. Slide the new media sensor guide onto the sensor assembly until the media sensor guide audibly clicks into place.

Install the New Printhead Assembly

1. See Figure 34 on page 93. Connect the printhead to the printhead power and data cables.
2. Carefully slide the printhead cable back into the printhead cable cover.
3. See Figure 36. Insert the printhead assembly locking posts into the printhead latch openings. Ensure the printhead assembly is making full contact with the upper print mechanism support bracket.

Figure 36 Install the Printhead



1	Locking posts (2)
2	Printhead latch openings (2)
3	Printhead cable cover

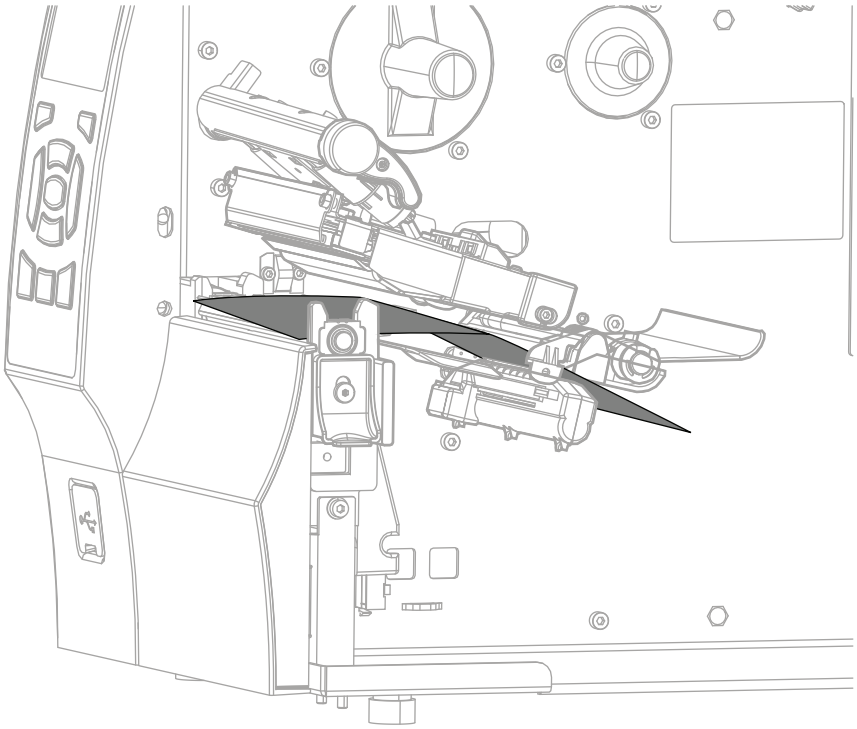
4. See Figure 32 on page 91. While holding the printhead in place, lock the printhead into the print mechanism by sliding the printhead latch toward the rear of the printer.

Clean the Printhead and Platen Roller On-Metal Printing Using Solution Printhead Film

IMPORTANT: Do not use liquids to clean any part of this printer, especially the printhead. Zebra is not responsible for damage caused by the use of cleaning fluids on this printer.

1. See Figure 37. Position the Save-a-Printhead film in the print path. Place the film's glossy side down and away from the printhead. (Keep the film's matte side up.)

Figure 37 Position Save-a-Printhead Film (ZT410 Printer Shown)



2. Rotate the toggle bar handle downward until it locks the printhead in place over the cleaning film.
3. Slowly pull the full length of the film through the print mechanism.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Toggle Bar Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Toggle Bar Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 38 Kit Contents

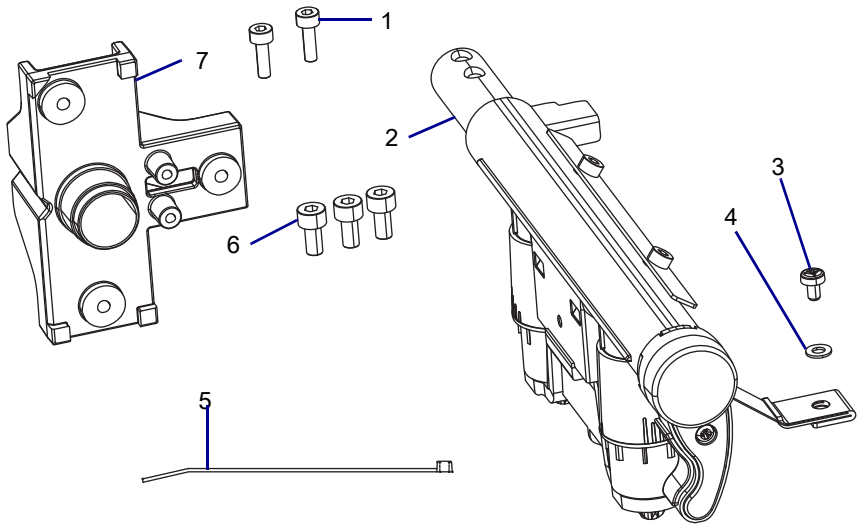


Table 10 Parts List

Item	Description	Qty
Ref	Toggle Bar Maintenance Kit	
1	Screw, M3 × 0.5 × 10	2
2	Toggle bar	1
3	Screw, M3 × 0.5 × 4	1
4	Washer, 0.250 × 0.125 × 0.023	1
5	Cable Tie	1
6	Screw, M4 × 0.7 × 8	3
7	Toggle bar shaft mounting bracket	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

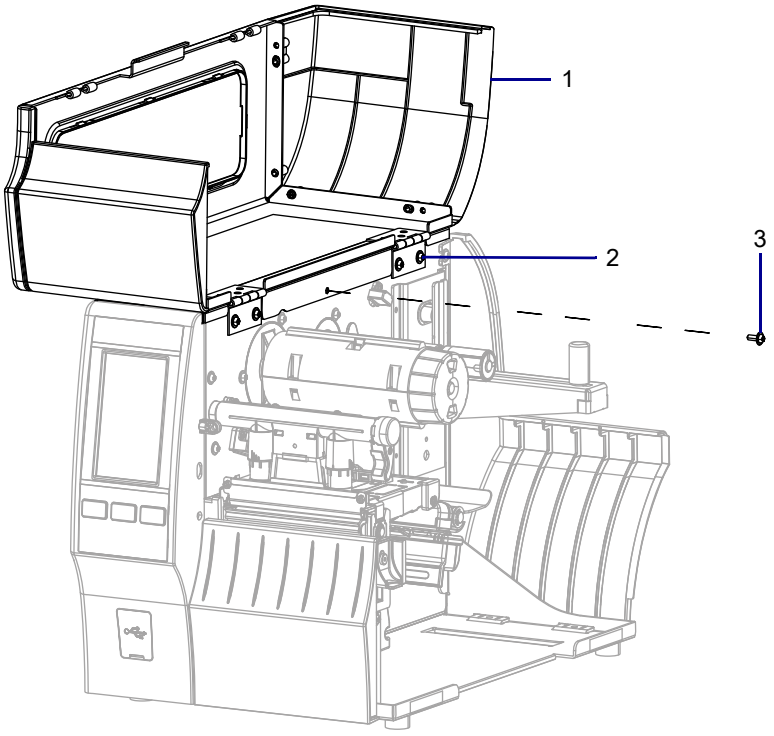
- Phillips Screwdriver Set
- Antistatic Wriststrap and Pad
- Metric Hex Key Set

Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

1. **CAUTION:** Turn off (O) the printer and disconnect it from the power source before performing the following procedure.Disconnect the AC power cord and all data cables.
2. Open the media door, remove the media and ribbon.
3. See Figure 39. Remove the screw securing the electronics cover.

Figure 39 Locate the Electronics Cover Mounting Screw

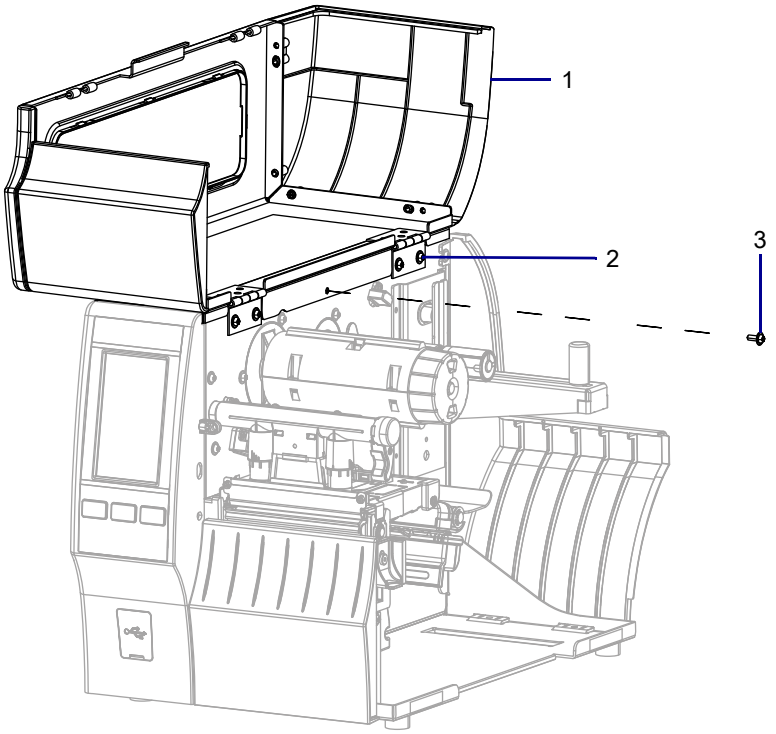


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 40. Remove the three mounting screws securing the electronics cover to the printer.

Figure 40 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

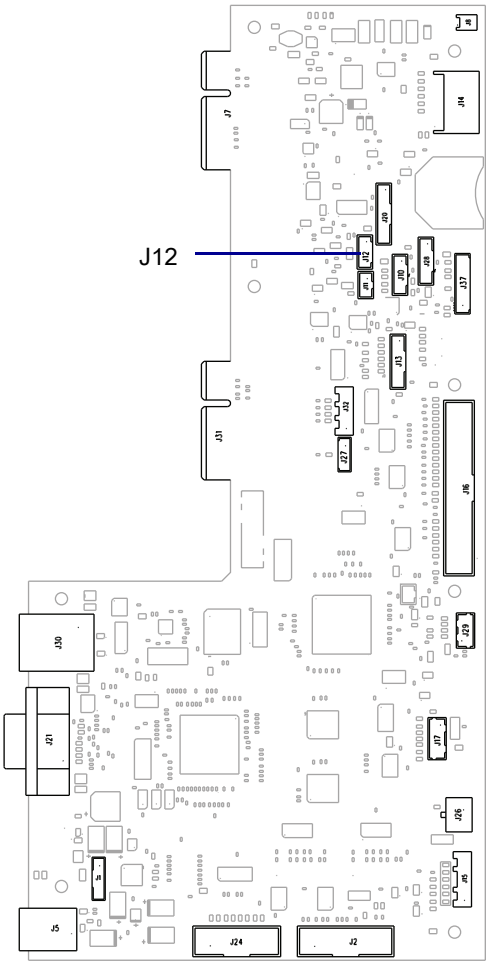
6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Printhead Open Sensor

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

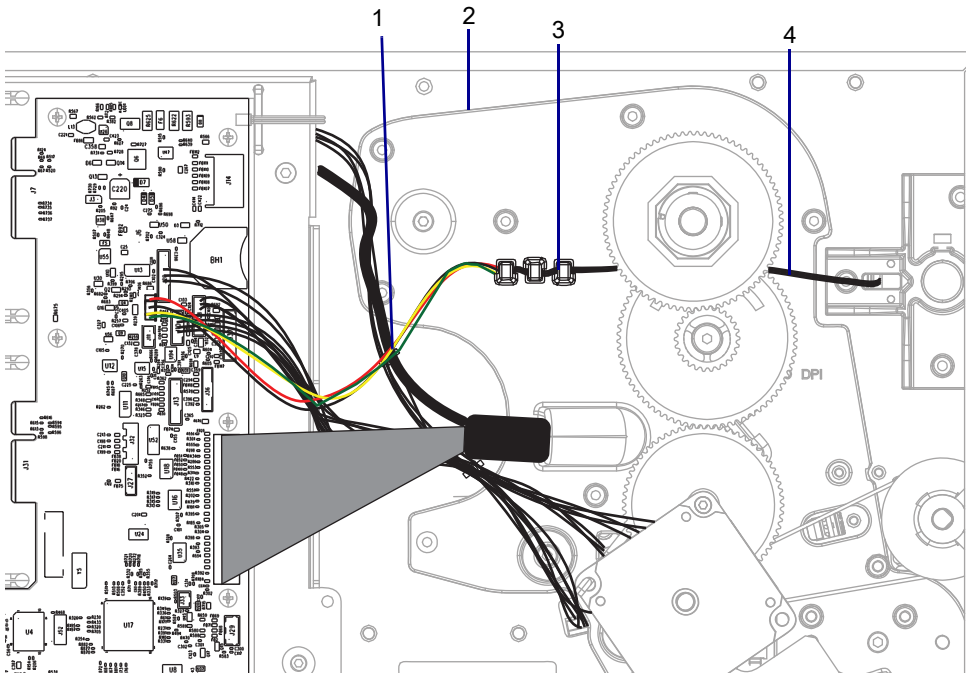
1. Connect yourself to an antistatic device.
2. See Figure 41. Disconnect the head open cable from J12 on the main logic board.

Figure 41 Disconnect the Head Open Cable



3. See Figure 42. Cut the cable tie securing the head open cable to the cable bundles.

Figure 42 Remove the Head Open Cable

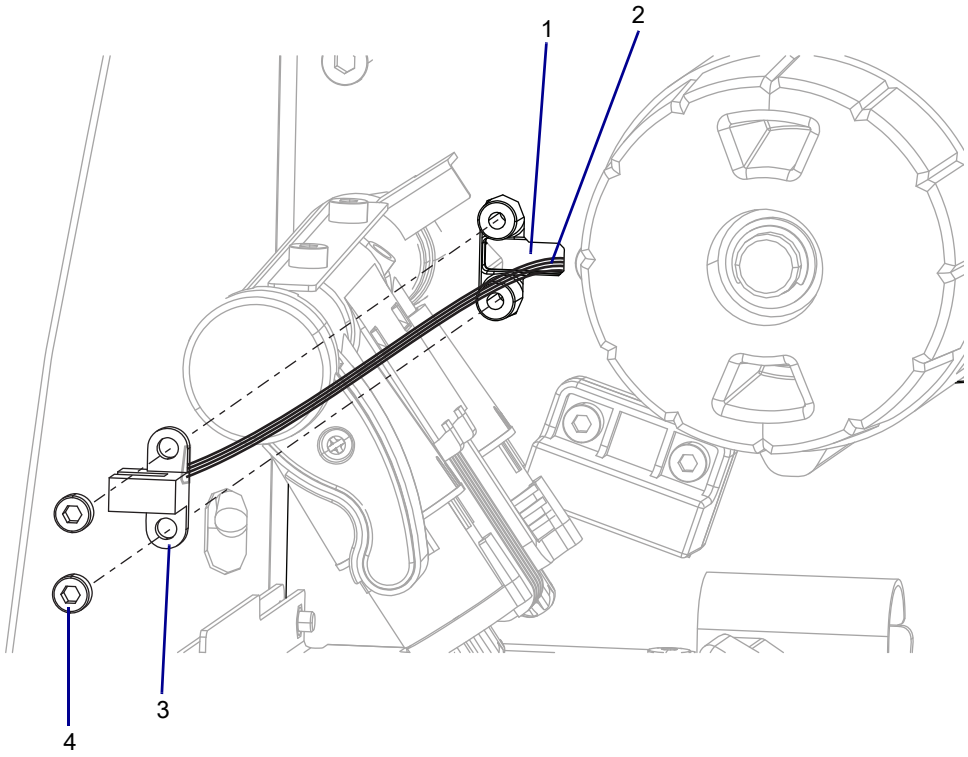


1	Cable tie
2	Drive unit assembly
3	Cable clamps (3)
4	Head open cable

4. Remove the head open cable from the three cable clamps built into the drive unit assembly.

5. See Figure 43. Remove the head open sensor by opening the toggle bar slightly, and then remove the two mounting screws.

Figure 43 Remove the Head Open Sensor



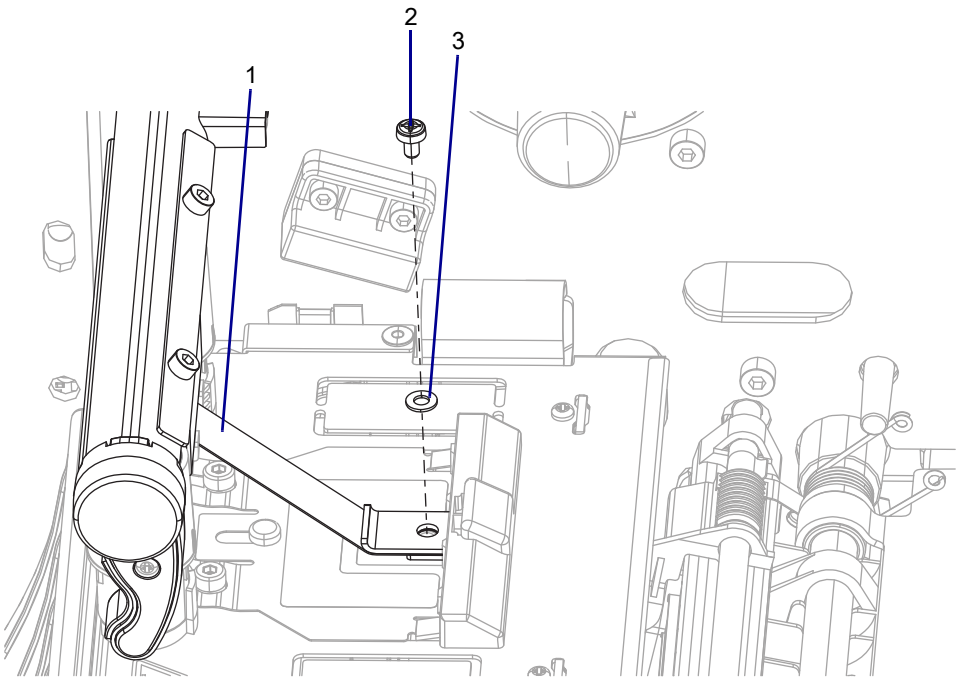
1	Pass-through hole
2	Head open sensor cable
3	Head open sensor
4	Mounting screws (2)

6. Slide the head open sensor out of the printer while guiding the cable out of the pass-through hole.

Remove the Toggle Bar

1. Remove the lift strap mounting screw and washer.

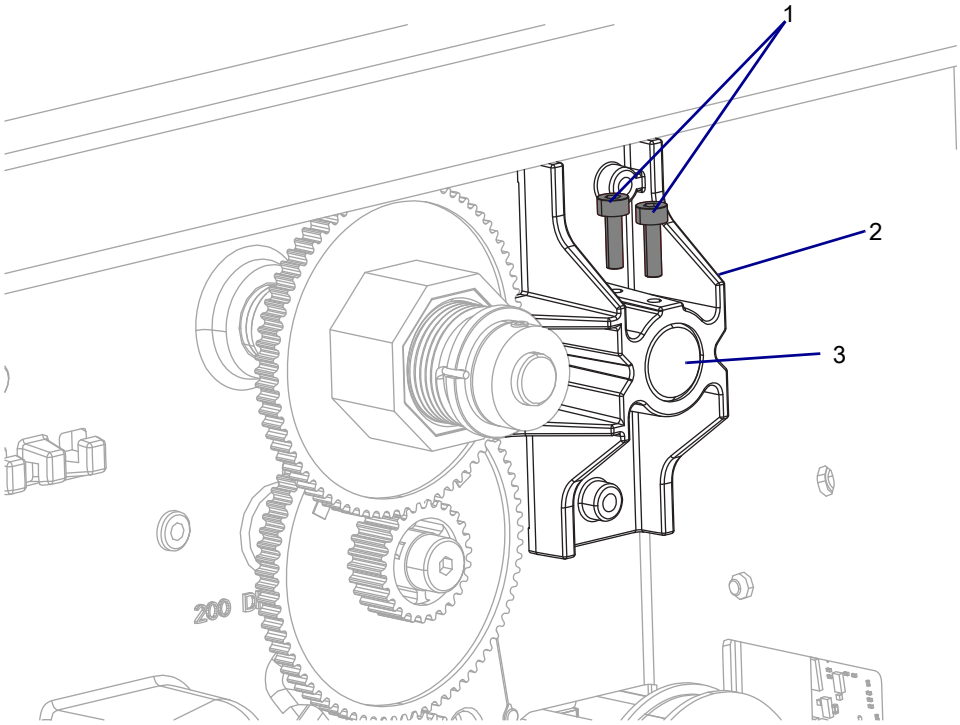
Figure 44 Remove the Lift Strap Mounting Screw and Washer



1	Lift Strap
2	Lift strap mounting screw
3	Lift strap mounting washer

2. See Figure 45. Remove and discard the two toggle bar shaft mounting screws.

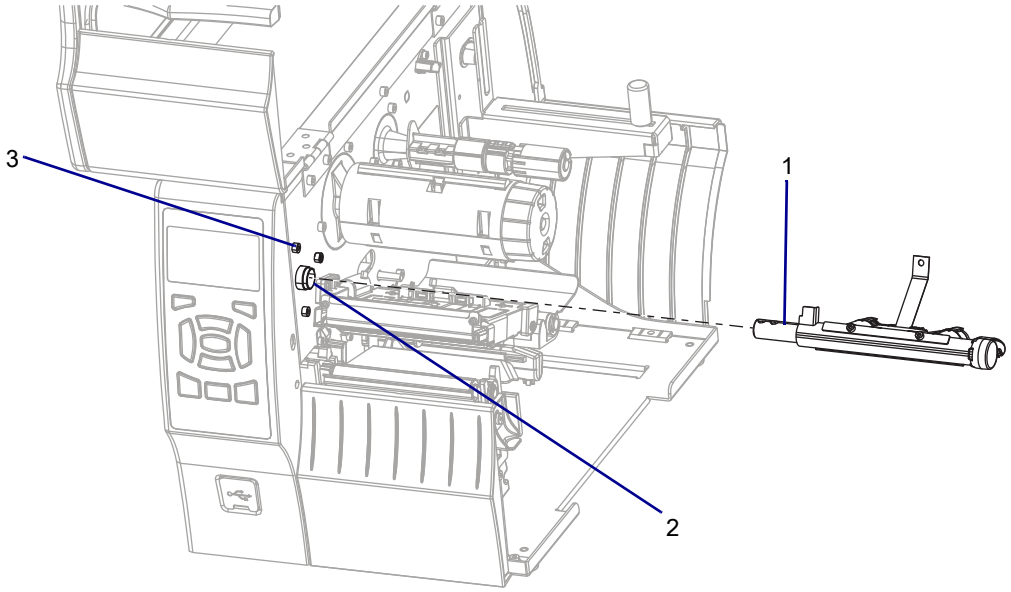
Figure 45 Remove the Shaft Mounting Screws



1	Toggle bar shaft mounting screws (2)
2	Toggle bar shaft mounting bracket
3	Toggle bar shaft

3. See Figure 46. Slide the toggle bar out of the printer and discard.

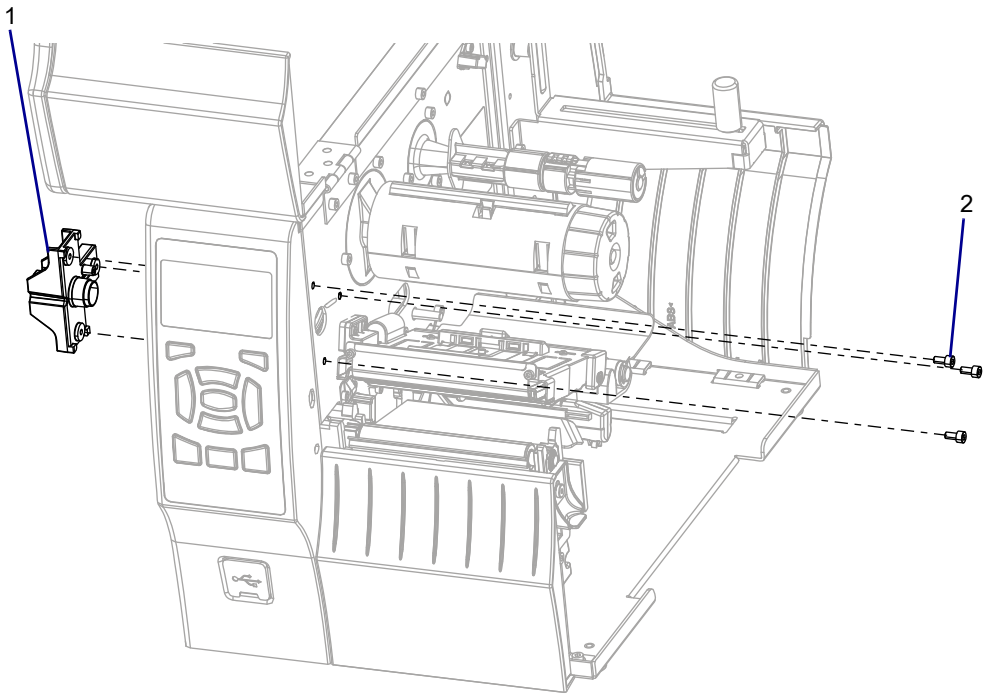
Figure 46 Remove the Toggle Bar (ZT410 Printer Shown)



1	Toggle bar
2	Toggle bar mounting bracket
3	Toggle bar mounting bracket mounting screws (3)

4. See Figure 47. Remove and discard the three toggle bar mounting bracket mounting screws.

Figure 47 Remove the Toggle Bar Mounting Bracket (ZT410 Printer Shown)

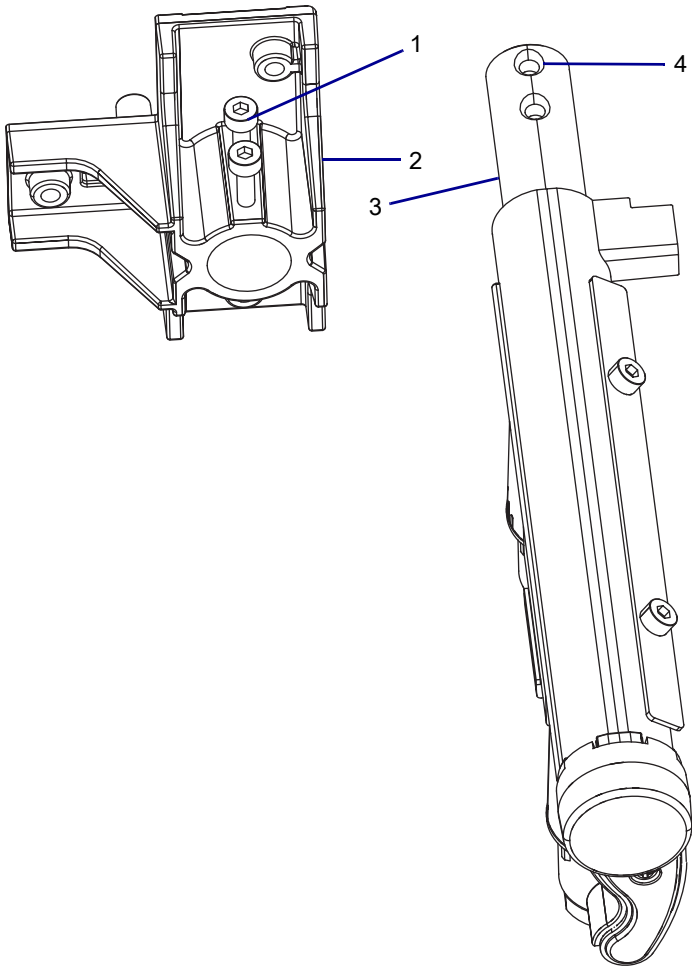


1	Toggle bar mounting bracket
2	Toggle bar mounting bracket mounting screws (3)

Install the New Toggle Bar

1. See Figure 48. Start the two new toggle bar shaft mounting screws into the top, approximately 3 mm (1/8 in.).

Figure 48 Start Shaft Mounting Screws



1	Toggle bar shaft mounting screws (2)
2	Toggle bar mounting bracket
3	Toggle bar shaft
4	Toggle bar shaft mounting holes (2)

2. See Figure 47 on page 106. From the electronics side, insert the new toggle bar mounting bracket, and then install the three new toggle bar bracket mounting screws.
3. See Figure 46 on page 105. Slide the new toggle bar shaft into the mounting bracket as far as it will go.
4. See Figure 48 on page 107. Ensure that the toggle bar shaft mounting holes are aligned with the two mounting screws, and then tighten the mounting screws.
5. See Figure 44 on page 103. Install the new lift strap on the print mechanism using the new screw and washer.

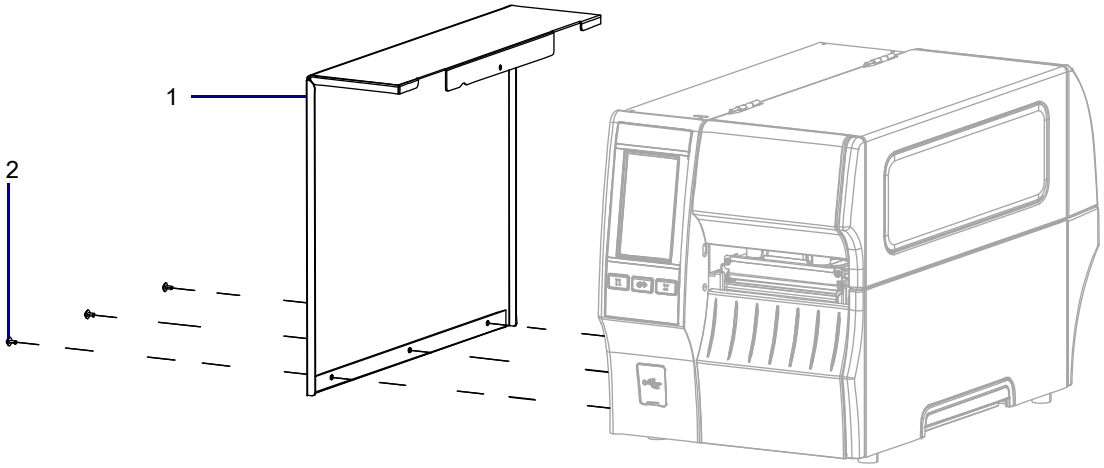
Reinstall the Head Open Sensor

1. See Figure 43 on page 102. Guide the head open cable into the pass-through hole.
2. Align the head open sensor with the mounting holes.
3. Install the two mounting screws.
4. See Figure 42 on page 101. From the electronics side, guide the cable behind the gear.
5. Ensure there is no slack in the head open cable between the cable clamps and the pass-through hole.
6. Install the head open cable into the three clamps.
7. See Figure 41 on page 100. Connect the head open cable to J12 on the main logic board.
8. See Figure 42 on page 101. Wrap the cable tie around the bundle of wires, and then tighten the cable tie.

Reinstall the Electronics Cover

1. See Figure 49. Slide the electronics cover onto the printer.

Figure 49 Reinstall the Electronics Cover Mounting Screws

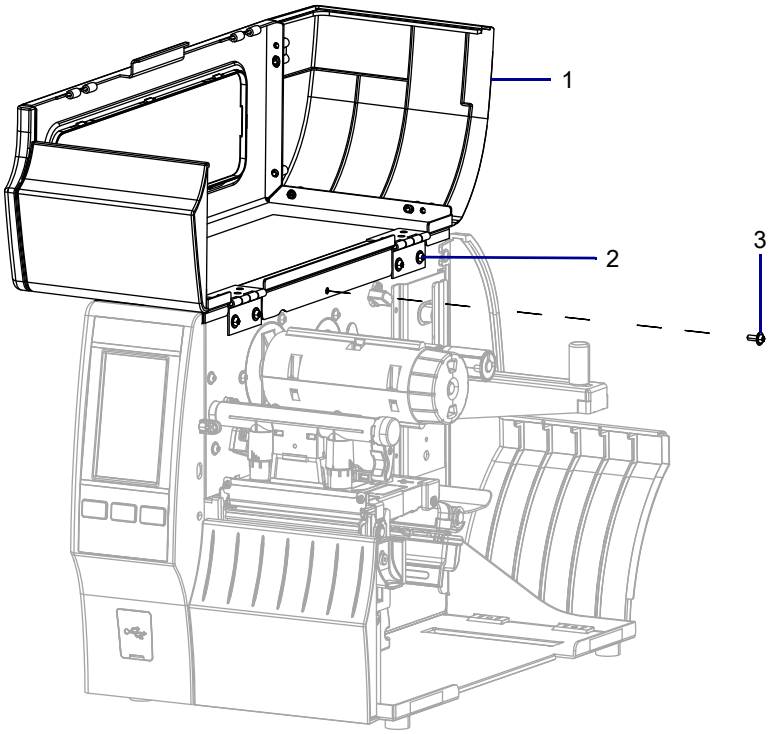


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 50. Open the media door and install the mounting screw.

Figure 50 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

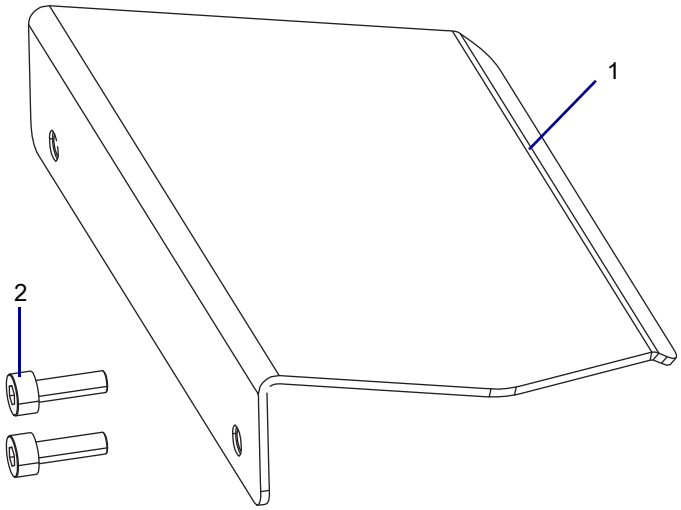
ZT411/ZT421 Printers Media Shelf Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Media Shelf Maintenance Kit into the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Figure 51



Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hex Key Set

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Select Your Printer Option

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

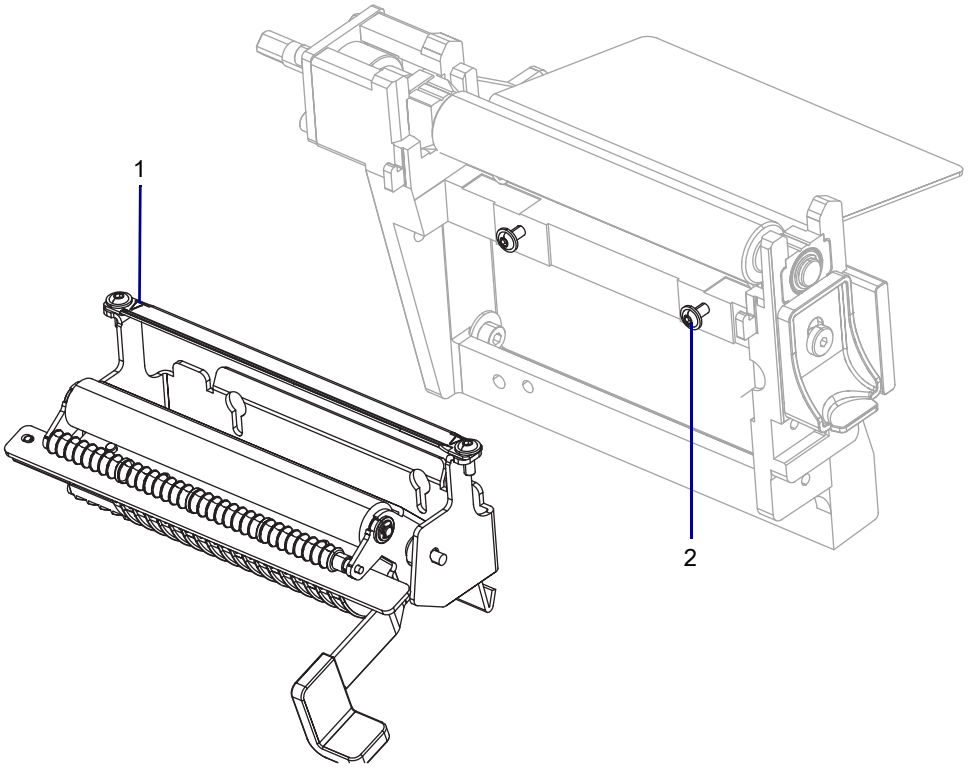
1. Which option do you have installed?

If you have a…	Then…
Peel option	Go to Remove the Peel Assembly.
Cutter option	Go to Remove the Cutter Assembly on page 112.
None	Go to Remove the Old Tear Bar on page 113.

Remove the Peel Assembly

1. Remove the media and ribbon.
2. See Figure 52. Loosen the two mounting screws and remove the peel assembly.

Figure 52 Remove Old Peel Assembly



1	Peel assembly
2	Mounting screws (2)

3. Go to Remove the Old Media Shelf on page 117.

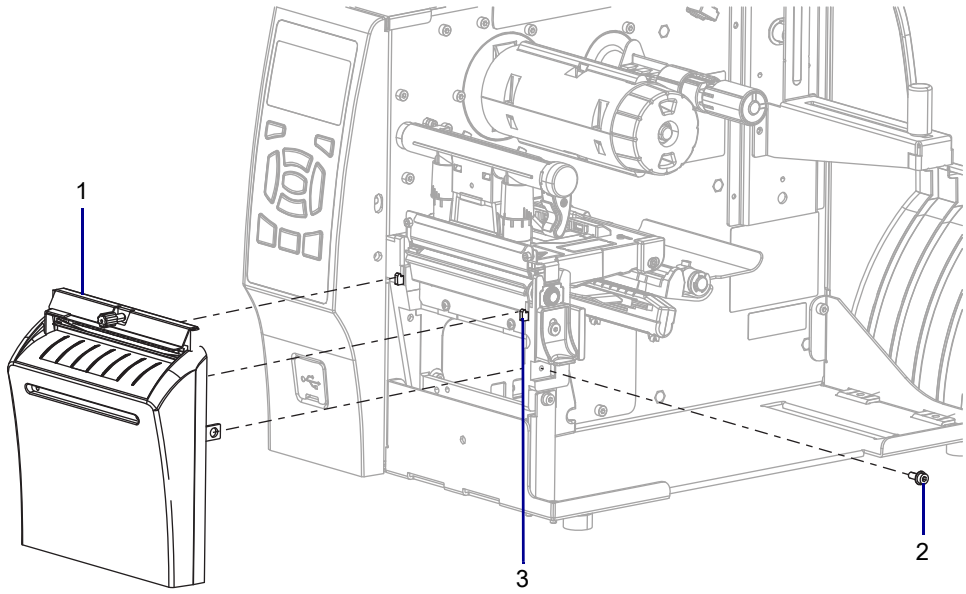
Remove the Cutter Assembly

1. Remove the media and ribbon.

CAUTION: The cutter blade is sharp. Do not touch or rub the blade with your fingers.

2. See Figure 53. Remove the mounting screw.

Figure 53 Remove the Cutter Option (ZT410 Printer Shown)



1	Cutter assembly
2	Mounting screw
3	Platen assembly hooks

3. Slide the cutter assembly to the left and lift.

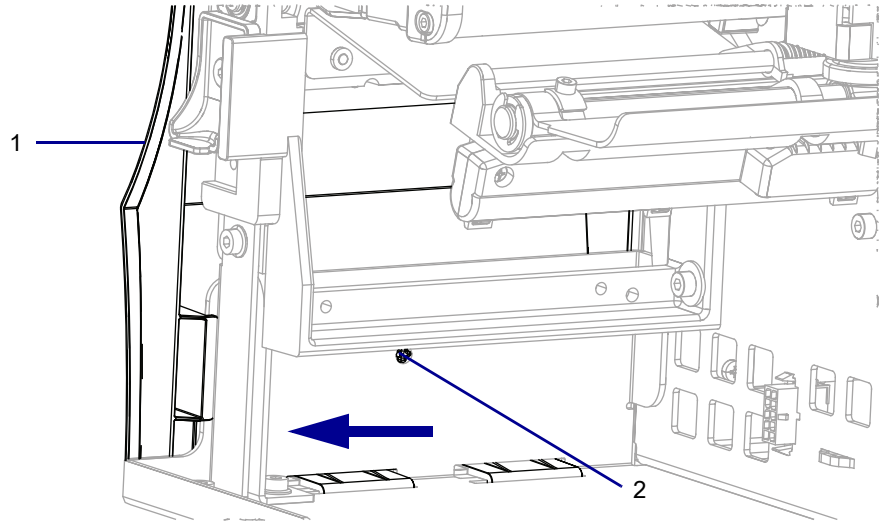
NOTE: You may have to lift slightly higher on the left to clear the base.

4. Set the cutter assembly aside.

Remove the Old Tear Bar

1. Remove the media and ribbon.
2. See Figure 54. Remove the front panel by pressing in on the detent, and then sliding the panel to the left as far as possible.

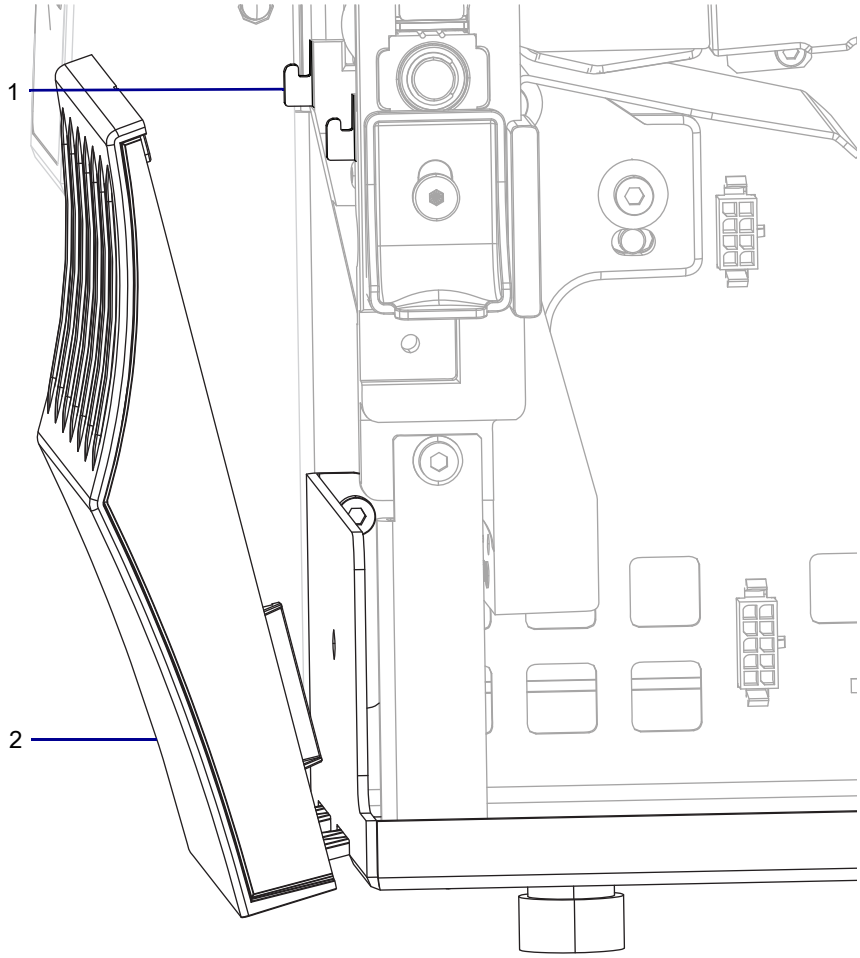
Figure 54 Release the Front Panel



1	Lower front panel
2	Detent

3. See Figure 55. Tip the top of the lower front panel off the platen housing hooks and away from the printer.

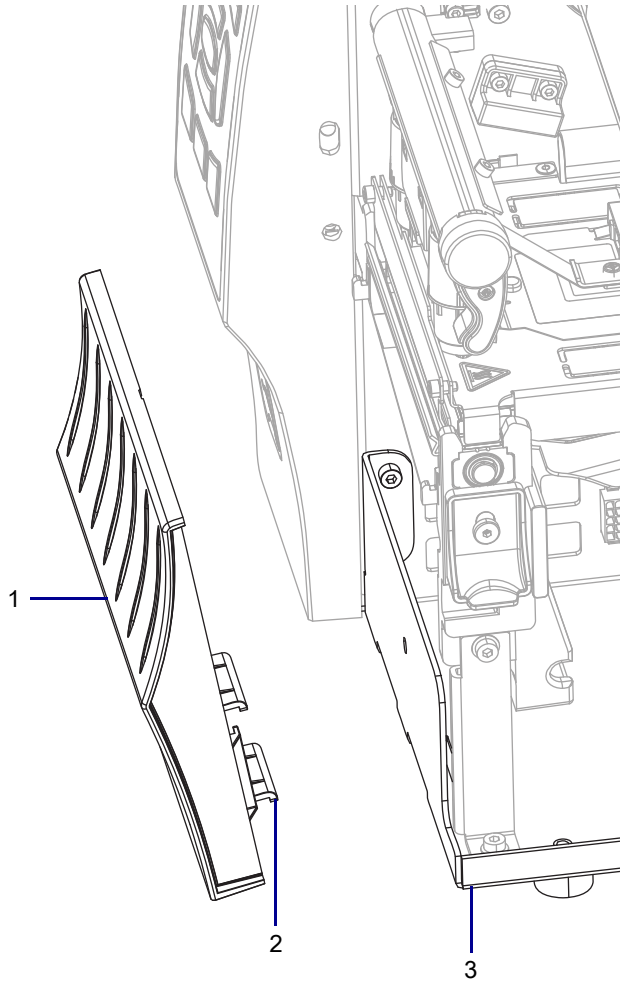
Figure 55 Hook Locations



1	Platen housing hooks (2)
2	Lower front panel

4. See Figure 56. Slide the lower front panel tabs out of the printer base.

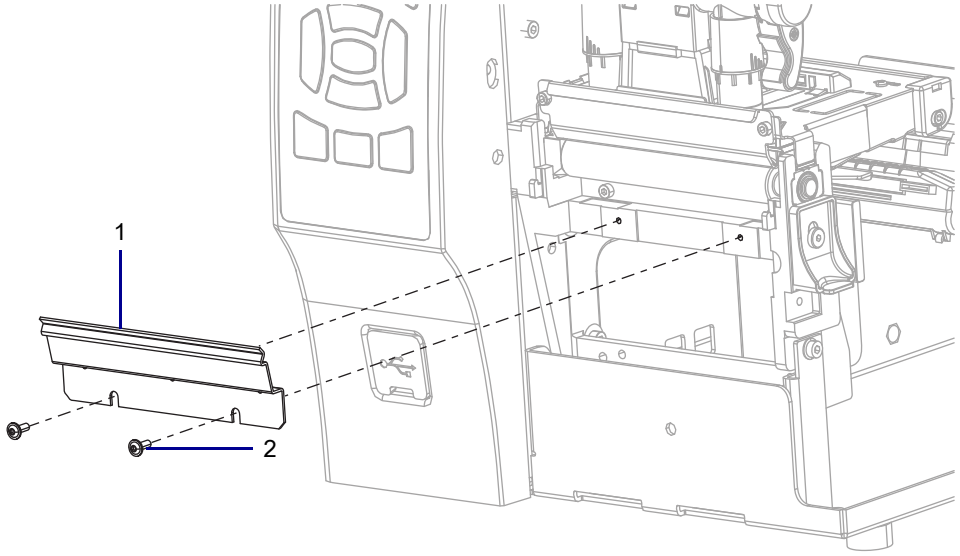
Figure 56 Remove the Lower Front Panel Tabs (ZT410 Printer Shown)



1	Lower front panel
2	Lower front panel tabs (2)
3	Printer base

5. See Figure 57. Remove the two tear bar mounting screws.

Figure 57 Remove and Install the Tear Bar (ZT410 Printer Shown)



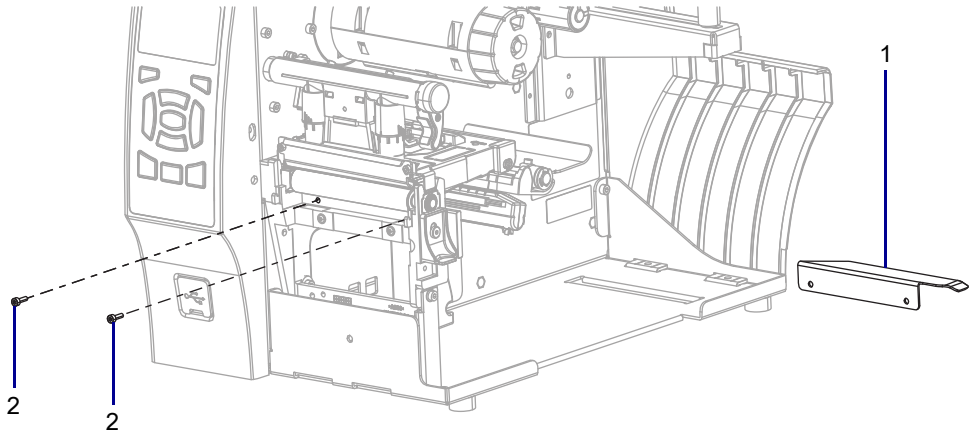
1	Tear bar
2	Tear bar mounting screws (2)

6. Remove the tear bar.

Remove the Old Media Shelf

1. See Figure 58. Remove and discard the two mounting screws.

Figure 58 Remove and Install the Media Shelf (ZT410 Printer Shown)



1	Media shelf
2	Mounting screws (2)

2. Slide the media shelf out of the printer and discard.

Install the New Media Shelf

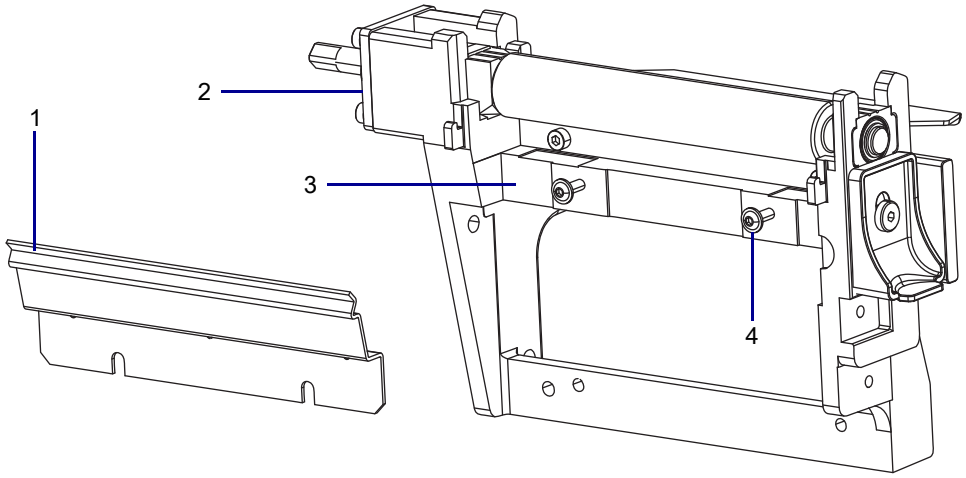
1. See Figure 58. Remove the new media shelf and mounting screws from the kit.
2. Slide the media shelf into the printer and align the mounting holes.
3. Install one of the two mounting screws but do not tighten at this time.
4. Install and tighten the second mounting screw.
5. Tighten the first mounting screw.
6. Which option do you have installed?

If you have a…	Then…
Peel option	Go to Reinstall the Peel Assembly on page 124.
Cutter option or No option	Go to Reinstall the Tear Bar on page 118.

Reinstall the Tear Bar

1. See Figure 59. Slide the tear bar onto the mounting screws.

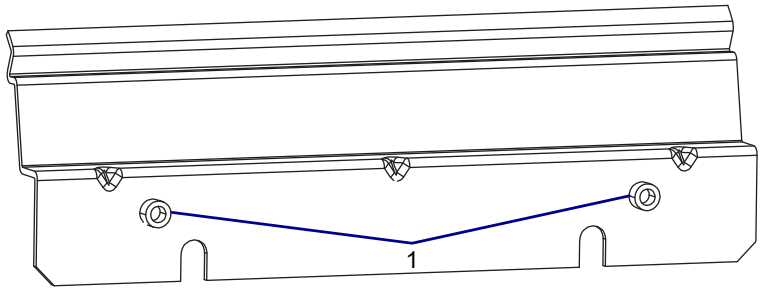
Figure 59 Install the New Tear-Off Bar



1	Tear bar
2	Platen housing
3	Horizontal mounting bar
4	Mounting screws (2)

2. See Figure 60. Push the tear bar back against the horizontal mounting bar of the platen housing, and then back down until the pems are resting on the mounting bar.

Figure 60 Locate the Pems



1	Pems

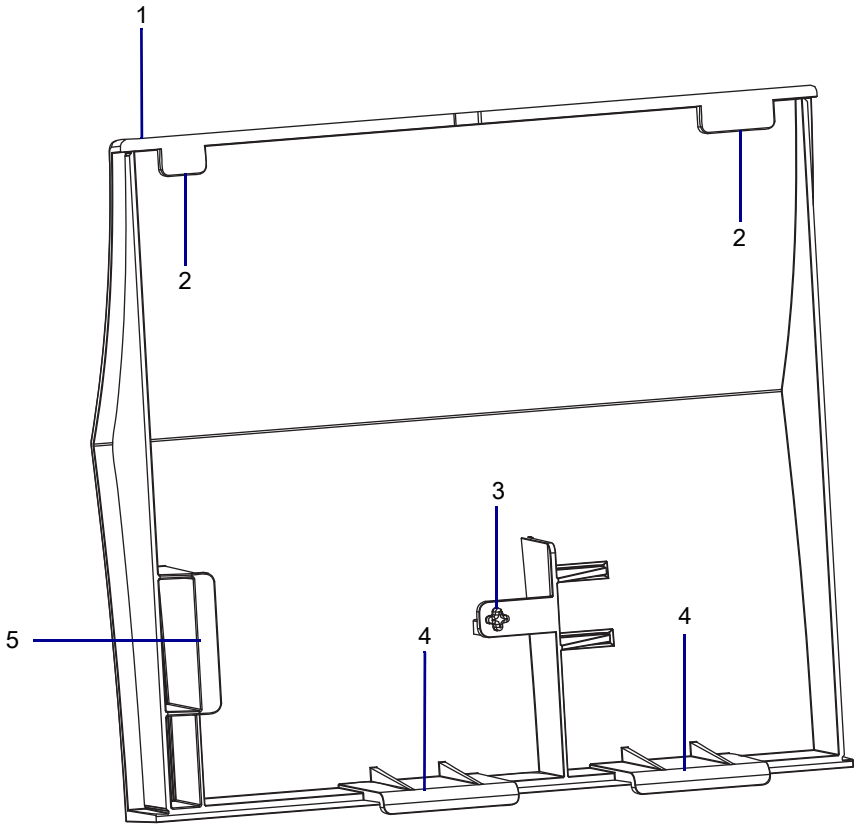
3. Maintain a slight pressure downward on the peel assembly to keep the pems on the horizontal surface, and tighten the mounting screws.
4. Do you have a cutter installed?

If…	Then…
No	Go to Reinstall the Lower Front Panel on page 120.
Yes	Go to Reinstall the Cutter Assembly on page 126.

Reinstall the Lower Front Panel

1. Note the parts on the lower front panel:

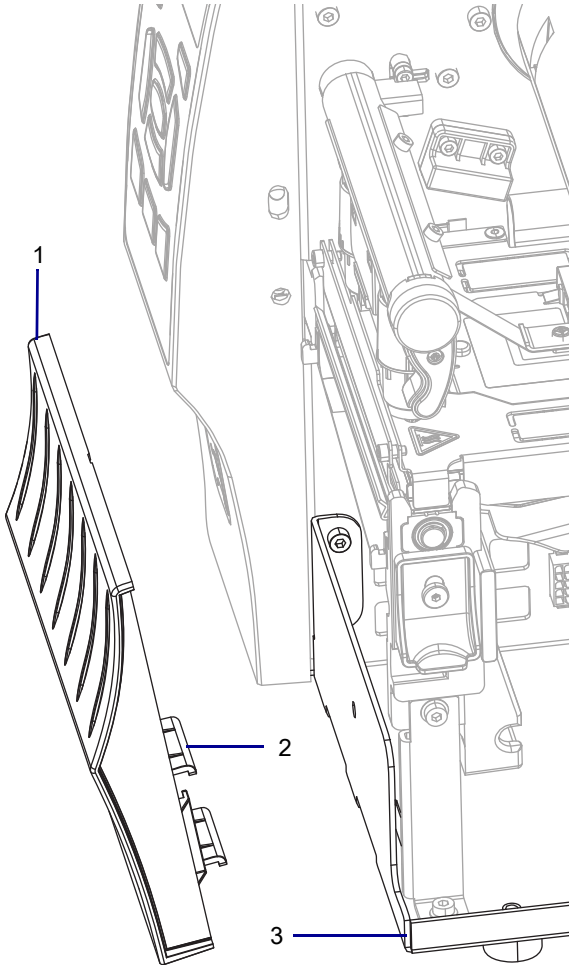
Figure 61 Lower Front Panel Identification



1	Front panel
2	Front panel top tabs
3	Front panel detent
4	Front panel lower tabs
5	Front panel stop

2. See Figure 62. Slide the lower front panel tabs into the printer base.

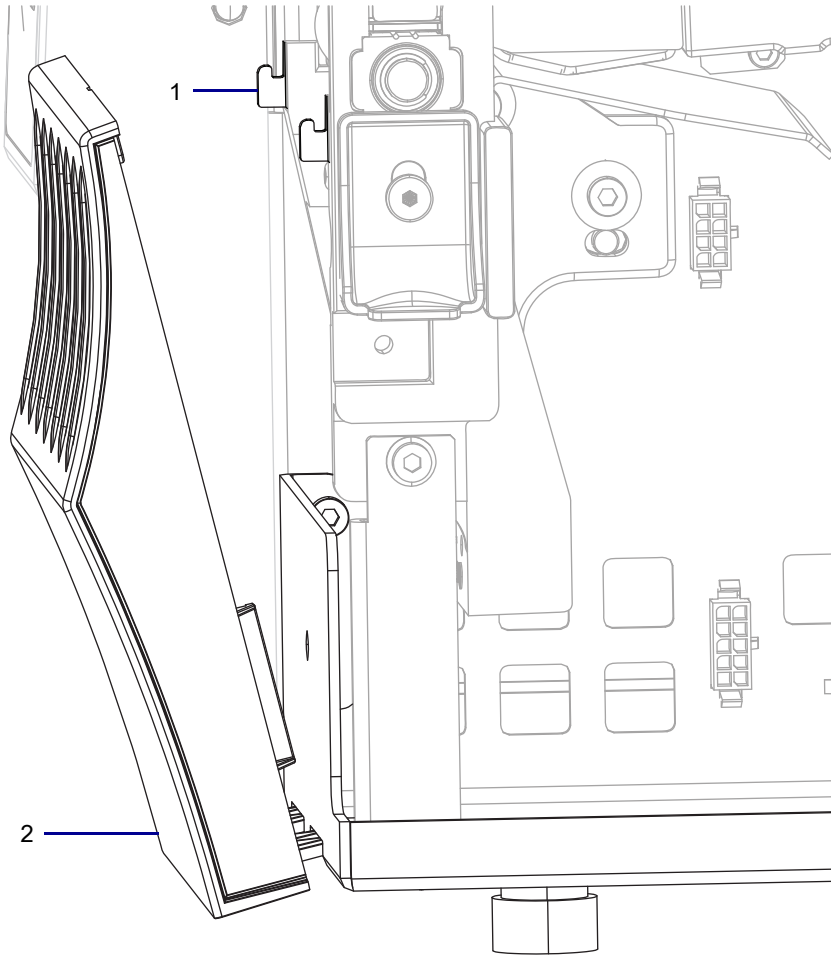
Figure 62 Remove the Lower Front Panel Tabs (ZT410 Printer Shown)



1	Lower front panel
2	Lower front panel tabs (2)
3	Printer base

3. See Figure 63. Lift the lower front panel onto the hooks.

Figure 63 Hook Locations

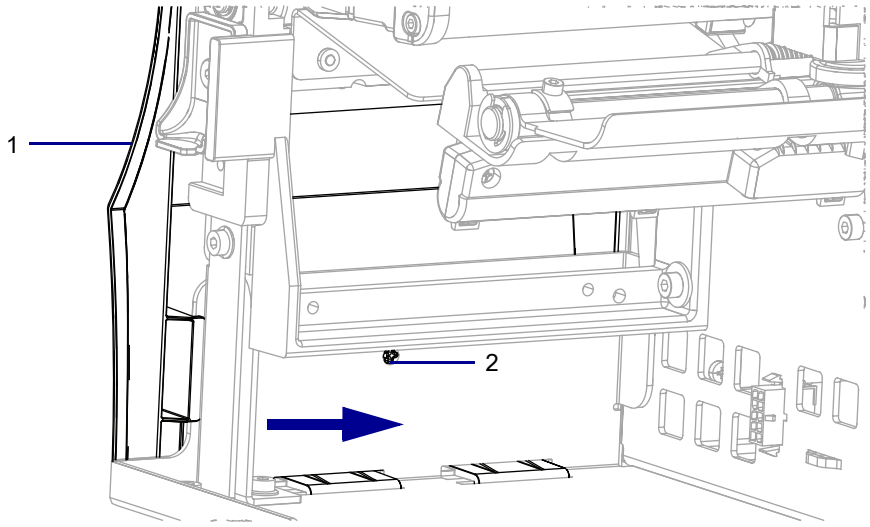


1	Platen housing hooks (2)
2	Lower front panel

Install Lower Front Panel

1. See Figure 64. Slide the lower front panel to the right until the detent pops into the hole.

Figure 64 Install the Lower Front Panel



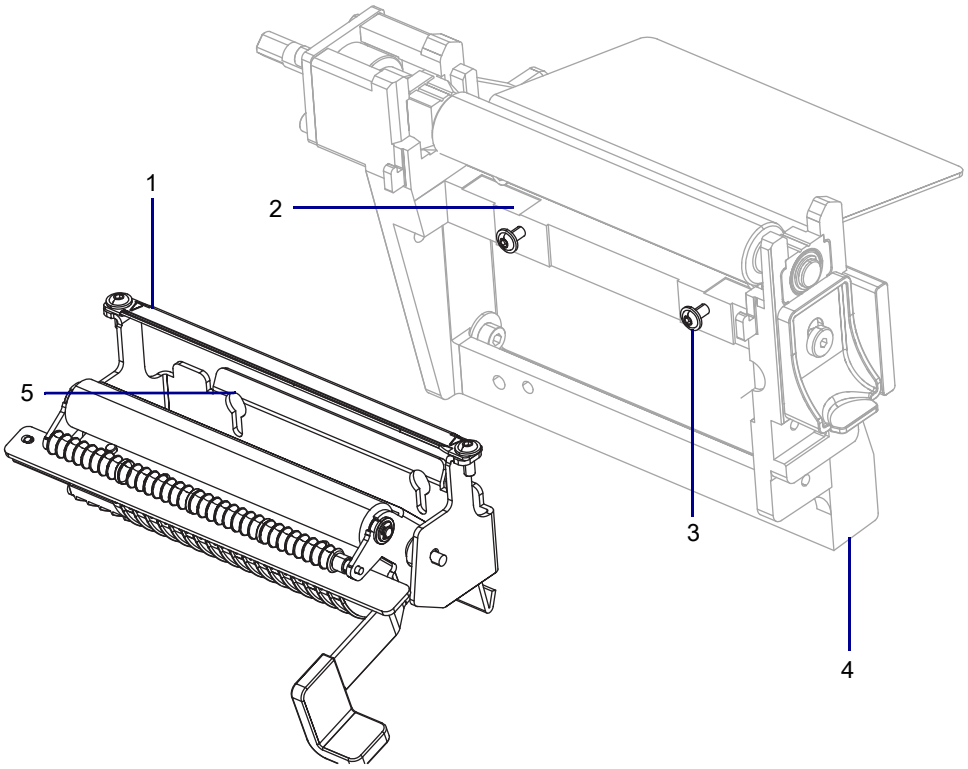
1	Front panel
2	Detent

2. Go to Resume Printer Operation on page 131.

Reinstall the Peel Assembly

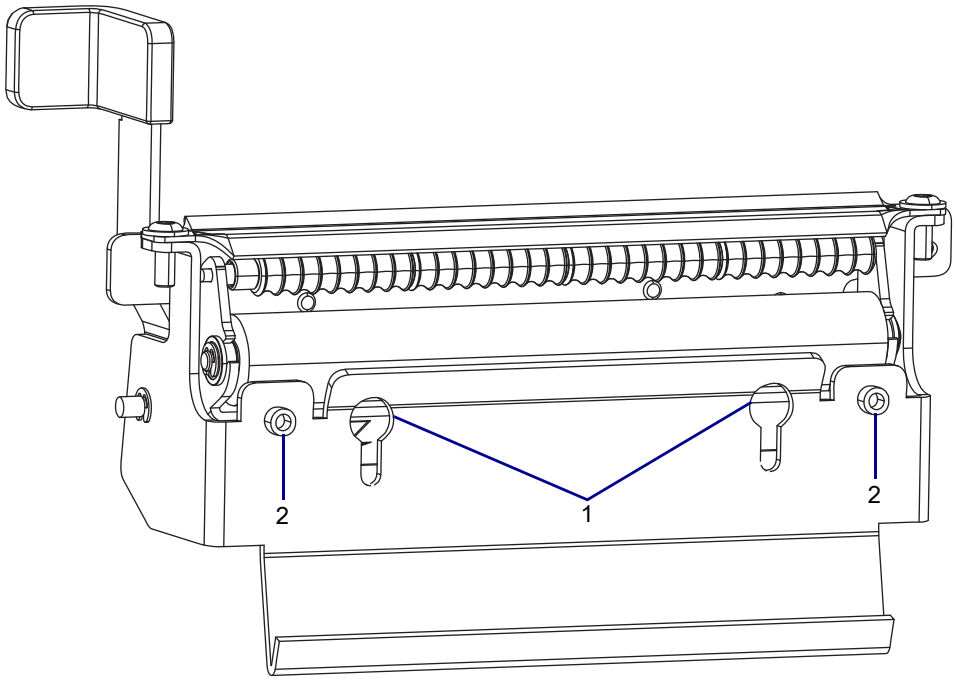
1. See Figure 65 and Figure 66 on page 125. Notice the pems and the mounting slots.

Figure 65 Install Peel Assembly



1	Peel assembly
2	Horizontal surface of platen housing
3	Mounting screws (2)
4	Platen housing
5	Mounting slots (2)

Figure 66 Rear View of Peel Assembly



1	Mounting slots (2)
2	Pems (2)

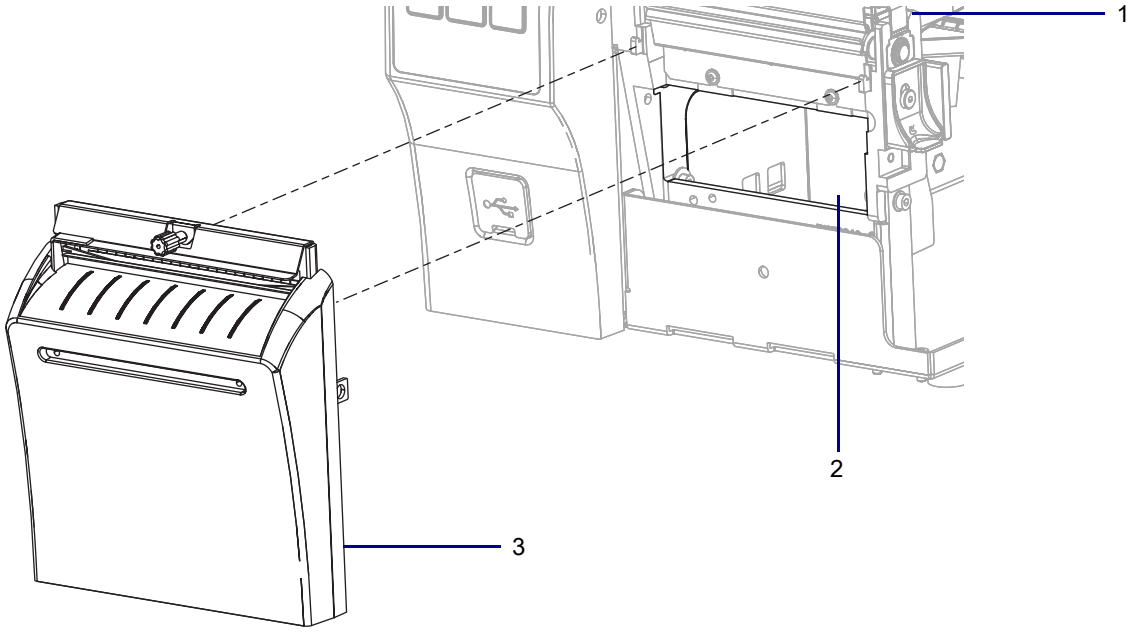
2. See Figure 65 on page 124. Install the peel assembly with the pems to the rear and the opening in the mounting slot to the top.
   a. Insert the mounting slots over the two screws and lift up on the assembly.
   b. Push the assembly back against the vertical surface of the platen housing then down, so that the pems are resting on the horizontal surface of the platen housing.
3. Maintain a slight pressure downward on the peel assembly, to keep the pems on the horizontal surface, and tighten the mounting screws.
4. Go to Resume Printer Operation on page 131.

Reinstall the Cutter Assembly

CAUTION: The cutter blade is sharp. Do not touch or rub the blade with your fingers.

1. See Figure 67. While holding the cutter assembly, route the cutter cable through the access hole and into the media side of the printer.

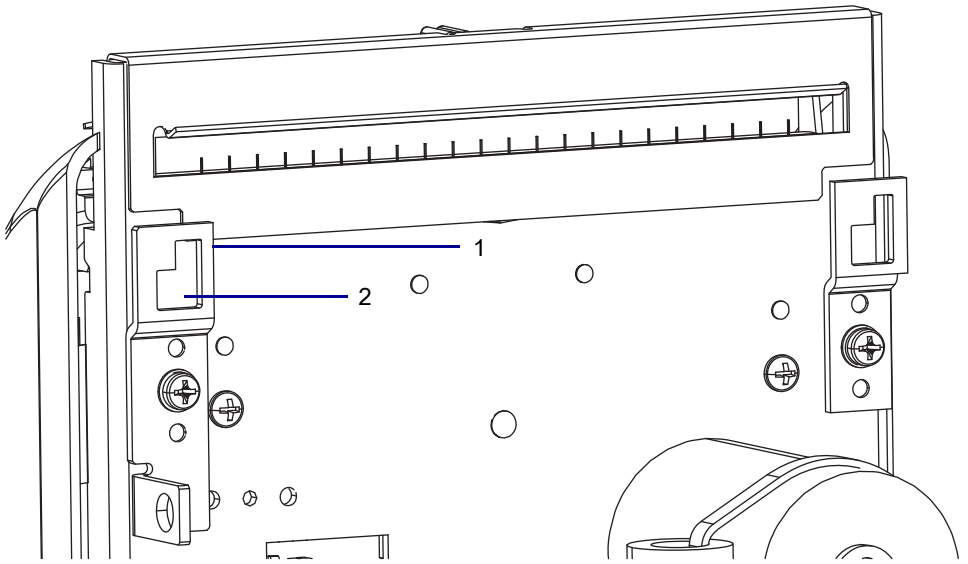
Figure 67 Install the Cutter Assembly (Cable Not Shown)



1	Platen housing
2	Cutter cable access hole
3	Cutter assembly

2. See Figure 68. Install the cutter assembly onto the hooks of the platen housing. The printers mounting brackets have stepped slots.

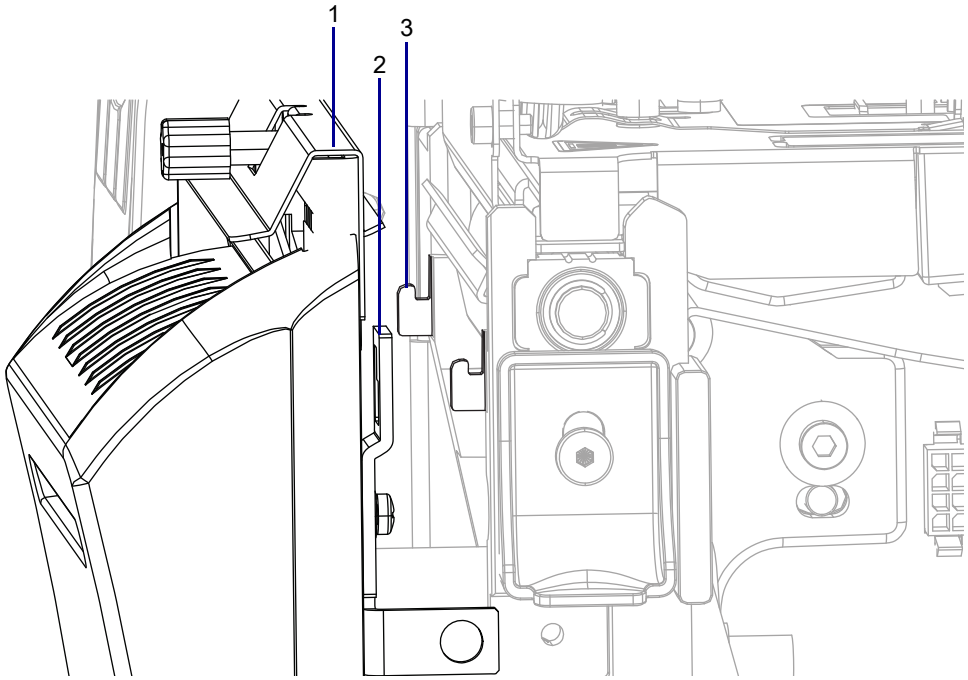
Figure 68 Cutter Mounting Brackets



1	Mounting brackets (2)
2	Stepped slots (2)

1. See Figure 69. Align the larger part of the slots with the hooks on the platen housing.

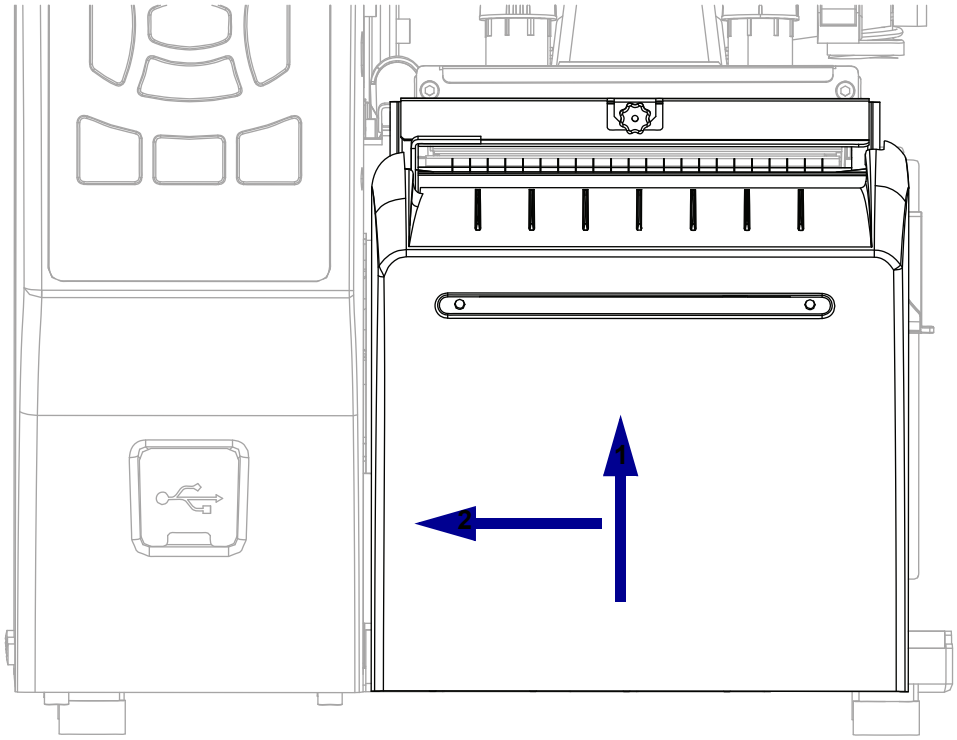
Figure 69 Align the Mounting Brackets and Platen Housing Hooks



1	Cutter assembly
2	Cutter mounting brackets (2)
3	Platen housing hooks (2)

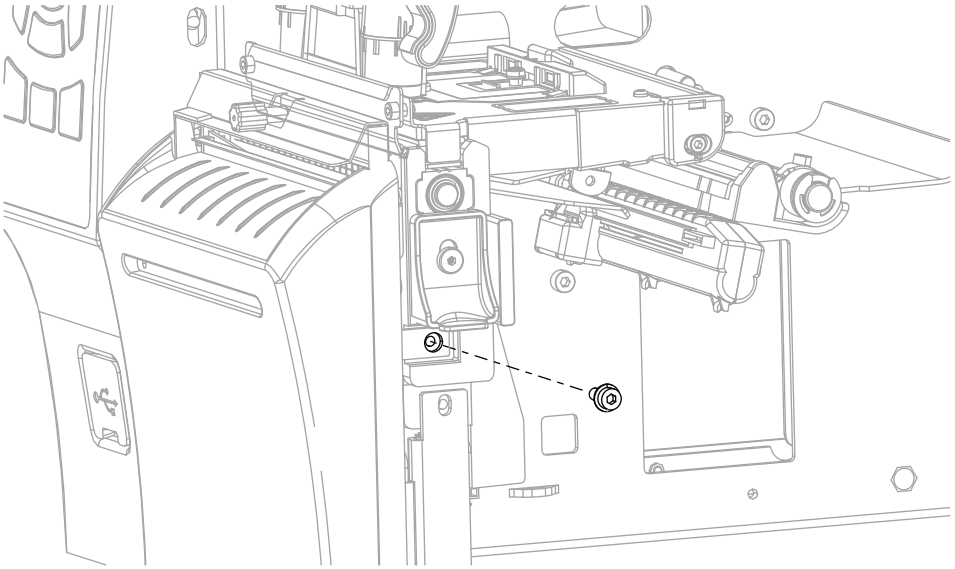
2. See Figure 70. Set the cutter assembly onto the hooks, and then, lift and slide the assembly to the left.

Figure 70 Lift and Slide the Cutter Assembly (ZT410 Printer Shown)



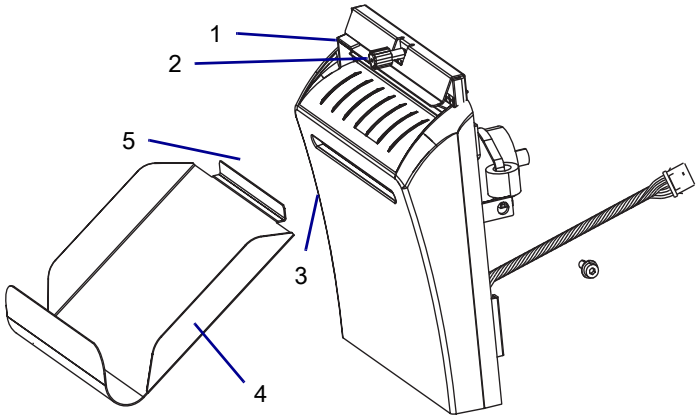
3. See Figure 71. Secure the cutter assembly onto the platen assembly using the mounting screw supplied.

Figure 71 Install the Mounting Screw (ZT410 Printer Shown)



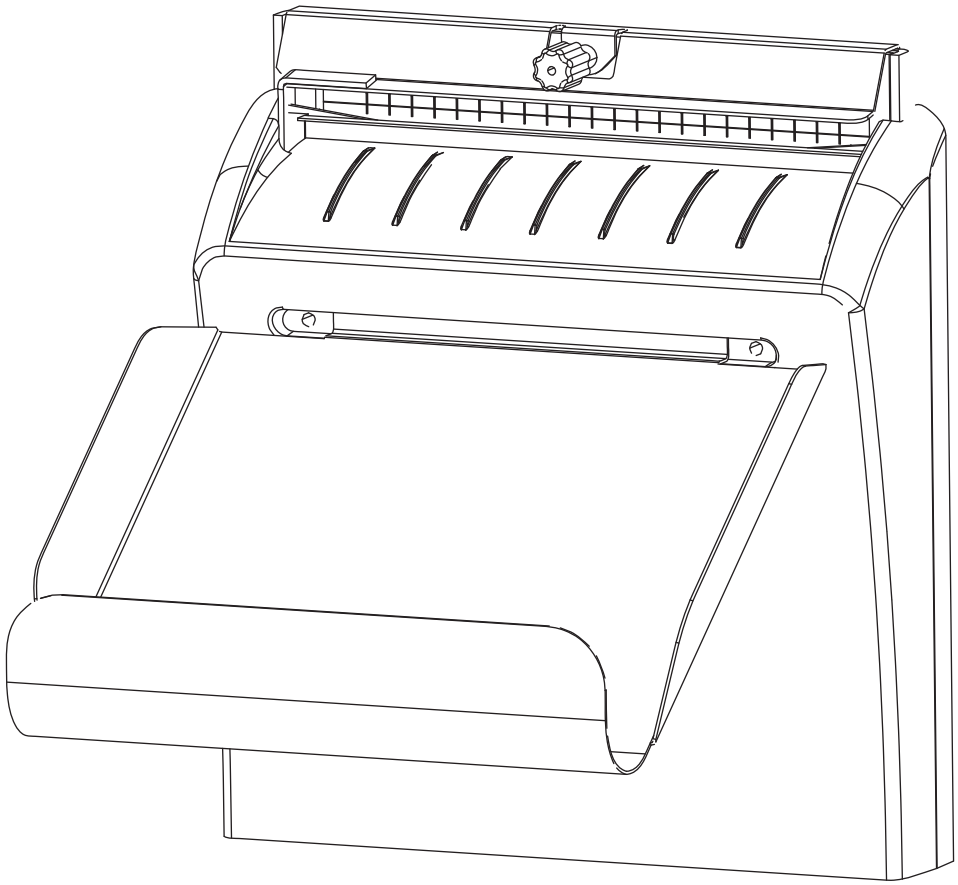
4. See Figure 72. Insert the tabs of the cutter tray into the slots of the front panel cutter assembly.

Figure 72 Cutter Shield and Catch Tray



1	Cutter shield
2	Thumbscrew
3	Cutter assembly
4	Cutter catch tray
5	Cutter tray tab

Figure 73 Tray Installed



Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Print Mechanism Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Print Mechanism Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: ZTxxxxx – **Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter **P**, your printer DOES NOT include these features.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed listed in Table 11 on page 133.

Figure 74 Kit Contents

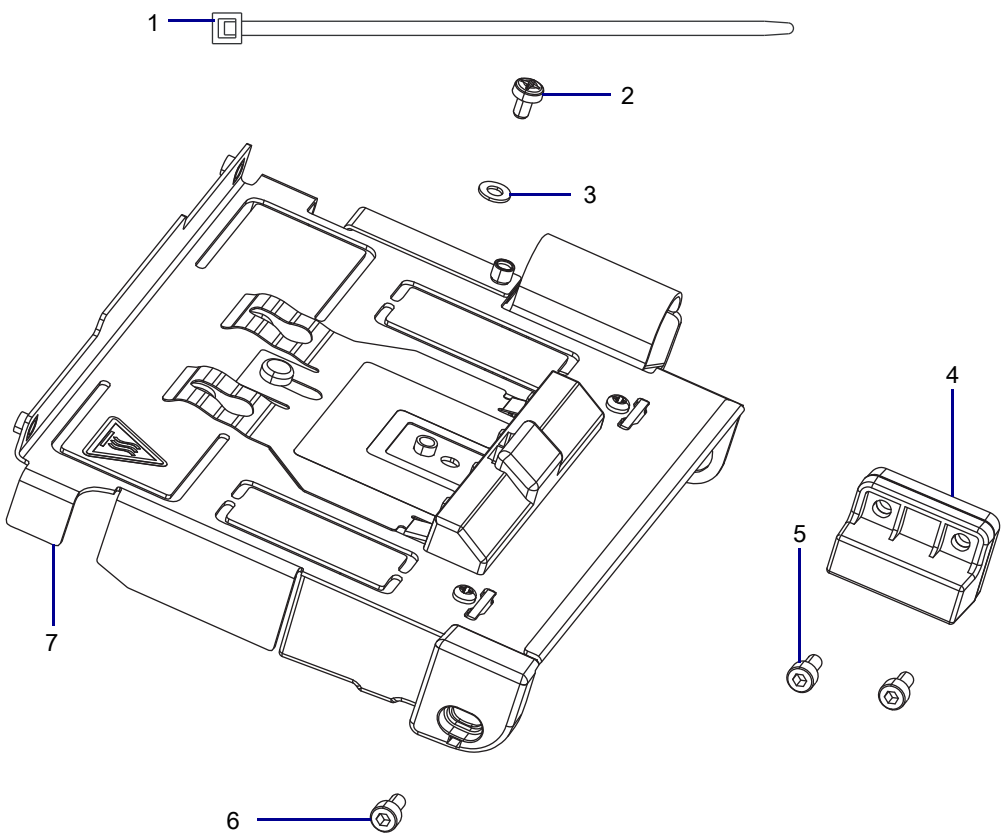


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Table 11 Parts List

Item	Description	Qty
Ref	Print Mechanism Maintenance Kit	
1	Cable Tie, 0.090 × 3.620	1
2	Screw, M3 × 5	1
3	Washer, 0.250 × 0.125 × 0.023	1
4	Magnet Holder	1
5	Screw, M3 × 0.500 × 8	2
6	Screws, M3 × 0.500 × 6	1
7	Print Mechanism	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Metric Hex Key Set
- Wire Cutters
- Safety Glasses
- 47362 Zebra Preventive Maintenance Kit*
- Antistatic Wrist Strap and Mat

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol.

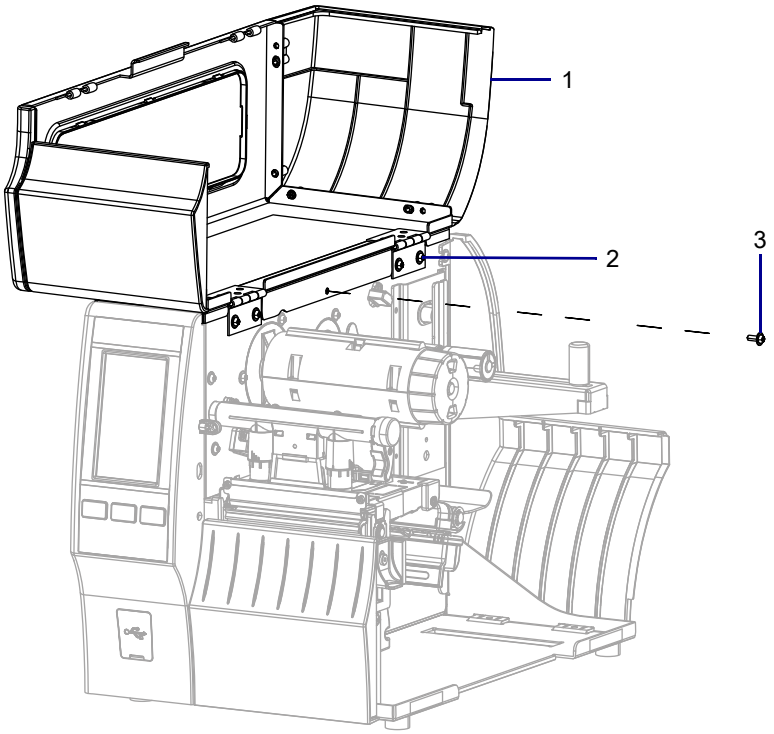
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 75. Remove the screw securing the electronics cover.

Figure 75 Locate the Electronics Cover Mounting Screw

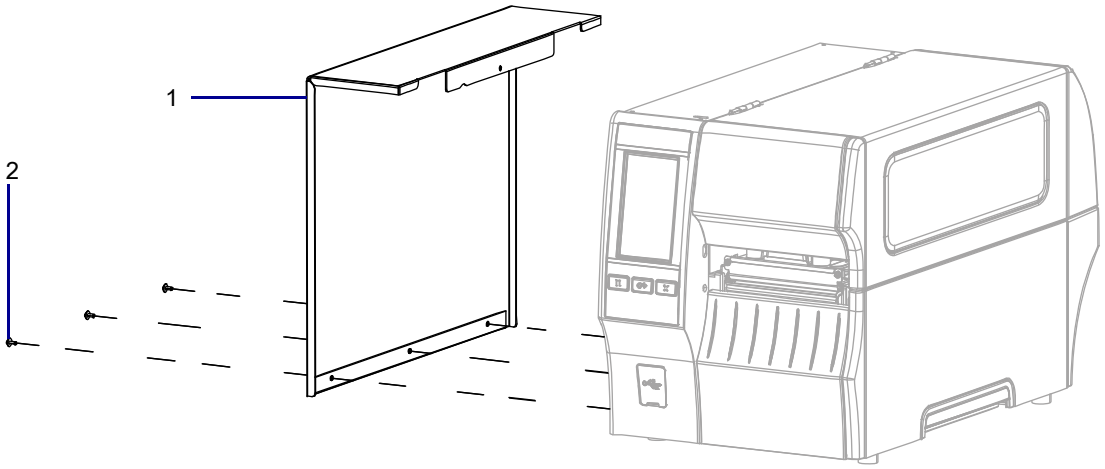


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 76. Remove the three mounting screws securing the electronics cover to the printer.

Figure 76 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

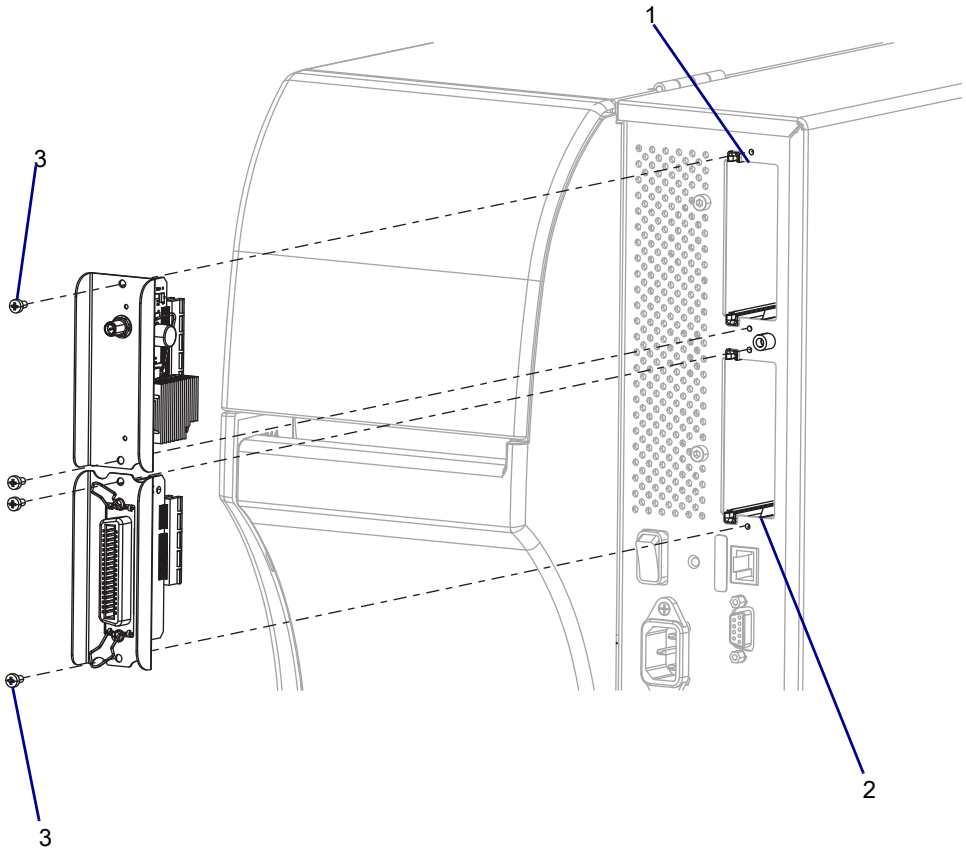
7. Are there option boards installed?

If…	Then…
Yes	Go to Remove the Option Boards on page 136.
No	Go to Remove the Old Magnet Holder on page 137.

Remove the Option Boards

1. See Figure 77. Remove the two screws securing each option board to the printer.

Figure 77 Remove the Option Boards



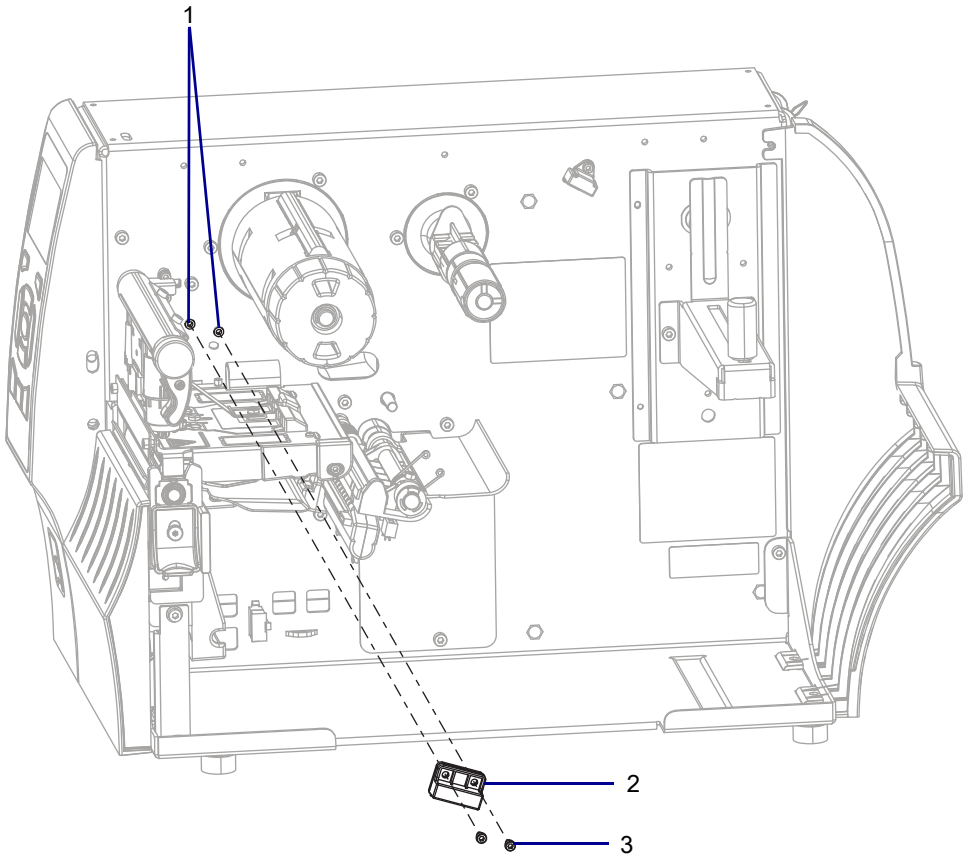
1	Upper option mounting hole
2	Lower option mounting hole
3	Mounting screws (2 each option)

2. Remove the option boards.

Remove the Old Magnet Holder

1. See Figure 78. Remove the old magnet holder by removing the two mounting screws.

Figure 78 Remove the Magnet Holder (ZT410 Printer Shown)



1	Magnet holder mounting holes
2	Magnet holder
3	Magnet holder mounting screws (2)

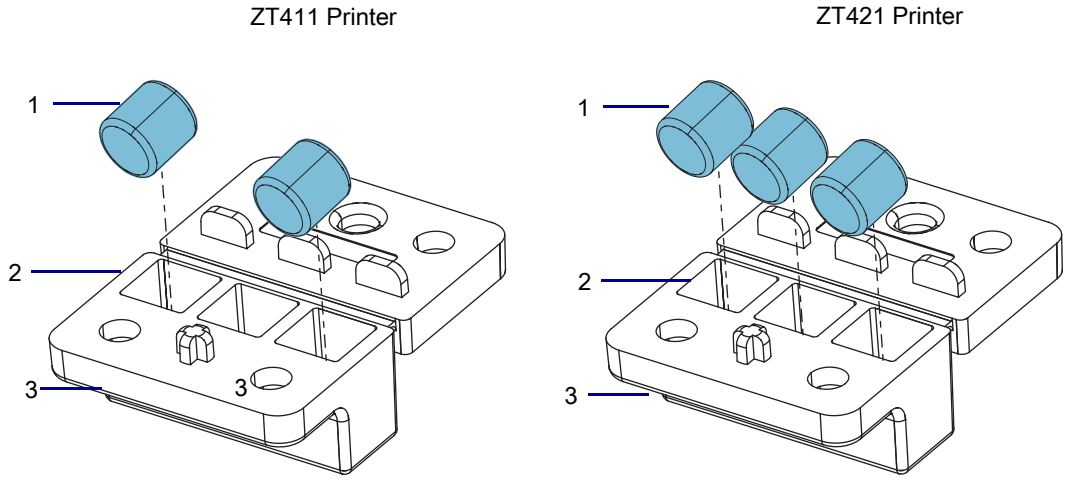
2. Pull the magnet holder out of the printer.

Install the New Magnet Holder

The ZT411 uses two magnets, and the ZT421 uses three magnets.

1. Open the magnet holder.
2. See Figure 79. Insert the two magnets in the ends of the magnet holder for the ZT411. Insert all three for the ZT421.
3. If you put three magnets in for the ZT411, it will take much more force to close the print mechanism.

Figure 79 Insert the Magnets



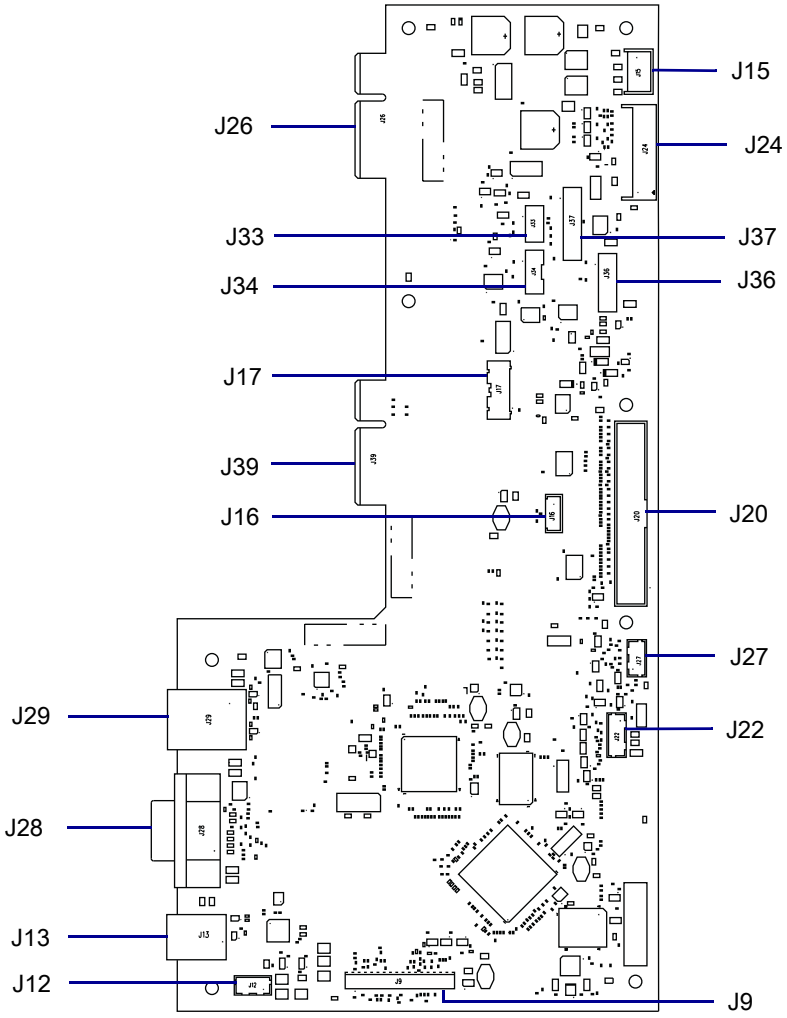
1	Magnet (2 or 3)
2	Magnet holder slots (3)
3	Magnet holder

4. Fold the magnet holder together.
5. See Figure 78 on page 137. Align the holder with the mounting holes.
6. Install the two new mounting screws.

Remove the Main Logic Board Cables

1. See Figure 80. Disconnect all cables from the MLB.

Figure 80 Main Logic Board Interconnections

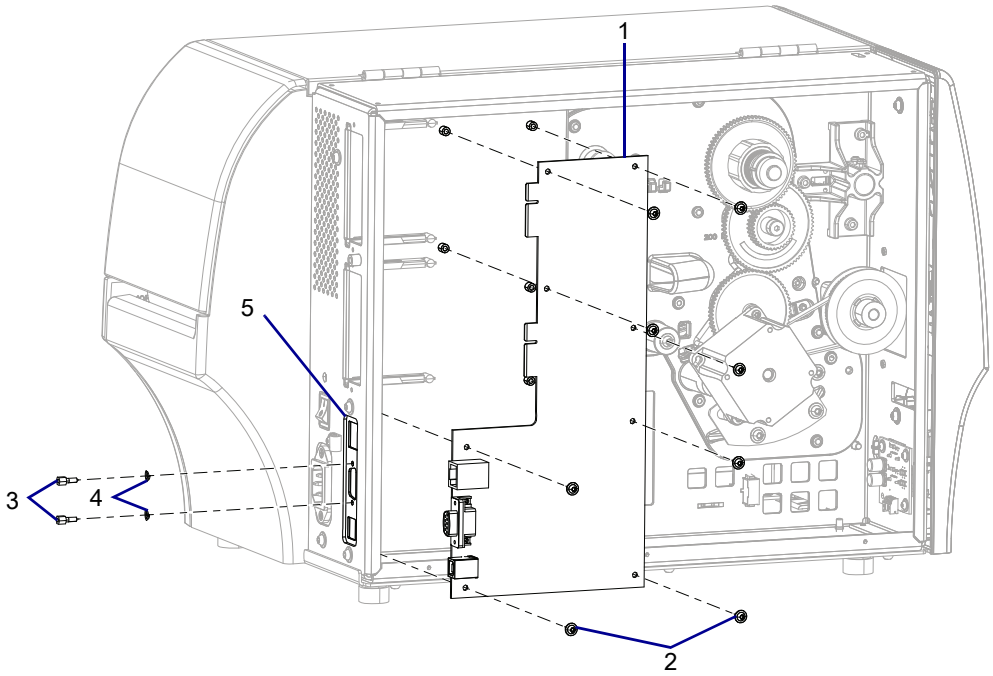


J9	Control panel	J26	Option board connector
J12	USB cable connector‡	J27	RFID connector‡
J13	USB connector	J28	Serial port
J15	Stepper motor	J29	Ethernet
J16	Print mechanism path light‡	J33	Ribbon sensor
J17	Media path light*	J34	Head open sensor
J24	Power supply	J36	Media sensor input
J20	Printhead data cable	J37	Media sensor output
J22	Rewind/LTU/Cutter connector‡	J39	Option board connector

Remove the Main Logic Board

1. See Figure 81. Remove the standoffs and lock washers from the serial port connector.

Figure 81 Remove the Main Logic Board



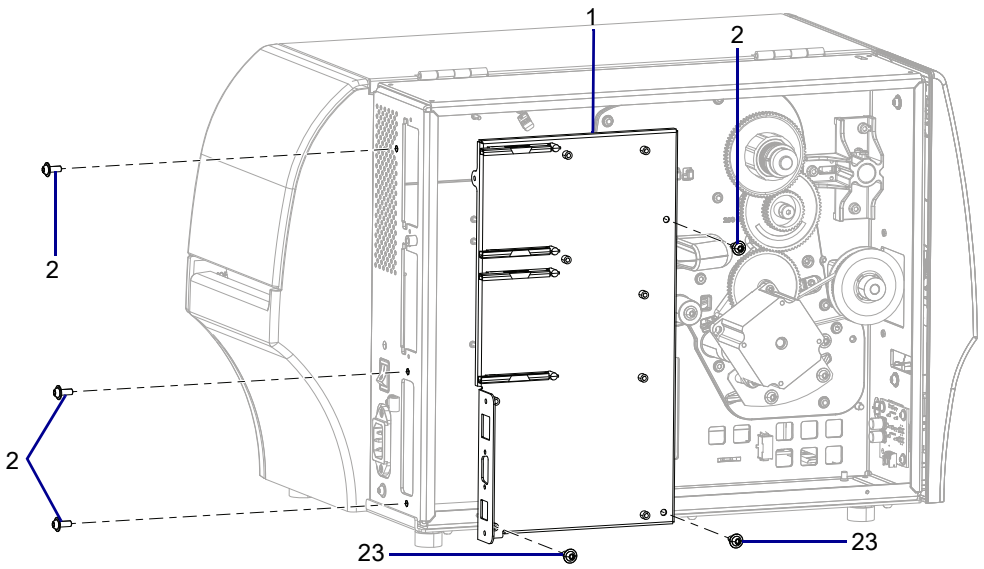
1	Main logic board
2	Mounting screws (8)
3	Standoffs (2)
4	Lock washers (2)
5	Connectivity Ports

2. Remove the eight screws securing the MLB to the MLB bracket.
3. Remove the MLB.

Remove the Old Main Logic Board Bracket Assembly

1. See Figure 82. Remove the three rear mounting screws.

Figure 82 Remove the Main Logic Board Bracket Assembly

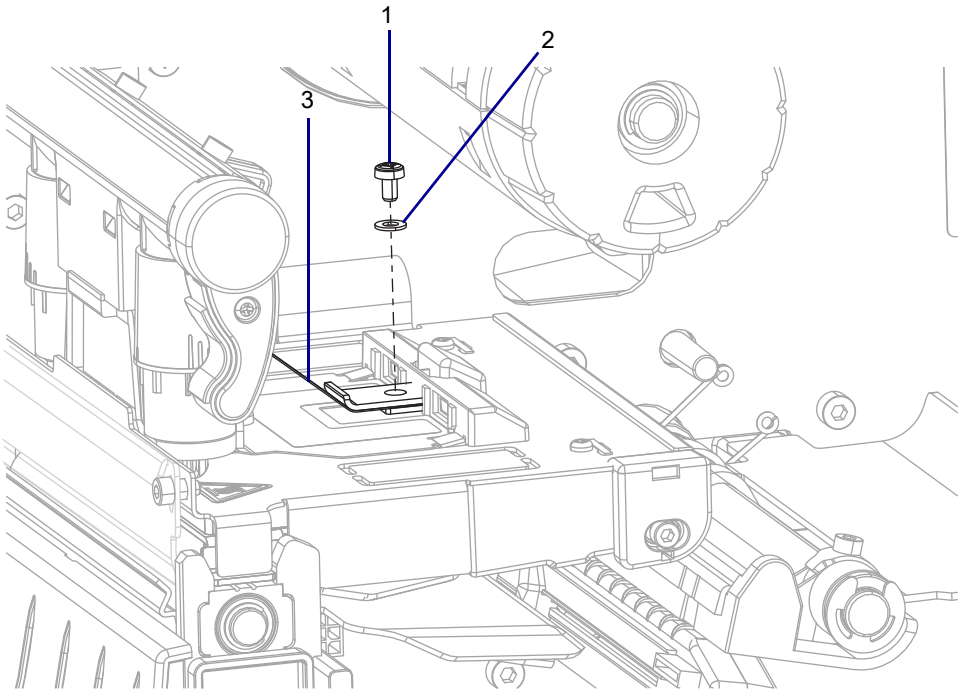


1	MLB bracket assembly
2	Screws (6)

2. Remove the screws securing the MLB bracket.
3. Remove the MLB bracket.

Remove the Print Mechanism

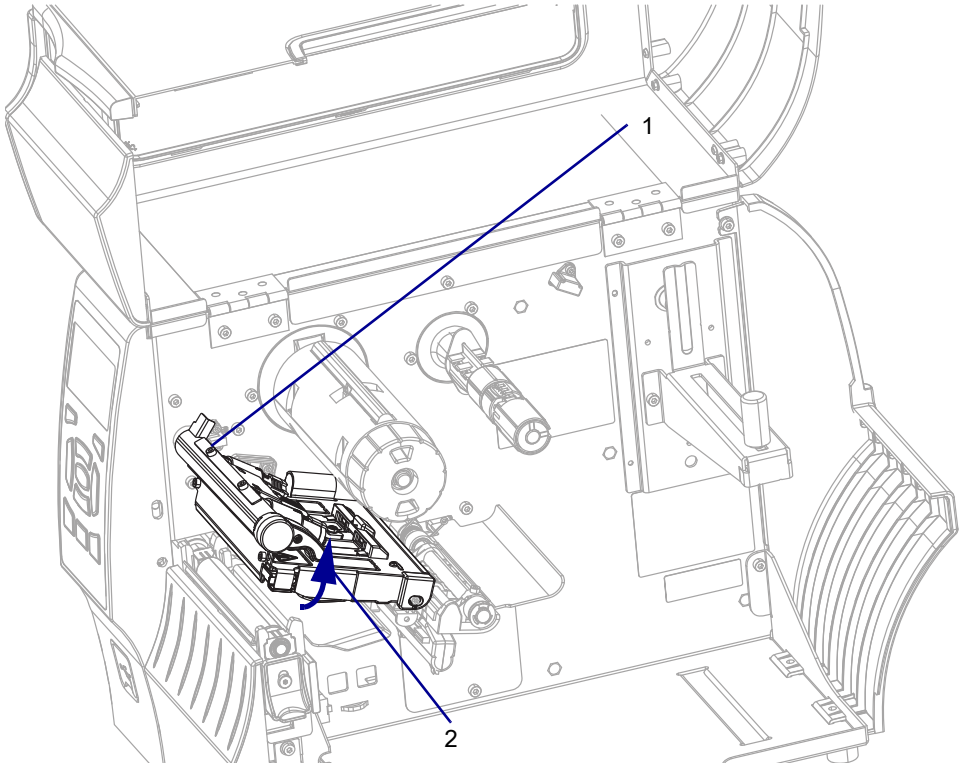
1. Disconnect the print mechanism lift strap by removing and discarding the mounting screw and washer.



1	Mounting screw
2	Mounting washer
3	Lift strap

2. See Figure 83. Raise the toggle bar.

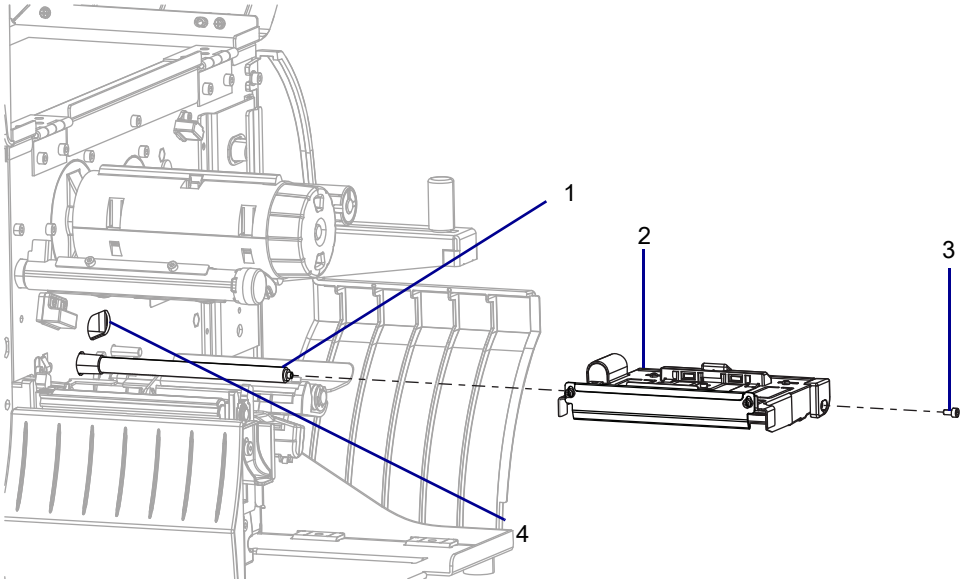
Figure 83 Raise the Toggle Bar (ZT410 Printer Shown)



1	Toggle bar
2	Toggle bar handle

3. See Figure 84. Remove and discard the print mechanism mounting screw.

Figure 84 Remove the Print Mechanism Mounting Screw



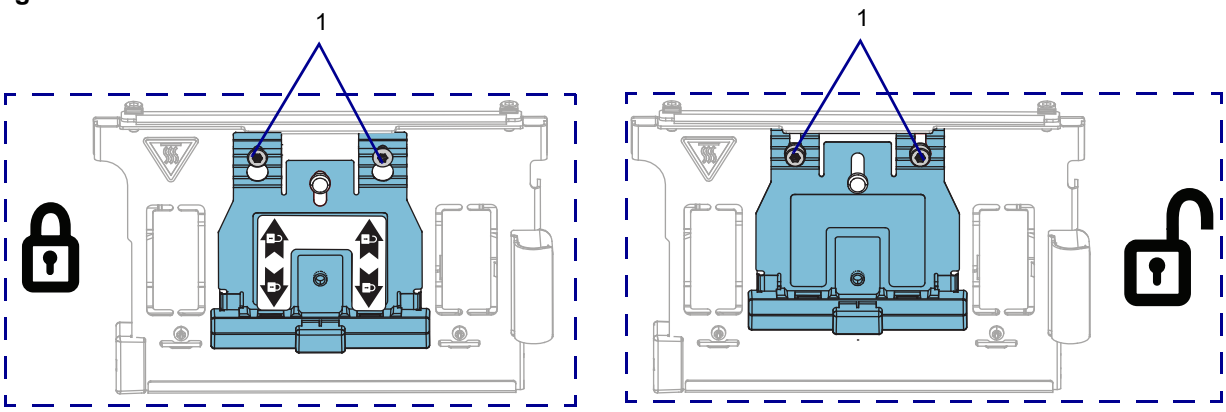
1	Print mechanism shaft
2	Print mechanism
3	Print mechanism mounting screw
4	Cable pass-through opening

4. While guiding the printhead cable through the cable pass-through opening, slide the print mechanism off the shaft.

Remove the Printhead

1. See Figure 85. Slide the printhead latch forward until the large hole is aligned with the two printhead locking posts.

Figure 85 Slide the Printhead Latch

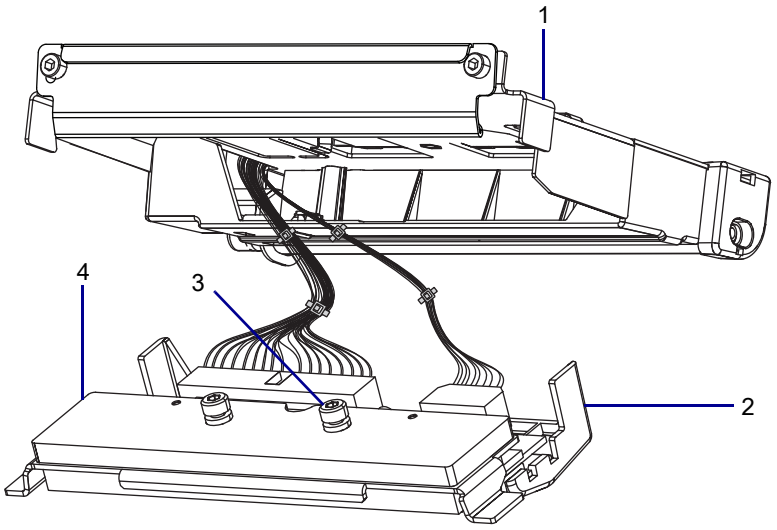


1	Printhead locking posts (2)

CAUTION—HOT SURFACE: The printhead may be hot and could cause severe burns. Allow the printhead to cool.

2. See Figure 86. Pull the printhead out of the print mechanism, and then disconnect the printhead cable.

Figure 86 Disconnect the Printhead Cable

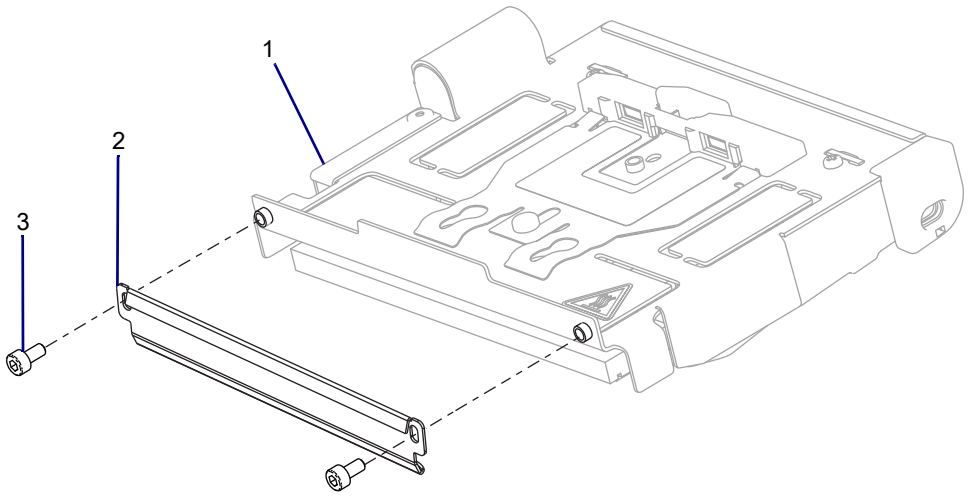


1	Print mechanism assembly
2	Printhead cable
3	Printhead cable connector
4	Printhead assembly

Remove the Ribbon Strip Plate

1. See Figure 87. From the old print mechanism, remove and set aside the ribbon strip plate and the two mounting screws.

Figure 87 Remove the Ribbon Strip Plate



1	Print mechanism
2	Ribbon strip plate
3	Mounting screws (2)

Install the New Print Mechanism

1. See Figure 84 on page 144. Slide the new print mechanism onto the print mechanism shaft while guiding the printhead cables through the cable pass-through opening.
2. Install the new mounting screw.
3. See Figure on page 142. Install the lift strap washer and mounting screw.

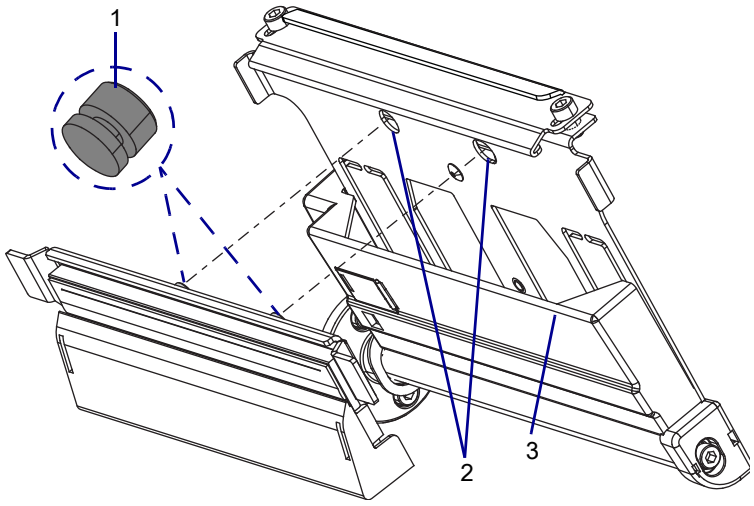
Reinstall the Ribbon Strip Plate

1. See Figure 87. Align the strip plate and mounting screws with the mounting holes on the new print mechanism.
2. Slightly tighten the mounting screws.

Reinstall the Printhead

1. See Figure 86 on page 145. Connect the printhead cable to the printhead.
2. See Figure 88. Carefully slide the printhead cable back into the printhead cable cover.
3. Insert the printhead assembly locking posts into the printhead latch holes. Ensure that the printhead assembly is making full contact with the print mechanism support bracket.

Figure 88 Install the Printhead



1	Locking posts (2)
2	Printhead latch holes (2)
3	Printhead cable cover

4. See Figure 85 on page 145. While holding the printhead in place, lock the printhead into the print mechanism by sliding the printhead latch toward the rear of the printer.
5. Using Preventative Maintenance Kit 48726, clean the new printhead. Refer to the **User Guide** for more information.
6. Reconnect the printhead power cable to JP1 on the power supply.
7. Close the printhead

Reinstall the Main Logic Board Bracket Assembly

1. See Remove the Main Logic Board Bracket Assembly on page 141. Insert the new MLB bracket into place.
2. Install the 8 new screws.
3. See Figure 83 on page 143. Lower the Toggle Bar.

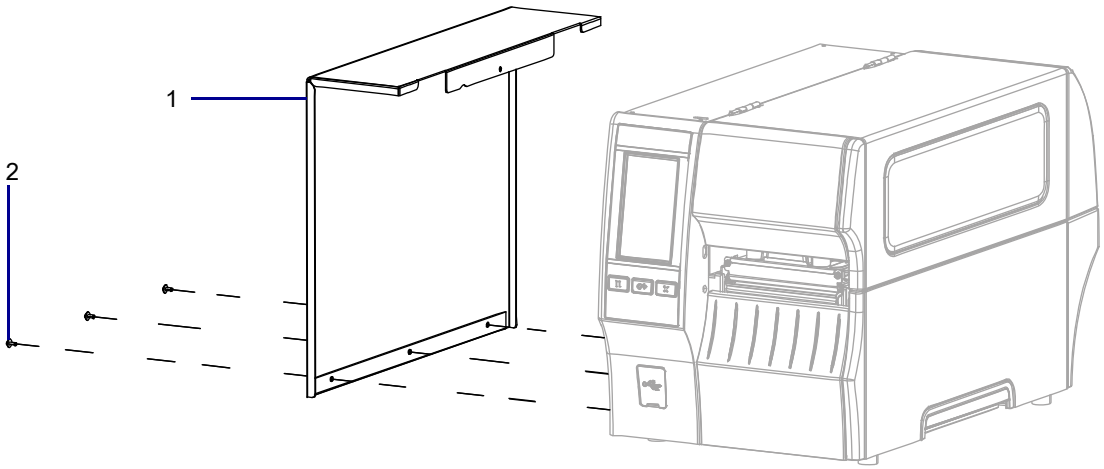
Reinstall the Main Logic Board

1. See Figure 80 on page 139. Align the MLB connectivity ports with the connectivity port slots on the MLB bracket assembly and slide the MLB into position.
2. Install the eight screws.
3. Install standoffs and lock washers on the serial port connector.
4. See Figure 1 on page 140. Connect all previously removed cables to the new main logic board.

Reinstall the Electronics Cover

1. See Figure 89. Slide the electronics cover onto the printer.

Figure 89 Reinstall the Electronics Cover Mounting Screws

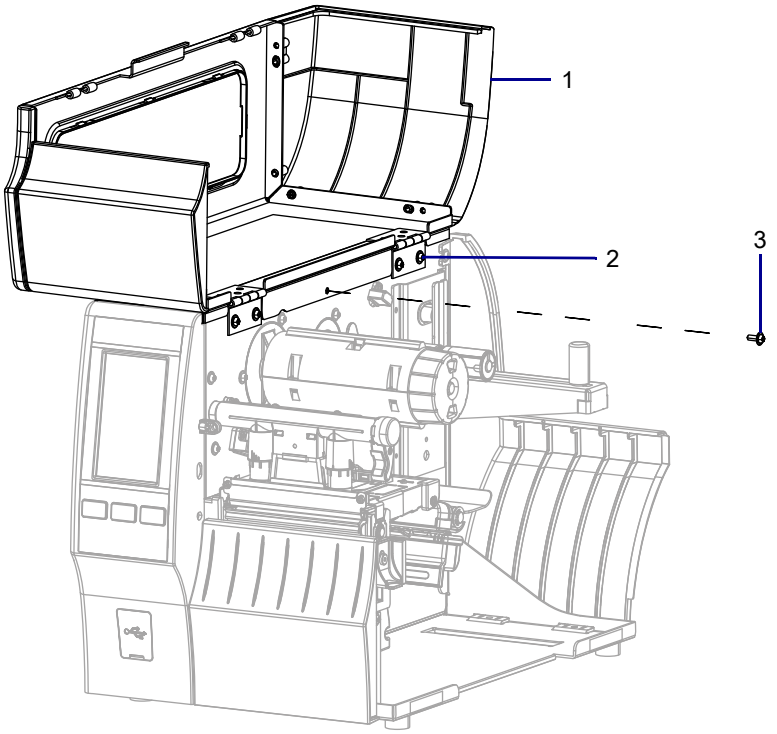


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 90. Open the media door and install the mounting screw.

Figure 90 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Test and Adjust the Ribbon Strip Plate

1. Reconnect the AC power cord and all data cables.
2. Press and hold **PAUSE** while turning on (**I**) the printer.

   After the Power On Self Test (POST), the printer begins printing the Pause test labels.
3. Press **PAUSE.** After the printer pauses, observe the ribbon for possible problems such as wrinkling.
4. Does the ribbon wrinkle or track incorrectly?

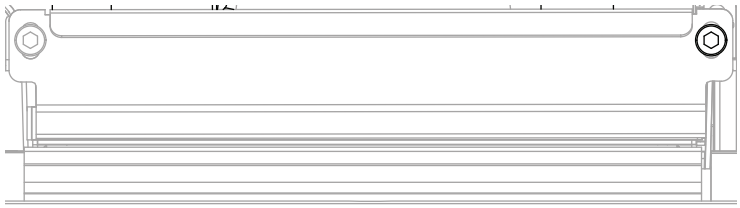
If…	Then…
No	**1.** Tighten the mounting screws. **2.** Go to The installation is complete. on page 151.
Yes	Go to Adjust the Strip Plate on page 150.

Adjust the Strip Plate

The strip plate can be adjusted for proper tracking and separation of the ribbon from the media after printing.

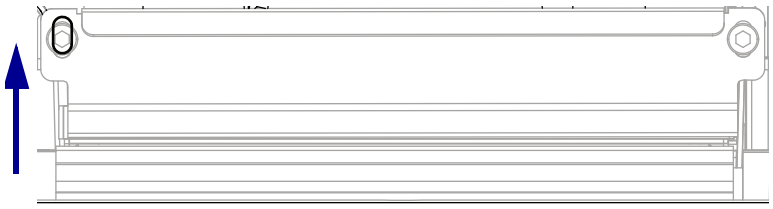
1. See Figure 91. Tighten the outer ribbon strip plate mounting screw so it is centered in the slot so the ribbon strip plate can still move.

Figure 91 Center Outer Ribbon Strip Plate Screw



2. See Figure 92. Loosen the inside mounting screw that secures the strip plate to the front of the print mechanism assembly.
3. Raise the inside end of the strip plate upward to just hide the bottom of the slot behind the screw.

Figure 92 Outer Ribbon Strip Plate Screw Lifted



4. Tighten both screws.
5. Press **PAUSE** to resume printing Pause test labels.
6. Print approximately 5 to 8 feet of labels, checking for ribbon wrinkle, tracking issues, and media/ribbon separation issues.
7. Press **PAUSE** to stop printing.

8. Does the ribbon wrinkle or track incorrectly?

If…	Then…
No	Tighten the mounting screws and go to The installation is complete.
Yes	1. Loosen the mounting screws. 2. Raise or lower the inside end of the ribbon strip plate slightly. 3. Press PAUSE to resume printing Pause test labels. 4. Print a approximately 5 to 8 feet of labels checking for ribbon wrinkle, tracking and media/ribbon separation problems. 5. Repeat step 2 until the ribbon tracks correctly.

The installation is complete.

ZT411/ZT421 Printers Ribbon Strip Plate and Antistatic Brush Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Ribbon Strip Plate and Antistatic Brush Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 93 Kit Contents

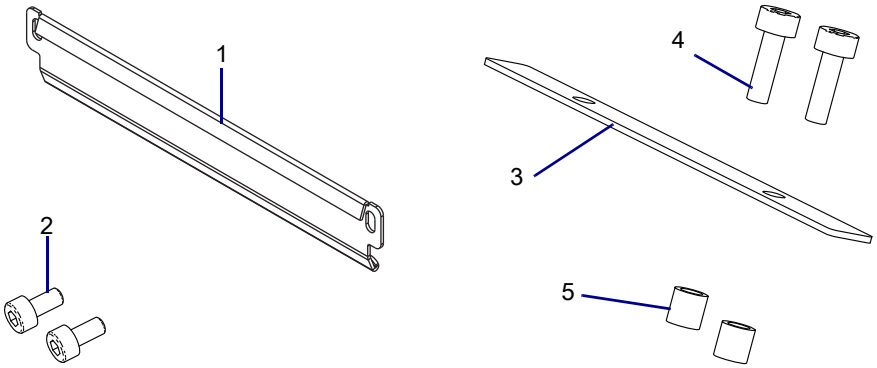


Table 12 Parts List

Item	Description	Qty
Ref	Ribbon Strip Plate and Antistatic Brush Maintenance Kit	
1	Ribbon Strip Plate	1
2	Screw, M3 × 0.5 × 6	2
3	Ribbon Antistatic Brush	1
4	Screw, M3 × 0.5 × 10	2
5	Antistatic Brush Standoff	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hex Key Set

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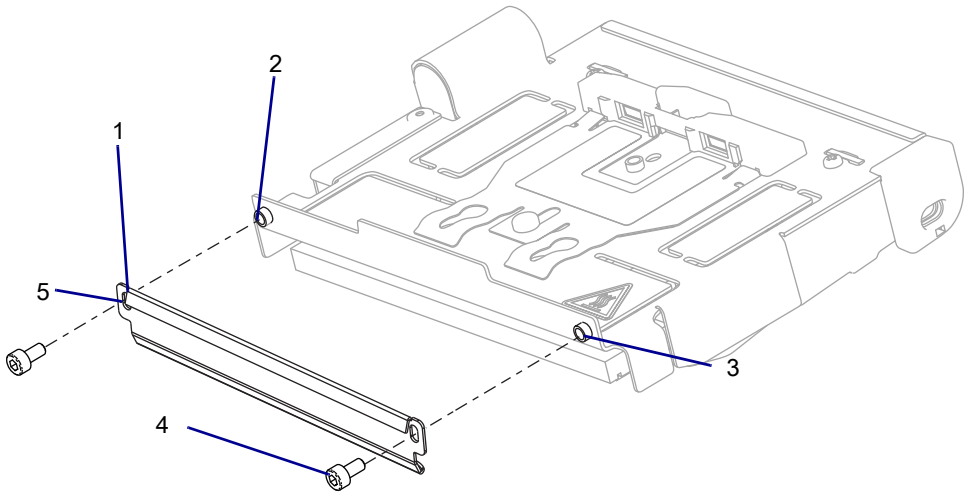
Replace the Ribbon Strip Plate

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon the printer.
3. See Figure 94. Remove the two mounting screws, and then lift the strip plate out of the printer.

Figure 94 Remove the Strip Plate



1	Ribbon strip plate
2	Inner mounting hole
3	Outer mounting hole
4	Mounting screws (2)
5	Elongated slots (2)

4. Start the outer mounting screw.
5. Align new ribbon strip plate with the inner mounting hole, and then start the mounting screw.
6. Align the strip plate with the screw heads in the center of the elongated holes in the ribbon strip plate.
7. Slightly tighten the mounting screws.
8. Reinstall the media and ribbon.
9. Reinstall the AC power cord and data cables.
10. Press and hold **PAUSE** while turning on (**I**) the printer.
11. After the Power On Self Test (POST), the printer will start to print the Pause test labels.
12. Press **PAUSE**. After the printer pauses, observe the ribbon for possible problems such as wrinkling.

13. Does the ribbon wrinkle or track incorrectly?

If…	Then…
No	1. Tighten the mounting screws. 2. Go to Replace the Ribbon Antistatic Brush on page 155.
Yes	Go to Adjust the Strip Plate.

Adjust the Strip Plate

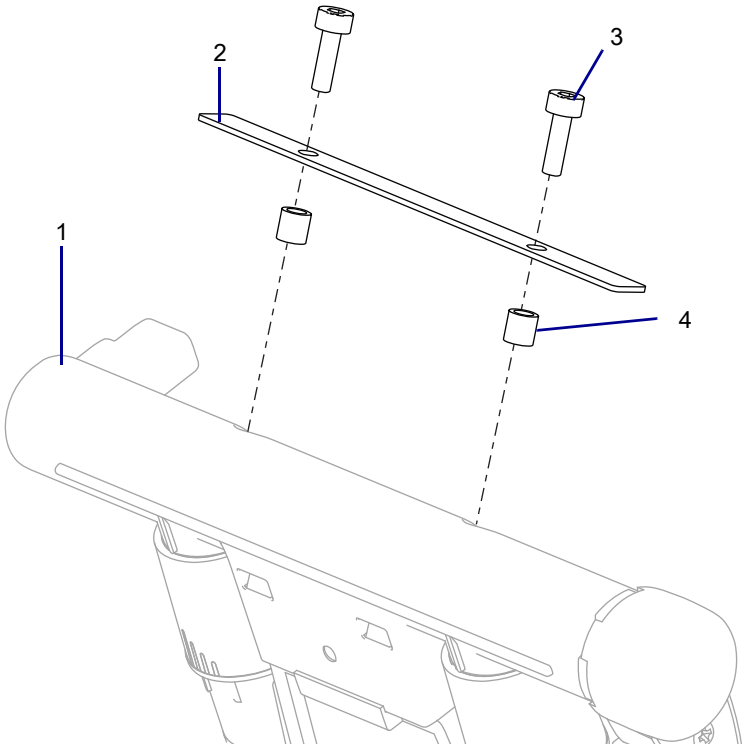
The strip plate can be adjusted for proper tracking and separation of the ribbon from the media after printing.

1. With the outside screw remaining centered in the slot, loosen the inside mounting screw.
2. Raise the inside end of the strip plate upward to just hide the bottom of the slot behind the screw.
3. Tighten both screws.
4. Press **PAUSE** to restart the printing.
5. Print a minimum of 25 labels while checking for ribbon wrinkle, tracking, and media/ribbon separation problems.
6. Press **PAUSE** to stop the printing.
7. Raise or lower the inside end of the strip plate slightly to correct any separation or tracking issues.
8. Press **PAUSE** to restart the printing.
9. Print a minimum of 25 labels while checking for ribbon wrinkle, tracking, and media/ribbon separation problems.
10. If problem persists repeat step 7 through step 9.

Replace the Ribbon Antistatic Brush

1. See Figure 95. Remove and discard the two mounting screws, two standoffs, and antistatic brush.

Figure 95 Remove the Ribbon Antistatic Brush



1	Toggle bar assembly
2	Ribbon antistatic brush
3	Mounting screws (2)
4	Standoffs (2)

2. Install the new ribbon antistatic brush with the brush facing forward and the standoffs between the antistatic brush and the toggle bar assembly.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Printhead Conversion Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Printhead Conversion Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 96 Kit Contents

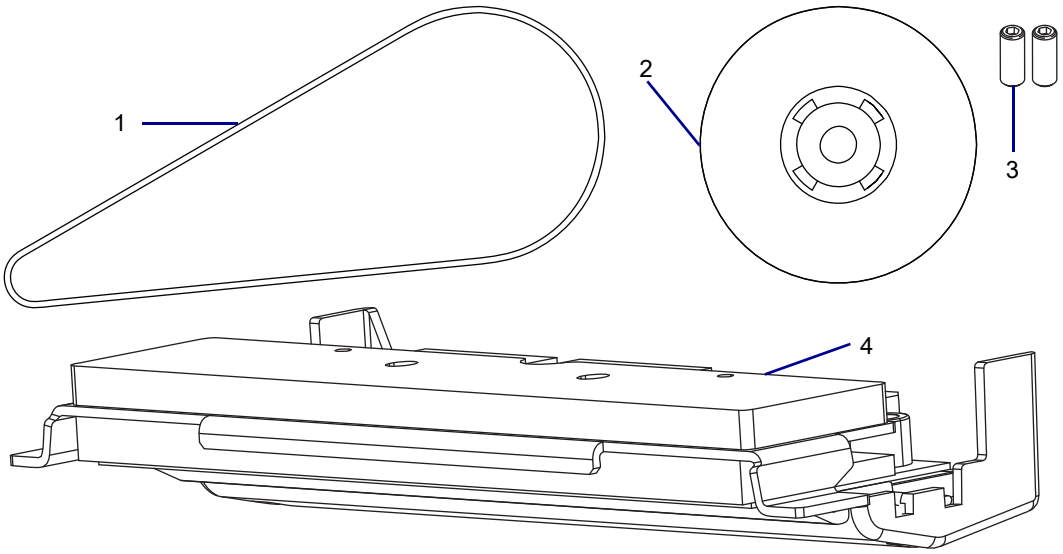


Table 13 Parts List

Item	Description	Qty
Ref	Printhead 203/600 dpi to 300 dpi Conversion Kit	
	Printhead 300/600 dpi to 203 dpi Conversion Kit	
	Printhead 203/300 dpi to 600* dpi Conversion Kit	
1	Kit Drive Belt 203 dpi	1
	Kit Drive Belt 300 dpi and 600 dpi*	
2	Platen Pulley	1
3	Screw, M4 × 0.7 × 10	2
4	Kit Printhead 203/300/600 dpi*	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.
* 600 dpi is not available for the ZT421 printers.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Metric Hex Key Kit
- 47362 Zebra Preventive Maintenance Kit*
- Antistatic Wriststrap and Mat

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol.

Remove the Electronics Cover

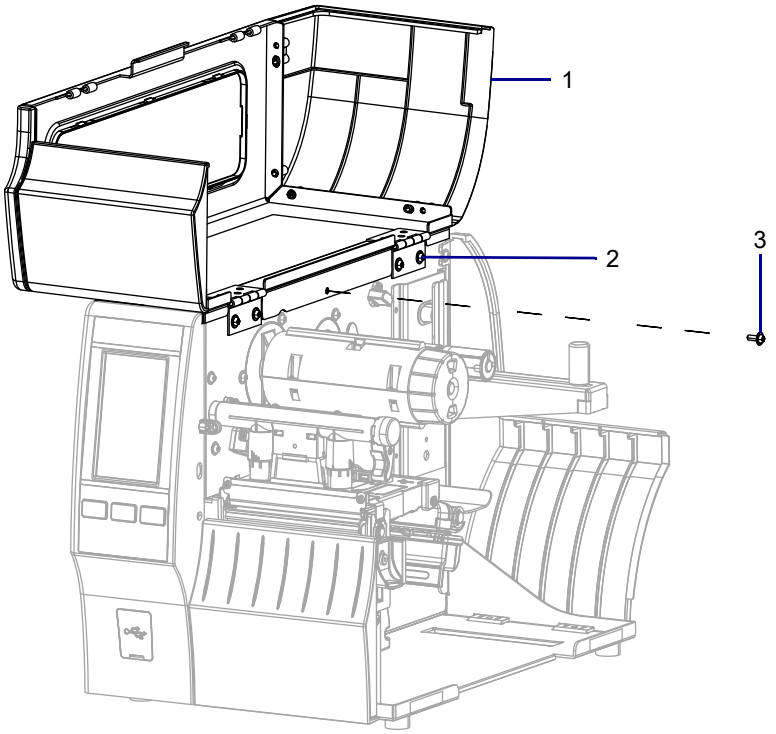
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 97. Remove the screw securing the electronics cover.

Figure 97 Locate the Electronics Cover Mounting Screw

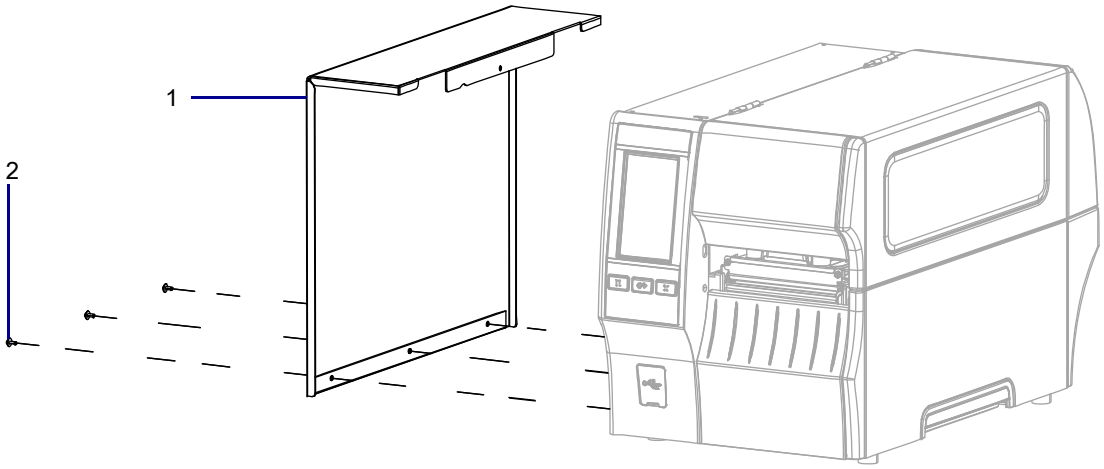


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 98. Remove the three mounting screws securing the electronics cover to the printer.

Figure 98 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

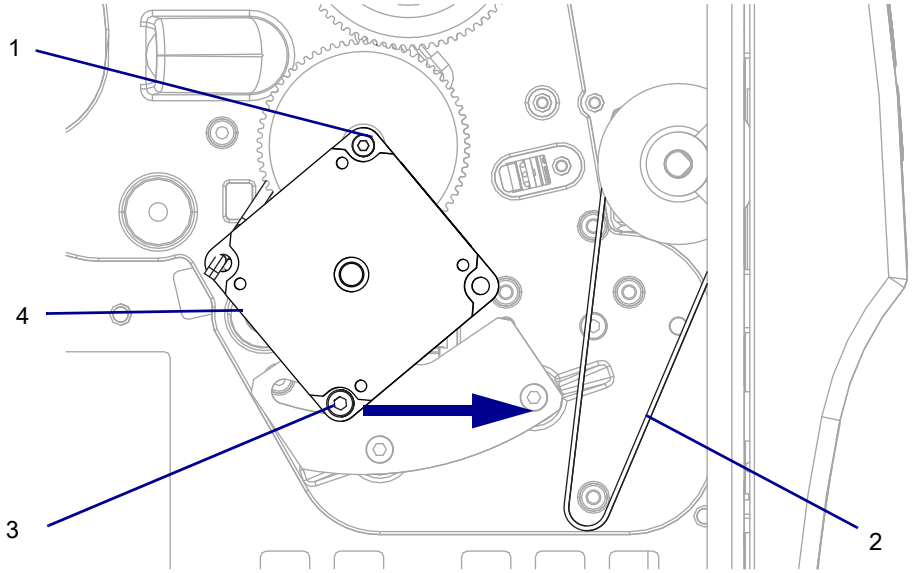
Figure 99

6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Pulley and Belt

1. See Figure 100. Loosen the pivot screw and the lower mounting screw on the drive motor.

Figure 100 Remove the Drive Belt



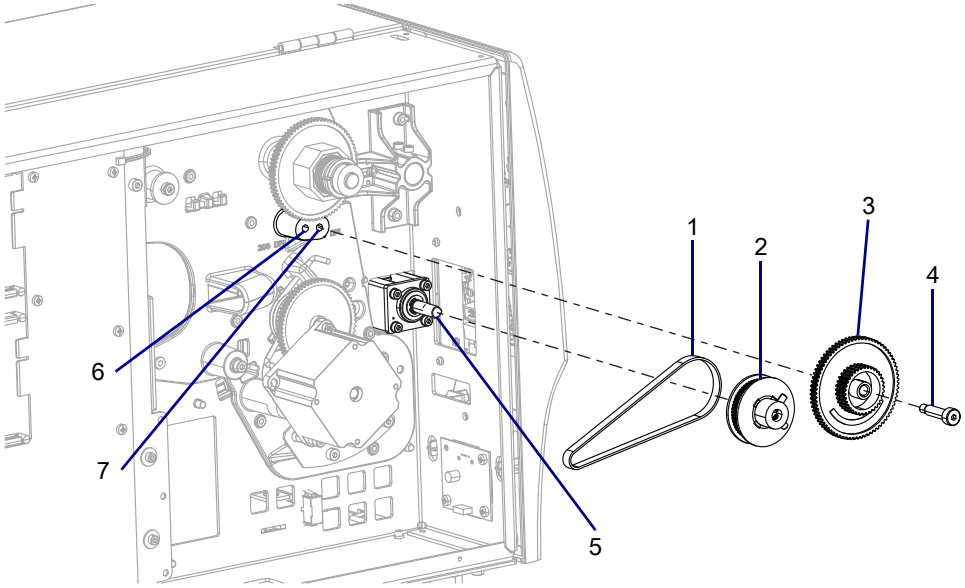
1	Pivot screw
2	Drive belt
3	Lower mounting screw
4	Drive motor

2. Slide the bottom of drive motor toward the front of the printer, as far as possible, and then re-tighten the lower mounting screw.

3. Remove the drive belt.

4. See Figure 101. Loosen the two set screws securing the drive pulley to the platen shaft.

Figure 101 Remove the Old Pulley



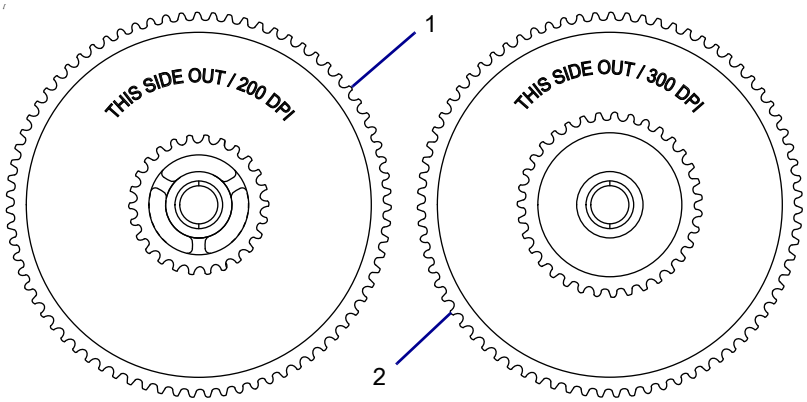
1	Drive belt, 300 dpi
2	Platen pulley
3	Upper compound gear
4	Mounting shoulder screw
5	Platen shaft
6	Compound pulley mount hole for 203 dpi
7	Compound pulley mount hole for 300/600 dpi

5. Remove the old pulley.
6. Remove the upper compound gear.

Install the New Pulley and Drive Belt

1. See Figure 102. Reinstall the upper compound gear with the proper dpi facing out, 203 dpi or 300/600 dpi.

Figure 102 Compound Gear Direction



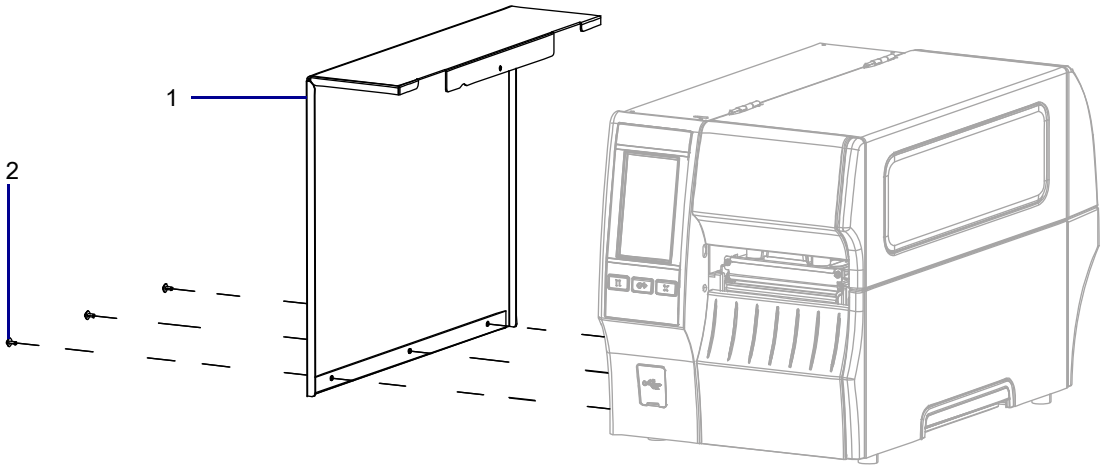
1	This side out for 203 dpi
2	This side out for 300/600 dpi

2. If the set screws are missing from pulley, locate them in the kit, and then partially install the two set screws.
3. Slide the new pulley on to the platen shaft, ensuring that the two set screws align with the two flats on the platen shaft.
4. Tighten the two set screws.
5. Install the new drive belt.
6. Loosen the lower mounting screw securing the drive motor.
7. Ensure that the belt is seated on the two pulleys, and then tighten the lower mounting screw.
8. Tighten the pivot screw.

Reinstall the Electronics Cover

1. See Figure 103. Slide the electronics cover onto the printer.

Figure 103 Reinstall the Electronics Cover Mounting Screws

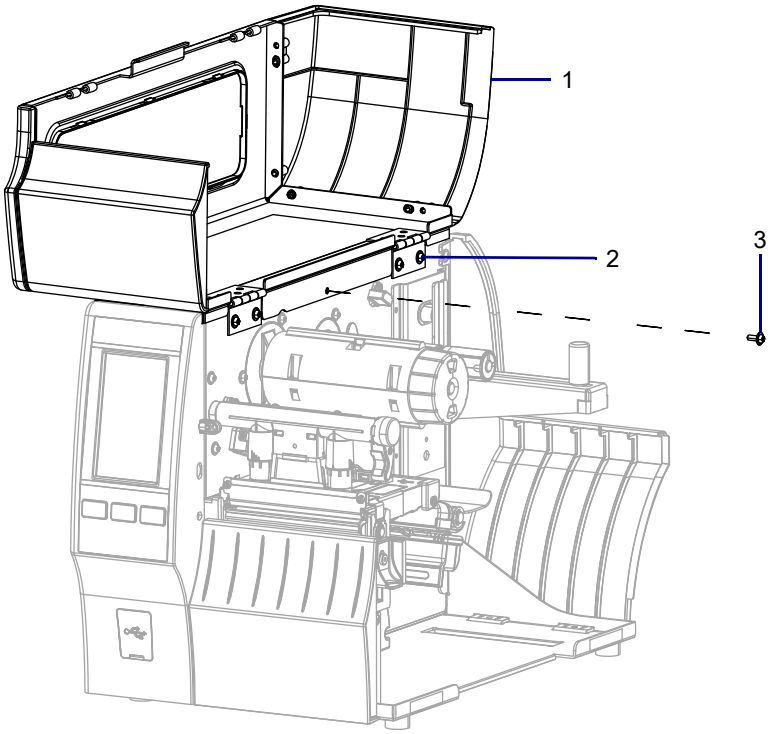


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 104. Open the media door and install the mounting screw.

Figure 104 Locate the Electronics Cover Mounting Screw

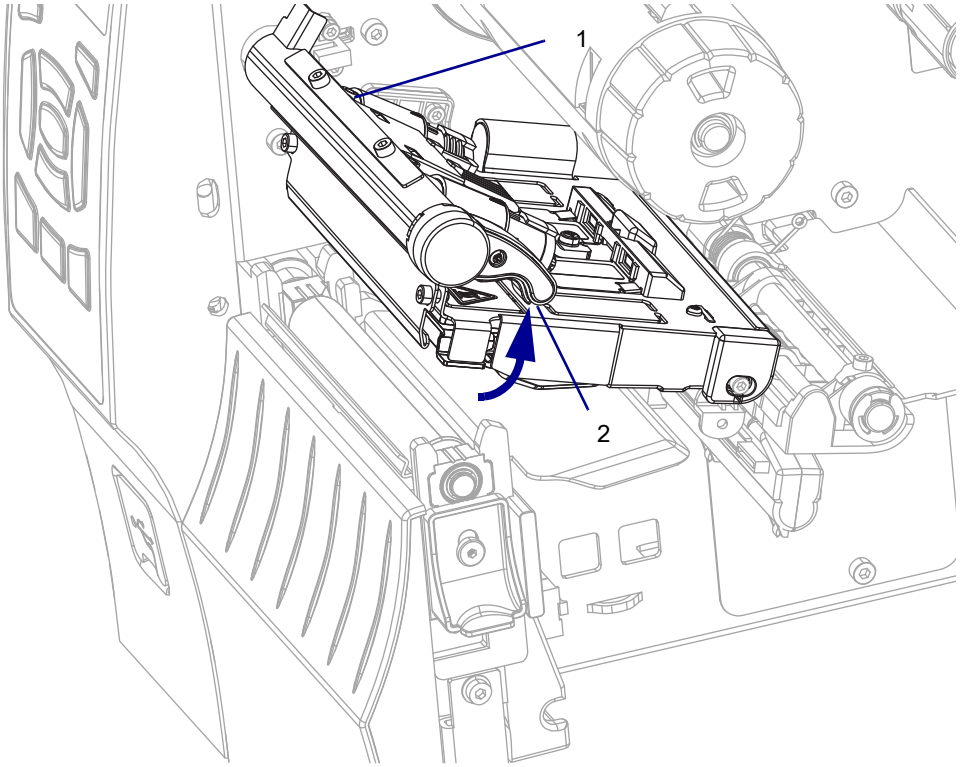


1	Media door
2	Electronics cover
3	Mounting screw

Remove the Old Printhead

1. Raise the toggle bar.

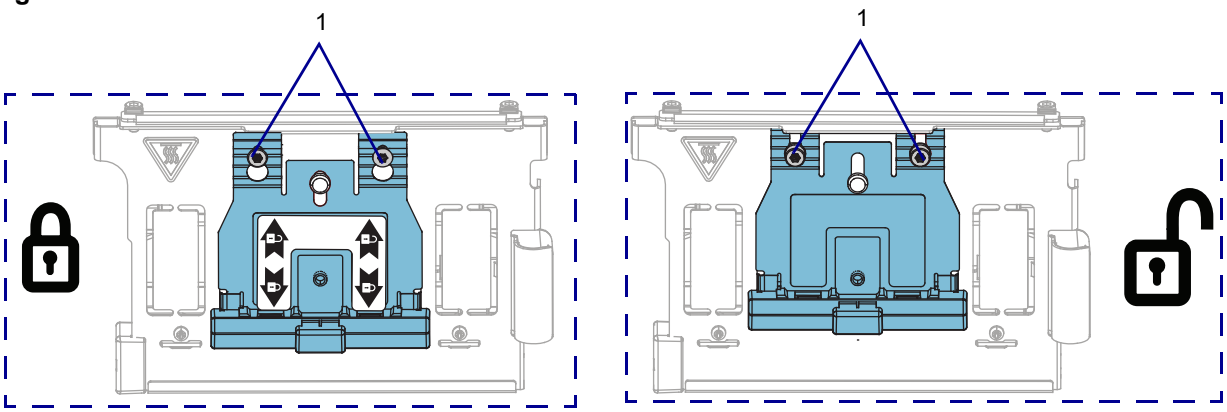
Figure 105 Raise the Toggle Bar (ZT410 Printer Shown)



1	Toggle bar
2	Toggle bar handle

2. See Figure 106. Slide the printhead latch forward until the large hole is aligned with the two printhead locking posts.

Figure 106 Slide the Printhead Latch



1	Printhead locking posts (2)

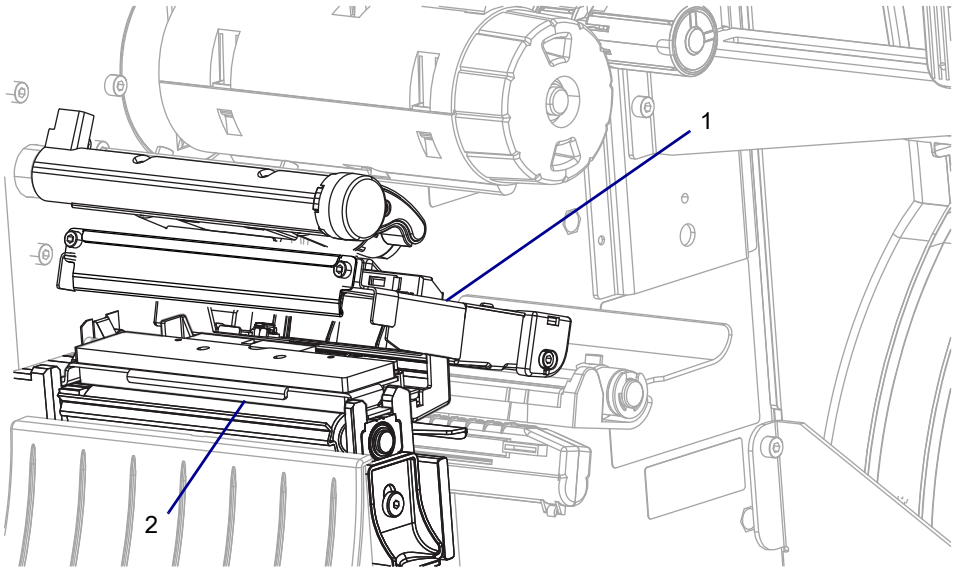
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

3. Connect yourself to an antistatic device.

CAUTION—HOT SURFACE: The printhead may be hot and could cause severe burns. Allow the printhead to cool.

3. See Figure 107. Remove the printhead from the upper printhead assembly.

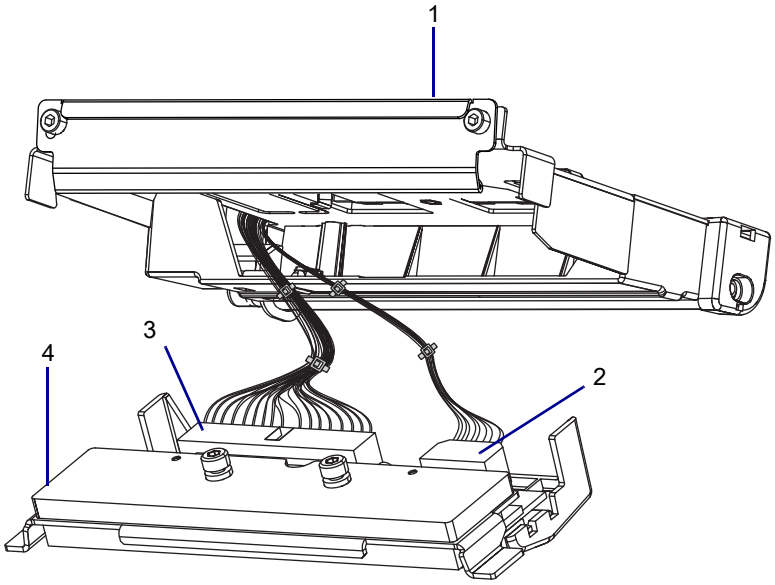
Figure 107 Remove the Printhead



1	Upper print mechanism assembly
2	Printhead

4. See Figure 108. Disconnect the printhead cables from the printhead.

Figure 108 Disconnect the Printhead Cables



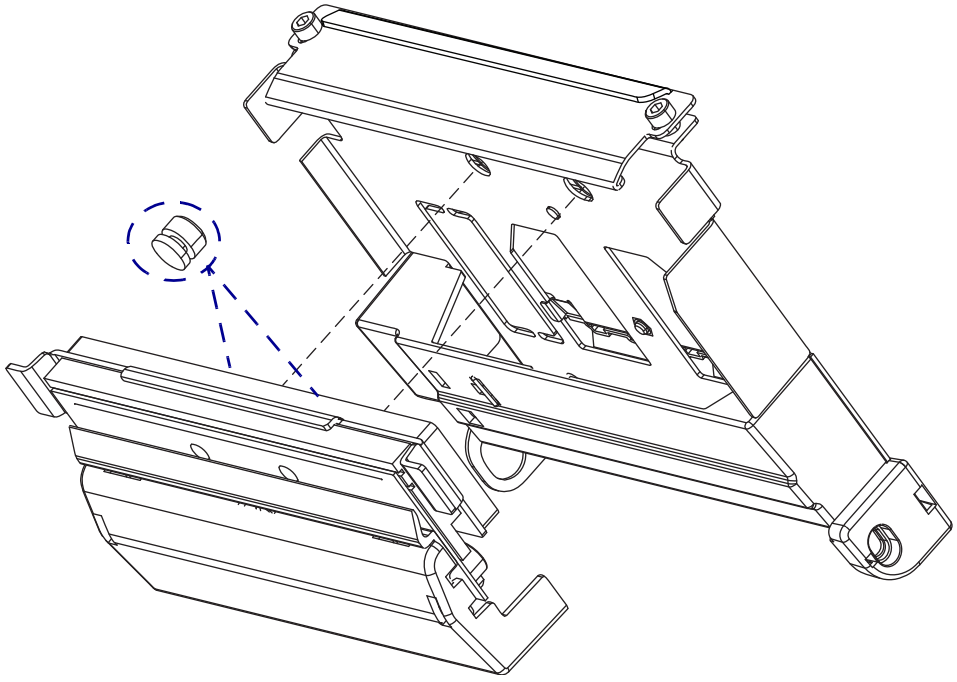
1	Upper print mechanism assembly
2	Printhead power cable
3	Printhead data cable connector
4	Printhead assembly

5. Remove the printhead from the printer.

Install the New Printhead

1. See Figure 108. Set the new printhead assembly into the printer and connect the printhead cables.
2. See Figure 109. Slide the printhead into the upper print mechanism and through the printhead latch holes.

Figure 109 Install the Printhead



3. See Figure 106 on page 166. While holding the printhead in place, lock the printhead into the upper print mechanism by sliding the printhead latch toward the rear of the printer.

NOTE: Use the Preventive Maintenance Kit (part number 47362). In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol.

4. Clean the printhead.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

Drive System Components

This section supplies you with the parts information and installation procedures for the drive system.

Drive System Parts and Drawings

Figure 110 Drive System Overview

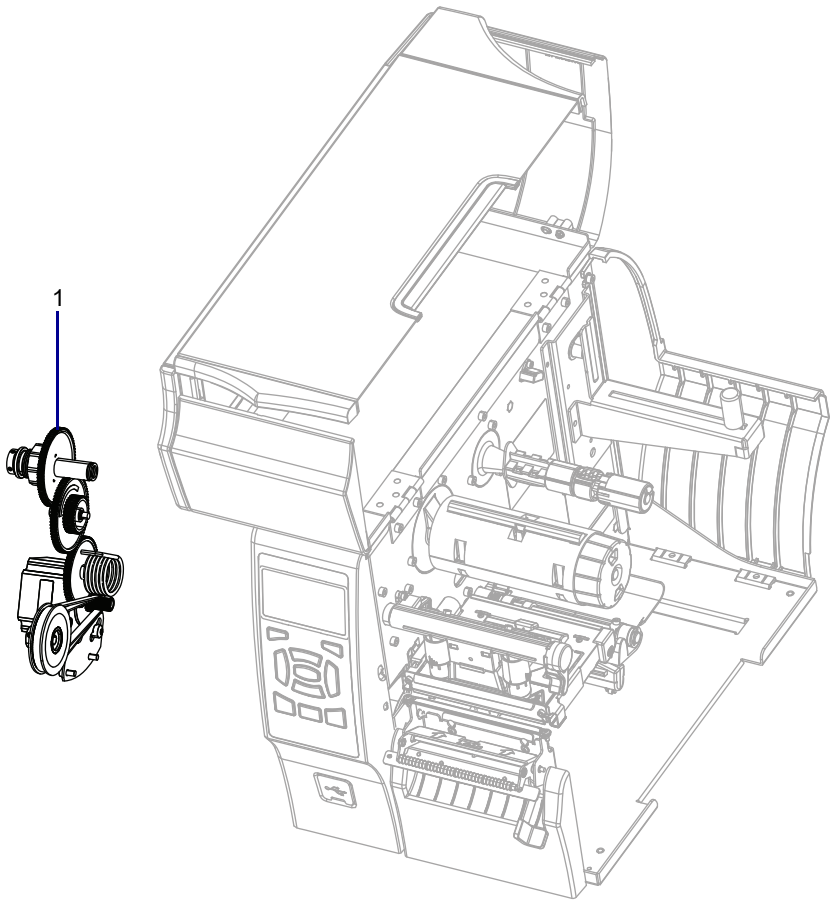


Table 14 Parts List

Item	Part Number	Description
1	P1058930-039	ZT411/ZT421 Printers Drive System Maintenance Kit

Figure 111 Drive System Kits

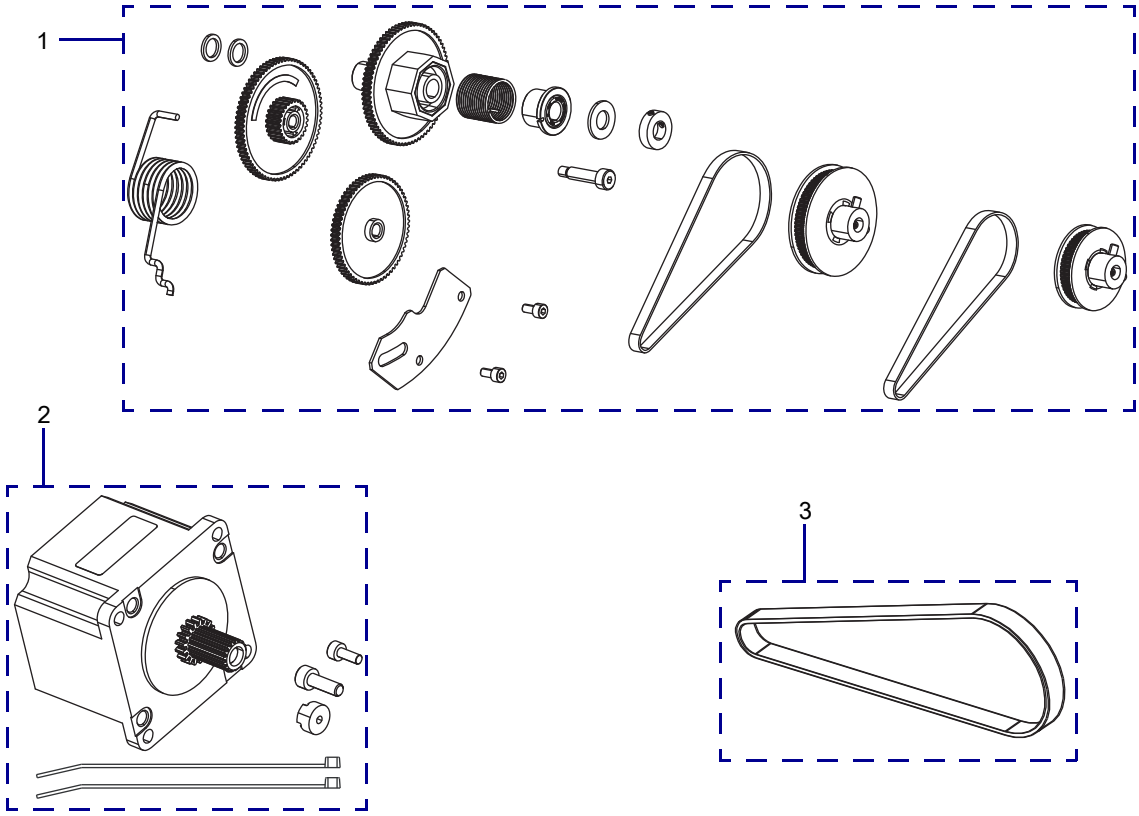


Table 15 Drive System Kits

Item	Part Number	Description
1	P1058930-039	ZT411/ZT421 Printers Drive System Maintenance Kit
2	P1058930-040	ZT411/ZT421 Printers Drive Motor Maintenance Kit
3	79866M	ZT411/ZT421 Printers, 203 dpi Drive Belt Maintenance Kit
	79867M	ZT411/ZT421 Printers, 300/600 dpi Drive Belt Maintenance Kit

ZT411/ZT421 Printers Drive System Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Drive System Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed in Table 16 on page 173.

Figure 112 Kit Contents

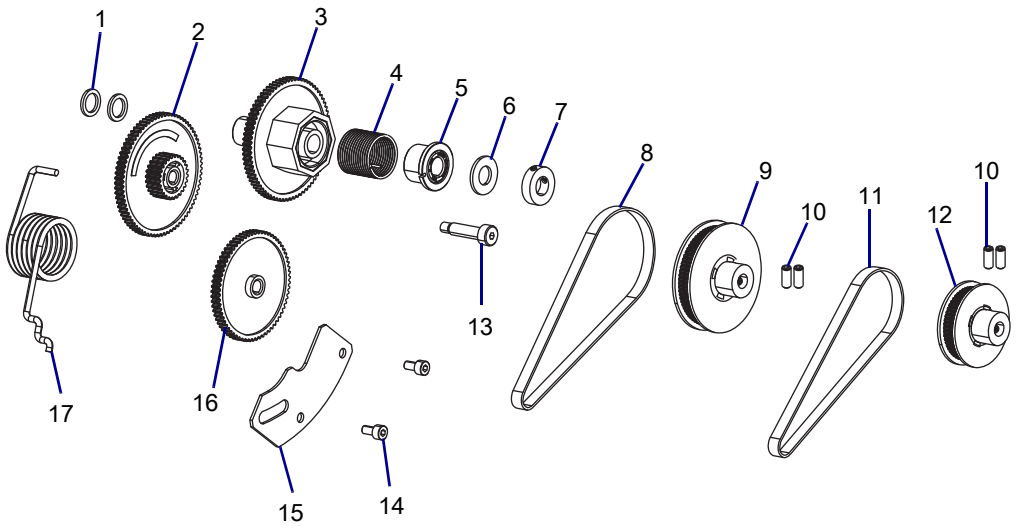


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Table 16 Parts List

Item	Description	Qty
Ref	Drive System Maintenance Kit	
1	Washer, 0.379 × 0.53 × 0.056	2
2	Compound Gear	1
3	Clutch Gear	1
4	Clutch Spring	1
5	RTU Clutch	1
6	Washer, 0.375 × 0.75 × 0.062	1
7	Shaft Collar 0.379 × 0.750 × 0.200	1
8	203 dpi Drive Belt Kit	1
9	203 dpi Pulley	1
10	Screw, M4 × 0.7 × 10	4
11	300/600 dpi Drive Belt	1
12	300/600 dpi Pulley	1
13	Shoulder Screw, M5 × 0.8 × 20	1
14	Screw, M4 × 0.7 × 8	2
15	Motor Plate	1
16	Intermediate Gear	1
17	Belt Tensioning Spring	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wrist Strap and Pad
- Metric Hex Key Set
- Safety Glasses

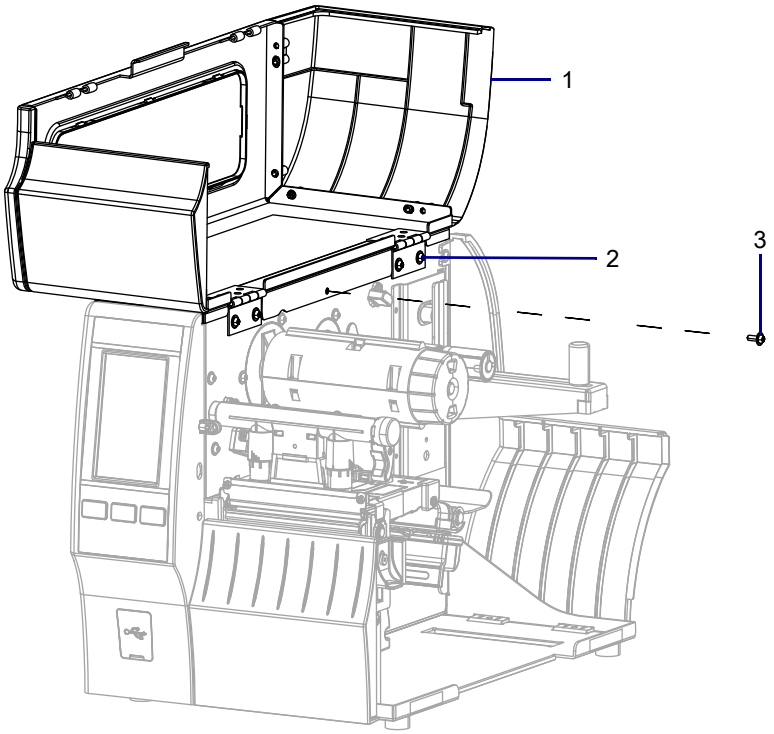
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 113. Remove the screw securing the electronics cover.

Figure 113 Locate the Electronics Cover Mounting Screw

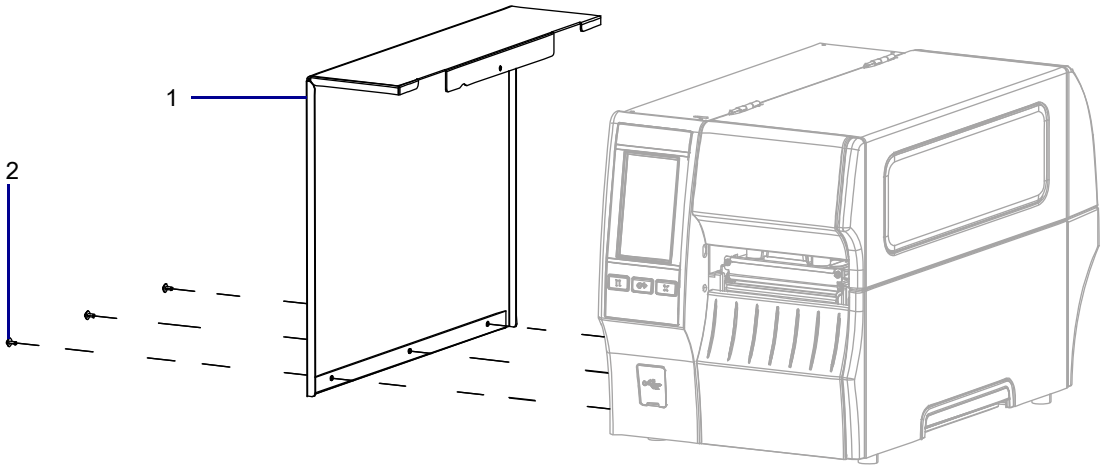


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 114. Remove the three mounting screws securing the electronics cover to the printer.

Figure 114 Remove the Electronics Cover Mounting Screws



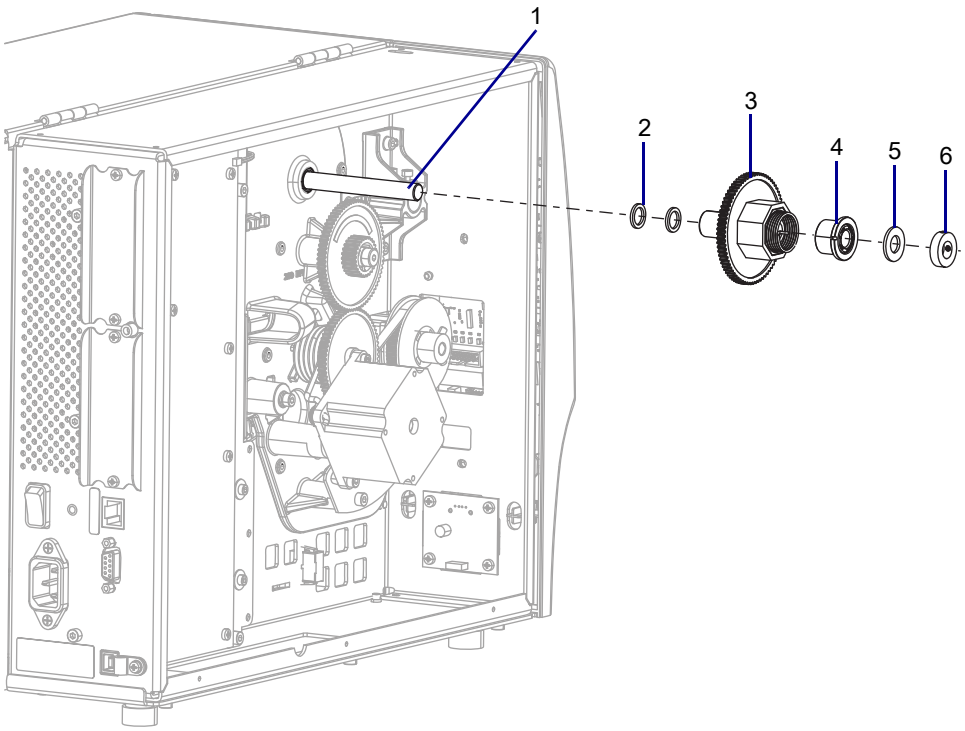
1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Old Gears

1. See Figure 115. Loosen the two set screws securing the collar to the ribbon take-up spindle (RTU) shaft.

Figure 115 Remove the Clutch

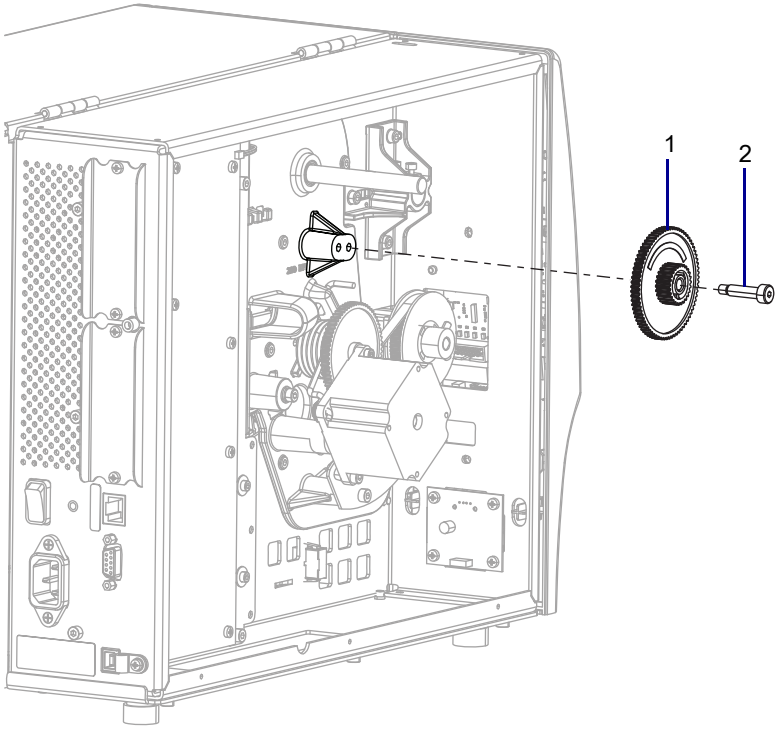


1	Ribbon take-up spindle shaft
2	Washers (2)
3	Clutch gear
4	Clutch
5	Nylon washer
6	Collar

2. Slide the collar, nylon washer, clutch, clutch gear, and thin washers off the ribbon take-up shaft.

3. See Figure 116. Remove the screw securing the compound gear, and then slide the compound gear out of the printer.

Figure 116 Remove the Compound Gear

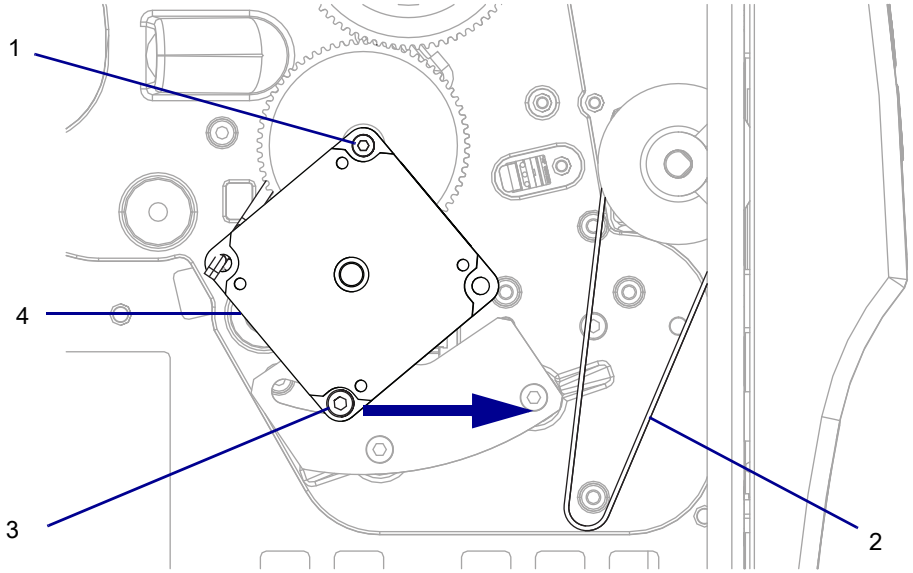


1	Compound gear
2	Shoulder screw

NOTE: Belt is under tension.

4. See Figure 117. Loosen the pivot screw and the locking screw on the drive motor.

Figure 117 Remove the Drive Belt



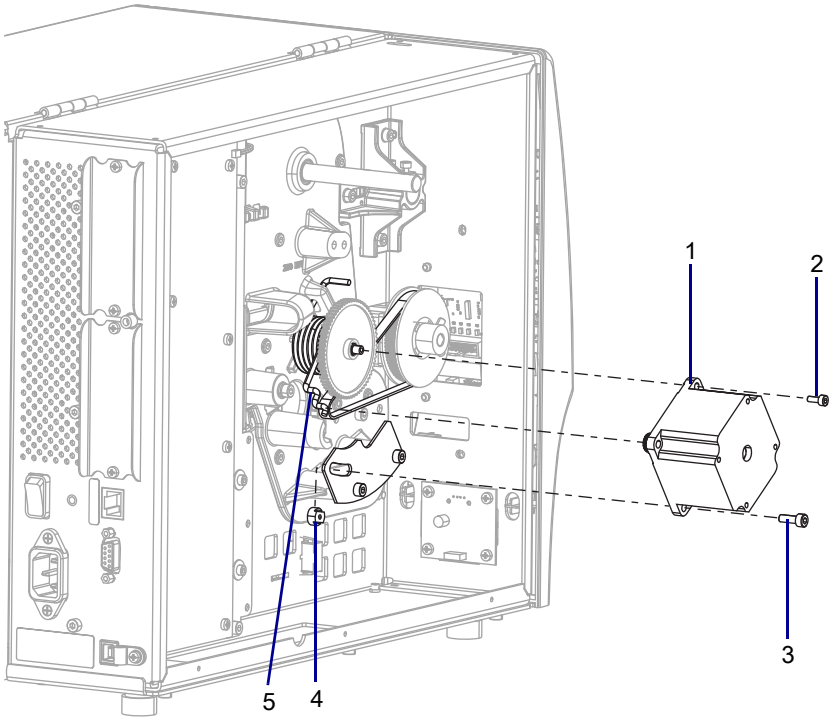
1	Pivot screw
2	Drive belt
3	Locking screw
4	Drive motor

5. Slide the bottom of drive motor toward the front of the printer, as far as possible, and then re-tighten the locking screw.

6. Remove the drive belt.

7. See Figure 118. Hold the drive motor by the outer casing, loosen the locking screw, and let the motor slide to the rear of the printer.

Figure 118 Remove the Drive Motor

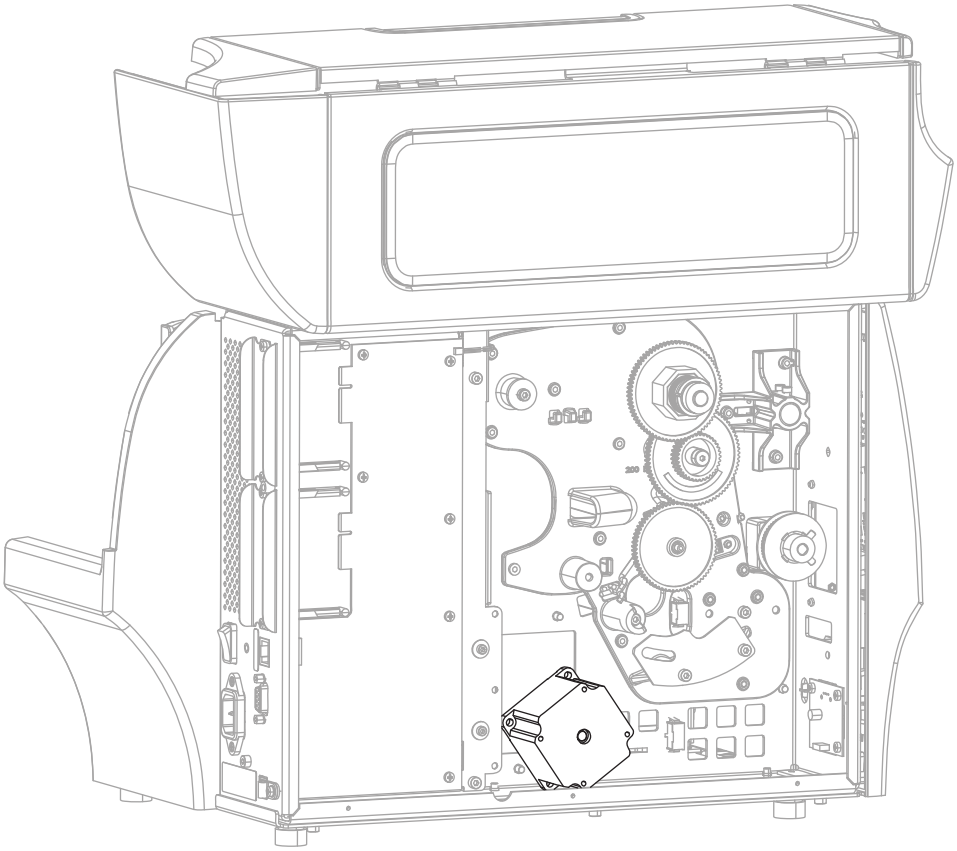


1	Drive motor
2	Pivot screw
3	Locking screw
4	Locking nut
5	Belt tensioning spring

8. Place your index finger on the locking nut and your thumb on the motor casing. Pinch with your thumb and index finger to hold the locking nut in place. Remove the locking screw and nut.
9. With care, slide the motor up as far as the spring allows.
10. Remove the pivot screw.
11. Slide the drive motor assembly off the belt tensioning spring.

12. See Figure 119. Leave the drive motor power cable connected and set the motor aside.

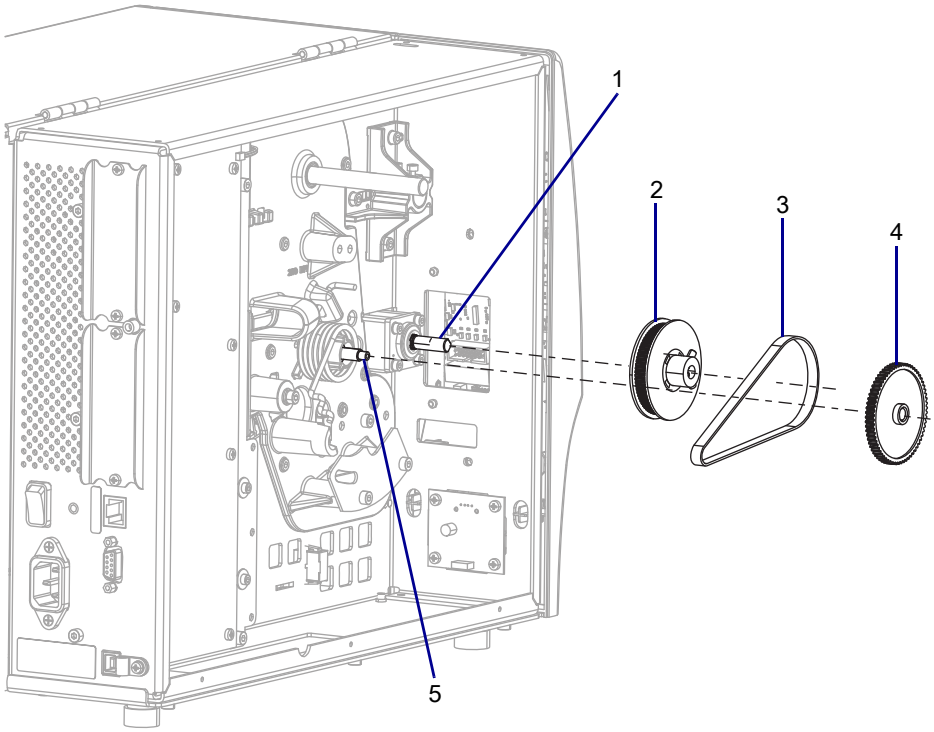
Figure 119 Set the Drive Motor to the Side



CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

13. See Figure 120. Remove the intermediate gear and the drive belt.

Figure 120 Remove the Intermediate Gear and Platen Pulley

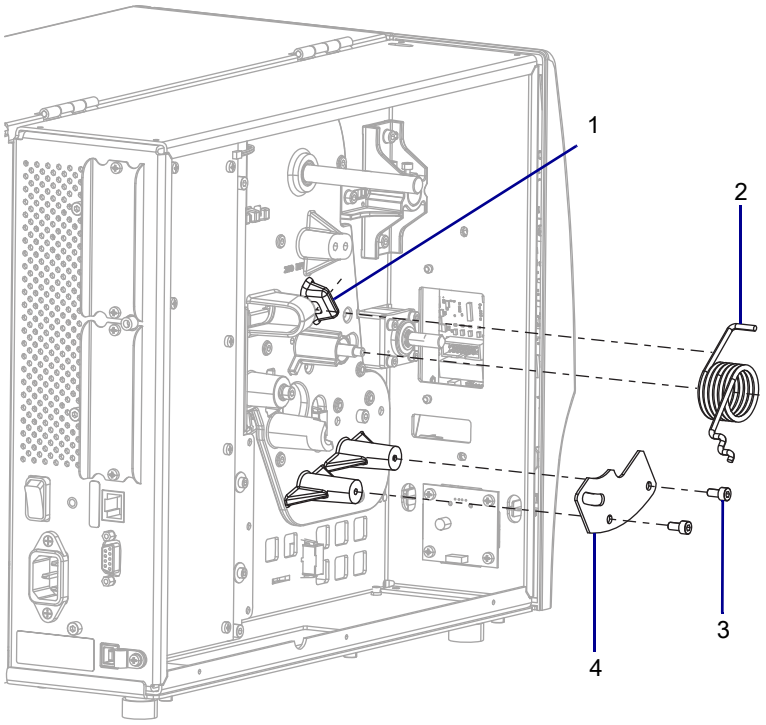


1	Platen drive shaft
2	Platen pulley
3	Drive belt
4	Intermediate gear
5	Pivot shaft

14. Loosen the two platen pulley set screws, and then remove the platen pulley.

15. See Figure 121. Unhook the belt tensioning spring, and then remove the spring.

Figure 121 Remove the Belt Tensioning Spring



1	Belt tensioning spring loop
2	Belt tensioning spring
3	Mounting screws (2)
4	Motor plate

16. Remove and discard the motor plate and mounting screws.

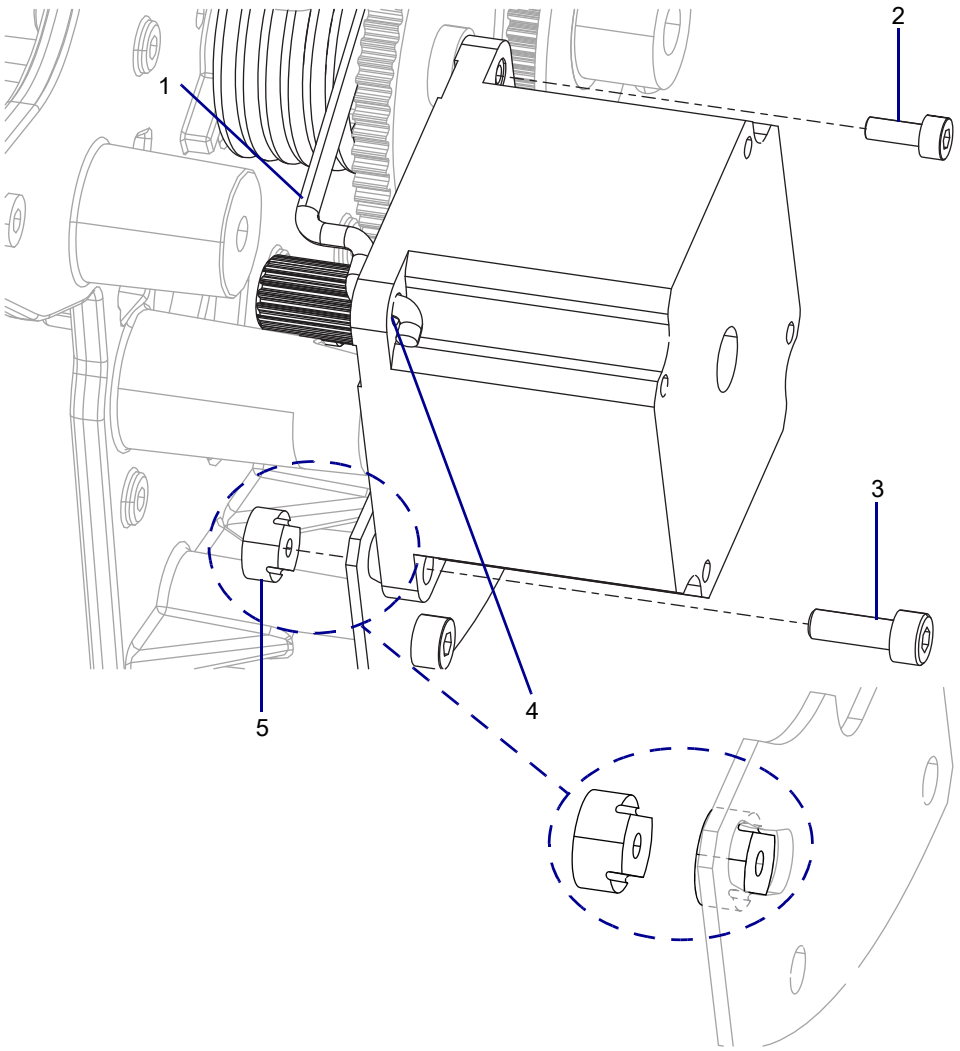
Install the New Drive System

1. See Figure 121 on page 182. Align the mounting holes in the new motor plate with the mounting holes in the printer, and then install the two new mounting screws.
2. See Figure 120 on page 181 and Figure 121 on page 182. Hook the new tension spring through the loop, and then set it over the pivot shaft.
3. If the set screws are missing from pulley, locate them in the kit, and then partially install the two set screws.
4. Slide the platen pulley for your printer (203dpi, 300dpi, or 600dpi) onto the platen drive shaft.
5. Align the flats on the drive shaft with set screws in the pulley, and then tighten the set screws.
6. Slide the intermediate gear onto the pivot shaft.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

7. See Figure 122. Slide the drive motor onto the tension spring.

Figure 122 Install the Drive Motor

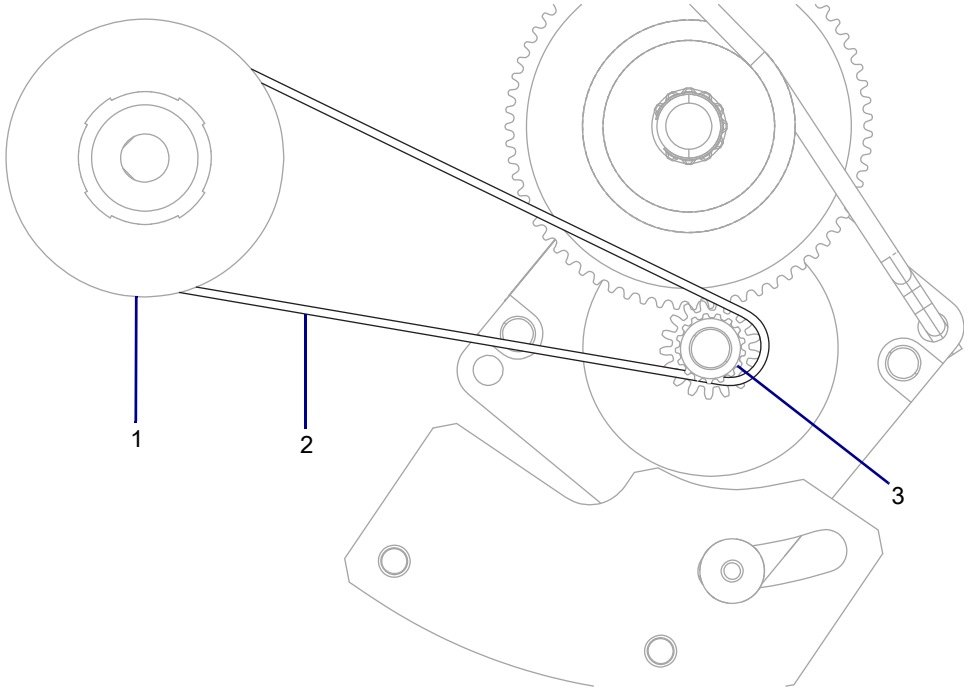


1	Drive motor tension spring
2	Pivot screw
3	Adjustment screw
4	Hole for tensioning spring
5	Adjustment nut

8. Start the drive motor onto the pivot shaft, and then install the pivot screw into the pivoting shaft.
9. Slide the adjustment nut into the slot in the motor plate.

10. See Figure 118 on page 179. Align the drive motor mounting hole with the locking nut, and then install the locking screw.
11. Slide the bottom of the drive motor, as far as possible, toward the front of the printer.
12. See Figure 118 on page 179. Tighten the locking screw.
13. See Figure 123. Reinstall the drive belt on the platen pulley and the drive motor pulley.

Figure 123 Reinstall the Drive Motor

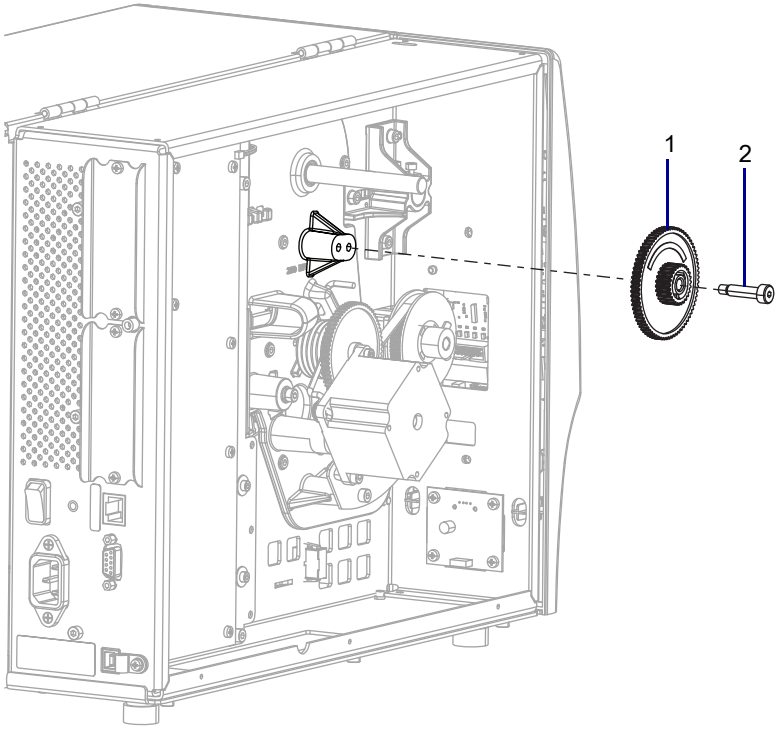


1	Platen pulley
2	Drive belt
3	Drive motor pulley

14. See Figure 118 on page 179. Loosen the locking screw.
15. Ensure that the belt is settled onto the two pulleys, and then tighten the locking screw.
16. Tighten the pivot screw.

17. See Figure 124. Align the compound gear with the proper DPI facing out with the proper mounting hole in the printer.

Figure 124 Remove the Compound Gear

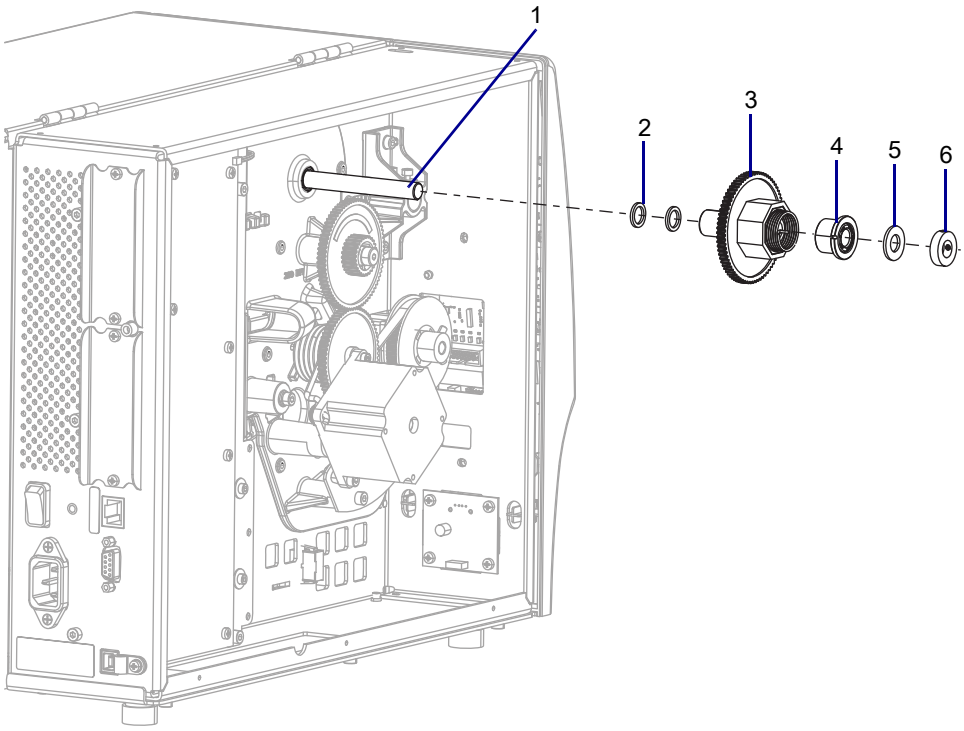


1	Compound gear
2	Shoulder screw

18. Install the shoulder screw.

19. See Figure 125. Slide the two thin washers onto the ribbon take-up spindle shaft.

Figure 125 Install the Clutch



1	Ribbon take-up spindle shaft
2	Washers (2)
3	Clutch gear
4	Clutch
5	Nylon washer
6	Collar

20. Slide the clutch gear onto the ribbon take-up shaft.

21. Slide the clutch onto the ribbon take-up shaft and insert the spring into the clutch hole.

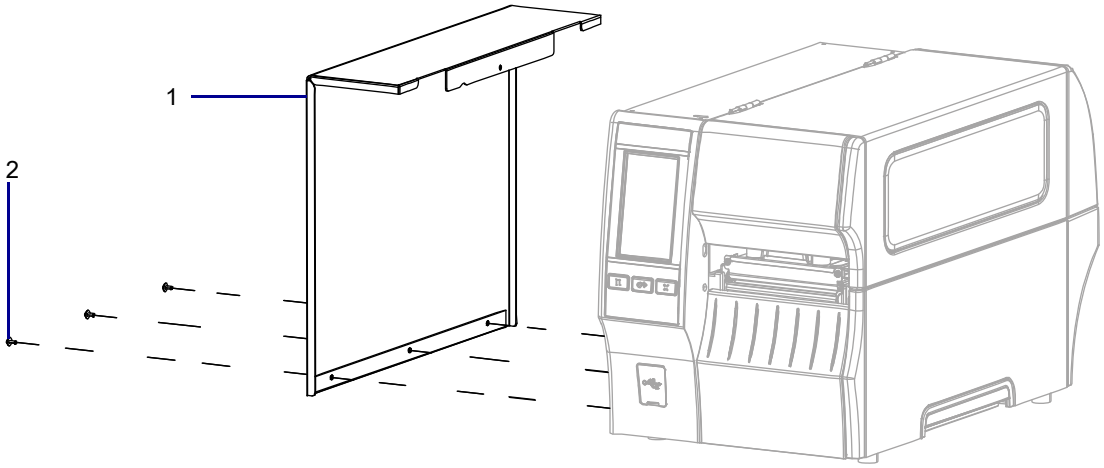
22. Slide the nylon washer, and then the collar onto the ribbon take-up shaft.

23. Hold the ribbon take-up spindle, and then tighten the two set screws in the collar.

Reinstall the Electronics Cover

1. See Figure 126. Slide the electronics cover onto the printer.

Figure 126 Reinstall the Electronics Cover Mounting Screws

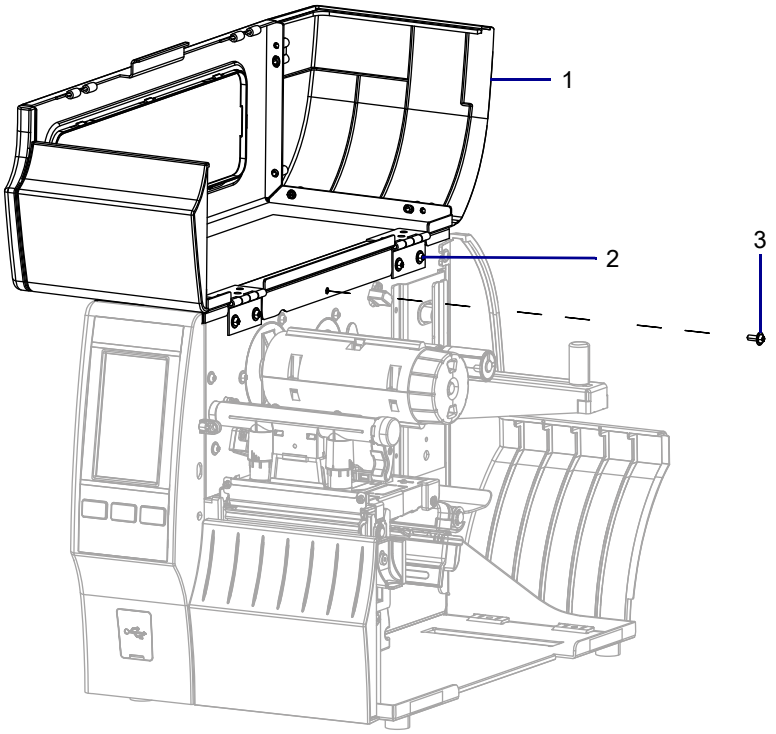


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 127. Open the media door and install the mounting screw.

Figure 127 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Drive Motor Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Drive Motor Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 128 Kit Contents

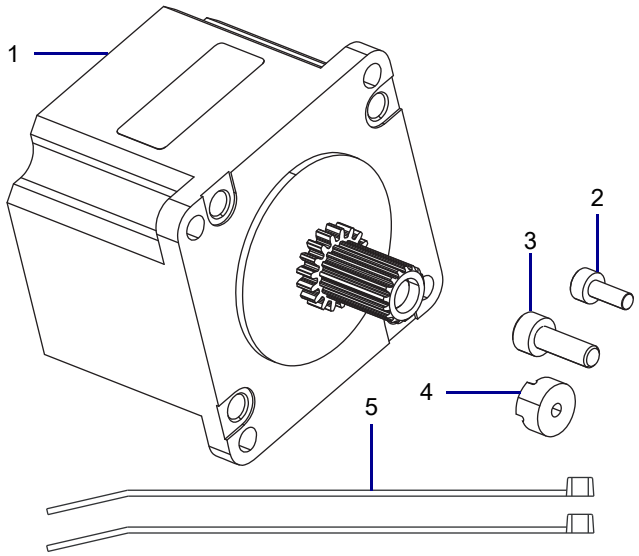


Table 17 Parts List

Item	Description	Qty
Ref	Drive Motor Maintenance Kit	
1	Stepper Motor	1
2	Pivot Screw, M3 × 0.5 × 8	1
3	Locking Screw, M4 × 0.7 × 12	1
4	Adjustment Nut	1
5	Cable Tie, 0.09 × 3.62	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wrist Strap and Pad
- Metric Hex Key Set
- Wire Cutter

Remove the Electronics Cover

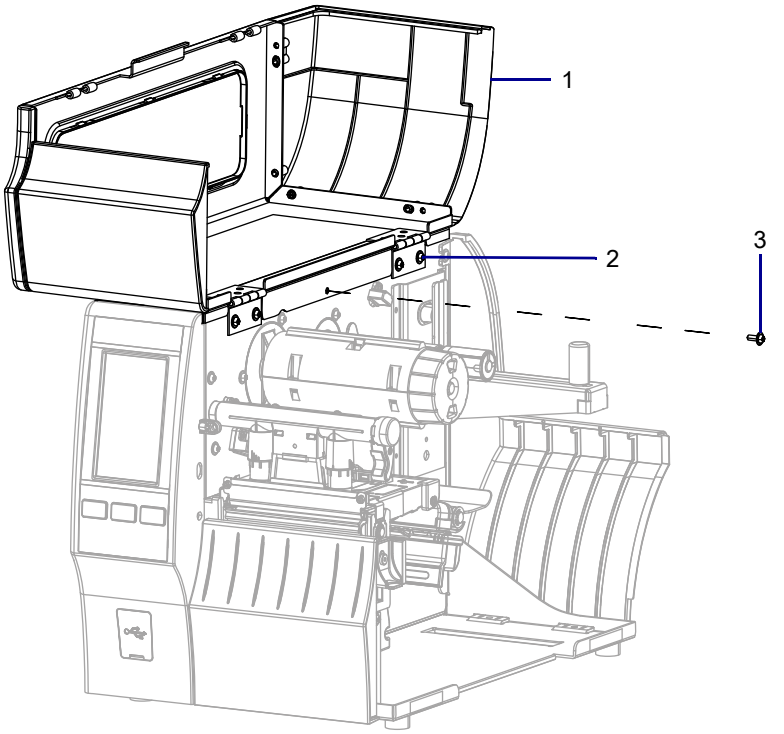
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 129. Remove the screw securing the electronics cover.

Figure 129 Locate the Electronics Cover Mounting Screw

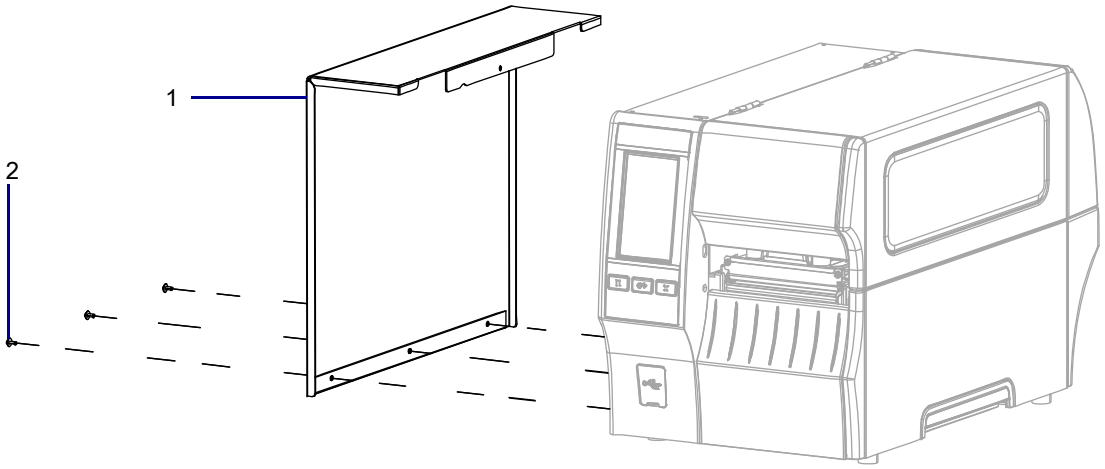


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 130. Remove the three mounting screws securing the electronics cover to the printer.

Figure 130 Remove the Electronics Cover Mounting Screws



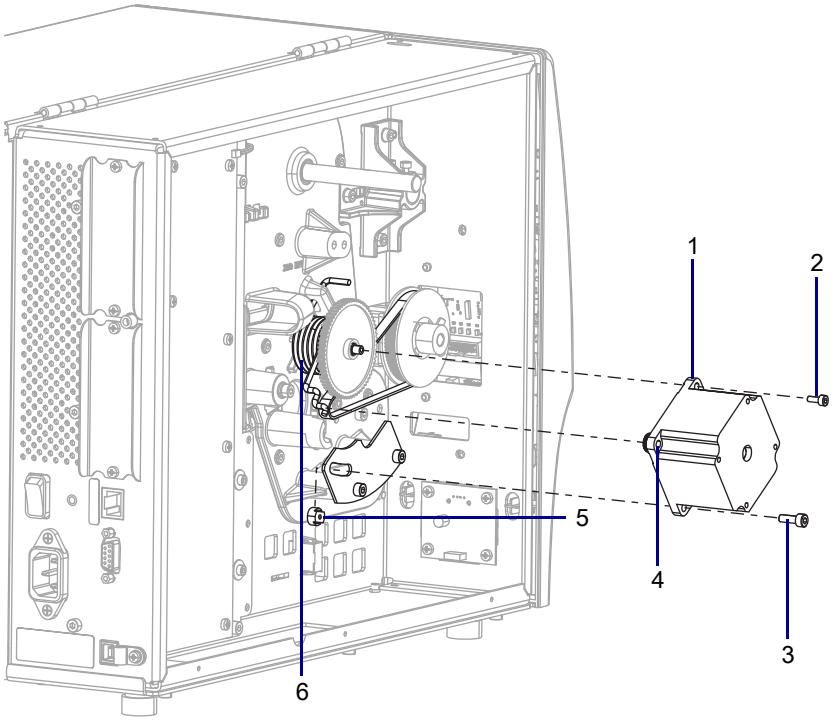
1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Drive Motor

1. Disconnect the drive motor cable from the motor.
2. See Figure 131. Remove the two drive motor assembly mounting screws.

Figure 131 Remove the Drive Motor



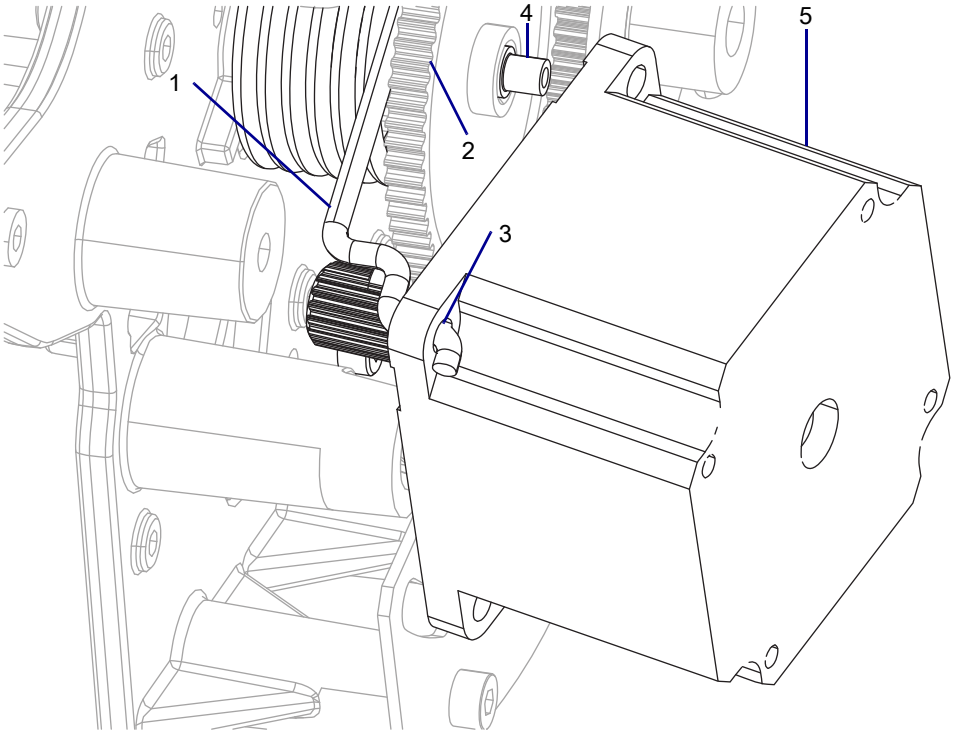
1	Drive motor
2	Pivot screw
3	Locking screw
4	Mounting hole for drive motor tensioning spring
5	Locking nut
6	Belt tensioning spring

3. Slide the drive motor assembly off the belt tensioning spring and out of the printer.

Install the New Drive Motor

1. See Figure 132. Install the tensioning spring into the mounting hole in the new drive motor.

Figure 132 Install the Drive Motor onto the Tensioning Spring and Shaft

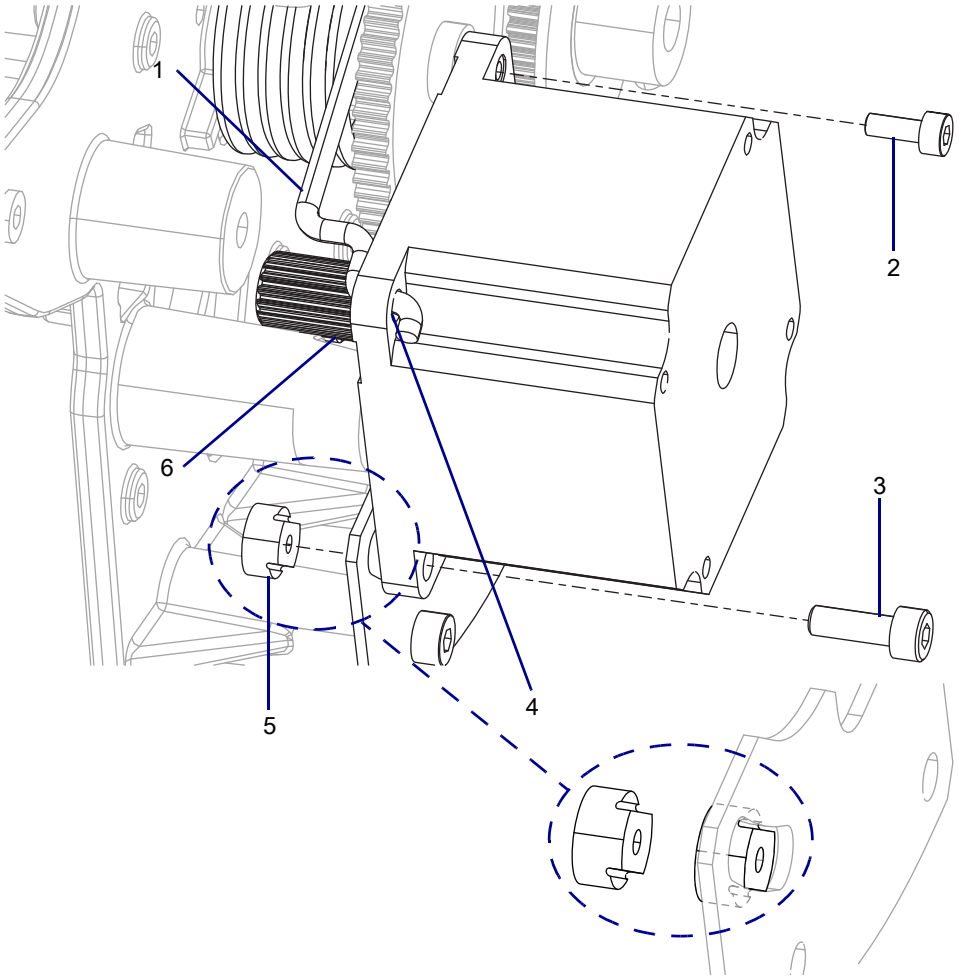


1	Tensioning spring
2	Intermediate gear
3	Tensioning spring mounting hole
4	Drive motor pivoting shaft
5	Drive motor

NOTE: Ensure that the drive motor gear engages the intermediate gear.

2. See Figure 133. Slide the drive motor onto the pivoting shaft.

Figure 133 Install the Drive Motor

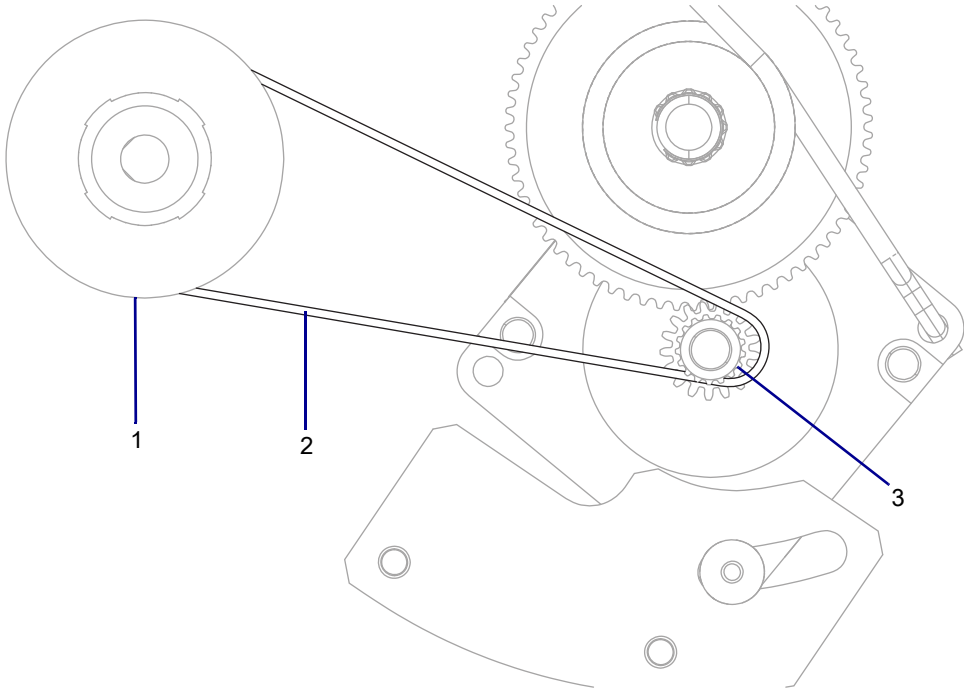


1	Drive motor tension spring
2	Pivot screw
3	Locking screw
4	Mounting hole for drive motor tensioning spring
5	Adjustment nut
6	Drive motor gear

3. Start the pivot screw into the pivoting shaft.
4. Slide the adjustment nut into the slot in the mounting bracket.
5. Start the locking screw.
6. Slide the bottom of the drive motor, as far as possible, toward the front of the printer.
7. Tighten the locking screw.

8. See Figure 134. Reinstall the drive belt on the platen pulley and the drive motor pulley.

Figure 134 Reinstall the Drive Motor



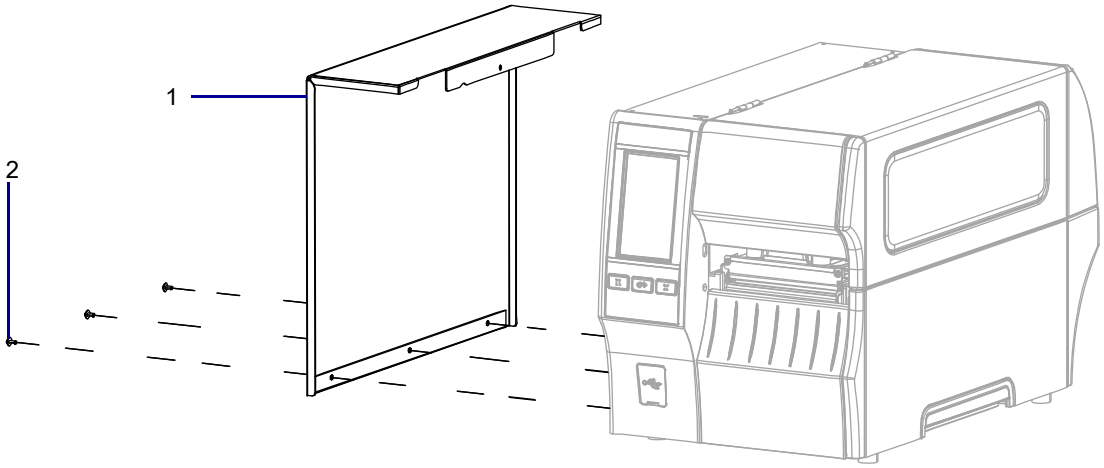
1	Platen pulley
2	Drive belt
3	Drive motor pulley

9. Loosen the locking screw.
10. See Figure 133 on page 195. Ensure that the belt is seated on the two pulleys, and then tighten the locking screw
11. Tighten the pivot screw.
12. Ensure that the drive motor cable is inside of the beaded cable tie. Reconnect the drive motor cable.

Reinstall the Electronics Cover

1. See Figure 135. Slide the electronics cover onto the printer.

Figure 135 Reinstall the Electronics Cover Mounting Screws

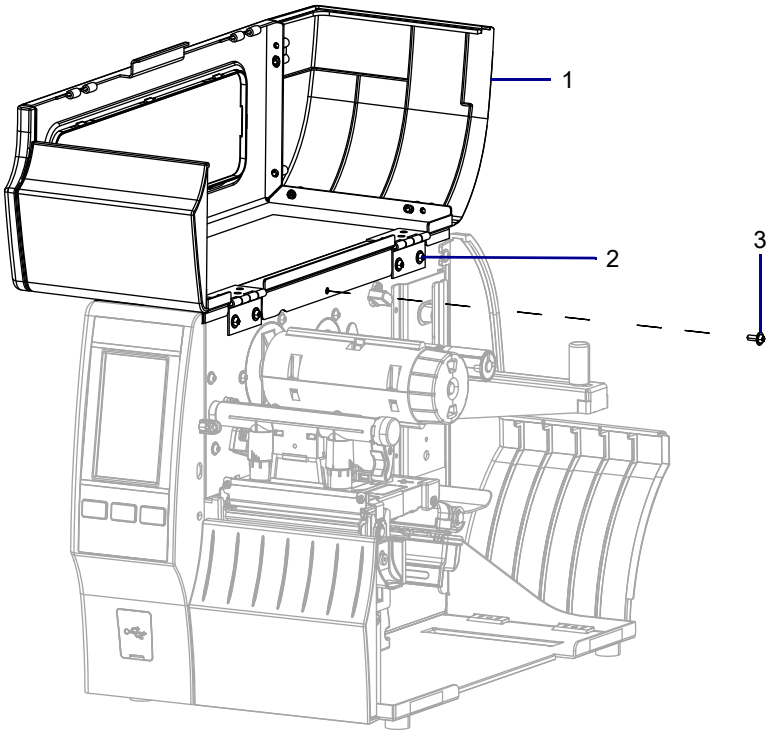


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 136. Open the media door and install the mounting screw.

Figure 136 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Drive Belt Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Drive Belt maintenance kit for the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 137 Kit Contents

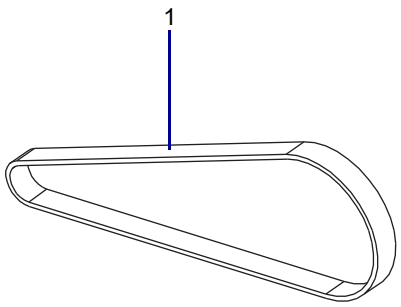


Table 18 Parts List

Item	Description	Qty
Ref	203 dpi Drive Belt Maintenance Kit	1
	300/600 dpi* Drive Belt Maintenance Kit	

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.
* 600 dpi is not available on ZT421 printers.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Flat-blade Screwdriver Set
- Antistatic Wriststrap and Mat
- Metric Hex Key Set

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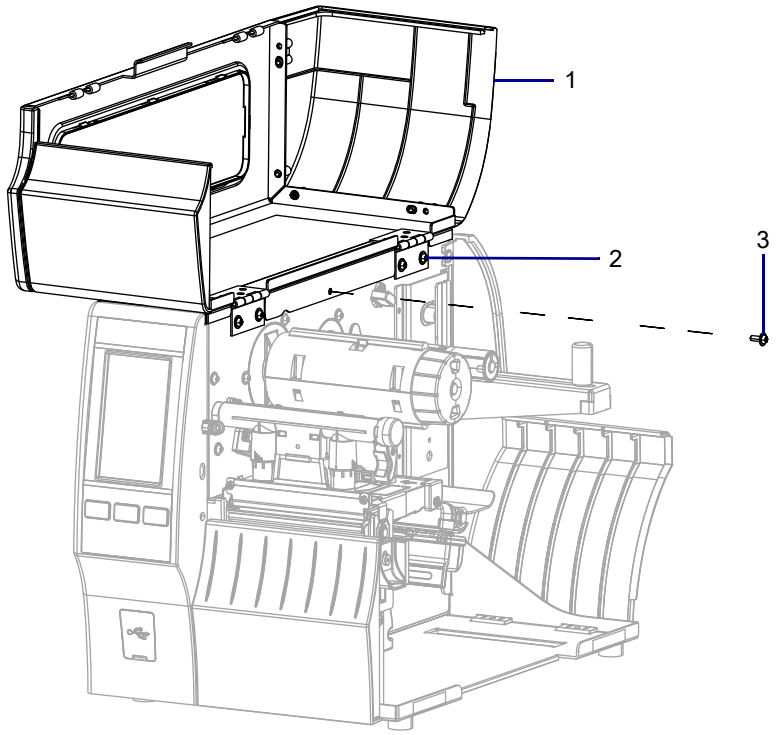
Remove the ZT411/ZT421 Printers Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 138. Remove the screw and washer securing the electronics cover.

Figure 138 Locate the Electronics Cover Mounting Screw

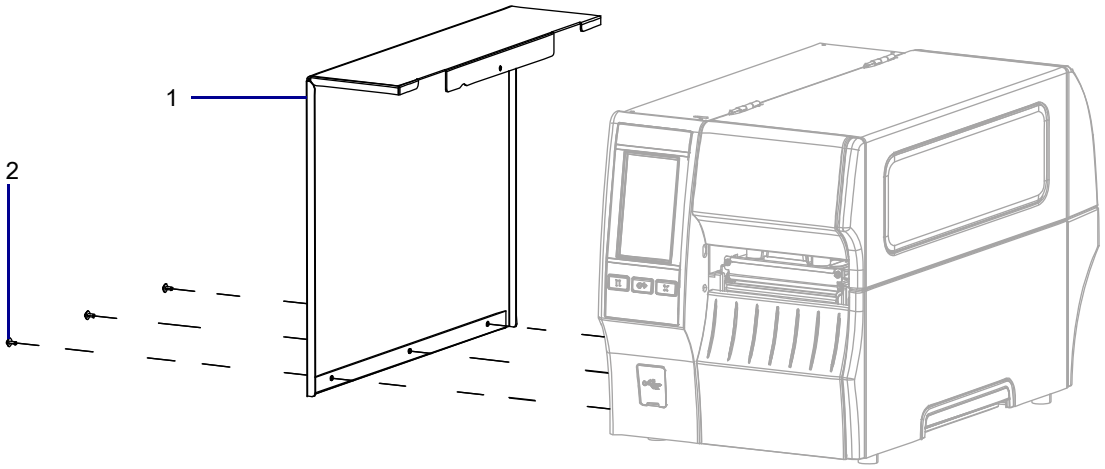


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 139. Remove the three mounting screws securing the electronics cover to the printer.

Figure 139 Remove the Electronics Cover Mounting Screws



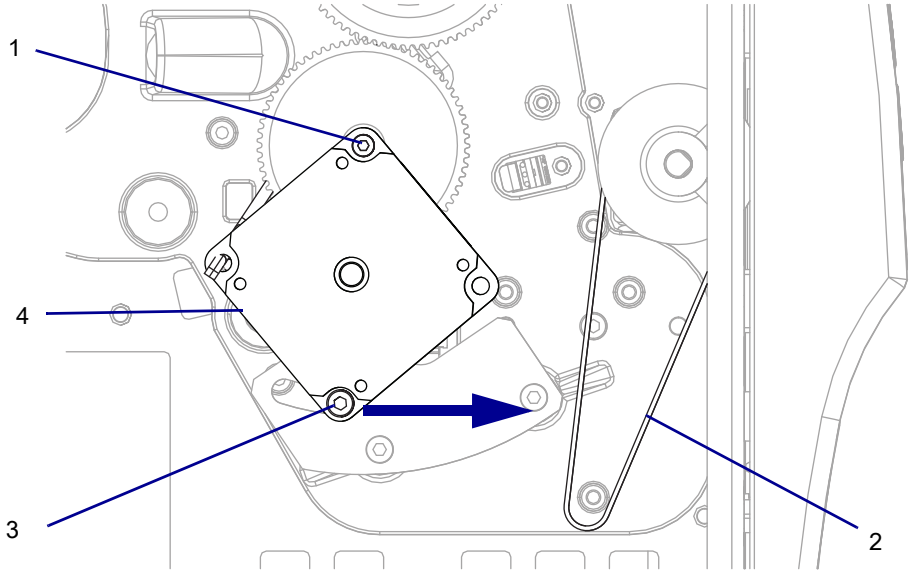
1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Old Drive Belt

1. See Figure 140. Loosen the pivot screw and the lower mounting screw on the drive motor.

Figure 140 Remove the Drive Belt



1	Pivot screw
2	Drive belt
3	Lower mounting screw
4	Drive motor

2. Slide the bottom of drive motor toward the front of the printer, as far as possible, and then re-tighten the lower mounting screw.
3. Remove the drive belt.

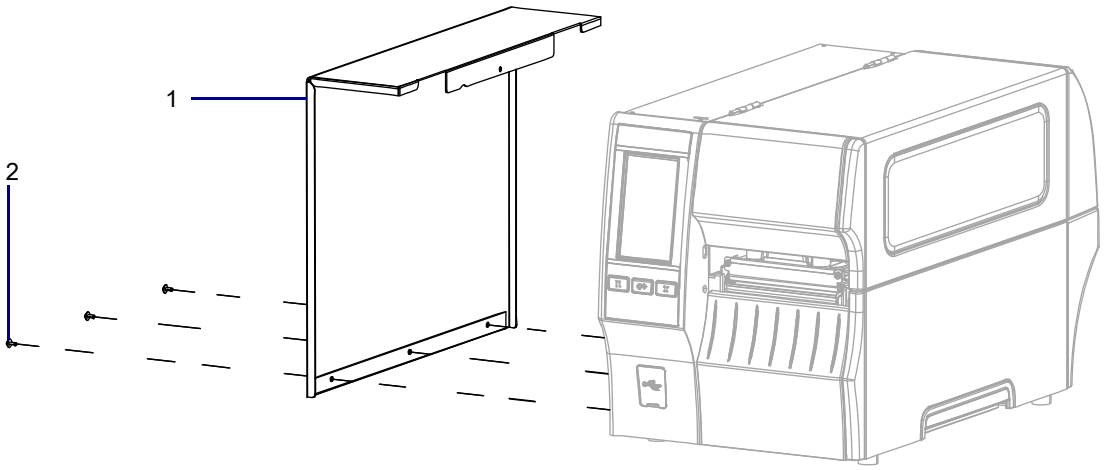
Install the New Drive Belt

1. Install the new drive belt.
2. Loosen the lower mounting screw securing the drive motor.
3. Ensure that the belt is settled on the two pulleys, and then tighten the lower mounting screw
4. Tighten the pivot screw.

Reinstall the Electronics Cover

1. See Figure 141. Slide the electronics cover onto the printer.

Figure 141 Reinstall the Electronics Cover Mounting Screws

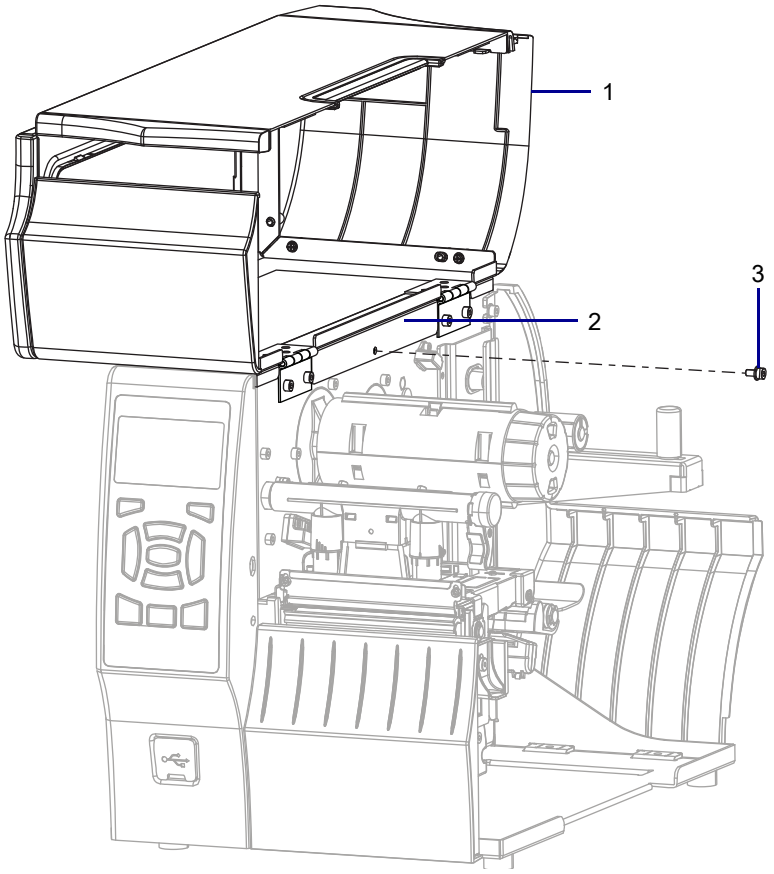


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 142. Open the media door.

Figure 142 Install the Media Side Screw (ZT410 Printer Shown)



1	Media door
2	Electronics cover
3	Mounting screw

4. Install the media side electronics cover mounting screw.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

Media Path Components

This section supplies you with the parts information and installation procedures for the roller system.

Media Path Components Parts and Drawings

Figure 143 Media Path Components Overview

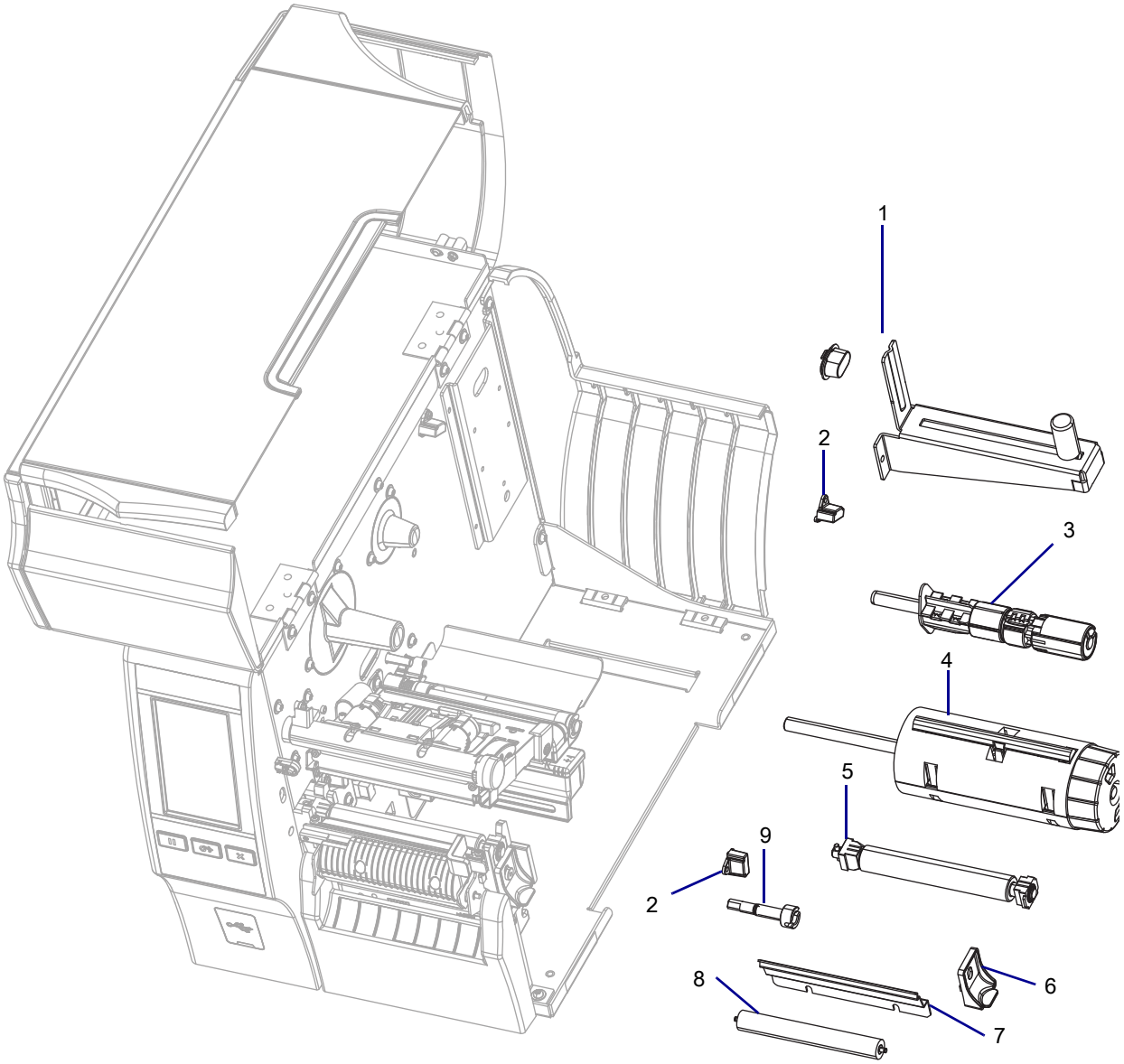


Table 19 Media Path Overview Kit List

Item	Part Number	Description
1	P1058930-042	ZT411 Media Hanger Maintenance Kit
	P1058930-043	ZT421 Media Hanger Maintenance Kit
2	P1058930-079	ZT411/ZT421 Printers Light Assemblies Maintenance Kit
3	P1058930-085	ZT411 Ribbon Supply Spindle Maintenance Kit
	79829M	ZT421 Ribbon Supply Spindle Maintenance Kit
	79830M	ZT411 Ribbon Supply Spindle, Optional Inside Coated Ribbon, Maintenance/Option Kit
4	P1058930-045	ZT411 Ribbon Take-Up Spindle Maintenance Kit
	P1058930-046	ZT421 Ribbon Take-Up Spindle Maintenance Kit
5	P1058930-080	ZT411 Platen Roller Assembly Maintenance Kit
	P1058930-081	ZT421 Platen Roller Assembly Maintenance Kit
6	P1058930-027	ZT411/ZT421 Printers Platen Retainer Maintenance Kit
7	79837M	ZT411 Tear Bar Maintenance Kit
	79838M	ZT421 Tear Bar Maintenance Kit
8	77197M	ZT411 Pinch Roller Maintenance Kit
	77727M	ZT421 Pinch Roller Maintenance Kit
9	79862M	ZT411/ZT421 Printers Platen Coupling Maintenance Kit

Figure 144 Media Handling System Kits

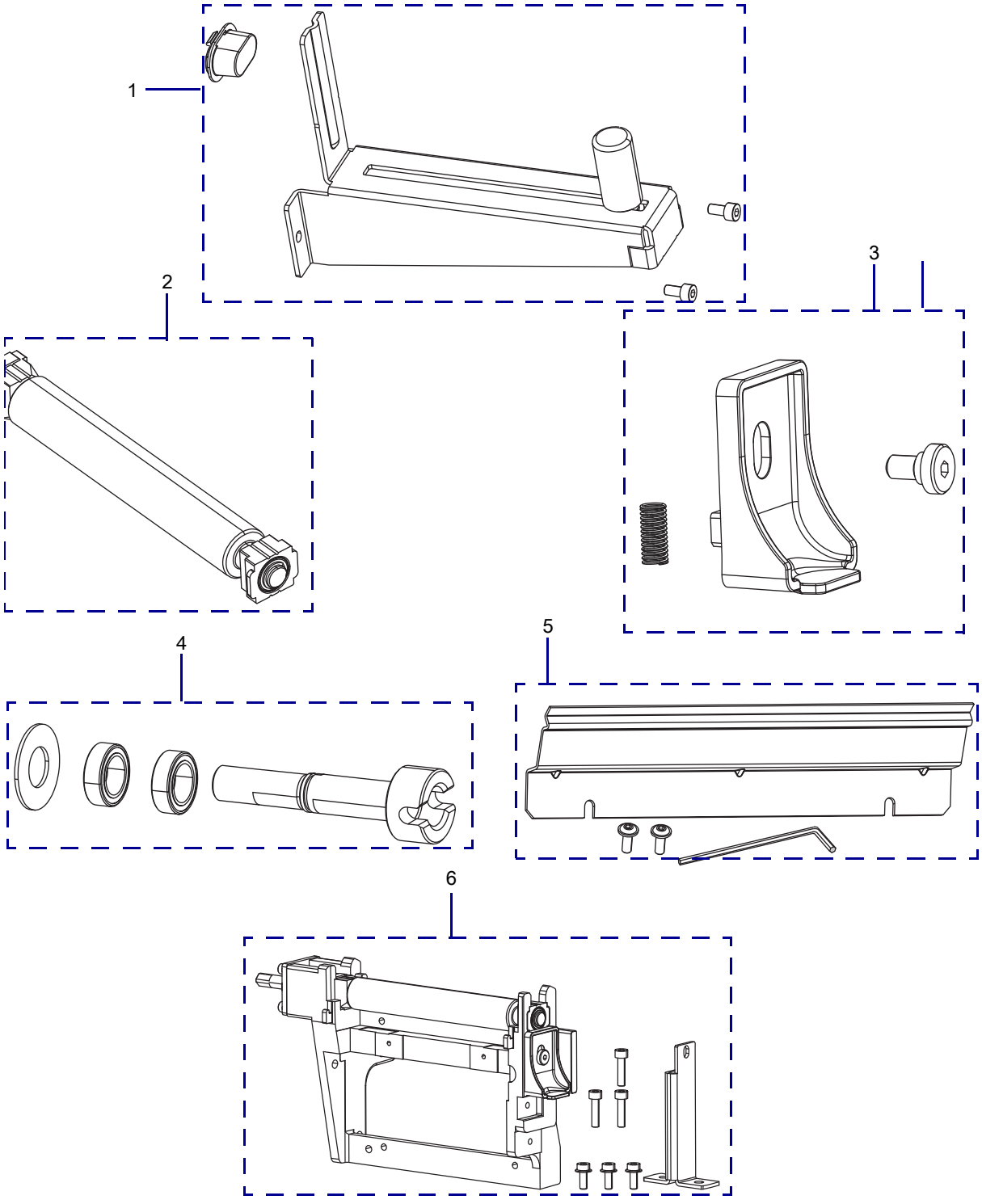


Table 20 Media Handling System Kits

Item	Part Number	Description
1	P1058930-042	ZT411 Media Hanger Maintenance Kit
	P1058930-043	ZT421 Media Hanger Maintenance Kit
2	P1058930-080	ZT411 Platen Roller Assembly Maintenance Kit
	P1058930-081	ZT421 Platen Roller Assembly Maintenance Kit
3	P1058930-027	ZT411/ZT421 Printers Platen Retainer Maintenance Kit
4	79862M	ZT411/ZT421 Printers Platen Coupling Maintenance Kit
5	79837M	ZT411 Tear Bar Maintenance Kit
	79838M	ZT421 Tear Bar Maintenance Kit
6	P1105147-021	ZT411 Platen Housing Maintenance Kit
	P1105147-022	ZT421 Platen Housing Maintenance Kit

Figure 145 Media Handling Component Kits

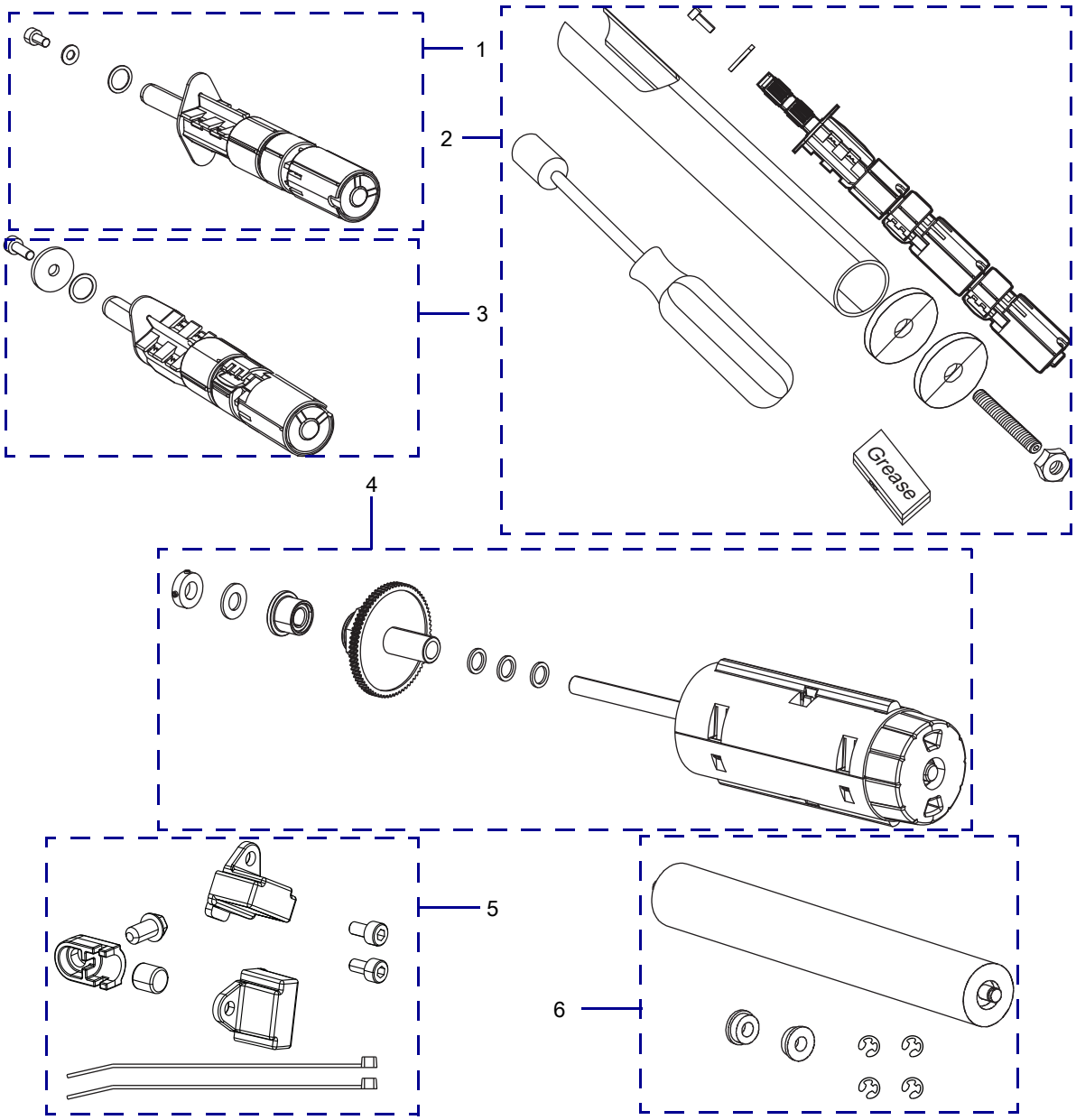


Table 21 Media Path Components Kits

Item	Part Number	Description
1	P1058930-085	ZT411 Ribbon Supply Spindle Maintenance Kit
2	79829M	ZT421 Ribbon Supply Spindle Maintenance Kit
3	79830M	ZT411 Ribbon Supply Maintenance Kit, Optional Inside Coated Ribbon
4	P1058930-045	ZT411 Ribbon Take-Up Spindle Maintenance Kit
	P1058930-046	ZT421 Ribbon Take-Up Spindle Maintenance Kit
5	P1058930-079	ZT411/ZT421 Printers Light Assemblies Maintenance Kit
6	77197M	ZT411 Pinch Roller Maintenance Kit
	77727M	ZT421 Pinch Roller Maintenance Kit

ZT411/ZT421 Printers Media Hanger Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Media Hanger Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 146 Kit Contents

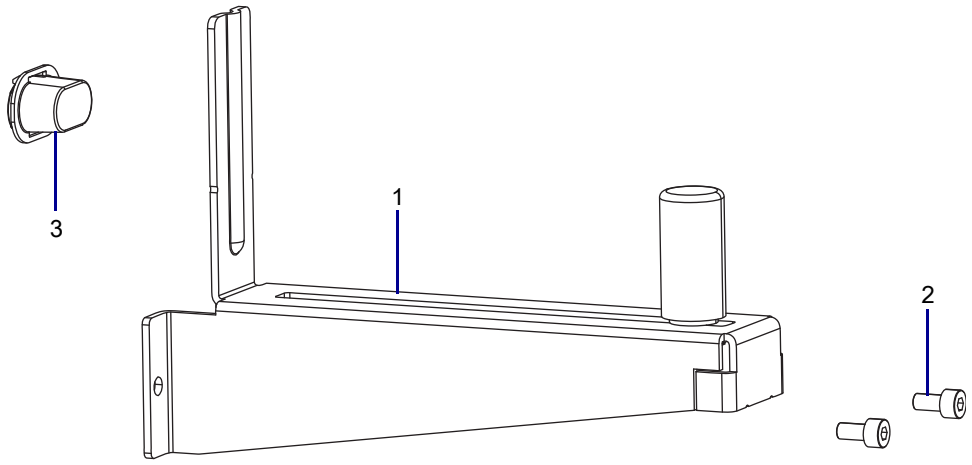


Table 22 Parts List

Item	Description	Qty
Ref	Media Hanger Maintenance Kit	
1	Media Hanger	1
2	Screw, M4 × 0.7 × 8	2
3	Media Hanger Spacer	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hex Key Set

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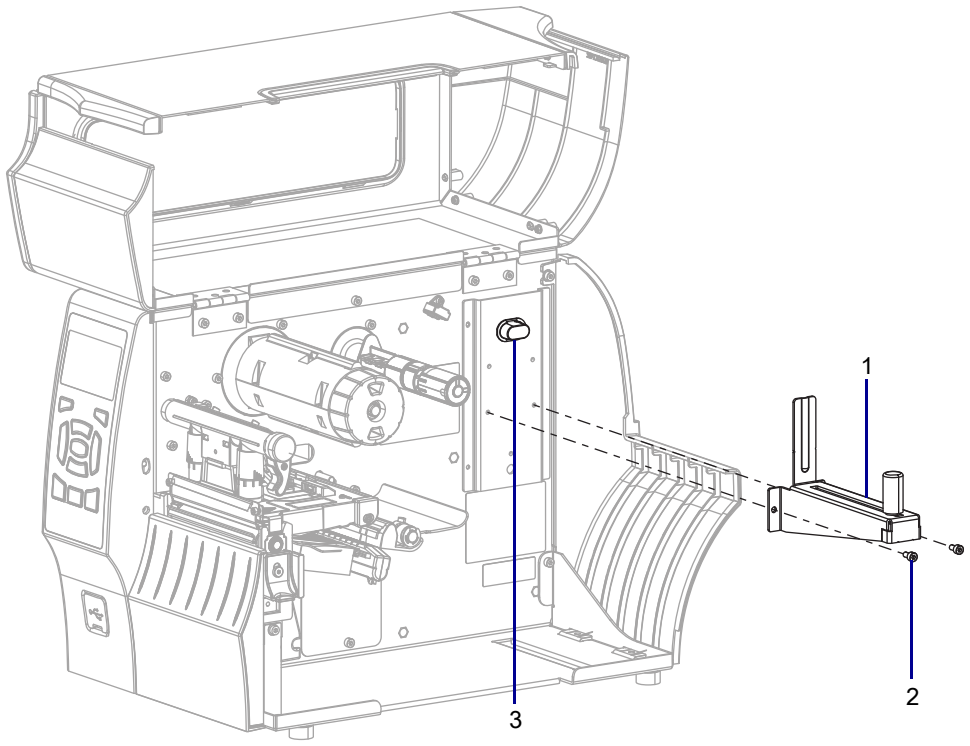
Remove the Old Hanger

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Remove the media into the printer.
2. See Figure 147. Remove the two screws securing the media hanger to the printer.

Figure 147 Remove the Media Hanger (ZT410 Printer Shown)



1	Media hanger
2	Mounting screws (2)
3	Media hanger spacer

3. Is the media hanger spacer broken?

If…	Then…
Yes	1. Pry out the media hanger spacer and push the new media hanger spacer into the mounting hole. 2. Go to Install the New Media Hanger on page 213.
No	Go to Install the New Media Hanger on page 213.

Install the New Media Hanger

1. See Figure 147 on page 212. Align the mounting holes on the new media hanger with the holes on the printer.
2. Install the two new mounting screws.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Light Assemblies Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Light Assemblies Maintenance Kit on ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: ZTxxxxx – **Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter **P**, your printer DOES NOT include these features.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed in Table 23 on page 215.

Figure 148 Kit Contents

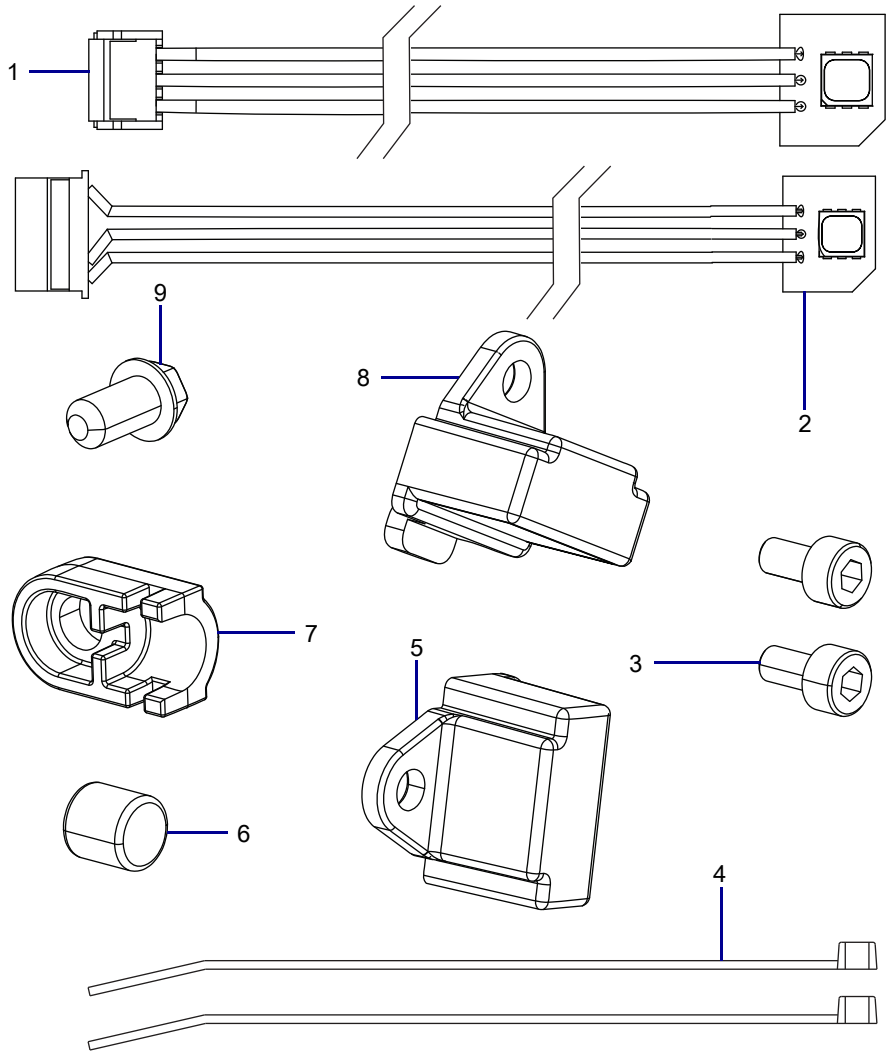


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Table 23 Parts List

Item	Description	Qty
Ref	Light Assemblies Maintenance Kit	
1	Print Mechanism Light Assembly	1
2	Media Light Assembly	1
3	Screw, M3 × 0.5 × 6	2
4	Cable Tie, 0.09 × 3.62	2
5	Media Light Cover	1
6	Light Activation Magnet	1
7	Magnet Cover	1
8	Print Mechanism Light Cover	1
9	Screw, M4.2 × 8	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wriststrap and Mat
- Metric Hex Key Set
- Wire Cutters

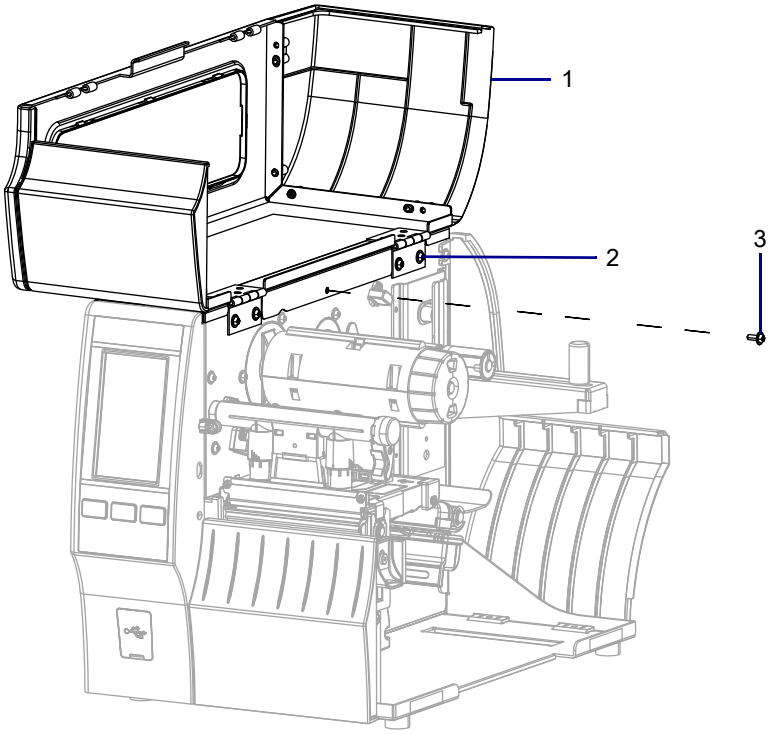
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 149. Remove the screw securing the electronics cover.

Figure 149 Locate the Electronics Cover Mounting Screw

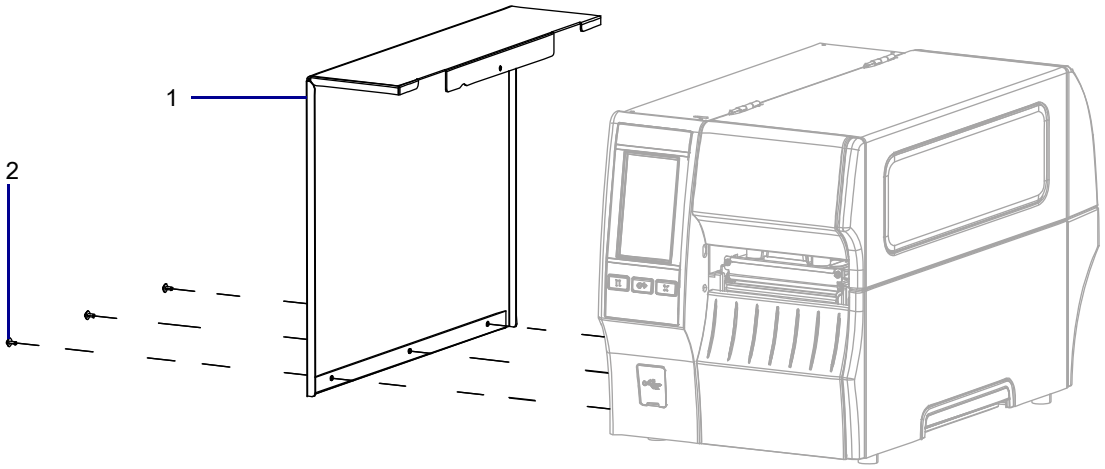


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 150. Remove the three mounting screws securing the electronics cover to the printer.

Figure 150 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

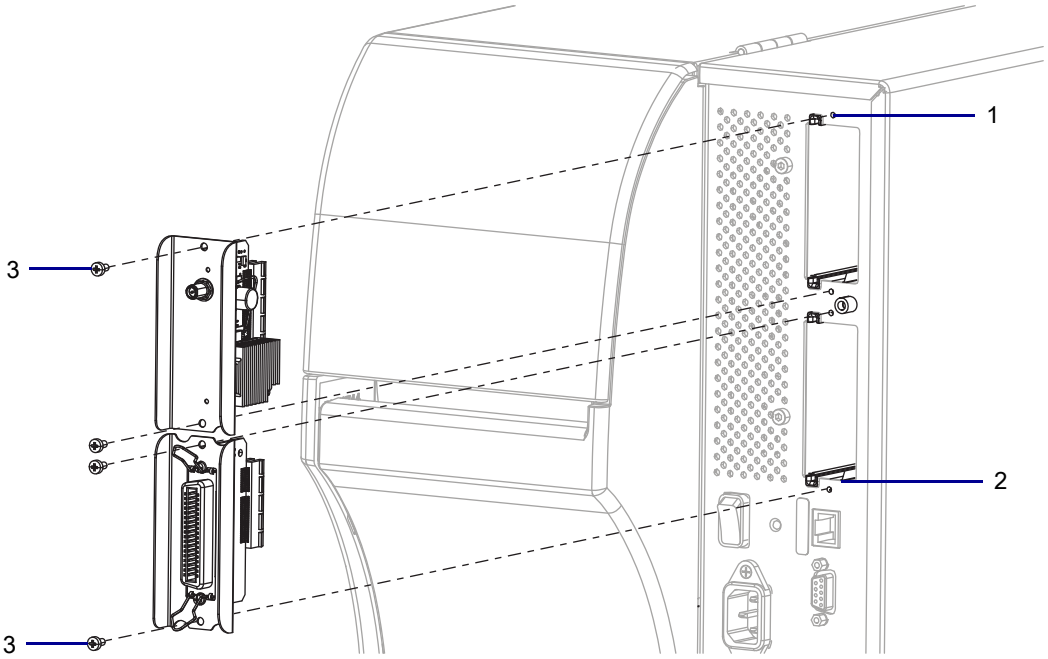
Remove the Media Light Assembly

To access the media light assembly you must remove the main logic board and bracket.

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 151. Remove the two screws securing each option board to the printer.

Figure 151 Remove the Option Boards



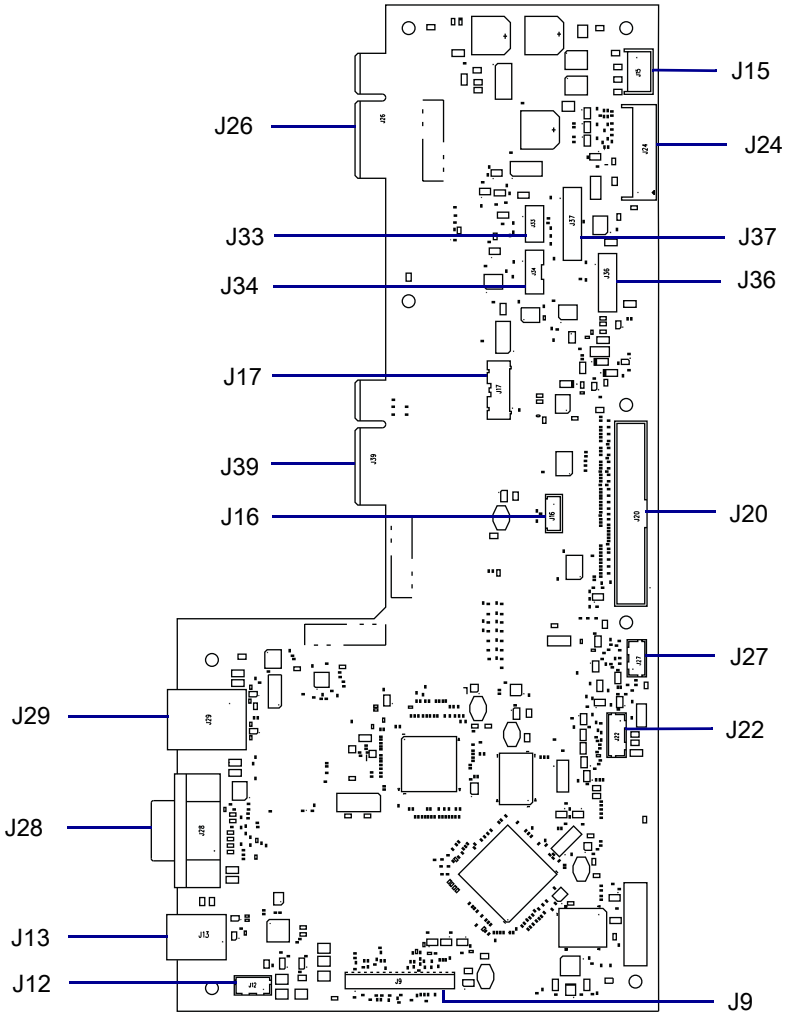
1	Upper option mounting hole
2	Lower option mounting hole
3	Mounting screws (2 each option)

3. Remove the option boards.

Remove the Main Logic Board Cables

1. See Figure 152. Disconnect all cables from the MLB.

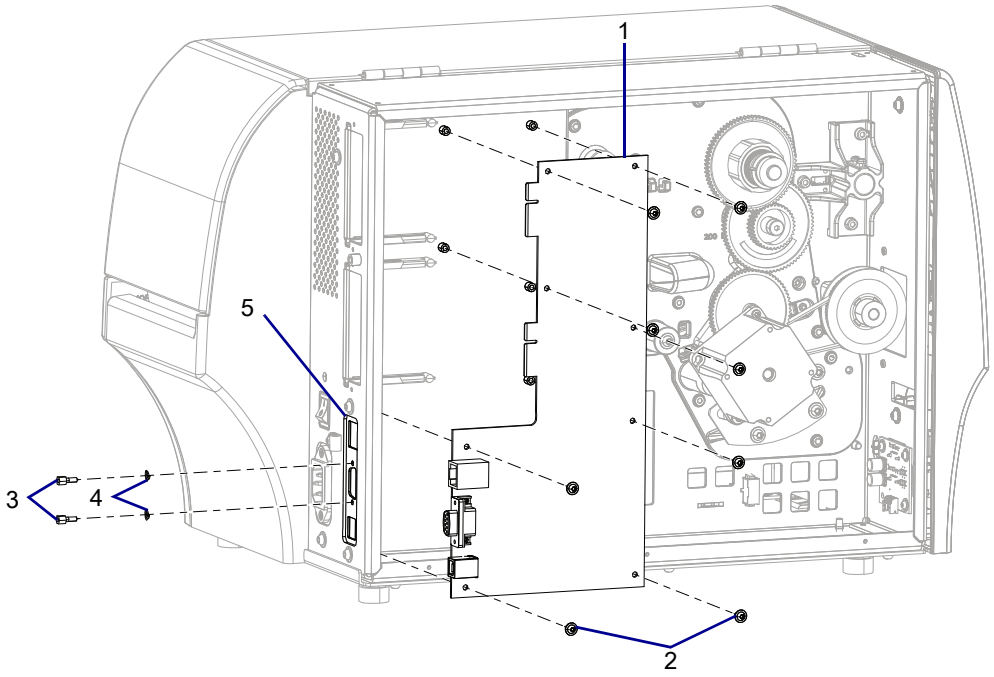
Figure 152 Main Logic Board Interconnections



J9	Control panel	J26	Option board connector
J12	USB cable connector‡	J27	RFID connector‡
J13	USB connector	J28	Serial port
J15	Stepper motor	J29	Ethernet
J16	Print mechanism path light‡	J33	Ribbon sensor
J17	Media path light‡	J34	Head open sensor
J24	Power supply	J36	Media sensor input
J20	Printhead data cable	J37	Media sensor output
J22	Rewind/LTU/Cutter connector‡	J39	Option board connector

Remove the Main Logic Board

Figure 153 Remove the Main Logic Board



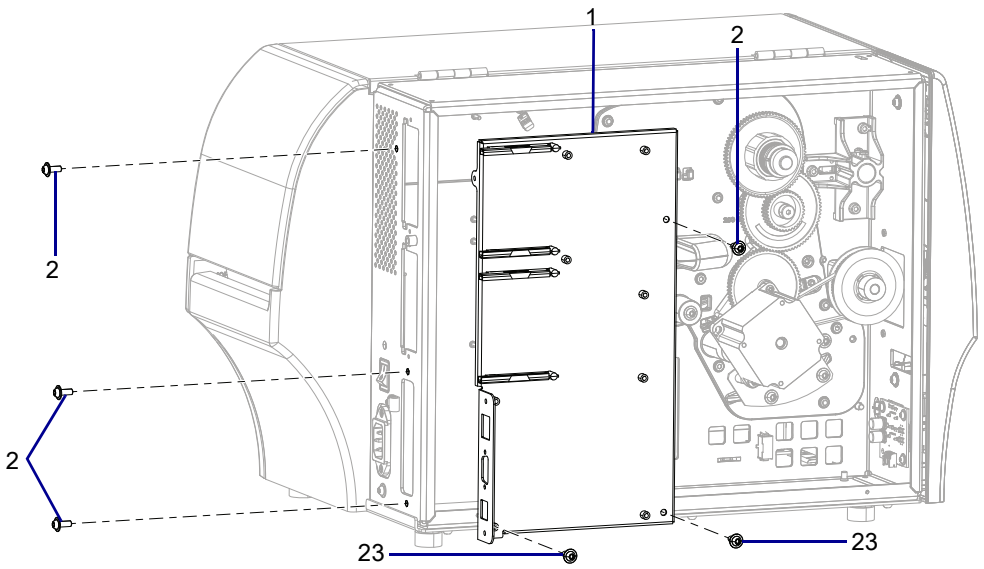
1	Main logic board
2	Screws (8)
3	Standoffs (2)
4	Lock washers (2)
5	Connectivity Ports

1. Remove the standoffs and lock washers from the serial port connector.
2. Remove the eight screws securing the MLB to the MLB bracket.
3. Move the MLB towards the front of the printer until the MLB clears the connectivity ports and set aside.

Remove the Main Logic Board Bracket Assembly

1. See Figure 154. Remove the three rear mounting screws.

Figure 154 Remove the Main Logic Board Bracket Assembly

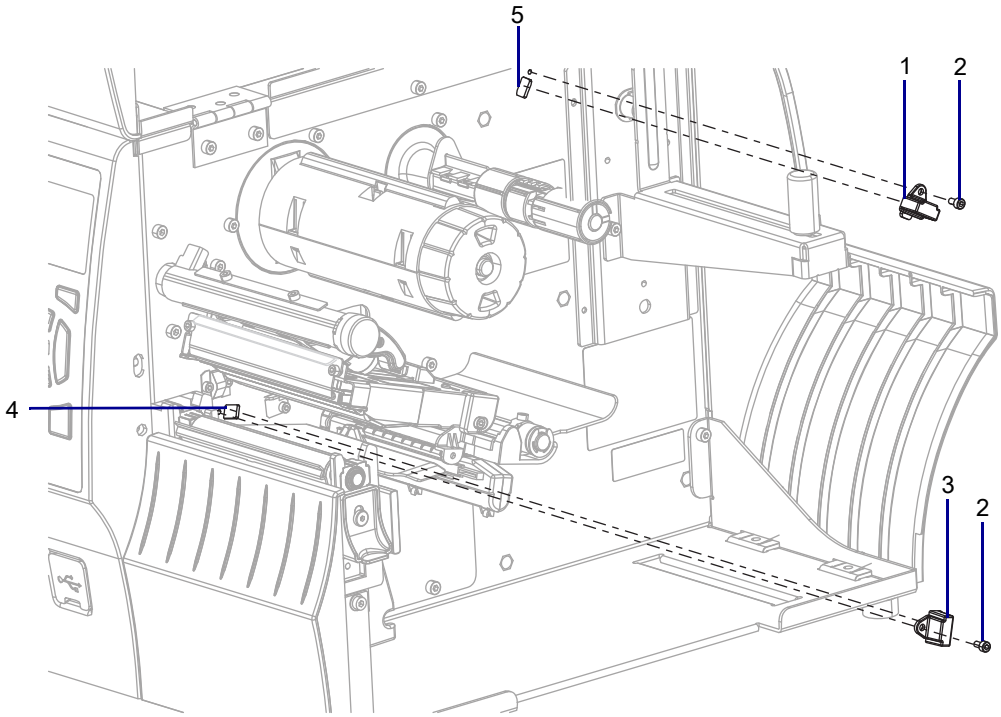


1	MLB bracket assembly
2	Screws (6)

2. Remove the screws securing the MLB bracket.
3. Remove the MLB bracket.

4. See Figure 155. On the media side, remove and discard the media and print mechanism light cover mounting screws.

Figure 155 Remove the Light Covers (ZT410 Printer Shown)



1	Media light cover
2	Mounting screw (2)
3	Print mechanism light cover
4	Print mechanism path light cover mounting hole
5	Media path light cover mounting hole

5. Remove and discard the media light assemblies.

Install the New Media Light Assembly

1. See Figure 155 on page 222. Guide the light assembly cable, with the larger connector, through the mounting hole.
2. Insert the new media light cover into the mounting hole, and then install the new screw.
3. Insert the media light assembly cable into the beaded cable tie.

Install the New Print Mechanism Light Assembly

1. See Figure 155 on page 222. Guide the light assembly cable, with the smaller connector, through the mounting hole.
2. Insert the new media light cover into the mounting hole, and then install the new screw.
3. Insert the light assembly cable into the cable clamps on the base of the printer.

Reinstall the New Main Logic Board Bracket Assembly

1. See Remove the Main Logic Board Bracket Assembly on page 221. Insert the new MLB bracket into place.
2. Install the 8 new screws.

Reinstall the Main Logic Board

1. See Figure 153 on page 220. Align the MLB connectivity ports with the connectivity port slots on the MLB bracket assembly and slide the MLB into position.
2. Install the eight screws.
3. Install standoffs and lock washers on the serial port connector.
4. See Figure 153 on page 220. Connect all previously removed cables to the new main logic board.

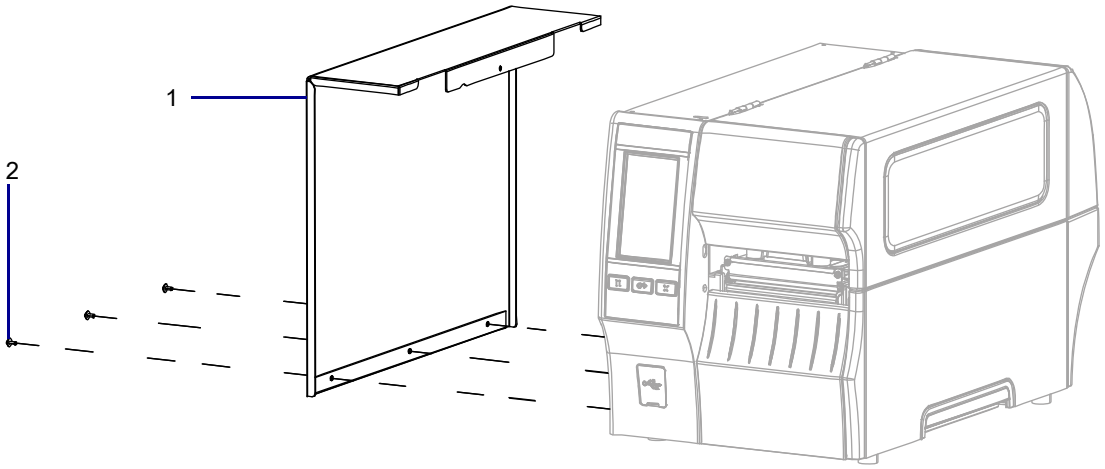
Reconnect the Main Logic Board

1. See Figure on page 219. Connect all cables removed previously to the main logic board.
2. Reinstall the two cables ties removed previously.
3. See Figure 151 on page 218. Reinstall any option boards that were removed.

Reinstall the Electronics Cover

1. See Figure 156. Slide the electronics cover onto the printer.

Figure 156 Reinstall the Electronics Cover Mounting Screws

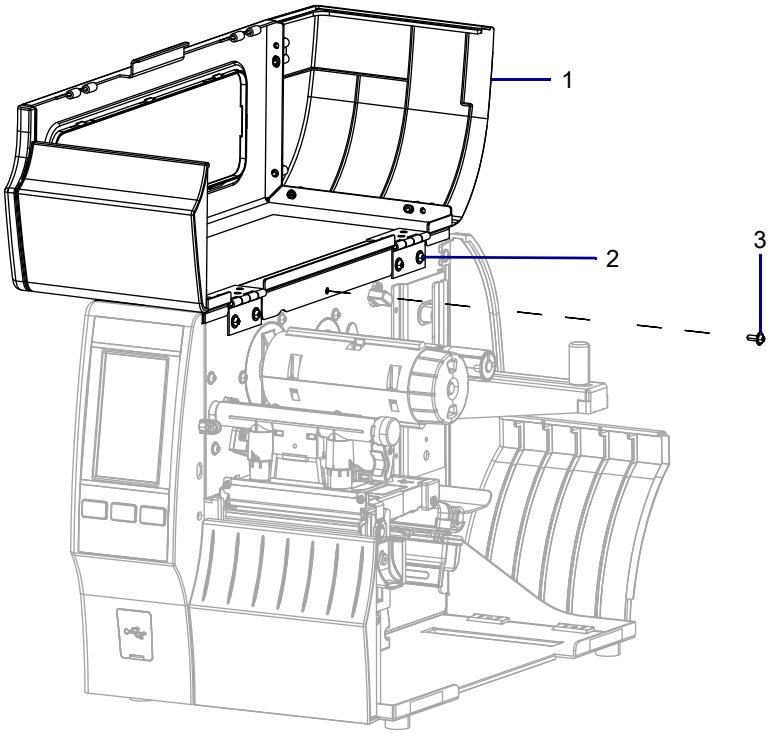


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 157. Open the media door and install the mounting screw.

Figure 157 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Ribbon Supply Spindle Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Ribbon Supply Spindle for Outside Coated Ribbon Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

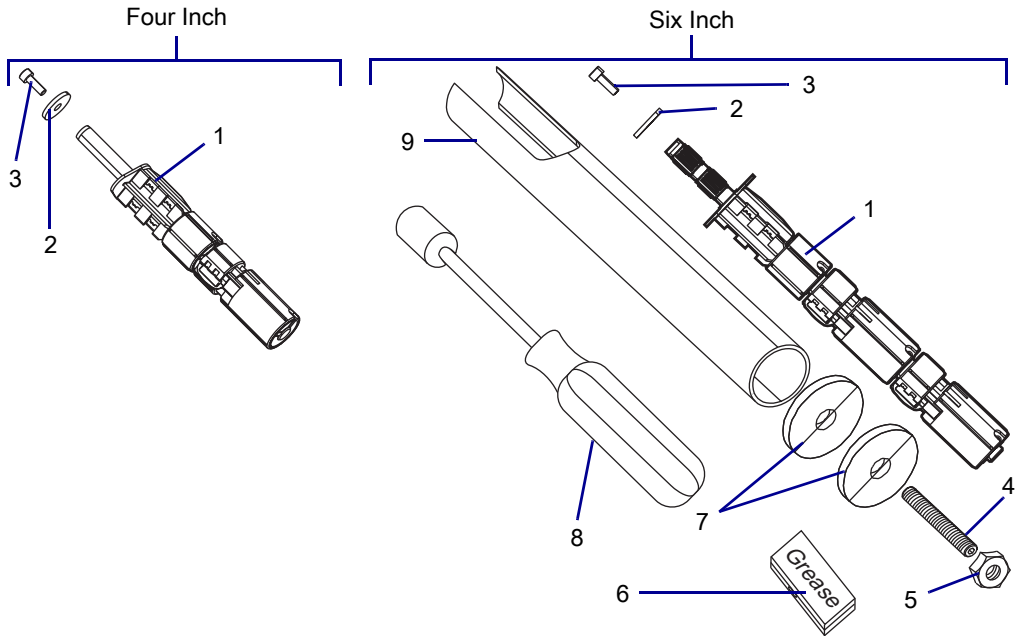


Table 24 Parts List

Item	Description	Qty
Ref	Ribbon Supply Spindle Maintenance Kit, Outside Coated Ribbon	
1	Ribbon Supply Spindle, Outside Coated Ribbon	1
2	Flat Washer, 0.198 × 0.75 × 0.085	1
3	Screw, M4 × 0.7 × 12	1
4	Screw, M4 × 0.7 × 60	1
5	Nut	1
6	Grease	1
7	Flat Washer	2
8	7 mm Nutdriver	1
9	Spindle Remove Tool	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wrist Strap and Pad
- Metric Hex Key Set
- Nut Driver (Supplied in Kit)

Remove the Electronics Cover

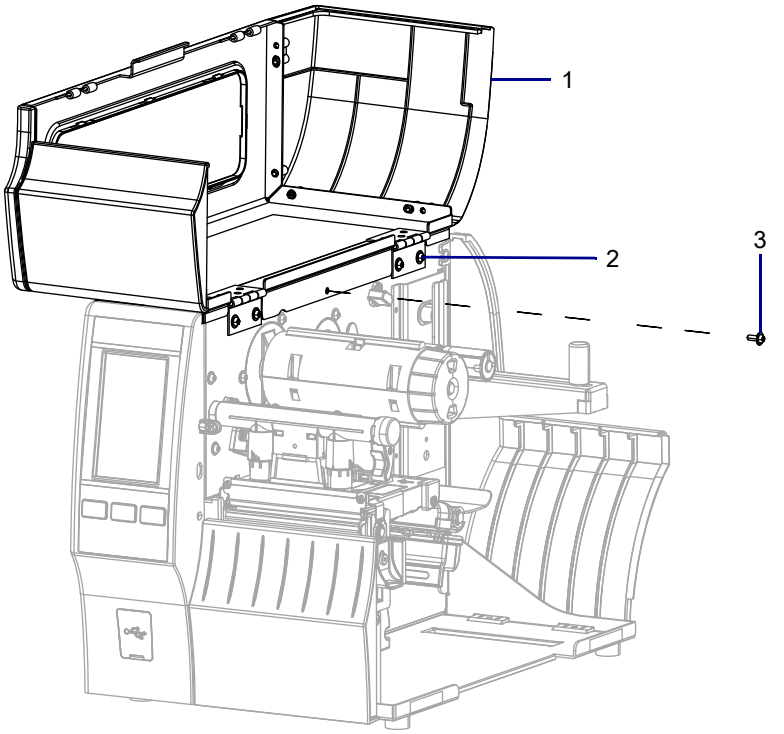
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 158. Remove the screw securing the electronics cover.

Figure 158 Locate the Electronics Cover Mounting Screw

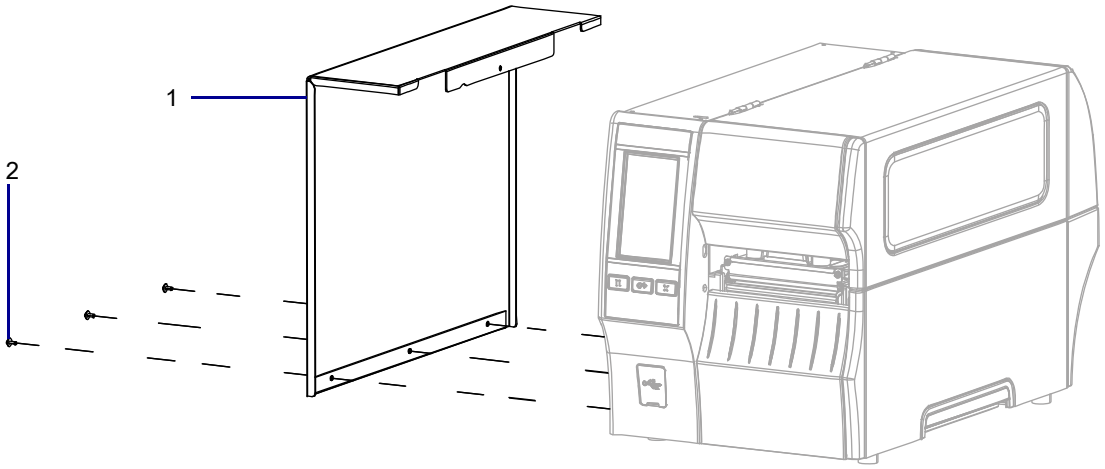


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 159. Remove the three mounting screws securing the electronics cover to the printer.

Figure 159 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

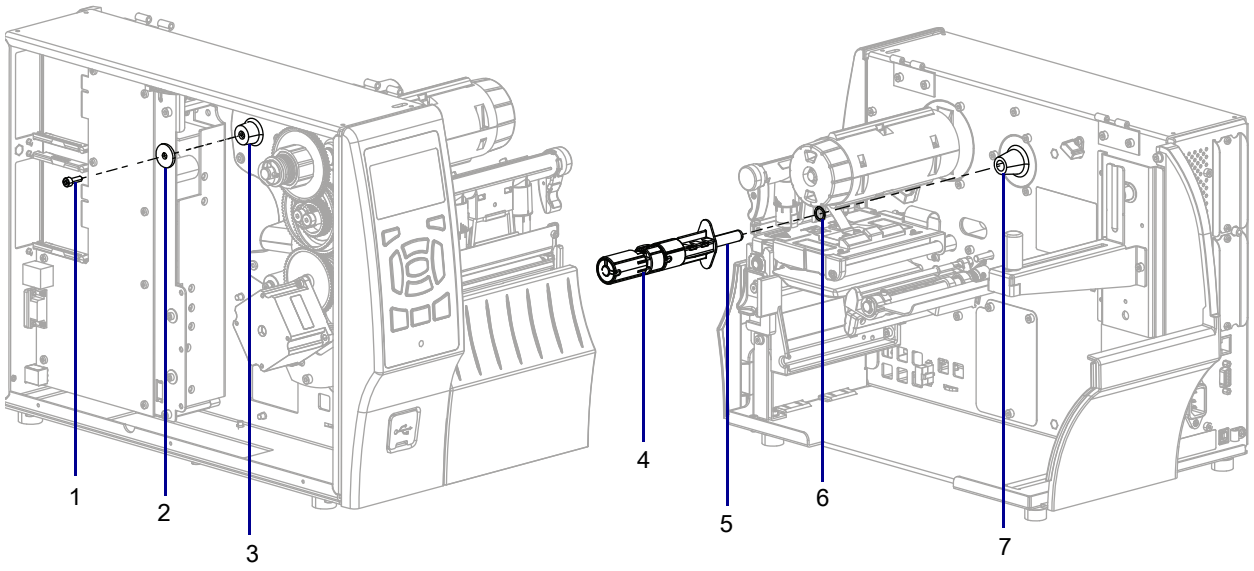
7. Which Model of Printer are you working on?

If have a…	Then…
ZT411	Go to Remove the Old ZT411 Ribbon Supply Spindle on page 229.
ZT421	Go to Remove the Old ZT421 Ribbon Supply Spindle on page 230.

Remove the Old ZT411 Ribbon Supply Spindle

1. See Figure 160. Remove the mounting screw and flat washer that secures the ribbon supply spindle.

Figure 160 Remove the Old Ribbon Supply Spindle (ZT410 Printer Shown)



1	Mounting screw
2	Flat washer
3	Mounting hole (electronics side)
4	Ribbon supply spindle
5	Ribbon supply spindle shaft
6	Thin flat washer
7	Mounting hole (media side)

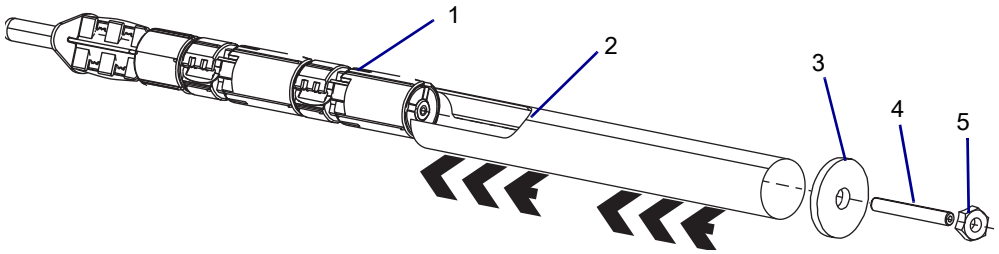
Install the New ZT411 Ribbon Supply Spindle

1. See Figure 160. Slide the thin flat washer onto the ribbon supply spindle shaft, and then slide the spindle into the printer mounting hole.
2. From the electronics side, install the new flat washer and mounting screw into the ribbon supply spindle shaft.
3. Tighten the mounting screw.
4. Go to Reinstall the Electronics Cover on page 233.

Remove the Old ZT421 Ribbon Supply Spindle

1. See Figure 161. Slide the spindle remove tool over the ribbon supply spindle on the printer.

Figure 161 Using the Remove Tool



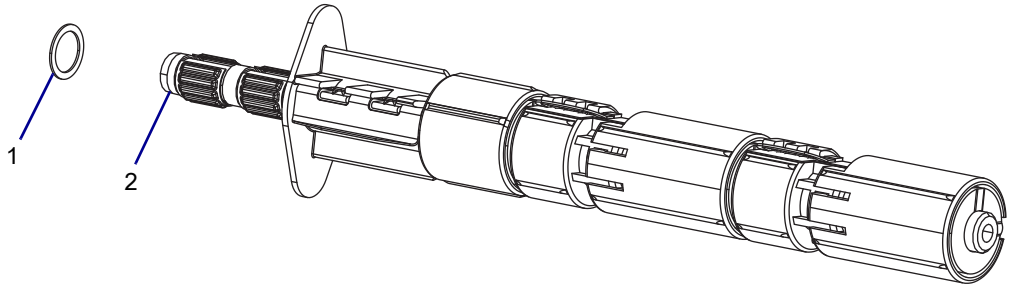
1	Spindle assembly
2	Spindle remove tool
3	Washer
4	Screw
5	Nut

2. Install the screw into the end of the spindle assembly until it bottoms out.
3. Slide the washer over the end of the screw until it is against the remove tool.
4. Install the nut until it rests against the washer.
5. While holding the remove tool and using the nut driver, turn the nut clockwise to remove the ribbon supply spindle from the printer.
6. Remove the nut, washer, and screw from the spindle.
7. Slide the remove tool from the spindle.

Install the ZT421 New Ribbon Supply Spindle

1. See Figure 162. Install the thin washer onto the spindle shaft.

Figure 162 Install the Thin Washer

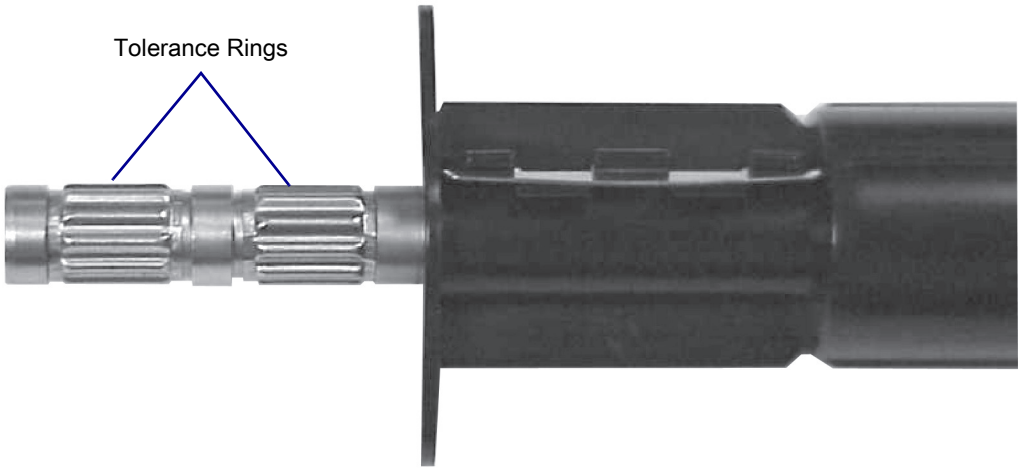


1	Thin washer
2	Ribbon supply spindle shaft

2. See Figure 163. Place a small amount of grease on the tolerance rings of the ribbon supply spindle shaft.See Figure on page 234. Gently push the ribbon supply spindle assembly into the printer main frame.

NOTE: In step 1, do not use force or pound on the ribbon supply spindle.

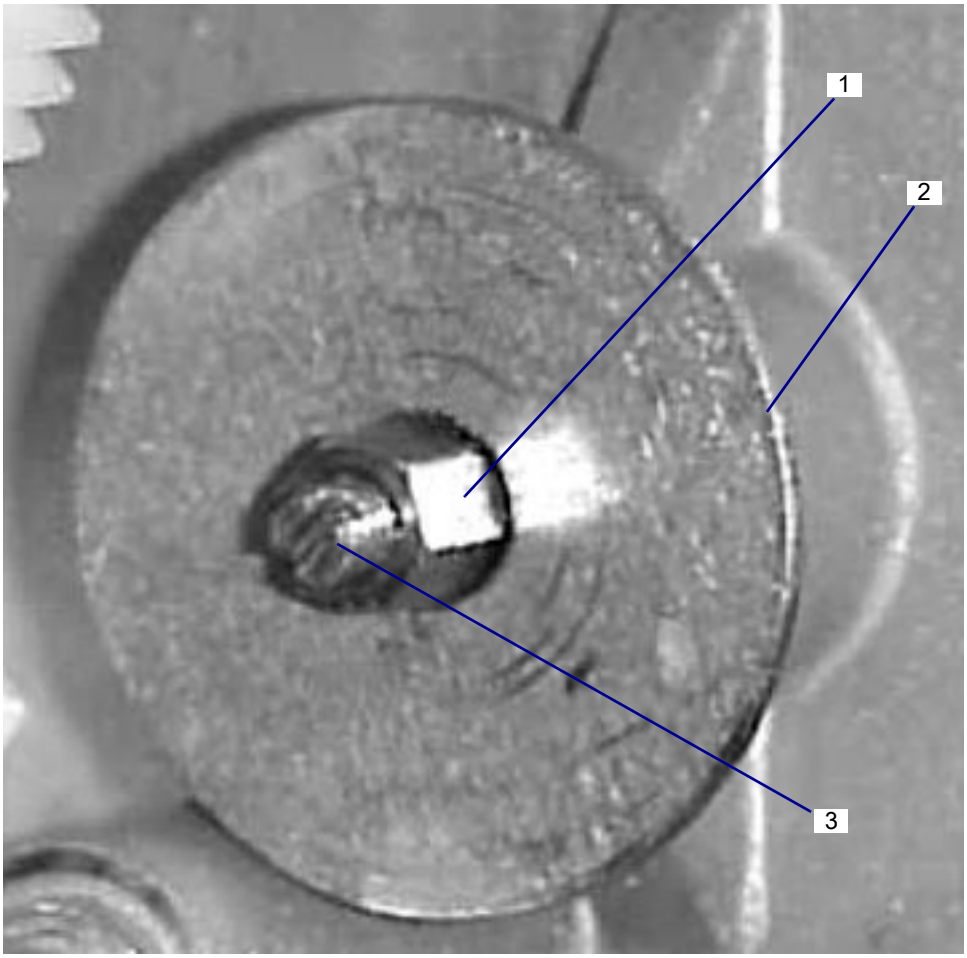
Figure 163 Lubrication



1. See Figure 161 on page 230. Gently push the ribbon supply spindle assembly See Figure on page 234. Gently push the ribbon supply spindle assembly into the printer main frame.

2. See Figure 164. Install the tool screw into the spindle shaft until it bottoms out.

Figure 164 Spindle Installation



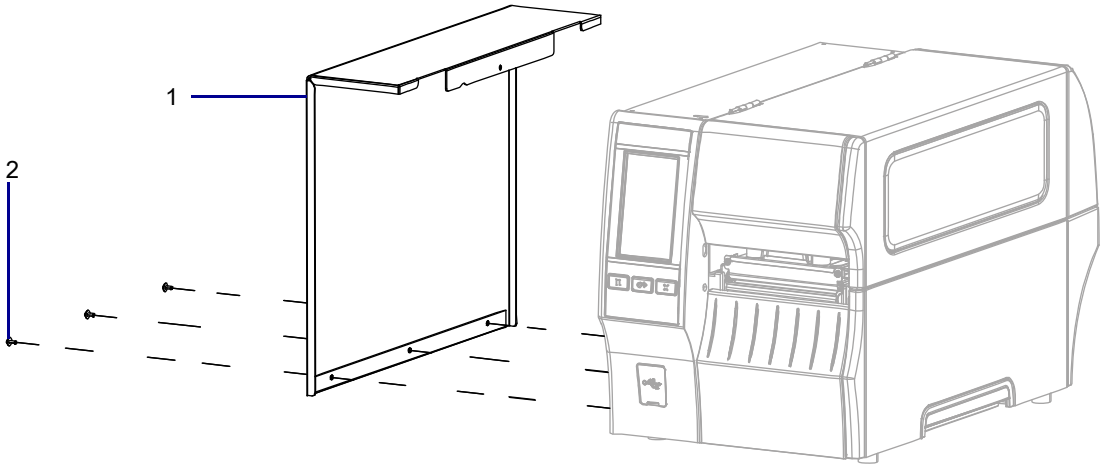
1	Nut
2	Washer
3	Screw

3. Slide the washer over the end of the screw until it is against the main frame.
4. Install the nut until it rests against the washer.
5. Turn the nut clockwise to draw the ribbon supply spindle into the printer.
6. Once the spindle is in the printer, turn the spindle nut ½ turn counterclockwise, and remove the screw, nut, and washer.
7. See Figure 160 on page 229. Install the spindle mounting screw and washer.

Reinstall the Electronics Cover

1. See Figure 165. Slide the electronics cover onto the printer.

Figure 165 Reinstall the Electronics Cover Mounting Screws

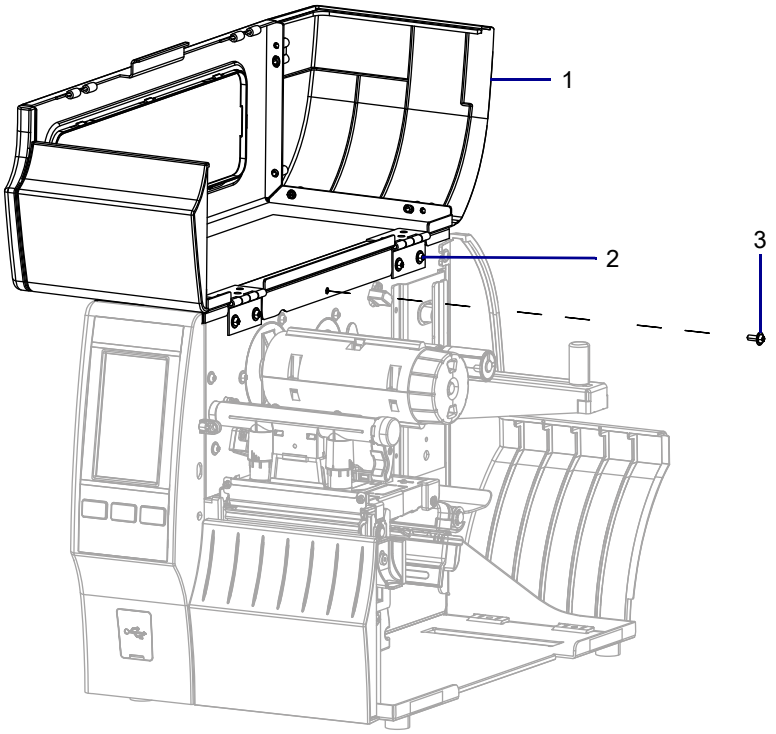


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 166. Open the media door and install the mounting screw.

Figure 166 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411 Printers Ribbon Supply Spindle for Optional Inside Coated Ribbon Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Ribbon Supply Spindle, Optional Inside Coated Ribbon, Maintenance Kit in ZT411 printer.

IMPORTANT: Not available for the ZT421.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 167 Kit Contents

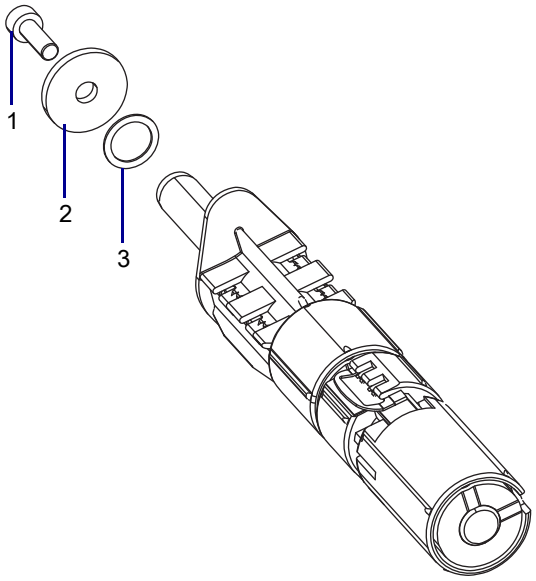


Table 25 Parts List

Item	Description	Qty
Ref	ZT411 Printers Ribbon Supply Maintenance Kit, Optional Inside Coated Ribbon	
1	Screw, M4 × 0.7	1
2	Washer, 0.198 × 0.75 × 0.085	1
3	Washer, 0.5 × 0.377 × 0.02	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wriststrap and Mat
- Metric Hex Key Set

Remove the Electronics Cover

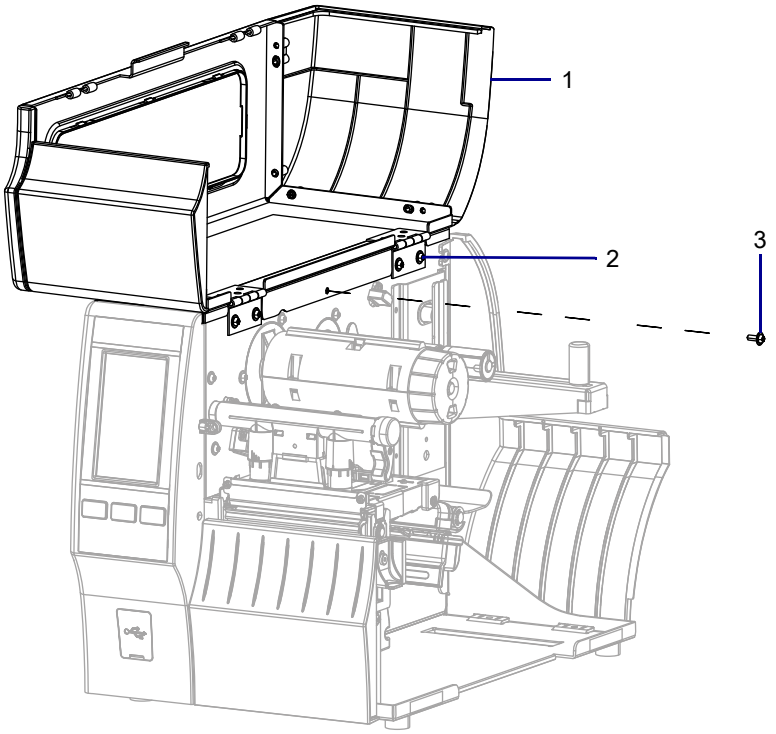
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 168. Remove the screw securing the electronics cover.

Figure 168 Locate the Electronics Cover Mounting Screw

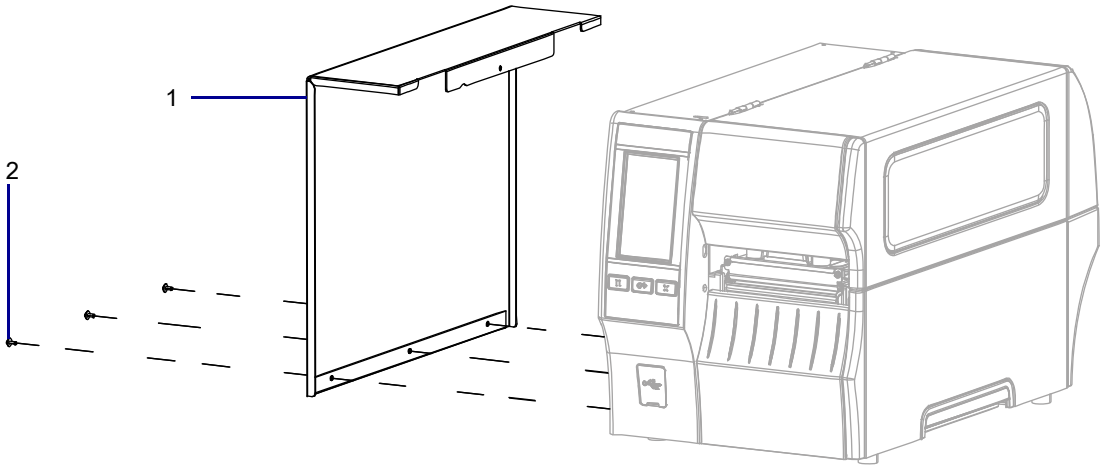


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 169. Remove the three mounting screws securing the electronics cover to the printer.

Figure 169 Remove the Electronics Cover Mounting Screws



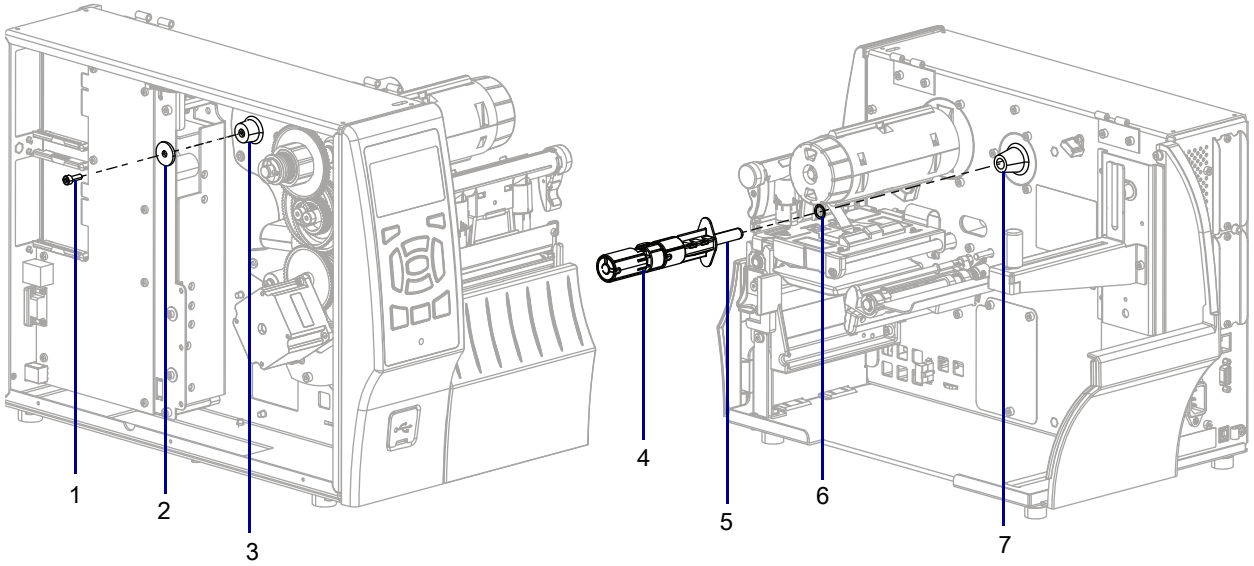
1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Old Ribbon Supply Spindle

1. See Figure 170. From the electronics side, remove the mounting screw and flat washer that secure the ribbon supply spindle.

Figure 170 Remove the Ribbon Supply Spindle (ZT410 Printer Shown)



1	Mounting screw
2	Flat washer
3	Mounting hole (electronics side)
4	Ribbon supply spindle
5	Ribbon supply spindle shaft
6	Thin flat washer
7	Mounting hole (media side)

2. From the media side, pull the old ribbon supply spindle and thin flat washer out of the printer. Discard all parts removed.

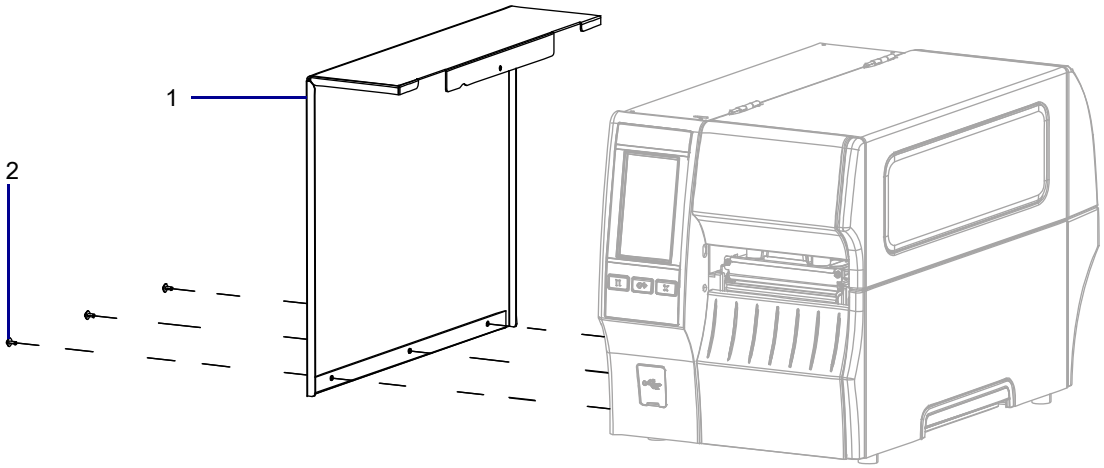
Install the New Ribbon Supply Spindle

1. See Figure 170. From the media side, slide the thin flat washer onto the ribbon supply spindle shaft, and then slide the spindle into the printer mounting hole.
2. From the electronics side, install the new flat washer and mounting screw into the ribbon supply spindle shaft.
3. Tighten the mounting screw.

Reinstall the Electronics Cover

1. See Figure 171. Slide the electronics cover onto the printer.

Figure 171 Reinstall the Electronics Cover Mounting Screws

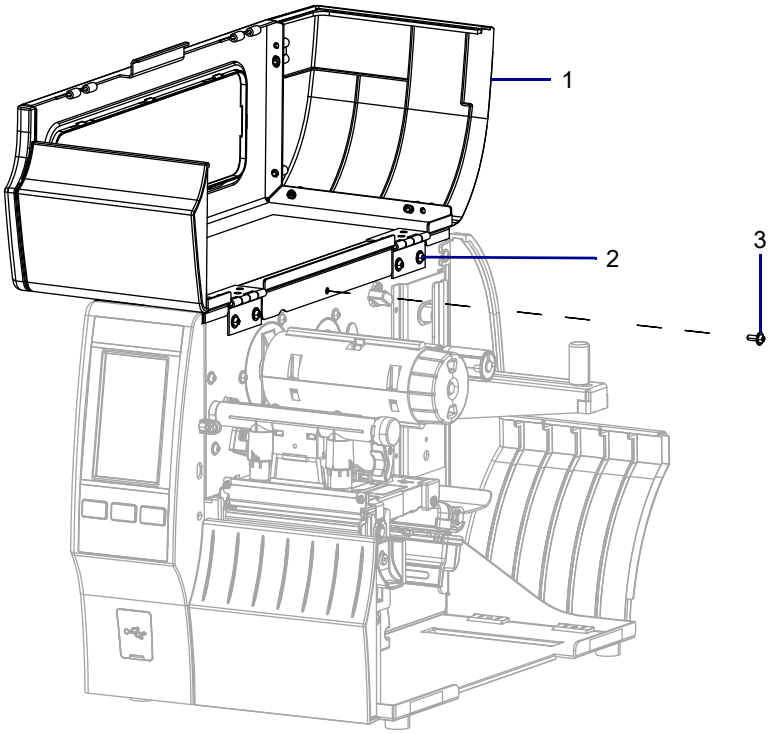


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 172. Open the media door and install the mounting screw.

Figure 172 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Ribbon Take-Up (RTU) Spindle Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Ribbon Take-Up (RTU) Spindle Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 173 Kit Contents

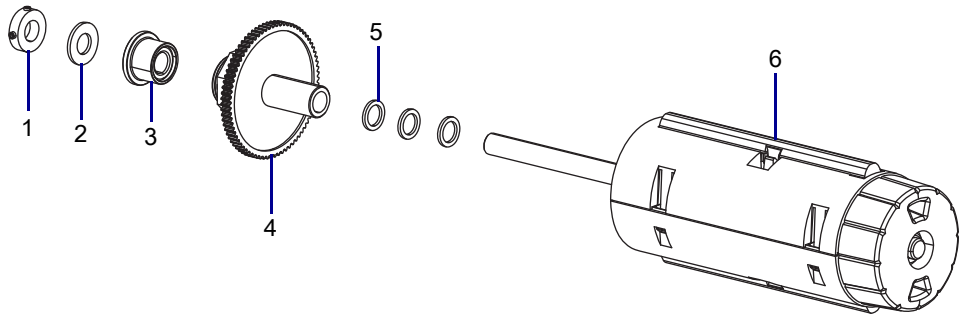


Table 26 Parts List

Item	Description	Qty
Ref	Ribbon Take-Up Spindle Maintenance Kit	
1	Collar	1
2	Nylon washer, 0.750 × 0.375 × 0.200	1
3	Clutch	1
4	Clutch Gear	1
5	Washer, 0.379 × 0.53 × 0.056	3
6	Ribbon Take-Up Spindle	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- 0.020 Feeler Gauge
- Metric Hex Key Set
- Antistatic Wriststrap and Mat

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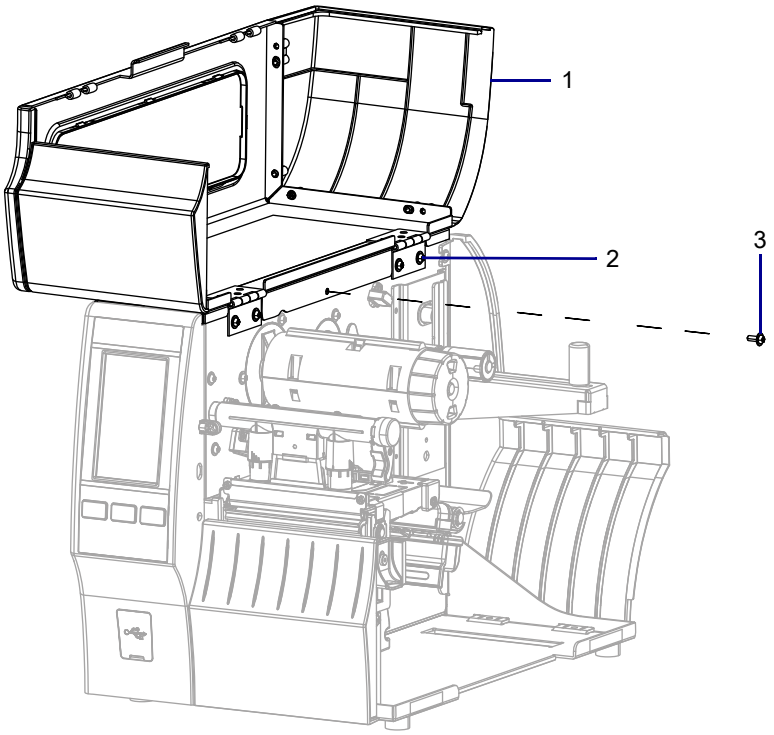
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 174. Remove the screw securing the electronics cover.

Figure 174 Locate the Electronics Cover Mounting Screw

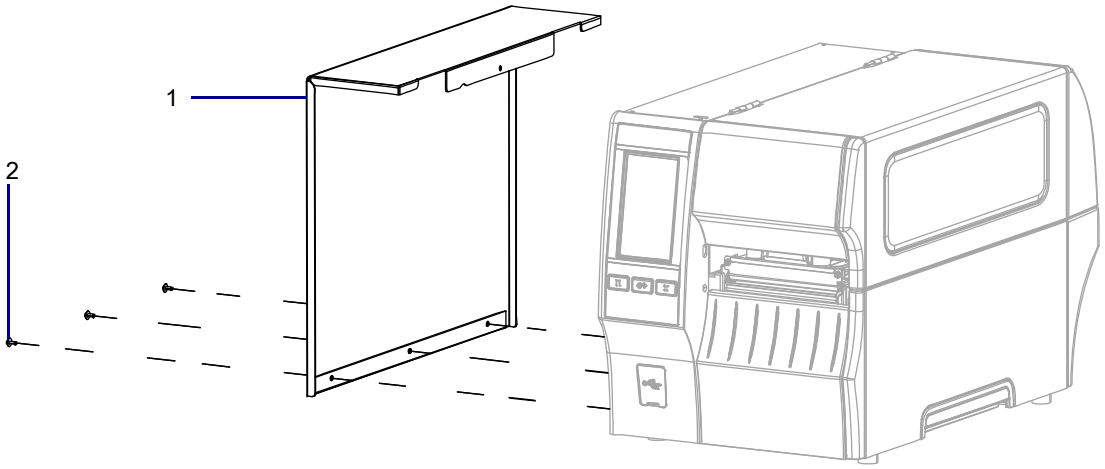


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 175. Remove the three mounting screws securing the electronics cover to the printer.

Figure 175 Remove the Electronics Cover Mounting Screws



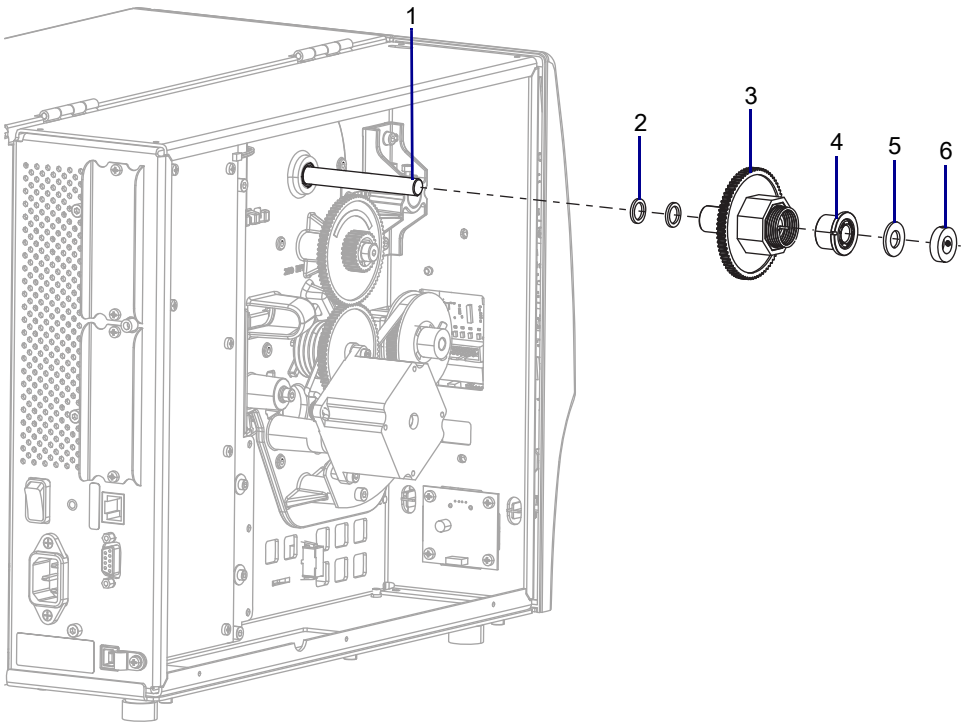
1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

Remove Old RTU

1. See Figure 176. Loosen the two set screws in the collar.

Figure 176 Remove the Clutch

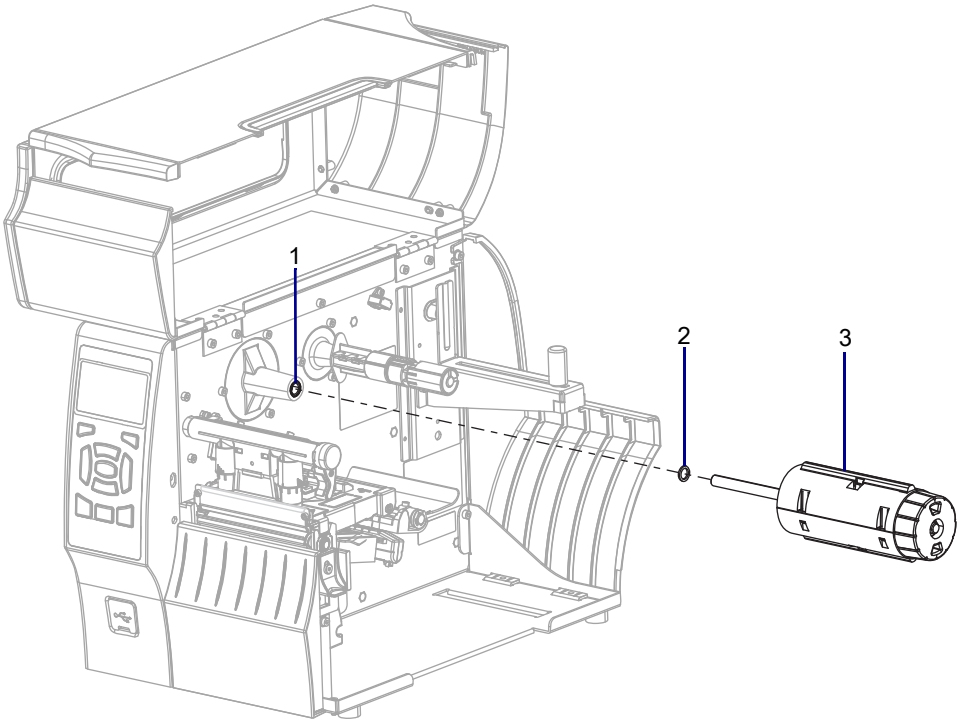


1	Ribbon take-up spindle shaft
2	Washers (2)
3	Clutch gear
4	Clutch
5	Nylon washer
6	Collar with two set screws

2. Remove and discard the collar, flat nylon washer, clutch, clutch gear, and flat washers.

3. See Figure 177. Open the media door, and then slide the old ribbon take-up spindle and flat washer out of the printer.

Figure 177 Remove the RTU Spindle (ZT410 Printer Shown)



1	Ribbon take-up spindle mounting hole
2	Flat washer
3	Ribbon take-up spindle

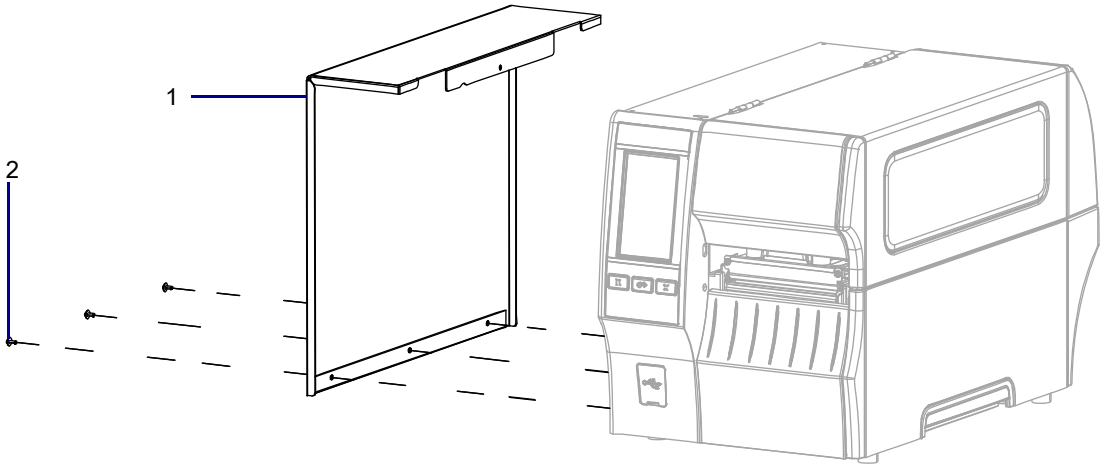
Install the New RTU

1. See Figure 177 on page 246. Slide a flat washer onto the new RTU spindle shaft, and then slide the spindle into the spindle mounting hole.
2. See Figure 176 on page 245. While holding the new RTU spindle, slide a flat washer, clutch gear, clutch, flat nylon washer, and collar onto the RTU shaft from the electronics side.
3. Slide the 0.020 feeler gauge between the flat nylon washer and the collar.
4. Push everything together, and then tighten the two set screws of the collar.
5. Remove the 0.020 feeler gauge.

Reinstall the Electronics Cover

1. See Figure 178. Slide the electronics cover onto the printer.

Figure 178 Reinstall the Electronics Cover Mounting Screws

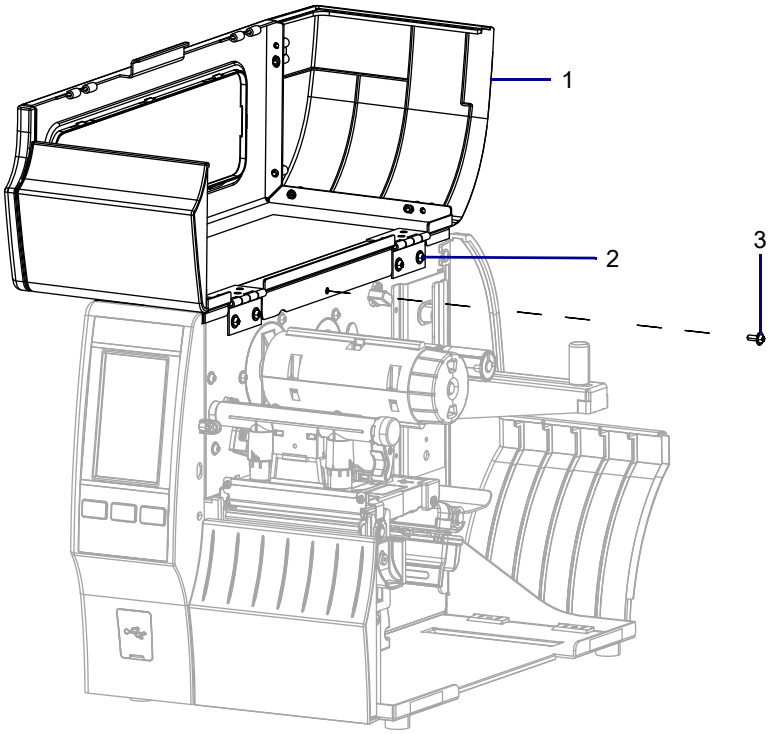


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 179. Open the media door and install the mounting screw.

Figure 179 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Platen Roller Assembly Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Platen Roller Assembly Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 180 Kit Contents

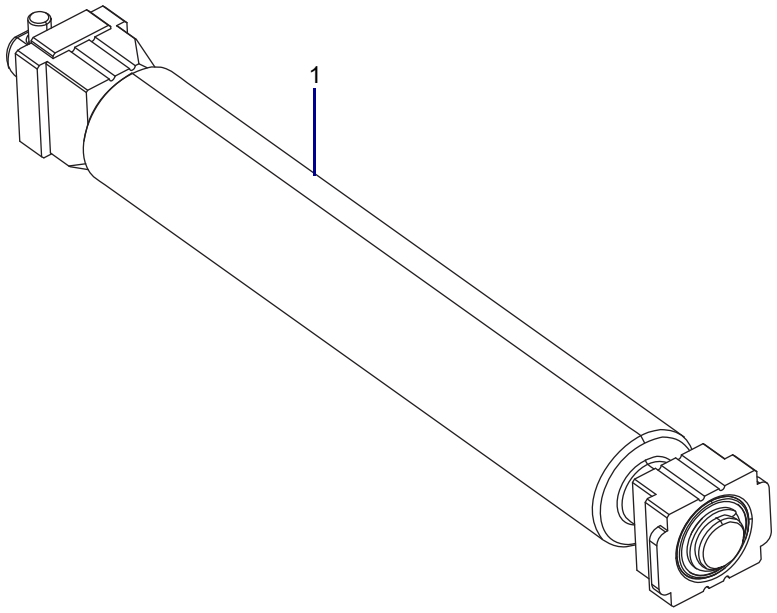


Table 27 Parts List

Item	Description	Qty
1	Platen Roller Assembly Maintenance Kit	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- 47362 Zebra Preventive Maintenance Kit*

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol.

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Remove the Old Platen Roller

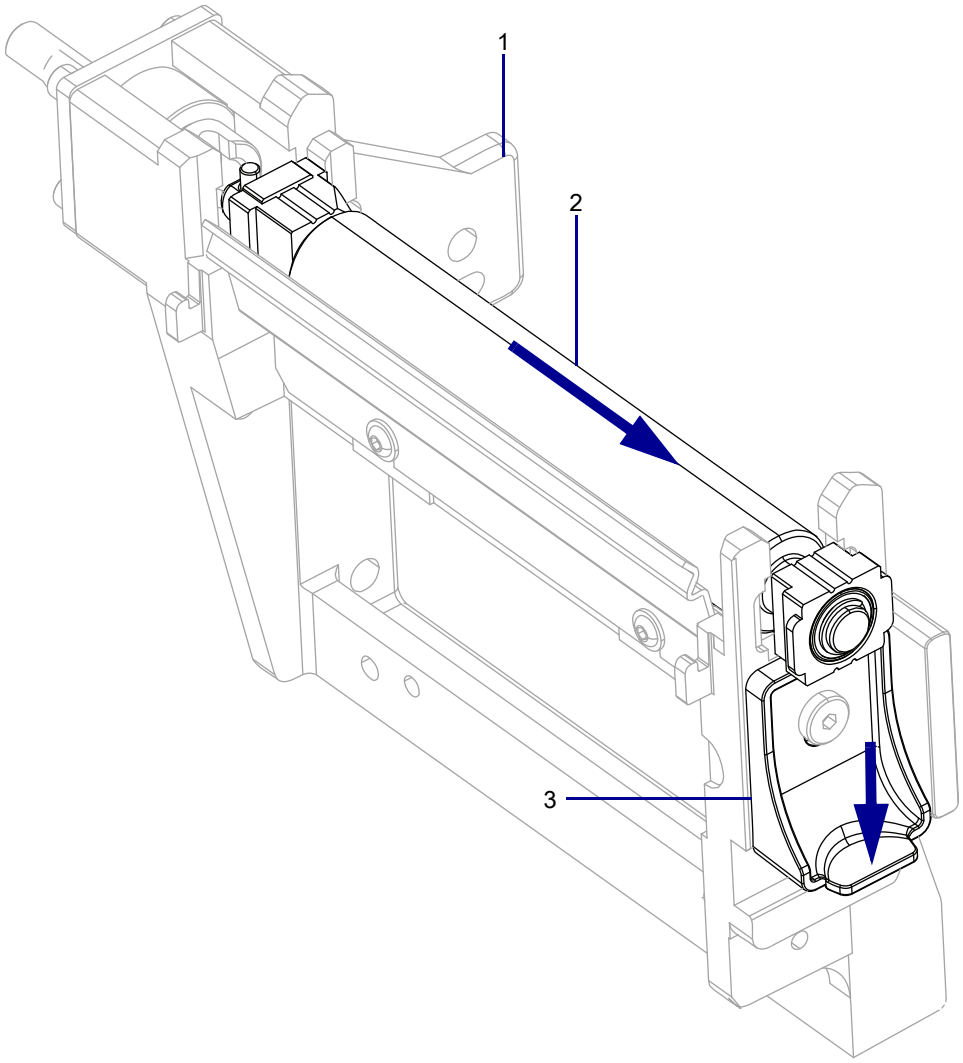
CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media cover and remove the media and ribbon.

NOTE: If you have a peel unit installed, you will have to open it.

2. See Figure 181. Press down on the platen retainer.

Figure 181 Slide the Platen Roller Assembly

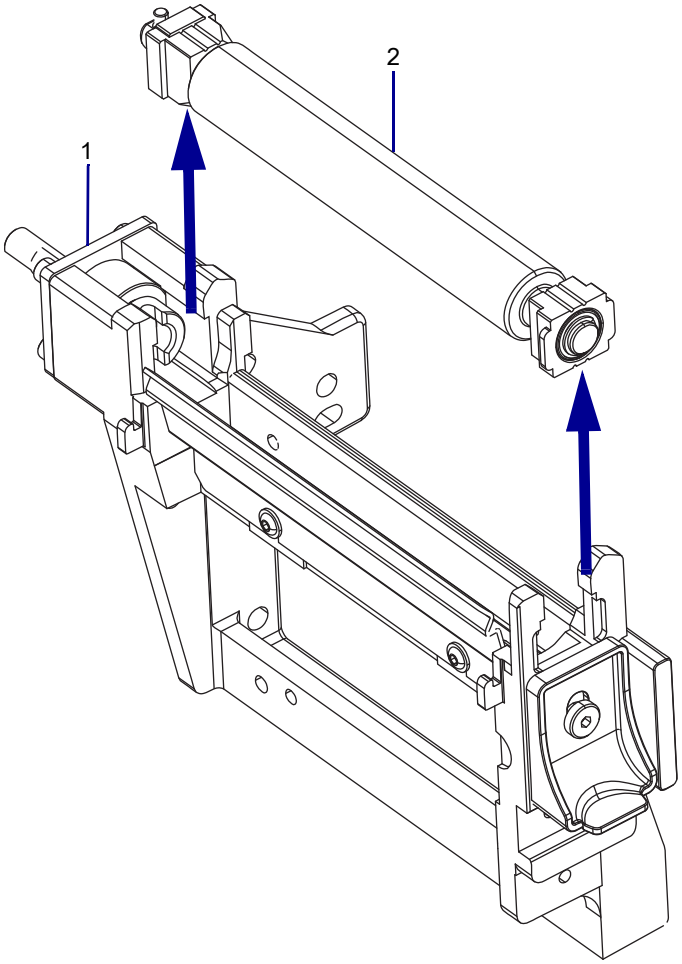


1	Print mechanism
2	Platen roller assembly
3	Platen retainer

3. Slide the platen roller assembly away from the printer until it disengages the platen housing.

4. See Figure 182. Lift the platen roller assembly out of the printer.

Figure 182 Remove the Platen Roller Assembly



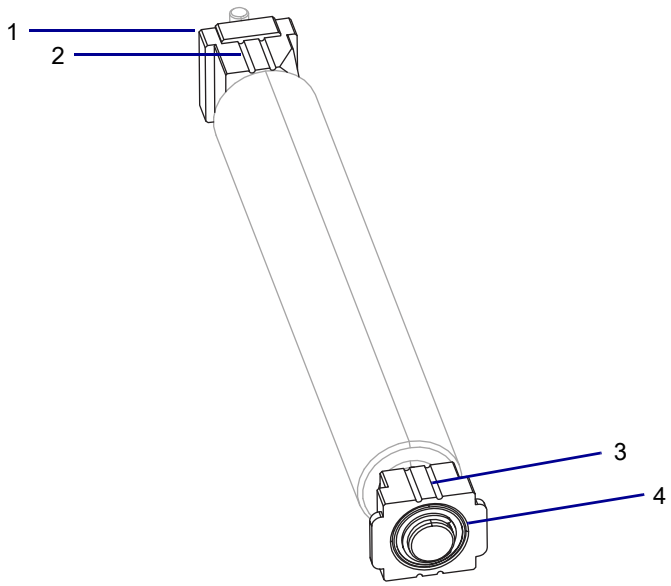
1	Platen housing
2	Platen roller assembly

Install the New Platen Roller Assembly

IMPORTANT: The grooves in the inner and outer bearings must be facing up.

1. See Figure 183. Verify that the bearings are oriented properly.

Figure 183 Bearing Keys

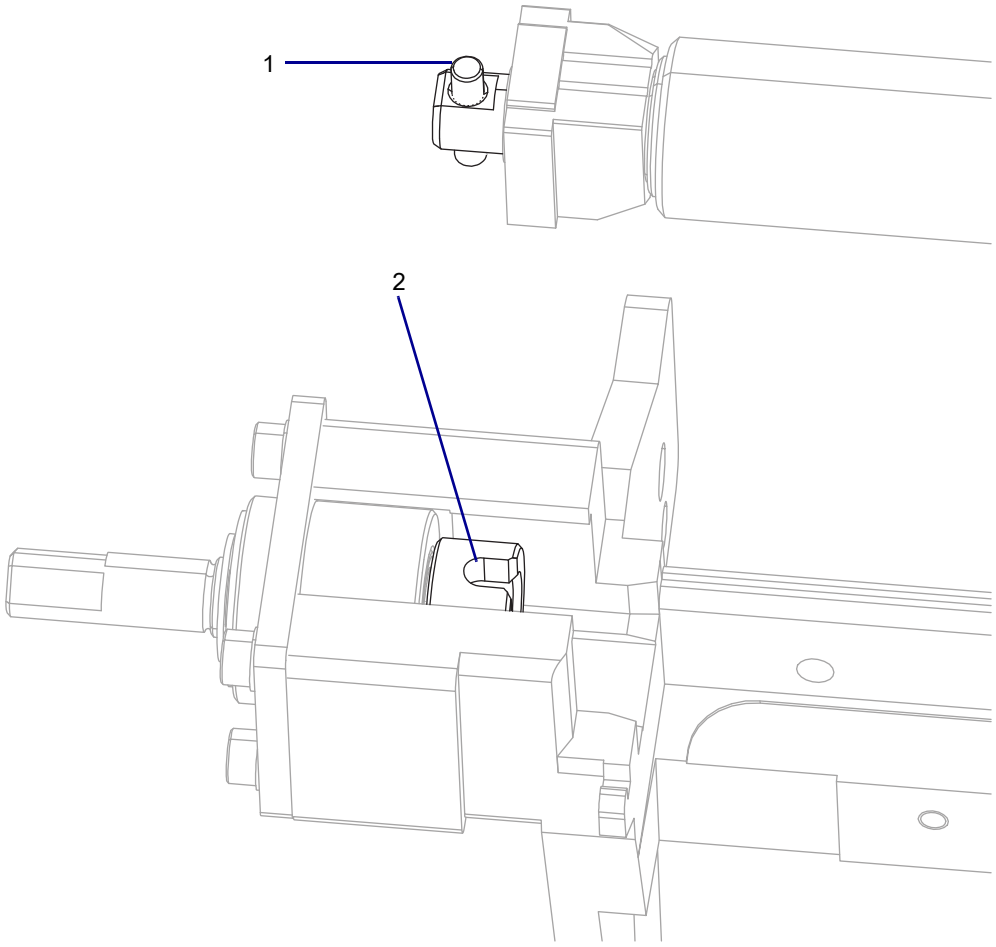


1	Inner bearing
2	Inner bearing grooves
3	Outer bearing grooves
4	Outer bearing

2. See Figure 182 on page 251. With the grooves up, set the new platen roller assembly into the platen housing.
3. See Figure 181 on page 250. Press down and hold the platen retainer.

4. See Figure 184. While holding the platen retainer down, slide the platen roller assembly into the platen housing, aligning the platen roller bearings with the platen housing and the drive pin with the slot in the drive shaft.

Figure 184 Align the Drive Pin and Drive Shaft

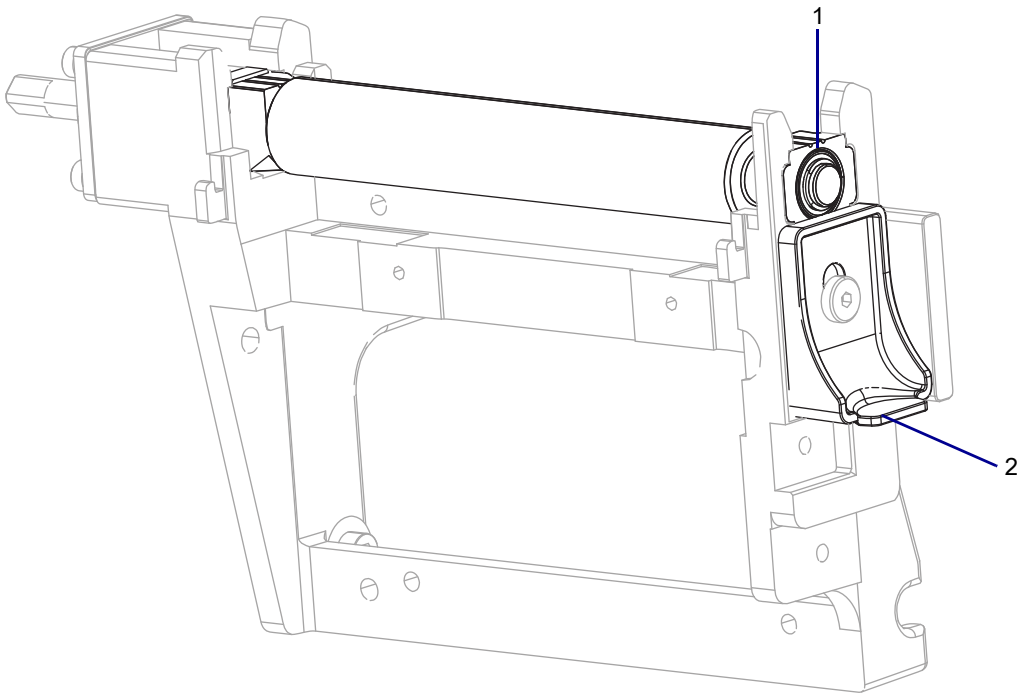


1	Platen roller assembly drive pin
2	Drive shaft slot

5. See Figure 185. Release the platen retainer.

NOTE: Ensure that the retainer locks the platen roller into the platen housing. If it is not locked, reseat the platen roller again.

Figure 185 Release the Platen Retainer



1	Platen bearing
2	Platen retainer

6. Clean the platen roller using the Zebra preventative maintenance kit or equivalent.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Platen Retainer Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Platen Retainer Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 186 Contents

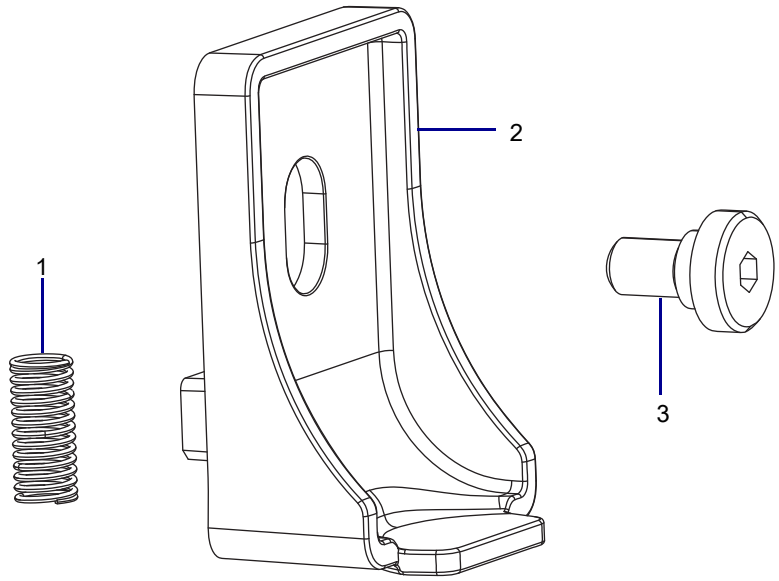


Table 28 Part List

Item	Description	Qty
Ref	Platen Retainer Maintenance Kit	
1	Compression Spring	1
2	Platen Lock	1
3	Shoulder Screw, M4 × 2 mm, 5.5 mm Diameter	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

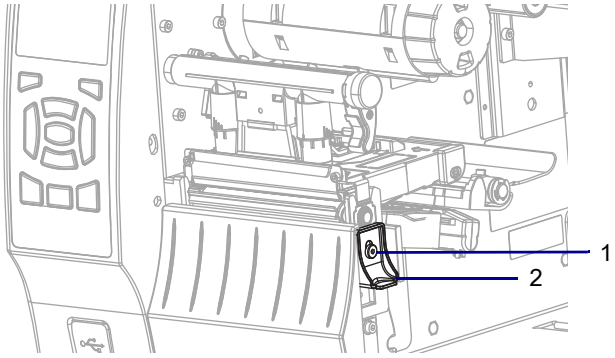
- Metric Hex Key Set
- Needle-nose Pliers
- Safety Glasses

Remove the Old Platen Retainer

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. See Figure 187. Open the media door.
2. Locate the platen retainer shoulder screw.

Figure 187 Locate the Platen Retainer Shoulder Screw (ZT410 Printer Shown)

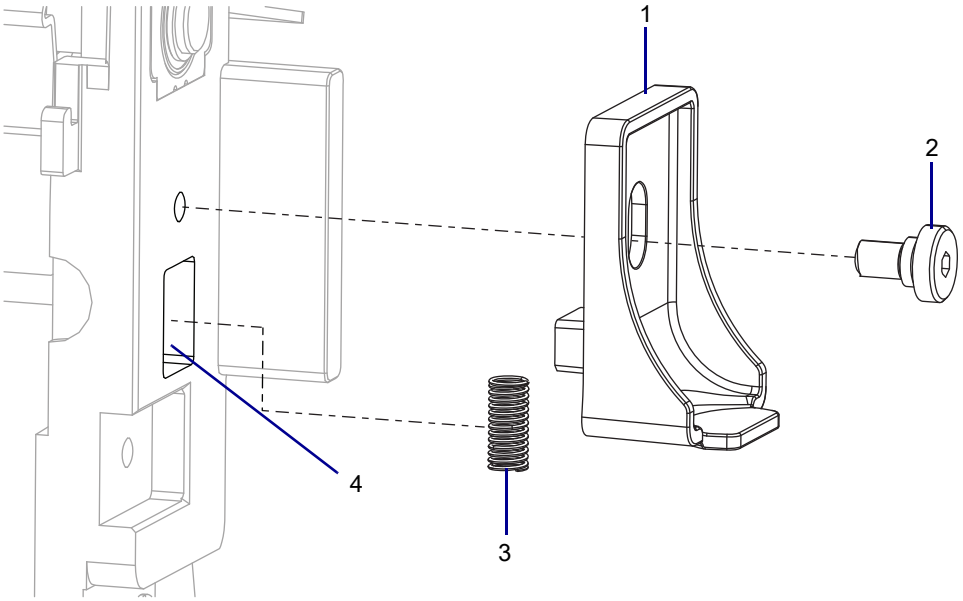


1	Platen retainer shoulder screw
2	Platen retainer

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

3. See Figure 188. Remove the platen retainer shoulder screw from the compression spring cavity.

Figure 188 Remove the Platen Retainer Shoulder Screw



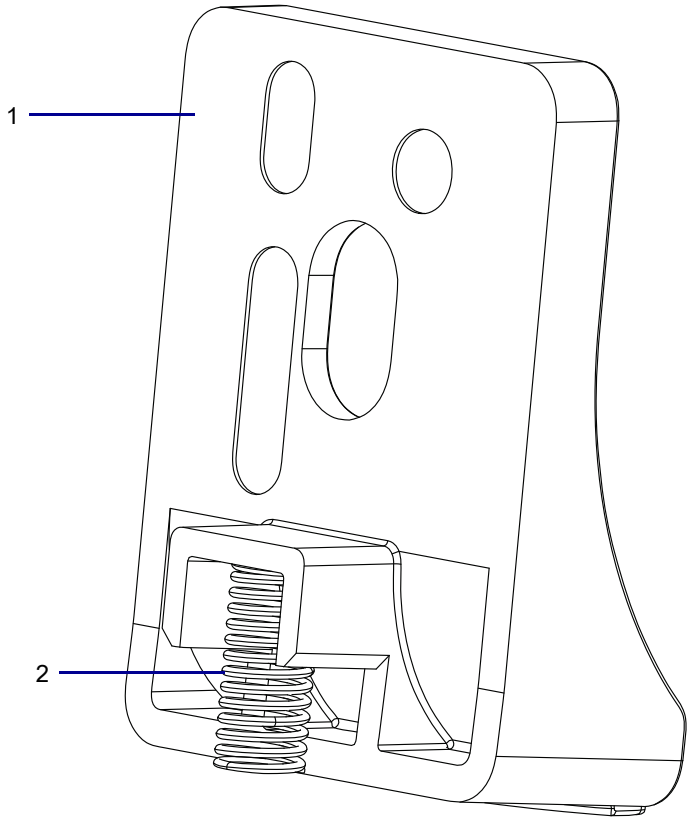
1	Platen retainer
2	Platen retainer shoulder screw
3	Compression spring
4	Compression spring cavity

4. Slide the platen retainer out of the printer.
5. Using the needle-nose pliers, remove the compression spring from the compression spring cavity.

Install the New Platen Retainer

1. See Figure 189. Insert the new compression spring into the new retainer as shown.

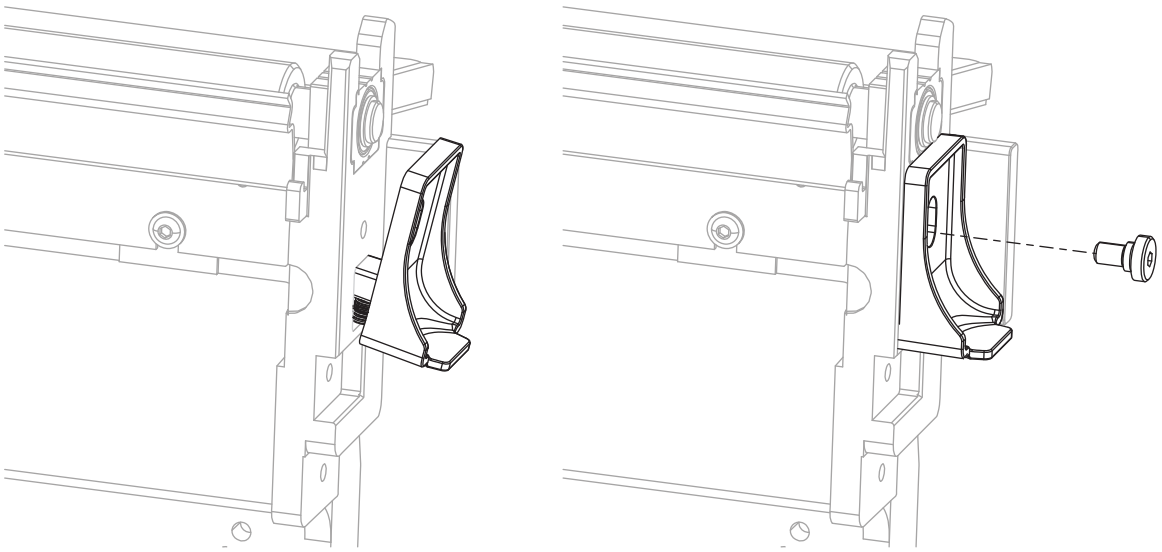
Figure 189 Identify the Parts



1	Platen retainer
2	Compression spring

2. While holding the spring in place, set the spring onto the bottom of the compression spring cavity.

Install the Platen Retainer



1. Press down on the platen retainer, and then push the platen retainer into the compression spring cavity.
2. Install the new shoulder screw.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Tear Bar Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Tear Bar maintenance kit into the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit

Parts List

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

Figure 190 Kit Contents

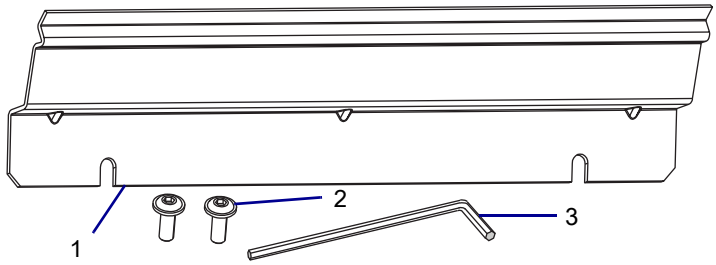


Table 29 Parts List

Item	Description	Qty
Ref	Tear Bar Maintenance Kit	
1	Tear Bar	1
2	Screw, M3 × 8	2
3	2.5 mm Hex Key	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- 2.5 mm Hex Key (Supplied)
- Flat Blade Screwdriver set

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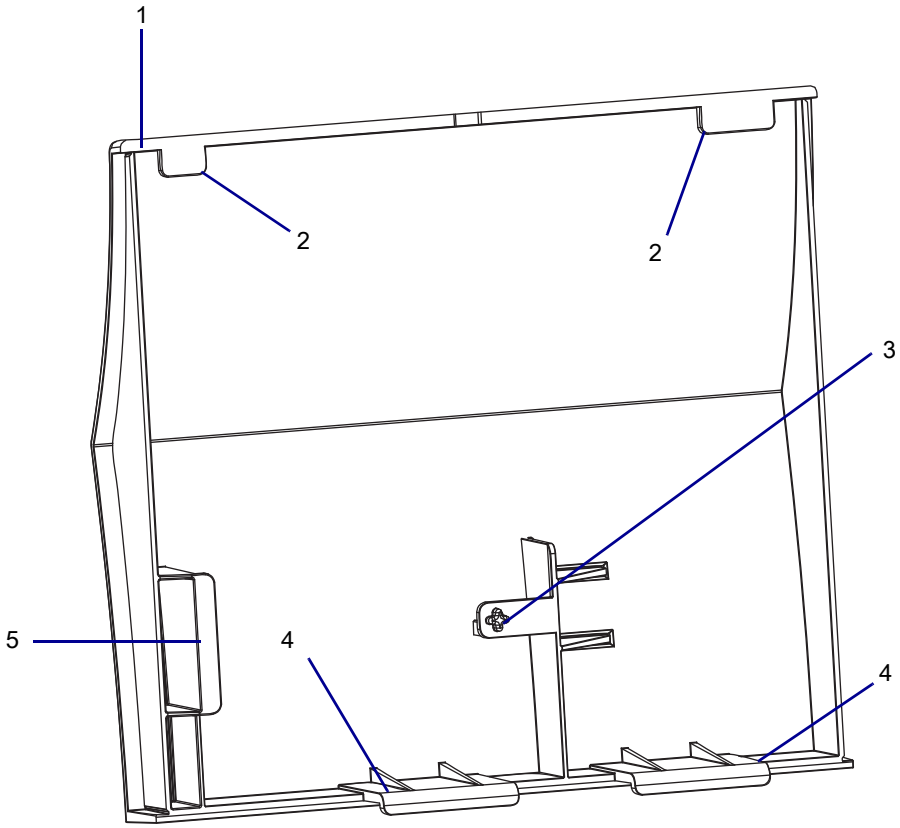
Remove the ZT411/ZT421 Printers Lower Front Trim Panel

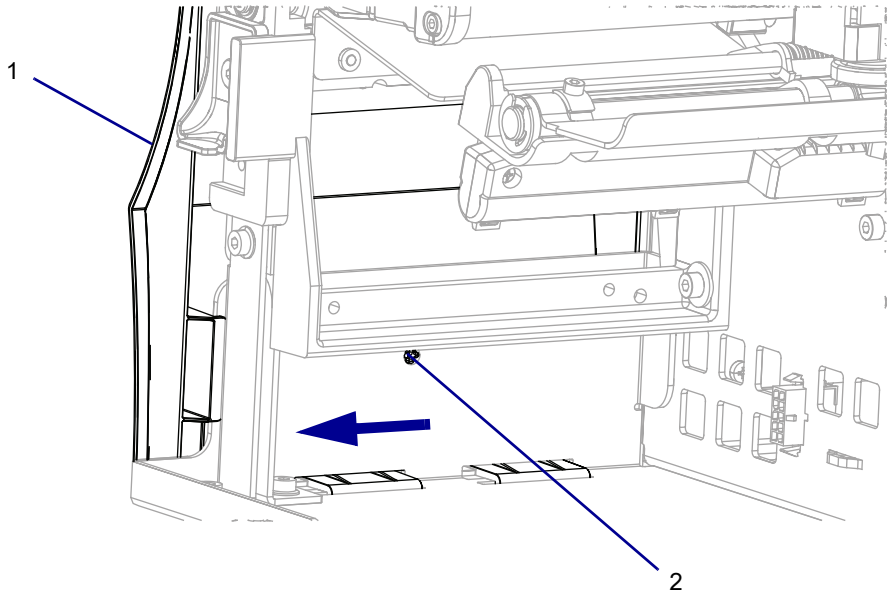
Figure 191 Tear Lower Front Trim Panel Identification



1	Lower front trim panel
2	Lower front trim panel top tabs
3	Lower front trim panel detent
4	Lower front trim panel lower tabs
5	Lower front trim panel stop

1. See Figure 192. Remove the lower front trim panel by pressing in on the detent, and then sliding the panel to the left as far as possible.

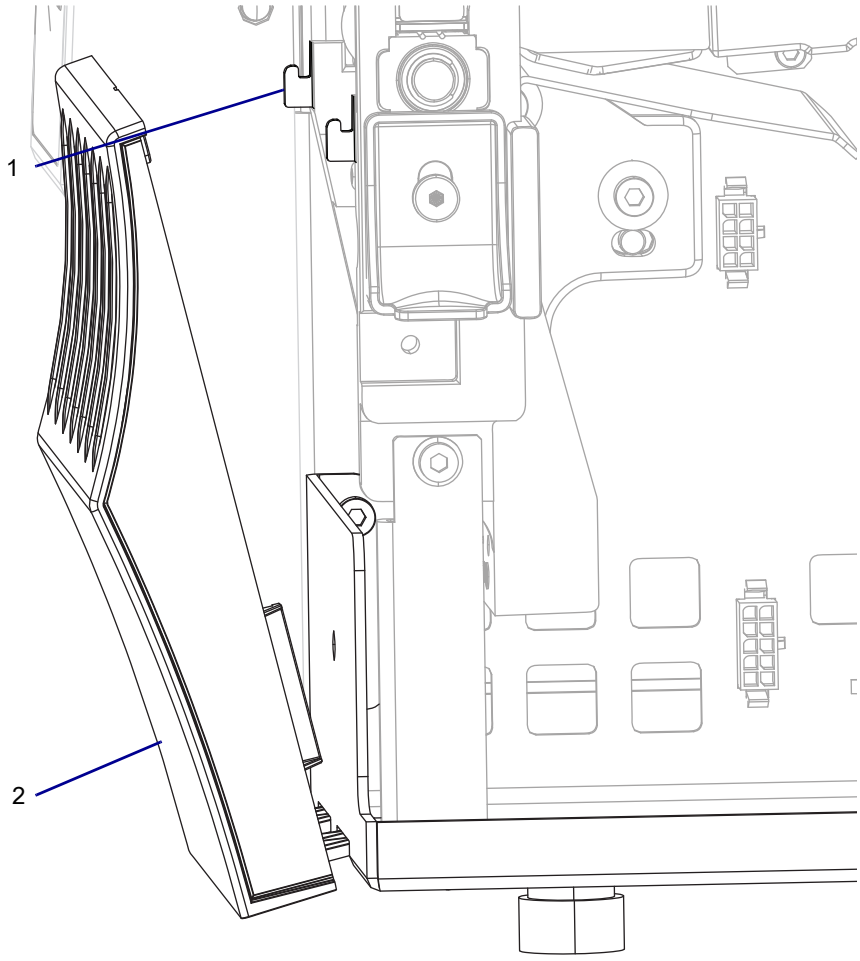
Figure 192 Release the Lower Front Trim Panel



1	Lower front trim panel
2	Detent

2. See Figure 193. Tip the top of the lower front trim panel off the hooks and away from the printer.

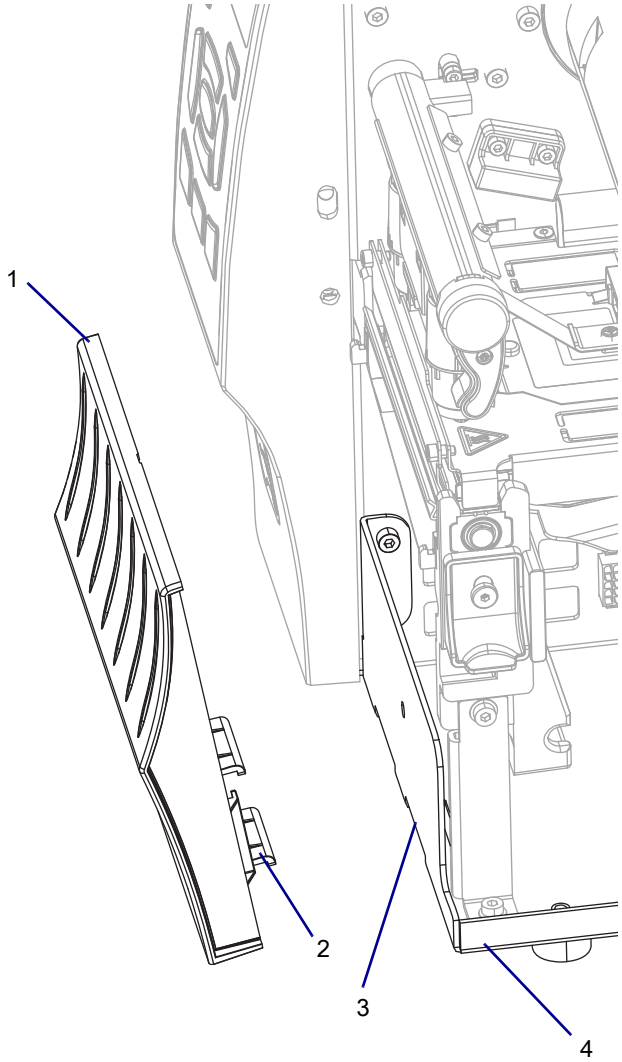
Figure 193 Hook Locations



1	Platen housing hooks (2)
2	Lower front trim panel

3. See Figure 194. Slide the lower front trim panel tabs out of the printer base.

Figure 194 Remove the Lower Front Trim Panel Tabs (ZT410 Printer Shown)

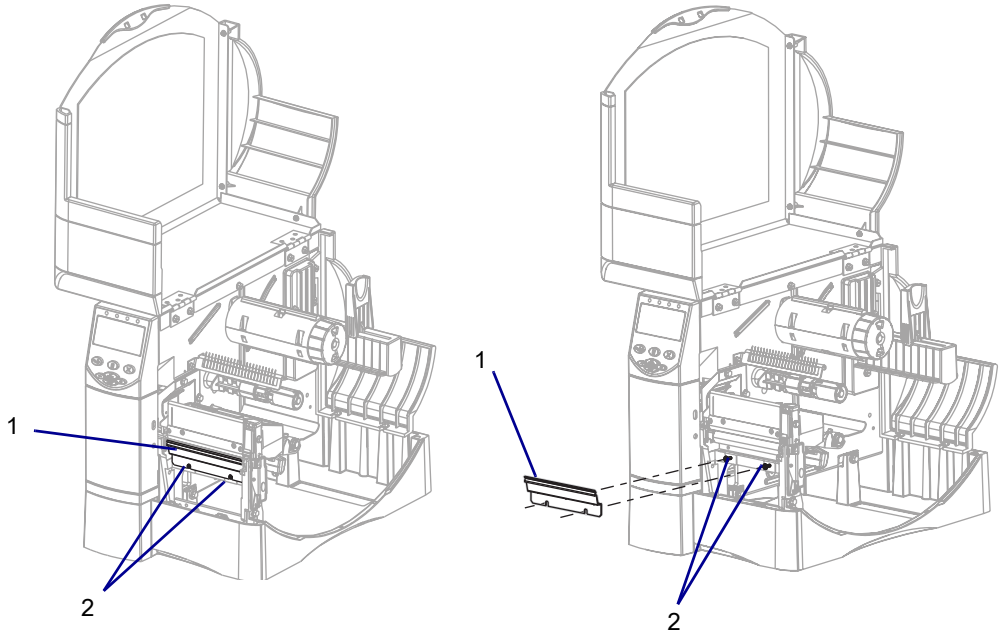


1	Lower front trim panel
2	Lower front trim panel tabs (2)
3	Printer base mounting slots (2)
4	Printer base

Remove the Old Tear Bar

1. See Figure 195. Remove the two tear bar mounting screws.

Figure 195 Remove and Install the Tear Bar (ZM400 shown)



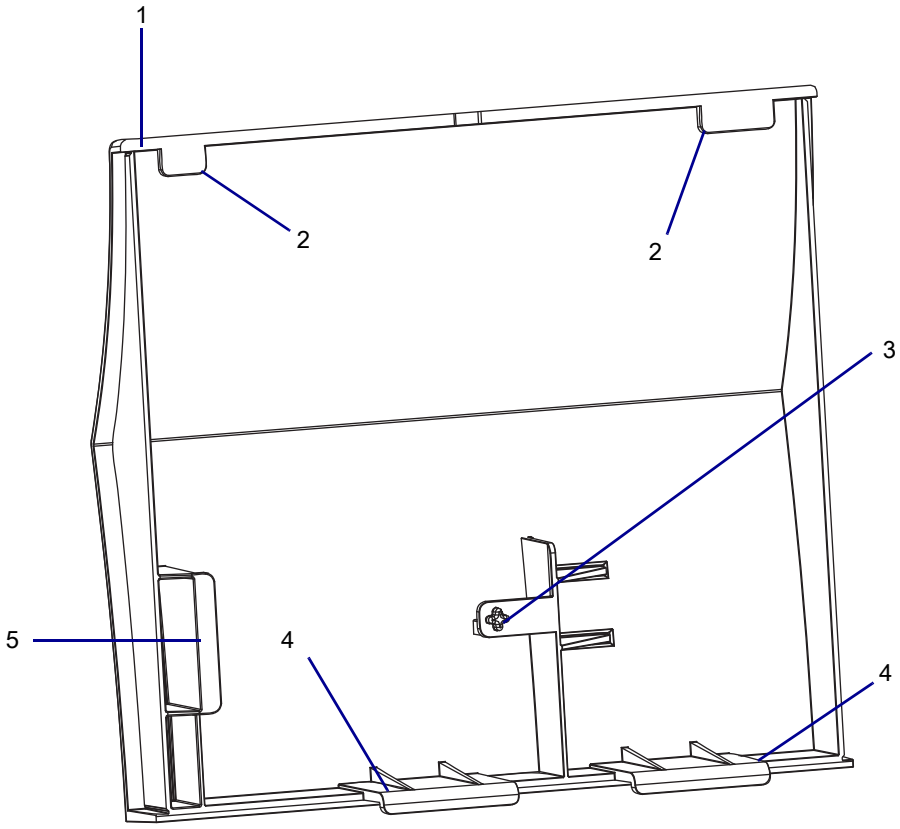
1	Tear bar
2	Tear bar mounting screws (2)

2. Lift the tear bar out of the platen housing.

Reinstall the ZT411/ZT421 Printers Lower Front Trim Panel

Tear lower front trim panel identification:

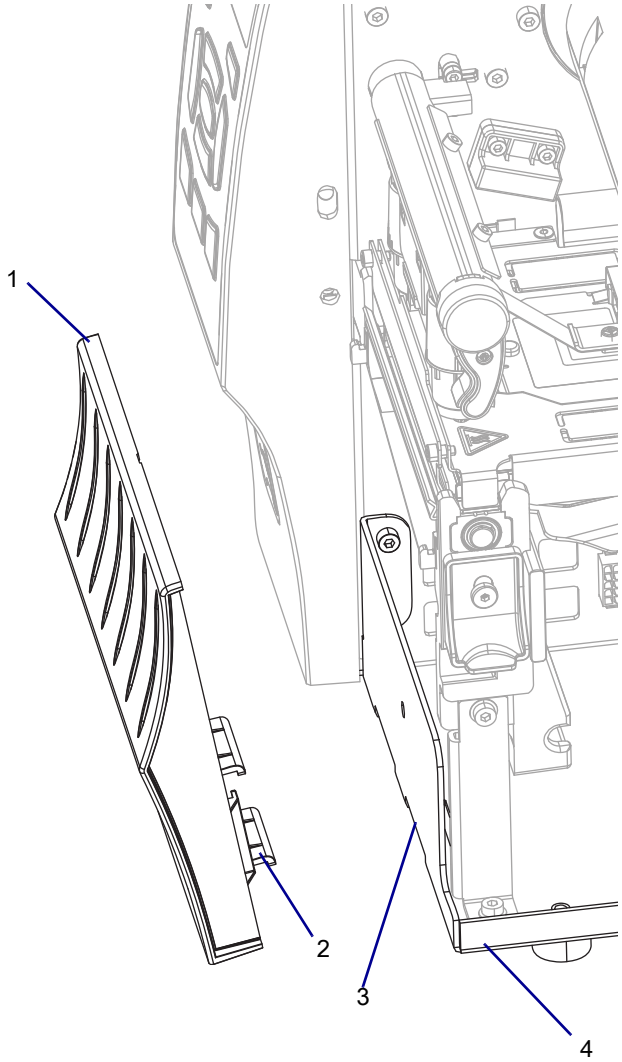
Figure 196 Tear Lower Front Trim Panel Identification



1	Lower front trim panel
2	Lower front trim panel top tabs
3	Lower front trim panel detent
4	Lower front trim panel lower tabs
5	Lower front trim panel stop

1. See Figure 197. Slide the lower front trim panel tabs into the printer base.

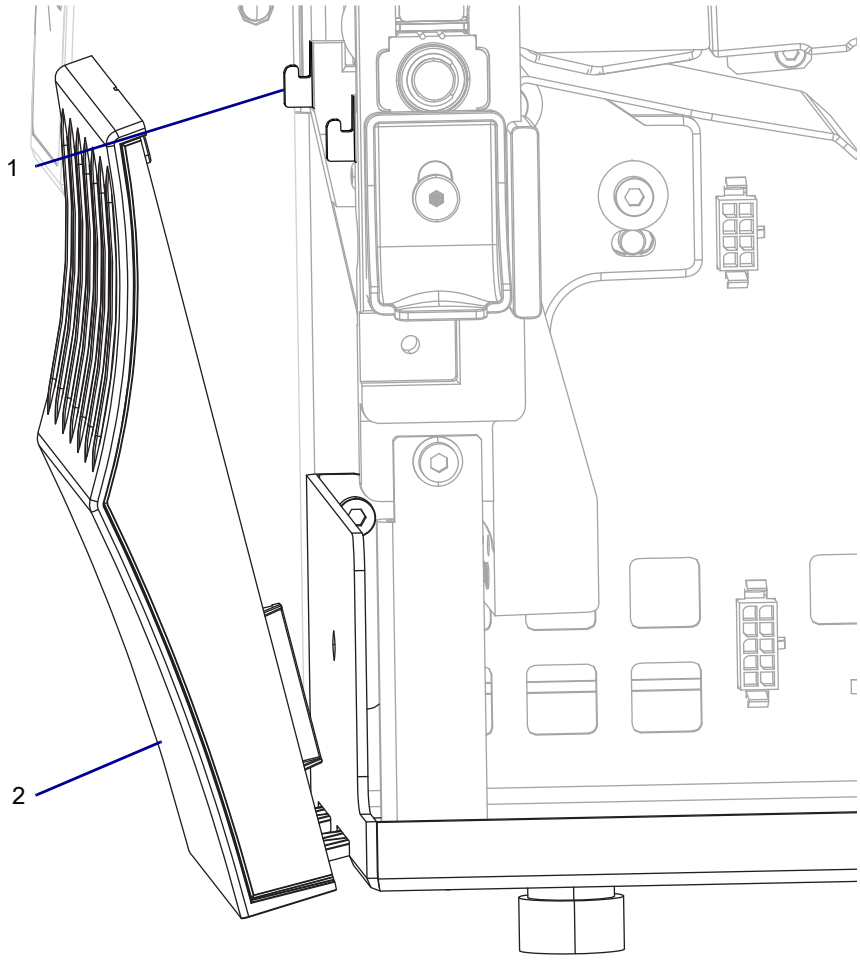
Figure 197 Install the Lower Front Trim Panel Tabs (ZT410 Printer Shown)



1	Lower front trim panel
2	Lower front trim panel tabs (2)
3	Printer base mounting slots (2)
4	Printer base

2. See Figure 198. Tip the top of the lower front trim panel onto the hooks.

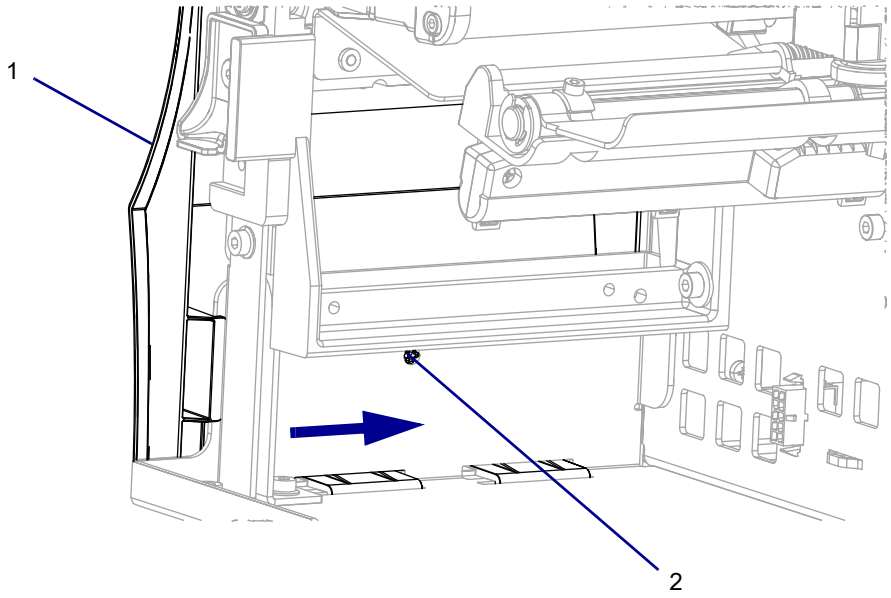
Figure 198 Hook Locations



1	Platen housing hooks (2)
2	Lower front trim panel

3. See Figure 199. Reinstall the lower front trim panel by sliding the panel to the right until the detent snaps into the hole.

Figure 199 Slide the Lower Front Trim Panel



1	Lower front trim panel
2	Detent hole

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Pinch Roller Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Pinch Roller Maintenance Kit into the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 200 Kit Contents

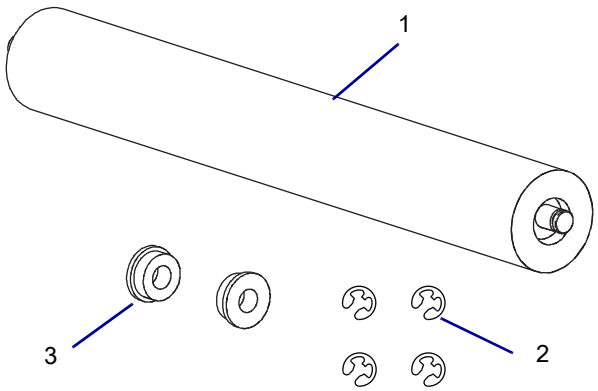


Table 30 Parts List

Item	Description	Qty
Ref	Pinch Roller Maintenance Kit	
1	Pinch Roller	1
2	E-Ring, 3 mm	4
3	Flanged Ball Bearing	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Flat-blade Screwdriver Set
- Metric Hex Key Set
- Safety Goggles

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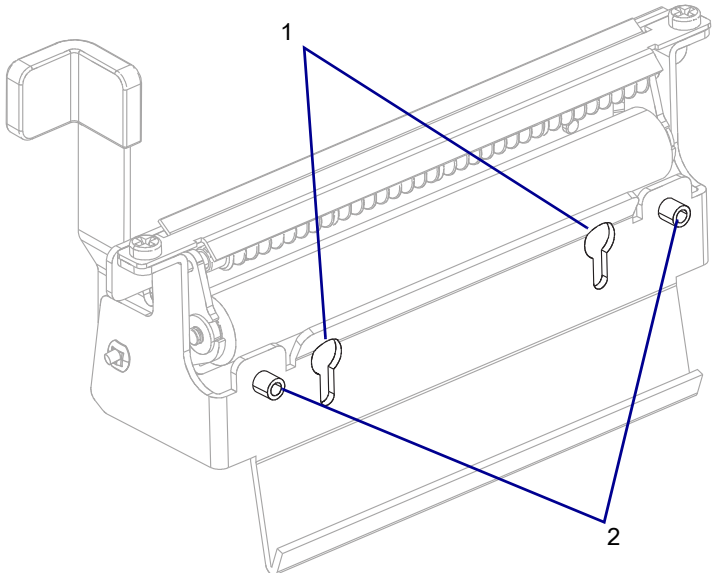
Remove the Pinch Roller

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove media from the printer.
3. See Figure 201. Lower the pinch roller holder assembly to the open position.

Figure 201 Rear View of Peel Assembly



1	Mounting slots (2)
2	Pems (2)

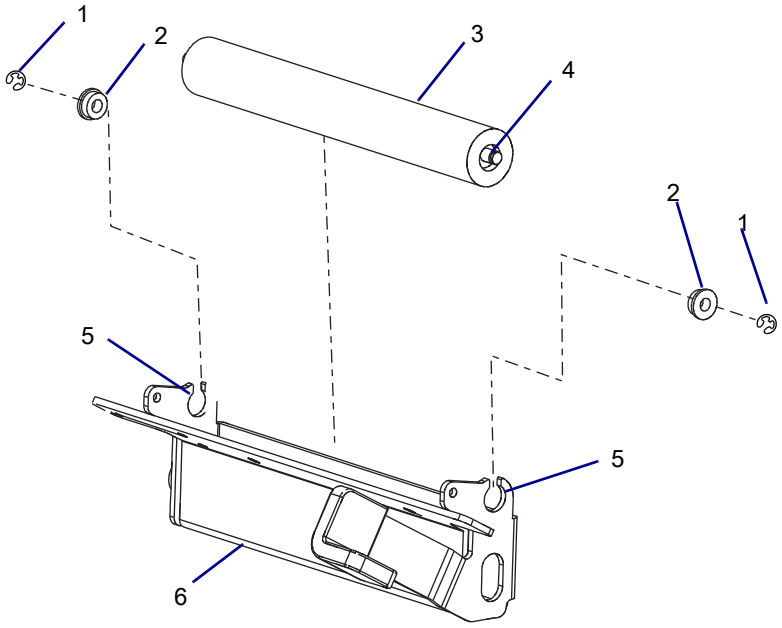
CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

NOTE: If you have trouble reaching the E-rings and have a peel assembly installed, you may have to remove it to access the E-rings.

4. See Figure 202. Using a small flat blade screwdriver or an awl, remove and discard the two E-rings.

5. Remove and discard the bearings and old pinch roller.

Figure 202 Removing and Installing E-rings and Bearings

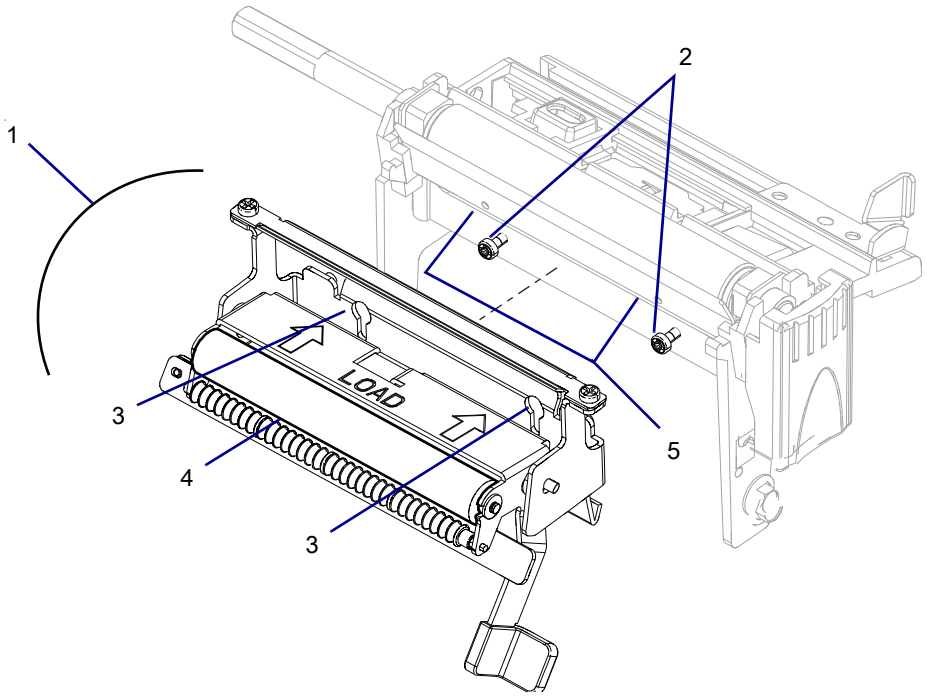


1	E-rings (2 used, 2 spares)
2	Roller bearings (2)
3	Pinch roller
4	Groove for E-ring
5	Pinch roller mounting hole
6	Pinch roller holder assembly

Install the Pinch Roller

1. See Figure 202 on page 272. Install the new pinch roller in the pinch roller mounting holes.
2. Install the two new bearings on the shaft of the pinch roller, flange facing out, as shown.
3. Install two new E-rings in the grooves on the roller shaft.
4. See Figure 201 on page 271. Notice the pems and the mounting slots.
5. See Figure 203. Install the peel assembly with the pems to the rear and the opening in the mounting slot to the top.
   a. Insert the mounting slot opening over the two screws and lift up on the assembly.
   b. Push the assembly back against the vertical surface of the platen housing then down, so that the pems are resting on the horizontal surface of the platen housing.

Figure 203 Installing Peel Roller Assembly



1	Peel assembly
2	Mounting screw
3	Mounting holes
4	Pinch roller
5	Rest the pems on the housing here.

6. Maintain a slight downward pressure on the peel assembly to keep the pems on the horizontal surface, and tighten the mounting screws.
7. Raise the pinch roller assembly to the closed position. Ensure the pinch holder assembly snaps into position and exerts force on the platen roller.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Platen Coupling Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Platen Coupling maintenance kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 204 Kit Contents

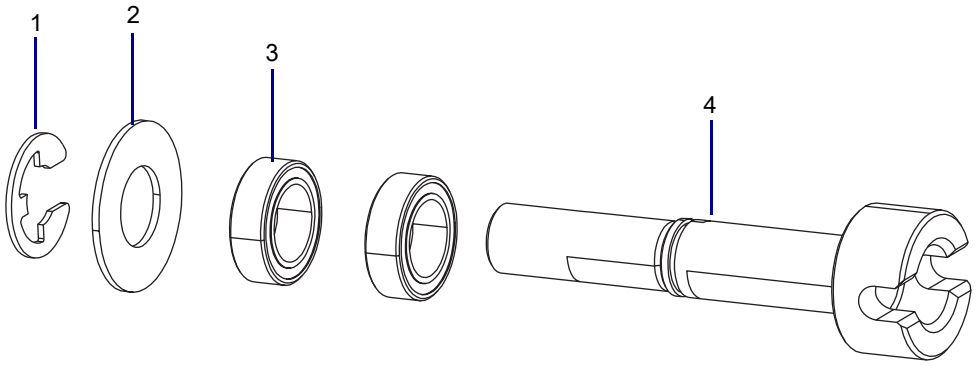


Table 31 Parts List

Item	Description	Qty
Ref	Platen Coupling Maintenance Kit	
1	E-ring, 0.312 external	1
2	Washer, 0.33 × 0.69 × 0.03	1
3	Roller Bearing	2
4	Coupling Assembly	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Flat-Blade Screwdriver Set
- Antistatic Wrist Strap and Mat
- Safety Glasses
- 47362* Zebra Preventive Maintenance Kit

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol.

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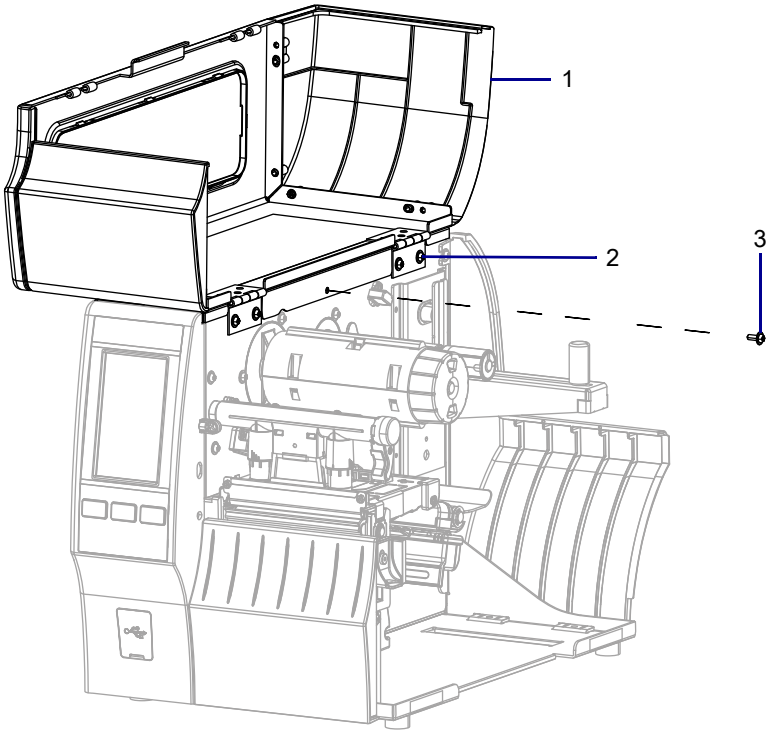
Remove the ZT411/ZT421 Printers Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 205. Remove the screw and washer securing the electronics cover.

Figure 205 Locate the Electronics Cover Mounting Screw

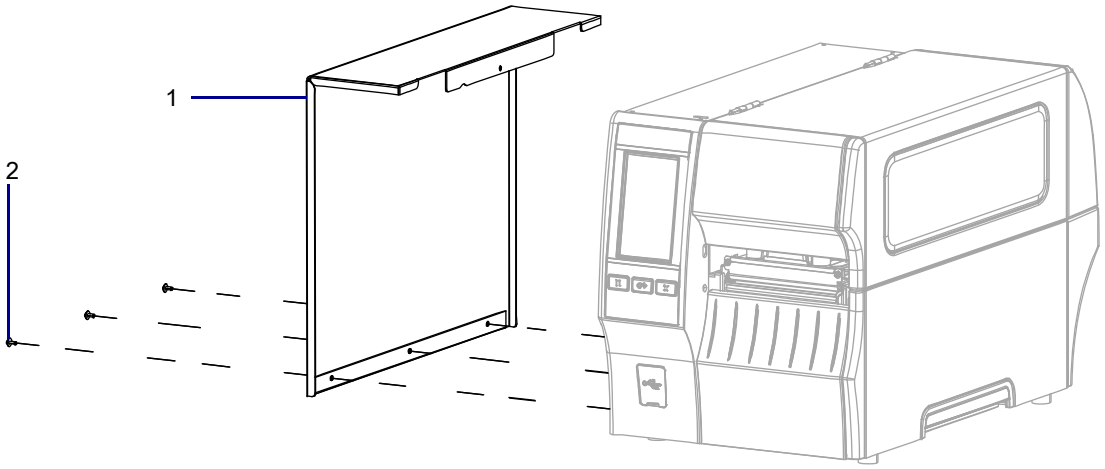


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 206. Remove the three mounting screws securing the electronics cover to the printer.

Figure 206 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

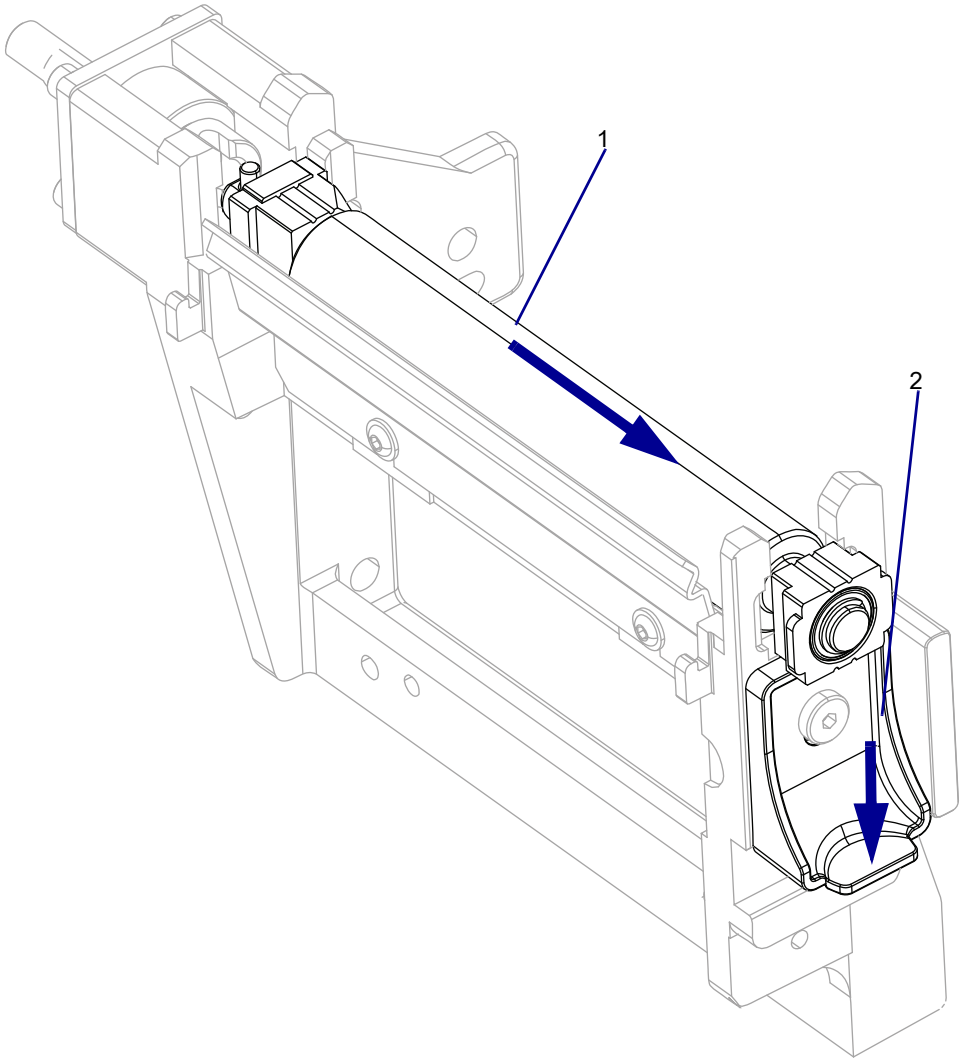
Remove the ZT411/ZT421 Printers Platen Roller Assembly

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

NOTE: If you have a peel unit installed, you will have to open it.

1. See Figure 207 on page 278. Press down on the platen retainer.

Figure 207 Slide the Platen Roller Assembly

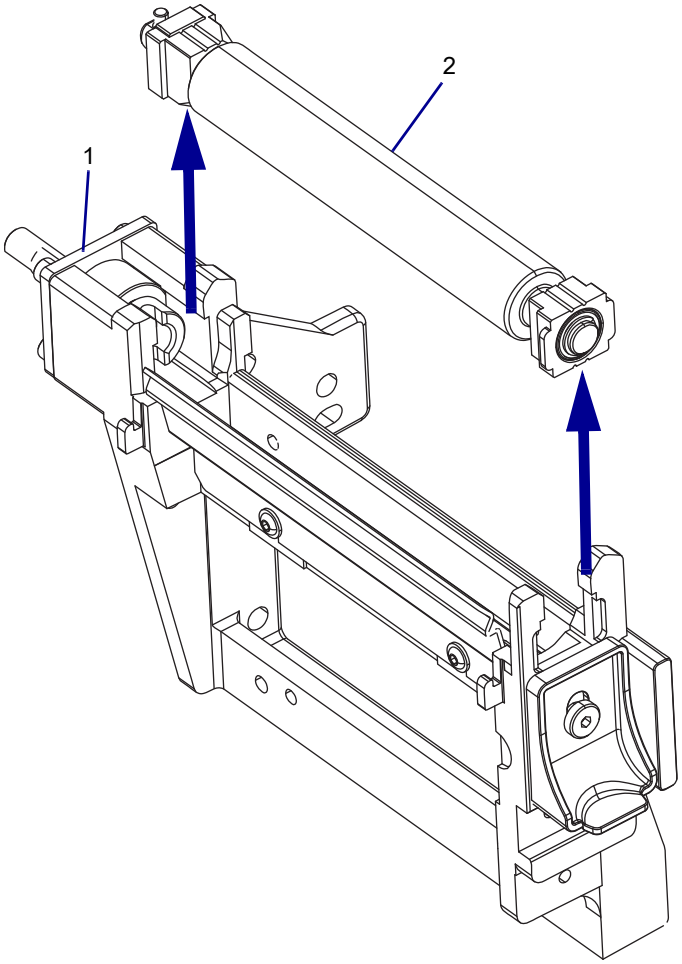


1	Platen roller assembly
2	Platen retainer

2. Slide the platen roller assembly away from the printer until it disengages the platen housing.

3. See Figure 208. Lift the platen roller assembly out of the printer.

Figure 208 Remove the Platen Roller Assembly



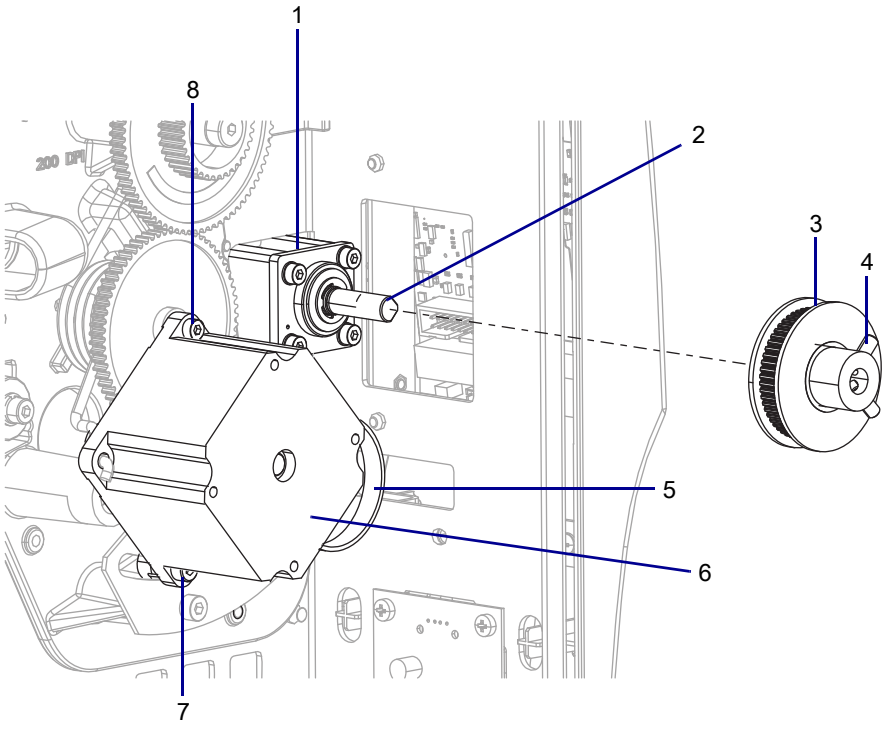
1	Platen housing
2	Platen roller assembly

Remove the Platen Pulley

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 209. Loosen the drive motor pivot screw and locking screw.

Figure 209 Remove the Platen Pulley



1	Platen housing
2	Platen coupling shaft
3	Platen pulley
4	Set screws
5	Drive belt
6	Drive motor
7	Locking screw
8	Pivot screw

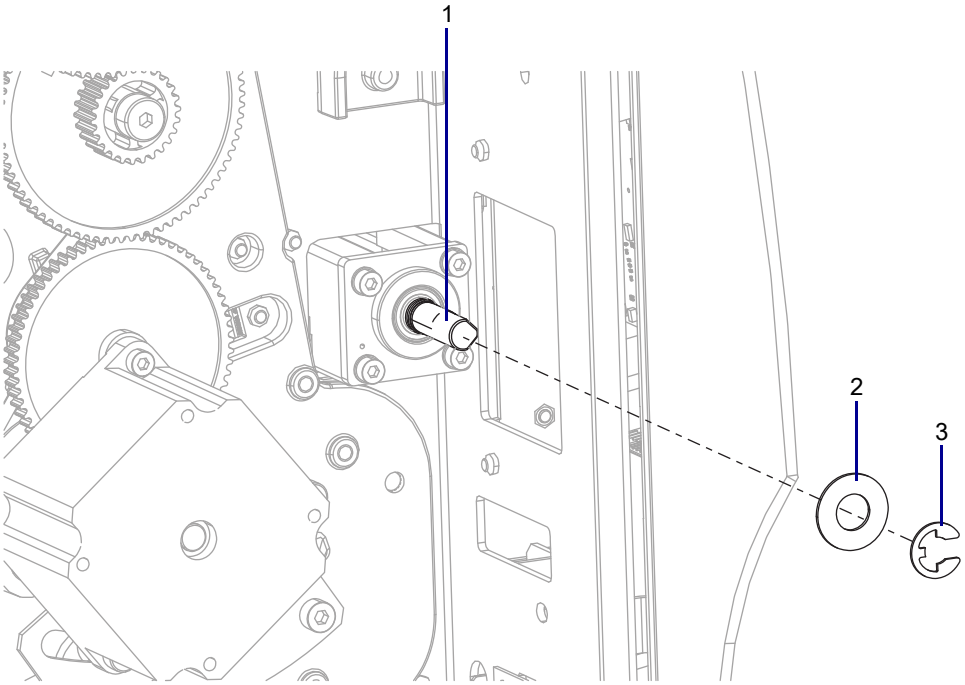
3. Push the bottom of the drive motor toward the front of the printer as far as you can.
4. To keep the motor in this position, tighten the locking screw.
5. Remove the drive belt.
6. Loosen the two set screws on the platen pulley.
7. Pull the platen pulley off of the platen coupling shaft.

Remove the Old Platen Coupling

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

1. See Figure 210. Using a flat-blade screwdriver or needle nose pliers, remove and discard the E-ring and washer from the coupling

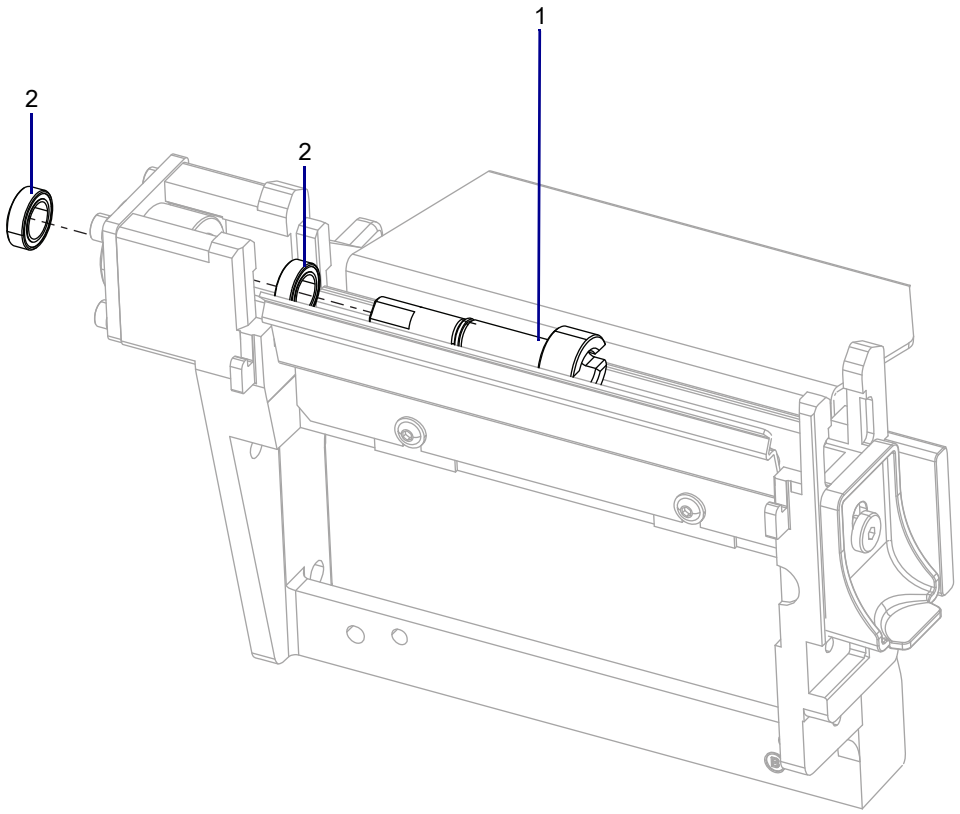
Figure 210 Remove the Platen Coupling E-ring



1	Coupling shaft
2	Washer
3	E-ring

2. See Figure 211. Push the coupler toward the media side of the printer, and then remove the coupler.

Figure 211 Remove the Platen Coupling



1	Platen coupling
2	Platen coupling roller bearings (2)

3. Using a bent tip scribe or small hooked tool, remove the roller bearing from the media side of the platen housing.

Install the New Platen Coupling

1. See Figure 211 on page 282. Install the new bearings.

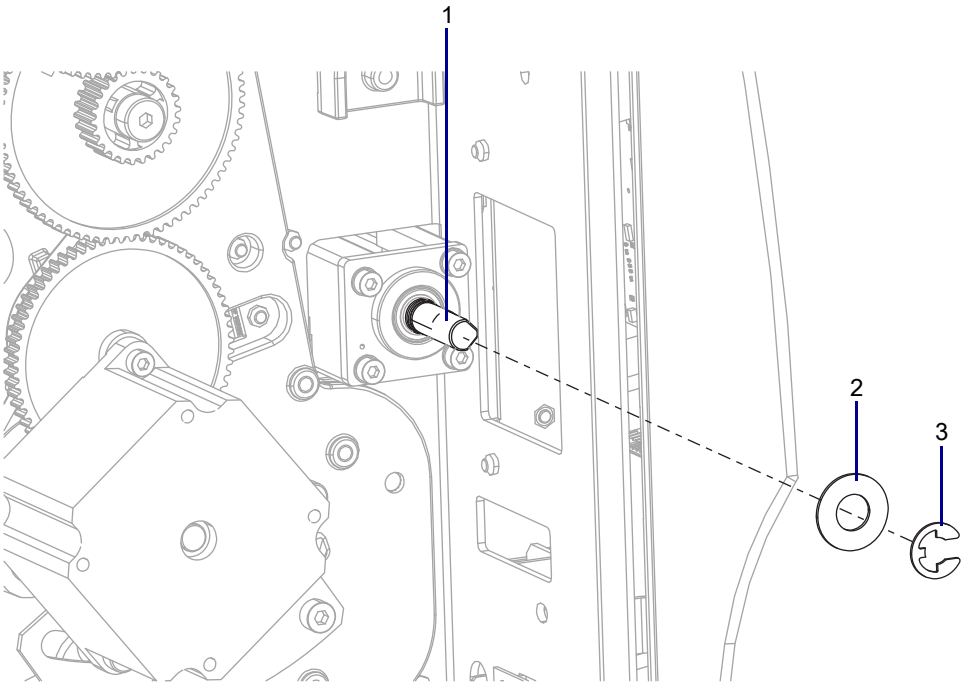
Install the New Drive Shaft

1. Slide the new coupling through the bearing on the media side being careful not to push the bearing on the electronics side out.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

2. See Figure 212. Install the new washer and e-ring onto the new coupling.

Figure 212 Install the Washer and E-ring



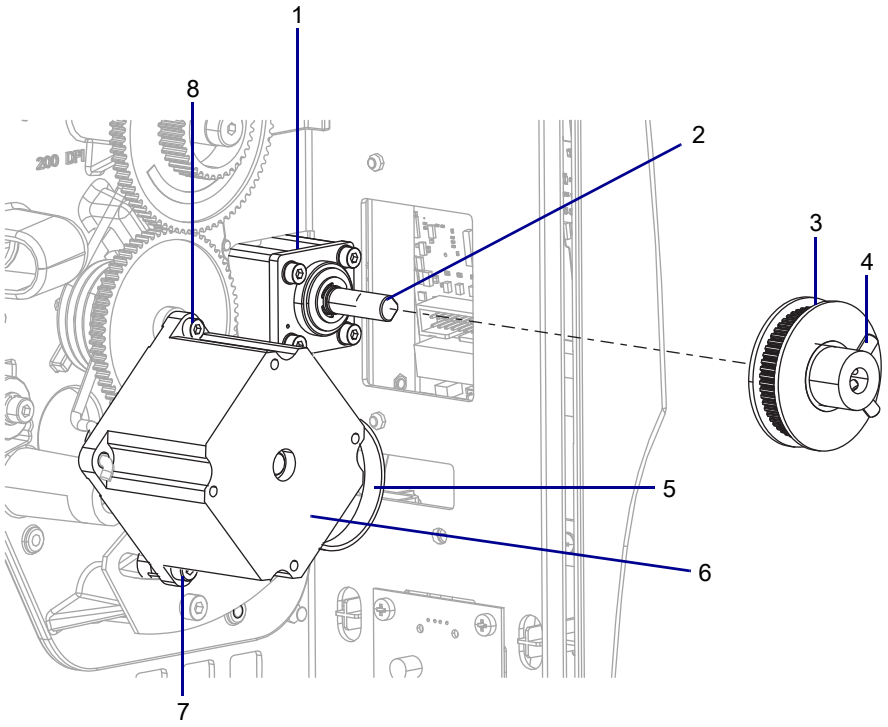
1	Coupling shaft
2	Washer
3	E-ring

3. Ensure that the e-ring is in the slot on the coupling and that the coupling moves freely.

Install the Platen Pulley and Drive Belt

1. See Figure 213. Align the platen pulley with the coupler shaft, and then slide the pulley onto the coupler shaft.

Figure 213 Install the Platen Pulley

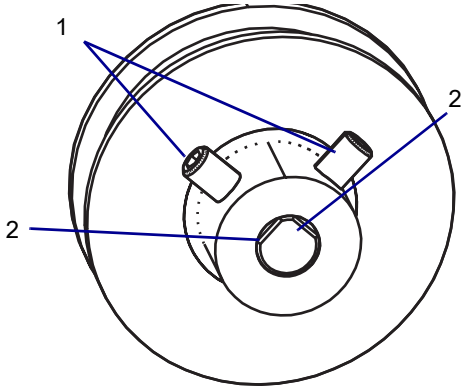


1	Platen housing
2	Platen coupling shaft
3	Platen pulley
4	Set screws
5	Drive belt
6	Drive motor
7	Locking screw
8	Pivot screw

Reinstall the Platen Pulley

1. See Figure 214. Slide the pulley all the way onto the platen pulley shaft in the proper orientation and align the set screws with the two flat spots on the coupling.

Figure 214 Align Flat Spots on the Shaft



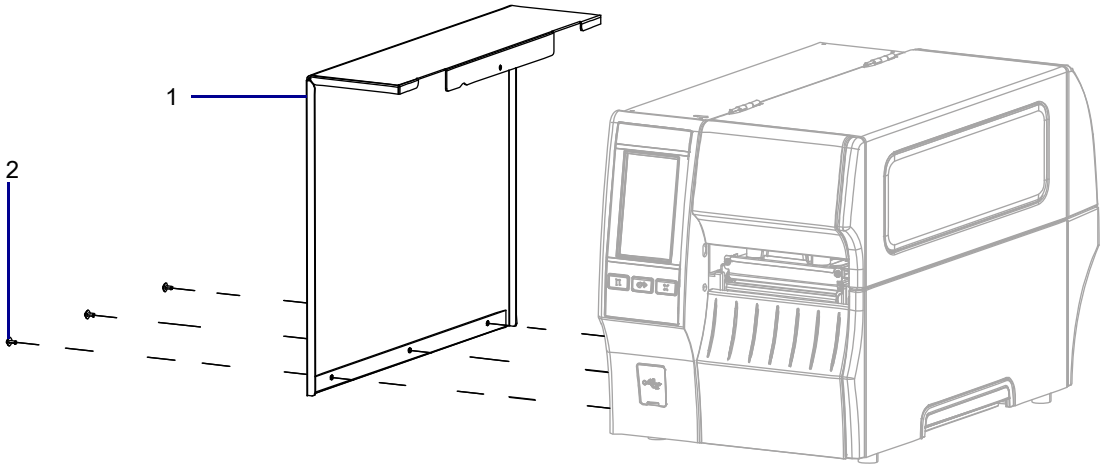
1	Set screws (2)
2	Platen roller shaft flat spots

2. See Figure 213 on page 284. Reinstall the drive belt between the stepper motor and the platen pulley.
3. Loosen the locking screw, to allow the drive motor to apply tension to the belt.
4. Turn the platen pulley several times to allow the belt to align itself in the grooves.
5. Tighten the locking screw, and then the pivot screw.

Reinstall the ZT411/ZT421 Printers Electronics Cover

1. See Figure 215. Slide the electronics cover onto the printer.

Figure 215 Reinstall the Electronics Cover Mounting Screws

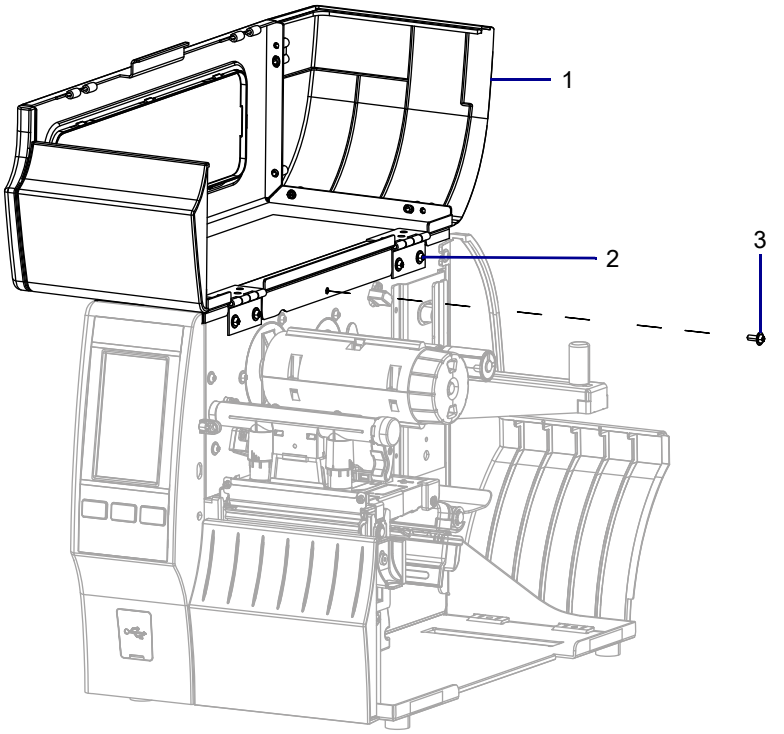


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 216. Open the media door and install the mounting screw.

Figure 216 Locate the Electronics Cover Mounting Screw



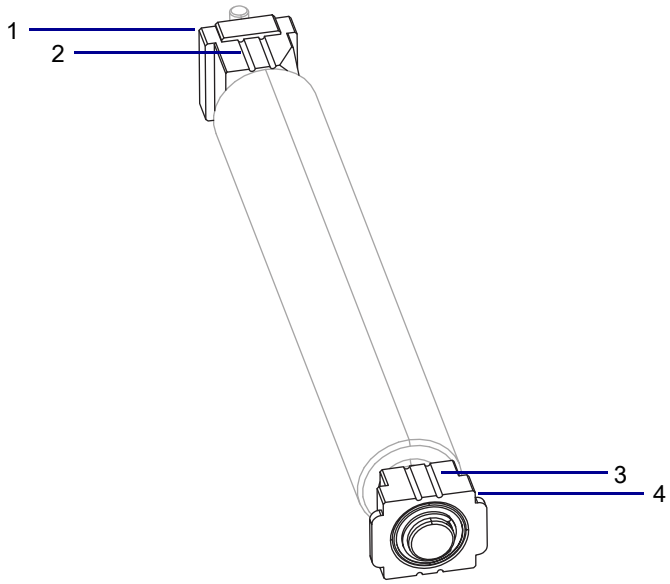
1	Media door
2	Electronics cover
3	Mounting screw

4. Reinstall the Platen Roller Assembly

IMPORTANT: The grooves in the inner and outer bearings must be facing up.

5. See Figure 217. Verify that the bearings are oriented properly.

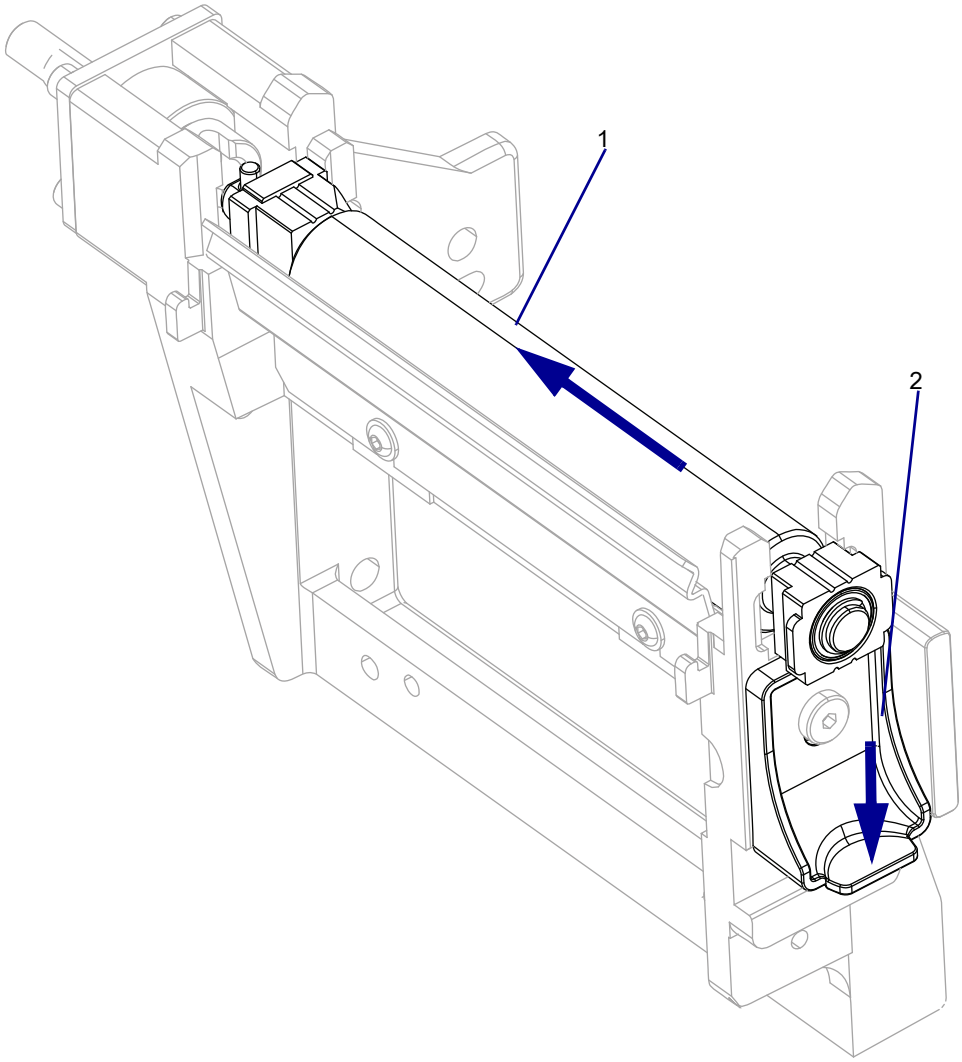
Figure 217 Bearing Keys



1	Inner bearing
2	Inner bearing grooves
3	Outer bearing grooves
4	Outer bearing

6. See Figure 218. With the grooves up, set the new platen roller assembly into the platen housing.

Figure 218 Install the Platen Roller

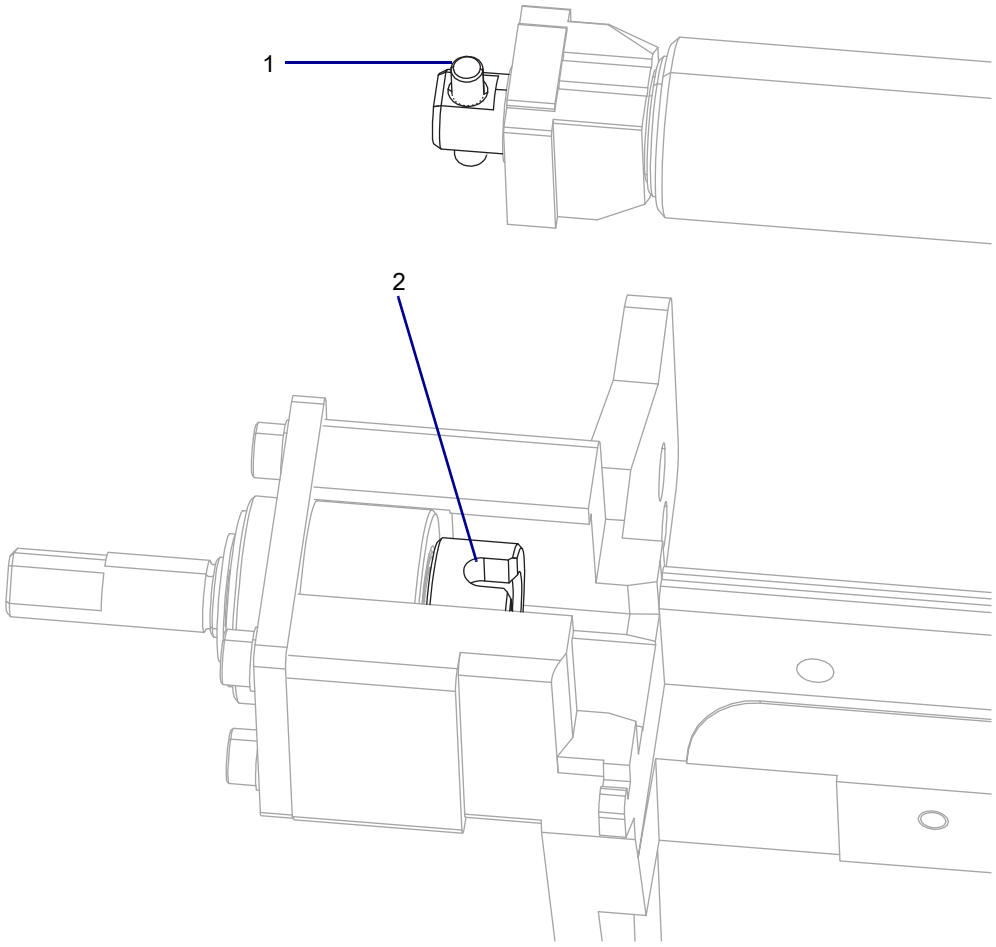


1	Platen roller assembly
2	Platen retainer

7. Press down on the platen retainer.

8. See Figure 219. Slide the platen roller assembly into the platen housing, while aligning the platen roller bearings with the platen housing and the drive pin with the slot in the coupling.

Figure 219 Align the Drive Pin and Coupling



1	Platen roller assembly drive pin
2	Drive shaft slot

9. Clean the platen roller using the Zebra preventative maintenance kit or equivalent.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Platen Housing Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Platen Housing Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 220 Kit Contents

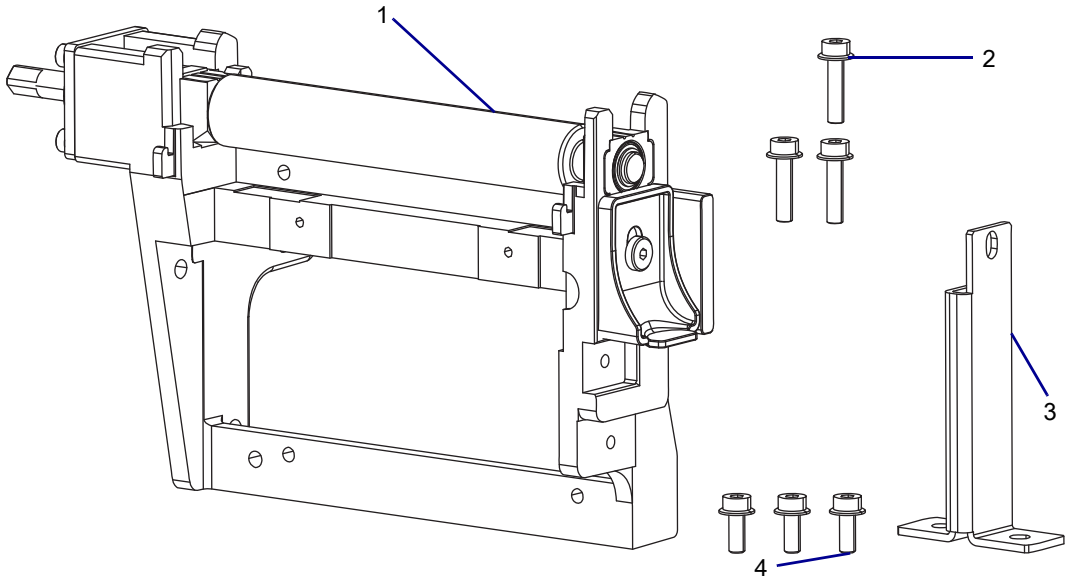


Table 32 Parts List

Item	Description	Qty
Ref	Platen Housing Maintenance Kit	1
1	Platen Housing	1
2	Hexalobular Screw M4 x 16	3
3	Platen Frame Bracket	1
4	Hexalobular Pan Washer Mach Screw M4 x 10	3

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Nut Driver Set
- Metric Hexalobular Key Set
- Metric Hexalobular Screwdriver Set
- Antistatic Wrist Strap and Pad

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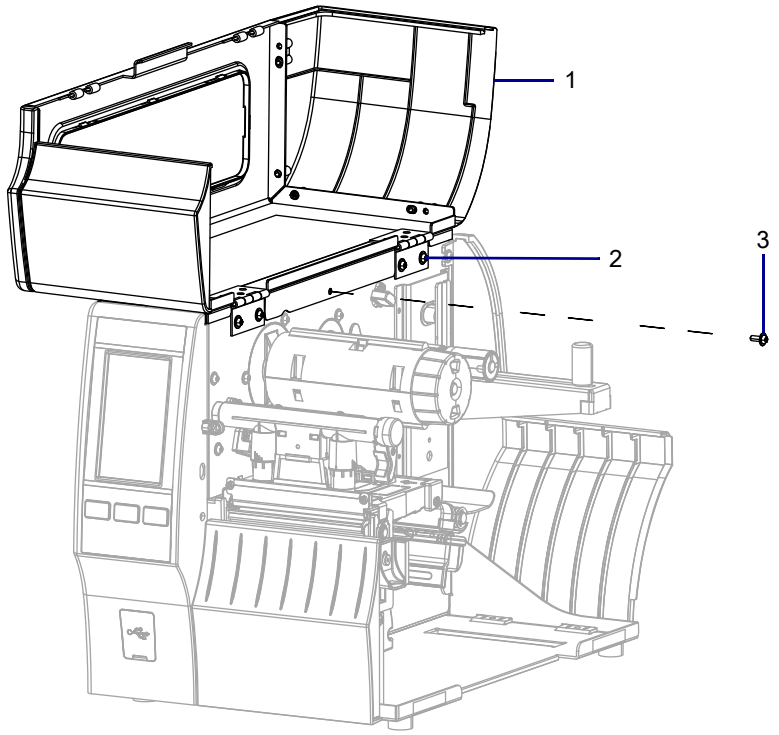
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 221. Remove the screw securing the electronics cover.

Figure 221 Locate the Electronics Cover Mounting Screw

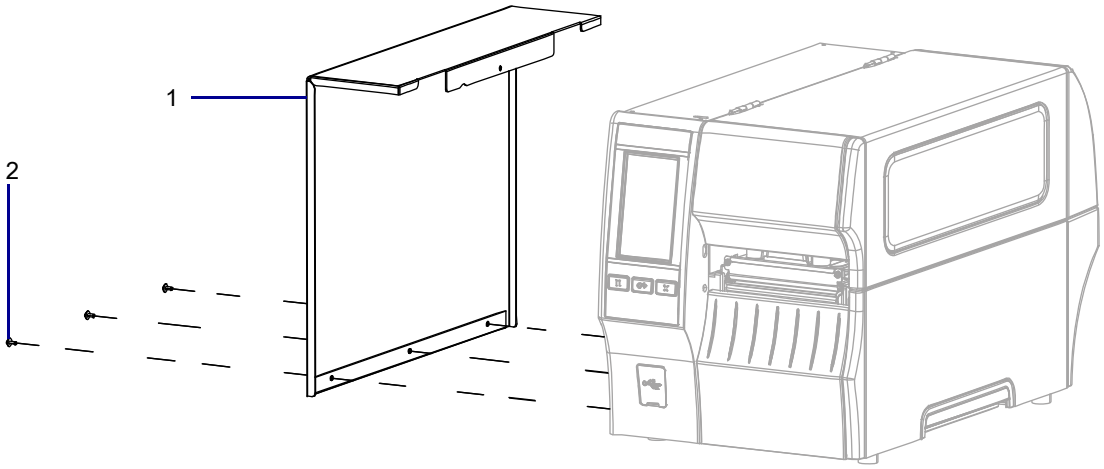


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 222. Remove the three mounting screws securing the electronics cover to the printer.

Figure 222 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

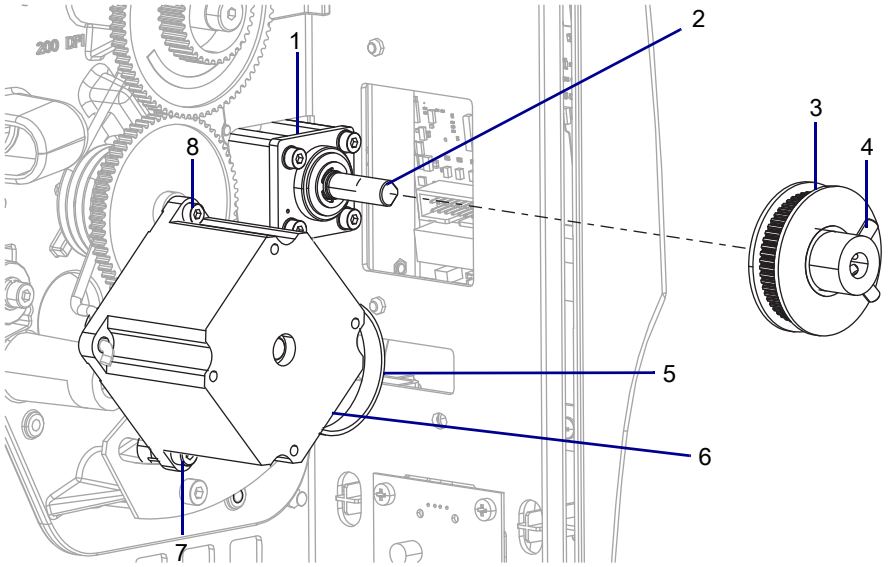
6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Platen Pulley

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 223. Loosen the drive motor pivot screw and locking screw.

Figure 223 Remove the Platen Pulley



1	Platen housing
2	Platen housing drive shaft
3	Platen pulley
4	Set screws
5	Drive belt
6	Drive motor
7	Locking screw
8	Pivot screw

3. Push the bottom of the drive motor toward the front of the printer as far as you can.
4. Tighten the locking screw to keep the motor in this position.
5. Remove the drive belt.
6. Loosen the two set screws on the platen pulley.
7. Pull the platen pulley off the platen coupling shaft.

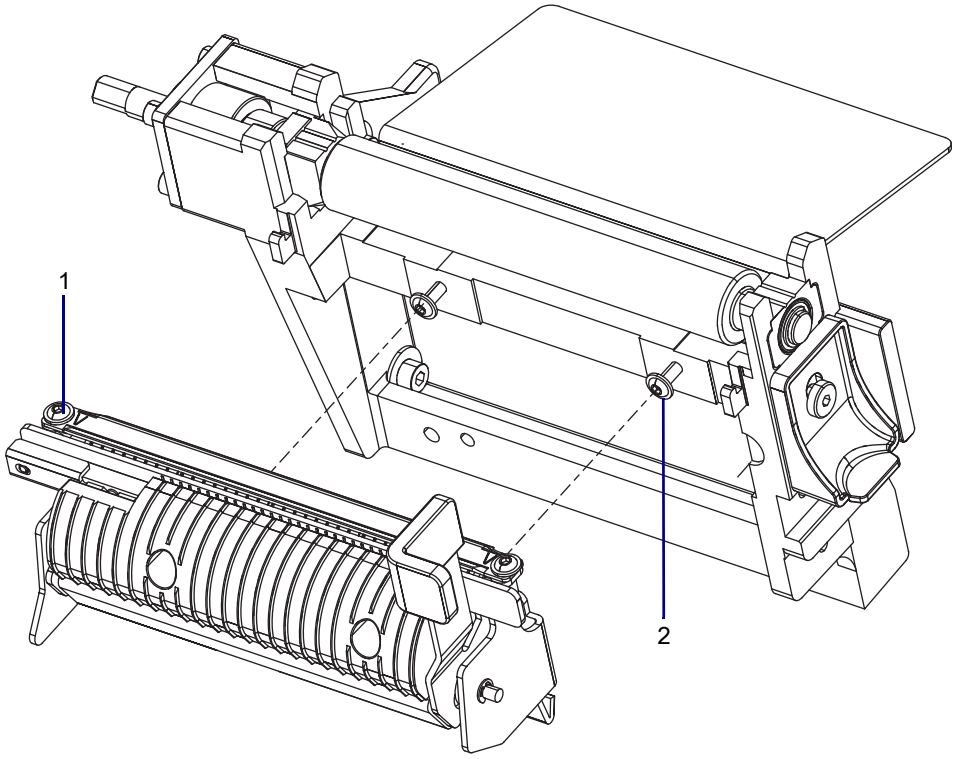
8. Which option do you have?

If you have a…	Then…
Peel	Go to Remove the Peel Assembly.
Cutter	Go to Remove the Cutter Assembly on page 296.
Tear	Go to Remove the Lower Front Panel on page 299.
Rewind	Go to Remove the Platen Housing With Rewind Option on page 308.

Remove the Peel Assembly

1. See Figure 224. Remove the two mounting screws and remove the peel assembly.

Figure 224 Remove Old Peel Assembly



1	Peel Assembly
2	Mounting screws (2)

2. Do you have a rewind option?

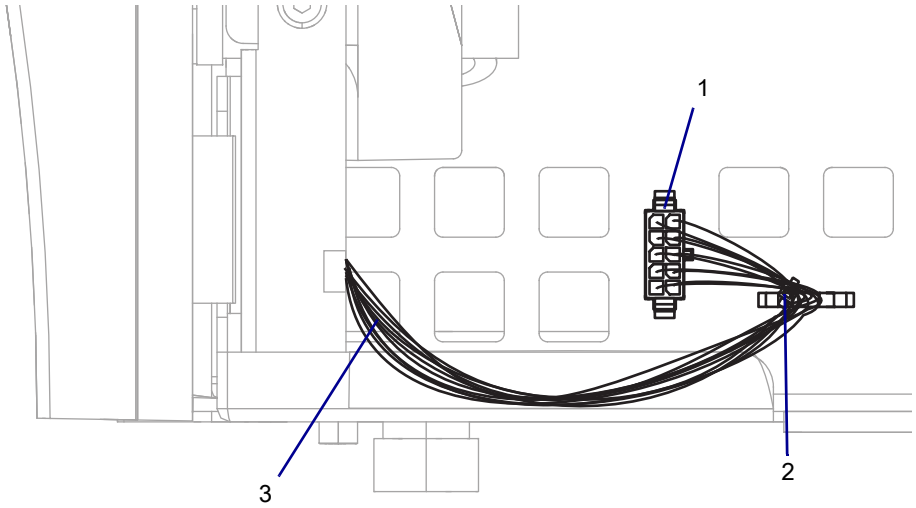
If …	Then…
Yes	Go to Remove the Platen Housing With Rewind Option on page 308.
No	Go to Remove the Platen Housing Without Rewind Option on page 304.

Remove the Cutter Assembly

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

1. See Figure 225. Disconnect the cutter cable from the ten-pin option connector on the main frame.

Figure 225 Disconnect the Cutter Assembly

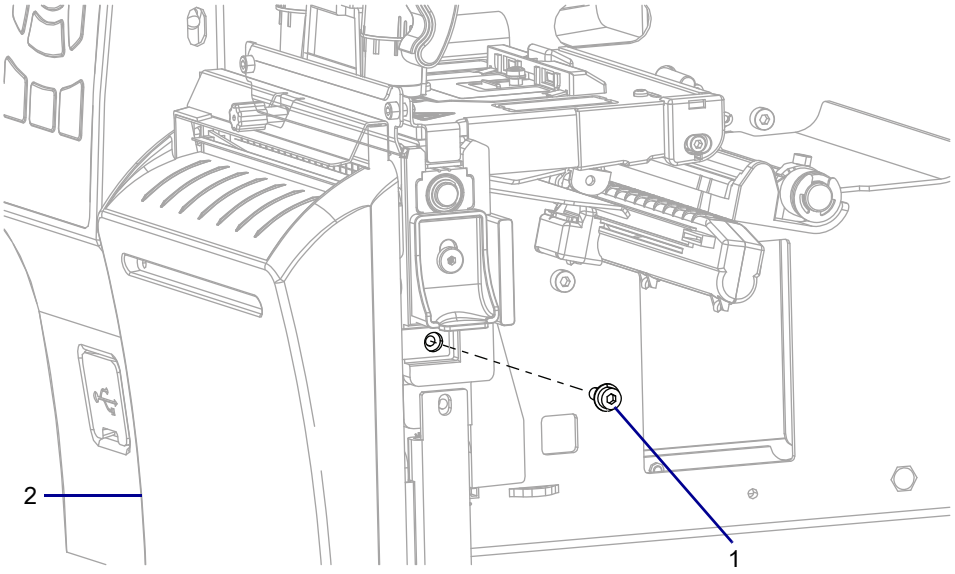


1	Ten-pin option connector
2	Cable tie
3	Cutter cable

2. Cut the cable tie.

3. See Figure 226. Remove the cutter mounting screw.

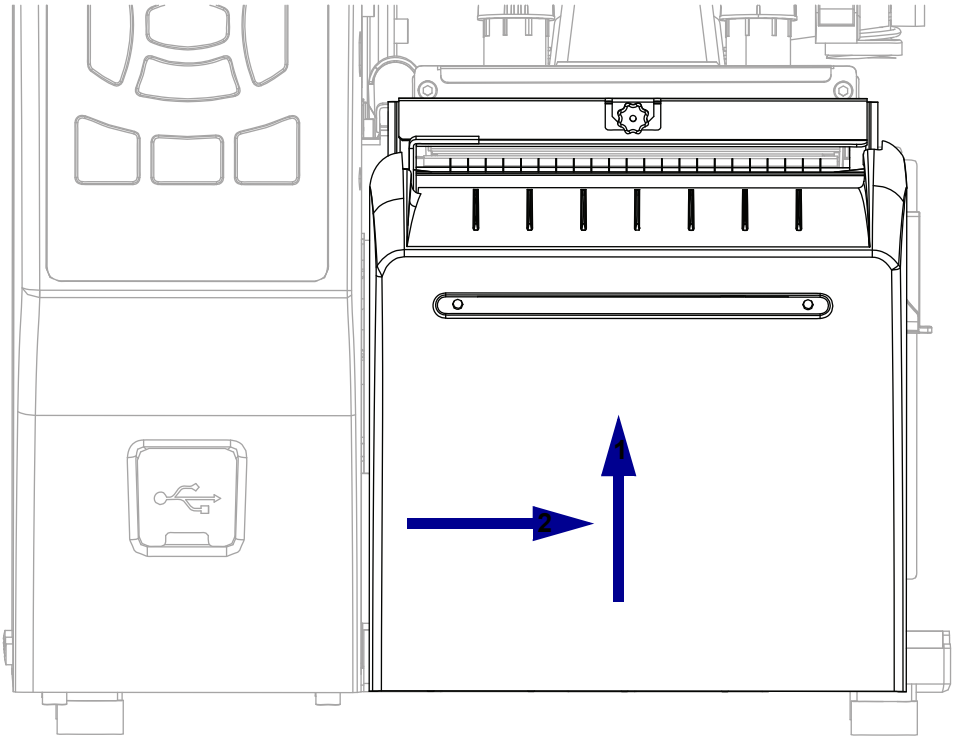
Figure 226 Remove the Cutter Assembly (ZT410 Printer Shown)



1	Mounting screw
2	Cutter assembly

4. See Figure 227. Lift up and slide the cutter assembly to the right, and then remove the cutter assembly from the platen assembly hooks.

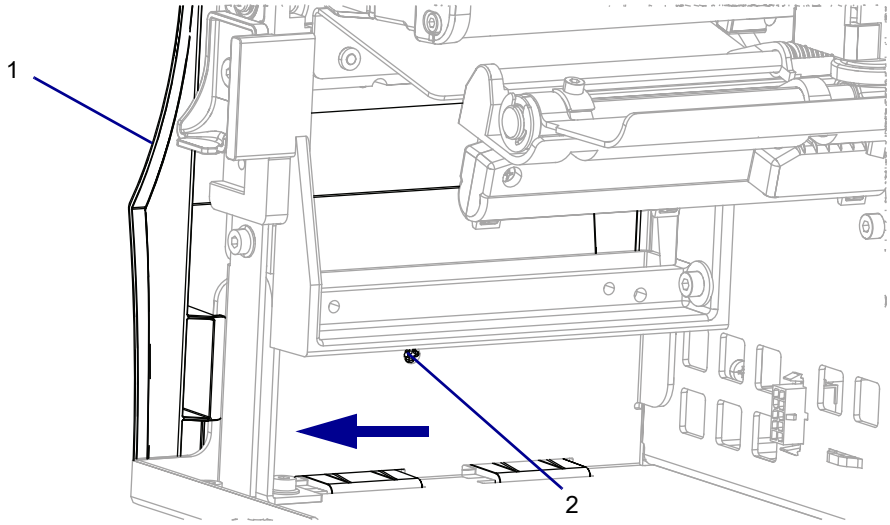
Figure 227 Lift and Slide the Cutter Assembly (ZT410 Printer Shown)



Remove the Lower Front Panel

1. Open the media door.
2. See Figure 228. Remove the front trim panel by pressing in on the detent and then sliding the cover to the left as far as possible.

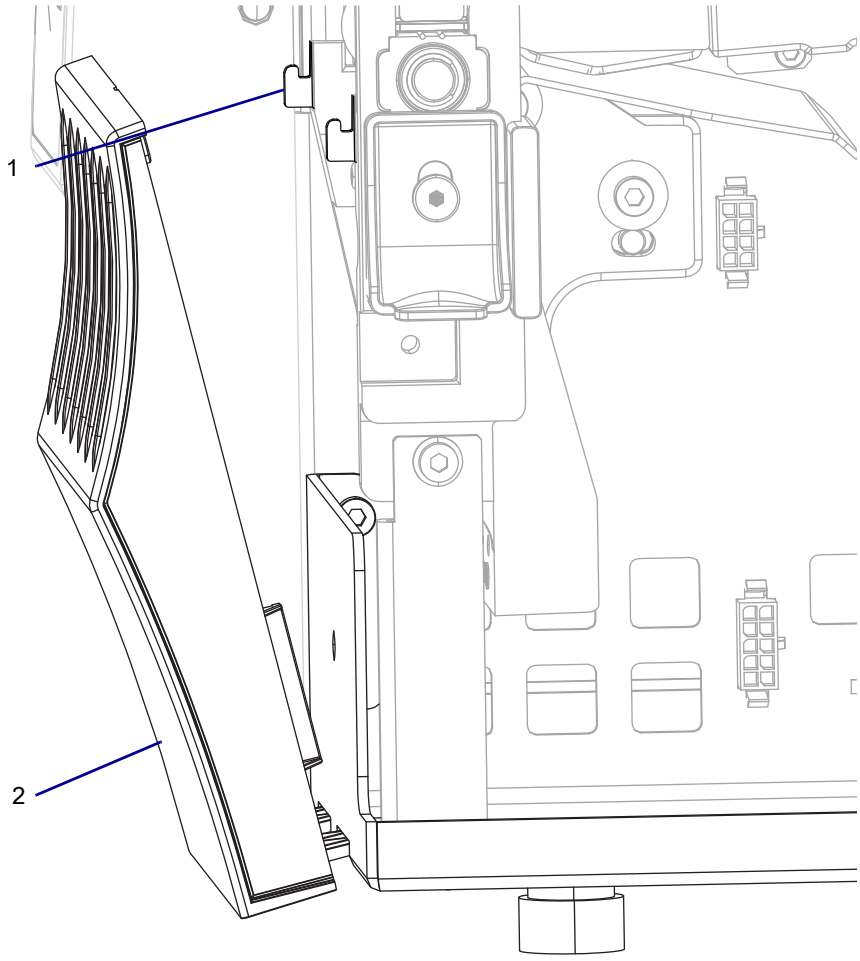
Figure 228 Release the Front Trim Panel



1	Front trim panel
2	Detent

3. See Figure 229. Tip the top of the front trim panel off the hooks and away from the printer.

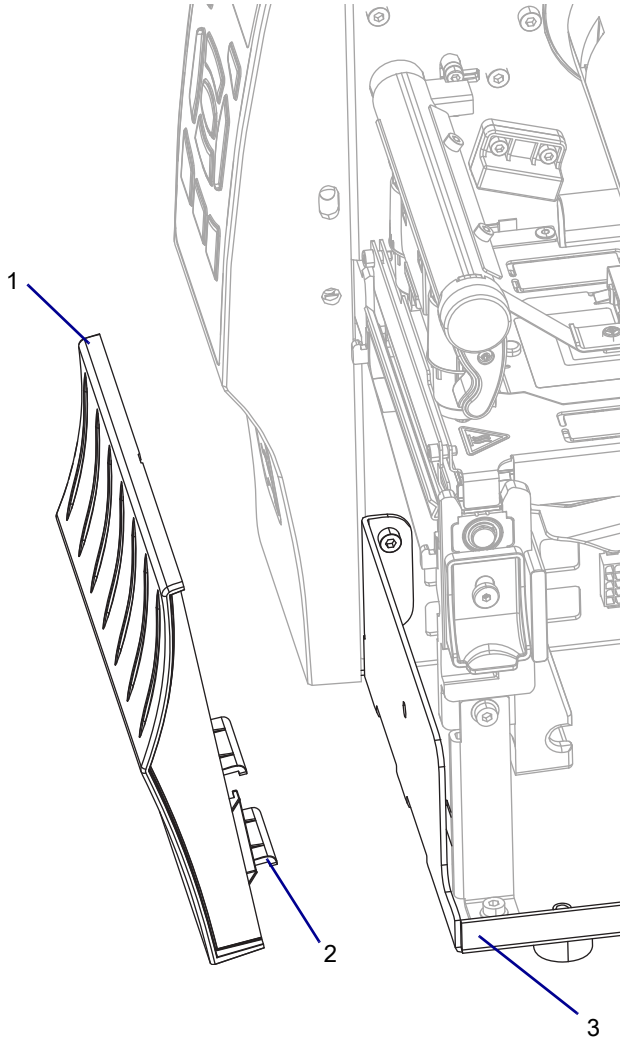
Figure 229 Hook Locations



1	Platen housing hooks (2)
2	Lower front trim panel

4. See Figure 230. Slide the front trim panel tabs out of the printer base.

Figure 230 Remove the Front Trim Panel Tabs (ZT410 Printer Shown)



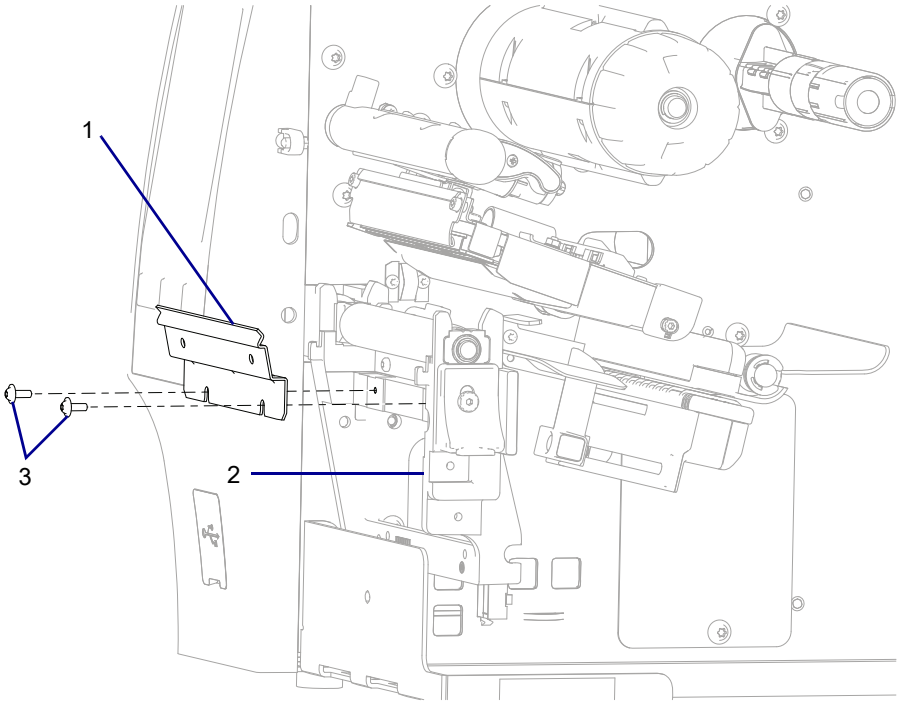
1	Front trim panel
2	Front trim panel tabs (2)
3	Printer base

5. Go to Remove the Platen Housing Without Rewind Option on page 304.

Remove the Tear Bar and Media Shelf Without Rewind Option

1. See Figure 231. Remove the two screws securing the tear bar to the platen housing.

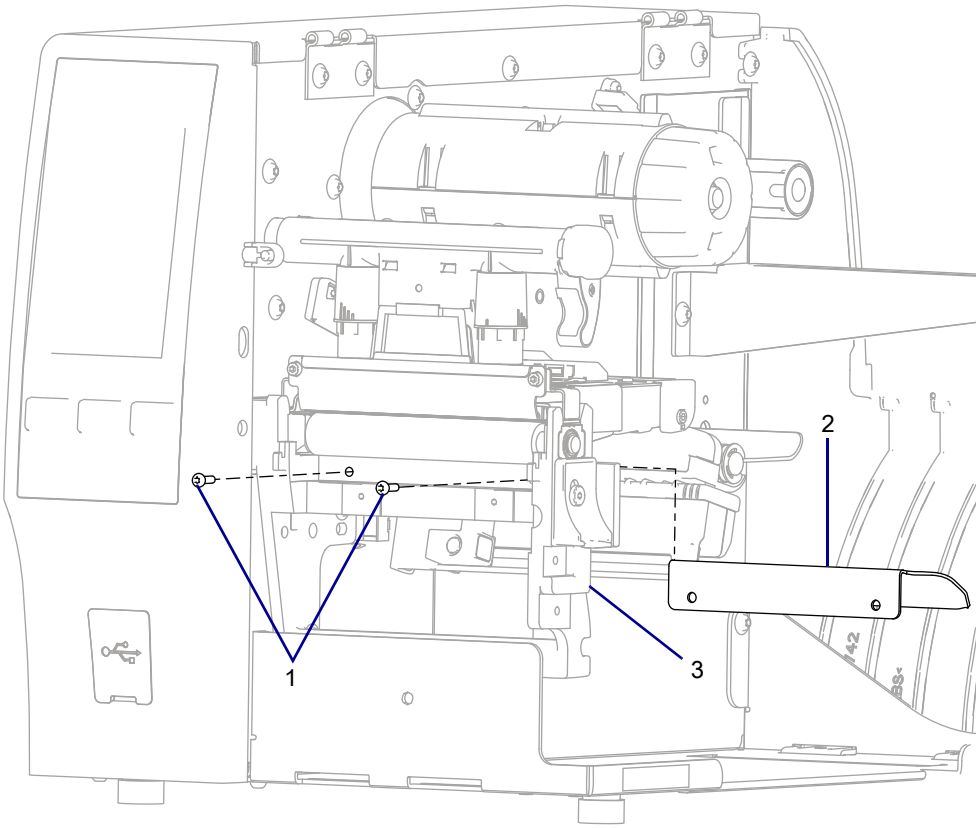
Figure 231 Remove the Tear Bar



1	Tear bar
2	Platen housing
3	Tear bar mounting screws (2)

2. See Figure 232. Remove the two screws securing the media shelf to the platen housing.

Figure 232 Remove the Media Shelf



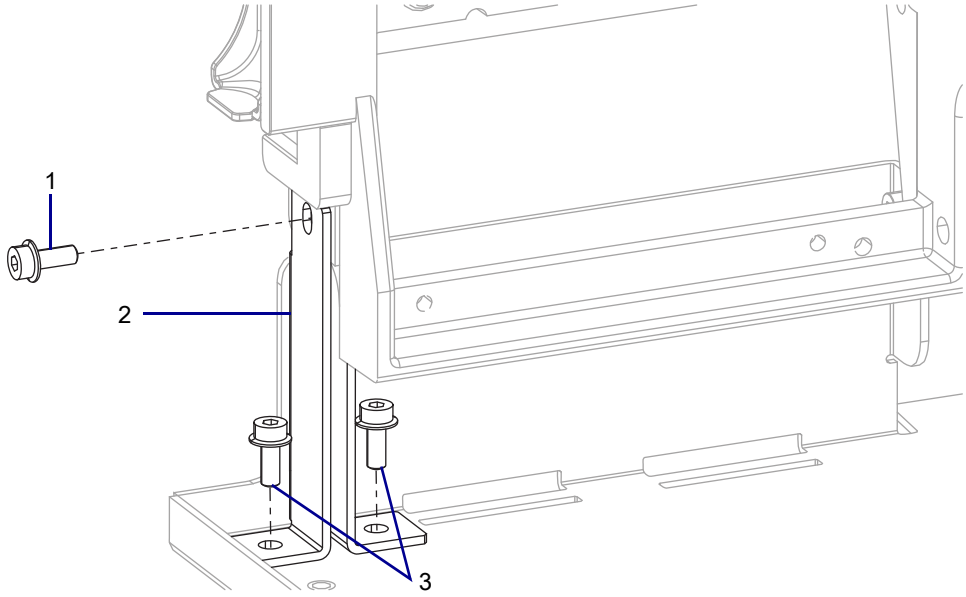
1	Media shelf mounting screws (2)
2	Media shelf
3	Platen housing

3. Remove the media shelf.

Remove the Platen Housing Without Rewind Option

1. See Figure 233. Remove and discard the two screws securing the support bracket to the printer base.

Figure 233 Remove the Support Bracket

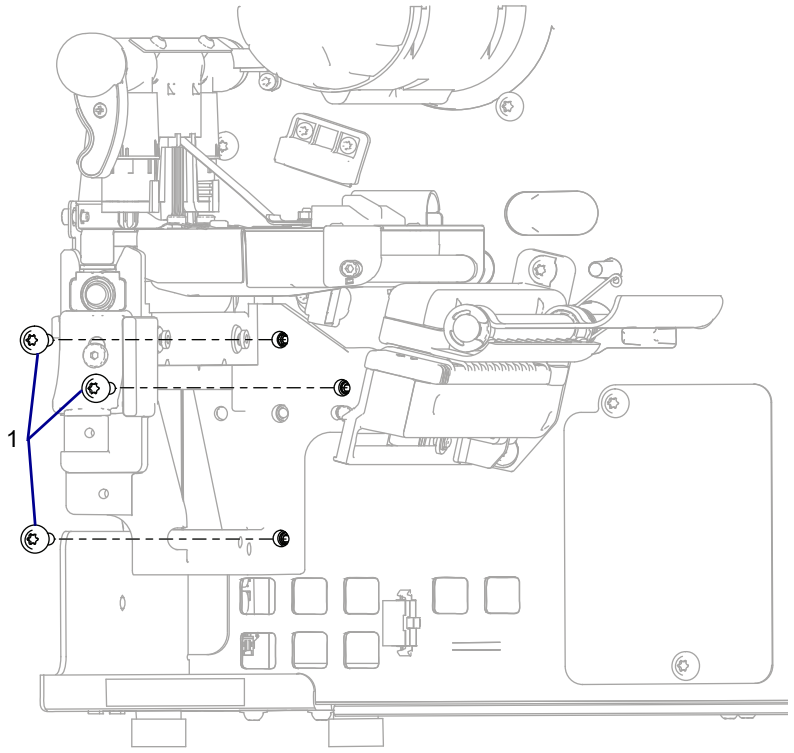


1	Support bracket-platen housing mounting screw.
2	Support bracket
3	Support bracket-base mounting screws.

2. Remove and discard the support bracket.

3. See Figure 234. Remove and discard the four screws securing the platen housing to the printer main frame.

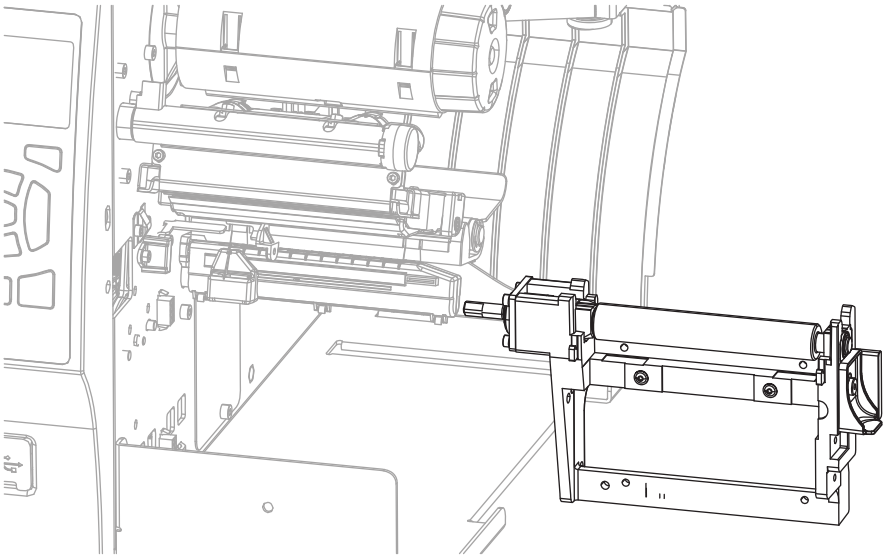
Figure 234 Remove the Platen Housing Mounting Screws



1	Platen housing mounting screws (3)

4. See Figure 235. Slide the platen housing out of the printer.

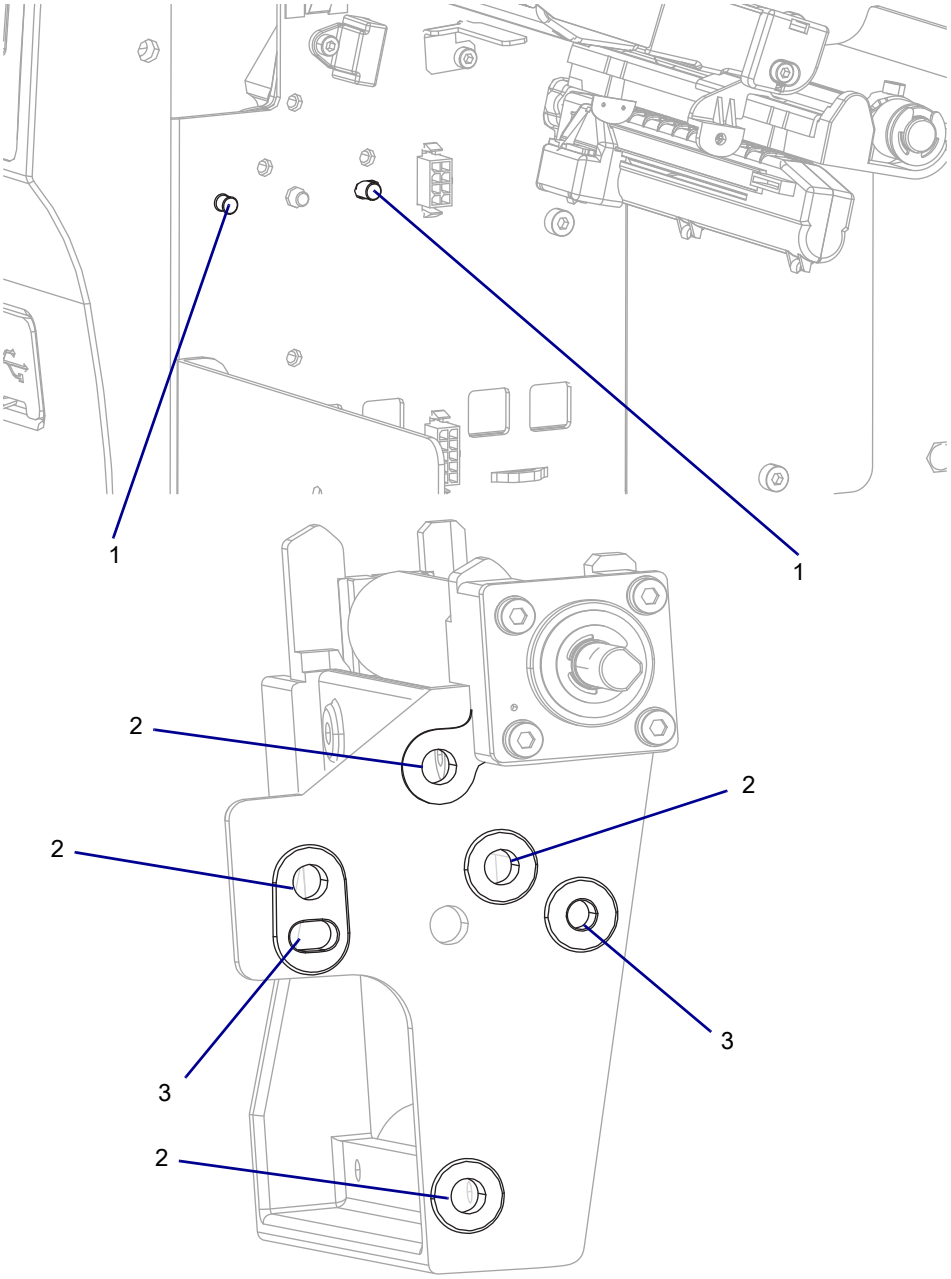
Figure 235 Remove the Platen Housing (ZT410 Printer Shown)



Install the New Platen Housing Without Rewind Option

1. See Figure 236. Align the pins on the printer with the locating openings in the platen housing.

Figure 236 Locate the Pins and Openings

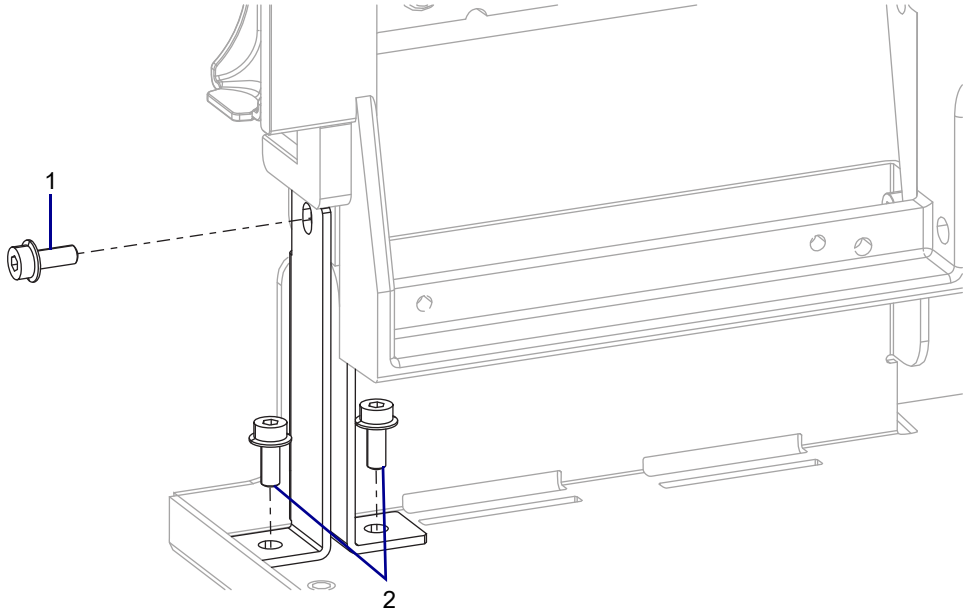


1	Locating pins (2)
2	Screw openings (4)
3	Locating openings (2)

2. See Figure 235 on page 305. Slide the new platen housing into the printer.
3. Install one of the new screws loosely into the platen housing to hold it in place.

4. Install the other two screws, and tighten all three.
5. See Figure 237. Insert the new support bracket as shown.
6. Install the two screws attaching the support bracket to the base first.

Figure 237 Install the Support Bracket



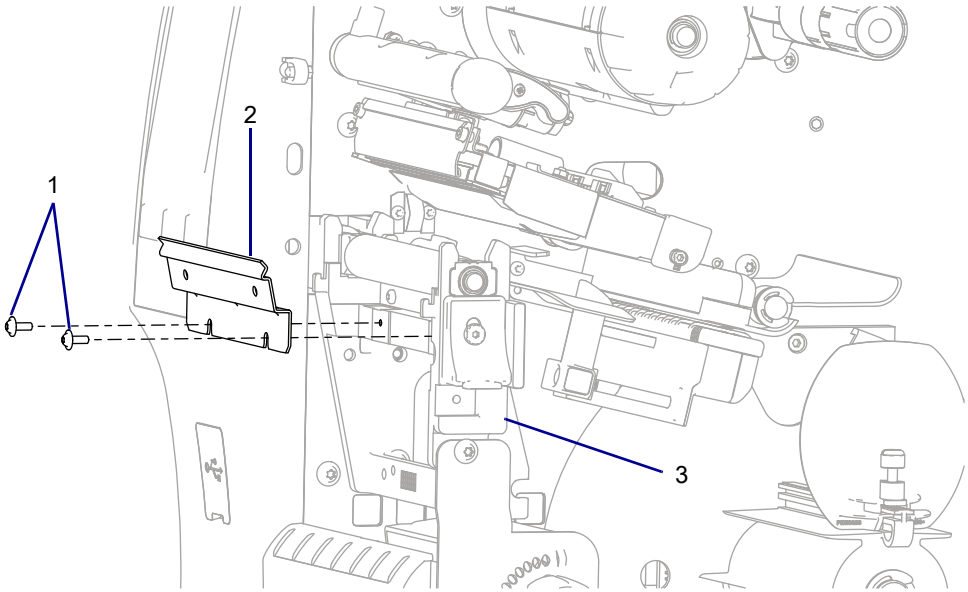
1	Support bracket-platen housing mounting screw.
2	Support bracket-base mounting screws.

7. Install the screw attaching the support bracket to the platen housing.
8. Go to Reinstall Tear Bar on page 310.

Remove the Platen Housing With Rewind Option

1. See Figure 238. Loosen the two tear bar mounting screws securing the tear bar to the platen housing.

Figure 238 Remove the Tear Bar

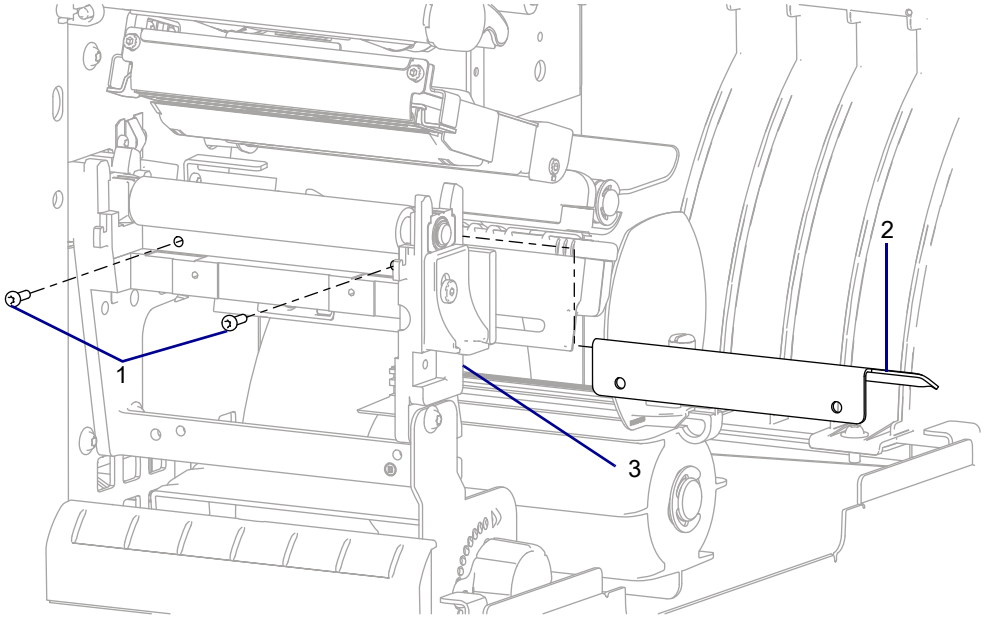


1	Tear bar mounting screws (2)
2	Tear bar
3	Platen housing

2. Lift the tear bar out of the printer.

3. See Figure 239. Remove the two screws securing the media shelf to the platen housing.

Figure 239 Remove the Media Shelf

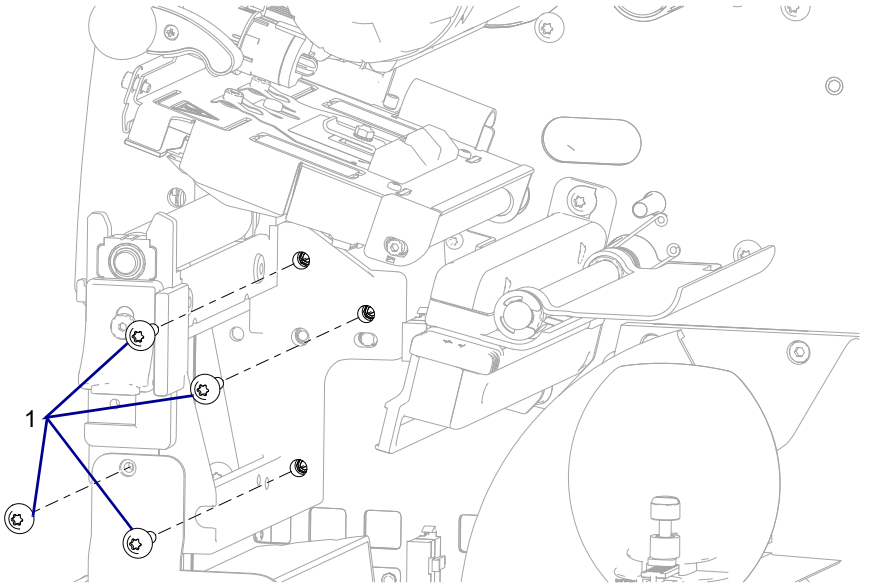


1	Media shelf mounting screws (2)
2	Media shelf
3	Platen housing

4. Remove the media shelf.

   See Figure 240. Remove and discard the four screws securing the platen housing to the printer main frame.

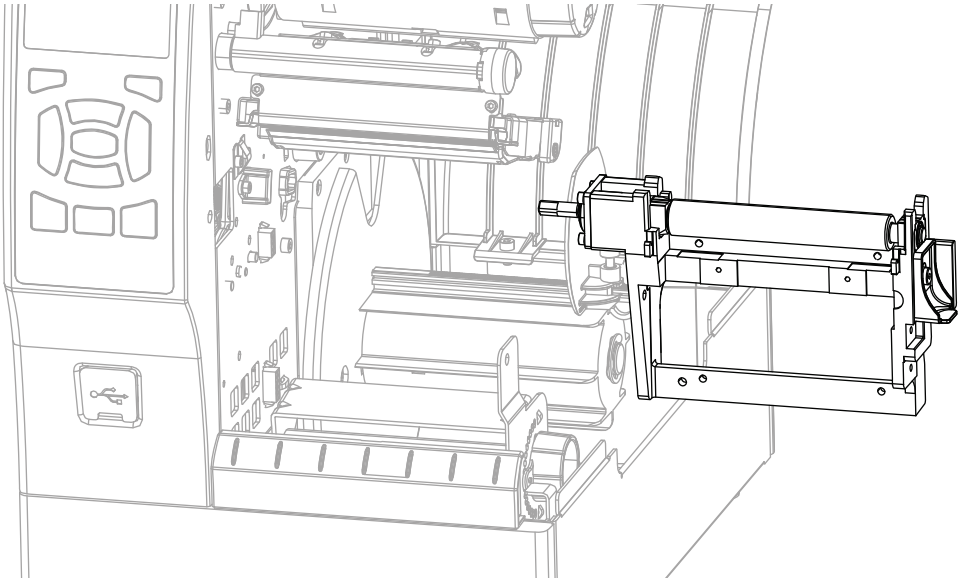
Figure 240 Remove the Screws



1	Mounting screws (4)

5. See Figure 241. Remove the platen housing from the printer.

Figure 241 Remove the Platen Housing (ZT410 Printer Shown)



Install the New Platen Housing with Rewind Option

1. See Figure 240 on page 309. Align the pins on the printer with the locating openings in the platen housing.
2. See Figure 235 on page 305. Slide the new platen housing into the printer.
3. See Figure 234 on page 305. Install one of the new screws to hold the platen housing in place.
4. Install the other two screws, and then tighten all three.

Reinstall Tear Bar

1. See Figure 238 on page 308. Lower the tear bar into the printer.
2. Tighten the two tear bar mounting screws.

Reinstall the Platen Pulley

1. See Figure 223 on page 294. Slide the platen pulley onto the platen housing drive shaft.
2. Align the set screws with the flats on the drive shaft, and then tighten the two set screws.
3. Install the drive belt onto the drive motor pulley and the platen pulley.
4. Loosen the drive motor locking screw.
5. Spin the pulley several times to allow the belt to seat itself.
6. Tighten the locking screw.
7. Tighten the pivot screw.
8. Which option do you have?

If you have a…	Then…
Peel	Go to Reinstall the Peel Assembly on page 311.
Cutter	Go to Reinstall the Cutter Assembly on page 311.
Tear	Go to Reinstall the Lower Front Panel on page 311.

Reinstall the Peel Assembly

1. See Figure 224 on page 295. Reinstall the two mounting screws into the platen housing.
2. Attach the peel assembly to the mounting screws.
3. Go to Reinstall the Electronics Cover on page 312.

Reinstall the Cutter Assembly

CAUTION: The cutter blade is sharp. Do not touch or rub the blade with your fingers.

1. See Figure 227 on page 298. Push down and slide the cutter assembly to the left, and then reinstall the cutter assembly on platen assembly hooks.
2. See Figure 226 on page 297. Reinstall the cutter mounting screw.
3. See Figure 225 on page 296. Reconnect the cutter cable from the ten-pin option connector on the main frame and re-secure the cables with a cable tie.
4. Go to Reinstall the Electronics Cover on page 312.

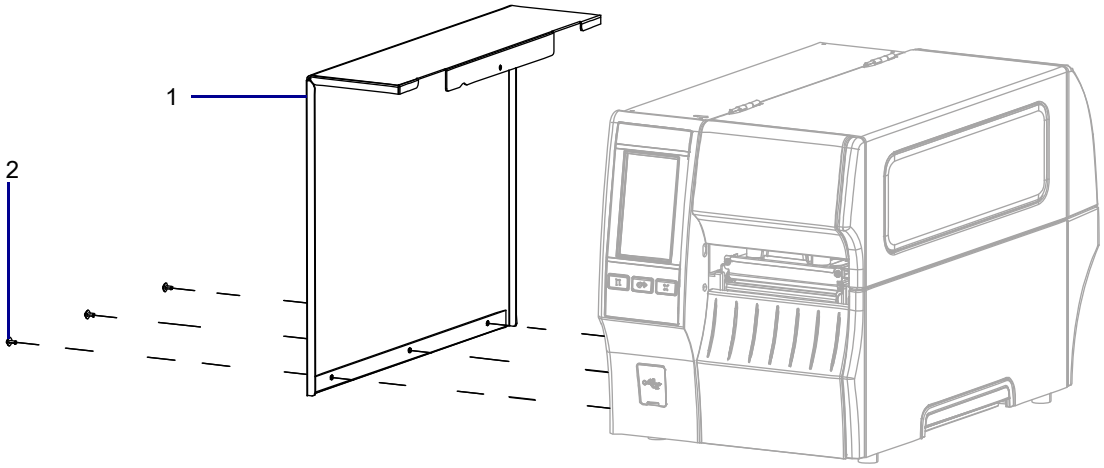
Reinstall the Lower Front Panel

1. See Figure 230 on page 301. Slide the front trim panel tabs into the printer base.
2. See Figure 229 on page 300. Tip the top of the front trim panel onto the hooks and towards from the printer.
3. See Figure 228 on page 299. Install the front trim panel by sliding the cover to the right as far as possible, until the detent snaps into place.
4. Go to Reinstall the Electronics Cover.

Reinstall the Electronics Cover

1. See Figure 242. Slide the electronics cover onto the printer.

Figure 242 Reinstall the Electronics Cover Mounting Screws

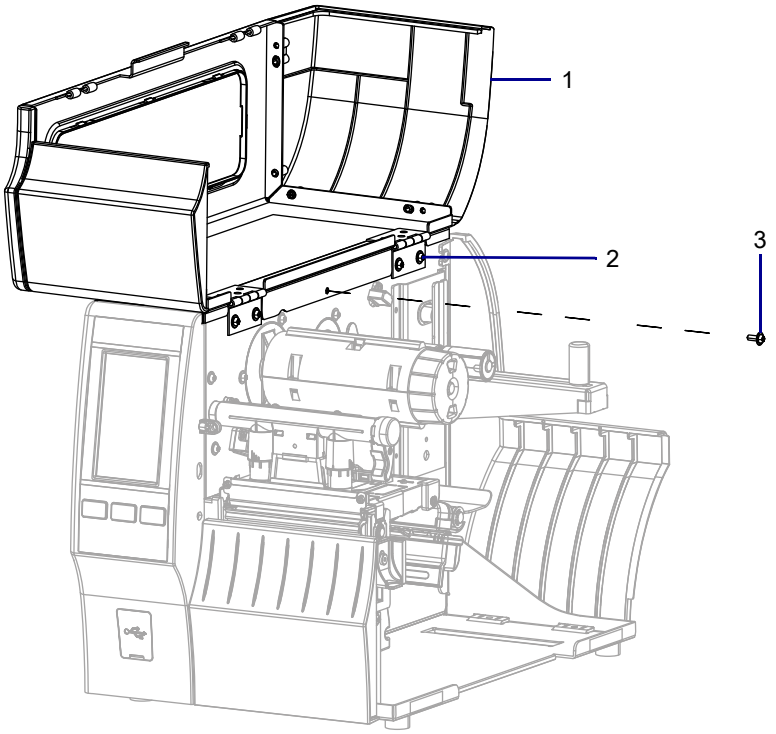


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 243. Open the media door and install the mounting screw.

Figure 243 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

Media Handling Components

This section supplies you with the parts information and installation procedures for the media handling options.

Media Handling Option Parts and Drawings

Figure 244 Media Handling Options Kits

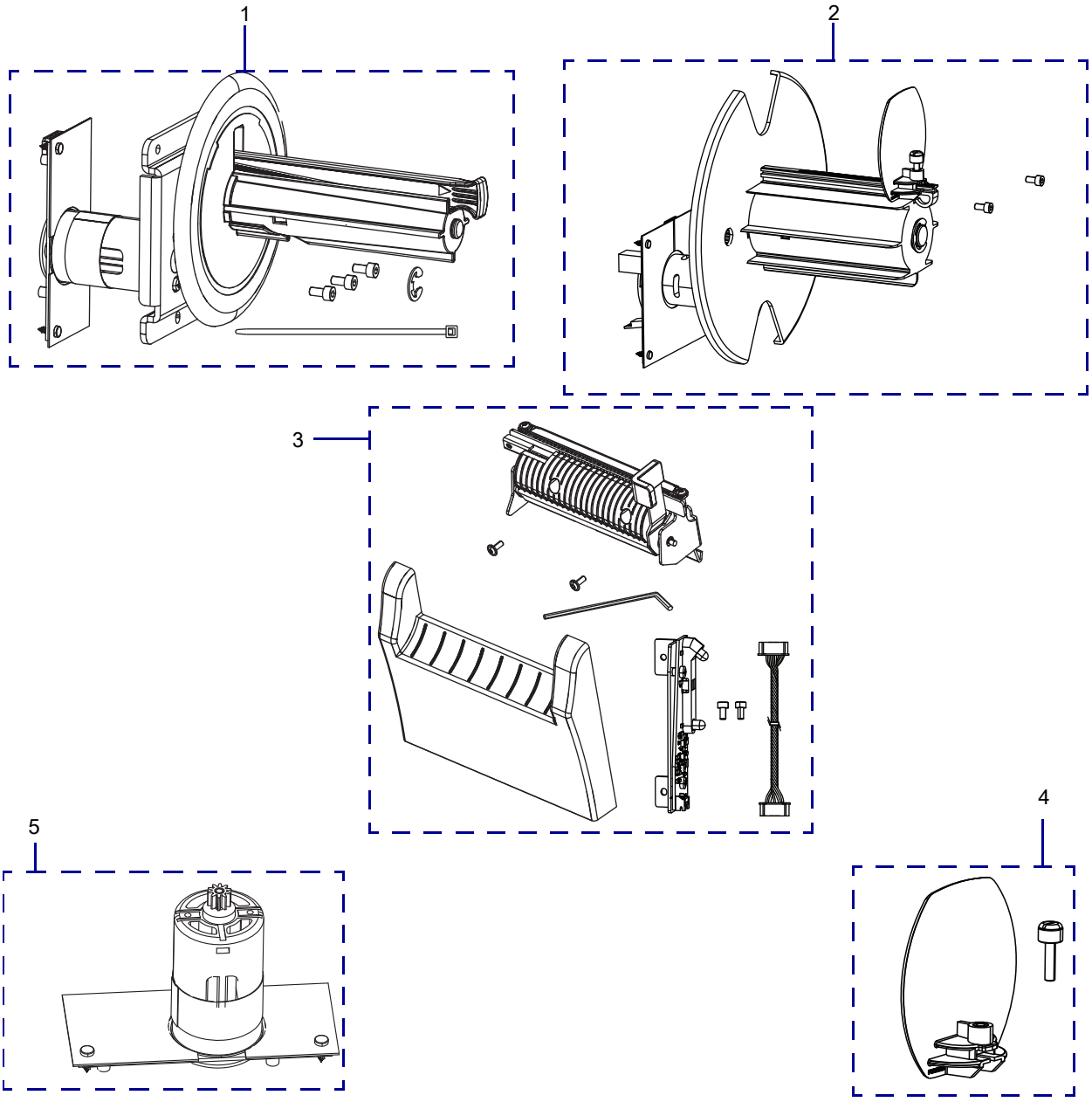


Table 33 Media Handling Options Kits

Item	Part Number	Description
1	P1058930-052	ZT411 Printers Liner Take-Up Maintenance/Option Kit
2	P1058930-058	ZT411 Printers Rewind Spindle Assembly Maintenance Kit
	P1058930-059	ZT421 Printers Rewind Spindle Assembly Maintenance Kit
3	P1105147-019	ZT411 Printers Peel Option Kit
	P1105147-020	ZT421 Printers Peel Option Kit
4	P1058930-057	ZT411 Printers Rewind Media Guard Maintenance Kit
5	G34112M	ZT400 Series Printer Liner Take-Up PCBA and Motor Assembly

Figure 245 Drive System Options Kits

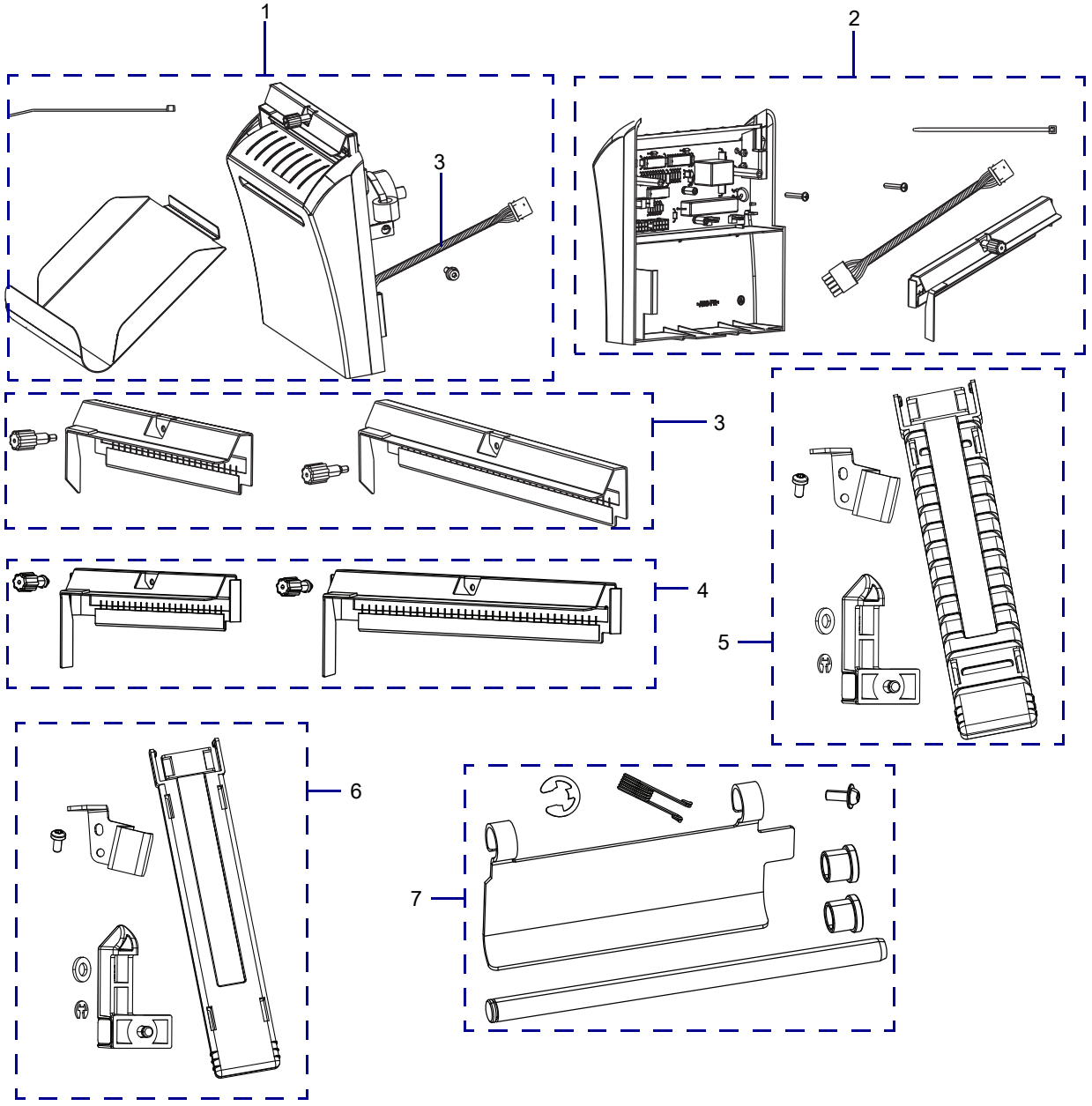


Table 34 Drive System Options Kits

Item	Part Number	Description
1	P1058930-089	ZT411 Printers Cutter Option Kit
	P1058930-090	ZT421 Printers Cutter Option Kit
2	P1058930-091	ZT411 Printers Cutter Cover and PCB Maintenance Kit
	P1058930-092	ZT421 Printers Cutter Cover and PCB Maintenance Kit
3	79864M	ZT411 Printers Cutter Guard and Static Brush Maintenance Kit with Angled Guard
	79865M	ZT421 Printers Cutter Guard and Static Brush Maintenance Kit with Angled Guard
4	P1066612	ZT411 Printers Cutter Guard and Static Brush Maintenance Kit with Straight Guard
	P1066613	ZT421 Printers Cutter Guard and Static Brush Maintenance Kit with Straight Guard
5	P1105147-027	ZT411 Printers Media Guides Maintenance Kit
	P1105147-028	ZT421 Printers Media Guides Maintenance Kit
6	P1105147-302	ZT411R Printers On-Metal RFID Solution Media Guides Kit
7	P1105147-025	ZT421 Printers Media Dancer Maintenance Kit
	P1105147-026	ZT421 Printers Media Dancer Maintenance Kit

ZT411 Printer Liner Take-Up Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Liner Take-up Option/Maintenance Kit into the ZT411 printer only.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 246 Kit Contents

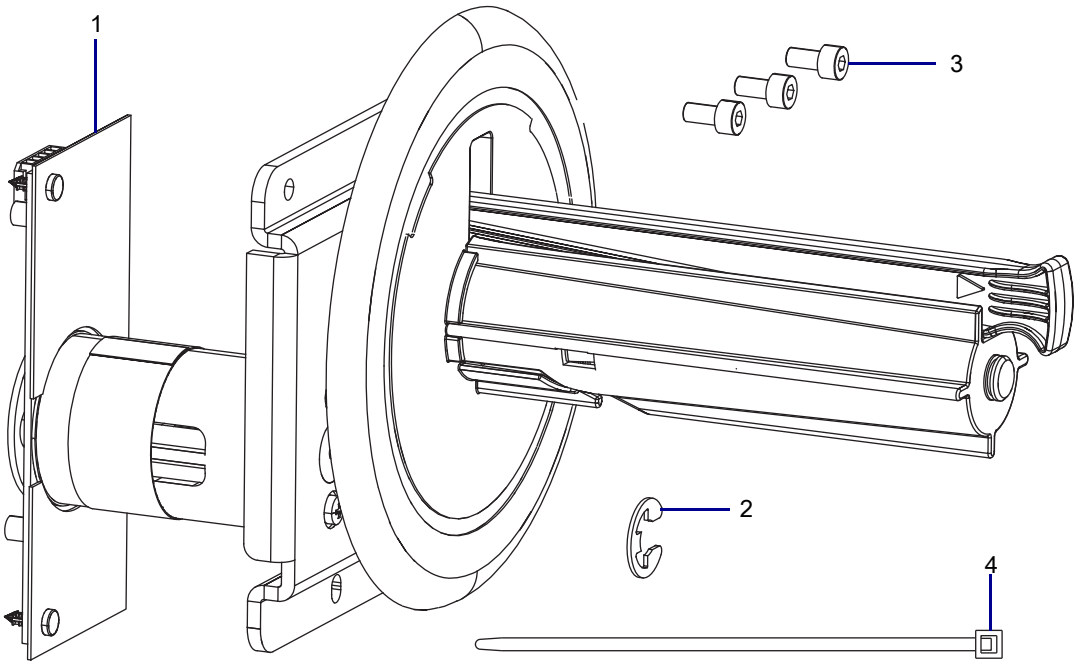


Table 35 Parts List

Item	Description	Qty
Ref	Liner Take-Up Maintenance/Option Kit	
1	Liner Take-up Assembly	1
2	E-ring, 0.375	1
3	Screw, M4 × 0.7 × 8	3
4	Cable Tie. 0.09 × 3.62	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Nutdriver Set
- Safety Glasses
- Antistatic Wrist Strap and Mat
- Needle-Nose Pliers
- Wire Cutters

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. Are you replacing an existing Liner Take-up Assembly?

If…	Then…
No	Go to Install the New Liner Take-up Assembly on page 323.
Yes	Go to Remove the Old Liner Take-up Assembly on page 321.

Remove the Old Liner Take-up Assembly

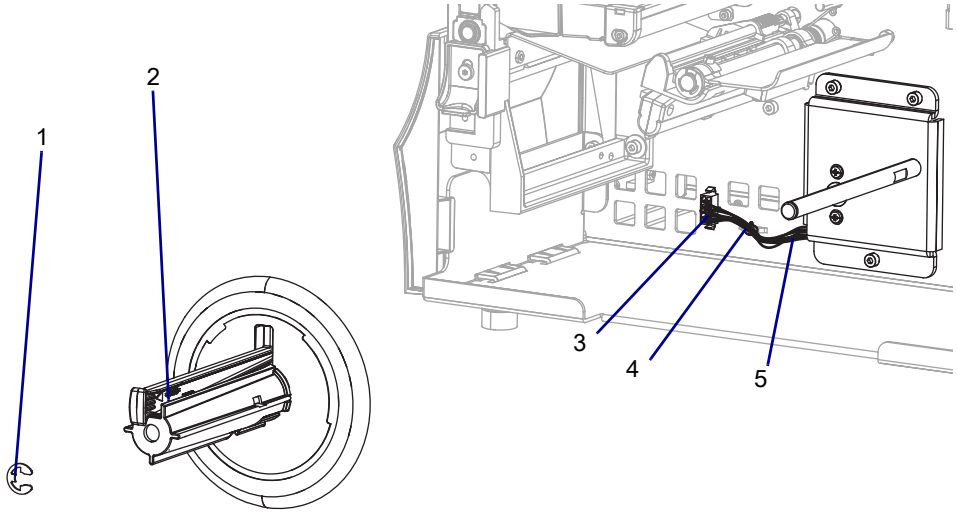
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

2. See Figure 247. Remove the E-ring securing the liner take-up spindle to the shaft.

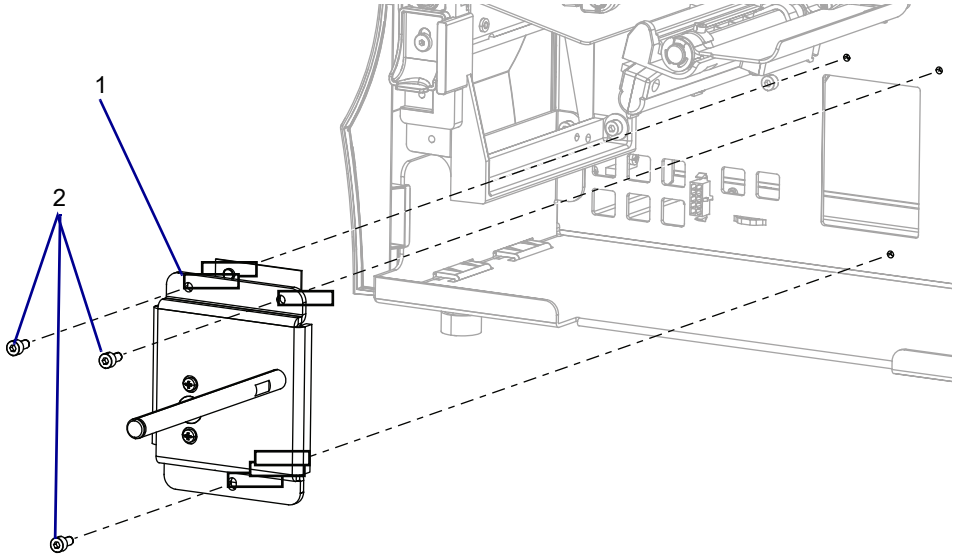
Figure 247 Remove the Liner Take-up Spindle Assembly Cable



1	E-ring
2	Liner take-up spindle assembly
3	10-pin option connector
4	Cable tie
5	Liner take-up cable

3. Disconnect the liner take-up cable from the 10-pin option connector and cut the cable tie.
4. Slide the liner take-up spindle assembly off of the shaft.
5. See Figure 248. Remove the three mounting screws securing the liner take-up motor assembly.

Figure 248 Remove the Liner Take-up Motor Assembly



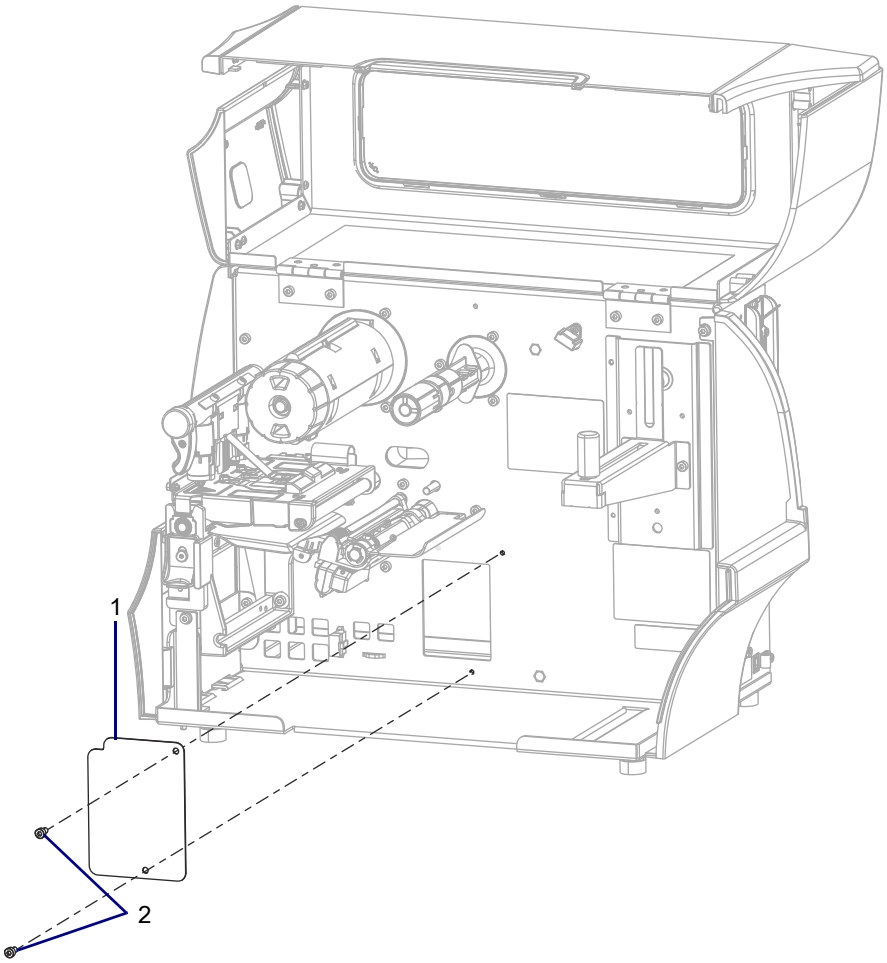
1	Liner take-up motor assembly
2	Mounting screws (3)

6. Remove the liner take-up motor assembly from the printer.
7. Go to Install the New Liner Take-up Assembly on page 323.

Install the New Liner Take-up Assembly

1. See Figure 249. Remove the three screws securing the cover plate to the printer.

Figure 249 Remove the Cover Plate



1	Liner take-up cover plate
2	Mounting screws (2)

2. Remove and discard the liner take-up cover plate.

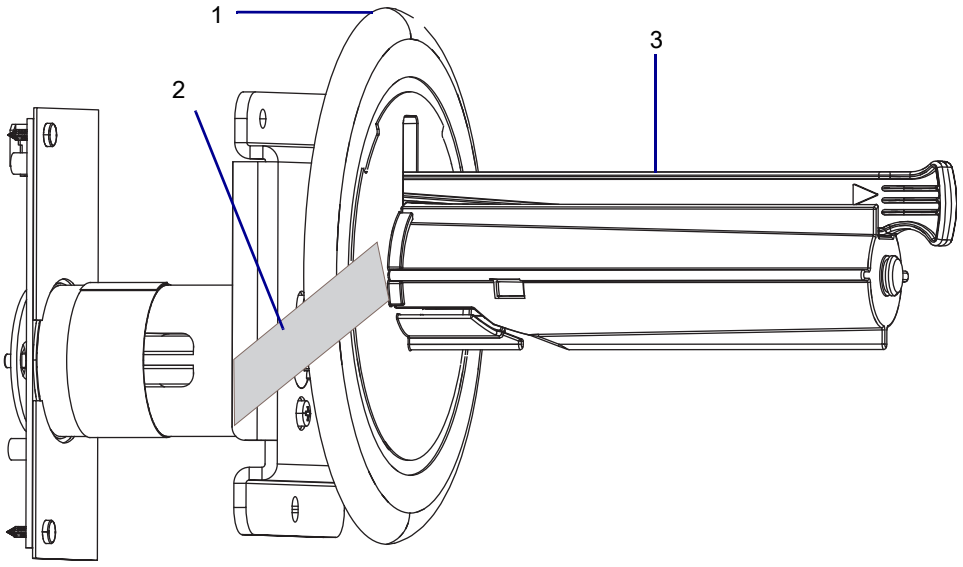
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off

2. See Figure 250. Remove and discard the tape the factory installed to secure the spindle assembly during shipment.

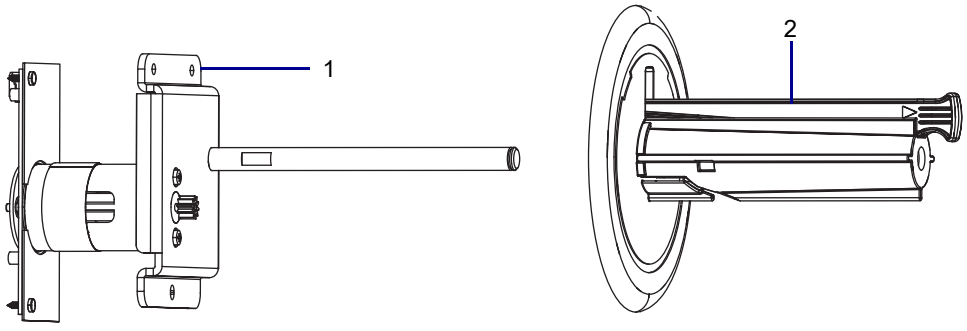
Figure 250 Remove the Spindle Tape



1	Liner take-up assembly
2	Tape
3	Spindle

3. See Table 251. Slide the new liner take-up spindle assembly off of the liner take-up motor assembly.

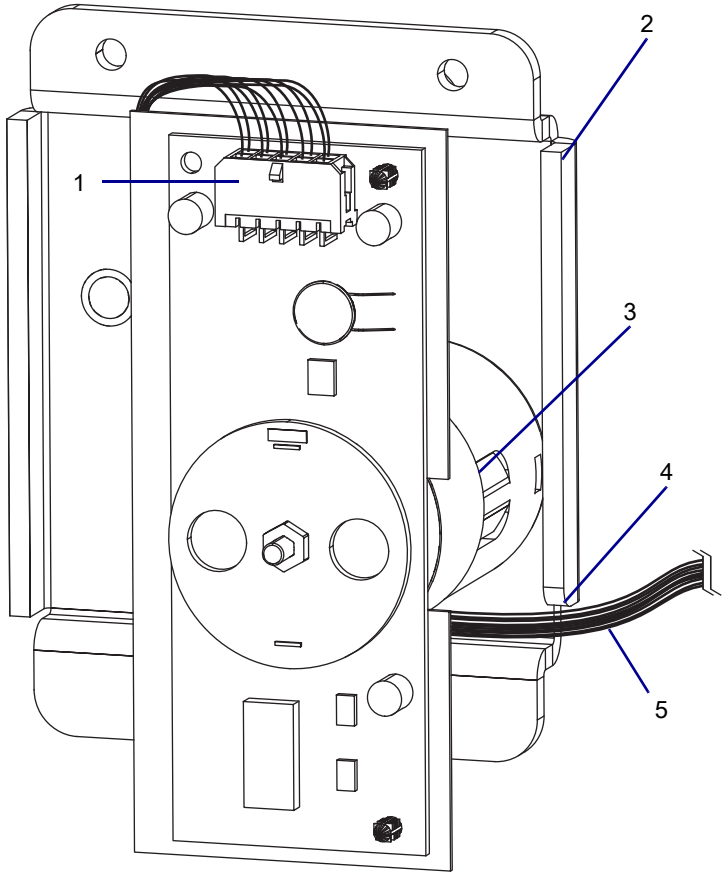
Figure 251 Remove the New Liner Take-up Spindle



1	Liner take-up motor assembly
2	Liner take-up spindle

4. See Figure 252. Route the liner take-up cable down as shown and under the motor, and then through the notch in the mounting bracket.

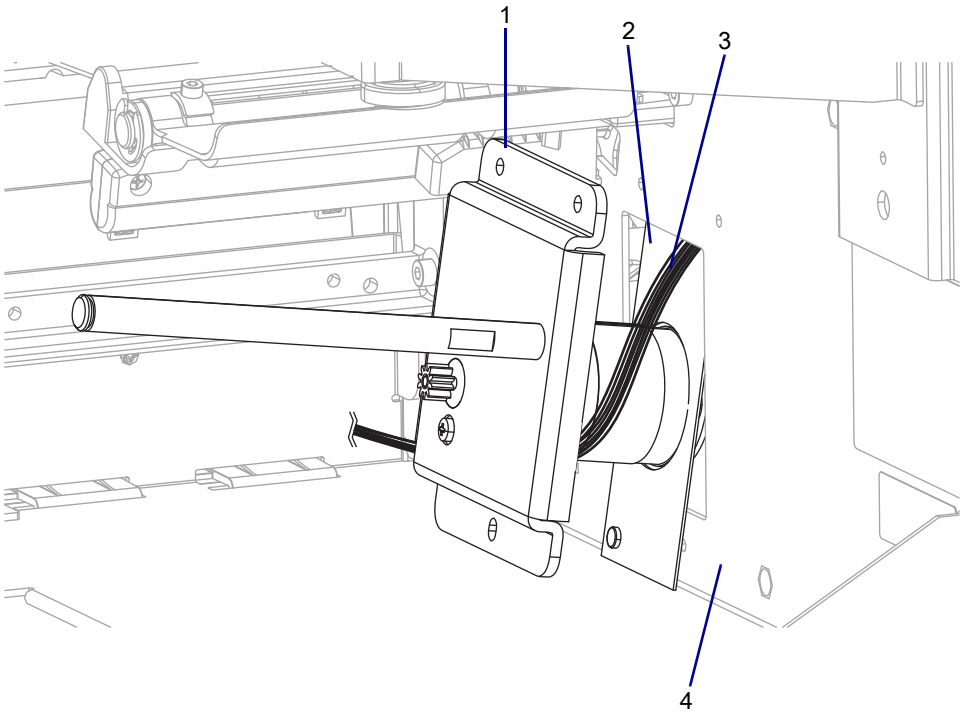
Figure 252 Cable Routing



1	Liner take-up cable connector
2	Liner take-up mounting bracket
3	Liner take-up motor
4	Notch in liner take-up mounting bracket
5	Liner take-up cable

5. See Figure 253. Tilt the motor slightly to insert the top of the liner take-up motor board into the mounting hole.

Figure 253 Insert the Liner Take-up Motor Board

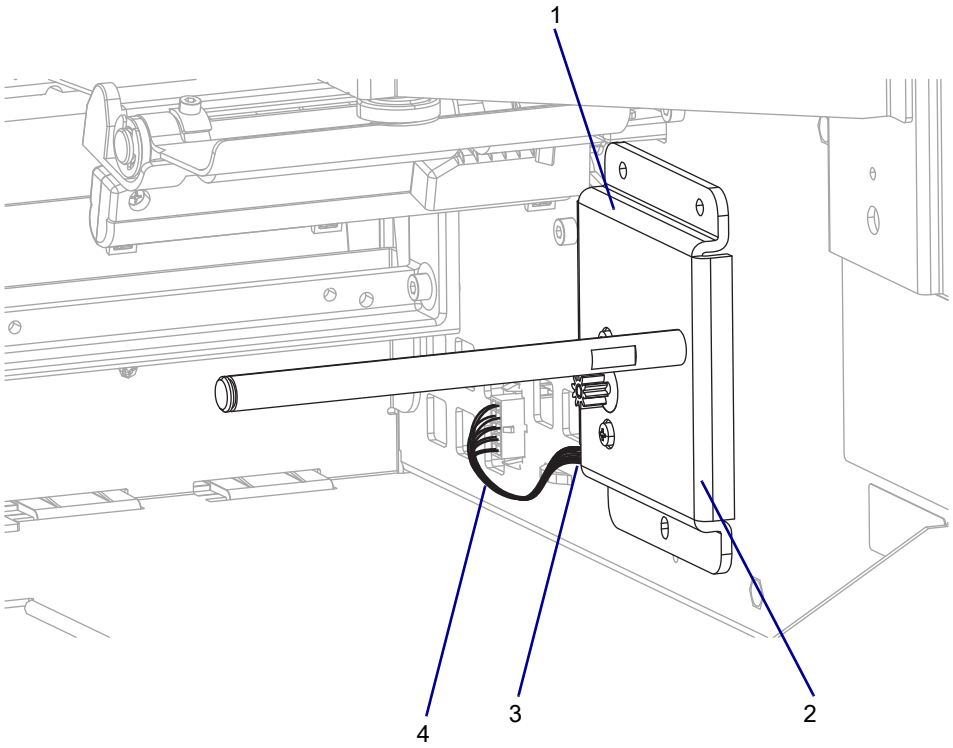


1	Liner take-up assembly
2	Liner take-up board
3	Liner take-up cable
4	Printer main frame

6. Lift the liner take-up assembly until the bottom of the liner take-up board clears the main frame.

7. See Figure 254. Slide the liner take-up motor assembly into the main frame until the mounting bracket touches the main frame.

Figure 254 Liner Take-up Assembly Installation

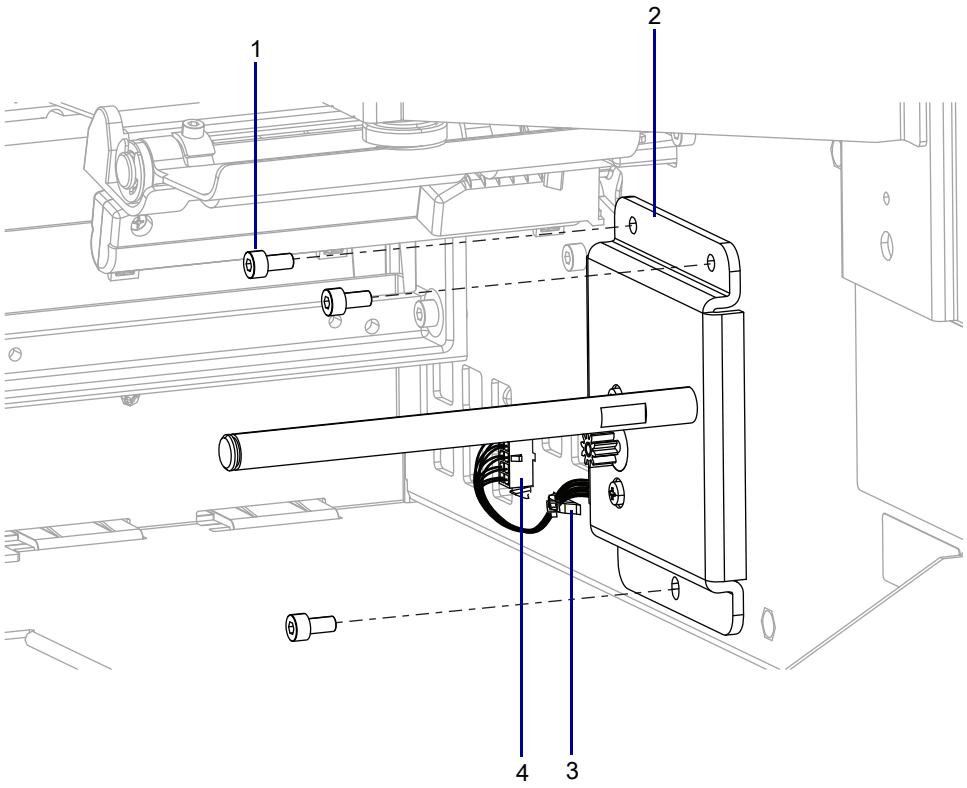


1	Liner take-up motor assembly
2	Liner take-up mounting bracket
3	Liner take-up bracket notch
4	Liner take-up cable

8. Ensure that the liner take-up cable is running through the notch in the lower left of the liner take-up mounting bracket.

9. See Figure 255. Slide the liner take-up assembly down to align the mounting screws.

Figure 255 Install the Mounting Screws



1	Mounting screws (3)
2	Liner take-up motor assembly
3	Tie point
4	10-pin connector

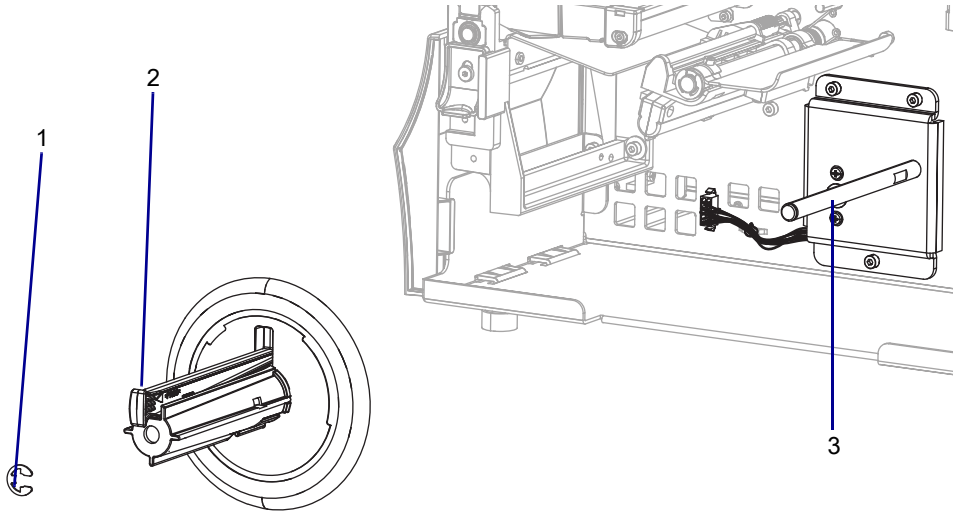
10. Install liner take-up assembly with the three mounting screws provided.

11. Connect the cable to the 10-pin connector.

12. Install the cable tie through the printer tie point and around the cable.

13. See Figure 256. Slide the liner take-up spindle onto the shaft of the liner take-up motor assembly, and then install the E-ring.

Figure 256 Install the Liner Take-Up Spindle



1	E-ring
2	Liner take-up spindle
3	Liner take-up motor assembly shaft

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Rewind Spindle Assembly Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Rewind Spindle Assembly Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 257 Kit Contents

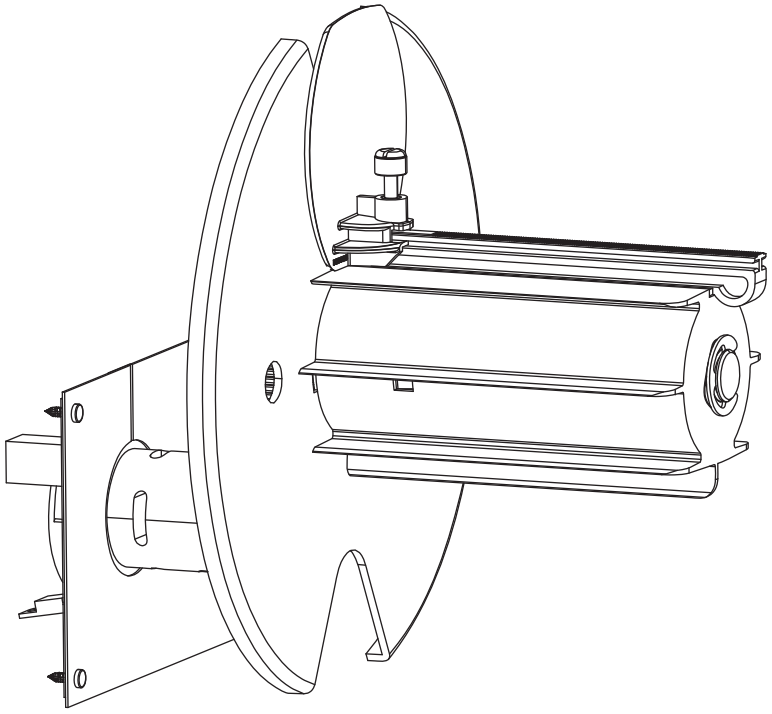


Table 36 Parts List

Item	Description	Qty
Ref	Rewind Spindle Assembly Maintenance Kit	

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hex Key Set

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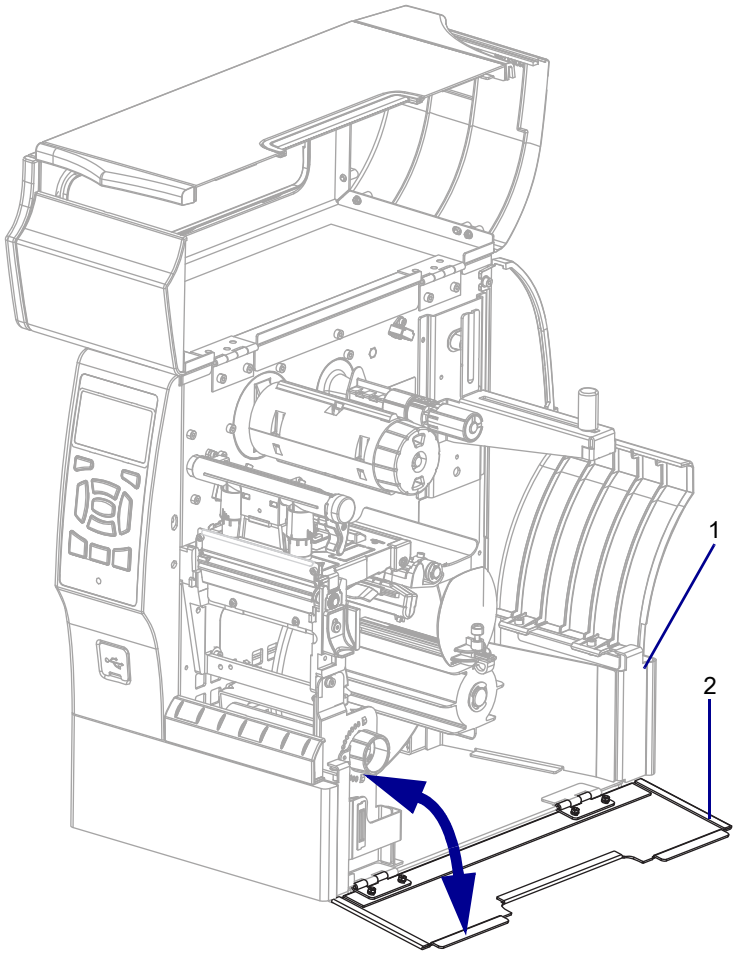
Remove the Old Rewind Spindle Assembly

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Remove all media and ribbon.
2. See Figure 258. Open the rewind base door.

Figure 258 Open the Rewind Door (ZT410 Printer Shown)

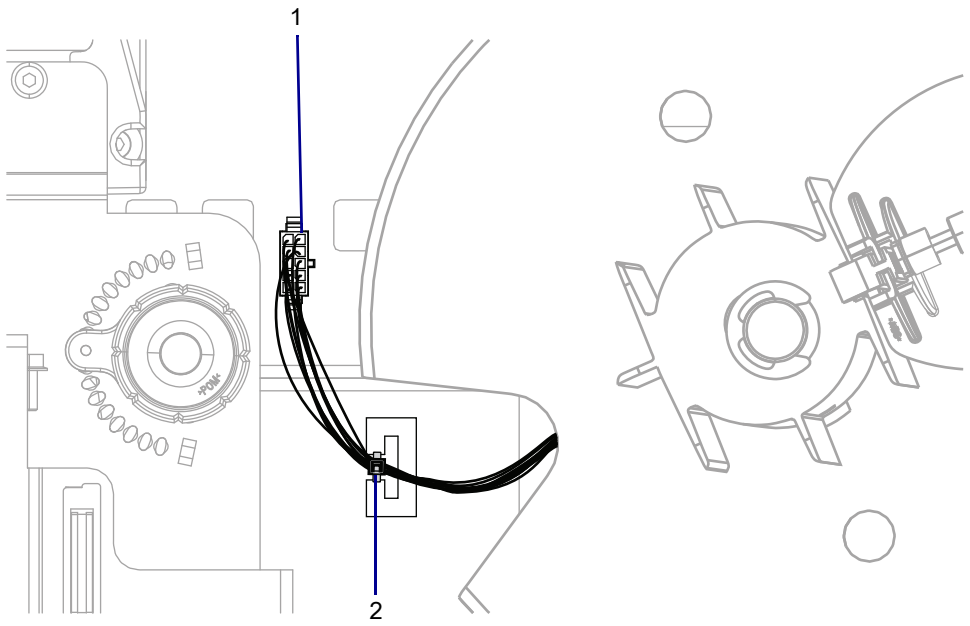


1	Rewind base
2	Rewind door

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

3. See Figure 259. Turn the rewind spindle to the right or left to access the cable tie, and then cut the cable tie and remove it.

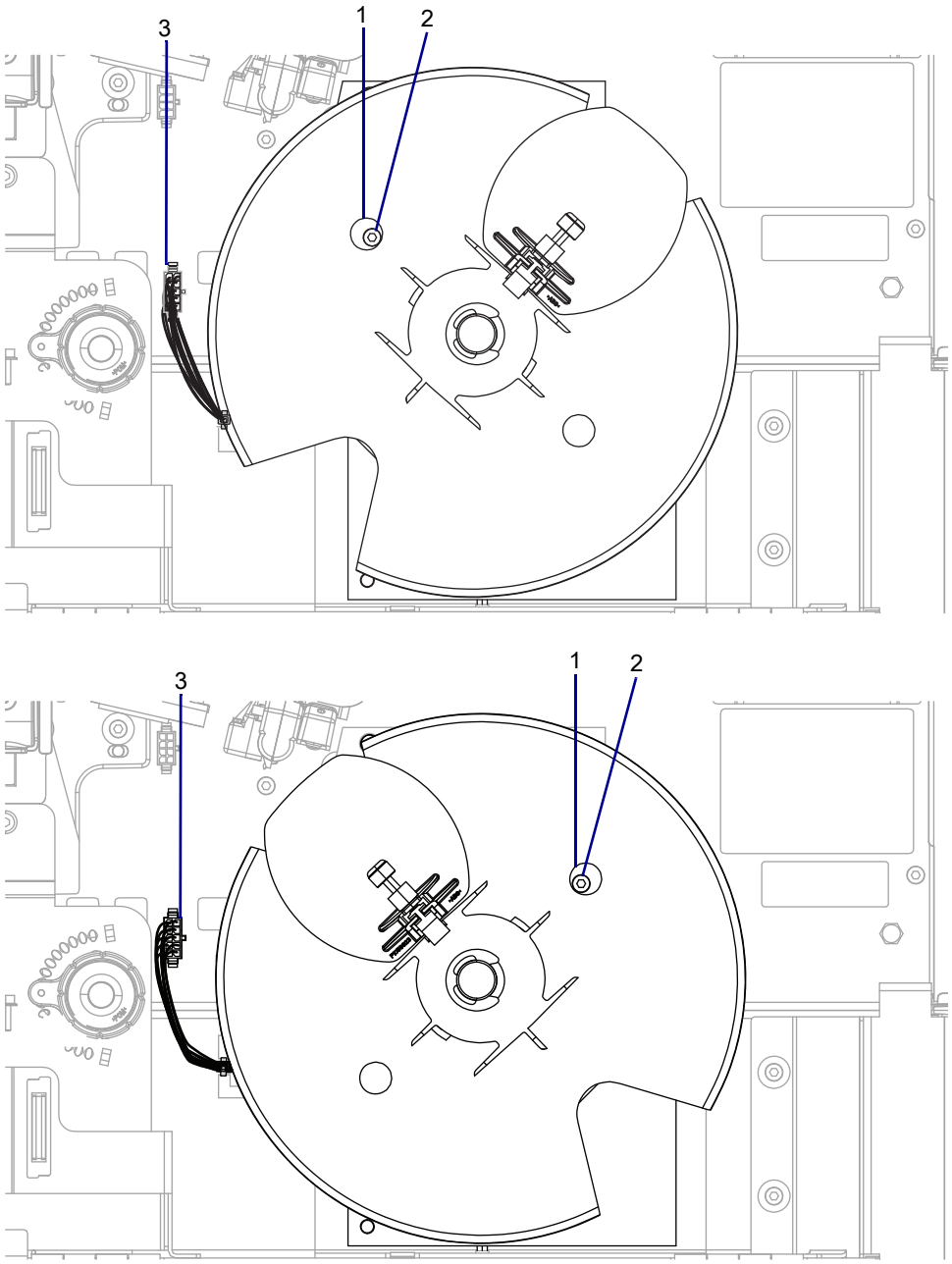
Figure 259 Cut the Cable Tie



1	Option connector
2	Cable tie

4. See Figure 260.Turn the spindle to the right or left until the hole in the back plate aligns with the mounting spindle mounting screw.

Figure 260 Remove the Rewind Spindle Mounting Screw

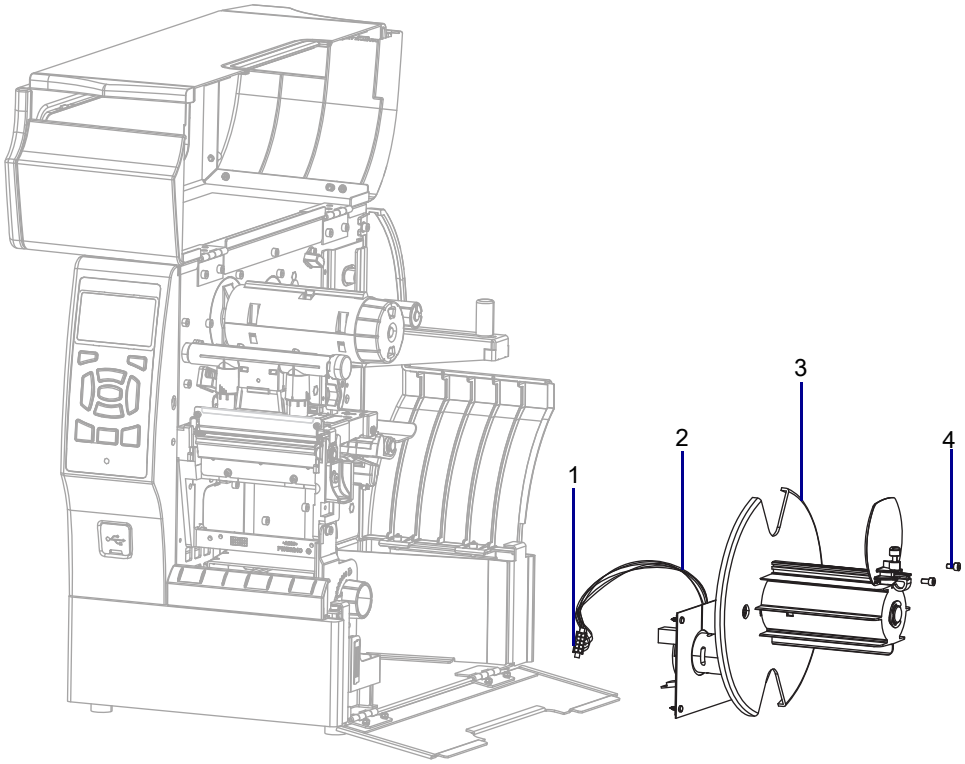


1	Back plate hole (2)
2	Mounting screw (2)
3	Rewind cable connector

5. Remove the mounting screw.
6. Repeat step 4 on page 333 and step 5 for the other mounting screw.

7. See Figure 261. Slide the rewind assembly out of the rewind base.

Figure 261 Remove the Rewind Assembly (ZT410 Printer Shown)



1	Rewind cable connector
2	Rewind cable
3	Rewind assembly
4	Mounting screws (2)

8. Disconnect the rewind cable from the connector on the rewind assembly.
9. Remove the rewind assembly.

Install the New Rewind Assembly

1. See Figure 261 on page 334. Set the rewind assembly into the rewind base.
2. Connect the rewind cable to the rewind assembly.
3. See Figure 260 on page 333. Align the rewind assembly with the mounting holes.
4. Turn the back plate to align the hole in the back plate with the mounting hole, and then install the mounting screw.
5. Turn the back plate to align the other hole with the mounting hole, and then install the second mounting screw.
6. Tighten the two mounting screws.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Peel Option/Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Peel Option/Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before performing this procedure.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed in Table 37 on page 337.

Figure 262 Kit Contents

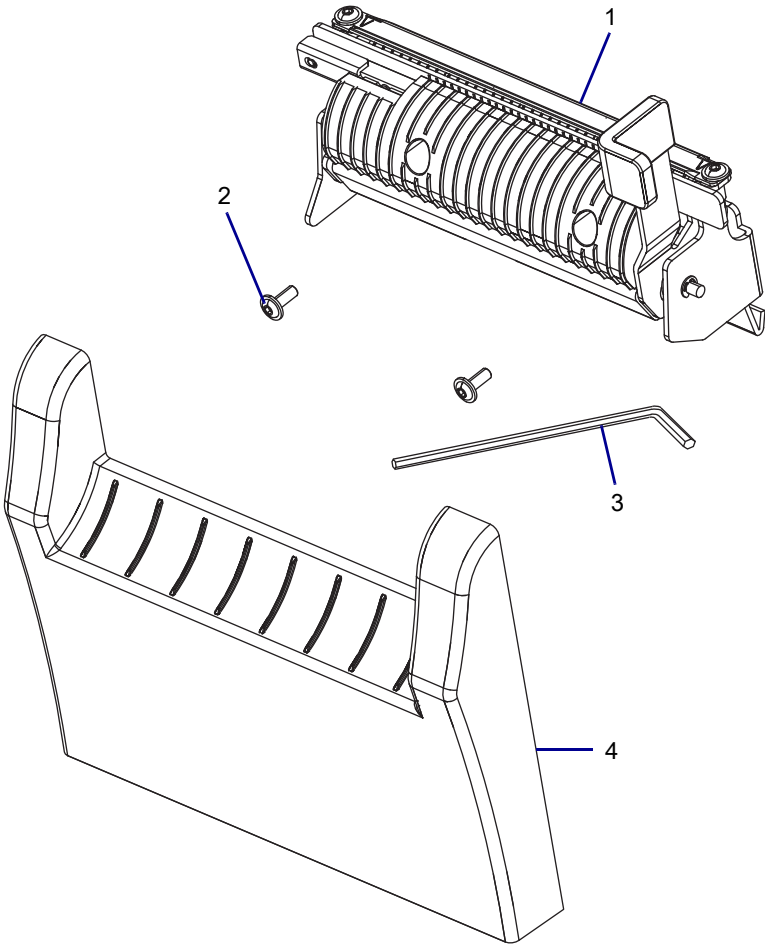


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Table 37 Parts List

✓	Item	Description	Qty
	Ref	Peel Option Kit	
	1	Peel Assembly	1
	2	Screw, M3 × 8 mm Flanged	2
	3	2 mm Hex Key	1
	4	Peel Lower Front Panel	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hex Key Set
- Metric Nutdriver Set
- Antistatic Wrist Strap and Mat

Prepare for Installation

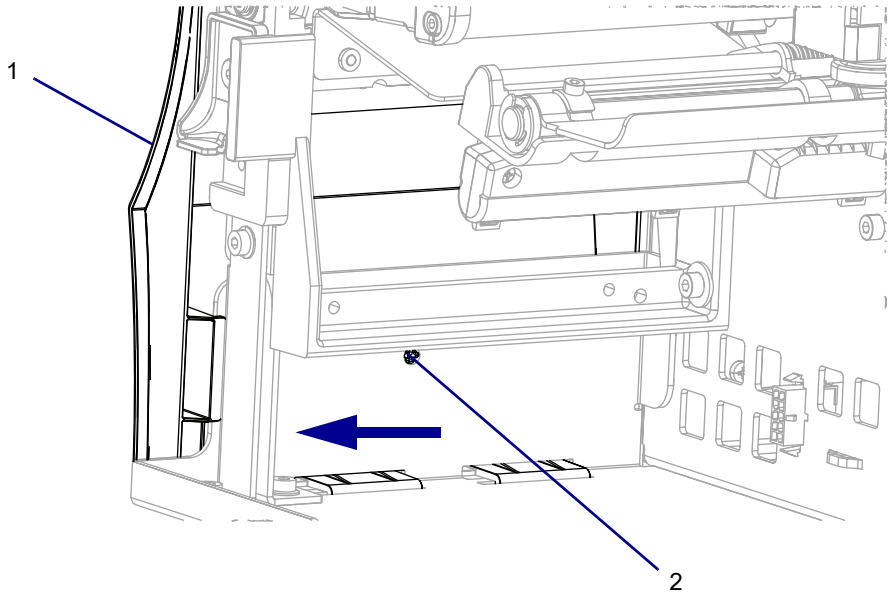
Which printer option do you have?

If you have a…	Then…
Peel option	Go to Remove the Old Peel Assembly on page 341.
Cutter option	Go to Remove the Cutter Assembly on page 342.
No options	Go to Remove the Lower Front Panel on page 338.

Remove the Lower Front Panel

1. See Figure 263. Remove the lower front panel by pressing in on the detent, and then sliding the cover to the left as far as possible.

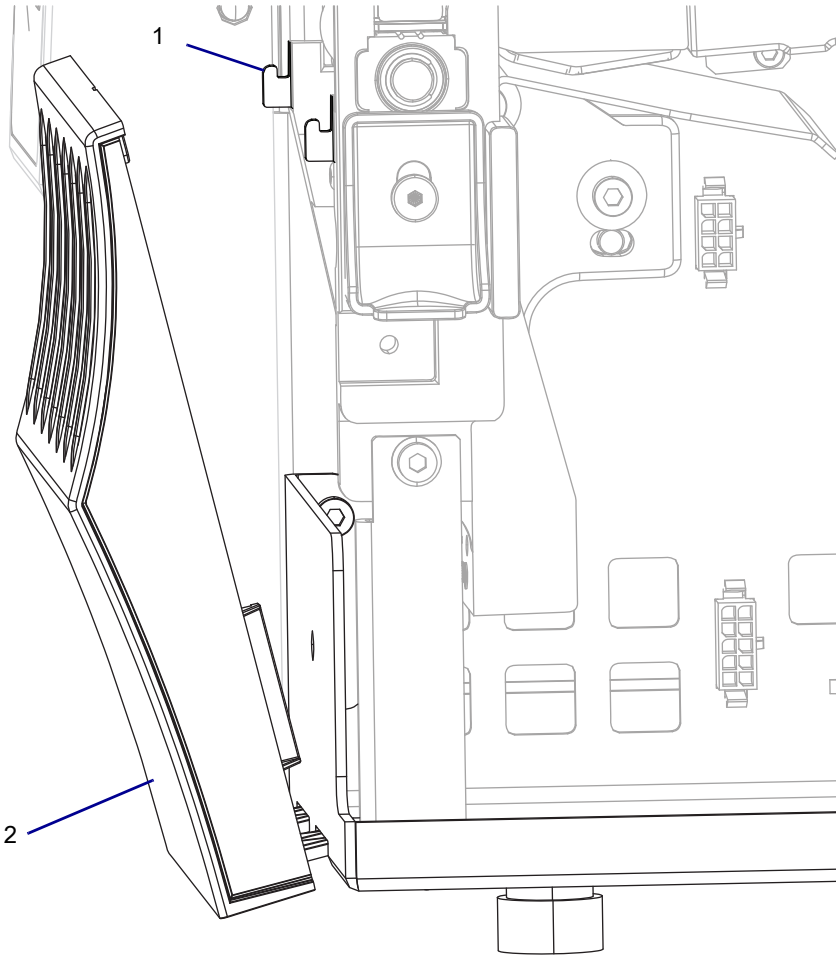
Figure 263 Release the Lower Front Panel



1	Lower front panel
2	Detent

2. See Figure 264. Tip the top of the lower front panel off the hooks and away from the printer.

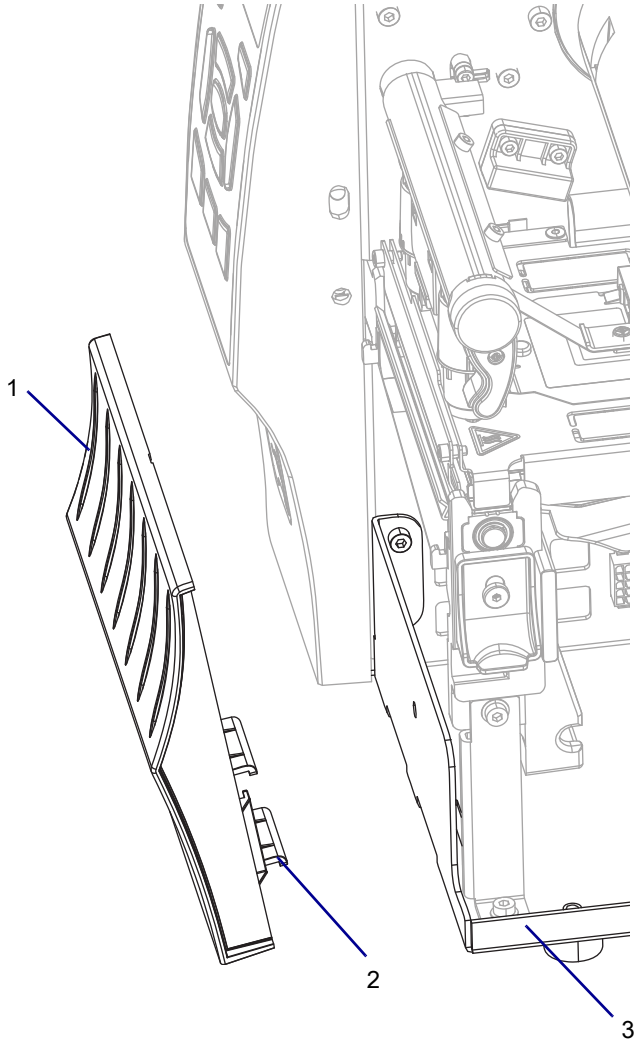
Figure 264 Hook Locations



1	Platen housing hooks (2)
2	Lower front panel

3. See Figure 265. Slide the lower front panel tabs out of the printer base.

Figure 265 Remove the Peel Lower Front Panel Tabs



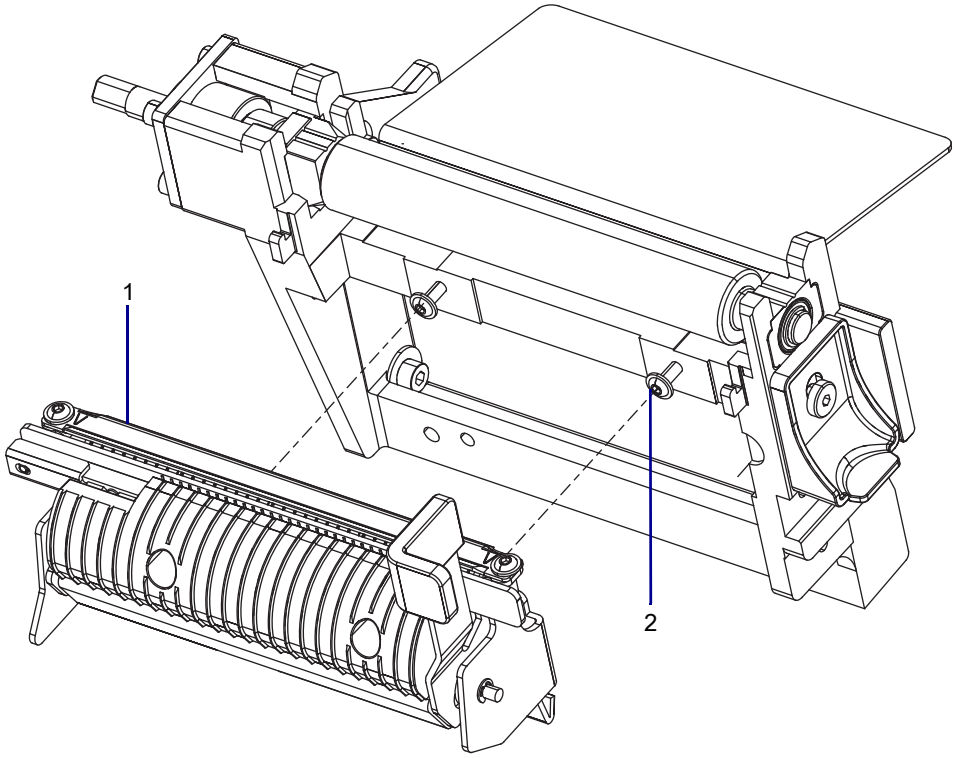
1	Peel lower front panel (Tear front panel)
2	Peel lower front panel tabs
3	Printer base

4. Go to Remove the Tear Bar on page 344.

Remove the Old Peel Assembly

1. See Figure 266. Loosen the two mounting screws.

Figure 266 Remove Old Peel Assembly



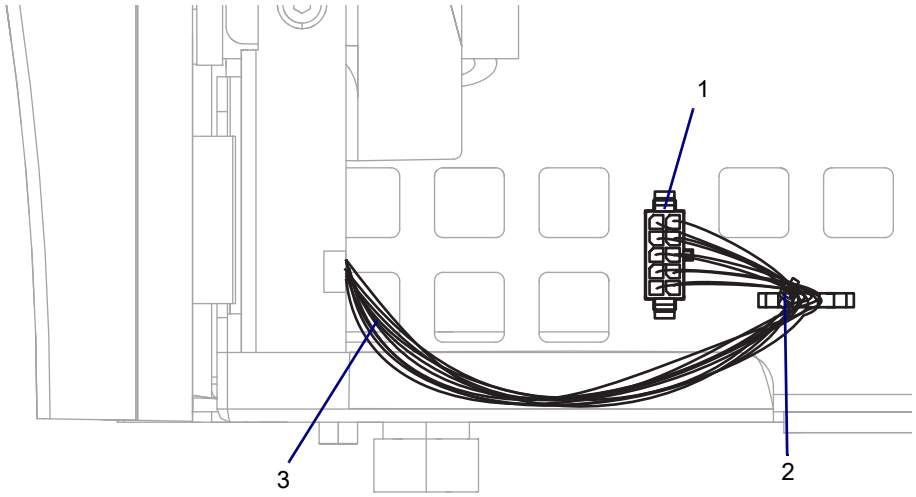
1	Peel Assembly
2	Mounting Screw (2)

2. Lift and pull the peel assembly to remove it.
3. Go to Install the New Peel Assembly on page 348.

Remove the Cutter Assembly

1. See Figure 267. Disconnect the cutter cable from the ten pin option connector on the main frame.

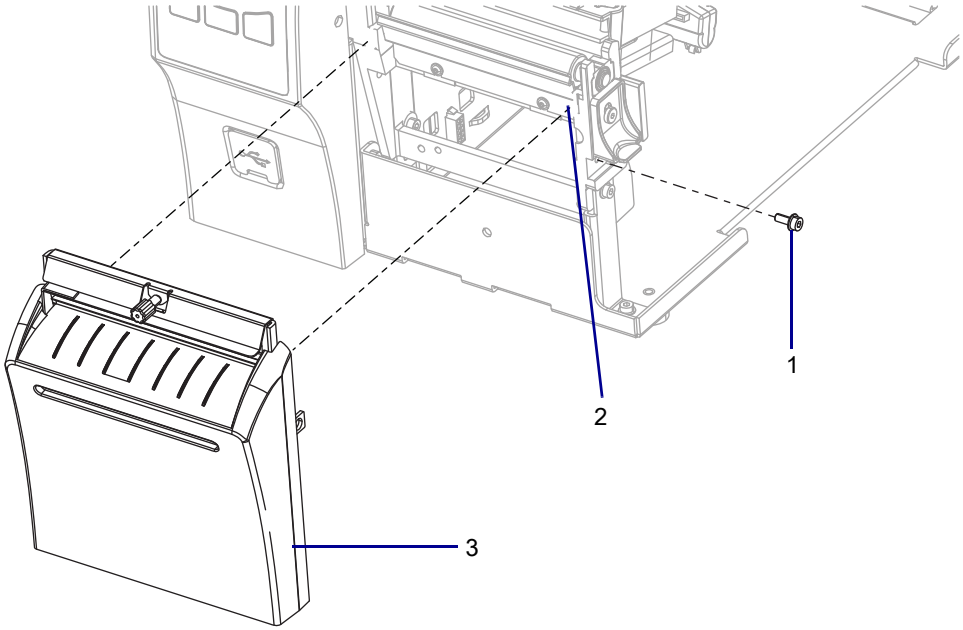
Figure 267 Disconnect the Cutter Assembly



1	10-pin option connector
2	Cable tie
3	Cutter cable

2. See Figure 268. Remove the cutter mounting screw.

Figure 268 Remove the Cutter Assembly



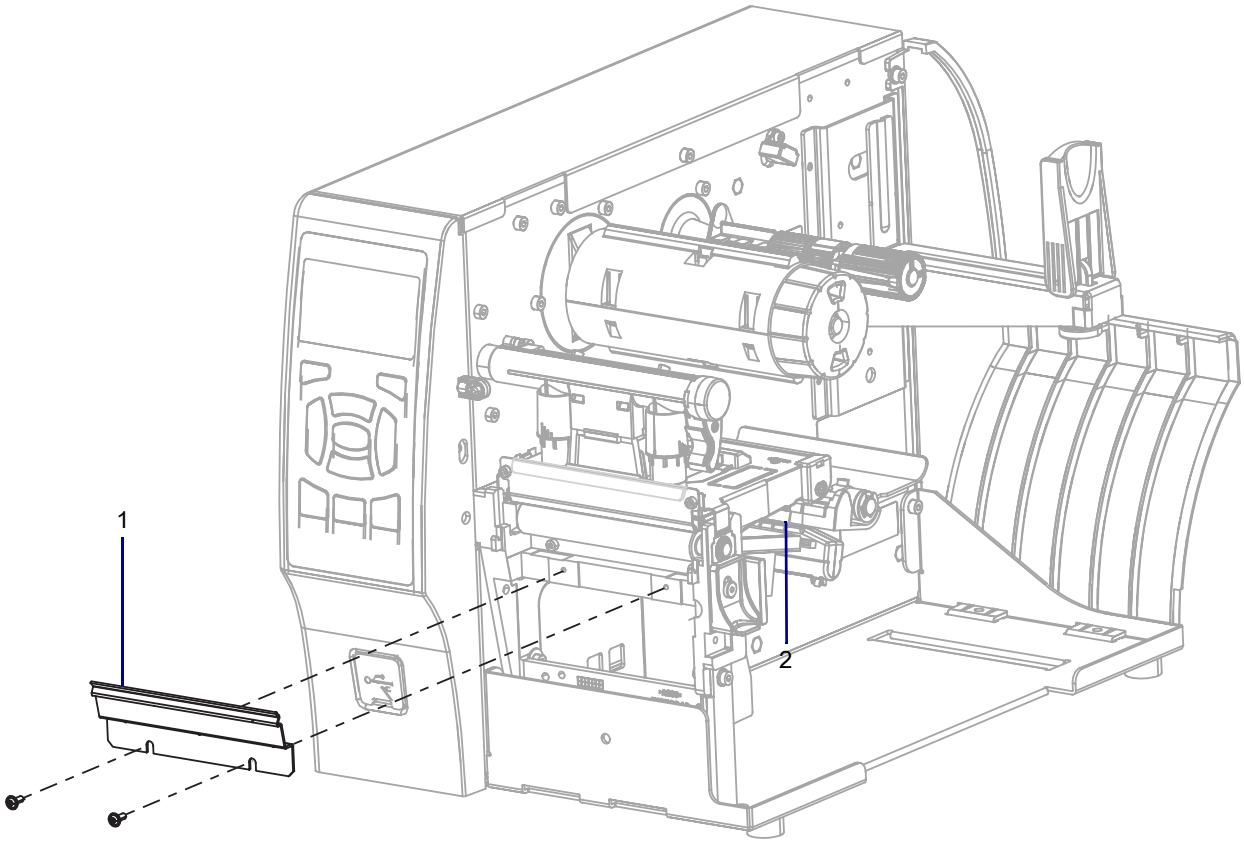
1	Mounting screw
2	Platen housing hooks (2)
3	Cutter assembly

3. Lift up and slide the cutter assembly to the left, and then remove the assembly from the platen assembly hooks.

Remove the Tear Bar

1. See Figure 269. Loosen the two tear bar mounting screws.

Figure 269 Locate and Remove the Tear Bar (ZT410 Printer Shown)



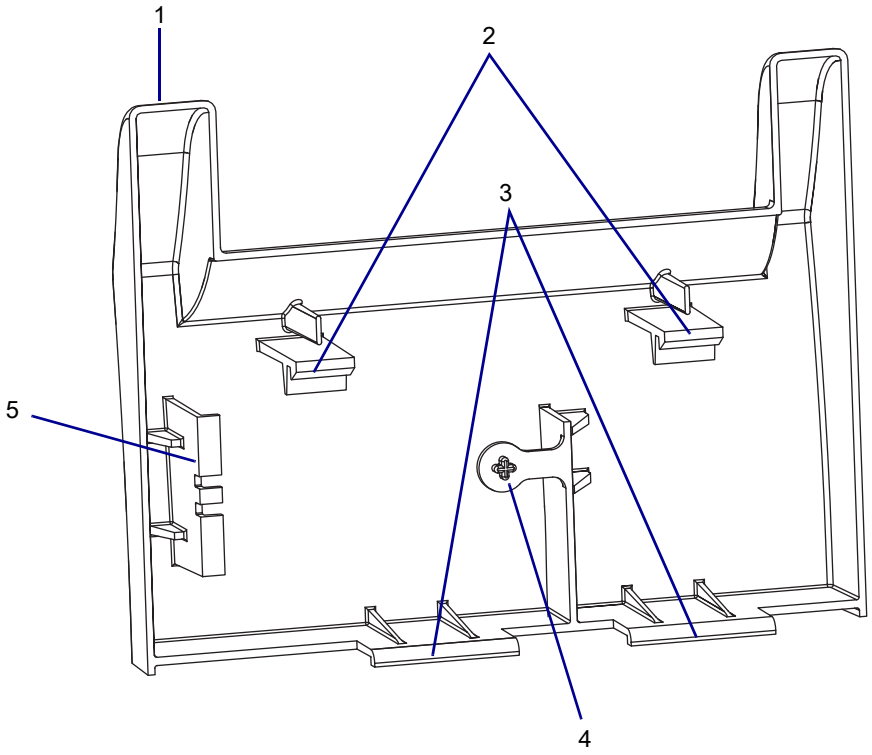
1	Tear bar
2	Mounting screws (2)

2. Lift up and remove the tear bar.

Install the New Peel Front Panel

1. Figure 270 identifies the parts of the peel lower front panel.

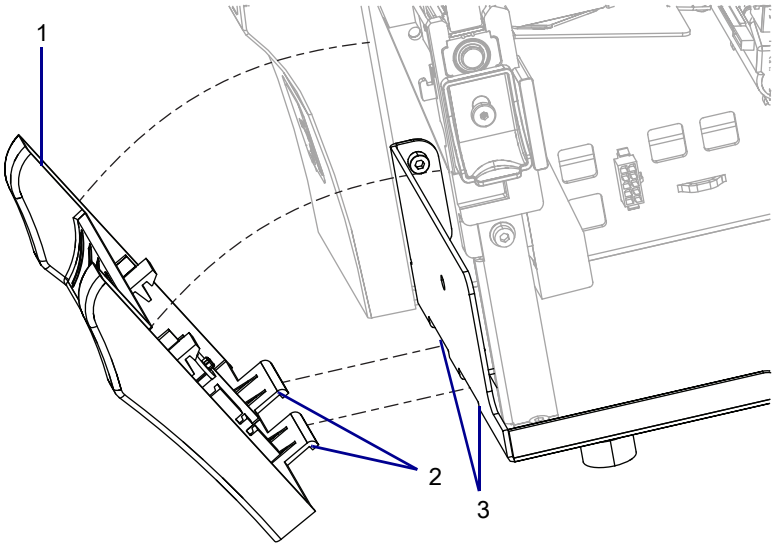
Figure 270 Peel Lower Front Panel Identification



1	Lower front panel
2	Lower front panel top tabs
3	Lower front panel lower tabs
4	Lower front panel detent
5	Lower front panel stop

2. See Figure 271. Slide the lower front panel lower tabs into the printer base mounting slots.

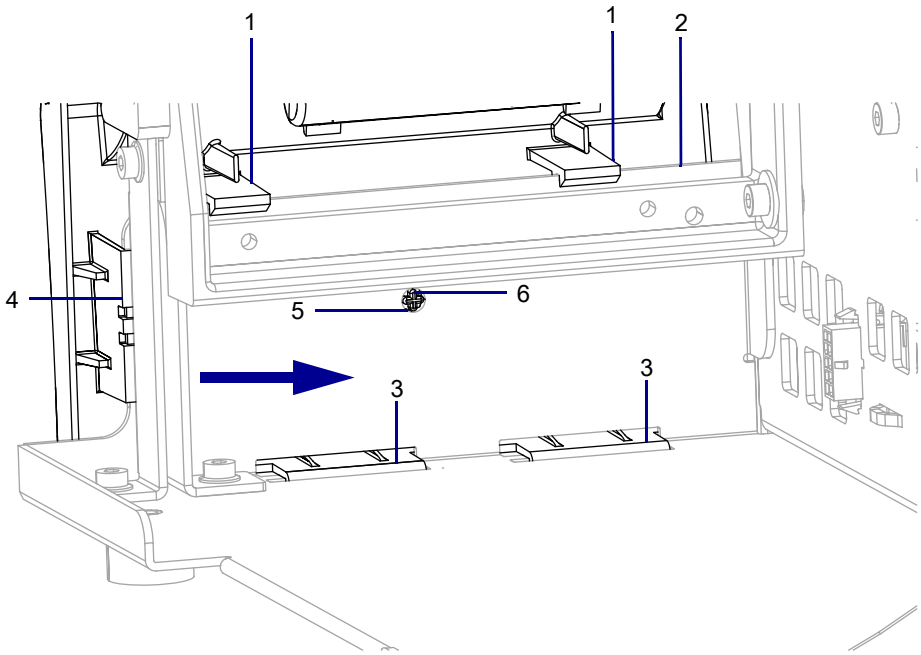
Figure 271 Install the Lower Front Panel Tabs



1	Peel lower front panel
2	Peel lower front panel lower tabs (2)
3	Printer base mounting slots (2)

3. See Figure 272. Lift the lower front panel toward the printer so that the tabs are seated in the slots. The top tabs will snap onto the printer base.

Figure 272 Install the Peel Lower Front Panel (rear view)



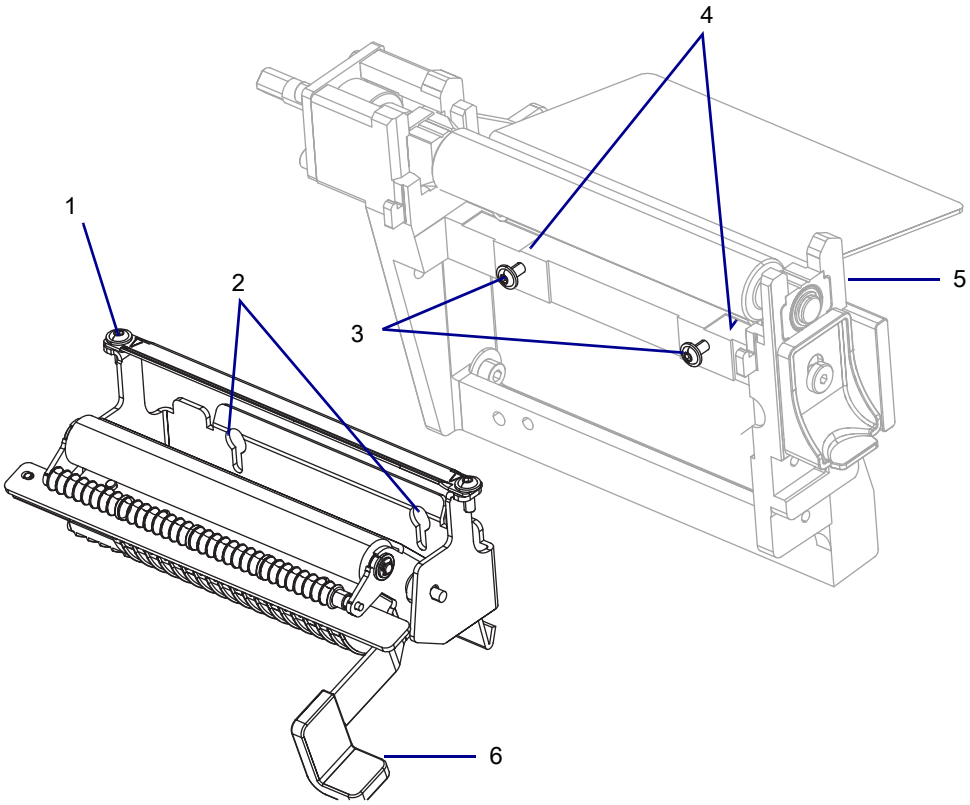
1	Lower front trim panel top tabs (2)
2	Printer base
3	Trim panel tabs (2)
4	Trim panel stop
5	Trim panel detent hole
6	Trim panel detent

4. Slide the lower front panel toward the printer until it stops and the detent snaps into the detent hole.
5. Go to Install the New Peel Assembly on page 348

Install the New Peel Assembly

1. See Figure 273. Install the two mounting screws from the kit, using the metric hex key supplied, into the tear bar mounting screw holes. Tighten them to within 1/4 in. of the platen housing.

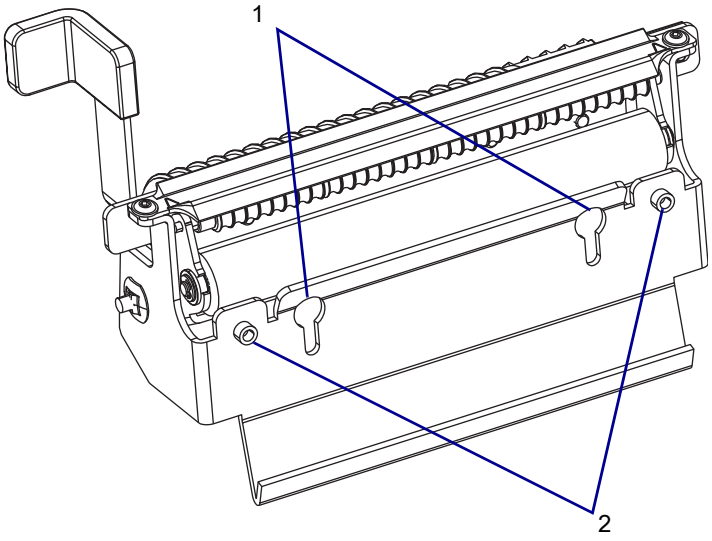
Figure 273 Install Peel Assembly



1	Peel assembly
2	Mounting slots (2)
3	Mounting screws (2)
4	Horizontal surface of platen housing
5	Platen housing
6	Peel lever

2. See Figure 274. Notice the pems and the mounting slots.

Figure 274 Rear View of Peel Assembly



1	Mounting slots (2)
2	Pems (2)

3. See Figure 273 on page 348. Install the peel assembly with the pems to the rear and the opening in the mounting slot to the top.
   a. Insert the mounting slot opening over the two screws and lift up on the assembly.
   b. Now push the assembly back against the vertical surface of the platen housing, and then down, so that the pems are resting on the horizontal surface of the platen housing.
4. Maintain a slight pressure downward on the peel assembly, to keep the pems on the horizontal surface, and tighten the mounting screws.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Peel Option/Maintenance Kit with Take Sensor

Installation Instructions

This kit includes the parts and documentation necessary to install the Peel Option/Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before performing this procedure.

Parts List

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

Figure 275 Kit Contents

Table 38 Parts List

✓	Item	Description	Qty
	Ref	Peel Option Kit	
	1	Hexalobular Pan Washer Screws, M3 × 8	2
	2	Peel Assembly	1
	3	T10 Hexalobular Key	1
	4	Peel Lower Front Panel	1
	5	Take Label Sensor Cable	1
	6	Take Label Sensor	1
	7	Hexalobular Pan Washer Screws, M3 × 6	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Key Set
- Metric Hexalobular Screwdriver Set
- Antistatic Wrist Strap and Mat
- Metric Nut Driver Set

Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

1. **CAUTION:** Turn off (O) the printer and disconnect it from the power source before performing the following procedure.Disconnect the AC power cord and all data cables.
2. Open the media door, remove the media and ribbon.
3. See Figure 276. Remove the screw securing the electronics cover.

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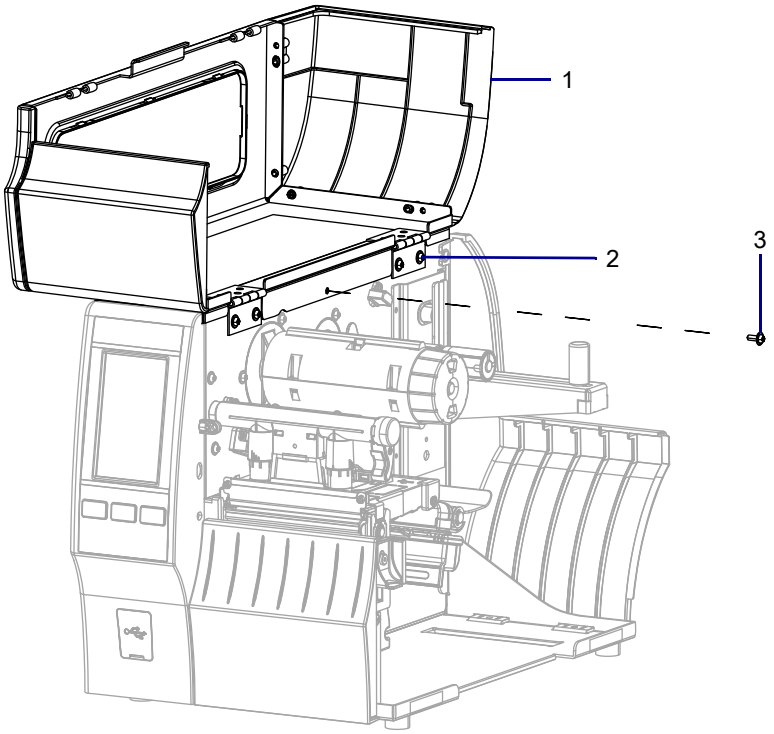
Figure 276 Locate the Electronics Cover Mounting Screw

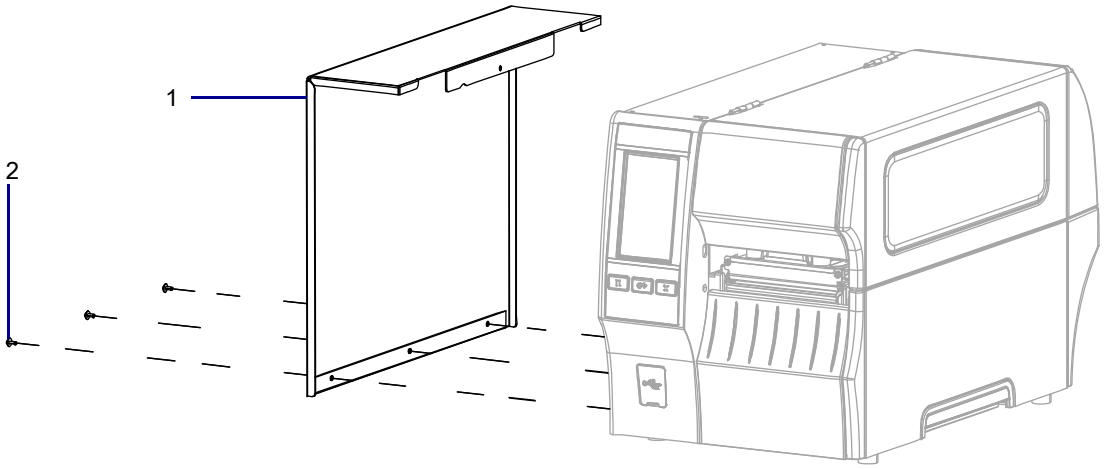


1	Media door
2	Electronics cover
3	Mounting screw

Figure 277 Close the media door.

4. See Figure 278. Remove the three mounting screws securing the electronics cover to the printer.

Figure 278 Remove the Electronics Cover Mounting Screws



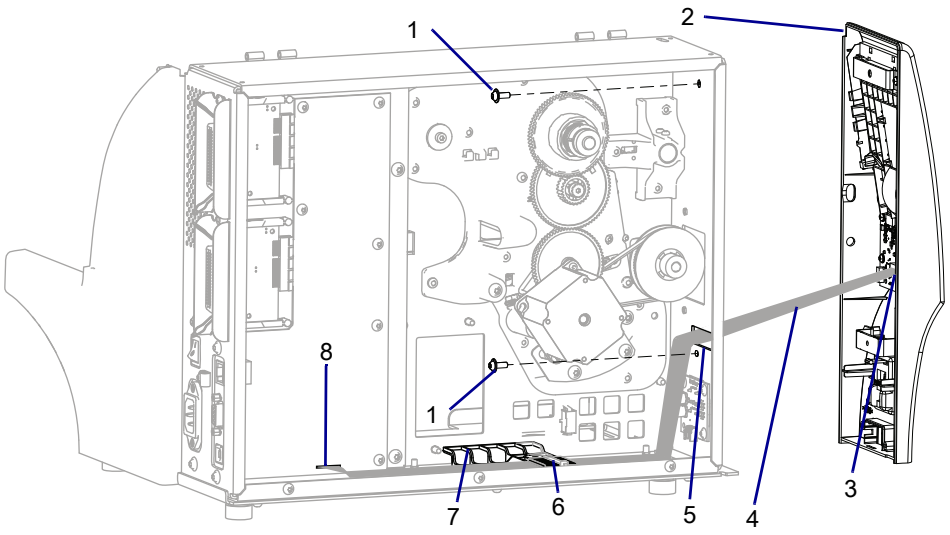
1	Electronics cover
2	Mounting screws (3)

5. Remove the electronics cover by lifting up on the electronics cover.

Remove the Control Panel

1. See Figure 279. Disconnect the control panel cable from J9 on the main logic board.

Figure 279 Remove the Control Panel



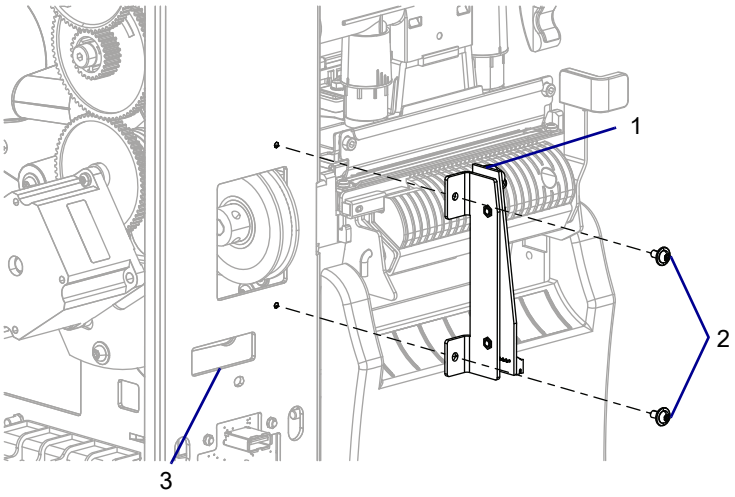
1	Control panel mounting screws (2)
2	Control panel
3	J2 on control panel PCB
4	Control panel cable
5	Main frame pass-through opening
6	Cable tie
7	Cable clamp
8	Plug J9 on MLB

2. Cut the cable tie securing the loose cables and ferrite to the cable clamp.
3. Remove the loose cables and ferrite from the cable clamp on the base of the printer.
4. Remove the two control panel mounting screws.
5. Disconnect the take label sensor from J2 on the control panel PCB.
6. Slide the control panel out of the printer while guiding the cables through the main frame pass-through opening.

Remove Take Label Sensor

1. See Figure 280. Remove the two mounting screws holding the take label sensor.

Figure 280 Remove the Take Label Sensor



1	Take label sensor
2	Take label sensor mounting screws (2)
3	Main frame pass-through opening

2. Guide the take label sensor cable through the main frame pass-through opening and remove the take label sensor.

Install New Take Label Sensor

1. See Figure 280. Align the take label sensor with the mounting openings in the main frame of the printer.
2. Install the screws to secure the take label sensor.
3. Guide the take label sensor cable through the pass-through opening and connect the cable to J2 on the control panel PCB.

Prepare for Installation

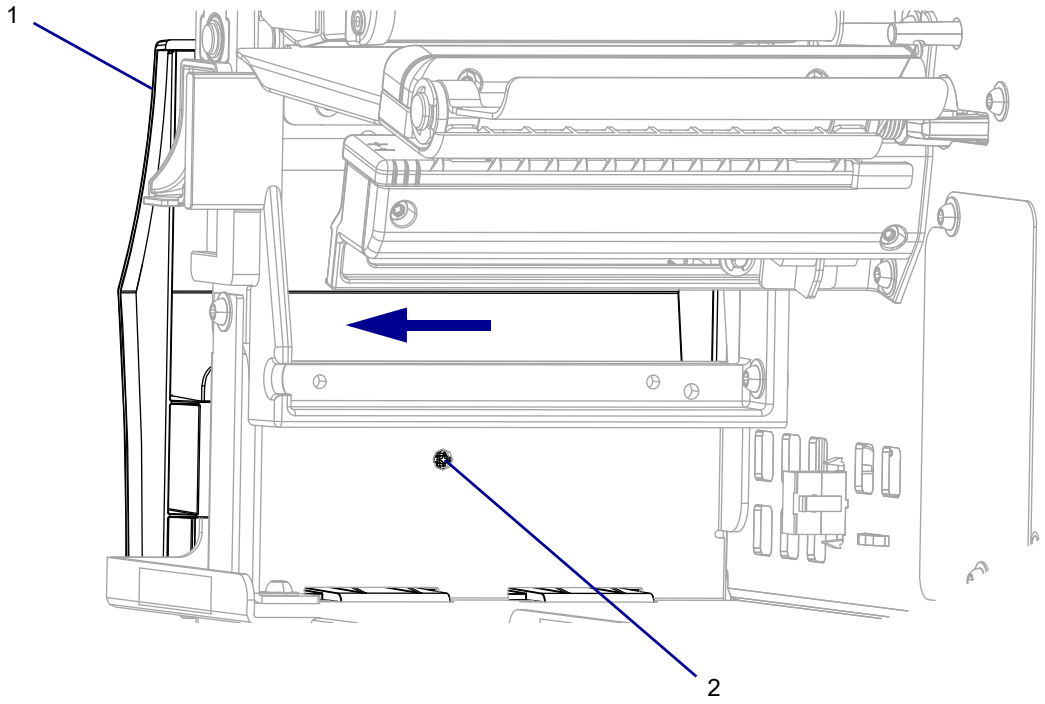
Which printer option do you have?

If you have a…	Then…
No options	Go to Remove the Lower Front Panel on page 355.
Peel option	Go to Remove the Old Peel Assembly on page 358.
Cutter option	Go to Remove the Cutter Assembly on page 359.

Remove the Lower Front Panel

1. See Figure 281. Remove the lower front panel by pressing in on the detent, and then sliding the cover to the left as far as possible.

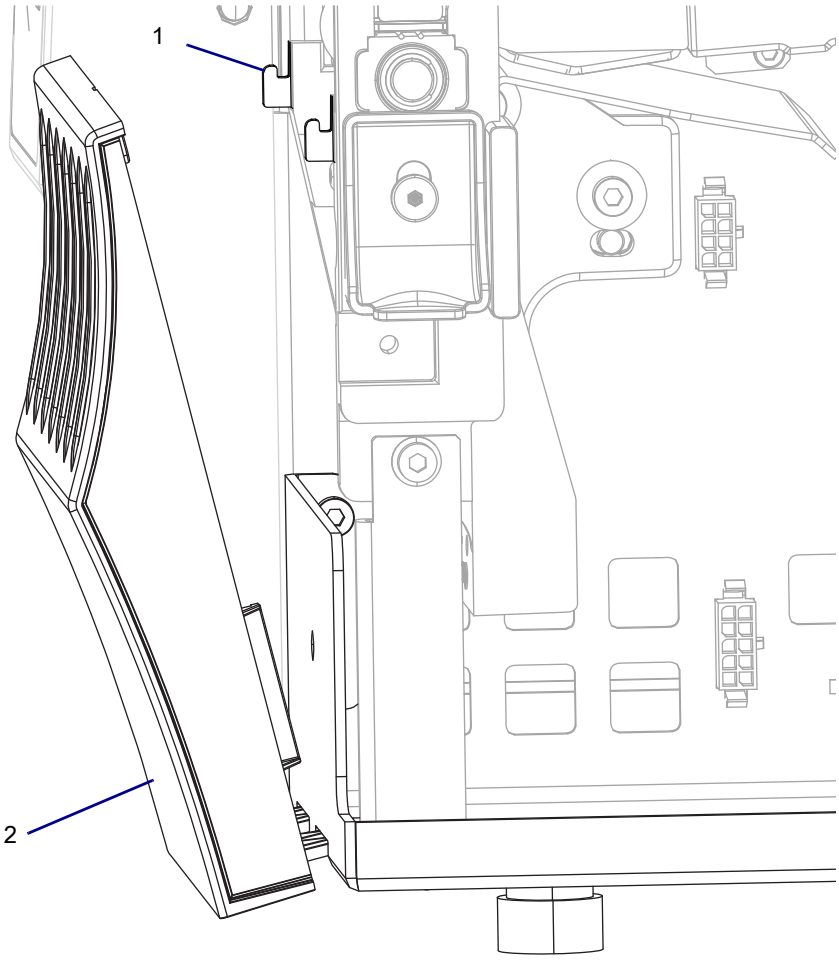
Figure 281 Release the Lower Front Panel



1	Lower front panel
2	Detent

2. See Figure 282. Tip the top of the lower front panel off the hooks and away from the printer.

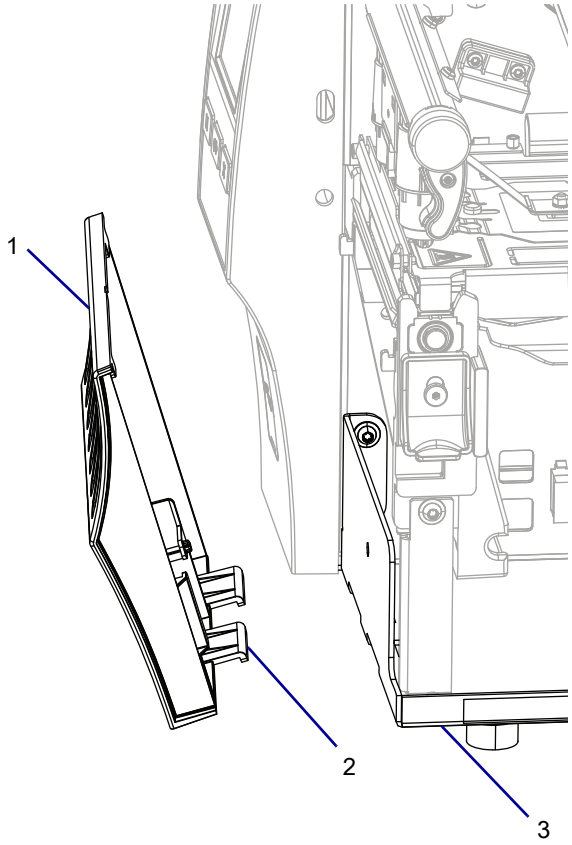
Figure 282 Hook Locations



1	Platen housing hooks (2)
2	Lower front panel

3. See Figure 283. Slide the lower front panel tabs out of the printer base.

Figure 283 Remove the Peel Lower Front Panel Tabs



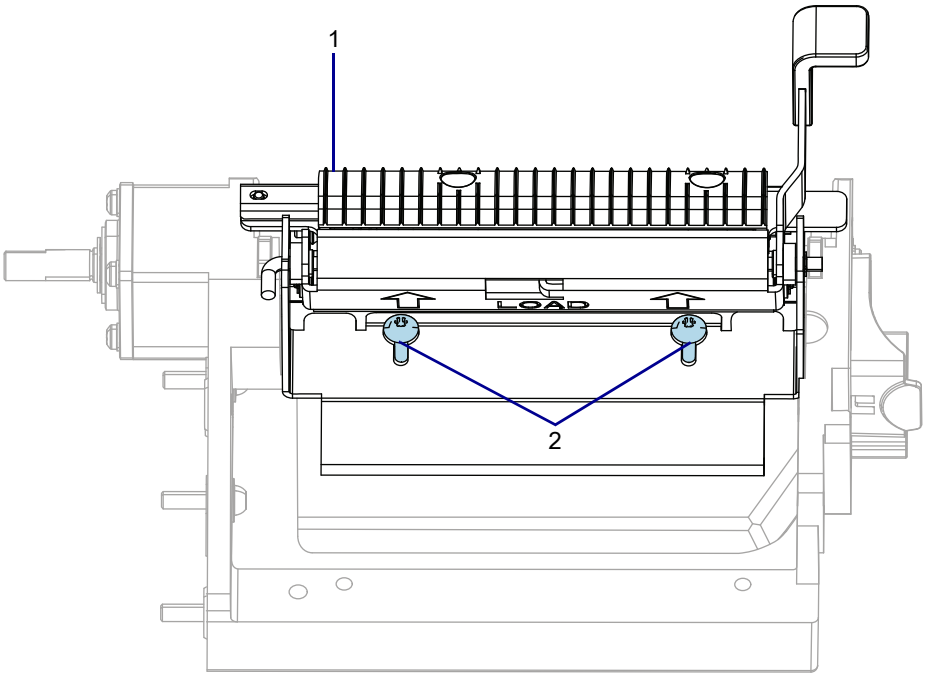
1	Peel lower front panel (Tear front panel)
2	Peel lower front panel tabs
3	Printer base

4. Go to Remove the Tear Bar on page 361.

Remove the Old Peel Assembly

1. See Figure 284. Loosen the two mounting screws.

Figure 284 Remove Old Peel Assembly



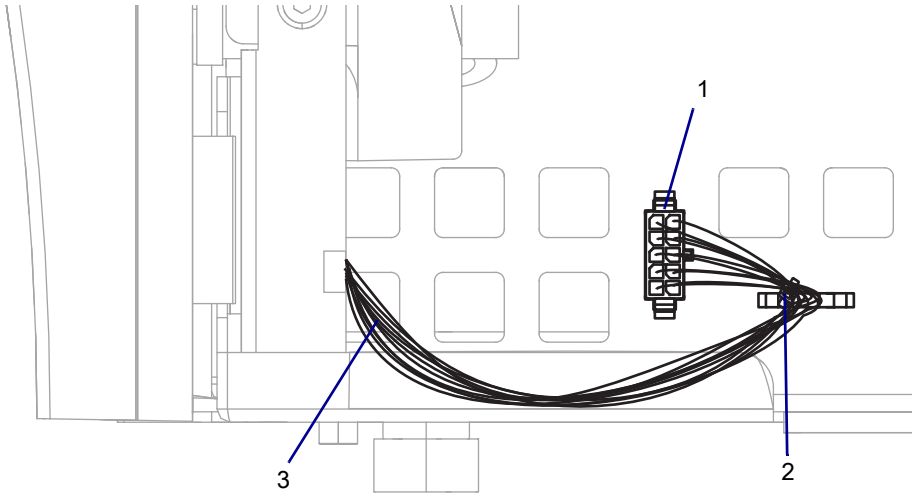
1	Peel Assembly
2	Mounting screw (2)

2. Allow the peel assembly to drop down and pull forward to remove it.
3. Go to Install the New Peel Assembly on page 365.

Remove the Cutter Assembly

1. See Figure 285. Disconnect the cutter cable from the 10-pin option connector on the main frame.

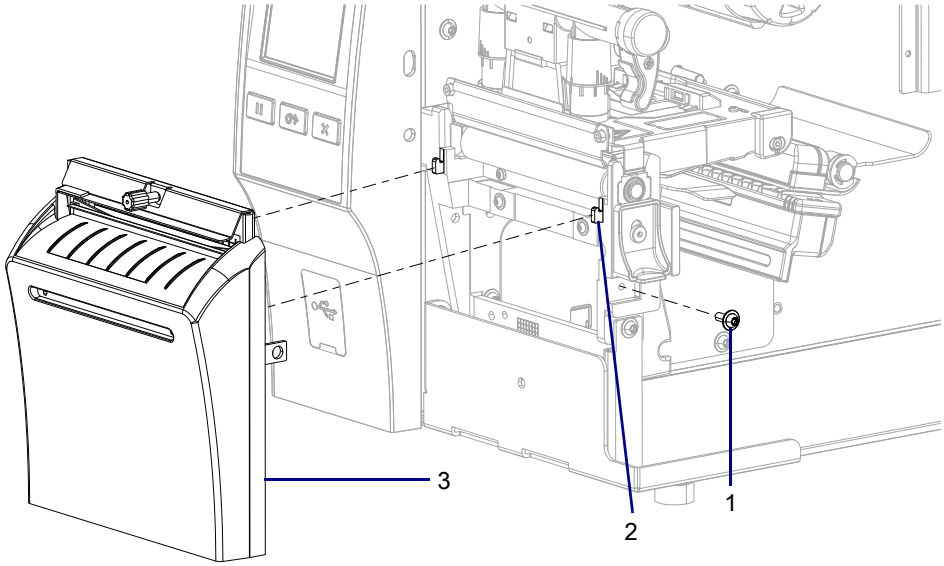
Figure 285 Disconnect the Cutter Assembly



1	10-pin option connector
2	Cable tie
3	Cutter cable

2. See Figure 286. Remove the cutter mounting screw.

Figure 286 Remove the Cutter Assembly



1	Mounting screw
2	Platen housing hooks (2)
3	Cutter assembly

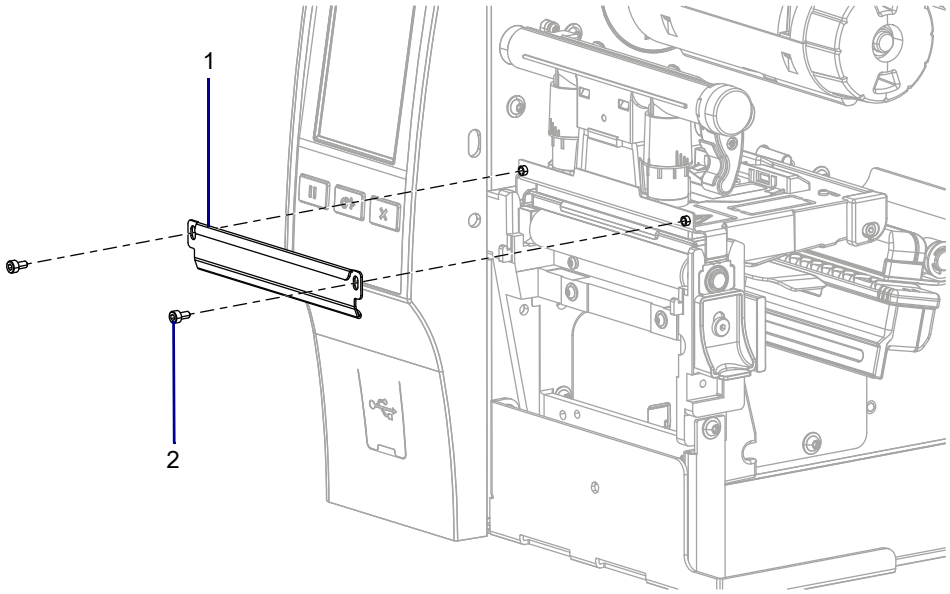
3. Lift up and slide the cutter assembly to the left, and then remove the assembly from the platen assembly hooks.

4. Go to Remove the Tear Bar on page 361.

Remove the Tear Bar

1. See Figure 287. Loosen the two tear bar mounting screws.

Figure 287 Locate and Remove the Tear Bar



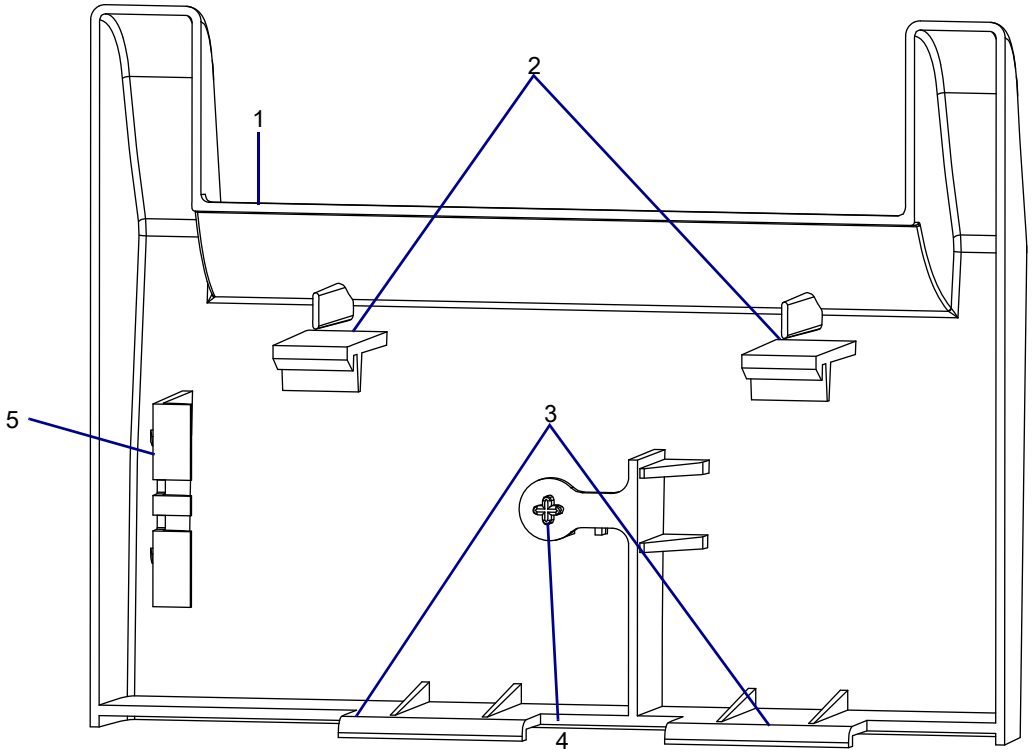
1	Tear bar
2	Mounting screws (2)

2. Lift up and remove the tear bar.

Install the New Peel Front Panel

1. Figure 288 identifies the parts of the peel lower front panel.

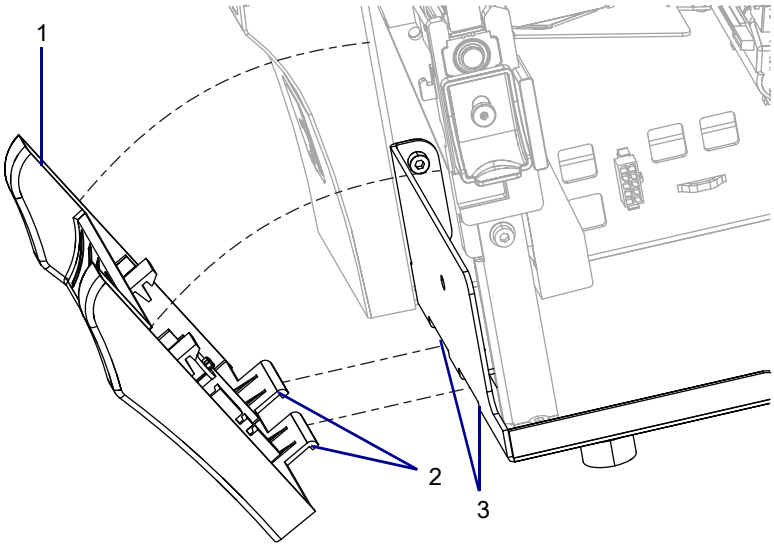
Figure 288 Peel Lower Front Panel Identification



1	Lower front panel
2	Lower front panel top tabs
3	Lower front panel lower tabs
4	Lower front panel detent
5	Lower front panel stop

2. See Figure 289. Slide the lower front panel lower tabs into the printer base mounting slots.

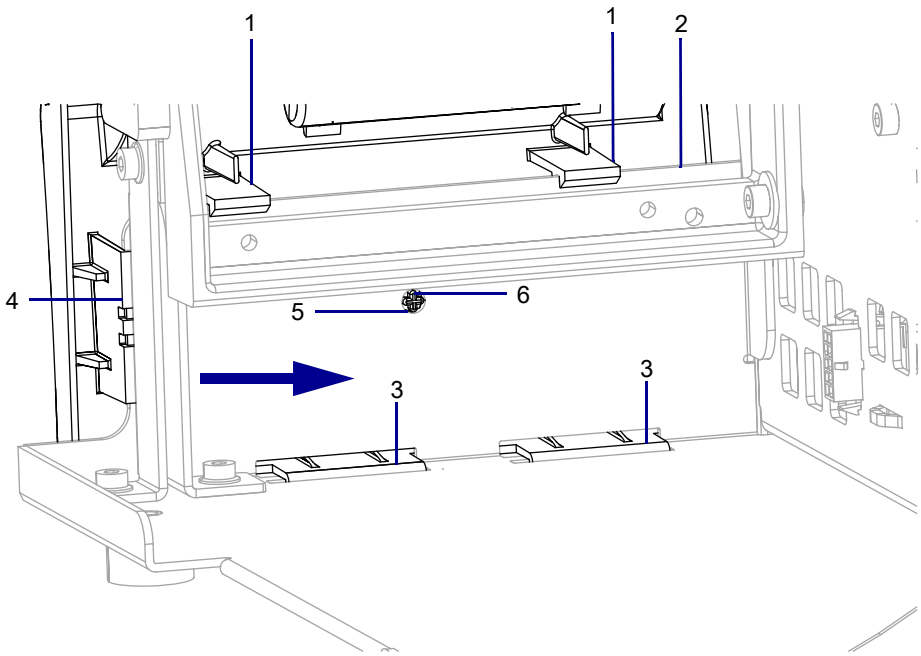
Figure 289 Install the Lower Front Panel Tabs



1	Peel lower front panel
2	Peel lower front panel lower tabs (2)
3	Printer base mounting slots (2)

3. See Figure 290. Lift the lower front panel toward the printer so that the tabs are seated in the slots. The top tabs will snap onto the printer base.

Figure 290 Install the Peel Lower Front Panel (rear view)



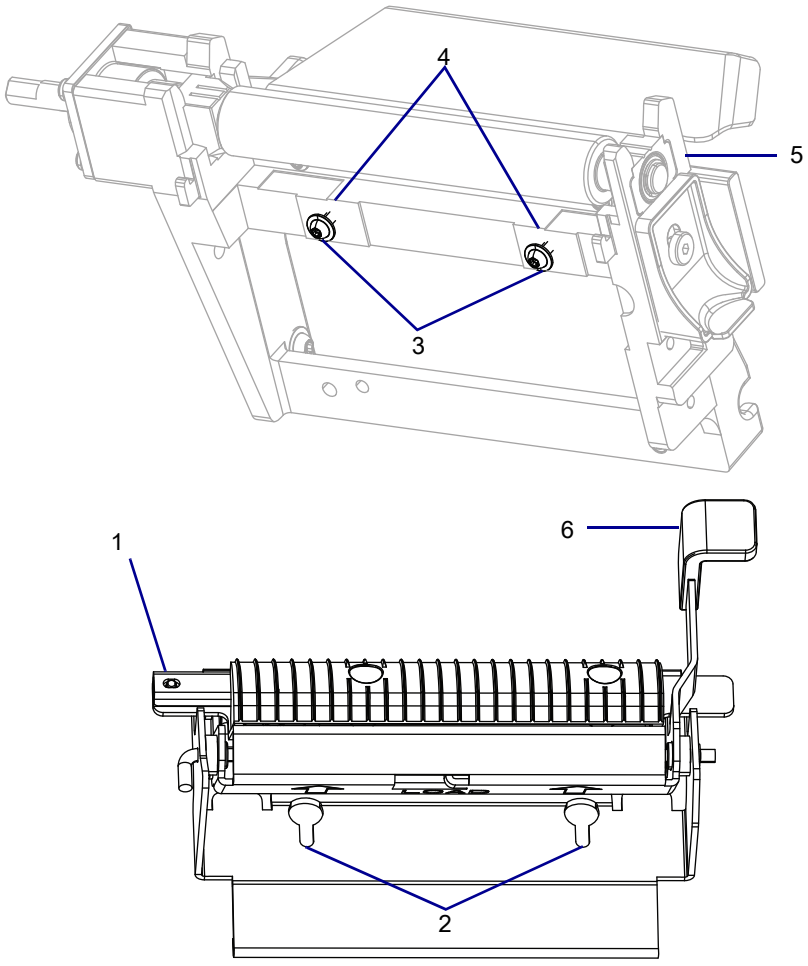
1	Lower front trim panel top tabs (2)
2	Printer base
3	Trim panel tabs (2)
4	Trim panel stop
5	Trim panel detent opening
6	Trim panel detent

4. Slide the lower front panel toward the printer until it stops and the detent snaps into the detent opening.

Install the New Peel Assembly

1. See Figure 291. Using the metric hex key supplied in this kit, install the 2 mounting screws in the peel assembly. Tighten them to within 1/4 in. of the platen housing.

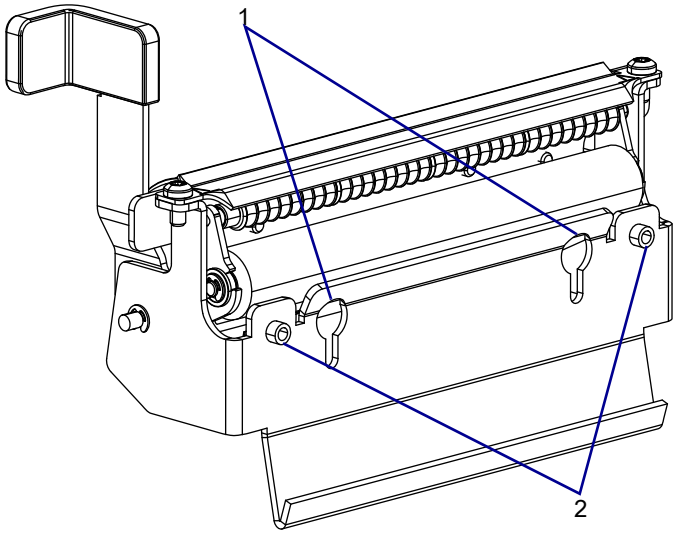
Figure 291 Install Peel Assembly



1	Peel assembly
2	Mounting slots (2)
3	Mounting screws (2)
4	Horizontal surface of platen housing
5	Platen housing
6	Peel lever

2. See Figure 292. Notice the pems and the mounting slots.

Figure 292 Rear View of Peel Assembly



1	Mounting slots (2)
2	Pems (2)

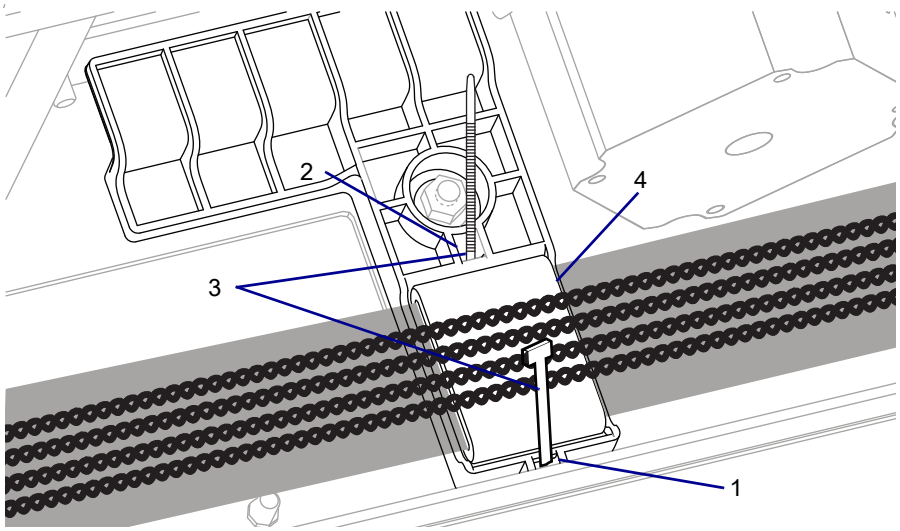
3. See Figure 291 on page 365. Install the peel assembly with the pems to the rear and the large end of the mounting slot to the top.
    i. Insert the mounting slot over the two screws and lift up on the assembly.
    ii. Now push the assembly back against the vertical surface of the platen housing, and then down, so that the pems are resting on the horizontal surface of the platen housing.
4. Maintain downward pressure on the peel assembly, to keep the pems on the horizontal surface, and tighten the mounting screws.

Install the Control Panel

1. See Figure 279 on page 353. Guide the cables through the pass-through opening in the main frame.
2. If you are using a peel option reconnect the take label sensor to J2 on the control panel PCB.
3. Align the two control panel mounting openings.
4. Install the two mounting screws.
5. Connect the cable to J9 on the main logic board.
6. Secure the ferrite cable in the cable clamp on the base of the printer and lay any loose wires on top of the ferrite.

7. See Figure 293. Insert the cable tie through the front opening of the cable clamp and push the cable tie in until it comes through the rear opening in the cable clamp.
8. Secure the cable tie.

Figure 293 Install Cable Tie

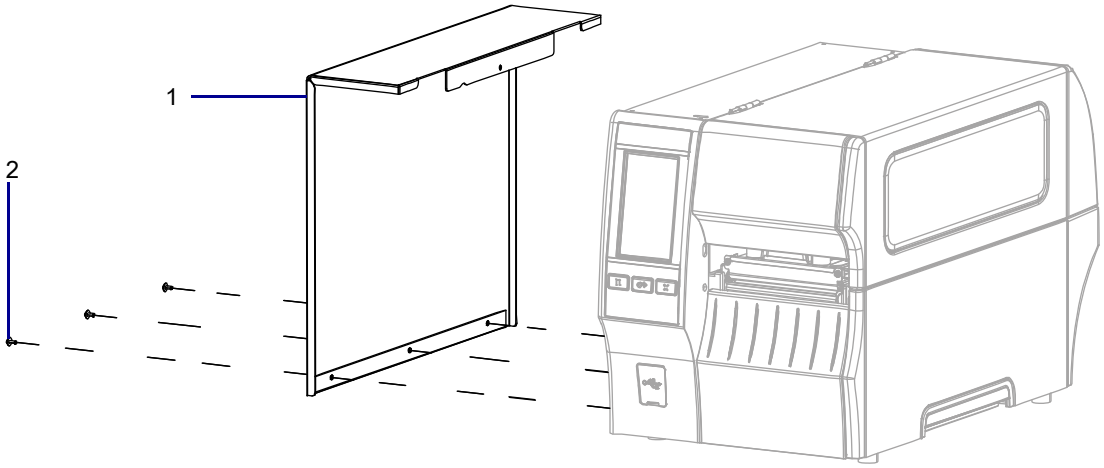


1	Front opening
2	Back opening
3	Cable tie
4	Ferrite

Reinstall the Electronics Cover

1. See Figure 294. Slide the electronics cover onto the printer.

Figure 294 Reinstall the Electronics Cover Mounting Screws

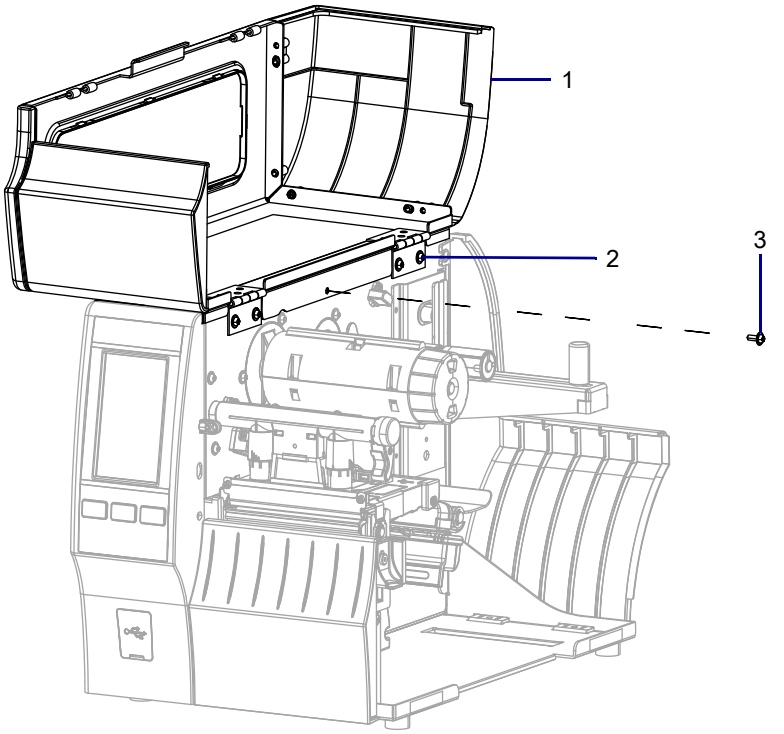


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 295. Open the media door and install the mounting screw.

Figure 295 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Rewind Media Guard Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Rewind Media Guard Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 296 Kit Contents

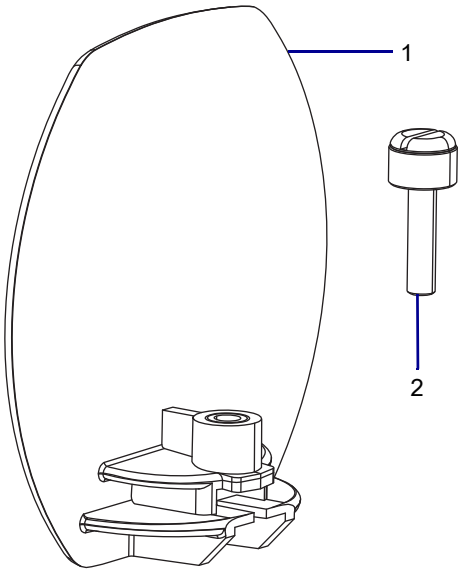


Table 39 Parts List

Item	Description	Qty
Ref	Rewind Media Guard Maintenance Kit	
1	Guard	1
2	Thumb Screw, M4 × 0.7 × 16	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Flat-blade Screwdriver Set

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Remove the Old Media Guard

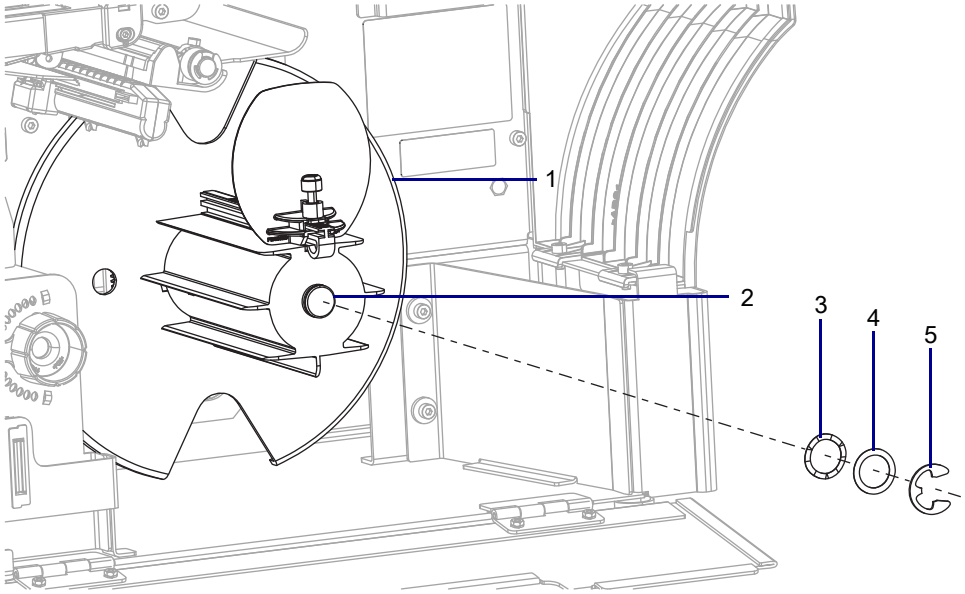
CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

3. Remove the E-ring securing the rewind spindle to the shaft.

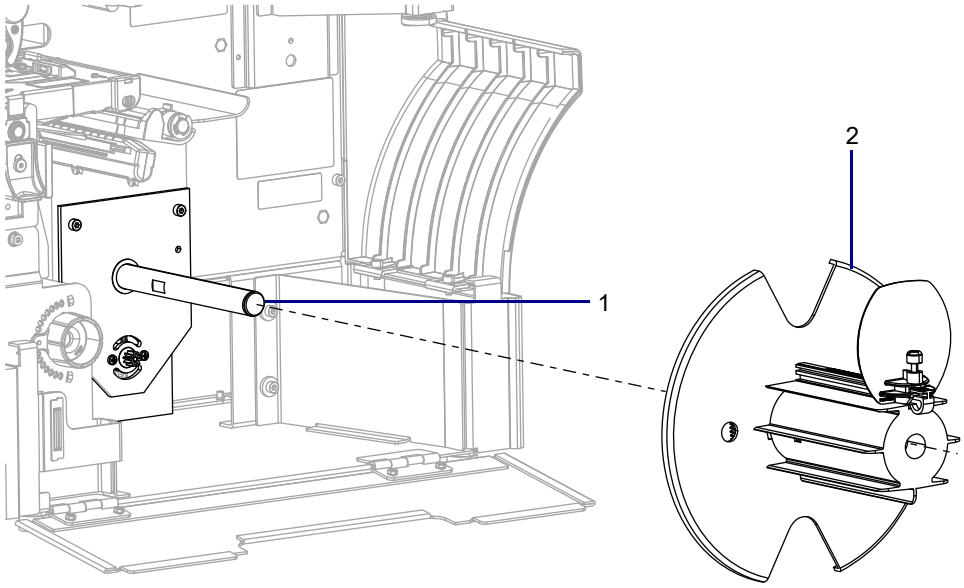
Figure 297 Remove the E-Ring



1	Rewind spindle
2	Rewind spindle shaft
3	Wave washer
4	Flat washer
5	E-ring

4. See Figure 298. Slide the rewind spindle off the rewind spindle shaft.

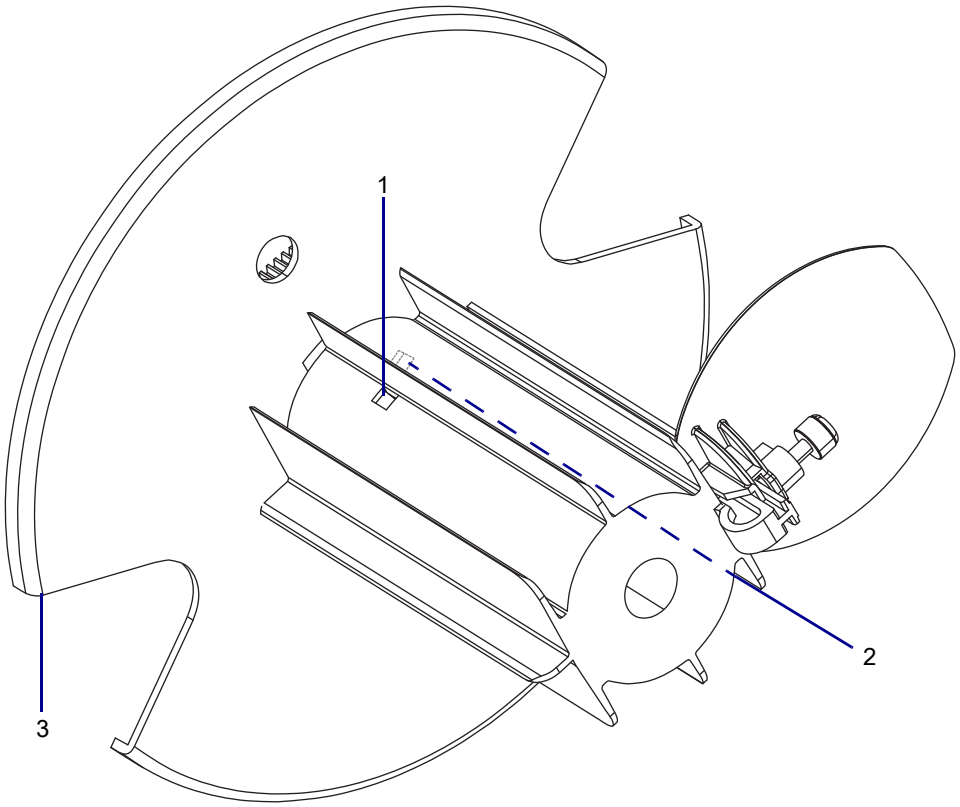
Figure 298 Remove the Rewind Spindle



1	Rewind spindle shaft
2	Rewind spindle

5. See Figure 299. Press in on the two locking tabs securing the rewind spindle back plate to the spindle.

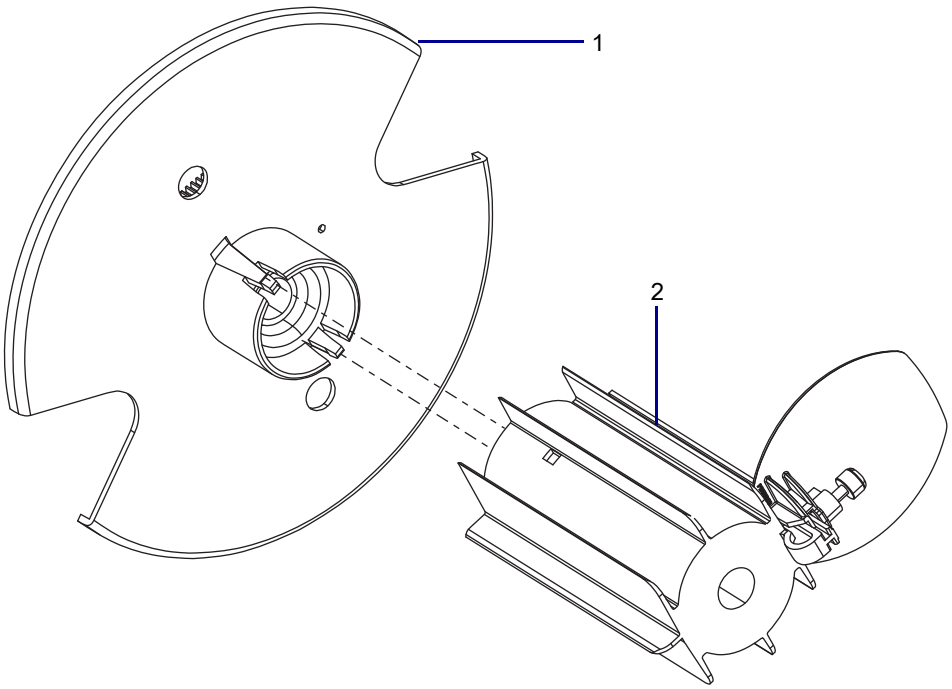
Figure 299 Press in on Locking Tabs



1	Locking tab
2	Locking tab (opposite number 1)
3	Back plate

6. See Figure 300. Slide the back plate off the spindle.

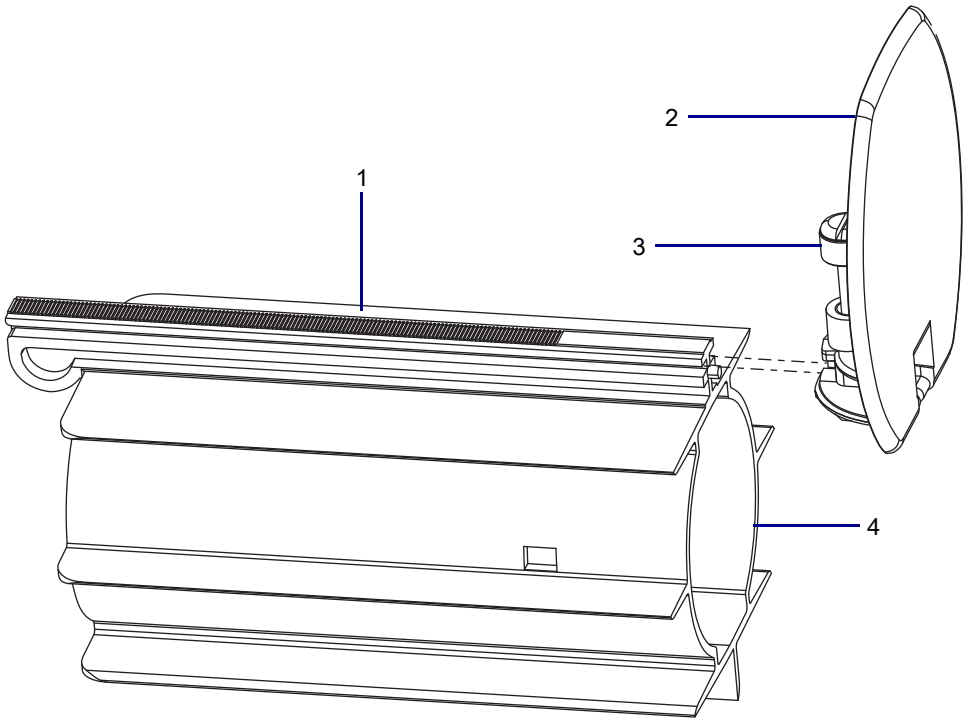
Figure 300 Remove the Back Plate



1	Back plate
2	Spindle

7. See Figure 301. Remove the rewind media guard by loosening the thumb screw, and then sliding it off the rear of the spindle.

Figure 301 Remove the Rewind Media Guard

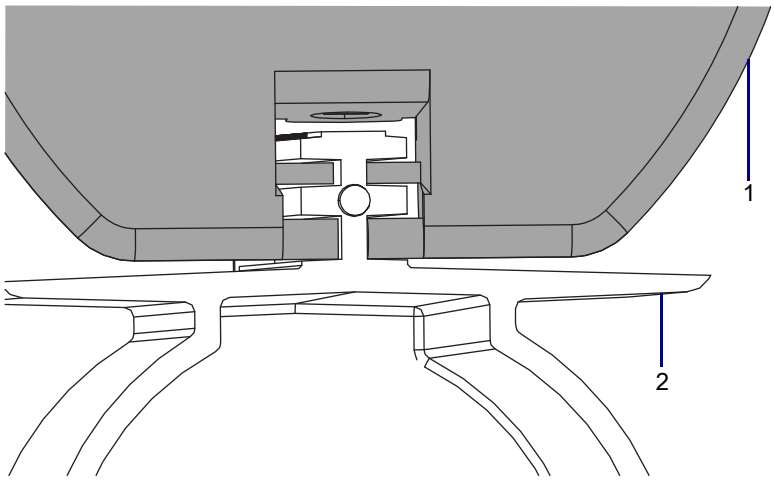


1	Rewind spindle
2	Rewind media guard
3	Thumb screw
4	Rear of rewind spindle

Install the New Rewind Media Guard

1. See Figure 301 on page 375 and Figure 302. Slide the new rewind guard onto the rewind spindle as shown.

Figure 302 Install the New Rewind Spindle Media Guard



1	Rewind spindle media guard
2	Rear of rewind spindle

2. See Figure 300 on page 374. Snap the back plate onto the rewind spindle.
3. See Figure 298 on page 372. Slide the rewind spindle assembly onto the rewind spindle shaft.
4. See Figure 297 on page 371. Reinstall the wave washer, flat washer, and E-ring onto the rewind spindle shaft.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Liner Take-Up PCBA/Motor Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Liner Take-Up PCBA/Motor Maintenance Kit into the Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 303 Kit Contents

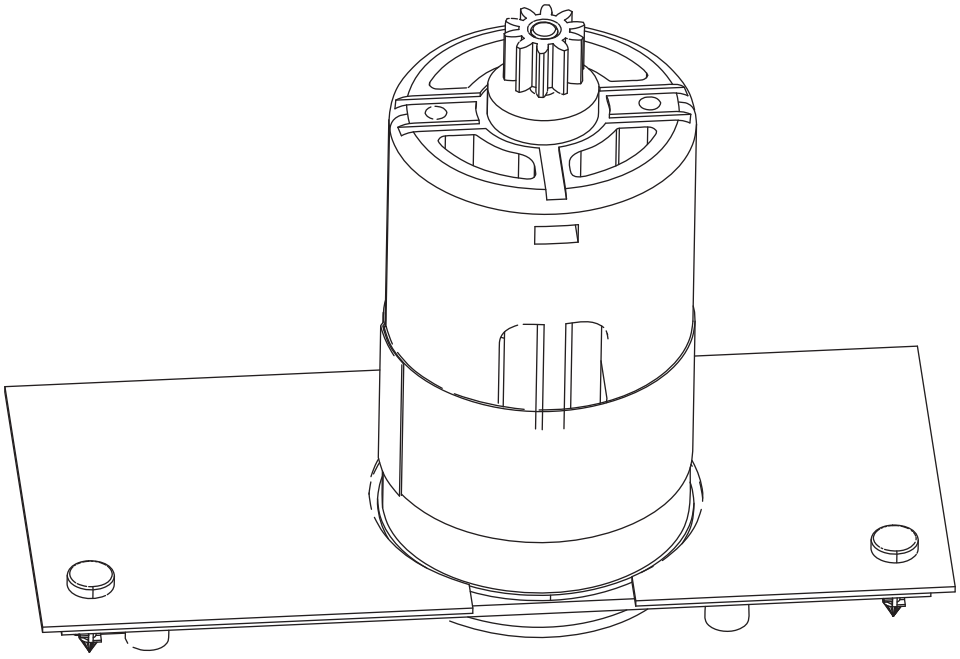


Table 40 Parts List

Item	Description	Qty
Ref	Liner Take-Up PCBA and Motor Assembly	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Required Tools

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Flat blade Screwdriver Set
- Safety Glasses
- Metric Hex Key Set
- Antistatic Wriststrap and Mat

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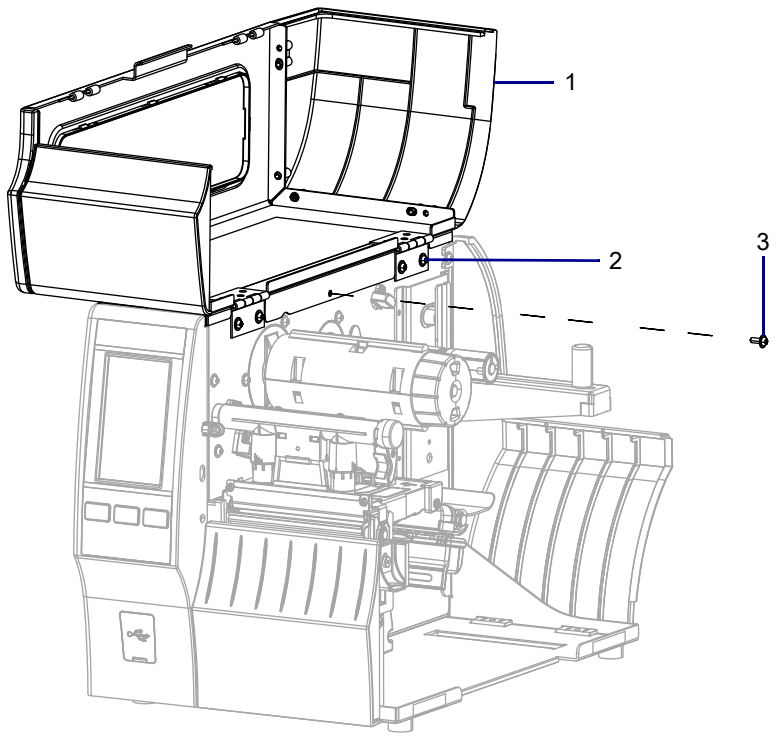
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 304. Remove the screw securing the electronics cover.

Figure 304 Locate the Electronics Cover Mounting Screw

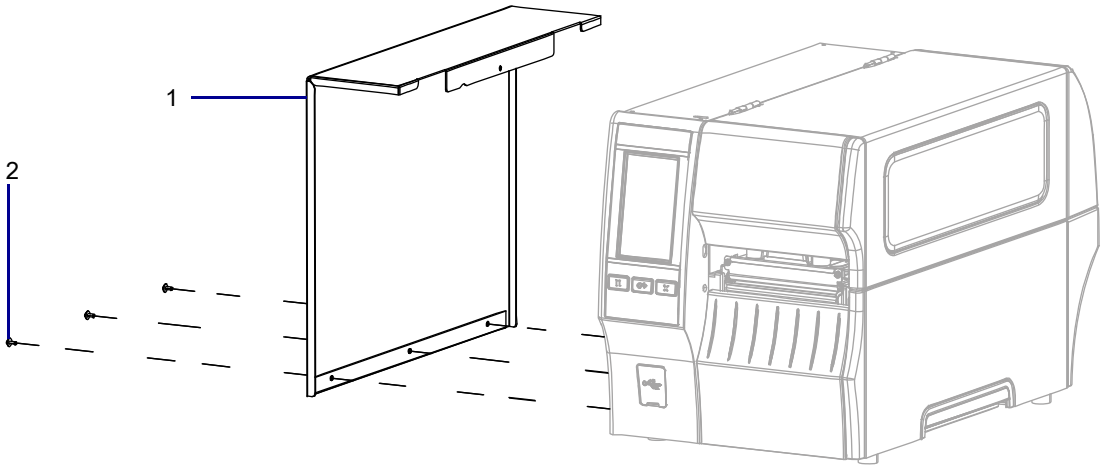


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 305. Remove the three mounting screws securing the electronics cover to the printer.

Figure 305 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

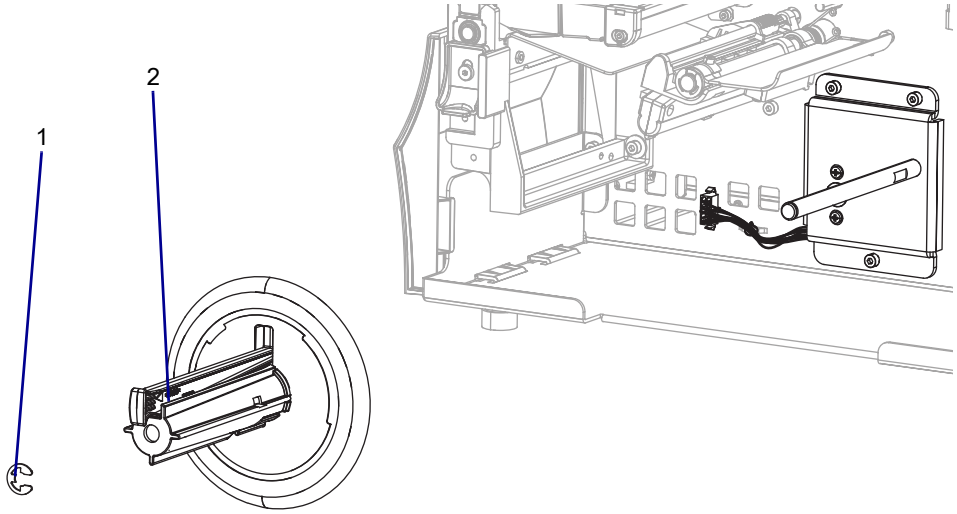
6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Liner Take-up Assembly

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

1. See Figure 306. Remove the E-ring securing the LTU spindle to the shaft.
2. Slide the spindle assembly off of the shaft and set it aside.

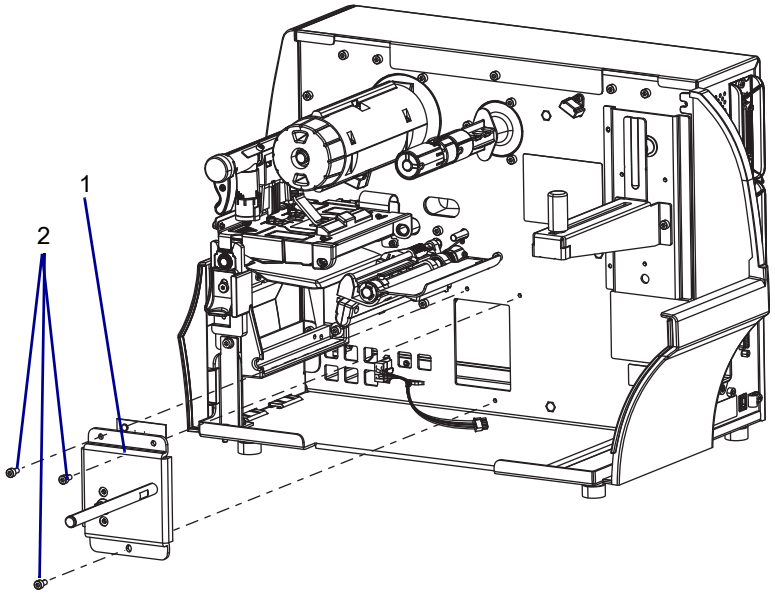
Figure 306 Remove the Spindle Assembly



1	E-ring
2	Spindle assembly

3. See Figure 307. Remove the three mounting screws securing the liner take-up motor assembly.

Figure 307 Remove the Liner Take-up Motor Assembly

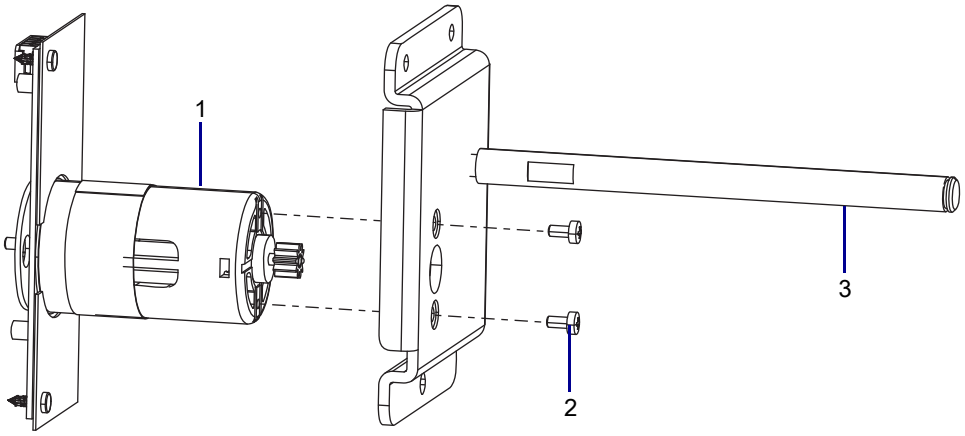


1	Liner take-up motor assembly
2	Mounting screws (3)

4. Slide the liner take-up motor assembly partially out of the printer, and then disconnect the liner take-up cable from the PCBA and Motor assembly.
5. Remove the liner take-up motor assembly from the printer and discard it.

6. See Figure 308. Remove the two PCBA and motor assembly mounting screws.

Figure 308 Remove the PCBA and Motor Assembly



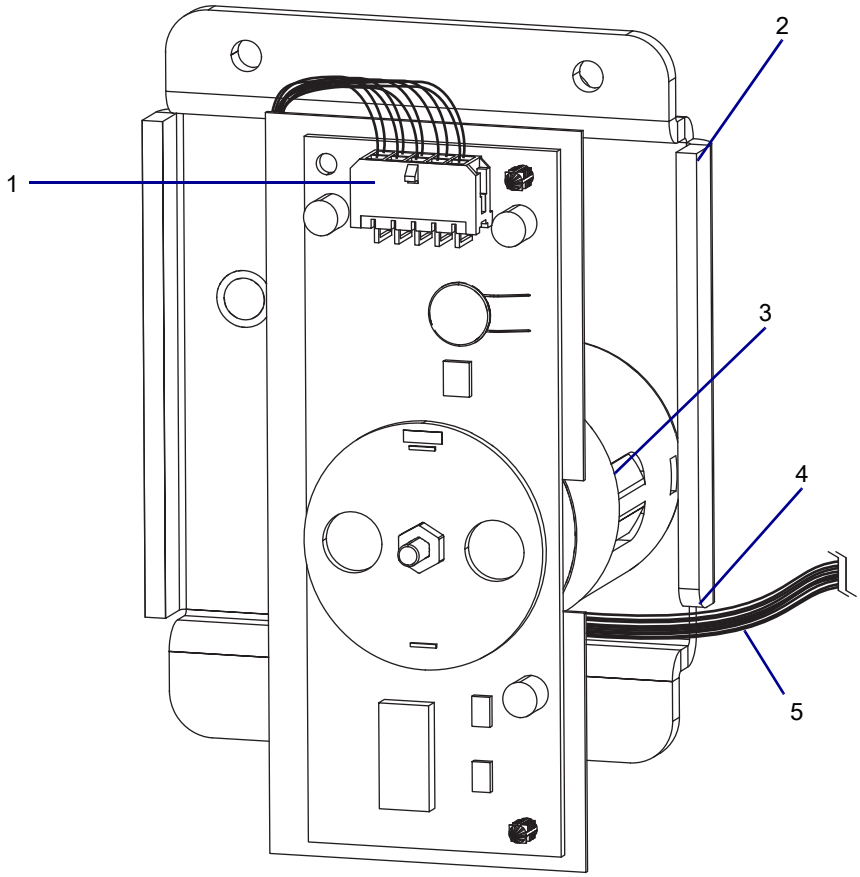
1	PCBA and motor assembly
2	Mounting screws (2)
3	Mounting bracket and shaft

7. Remove the PCBA and motor assembly.
8. See Figure 308. Align the PCBA mounting holes, connector facing up, with the mounting bracket and shaft.
9. Install the two mounting screws.

Install the New Liner Take-up Assembly

1. See Figure 309. Route the liner take-up cable as shown under the motor, and then to the connector.

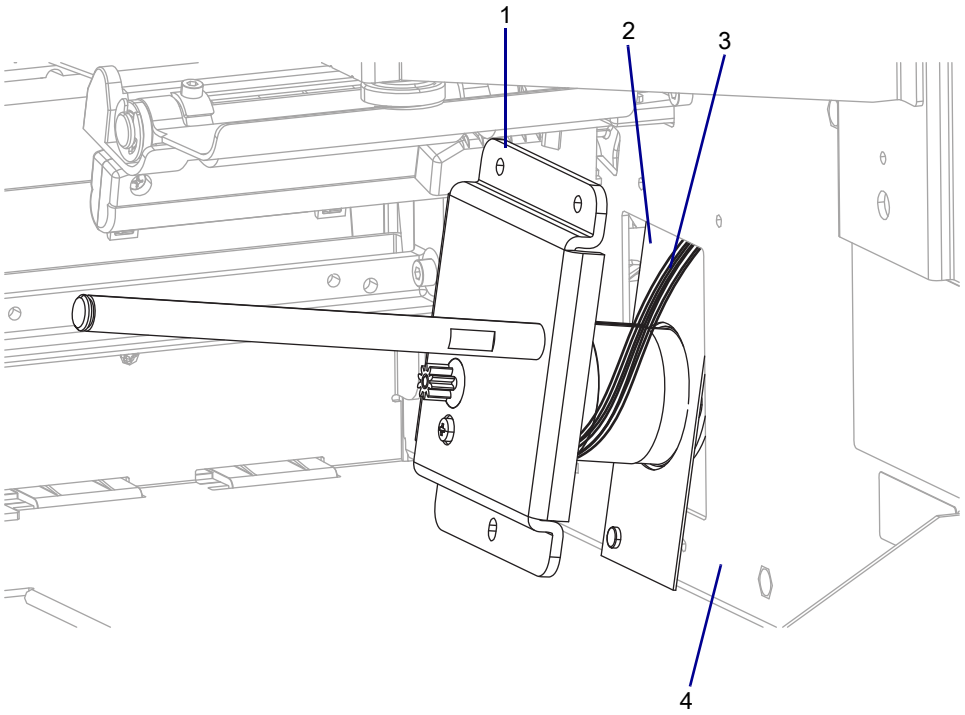
Figure 309 Cable Routing



1	Liner take-up cable connector
2	Liner take-up mounting bracket
3	Liner take-up motor
4	Notch in liner take-up mounting bracket
5	Liner take-up cable

2. See Figure 310. Tilt the motor slightly to insert the top of the liner take-up motor board into the mounting hole.

Figure 310 Insert the Liner Take-up Motor Board

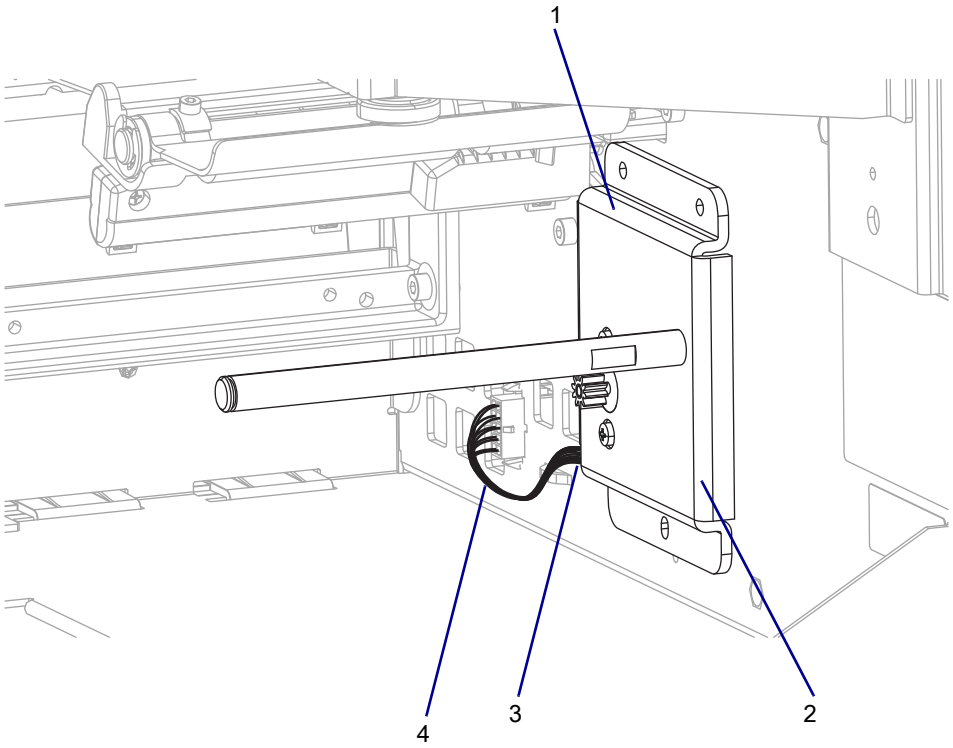


1	Liner take-up assembly
2	Liner take-up board
3	Liner take-up cable

3. Lift the liner take-up assembly until the bottom of the liner take-up board clears the main frame.

4. See Figure 311. Slide the liner take-up motor assembly into the main frame until the mounting bracket touches the main frame.

Figure 311 Liner Take-up Assembly Installation

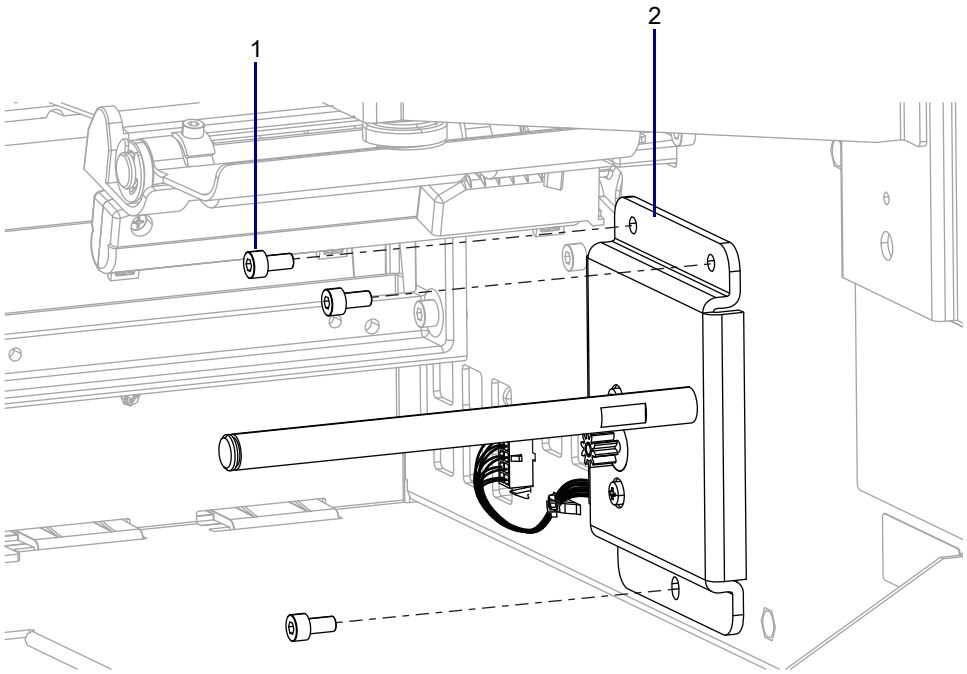


1	Liner take-up motor assembly
2	Liner take-up mounting bracket
3	Liner take-up bracket notch
4	Liner take-up cable

5. Ensure that the liner take-up cable is running through the notch in the lower left of the liner take-up mounting bracket.

6. See Figure 312. Slide the liner take-up assembly down to align the mounting screws.

Figure 312 Install the Mounting Screws



1	Mounting screws (3)
2	Liner take-up motor assembly

7. Reinstall the three mounting screws.

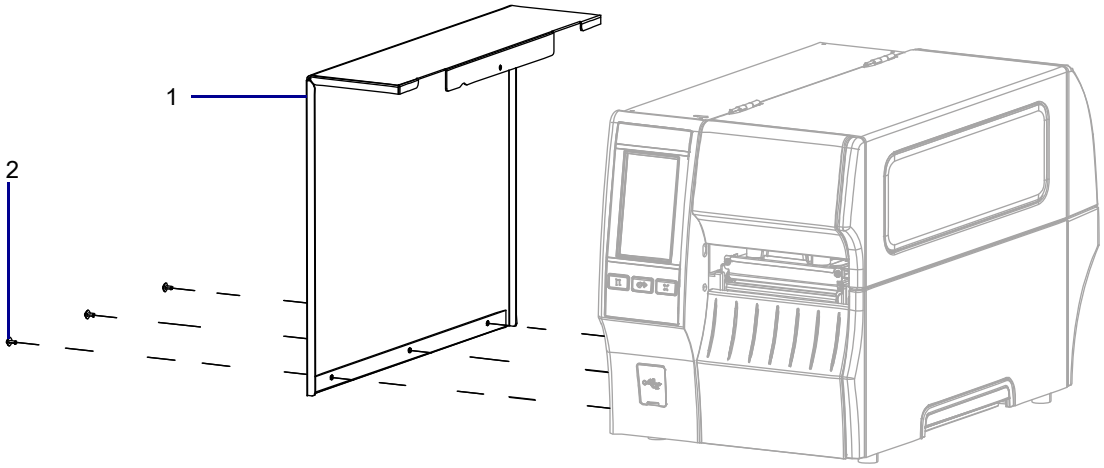
CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

8. See Figure 306 on page 380. Slide the spindle onto the shaft, and install the E-ring.

Reinstall the Electronics Cover

1. See Figure 313. Slide the electronics cover onto the printer.

Figure 313 Reinstall the Electronics Cover Mounting Screws

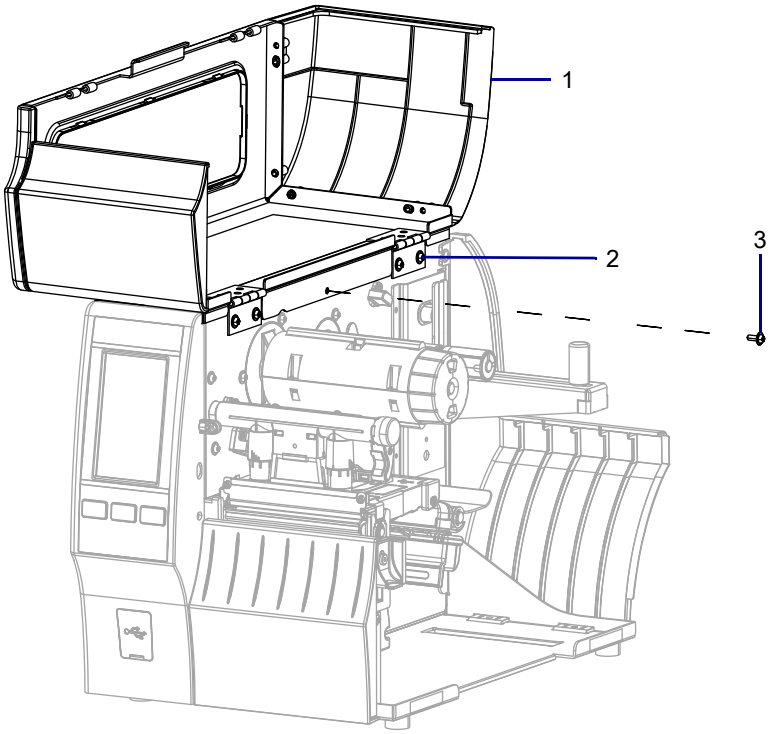


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 314. Open the media door and install the mounting screw.

Figure 314 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Cutter Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Cutter Option Kit into the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 315 Kit Contents

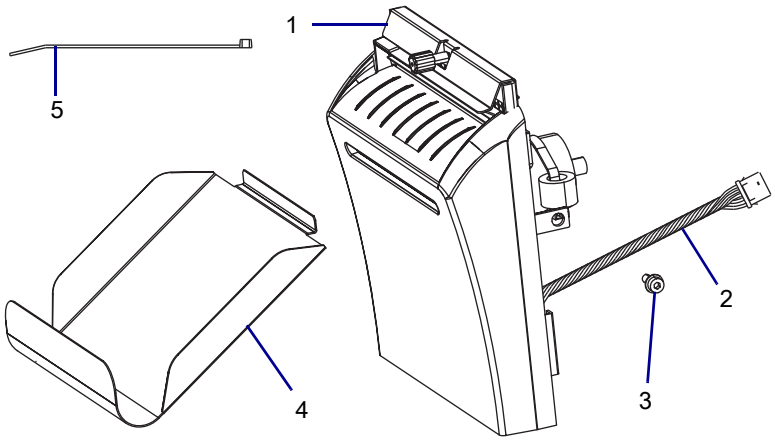


Table 41 Parts List

Item	Description	Qty
Ref	Cutter Maintenance Kit	
1	Cutter Assembly	1
2	Cutter Cable	1
3	Screw, M4 × 0.7 × 10	1
4	Cutter Catch Tray	1
5	Cable Tie, 0.09 × 3.62	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Flat-blade Screwdriver Set
- Metric Hex Key Set
- Antistatic Wriststrap and Mat
- Safety Glasses

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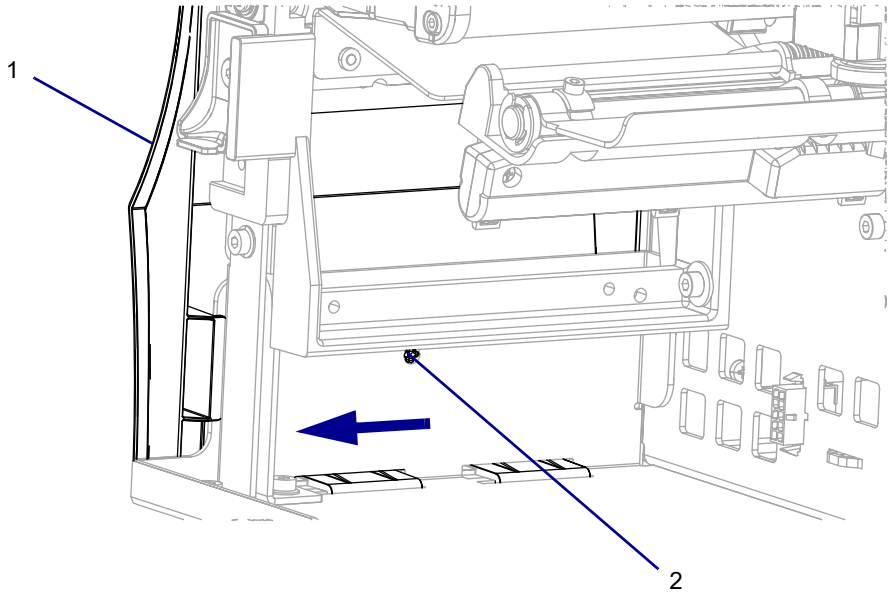
Remove the Front Panel

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 316. Remove the front panel by pressing in on the detent, and then sliding the panel to the left as far as possible.

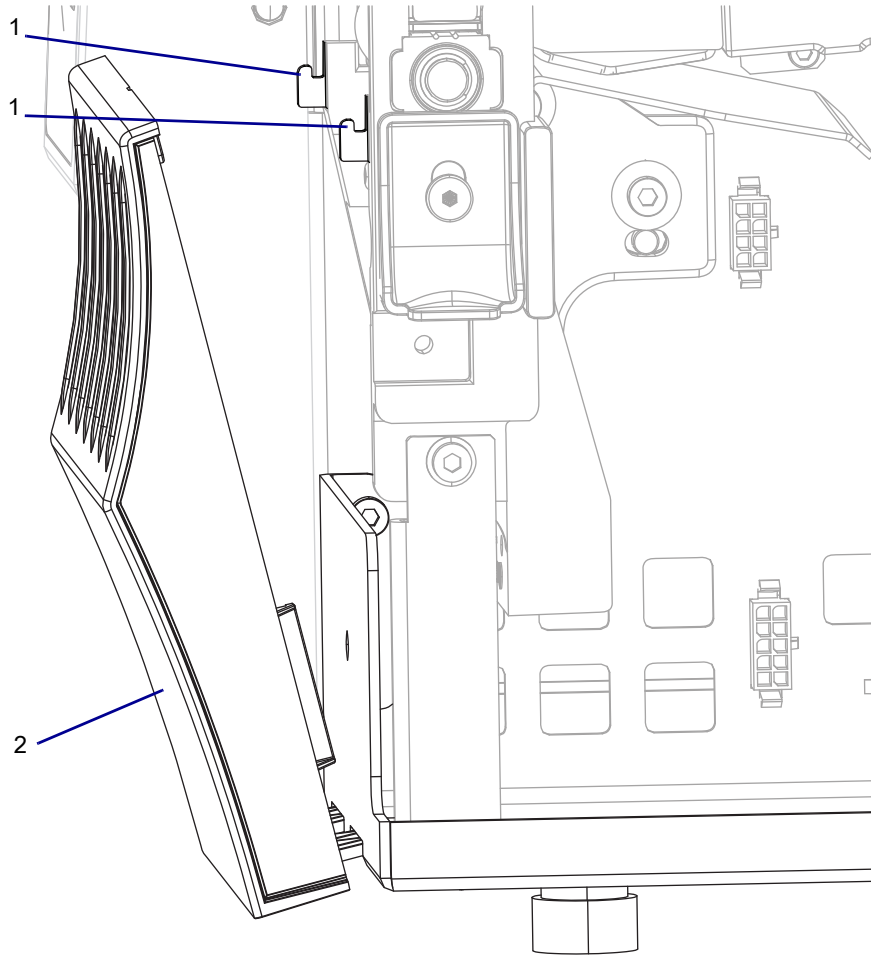
Figure 316 Release the Front Panel



1	Front panel
2	Detent

4. See Figure 317. Tip the top of the front panel off the hooks and away from the printer.

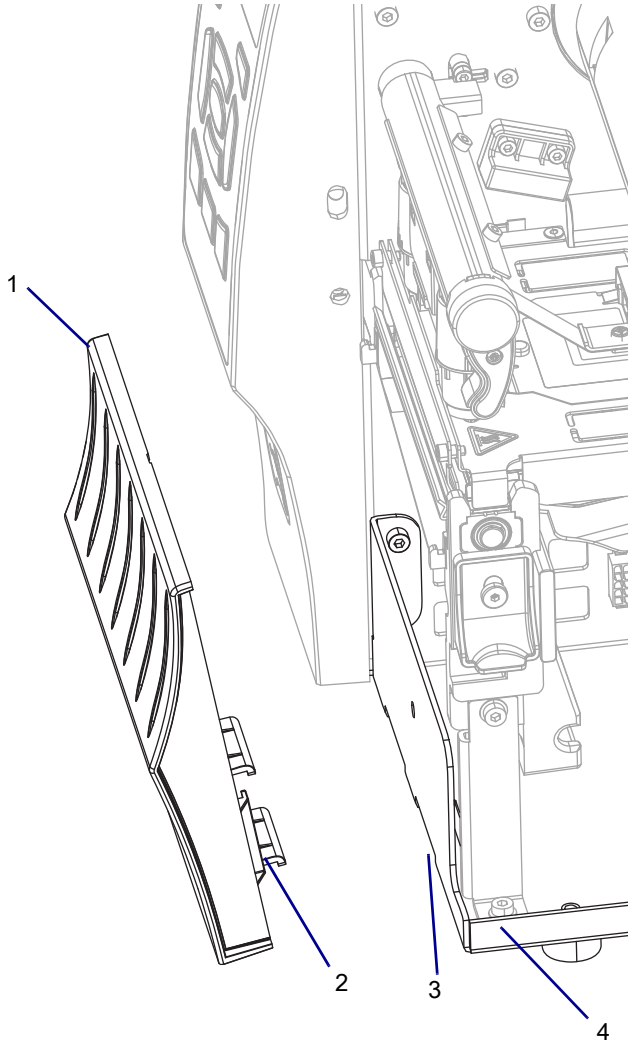
Figure 317 Hook Locations



1	Platen housing hooks (2)
2	Front panel

5. See Figure 318. Slide the front panel tabs out of the printer base.

Figure 318 Remove the Front Panel Tabs (ZT410 Printer Shown)



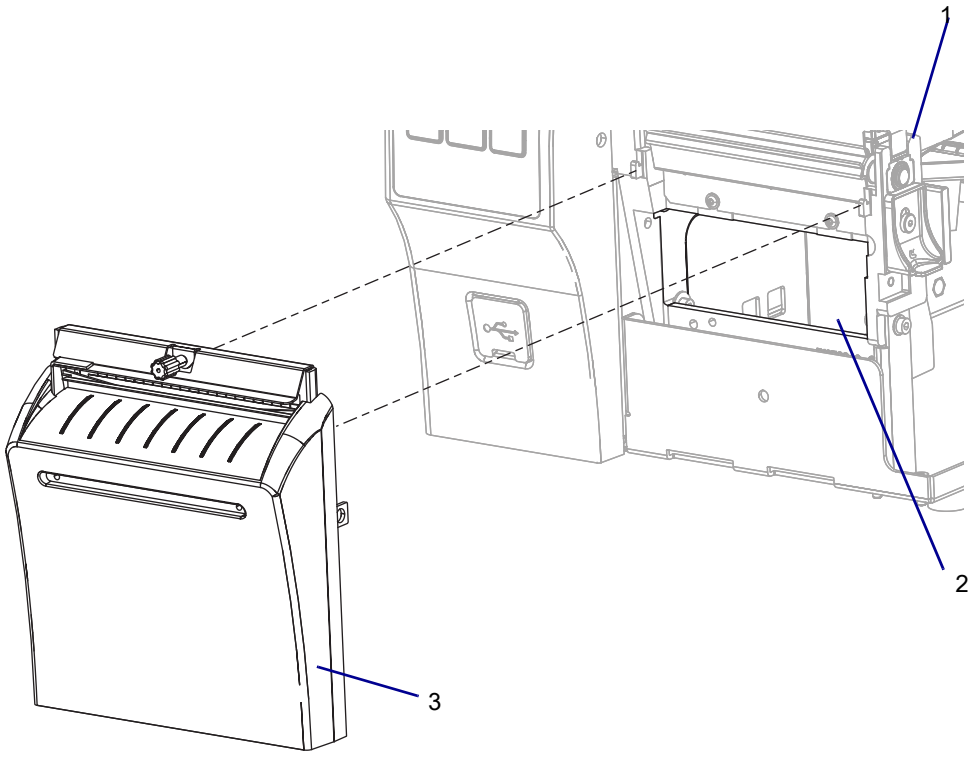
1	Front panel
2	Front panel tabs (2)
3	Printer base mounting slots (2)
4	Printer base

Install the Cutter Option

CAUTION: The cutter blade is sharp. Do not touch or rub the blade with your fingers.

1. See Figure 319. While holding the cutter assembly, route the cutter cable through the access hole and into the media side of the printer.

Figure 319 Install the Cutter Assembly (cable not shown)

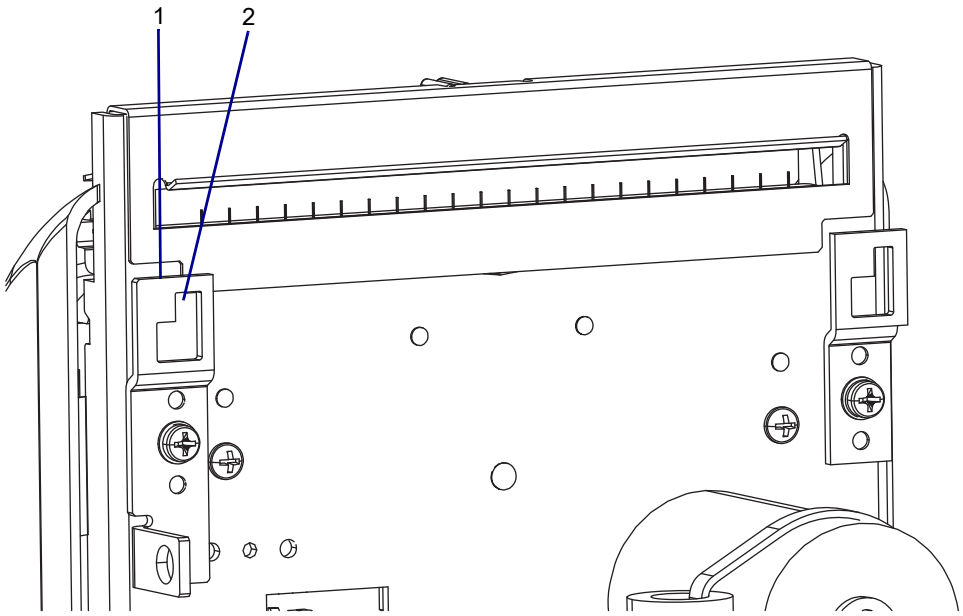


1	Platen housing
2	Cutter cable access hole
3	Cutter assembly

2. See Figure 320. Install the cutter assembly onto the hooks of the platen housing.

NOTE: The ZT411/ZT421 Printers mounting brackets have stepped slots.

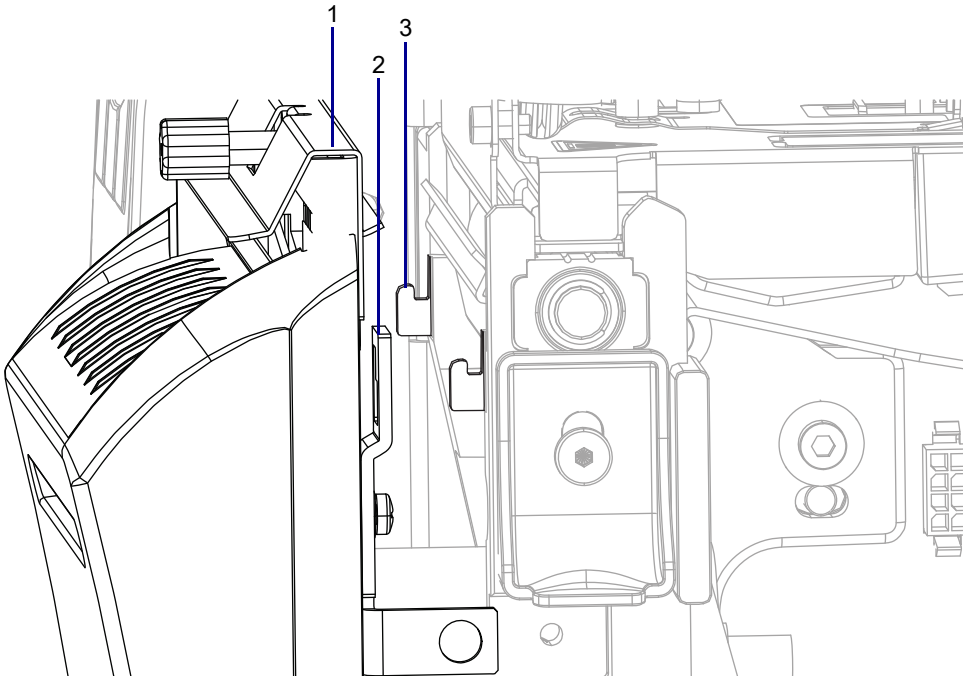
Figure 320 Cutter Mounting Brackets



1	Mounting brackets (2)
2	Stepped slots (2)

1. See Figure 321. Align the larger part of the slots with the hooks on the platen housing.

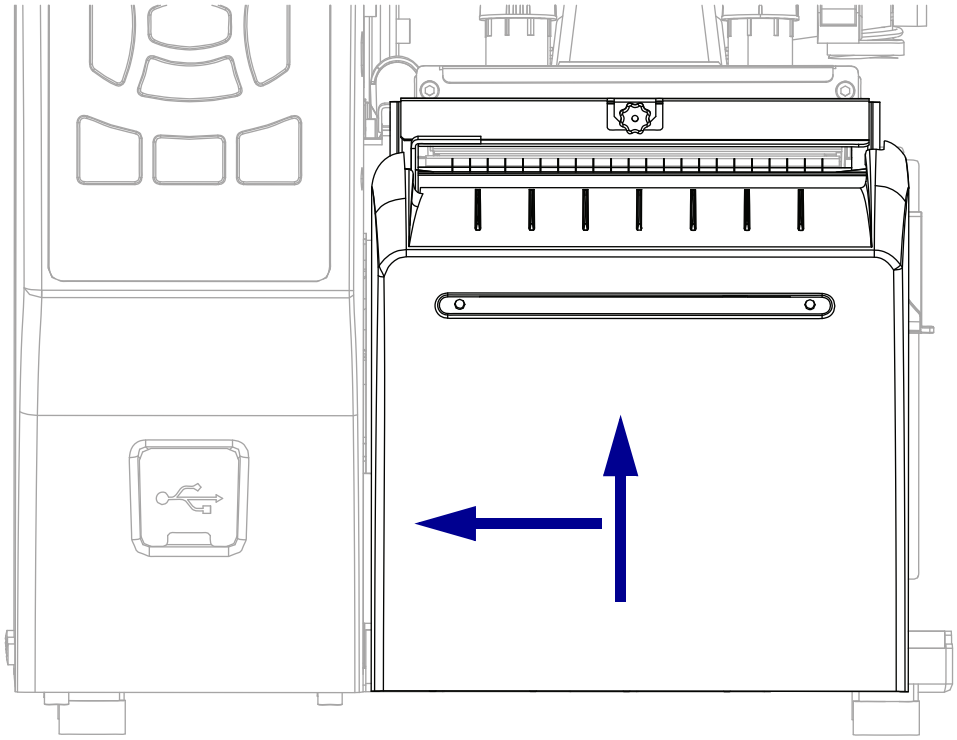
Figure 321 Align the Mounting Brackets and Platen Housing Hooks



1	Cutter assembly
2	Cutter mounting brackets (2)
3	Platen housing hooks (2)

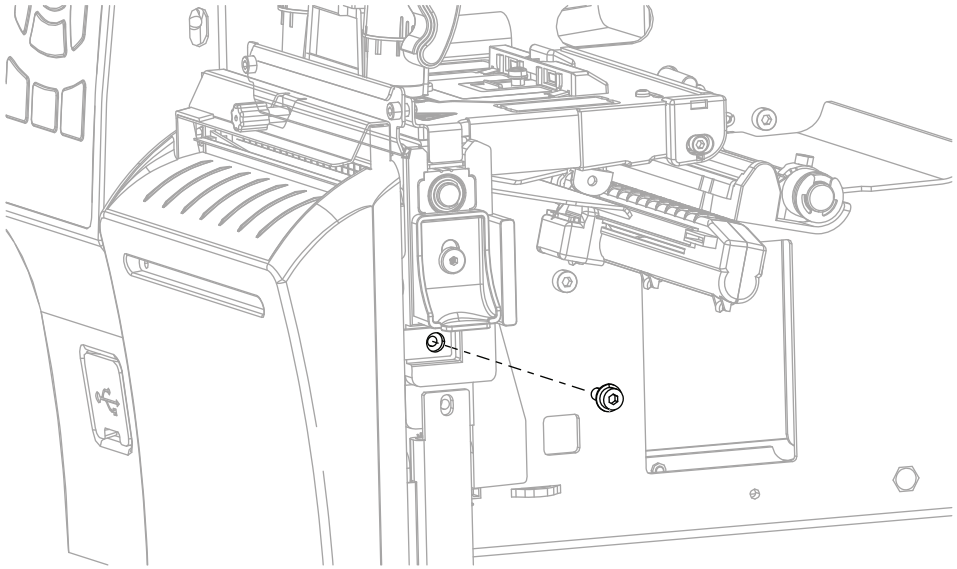
2. See Figure 322. Set the cutter assembly onto the hooks, then lift and slide the assembly to the left.

Figure 322 Lift and Slide the Cutter Assembly (ZT410 Printer Shown)



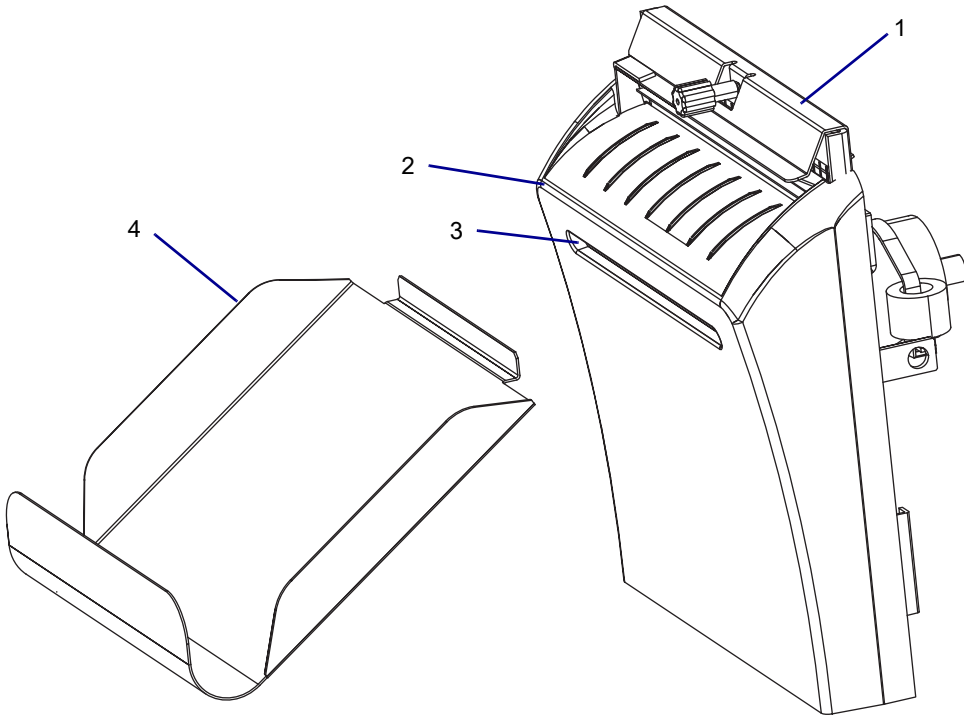
3. See Figure 323. Secure the cutter assembly onto the platen assembly using the mounting screw supplied.

Figure 323 Install the Mounting Screw (ZT410 Printer Shown)



4. See Figure 324. Place the catch tray in the cutter catch tray mounting slot of the cutter cover assembly.

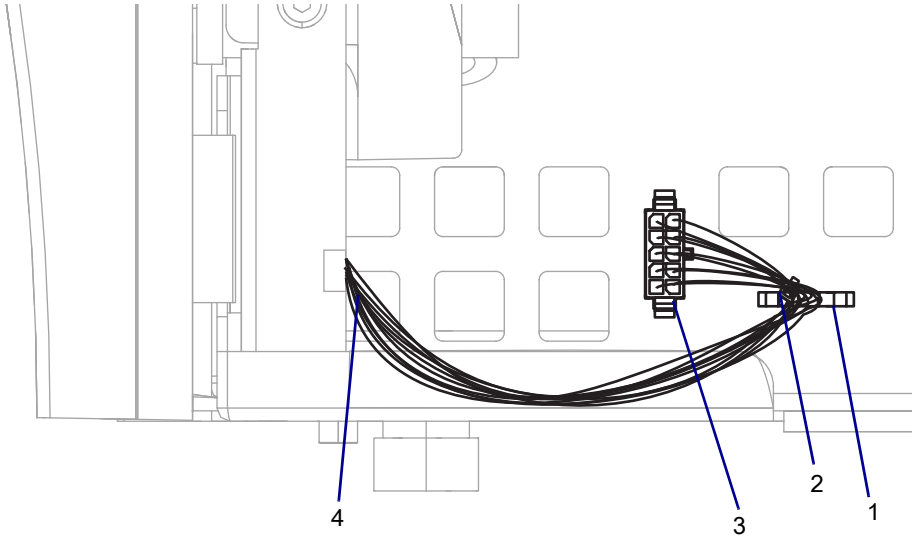
Figure 324 Cutter Catch Tray



1	Cutter assembly
2	Cutter cover assembly
3	Cutter catch tray mounting slot
4	Cutter catch tray

5. See Figure 325. Locate the 10-pin option connector on the printer main frame.

Figure 325 Locate Option Connector



1	Printer tie point
2	Cable tie
3	10-pin option connector
4	Cutter cable

6. Connect the cutter cable to the 10-pin option connector.
7. Install a cable tie through the printer tie point and around the cutter cable.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Media Door Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Media Door and End Cap Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 326 Kit Contents

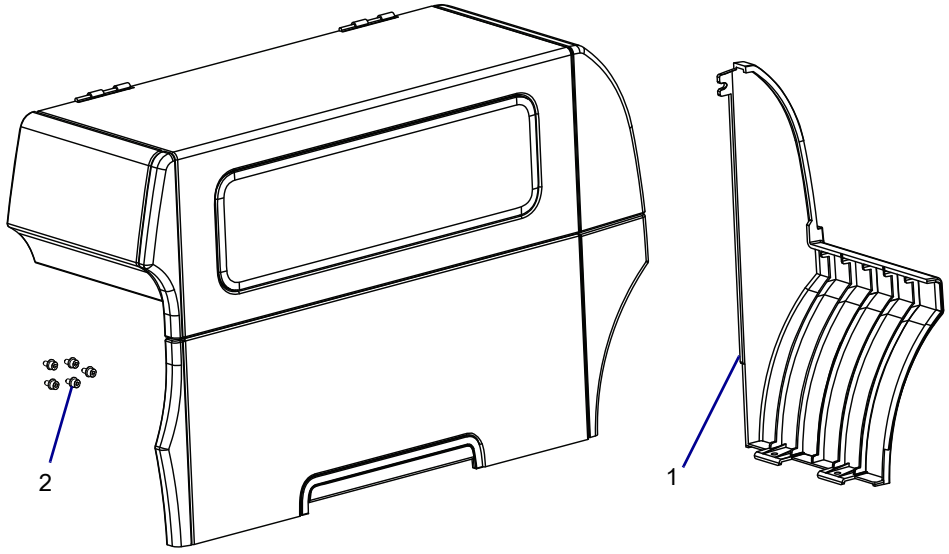


Table 42 Parts List

Item	Description	Qty
Ref	Media Door and End Cap Maintenance Kit	
1	Rear End Cap	1
2	Screw, M4 × 0.7 X8 CP	5

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Metric Hex Key Set

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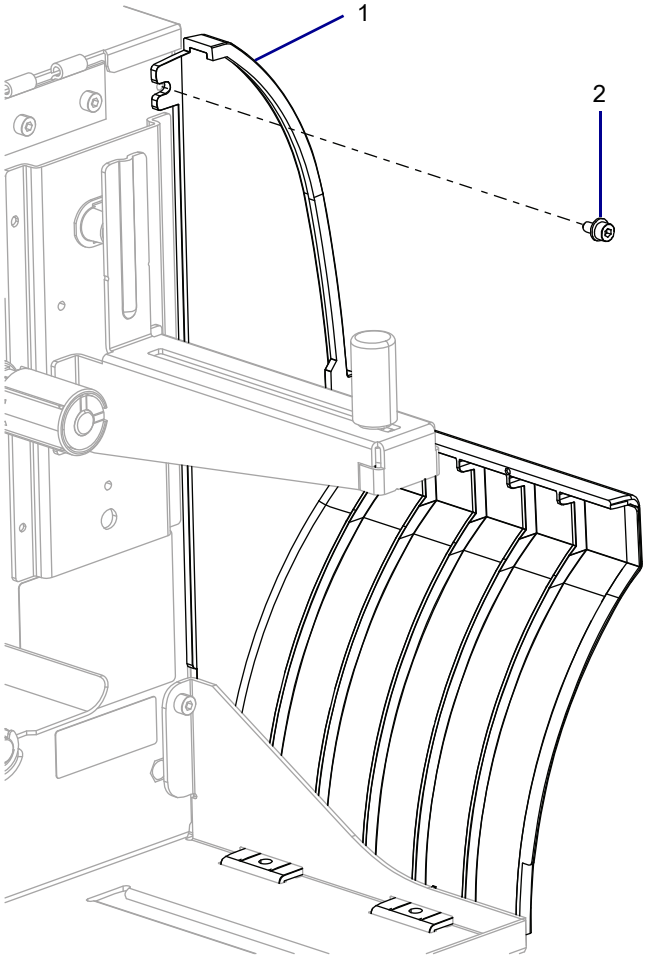
Replace the End Cap

1. See Figure 327. Remove the end cap mounting screw.

Figure 327 Remove the End Cap Mounting Screw



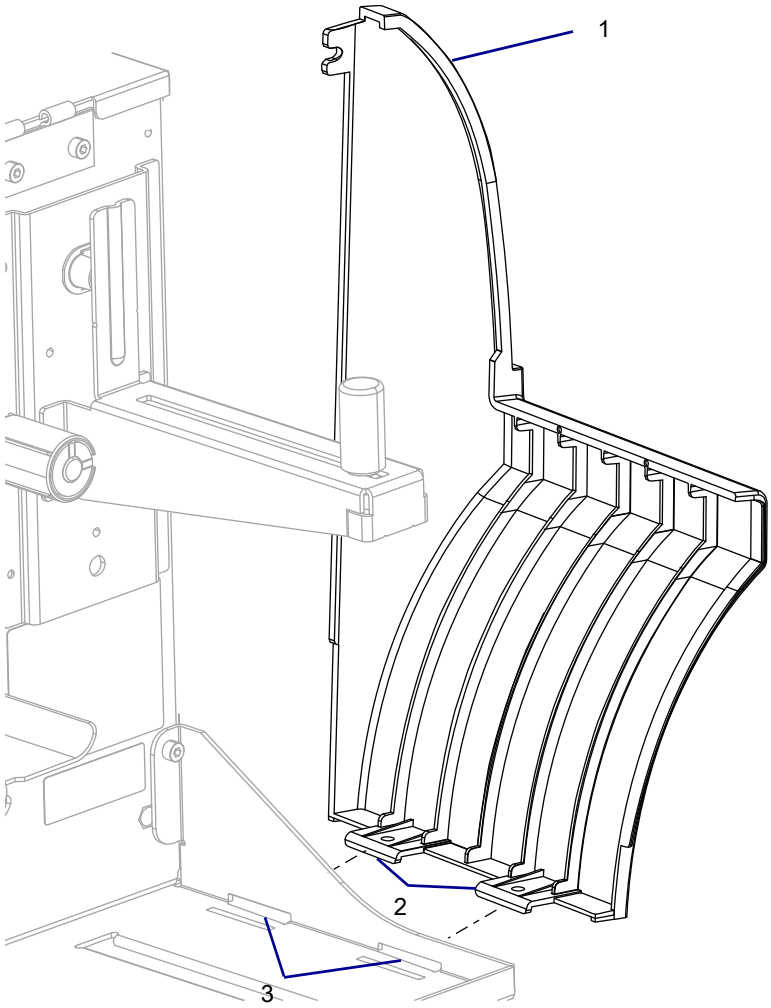
1	End cap
2	Mounting screw

2. Tip the end cap back, and then slide it out of the printer.

Install the New End Cap

1. See Figure 328. Align the locating tabs on the end cap with the mounting holes in the printer.

Figure 328 Install the New End Cap



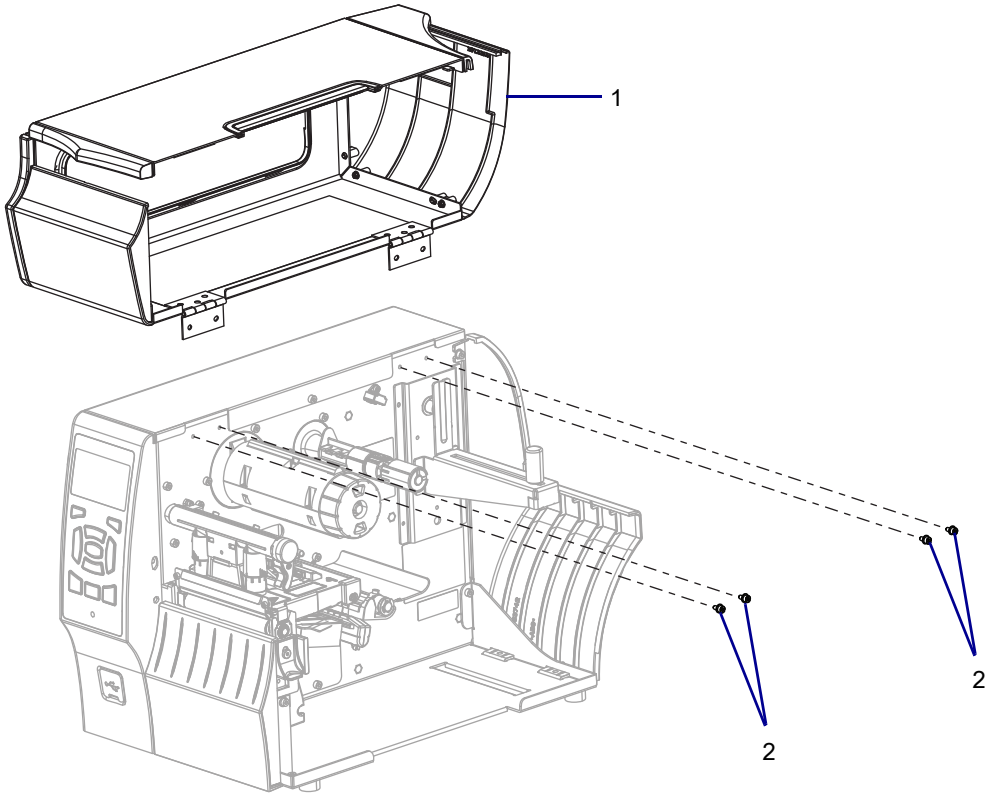
1	End cap
2	Locating tabs
3	Mounting slots

2. Lift the top of the end cap while allowing the tabs to locate in the mounting slots.
3. See Figure 327 on page 400. Align the top mounting hole in the end cap with the mounting hole in the printer, and then install the mounting screw.

Remove the Old Media Door

1. See Figure 329. Remove the four hinge mounting screws.

Figure 329 Remove the Mounting Screws (ZT410 Printer Shown)



1	Media door
2	Hinge mounting screws (4)

Install the New Media Door

1. Align the new media door hinges with the mounting holes.
2. See Figure 329. Install the forwardmost screw in the locating hole.
3. Install the other three hinge mounting screws.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Cutter Guard and Static Brush Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Cutter Guard and Static Brush maintenance kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 330 Kit Contents

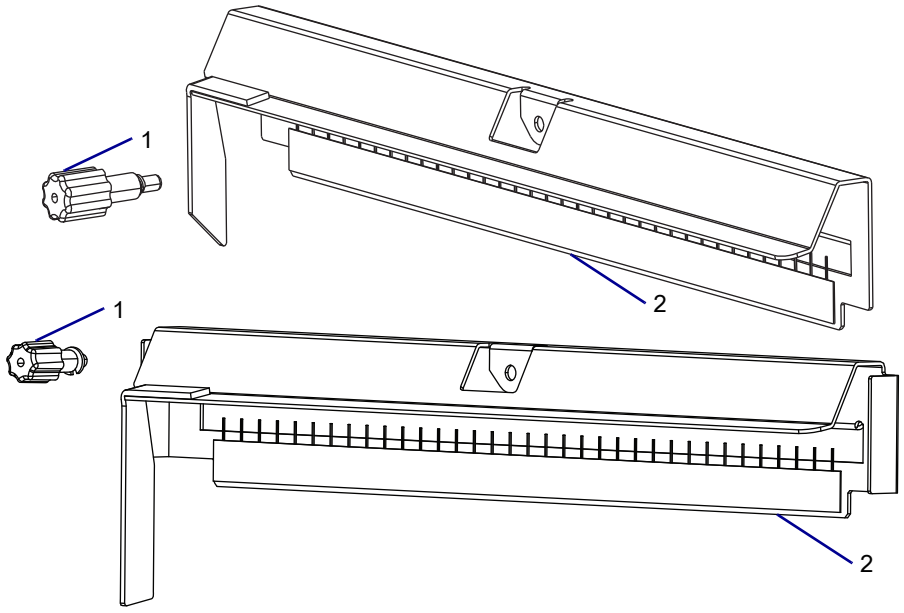


Table 43 Parts List

Item	Description	Qty
Ref	Cutter Guard and Static Brush Maintenance Kit with Angled End	
	Cutter Guard and Static Brush Maintenance Kit with Flat End	
1	Cutter Guard and Static Brush	1
2	Thumbscrew	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

See Figure 331. When selecting your replacement cutter guard kit, the flag must be identical to your current cutter guard in both, the length and bottom angle of the flag.

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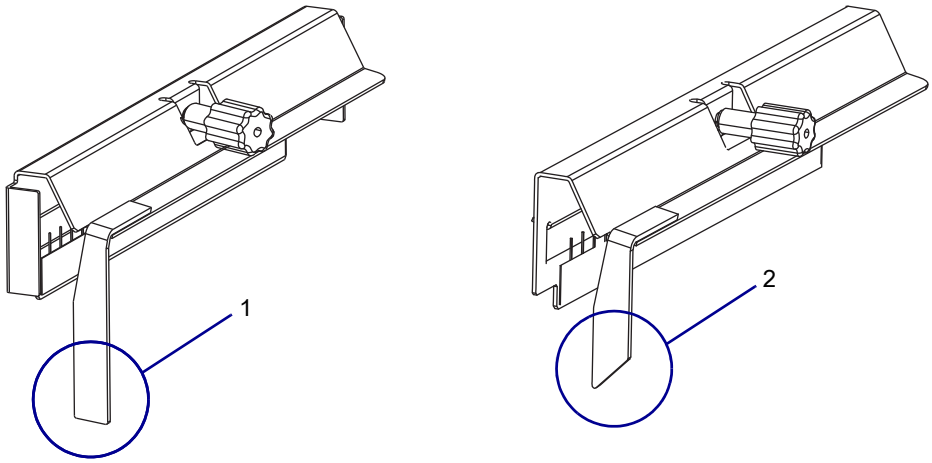
NOTE: See Figure 331. When selecting your replacement cutter guard kit, the flag must be identical to your current cutter guard in both, the length and bottom angle of the flag.

NOTE: The kits are not interchangeable.

Figure 331 Use the Correct Replacement Cutter Guard



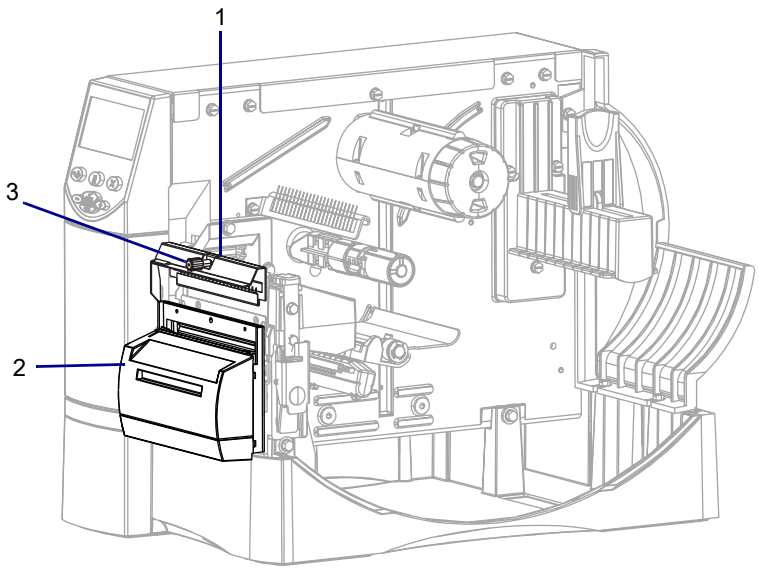
1	Flat-ended cutter guard flag
2	Angle-ended cutter guard flag

Remove the Old Cutter Guard and Static Brush

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 332. Loosen the thumbscrew securing the cutter shield and static brush assembly.

Figure 332 Remove the Cutter Shield and Static Brush Assembly (ZM400 shown)



1	Cutter guard and static brush assembly
2	Cutter assembly
3	Thumbscrew

CAUTION: The cutter blade is sharp. Do not touch or rub the blade with your fingers.

4. Lift the cutter shield and static brush assembly up off the cutter assembly and discard it.

Install the New Cutter Guard and Static Brush

1. Remove the new thumbscrew and cutter guard and static brush assembly from the maintenance kit.
2. See Figure 332 on page 405. Slide the cutter guard and static brush assembly onto the cutter assembly.
3. Tighten thumbscrew to secure the cutter guard and static brush assembly.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Media Guides Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Media Guides Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 333 Kit Contents

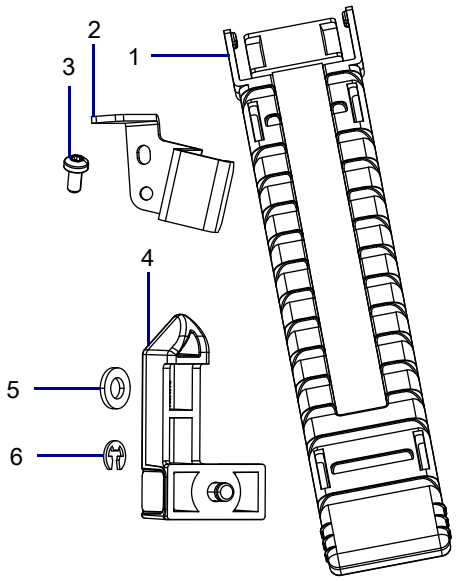


Table 44 Parts List

Item	Description	Qty
Ref	Media Guides Maintenance Kit	1
1	Removable Lower Media Guide	1
2	Ribbon Reflector	1
3	Hexalobular Pan Head Cap Screw M3 × 6	1
4	Outboard Media Guide	1
5	Flat Nylon Washer	1
6	E-clip	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

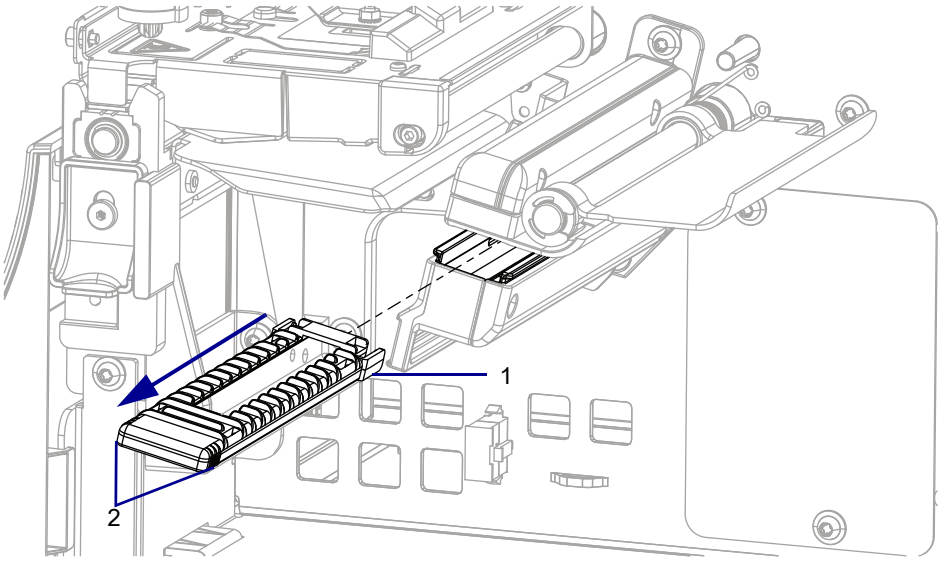
- Metric Hexalobular Screwdriver Set
- Metric Hexalobular Key Set

Remove the Media Sensor Guides

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 334. Grasp the removable lower media guide by the media guide grips and pull it away from the printer.

Figure 334 Removable Lower Media Guide

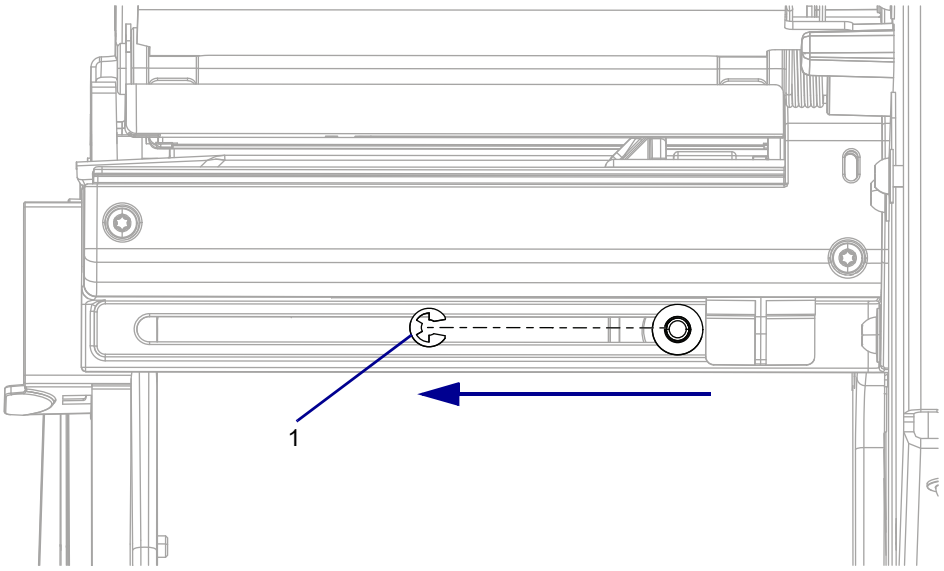


1	Removable lower media guide
2	Media guide grips

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

4. See Figure 335. Remove and discard the E-clip holding the outboard media guide in place.

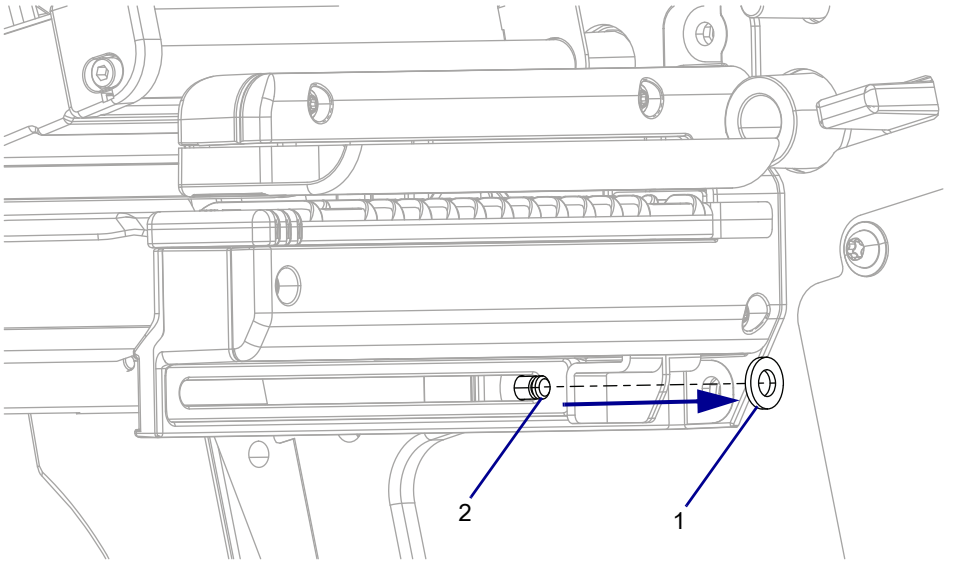
Figure 335 Remove E-clip



1	E-clip

5. See Figure 336. Remove and discard the washer from the outboard media guide shaft.

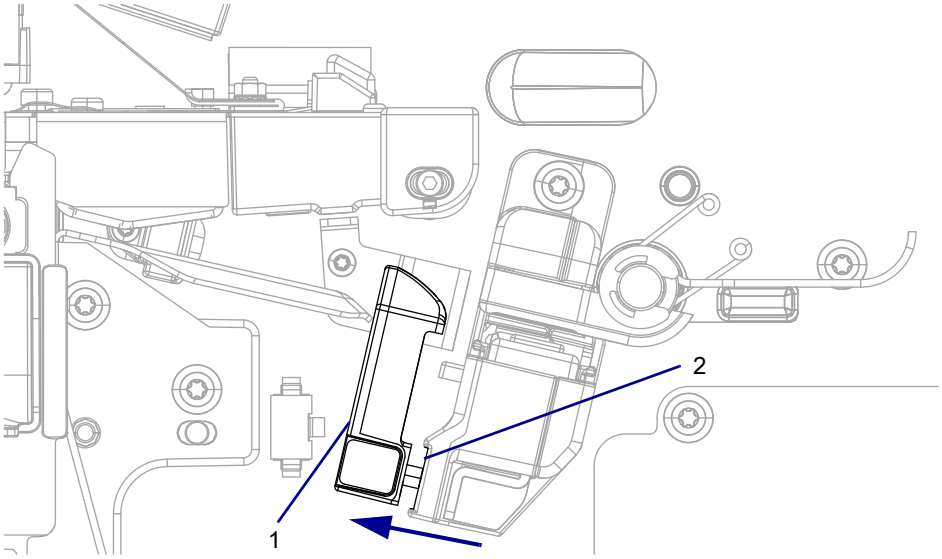
Figure 336 Remove Washer



1	Washer
2	Outboard media guide shaft

6. See Figure 337. Pull the outboard media guide to the front of the printer while pulling it to the outboard side of the printer to remove the outside media guide.

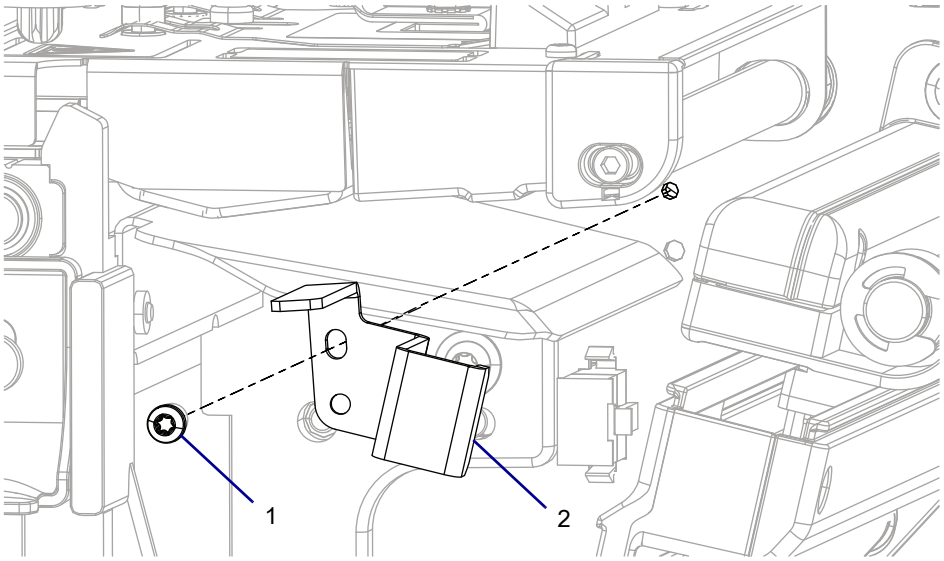
Figure 337 Remove Outside Media Guide



1	Outboard media guide
2	Track

7. See Figure 338. Remove the ribbon reflector retaining screw and discard both of them.

Figure 338 Remove the Ribbon Reflector



1	Screw
2	Ribbon reflector

Install the New Media Sensor Guides

1. See Figure 338. Install the new ribbon reflector and tighten the retaining screw.
2. See Figure 337 on page 410. From the front and outboard side of the printer install the outside media guide into the track on the media sensor assembly.
3. See Figure 336 on page 409. Slide the new washer onto the shaft of the outside media guide.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

4. See Figure 335 on page 409. Insert the E-clip on top of the washer to the outside media guide.
5. See Figure 334 on page 408. Slide the new media sensor guide onto the sensor assembly until the media sensor guide audibly clicks into place.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411R Printer On-Metal RFID Solution Media Guides Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the On-Metal RFID Solution Media Guides Maintenance Kit in the ZT410/ZT420R Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 339 Kit Contents

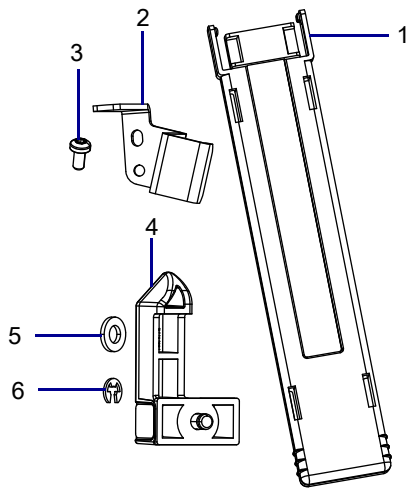


Table 45 Parts List

Item	Description	Qty
Ref	ZT411R Printer Media Guides Maintenance Kit	
1	Media Sensor Guide	1
2	Reflective Ribbon Guide	1
3	Hexalobular Screw M3 × 6	1
4	Outboard Media Guide	1
5	Flat Nylon Washer	1
6	E-clip	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

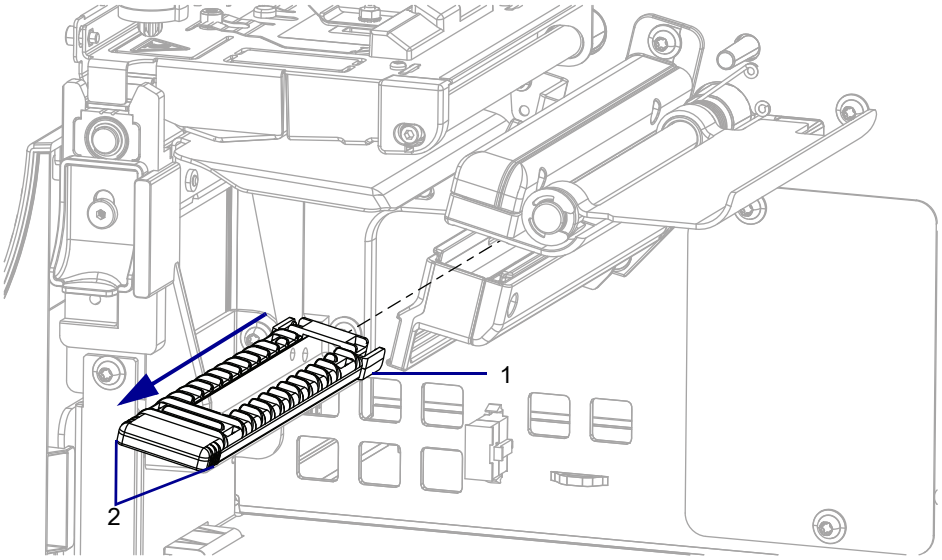
- Metric Hexalobular Screwdriver Set
- Metric Hexalobular Key Set
- Metric Nut Driver Set
- Antistatic Wrist Strap and Mat

Remove the Media Sensor Guides

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 340. Grasp the media sensor guide by the end and pull it away from the printer.

Figure 340 Media Sensor Guide
(Standard Guide Shown)

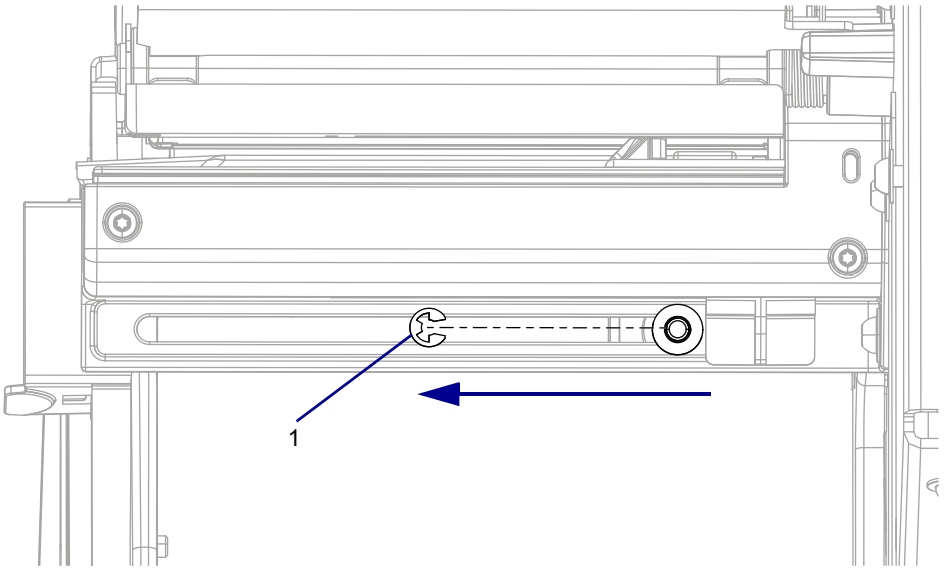


1	Media sensor guide
2	Grasp points

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

4. See Figure 341. Remove and discard the E-clip holding the outboard media guide in place.

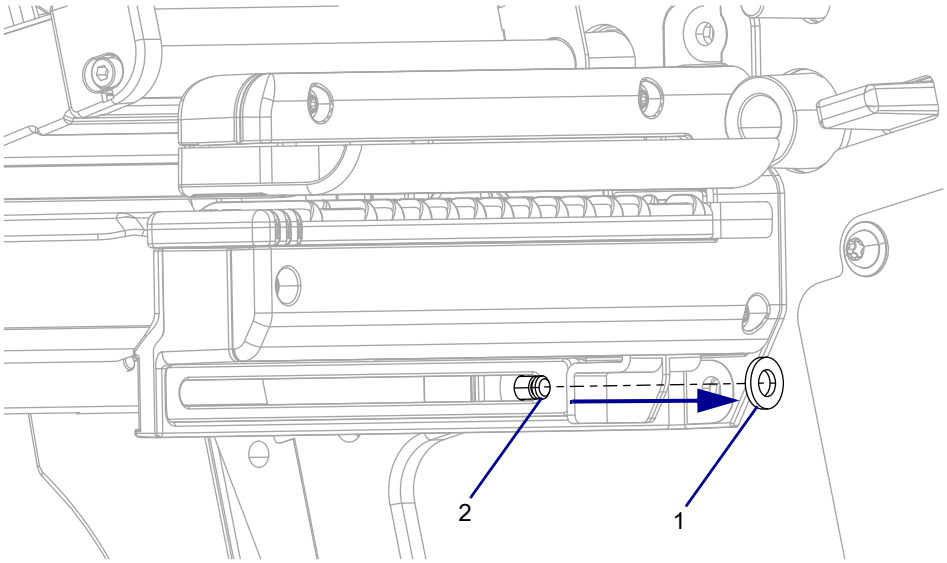
Figure 341 Remove E-clip



1	E-clip

5. See Figure 342. Remove and discard the washer from the outboard media guide shaft.

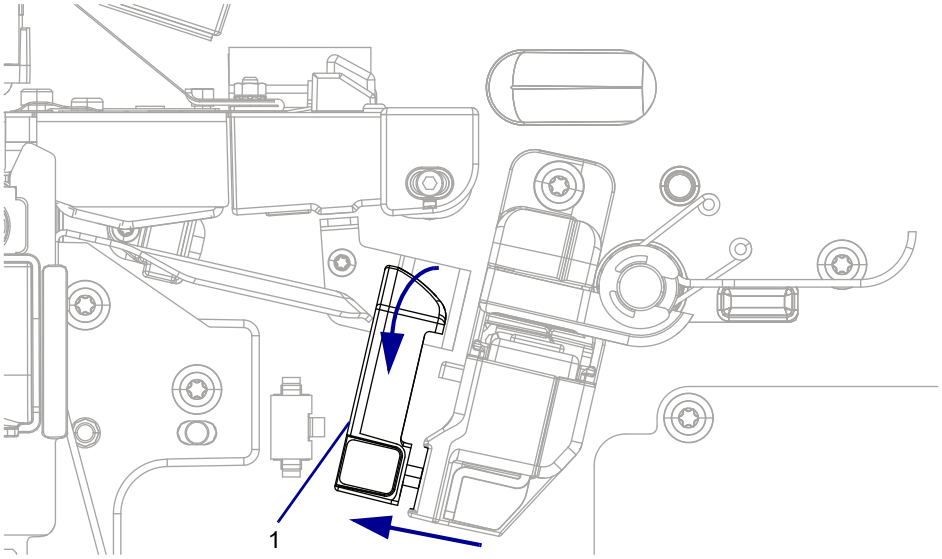
Figure 342 Remove Washer



1	Washer
2	Outboard media guide shaft

6. See Figure 343. Pull the outboard media guide to the front of the printer while turning it towards the outboard side of the printer to remove the outside media guide.

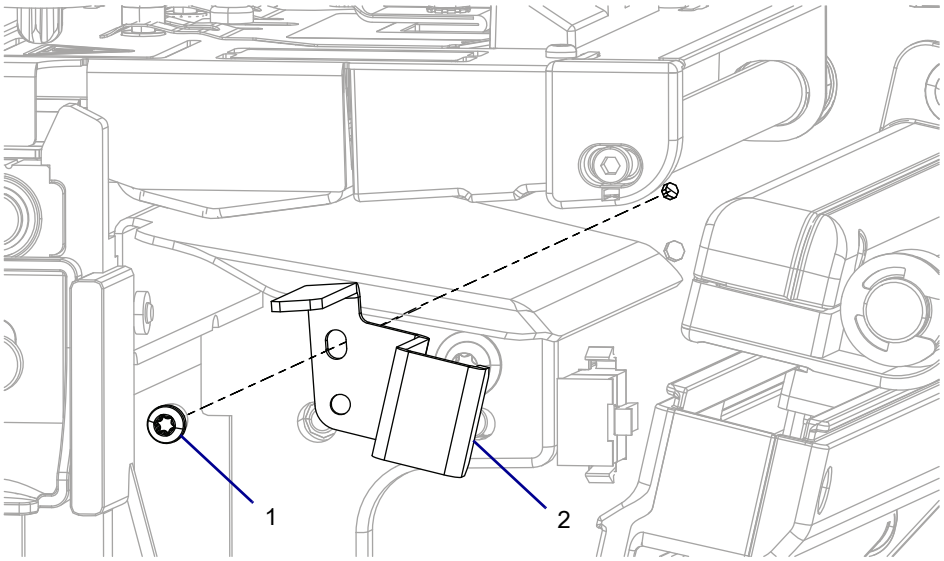
Figure 343 Remove Outside Media Guide



1	Outboard media guide

7. See Figure 344. Remove the reflective ribbon guide retaining screw and discard both the screw and the reflective ribbon guide.

Figure 344 Remove the Reflective Ribbon Guide



1	Screw
2	Ribbon guide

Install the New Media Sensor Guides

1. See Figure 344. Install the new reflective ribbon guide and tighten the retain screw to hold it in place.
2. See Figure 343 on page 415. Insert the outside media guide into the sensor assembly.
3. See Figure 342 on page 414. Slide the new washer onto the shaft of the outside media guide.
4. See Figure 341 on page 414. Insert the E-clip to hold the washer and outside media guide in place.
5. See Figure 340 on page 413. Slide the new media sensor guide onto the sensor assembly until the media sensor guide audibly clicks into place.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Media Dancer Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Media Dancer Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 345 Kit Contents

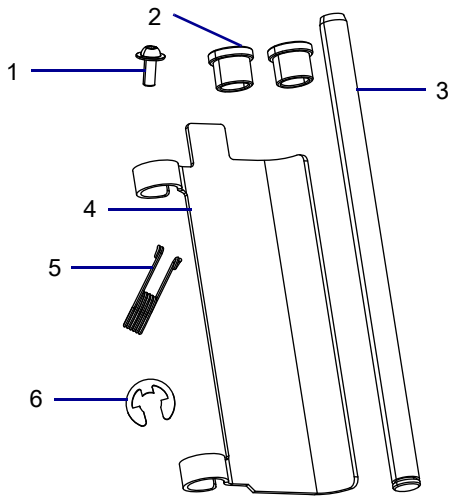


Table 46 Parts List

Item	Description	Qty
Ref	Media Dancer Maintenance Kit	
1	Hexalobular Screw M4 × 10	1
2	Bearings	2
3	Shaft	1
4	Dancer	1
5	Torsion Spring	1
6	E-ring	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Screwdriver Set
- Metric Hexalobular Key Set
- Antistatic Wriststrap and Mat

Remove the Electronics Cover

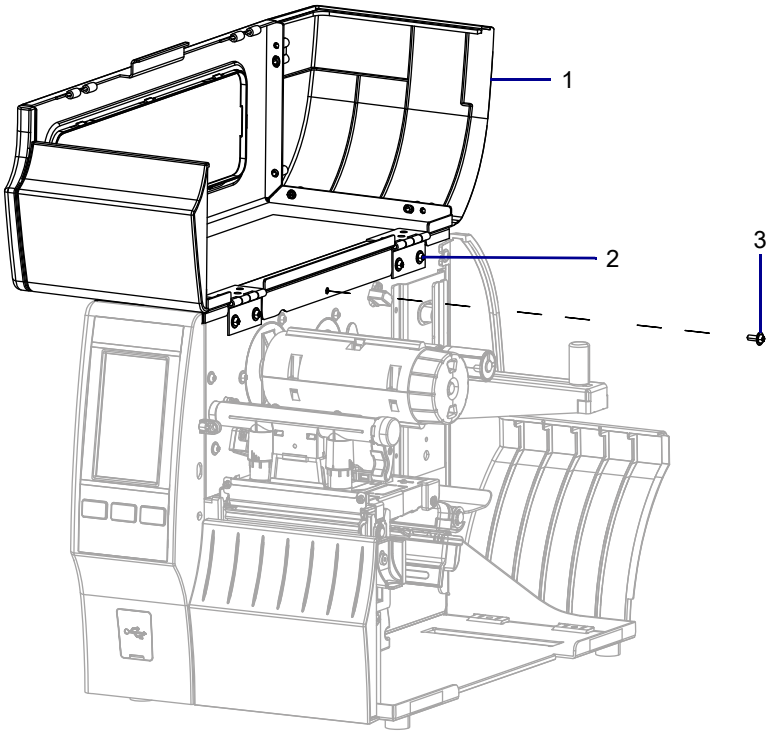
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 346. Remove the screw securing the electronics cover.

Figure 346 Locate the Electronics Cover Mounting Screw

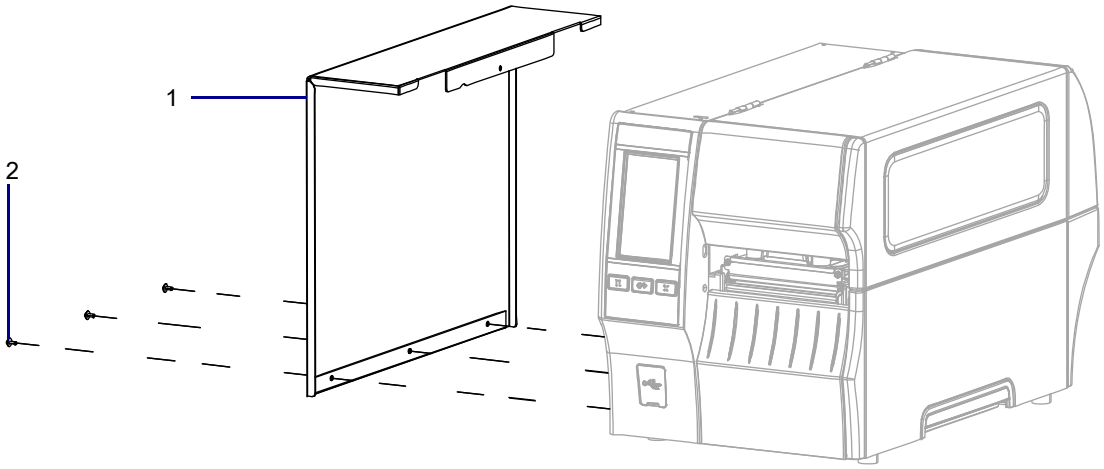


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 347. Remove the three mounting screws securing the electronics cover to the printer.

Figure 347 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

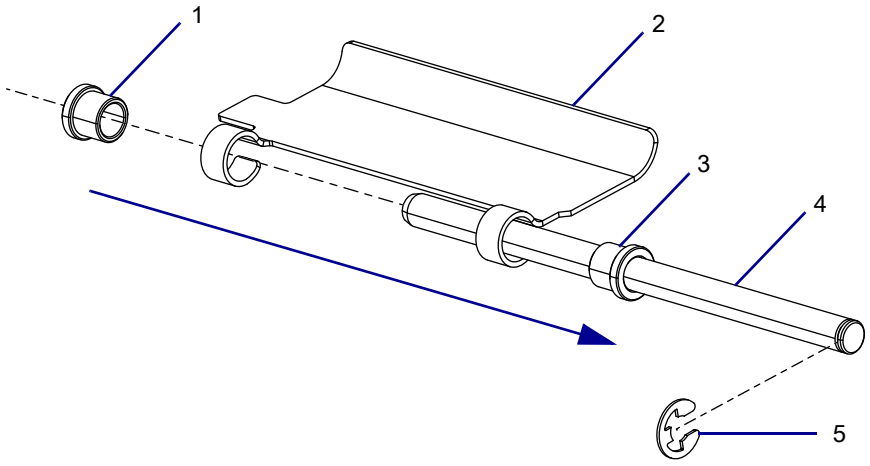
Assemble the New Media Dancer

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

1. See Figure 348. Insert the E-clip into the groove on the dancer shaft.

Figure 348 Assemble the Dancer Assembly

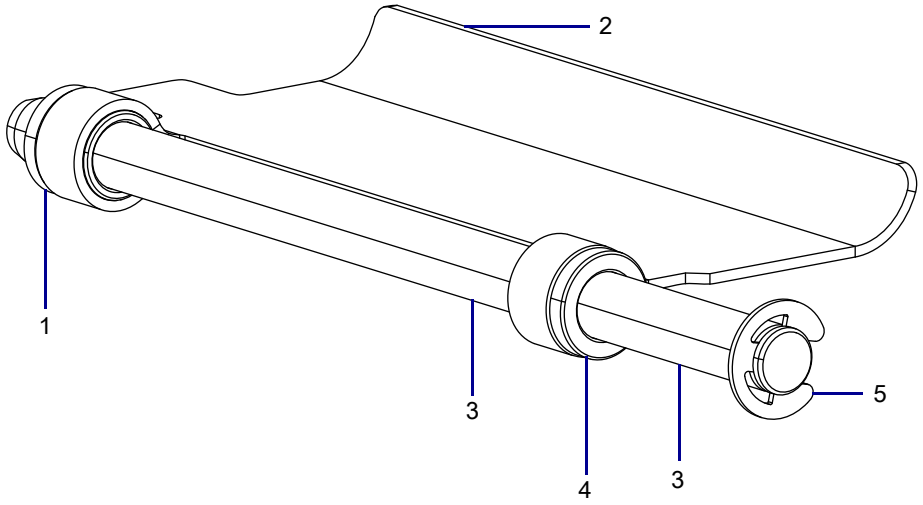


1	Inboard bearing
2	Dancer
3	Outboard bearing
4	Dancer Shaft
5	E-clip

2. Install one bearing, large end first, onto the dancer shaft and slide it over to the E-clip.
3. Guide the dancer, curved edge up, onto the dancer shaft and over the bearing.
4. Install the second bearing, narrow end first, onto the dancer shaft and through the dancer.

5. See Figure 349. Slide the dancer shaft until it is flush with the inboard bearing.

Figure 349 Complete Dancer Assembly



1	Inboard bearing
2	Dancer
3	Dancer shaft
4	Outboard bearing
5	E-clip

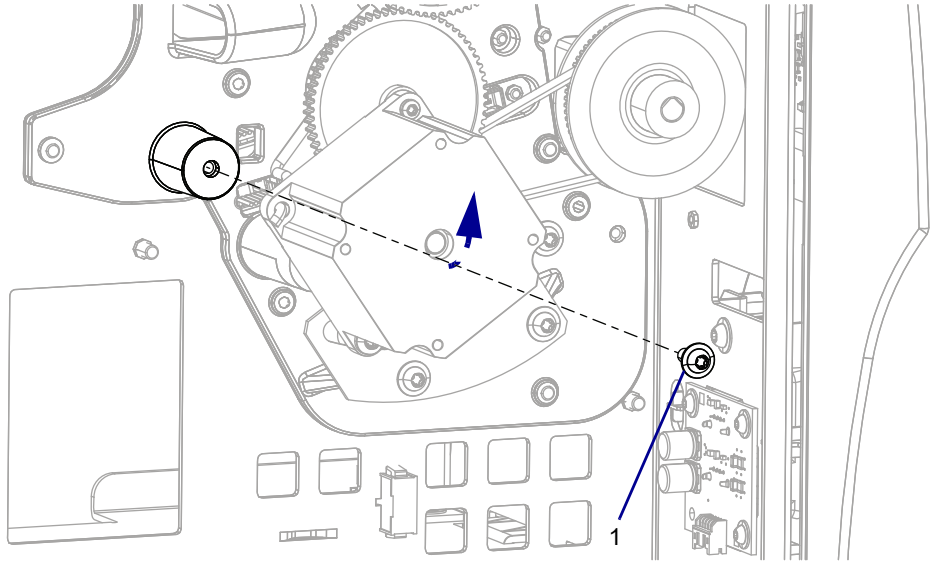
6. Set finished dancer assembly to the side.

Remove the Old Dancer Assembly

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 350. From the electronics side, remove and discard the dancer retaining screw.

Figure 350 Remove Dancer Screw

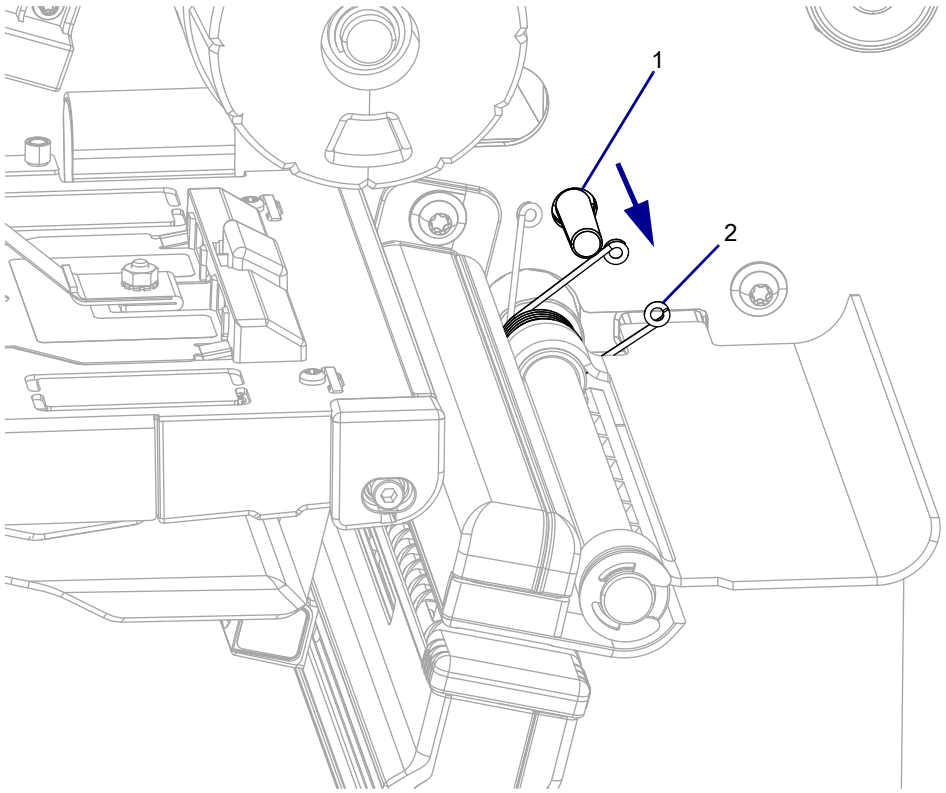


1	Dancer retaining screw

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

3. See Figure 351. Push the dancer spring arm down and away from the main frame wall to release the tension.

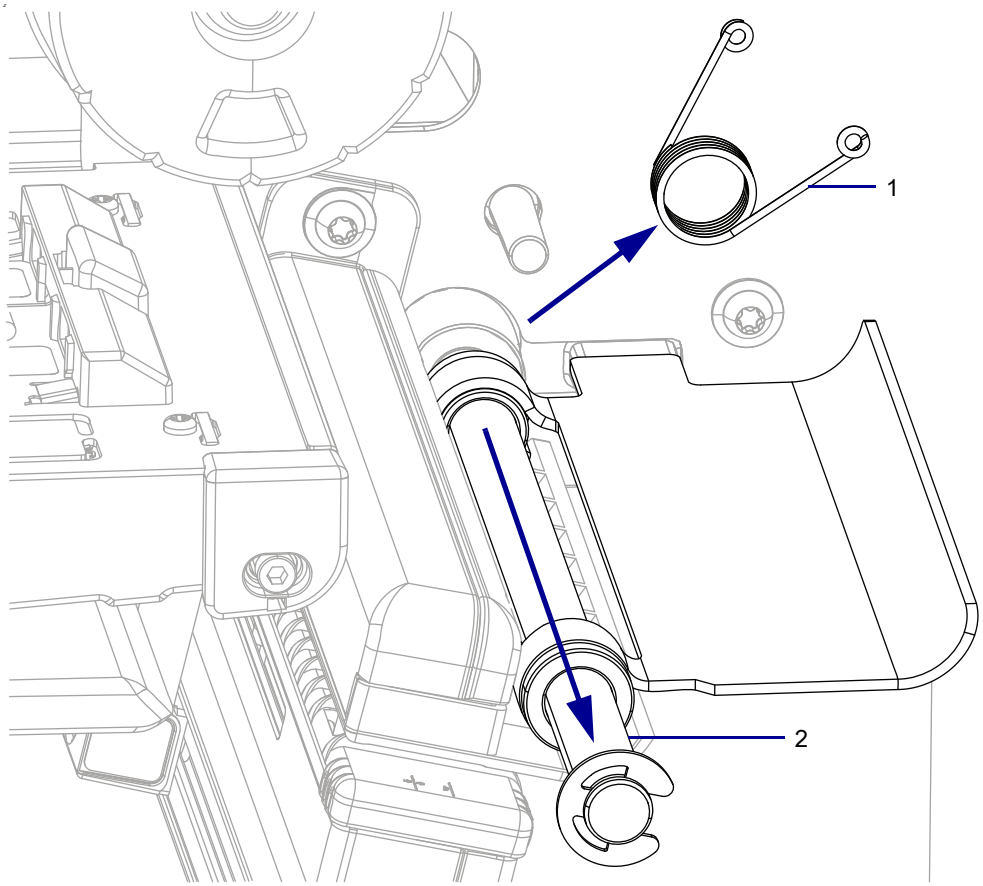
Figure 351 Release Spring Tension



1	Spring detent
2	Spring

4. See Figure 352. Slide the shaft out of the printer until the spring is released. Discard the old spring.
5. Lift out the old media dancer assembly and discard.

Figure 352 Remove the Dancer Shaft

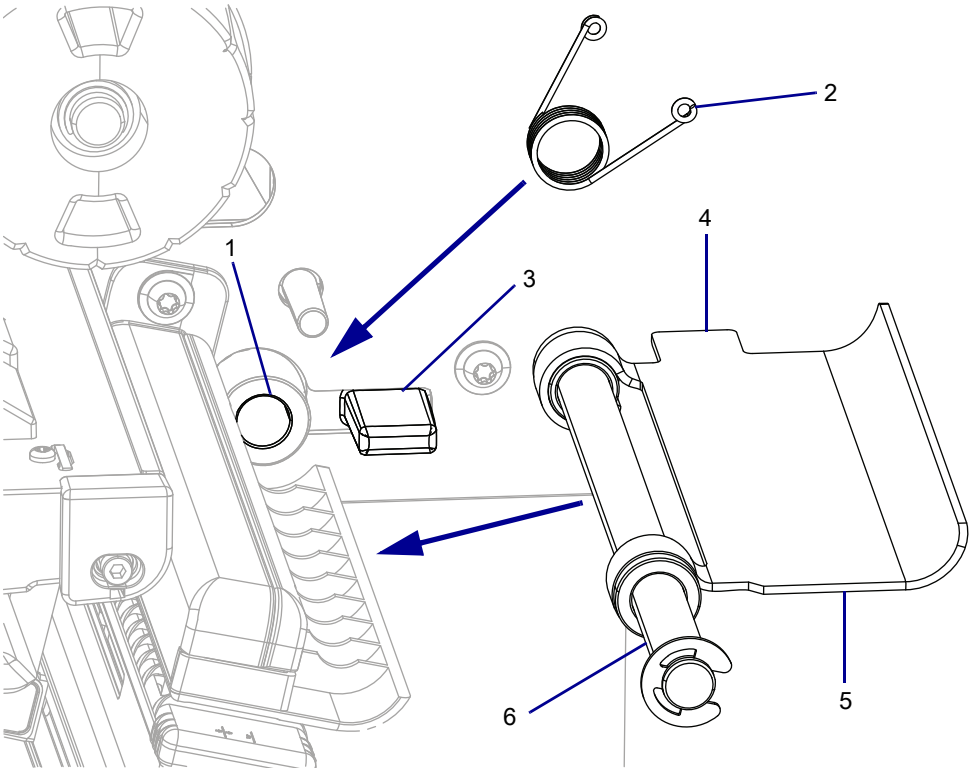


1	Media dancer spring
2	Media dancer shaft

Install the New Dancer Assembly

1. See Figure 353. Lower the new dancer assembly into place.

Figure 353 Install the Dancer

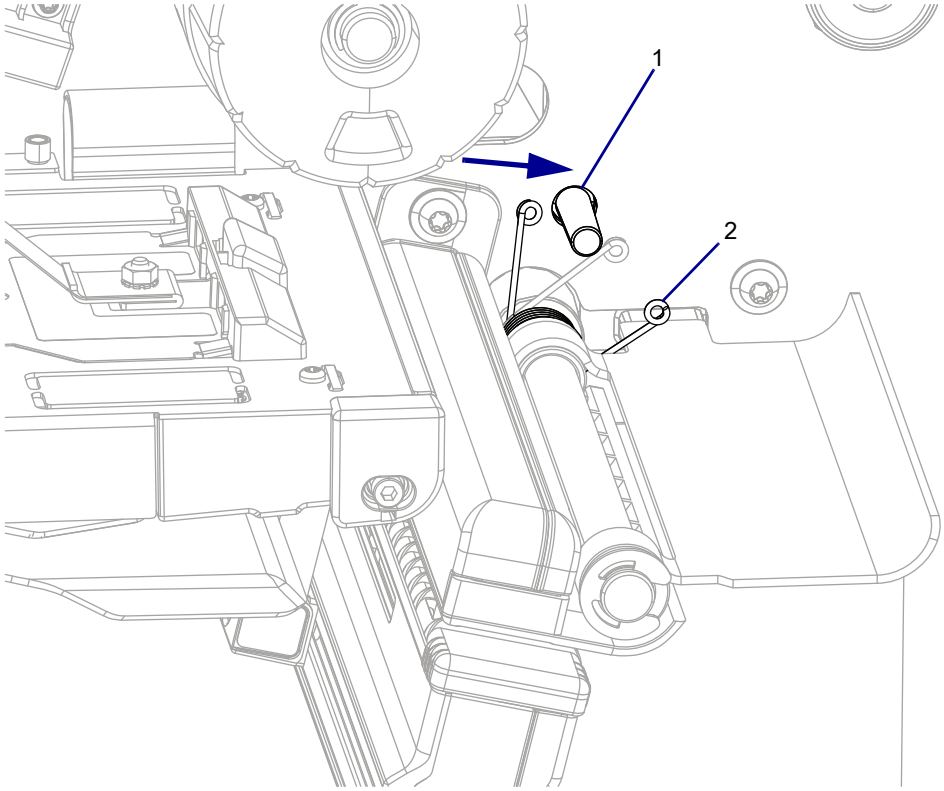


1	Receiver opening
2	Spring
3	Support tab
4	Media dancer stop
5	Dancer
6	Shaft

2. The media dancer tab must rest on top of the media dancer stop.
3. Slide the dancer assembly part way into the printer, insert the spring over the shaft, and slide the dancer assembly the rest of the way until it is seated in the receiver opening.
4. See Figure 350 on page 423. From the electronics side, install the new retaining screw to secure the dancer assembly.

5. See Figure 354. Push the dancer assembly spring arm down and towards the main frame wall to set the spring under the detent to add the necessary tension.

Figure 354 Re-Tension the Spring

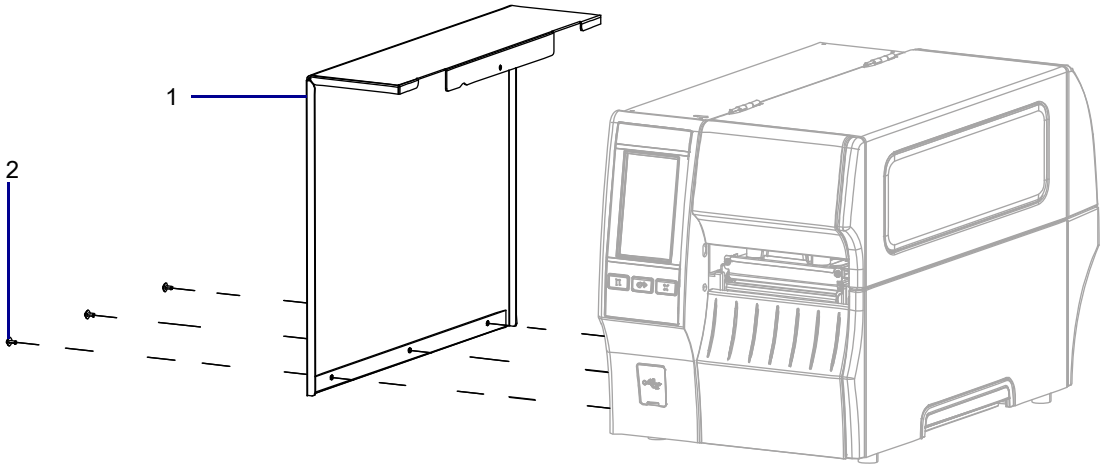


1	Spring detent
2	Spring

Reinstall the Electronics Cover

1. See Figure 355. Slide the electronics cover onto the printer.

Figure 355 Reinstall the Electronics Cover Mounting Screws

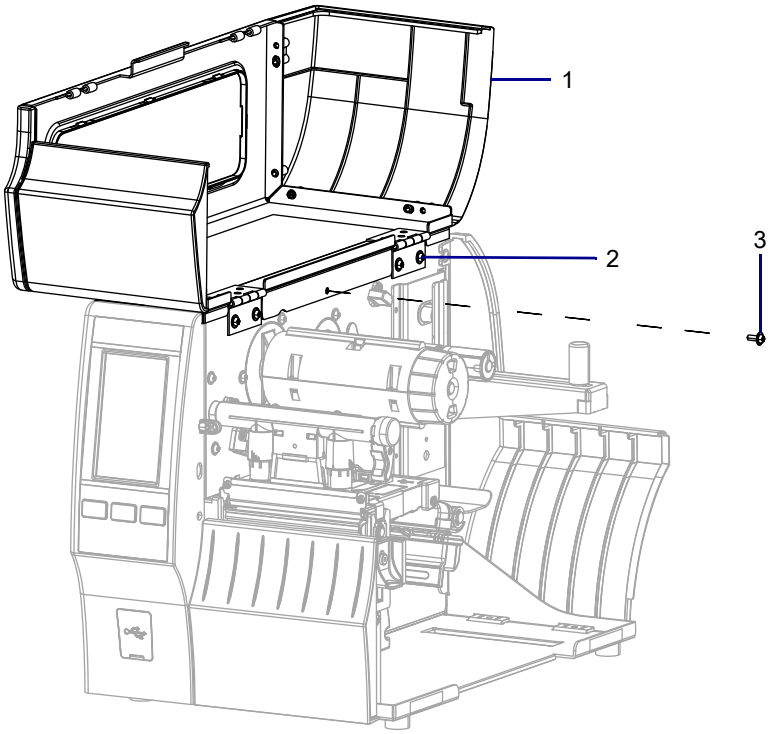


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 356. Open the media door and install the mounting screw.

Figure 356 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

Electronic Components

This section supplies you with the parts information and installation procedures for the circuit boards.

Circuit Boards Parts and Drawings

Figure 357 Circuit Boards Overview

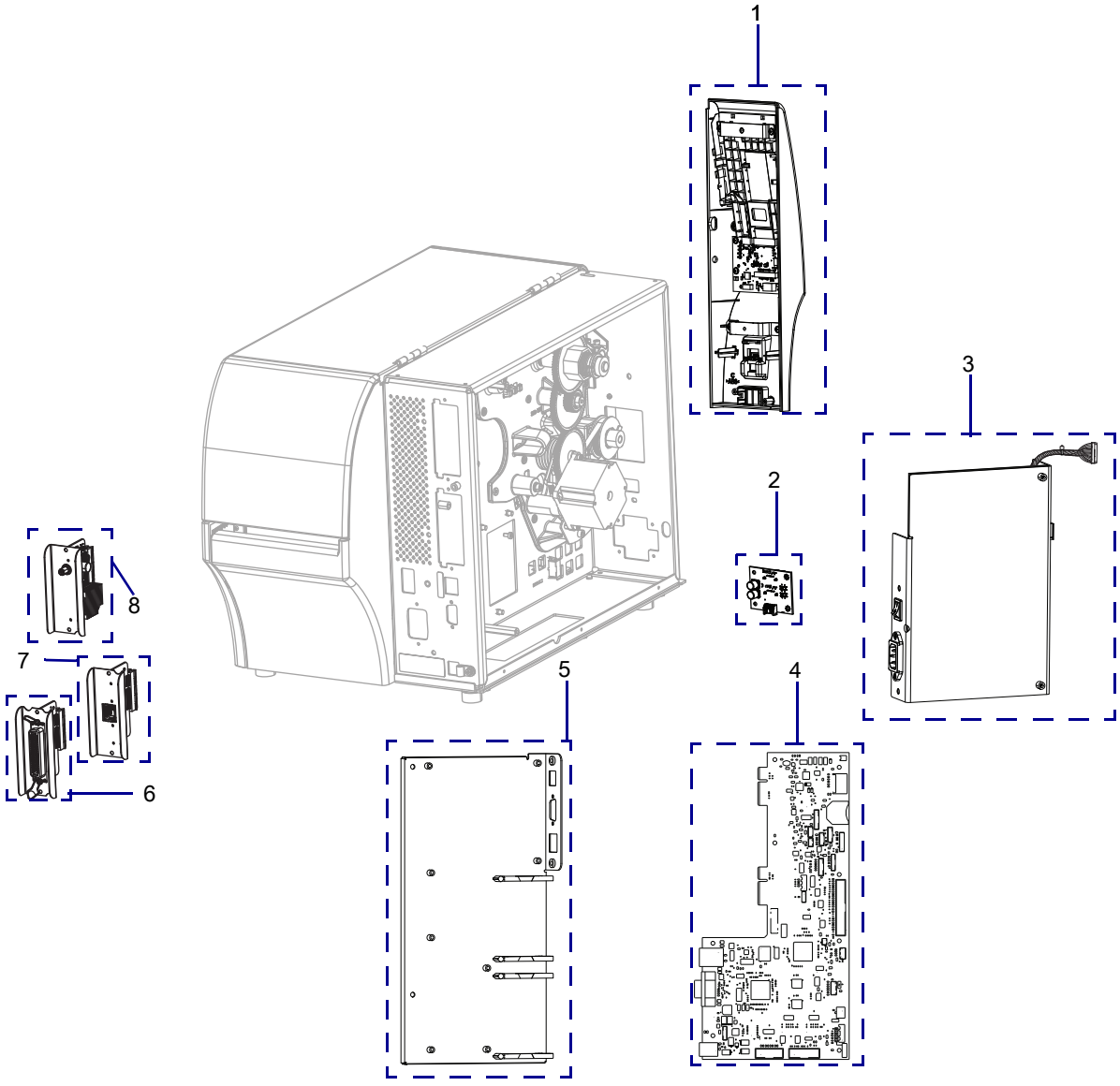


Table 47 Circuit Boards Overview

Item	Part Number	Description
1	P1105147-001	ZT411 Printers Control Panel Maintenance Kit
	P1105147-002	ZT421 Printers Control Panel Maintenance Kit
	P1105147-003	ZT411 Printers Control Panel Maintenance Kit
	P1105147-004	ZT421 Printers Control Panel Maintenance Kit
2	P1058930-403	ZT411/ZT421* Printers Dual Host Port USB Maintenance Kit
3	P1105147-012	ZT411 Printers Power Supply Maintenance Kit
	P1105147-024	ZT421 Printers Power Supply Maintenance Kit
4	P1105147-007	ZT411/ZT421 Printers Main Logic Board Kit ‡
	P1105147-008	ZT411/ZT421 Printers Main Logic Board Kit ‡
5	P1105147-009	ZT411/ZT421 Printers Main Logic Board Maintenance Kit
6	P1058930-075	ZT411/ZT421 Printers Parallel Port Option/Maintenance Kit
7	P1058930-074	ZT411/ZT421 Printers Wired Ethernet Option/Maintenance Kit

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: **ZTxxxxx – Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter P, your printer DOES NOT include these features.

Figure 358 Front Panel Kits

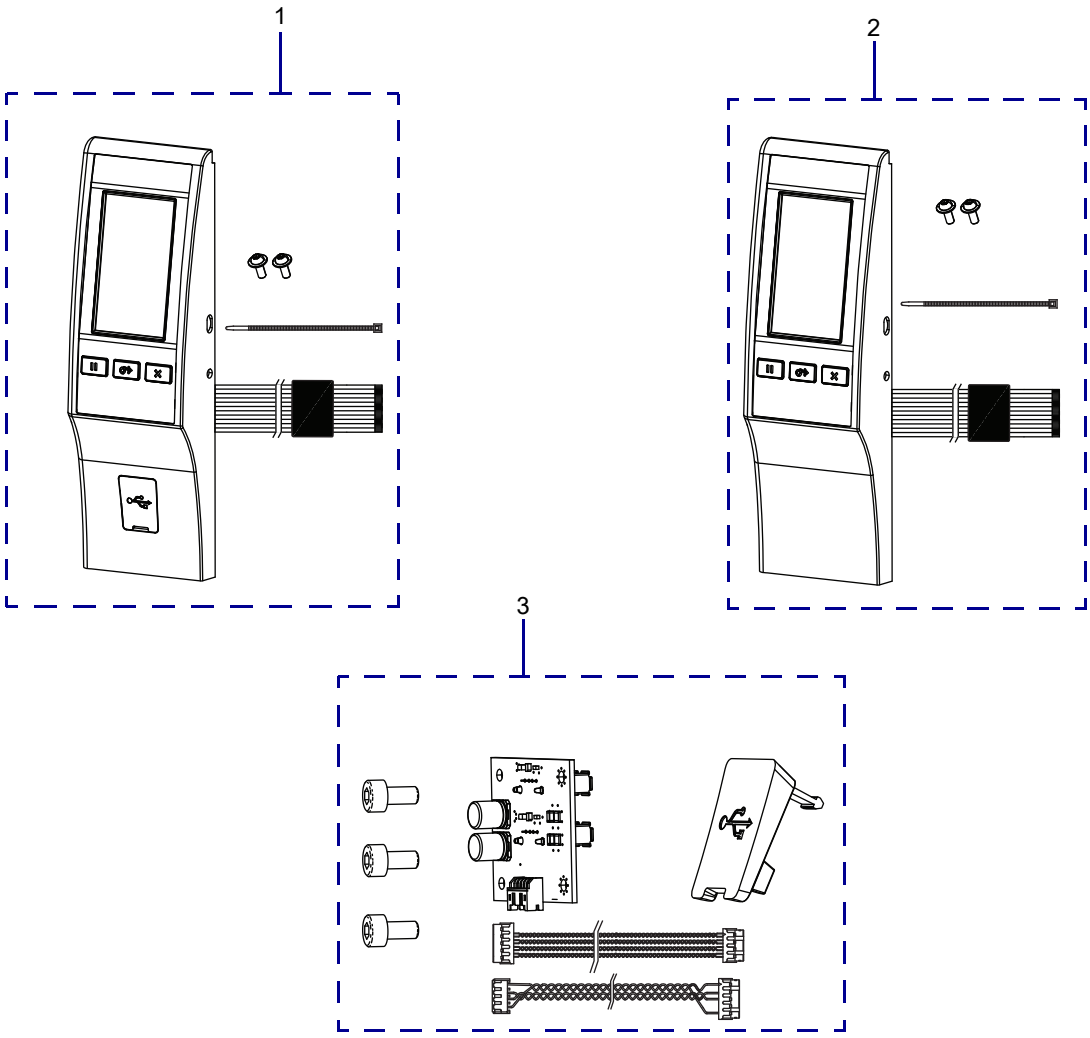


Table 48 Front Panel Kits

Item	Part Number	Description
1	P1105147-001	ZT411 Printers Control Panel Maintenance Kit
	P1105147-002	ZT421 Printers Control Panel Maintenance Kit
2	P1105147-003	ZT411 Printers Control Panel Maintenance Kit‡
	P1105147-004	ZT421 Printers Control Panel Maintenance Kit‡
3	P1058930-403	ZT411/ZT421 Printers Dual Port USB Maintenance Kit

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: **ZTxxxxx – Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter P, your printer DOES NOT include these features.

Figure 359 Circuit Board Kits

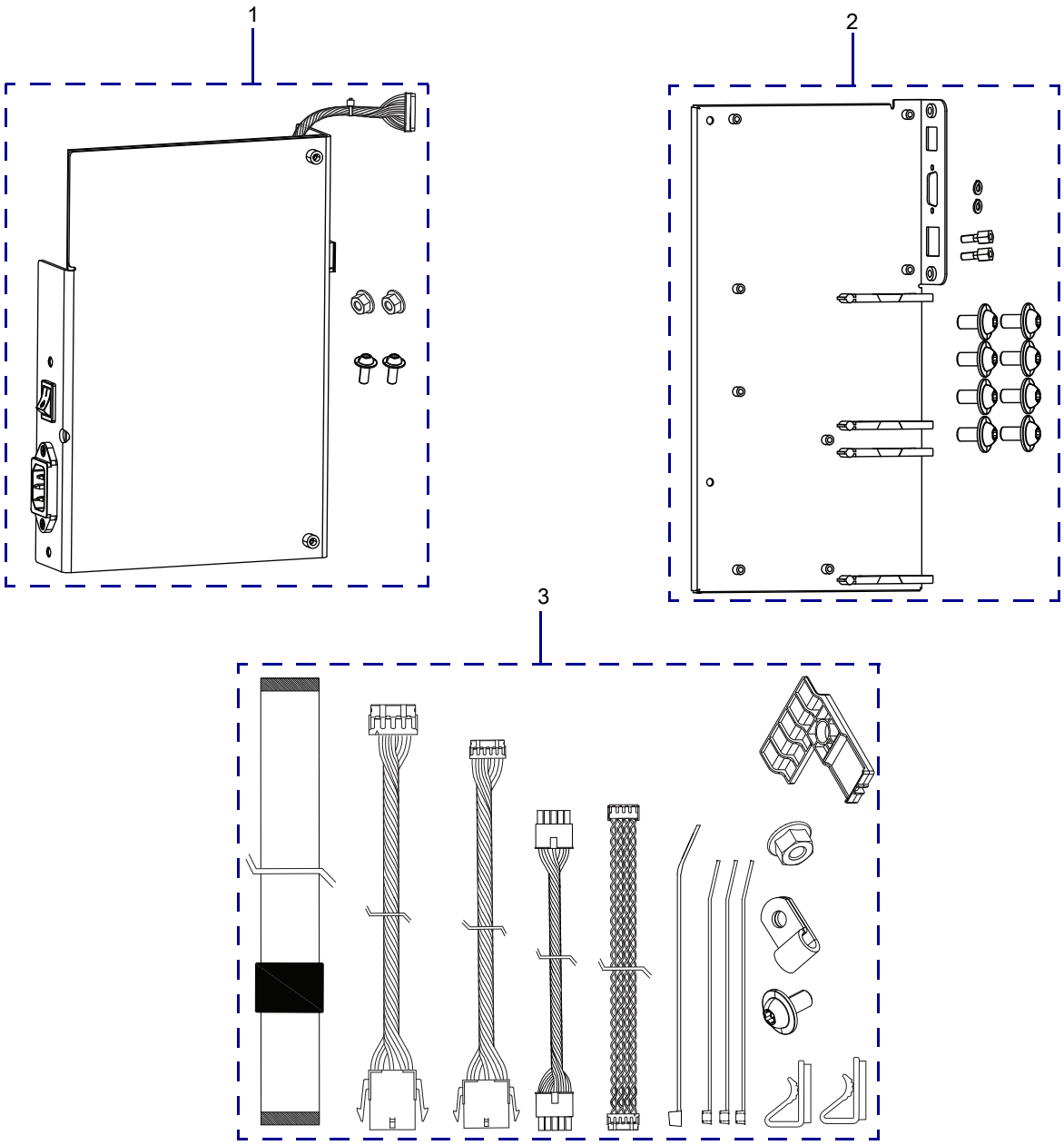


Table 49 Circuit Board Kits

Item	Part Number	Description
1	P1105147-012	ZT411 Printers Power Supply Maintenance Kit
	P1105147-024	ZT421 Printers Power Supply Maintenance Kit
2	P1105147-009	ZT411/ZT421 Printers Main Logic Board Bracket Assembly Maintenance Kit
3	P1105147-013	ZT411/ZT421 Printers Electronics Cables Kit

Figure 360 Option Kits

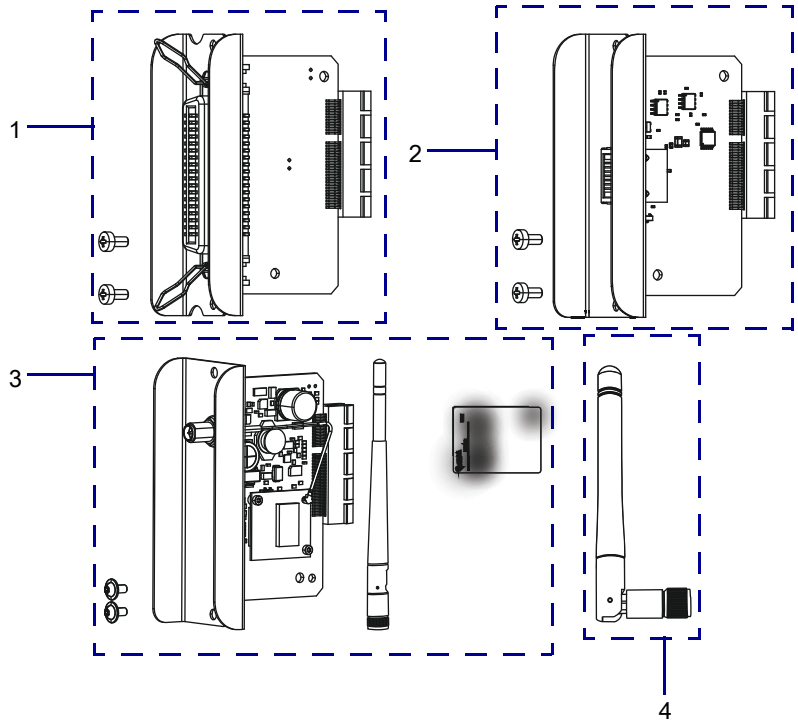


Table 50 Option Kits

Item	Part Number	Description
1	P1058930-075	ZT411/ZT421 Printers Parallel Port Option/Maintenance Kit
2	P1058930-074	ZT411/ZT421 Printers Wired Ethernet Option/Maintenance Kit
3	P1037974-053	ZT411/ZT421 Printers Wireless Maintenance Kit
4	P1058930-097A	ZT411/ZT421* Printers Wireless Print Server 802.11ac Radio Option/Maintenance Kit, Region A (USA and Canada)
	P1058930-097B	ZT411/ZT421* Printers Wireless Print Server 802.11ac Radio Option/Maintenance Kit, Region B (Japan)
	P1058930-097C	ZT411/ZT421* Printers Wireless Print Server 802.11ac Radio Option/Maintenance Kit, Region C (All other countries other than regions, A and B)

Figure 361 RFID Kits

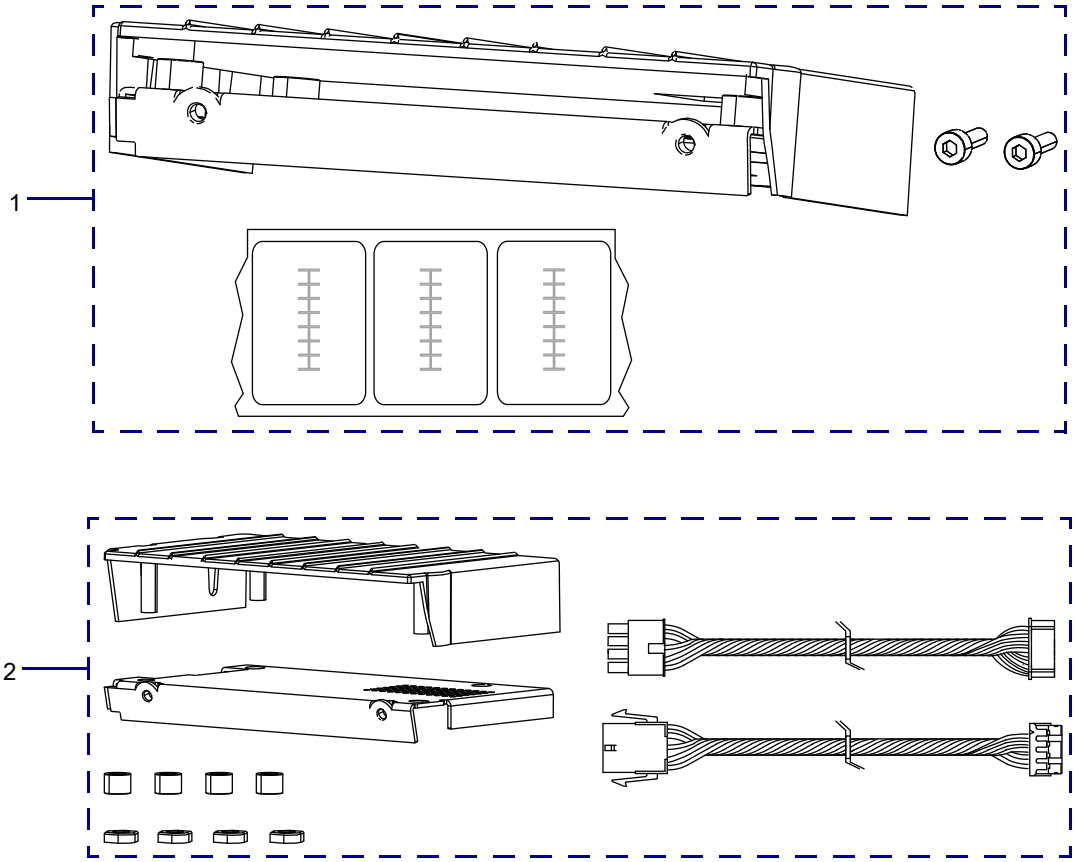


Table 51 RFID Kits

Item	Part Number	Description
1	P1058930-500A	ZT411/ZT421 Printers RFID Assembly North America Option/Maintenance Kit
	P1058930-500B	ZT411/ZT421 Printers RFID Assembly Japan Assembly Option/Maintenance Kit
	P1058930-500C	ZT411/ZT421 Printers RFID Assembly Rest of World (except Japan) Option/Maintenance Kit
2	P1058930-503	ZT411/ZT421 Printers RFID Cables and Hardware Maintenance Kit

Figure 362 Sensor Kits

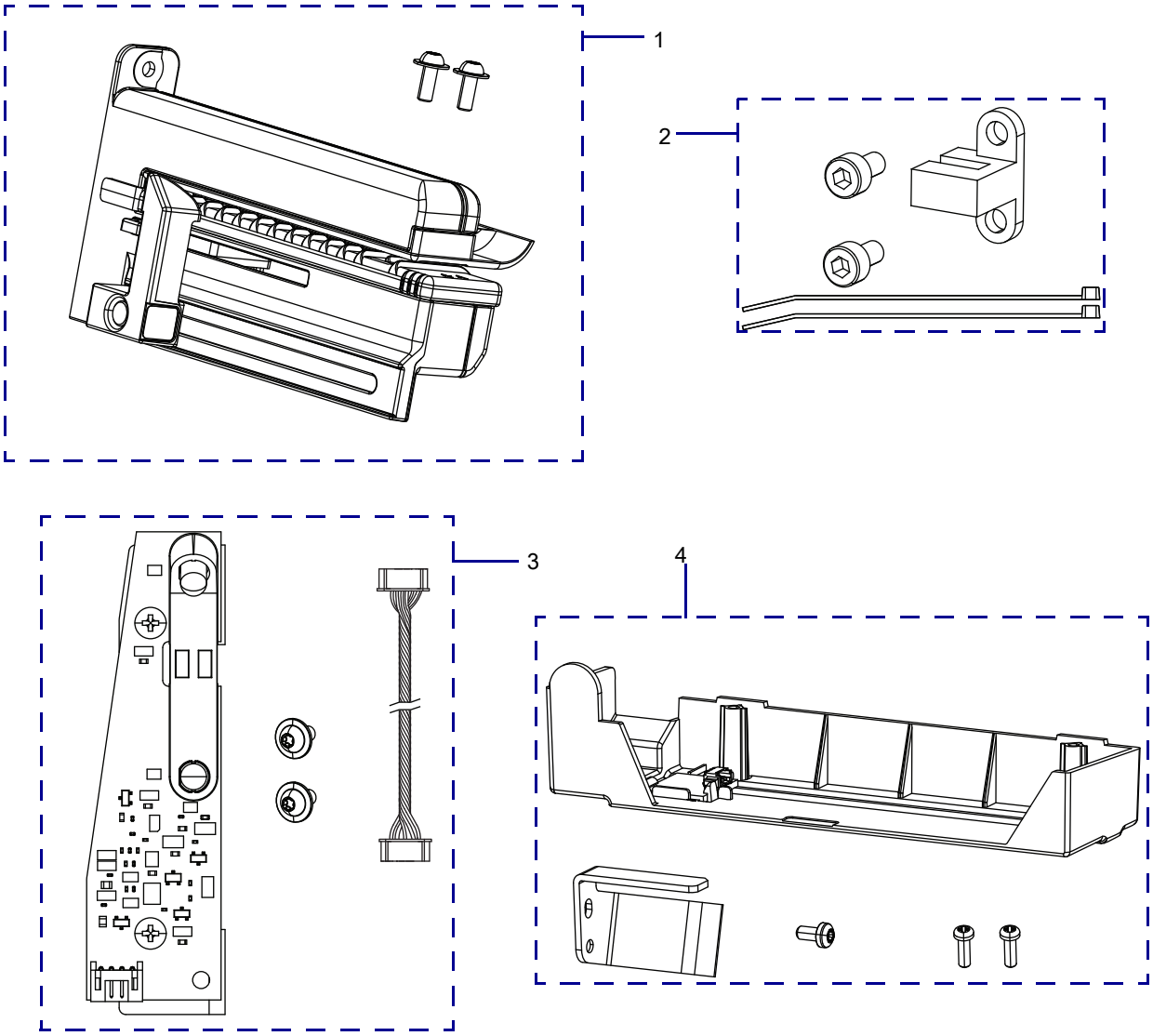


Table 52 Sensor Kits

Item	Part Number	Description
1	P1105147-014	ZT411 Printers Media Sensor Maintenance Kit
	P1105147-015	ZT421 Printers Media Sensor Maintenance Kit
2	P1058930-084	ZT411/ZT421 Printers Head-Open Sensor Maintenance Kit
3	P1058930-077	ZT411/ZT421 Printers Take-label Sensor Maintenance Kit
4	P1105147-016	ZT411 Printers Ribbon Sensor Maintenance Kit
	P1105147-017	ZT421 Printers Ribbon Sensor Maintenance Kit

ZT411/ZT421 Printers Control Panel Maintenance Kit

This kit includes the parts and documentation necessary to install Control Panel Maintenance Kit on ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: After installation, you must pair your Bluetooth devices with the printer again.

IMPORTANT: A qualified service technician must perform this installation.

NOTE: This control panel does not apply to printers with a Part Number: ZTxxxxx – **Pxxxxxxx (**if the last part begins with the letter **P**).

Parts List

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

Figure 363 Kit Contents

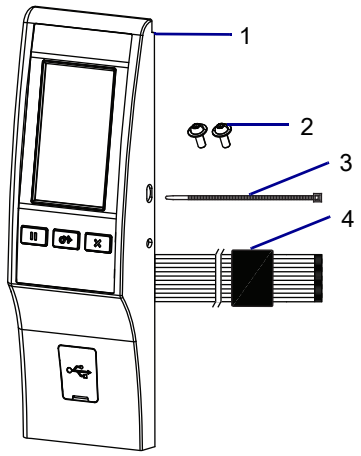


Table 53 Parts List

Item	Description	Qty
Ref	Control Panel Maintenance Kit	
1	Control Panel	1
2	Hexalobular Screw M4 x 10	2
3	Cable Tie	1
4	Control panel cable	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Screwdriver Set
- Wire Cutters
- Antistatic Wriststrap and Mat

Remove the Electronics Cover

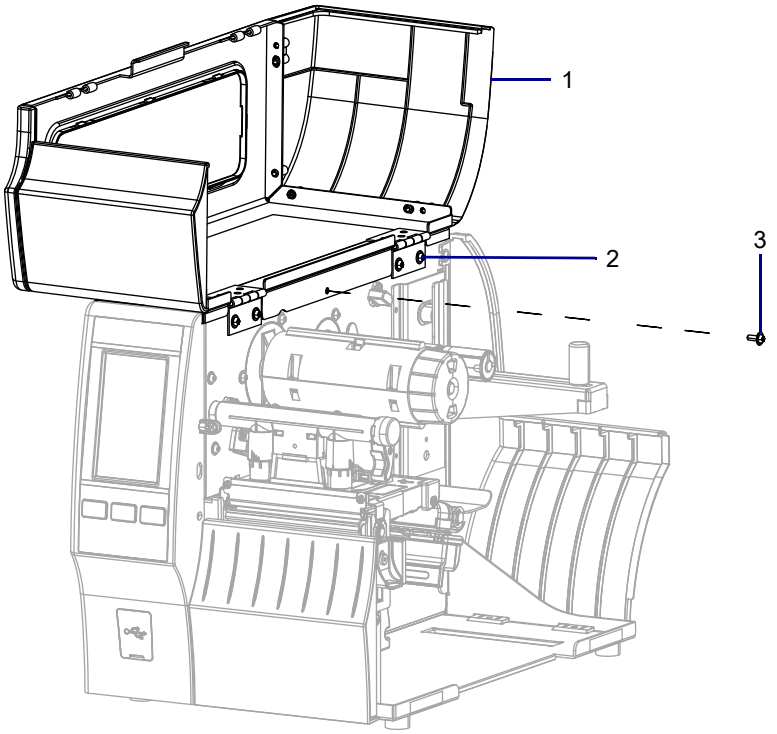
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 364. Remove the screw securing the electronics cover.

Figure 364 Locate the Electronics Cover Mounting Screw

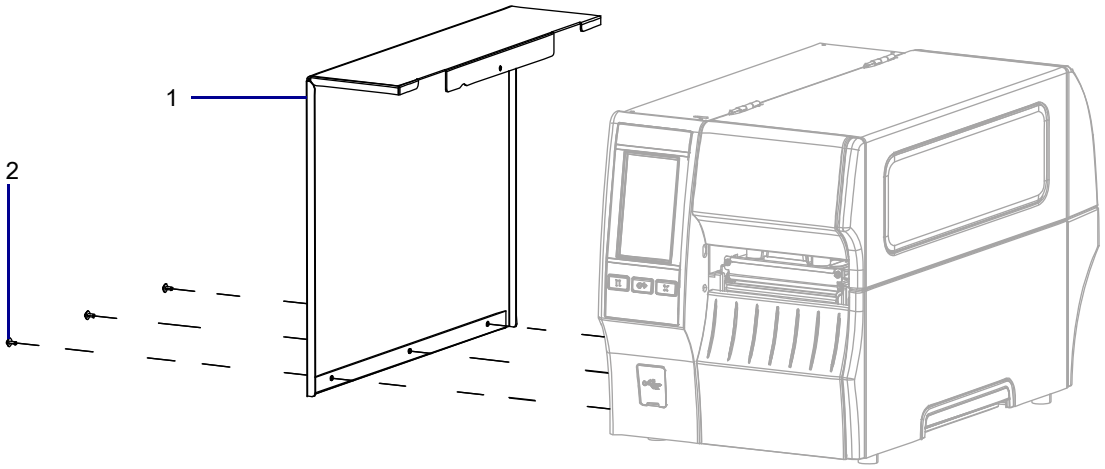


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 365. Remove the three mounting screws securing the electronics cover to the printer.

Figure 365 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

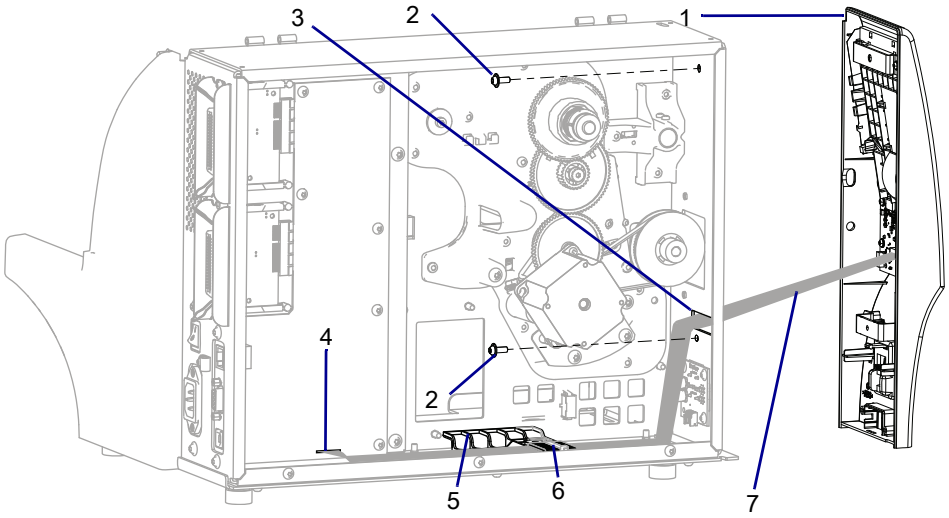
6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Control Panel

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. See Figure 366. Disconnect the control panel cable from J9.

Figure 366 Remove the Control Panel



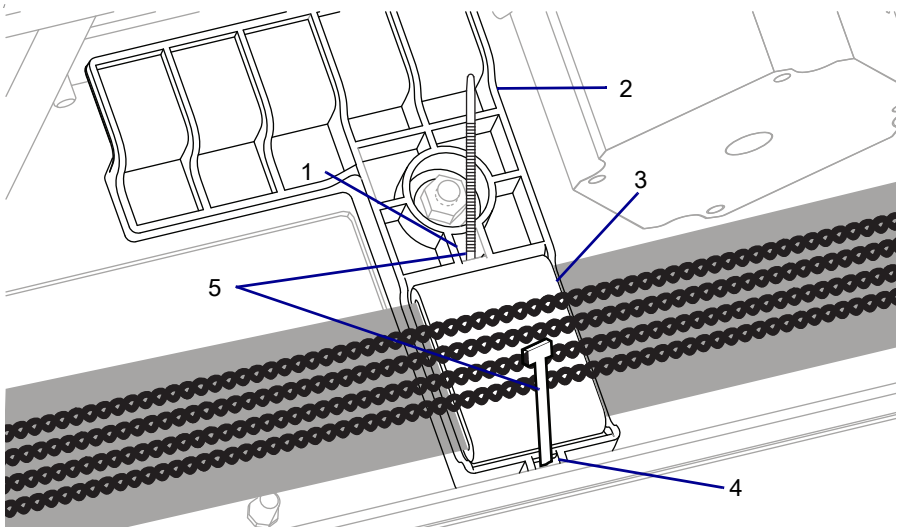
1	Control panel
2	Control panel mounting screws (2)
3	Main frame pass-through opening
4	J9 connector on MLB
5	Cable clamp with ferrite
6	Cable tie
7	Control panel cable

2. Cut the cable tie securing the cables and ferrite to the cable clamp.
3. Remove the loose cables and ferrite from the cable clamp on the base of the printer.
4. Remove the two control panel mounting screws.
5. If you are using a peel option, disconnect the take label sensor from J2 on the control panel PCB.
6. Pull the control panel away from printer while guiding the cables through the main frame pass-through opening.

Install the New Control Panel

1. See Figure 366 on page 444. Guide the cables through the pass-through opening in the main frame.
2. If you are using a peel option, reconnect the take label sensor from J2 on the control panel PCB.
3. Align the two control panel mounting openings and install new mounting screws.
4. Secure the ferrite cable in the cable clamp on the base of the printer and lay any loose wires on top of the ferrite.
5. See Figure 367. Insert the cable tie through the front opening of the cable clamp and push the cable tie in until it comes through the rear opening in the cable clamp.
6. Fasten the cable tie to secure the cables.
7. Connect the new cable to J9 on the main logic board.

Figure 367 Install Cable Tie

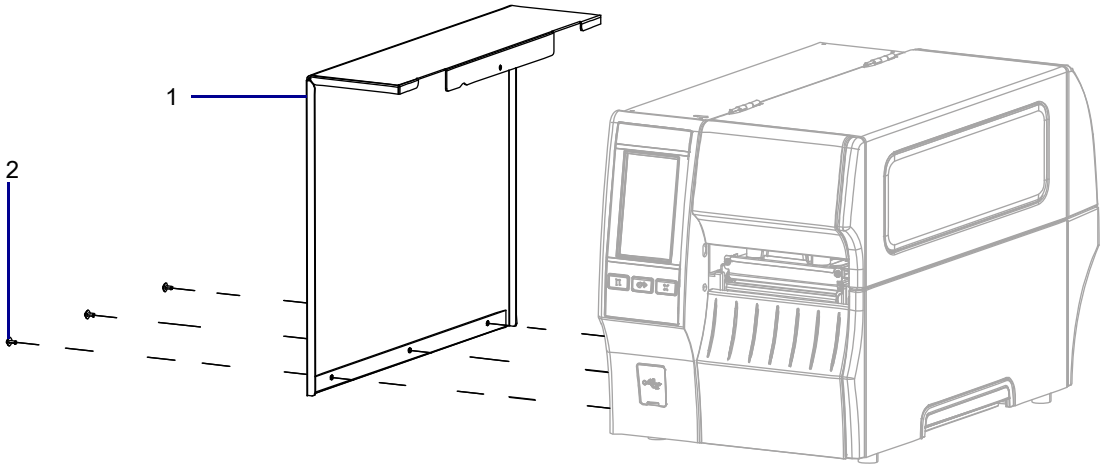


1	Back opening
2	Bracket
3	Ferrite
4	Front opening
5	Cable tie

Reinstall the Electronics Cover

1. See Figure 368. Slide the electronics cover onto the printer.

Figure 368 Reinstall the Electronics Cover Mounting Screws

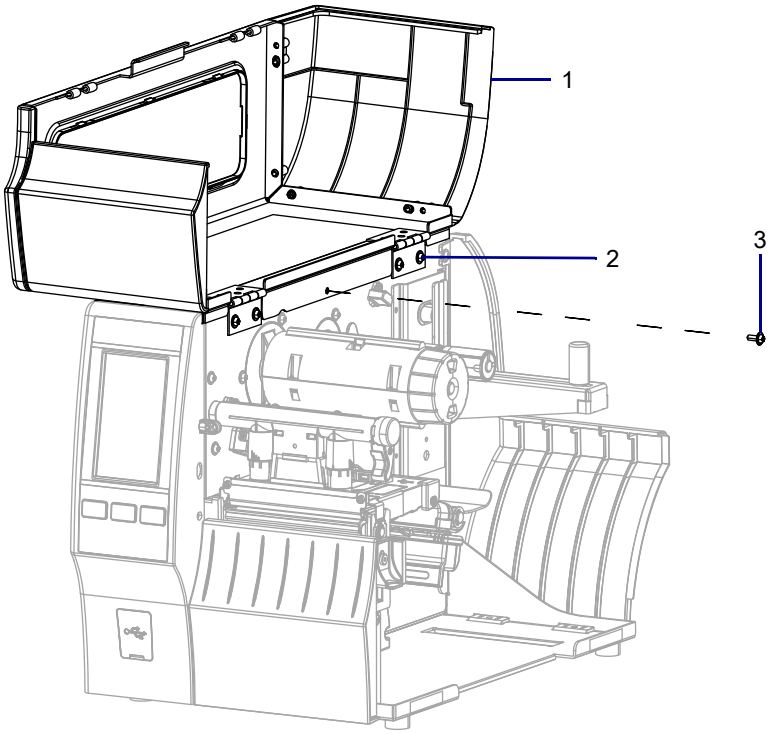


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 369. Open the media door and install the mounting screw.

Figure 369 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Control Panel Maintenance Kit

This kit includes the parts and documentation necessary to install the Control Panel Maintenance Kit on ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

IMPORTANT: A qualified service technician must perform this installation.

NOTE: This control panel only applies to printers with a Part Number: ZTxxxxx – **Pxxxxxxx (**if the last part begins with the letter **P**).

Parts List

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

Figure 370 Kit Contents

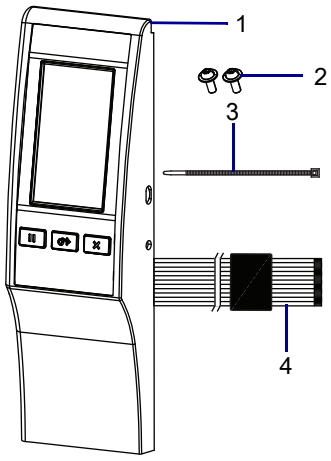


Table 54 Parts List

Item	Description	Qty
Ref	Control Panel Maintenance Kit	
1	Control Panel	1
2	Hexalobular Screw M4 x 10	2
3	Cable Tie	1
4	Control panel cable	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Screwdriver Set
- Wire Cutters
- Antistatic Wriststrap and Mat

Remove the Electronics Cover

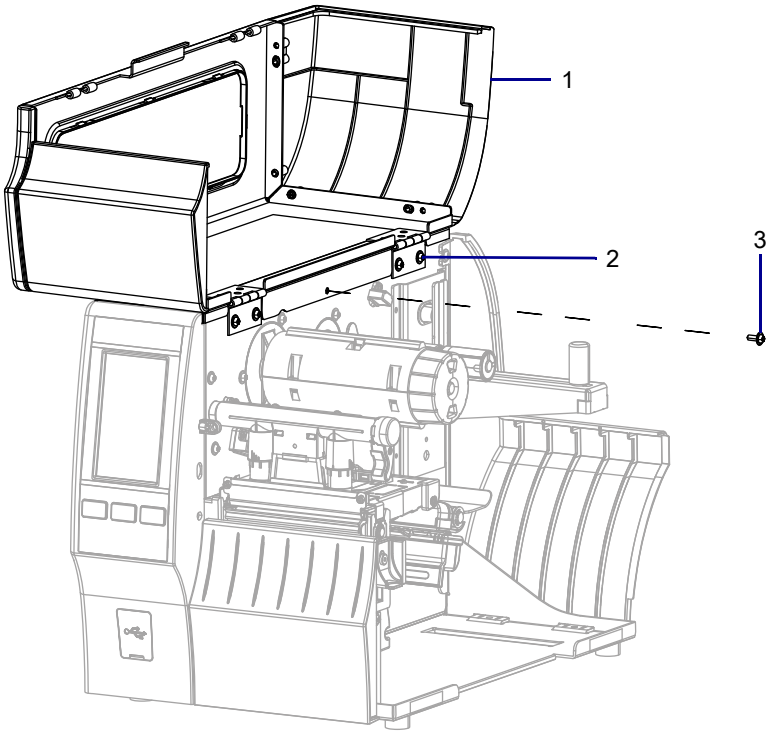
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 371. Remove the screw and washer securing the electronics cover.

Figure 371 Locate the Electronics Cover Mounting Screw

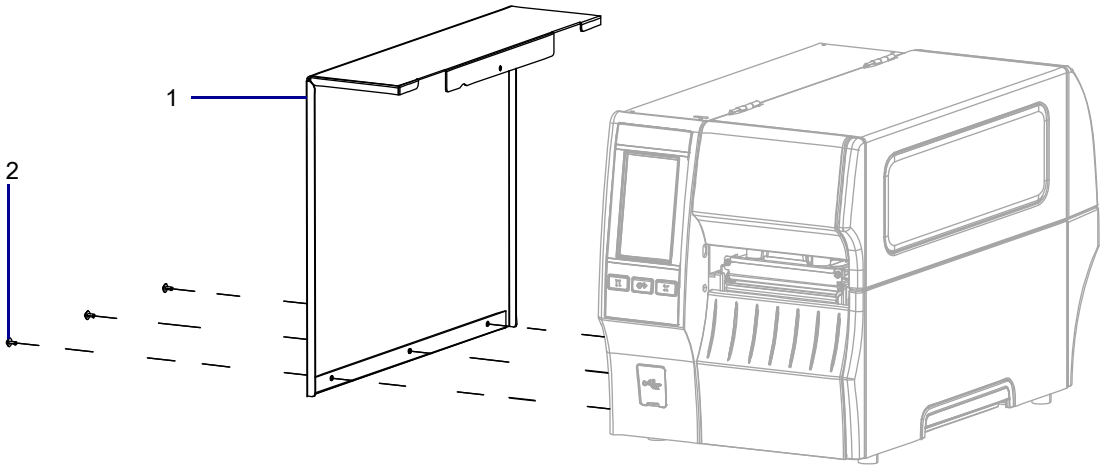


1	Media door
2	Electronics cover flange
3	Mounting screw

4. Close the media door.

5. See Figure 372. Remove the three mounting screws securing the electronics cover to the printer.

Figure 372 Remove the Electronics Cover Mounting Screws



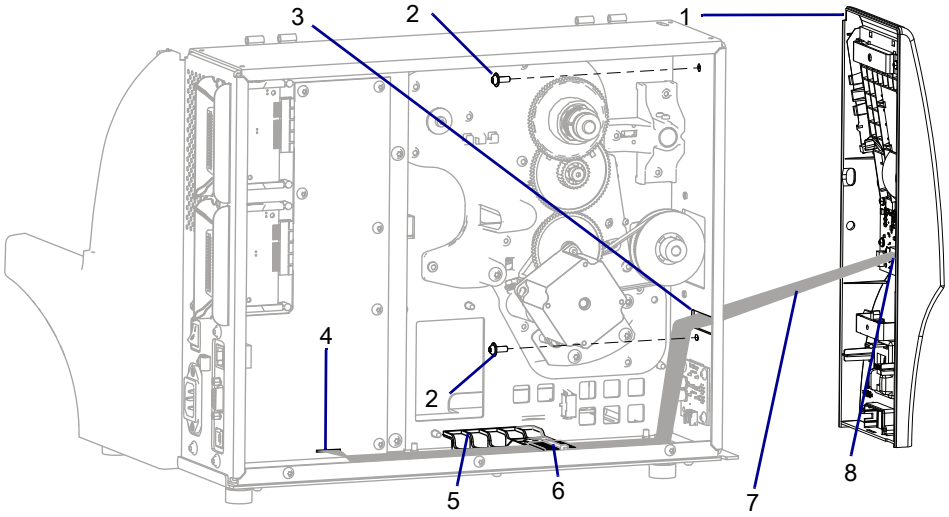
1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Control Panel

1. See Figure 373. Cut the cable tie securing the loose cables and ferrite to the cable clamp.

Figure 373 Remove the Control Panel



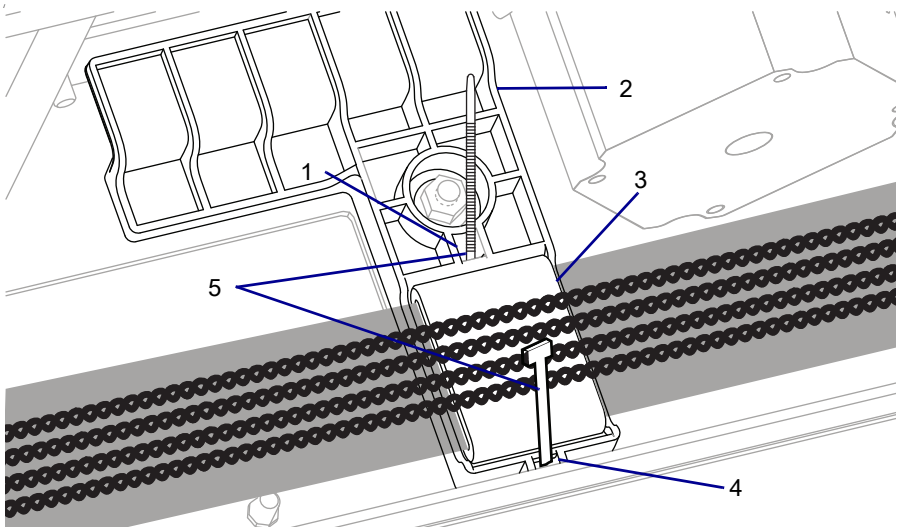
1	Control panel
2	Control panel mounting screws (2)
3	Main frame pass-through opening
4	J9 connector on MLB
5	Cable clamp with ferrite
6	Cable tie
7	Control panel cable
8	J2 connector on control panel

2. Remove the cables and ferrite from the cable clamp on the base of the printer.
3. Remove and discard the two control panel mounting screws.
4. If you are using a peel option, disconnect the take label sensor from J2 on the control panel PCB and discard.
5. Pull the control panel away from printer while guiding the cables through the main frame pass-through opening. Discard the control panel and its cable.

Install the New Control Panel

1. See Figure 373 on page 452. Guide the cables through the pass-through opening in the main frame.
2. If you are using a peel option, reconnect the take label sensor to J2 on the control panel PCB.
3. Align the control panel with the front of the printer and install the two mounting screws.
4. Secure the ferrite cable in the cable clamp on the base of the printer and lay any loose wires on top of the ferrite.
5. See Figure 376. Insert the cable tie through the front opening of the cable clamp and push the cable tie in until it comes through the rear opening in the cable clamp.
6. Fasten the cable tie to secure the cables.
7. See Figure 373 on page 452. Connect the new cable to J9 on the main logic board.

Figure 374 Install Cable Tie

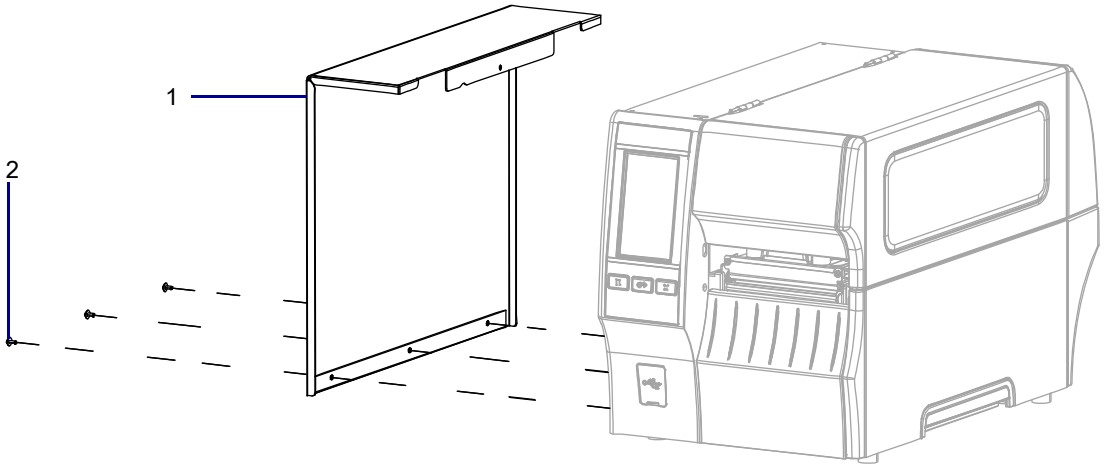


1	Back opening
2	Bracket
3	Ferrite
4	Front opening
5	Cable tie

Reinstall the Electronics Cover

1. See Figure 375. Slide the electronics cover onto the printer.

Figure 375 Reinstall the Electronics Cover Mounting Screws

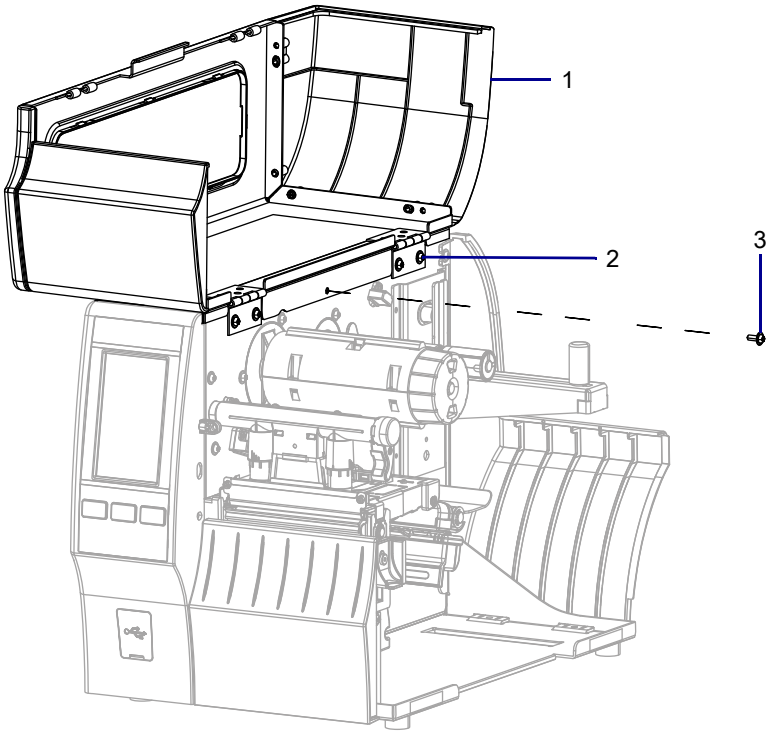


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 376. Open the media door and install the mounting screw.

Figure 376 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Dual Port USB Maintenance Kit

This kit includes the parts and documentation necessary to install the Dual port USB maintenance kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 377 Kit Contents

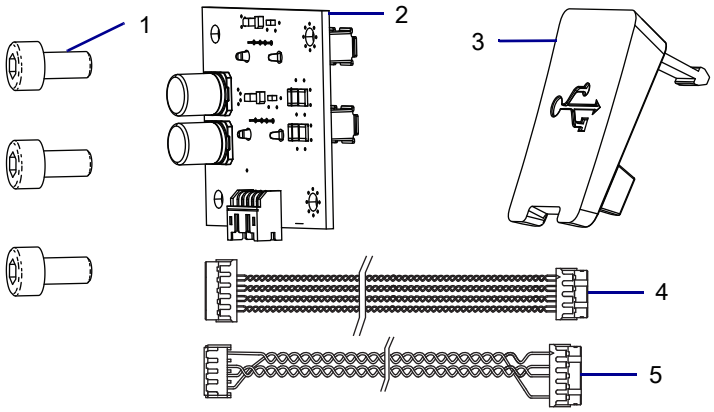


Table 55 Parts List

Item	Description	Qty
Ref	Dual Port USB Maintenance Kit	
1	Screw, M3 × 0.5 × 6	3
2	Dual Port USB Host Board	1
3	Dual Port USB Cover	1
4	Control Panel to Dual Port USB Host Board Cable	1
5	Main Logic Board (MLB) to Control Panel USB Cable (red, blue, yellow, and black cable)	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wriststrap and Mat
- Wire Cutters or Snips
- Metric Hex Key Set
- Safety Glasses

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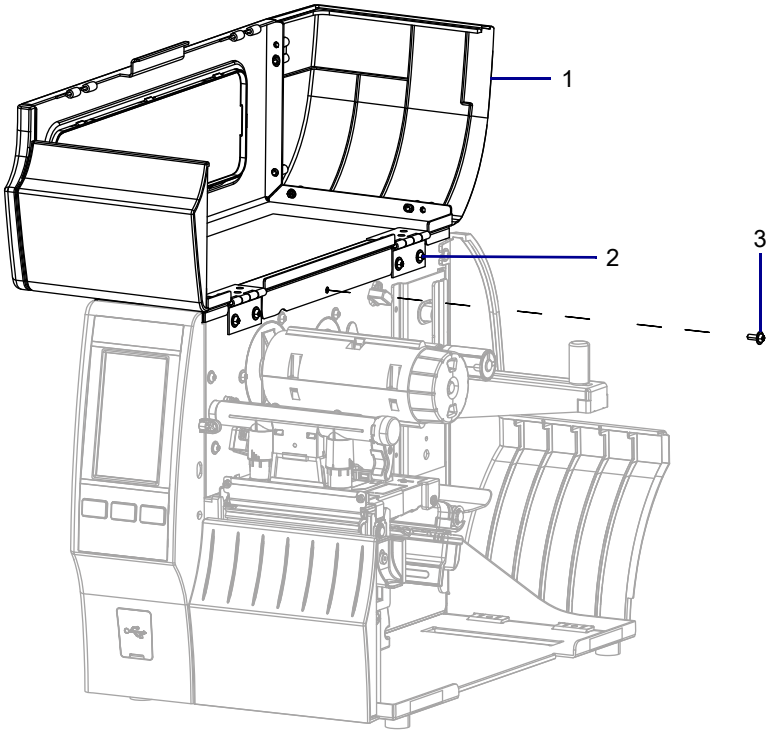
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 378. Remove the screw securing the electronics cover.

Figure 378 Locate the Electronics Cover Mounting Screw

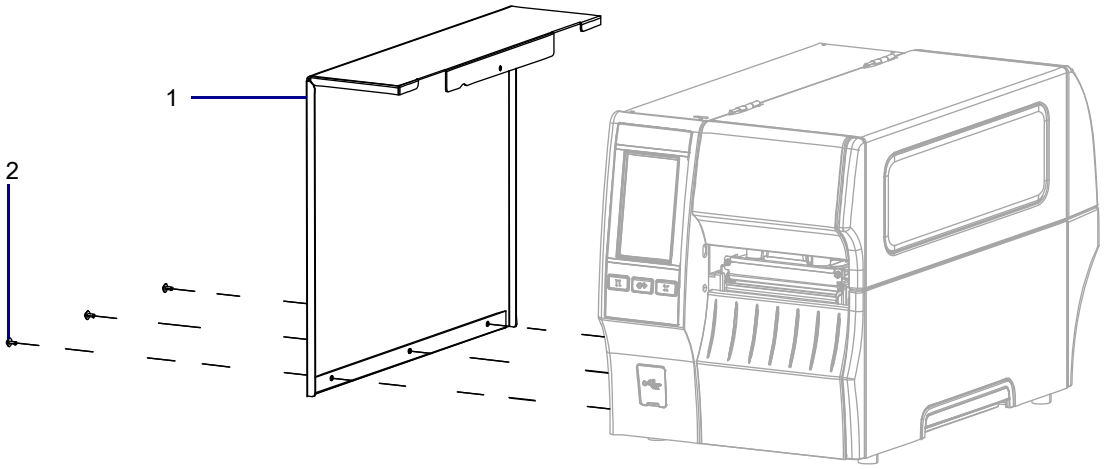


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 379. Remove the three mounting screws securing the electronics cover to the printer.

Figure 379 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

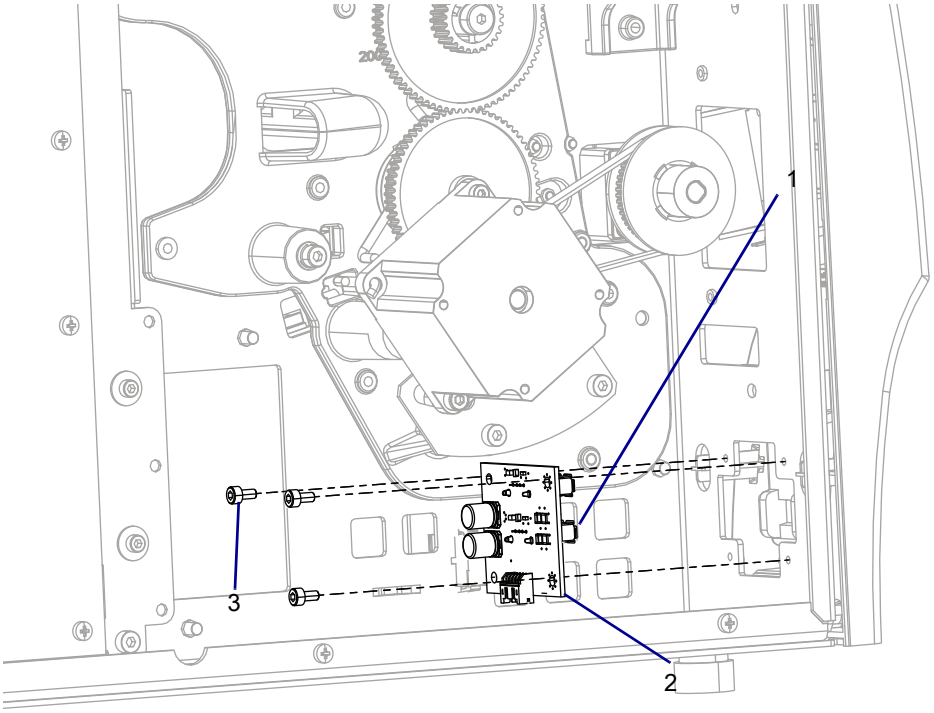
6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Old USB Host Board

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 380. Remove the three mounting screws.

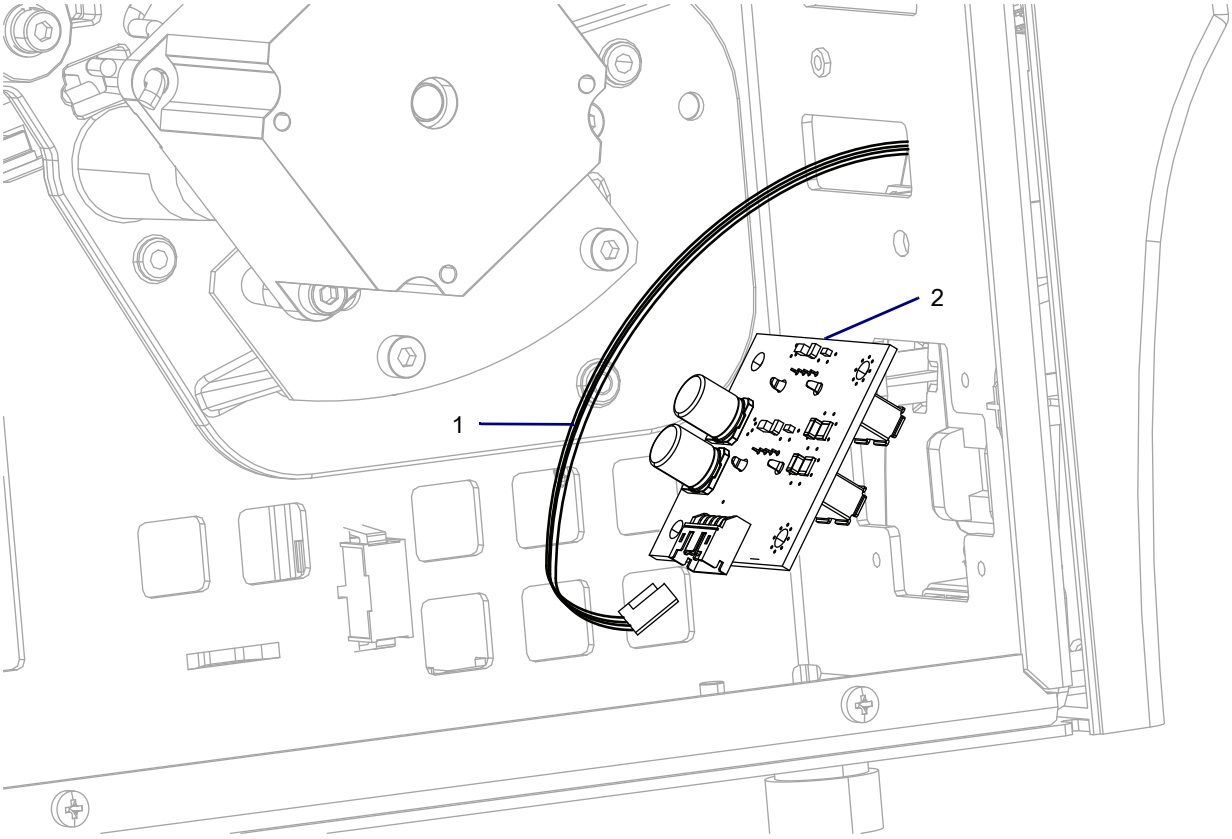
Figure 380 Remove the Old USB Host Board



1	USB port
2	USB host board
3	Mounting screws (3)

3. See Figure 381. Disconnect the black and white USB host cable from the old USB host board and discard the board.

Figure 381 Disconnect USB Host Cable



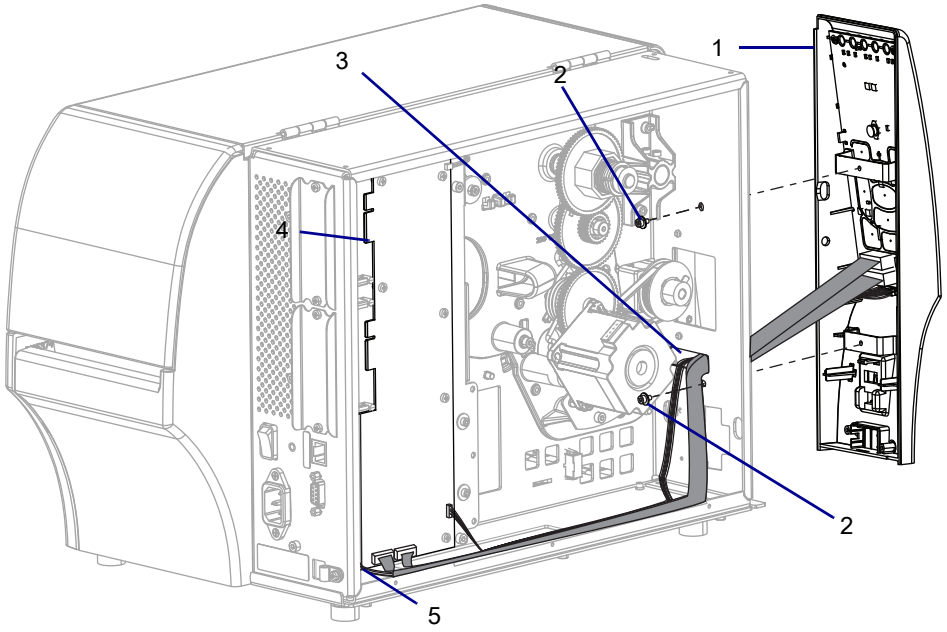
1	USB host cable (black and white)
2	USB host board

Remove the Control Panel

To access and replace the USB cables you must remove the control panel.

1. See Figure 382. Remove and save the two control panel mounting screws.

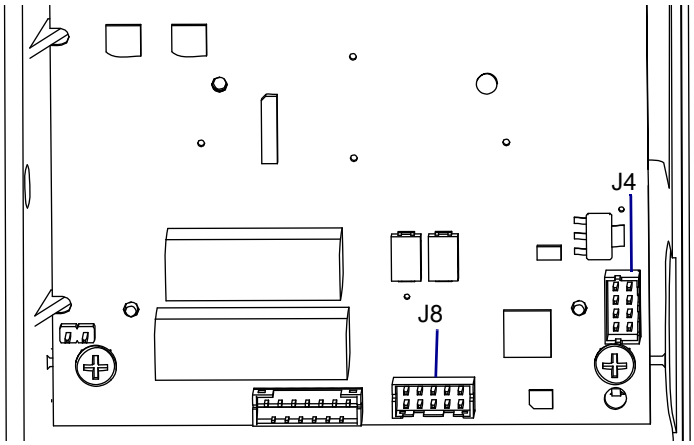
Figure 382 Remove the Control Panel



1	Control panel
2	Mounting screws (2)
3	Mainframe pass-through hole
4	Main logic board
5	J1 Main logic board

2. Move the control panel away from the printer.

Figure 383 Control Panel Connections

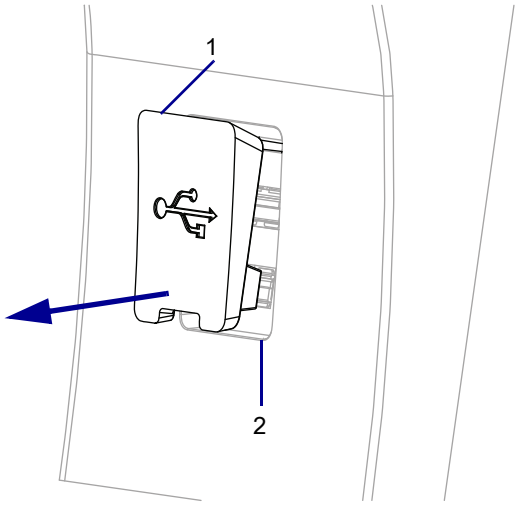


1. See Figure 382 on page 461 and Figure 383. Disconnect and discard the old MLB USB cable (red, blue, yellow, and black) from J1 on the MLB and from J8 on the control panel.
2. Install the MLB USB cable (red, blue, yellow, and black) to J1 of the MLB.
3. See Figure 382 on page 461. Pass the new cable through the main frame pass-through hole to the control panel and connect the cable to J8 on the control panel.
4. Disconnect and discard the USB host board cable (black and white) from J4 on the control panel.
5. See Figure 382 on page 461. Install the new USB host cable (black and white) to J4 on the control panel. Pass the USB host cable through the main frame pass-through hole into the printer.

Remove the Old USB Cover

1. See Figure 384. Pull the old USB cover forward from the USB access port.

Figure 384 Remove the Old USB Cover

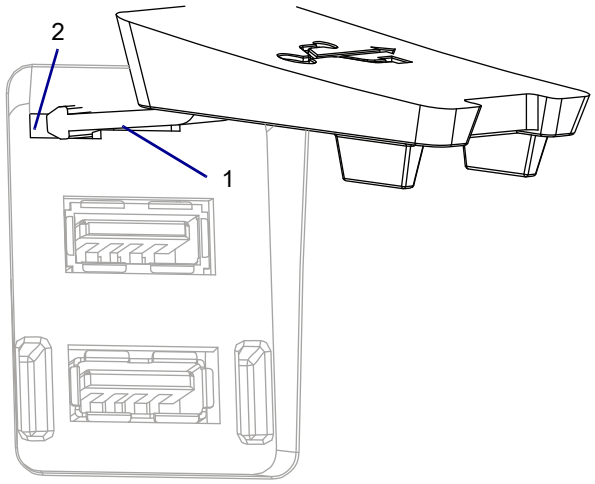


1	USB cover
2	USB access port

2. Slide the USB cover to the left until it stops.

3. See Figure 385. Rotate the USB cover to the left and pull the tab out of the large hole in the mounting slot.

Figure 385 USB Cover Tab

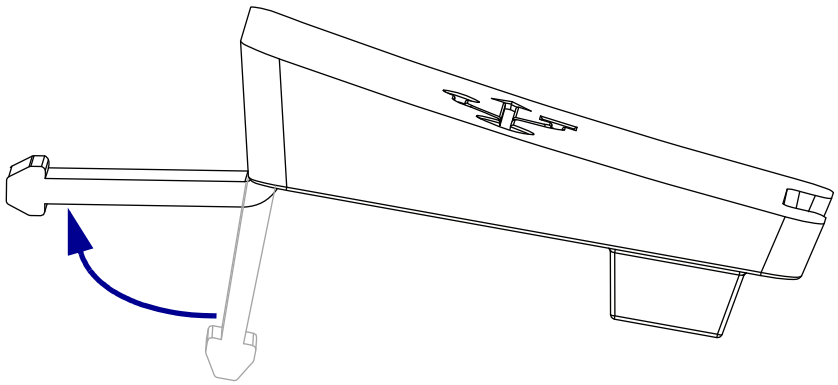


1	Tab
2	Mounting slot

Install the New USB Cover

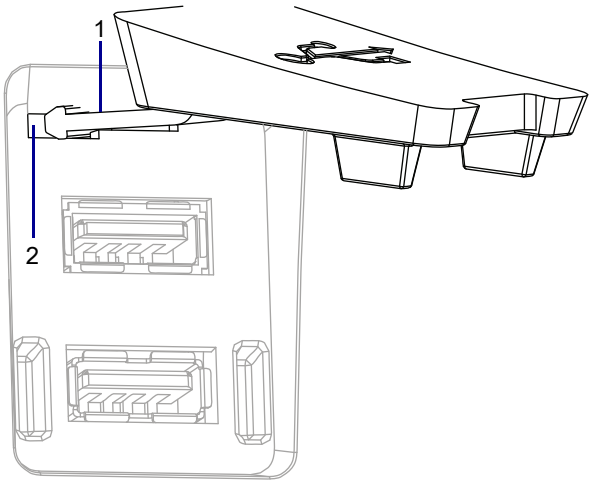
1. See Figure 386. Hold the new USB cover so the tab is pushed forward.

Figure 386 USB Cover with Tab Pushed Forward



2. See Figure 387. Push the front right corner of the new USB cover tab through the large hole in the mounting slot.

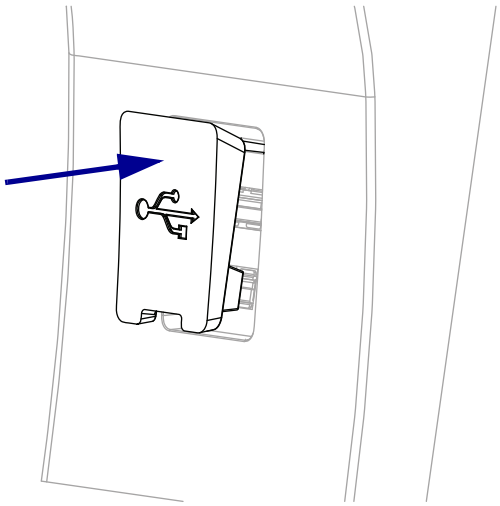
Figure 387 Install the New USB Cover



1	Tab
2	Mounting slot

3. See Figure 388. Slide the new USB cover to the right and then press it in to the cover over the USB ports.

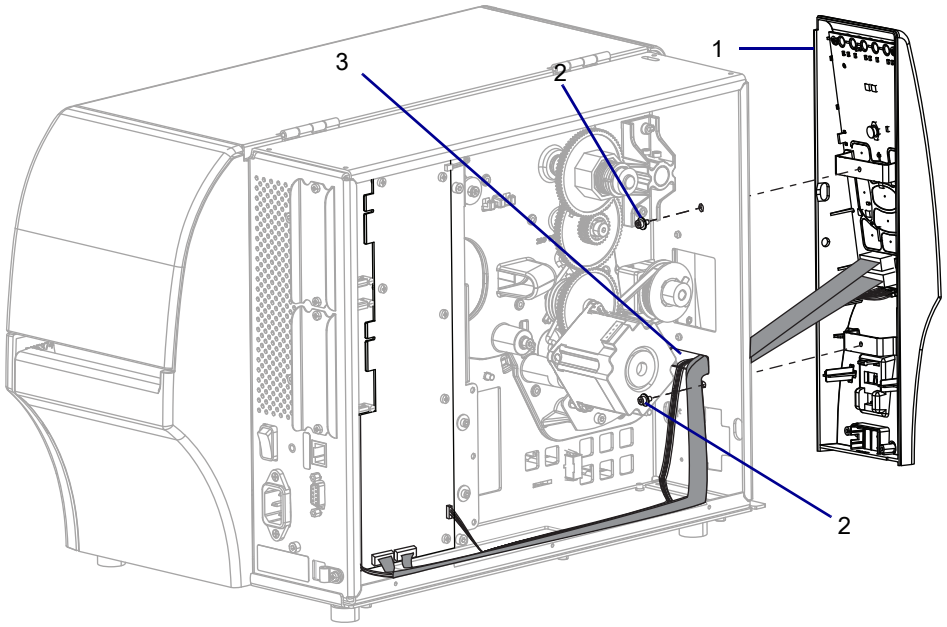
Figure 388 Seat the New Cover



Reinstall the Control Panel

1. See Figure 389. Align the two control panel mounting holes on the control panel with the holes on the printer.

Figure 389 Reinstall the Control Panel



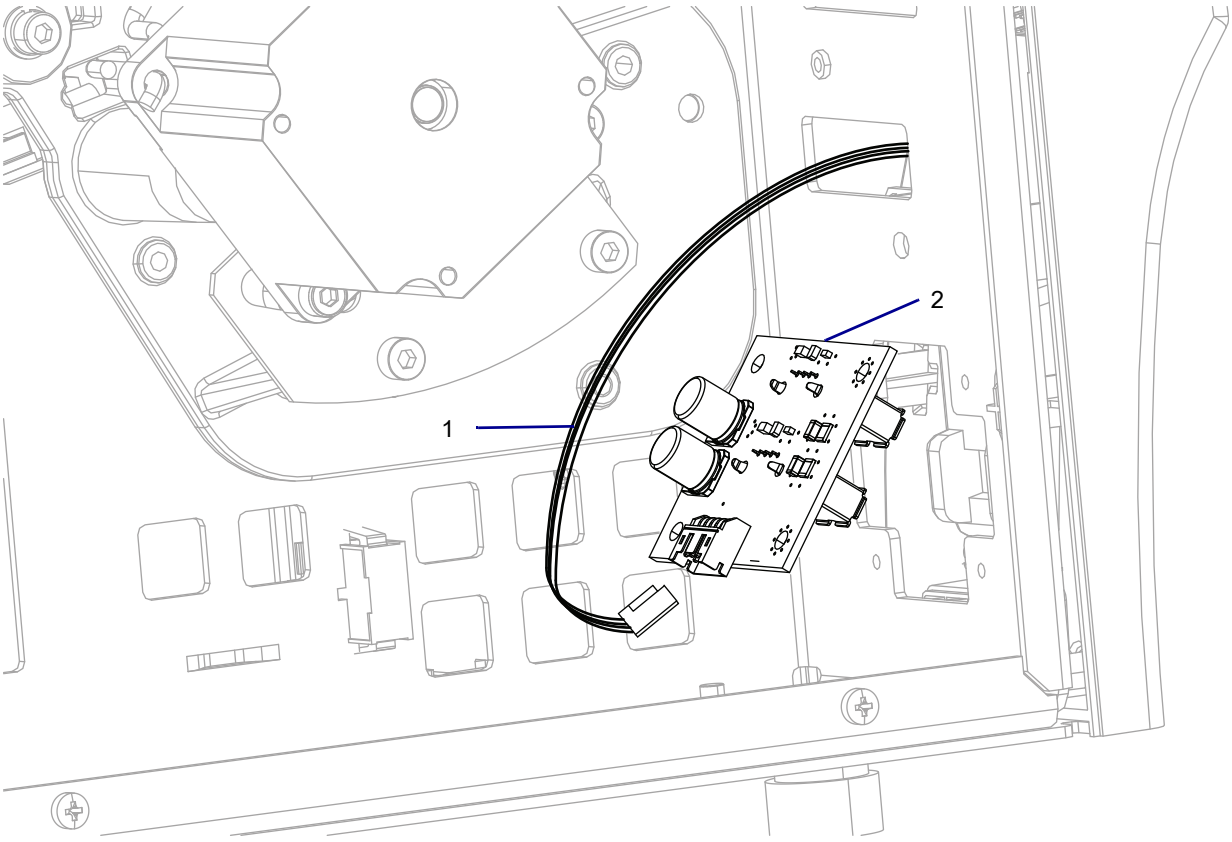
1	Control panel
2	Mounting screws (2)
3	Mainframe pass-through hole

2. Reinstall the two mounting screws to secure the control panel to the printer.

Install the New USB Host Board

1. See Figure 390. Connect the black and white USB host cable to the new USB host board.

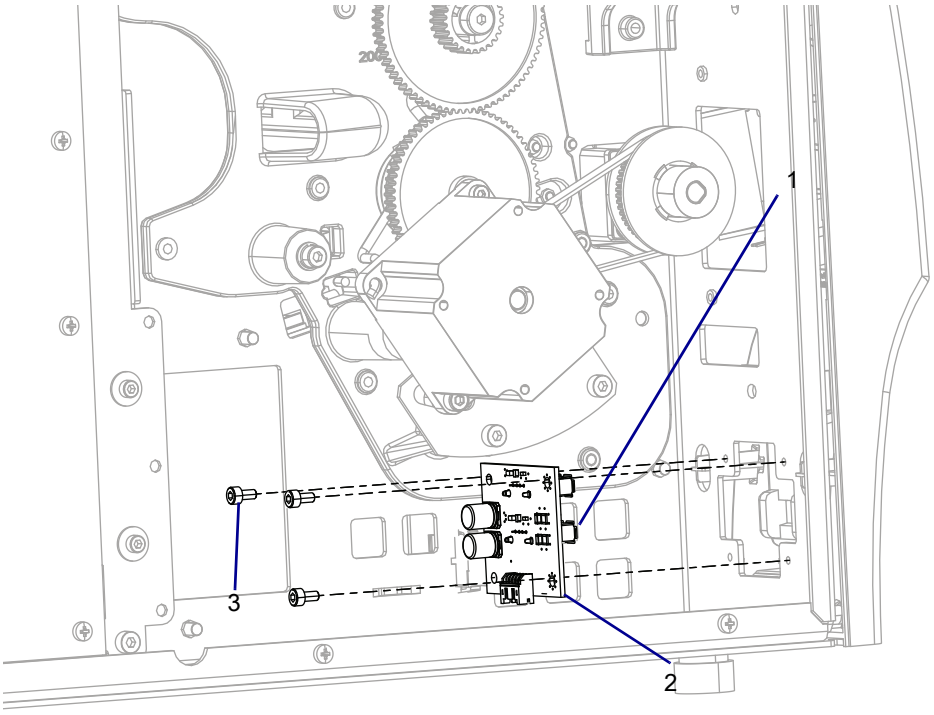
Figure 390 Reconnect USB Host Board



1	USB host cable (black and white)
2	USB host board

2. See Figure 391. Align the USB host board with the mounting holes in the printer.

Figure 391 Install the USB Host Board



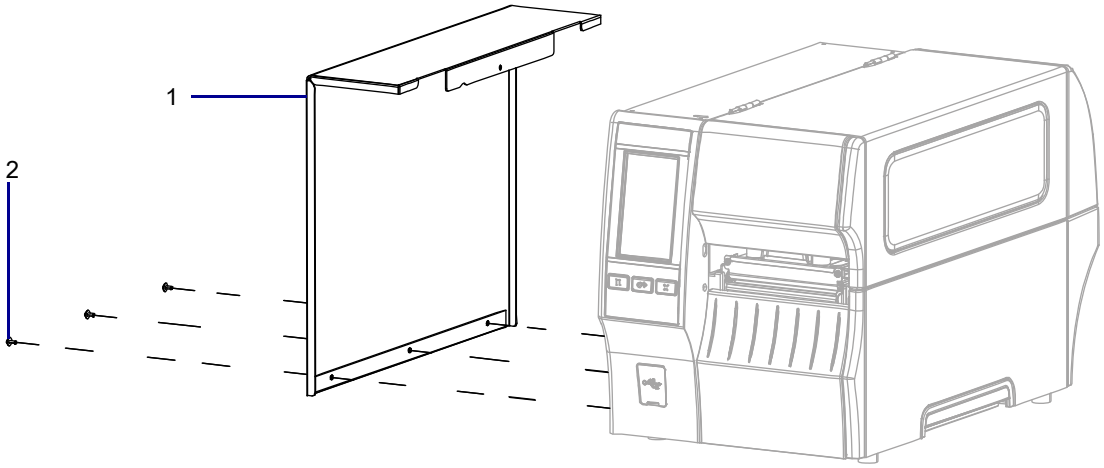
1	USB ports
2	USB host board
3	Mounting screws (3)

3. Install the three new mounting screws.
4. Secure any loose wires in the cable clamp on the bottom of the printer.

Reinstall the Electronics Cover

1. See Figure 392. Slide the electronics cover onto the printer.

Figure 392 Reinstall the Electronics Cover Mounting Screws

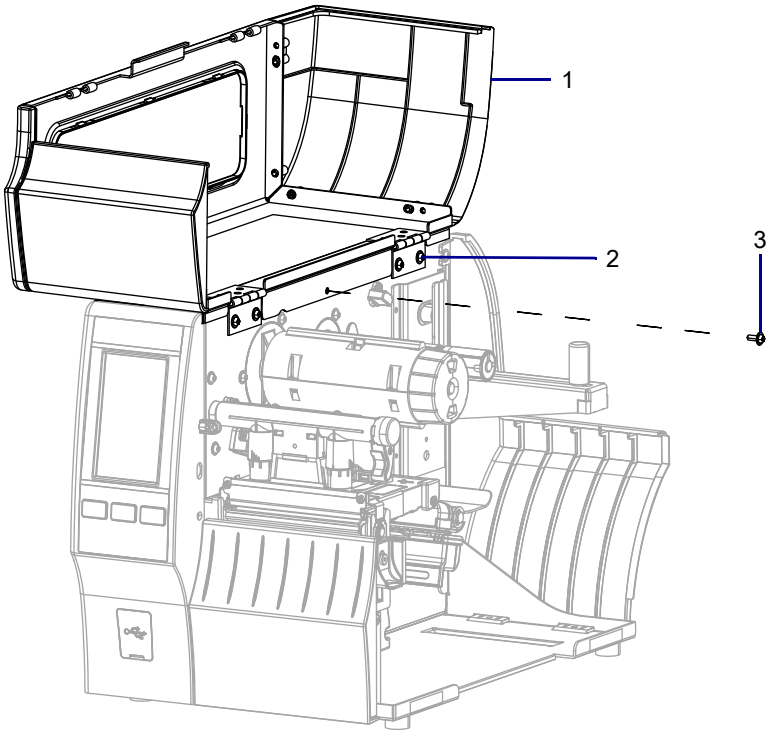


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 393. Open the media door and install the mounting screw.

Figure 393 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Power Supply Maintenance Kit

This kit includes the parts and documentation necessary to install the Power Supply Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: ZTxxxxx – **Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter **P**, your printer DOES NOT include these features.

Parts List

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

Figure 394 Kit Contents

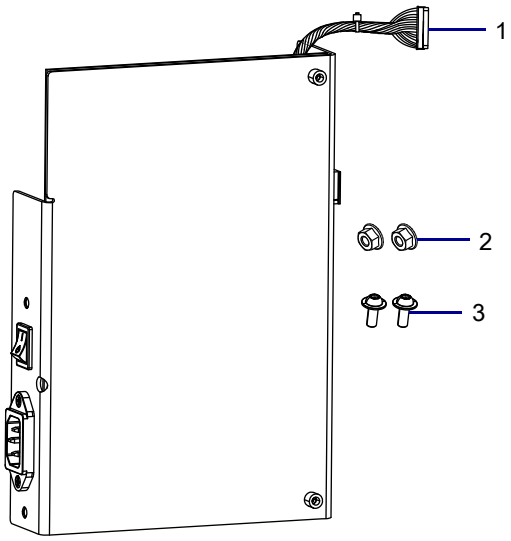


Table 56 Parts List

Item	Description	Qty
Ref	Power Supply Maintenance Kit	
1	Printers Power Supply	1
2	Nut M4	2
3	Hexalobular Pan Washer Screw, M4 × 10	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Screwdriver Set
- Metric Hexalobular Key Set
- Metric Nut Driver Set
- Antistatic Wrist Strap and Mat

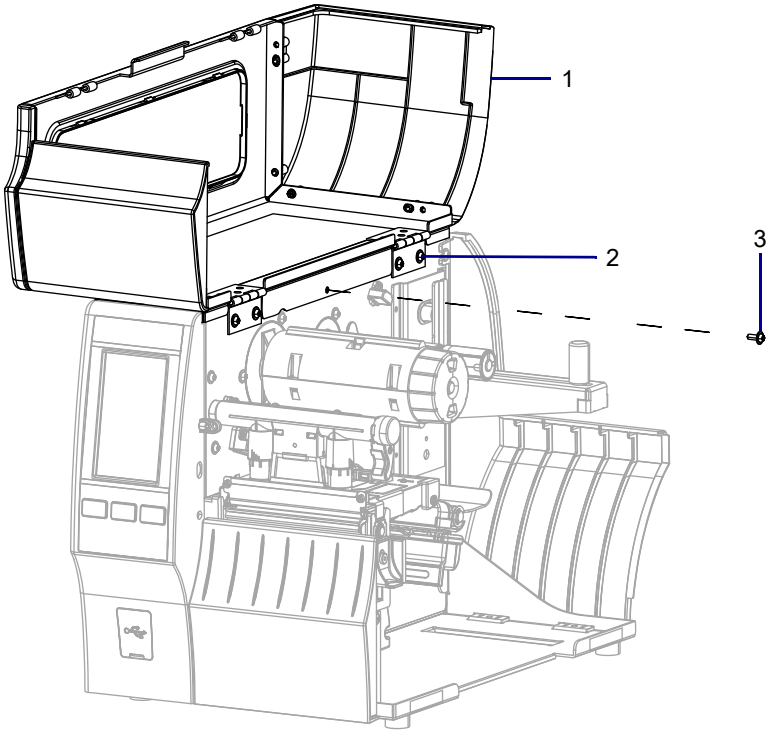
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 395. Remove the screw securing the electronics cover.

Figure 395 Locate the Electronics Cover Mounting Screw

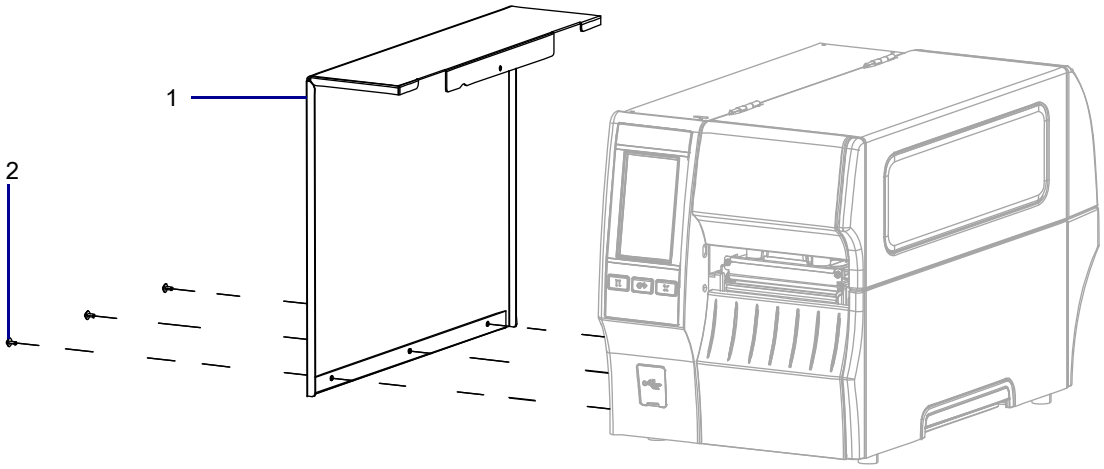


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 396. Remove the three mounting screws securing the electronics cover to the printer.

Figure 396 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

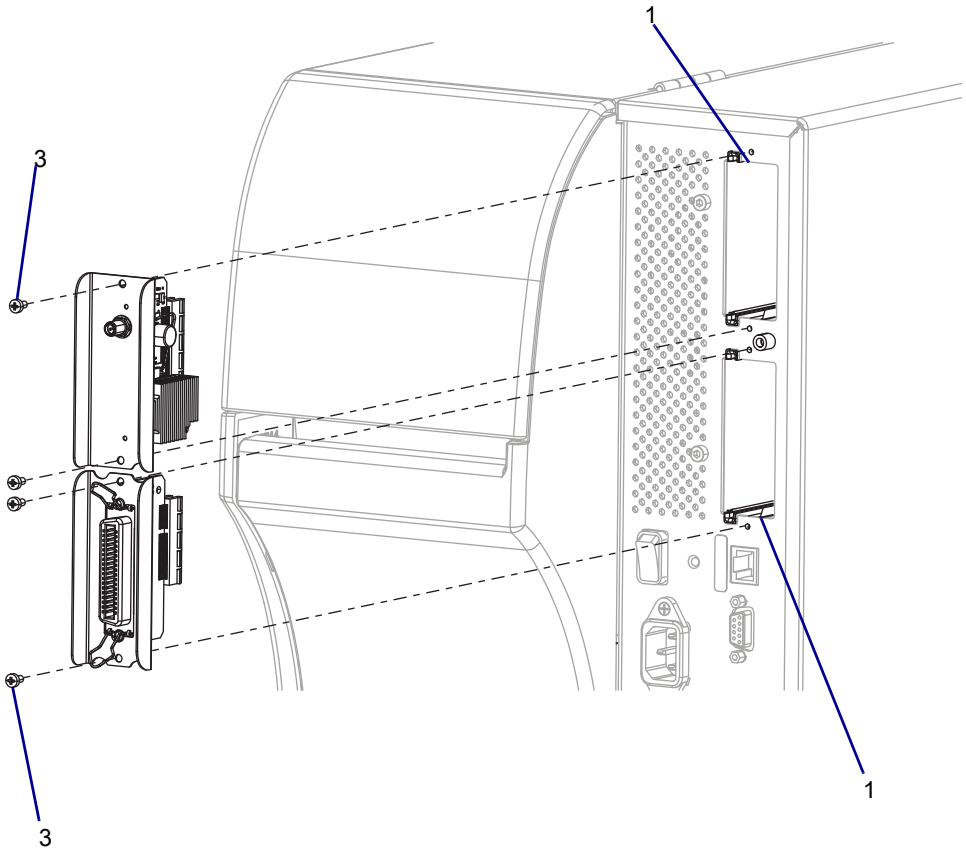
7. Are any option boards installed?

If…	Then…
Yes	Go to Remove the Option Boards on page 473.
No	Go to Remove the Main Logic Board (MLB) Cables on page 474.

Remove the Option Boards

1. See Figure 397. Remove the two screws securing each option board to the printer.

Figure 397 Remove the Option Boards



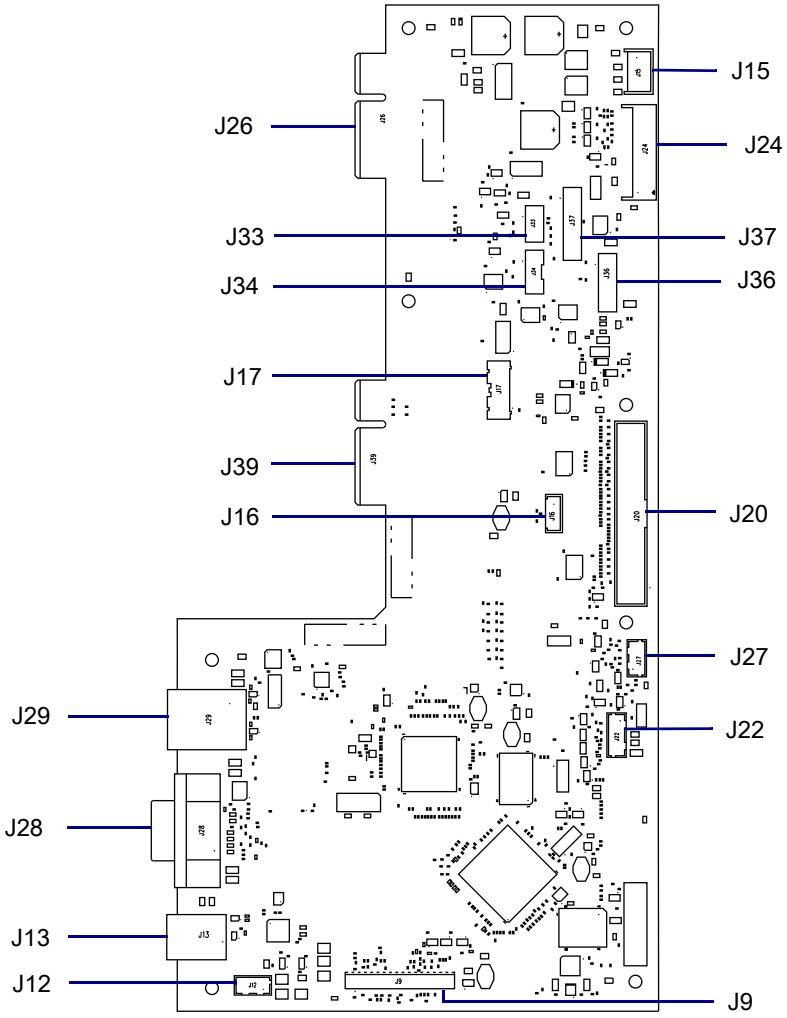
1	Option board slots
2	Mounting screws (2 each option)

2. Remove the option boards.

Remove the Main Logic Board (MLB) Cables

1. See Figure 398. Disconnect all cables from the MLB.

Figure 398 MLB Interconnections

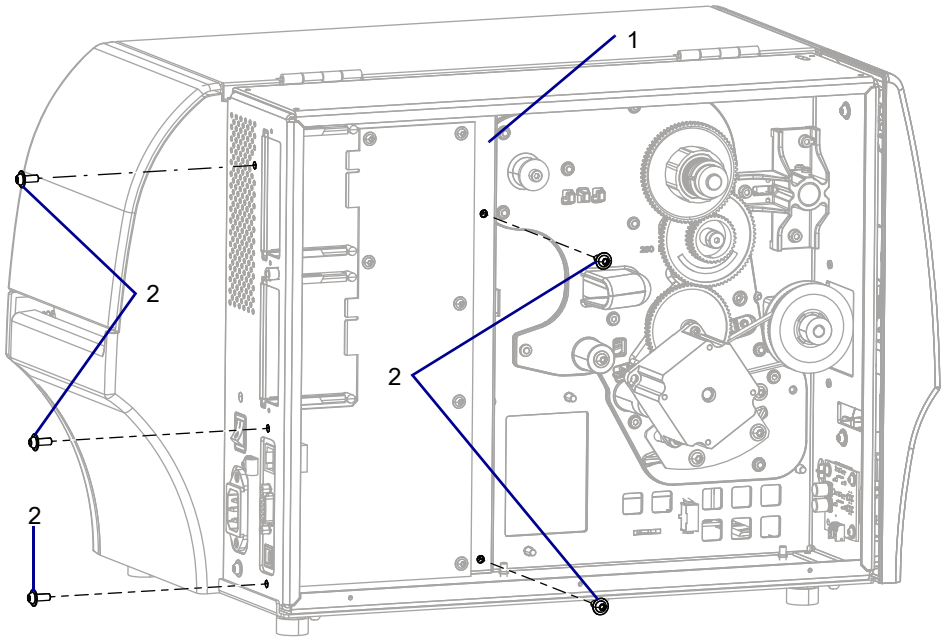


J9	Control panel	J26	Option board connector
J12	USB cable connector‡	J27	RFID connector‡
J13	USB connector	J28	Serial port
J15	Stepper motor	J29	Ethernet
J16	Print mechanism path light‡	J33	Ribbon sensor
J17	Media path light*	J34	Head open sensor
J24	Power supply	J36	Media sensor input
J20	Printhead data cable	J37	Media sensor output
J22	Rewind/LTU/Cutter connector‡	J39	Option board connector

Remove the MLB and MLB Bracket

1. See Figure 399. Remove the MLB Bracket Screws

Figure 399 Remove the Main Logic Board and Bracket

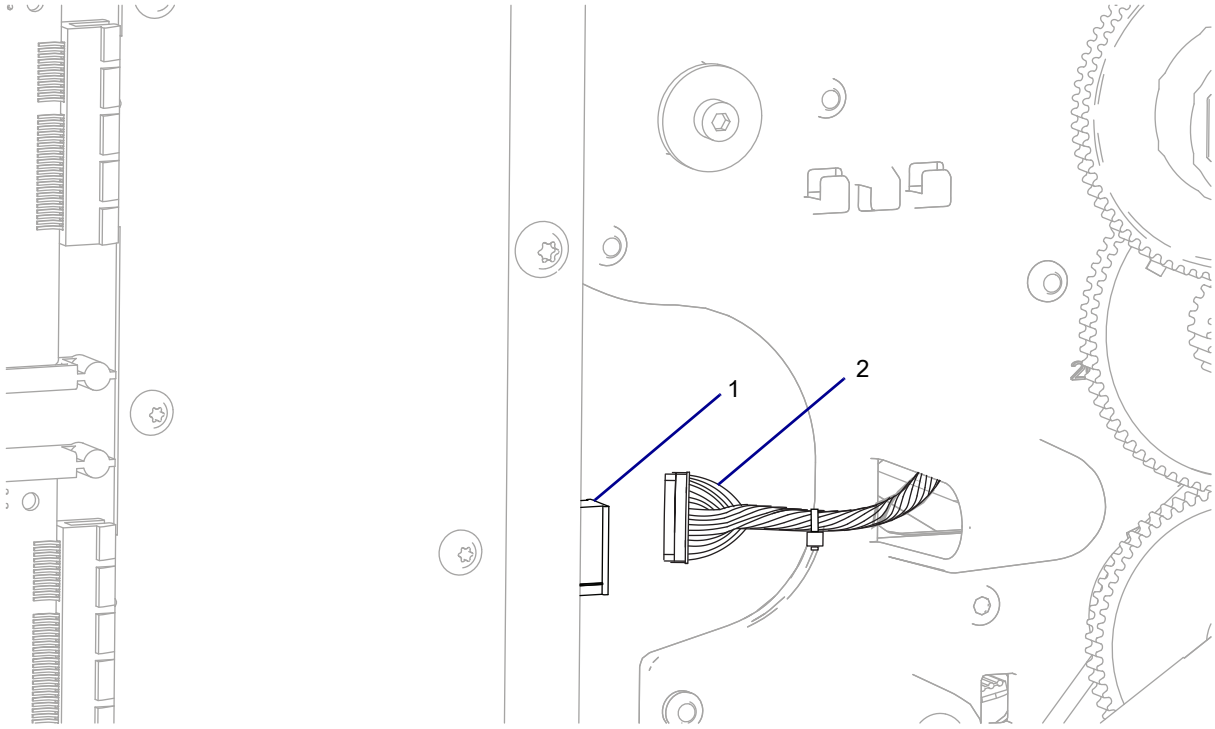


1	MLB bracket and MLB
2	Mounting screws (8)

2. Remove the 5 screws securing the MLB bracket.

3. See Figure 400. Disconnect the printhead power cable from JP1 on the power supply.

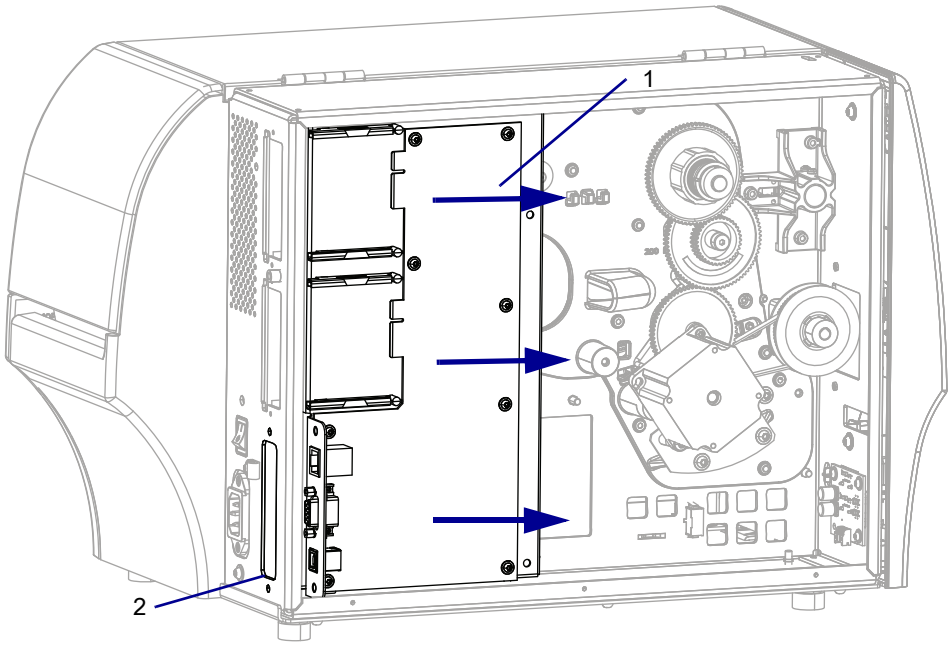
Figure 400 Cut the Cable Ties



1	JP1 on power supply
2	Printhead power cable

4. See Figure 4. Remove the MLB and MLB bracket.

Figure 401 Remove the MLB and MLB Bracket

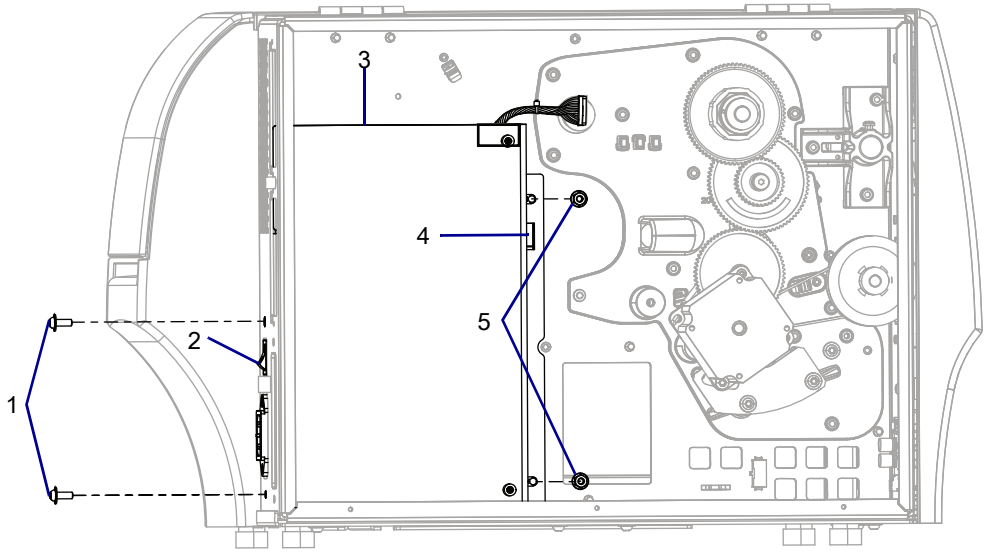


1	MLB bracket and MLB
2	Connectivity port

Disconnect and Remove the Old Power Supply

1. See Figure 402. Remove the two rear mounting screws securing the power supply.

Figure 402 Disconnect the Power Supply

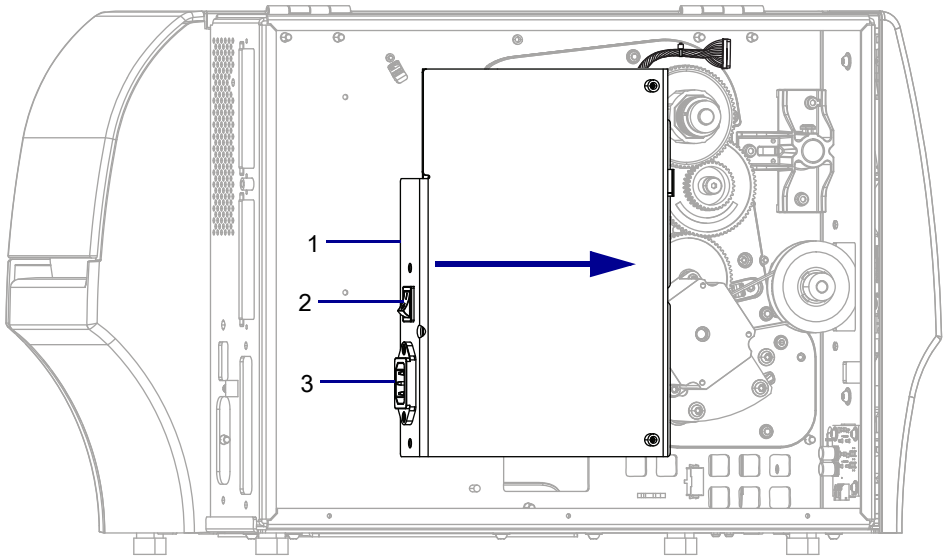


1	Mounting Screws(2)
2	Power switch
3	Power supply
4	Printhead power connector
5	Nuts (2)

2. Remove the two nuts securing the power supply.

3. See Figure 403. Remove the old power supply.

Figure 403 Remove the Power Supply



1	Power supply
2	Power switch
3	Power plug

Install and Connect the New Power Supply

1. See Figure 403. Install the new power supply.
2. See Figure 402 on page 478. Install the two mounting screws.
3. Install the two retaining nuts.
4. Reconnect printhead power cable.

Reinstall the MLB and MLB Bracket

1. See Figure 400 on page 476. Align the connectivity ports with the connectivity port opening on the printer.
2. Install the MLB and MLB bracket into the printer.
3. See Figure 1 on page 475. Install the five screws.

Reconnect the MLB Cables

1. See Figure 398 on page 474. Connect all previously removed cables to the new MLB.

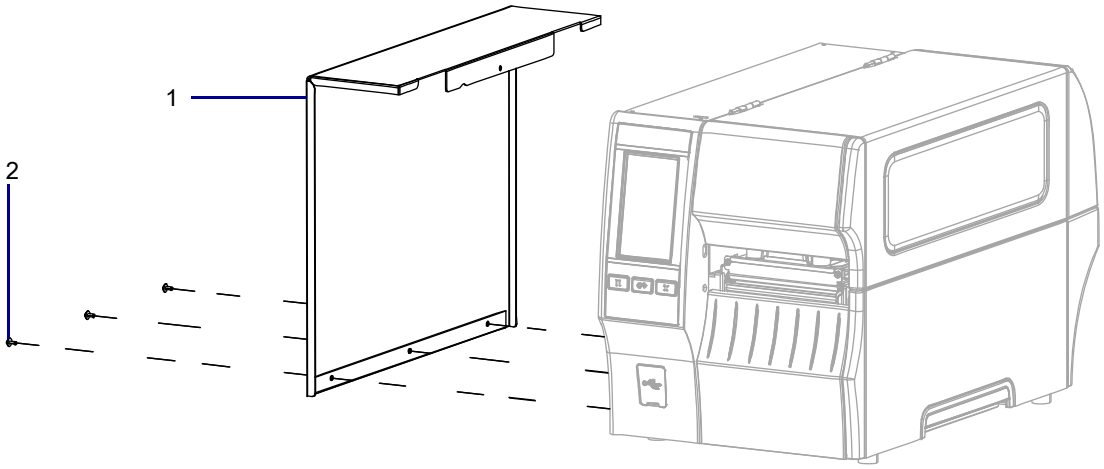
Reinstall the Option Boards

1. See Figure 397 on page 473. Insert the option boards into the option board slots. Remember to install the wireless print server into the top option board slot.
2. Install the two screws securing each option board.

Reinstall the Electronics Cover

1. See Figure 404. Slide the electronics cover onto the printer.

Figure 404 Reinstall the Electronics Cover Mounting Screws

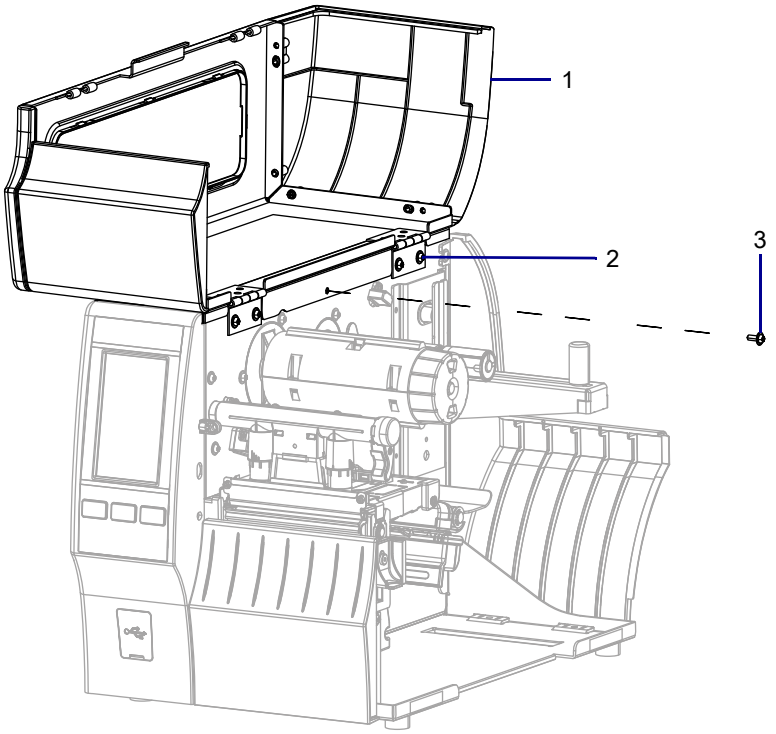


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 405. Open the media door and install the mounting screw.

Figure 405 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

4. Which type of electronics cover do you have?

If you have a…	Then…
Plastic	**1.** See Figure 396 on page 472. Insert the electronics cover into the printer. **2.** Reinstall the three mounting screws.
Metal	**1.** See Figure 395 on page 471. Slide the electronics cover onto the printer. **2.** Reinstall the three electronics side mounting screws. **3.** See Figure 395 on page 471. Open the media cover and reinstall the media side mounting screw.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Main Logic Board Bracket Maintenance Kit

This kit includes the parts and documentation necessary to install the Main Logic Board (MLB) Bracket Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: ZTxxxxx – **Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter **P**, your printer DOES NOT include these features.

Parts List

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

Figure 406 Kit Contents

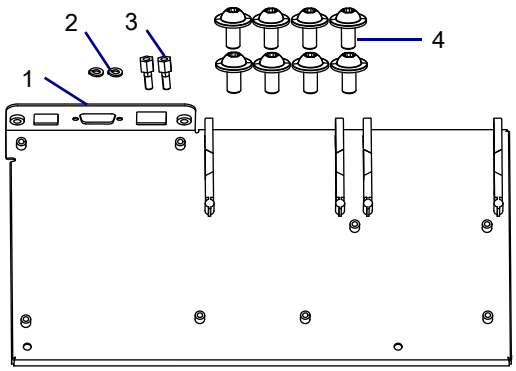


Table 57 Parts List

Item	Description	Qty
Ref	Main Logic Board Bracket Assembly Maintenance Kit	
1	Main Logic Board Bracket	1
2	Lock Washer	2
3	Standoffs	2
4	Hexalobular Screw M3 x 6	8

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Key Set
- Metric Hexalobular Screwdriver Set
- Phillips Screwdriver
- Nut Driver Set
- Antistatic Wrist Strap and Mat

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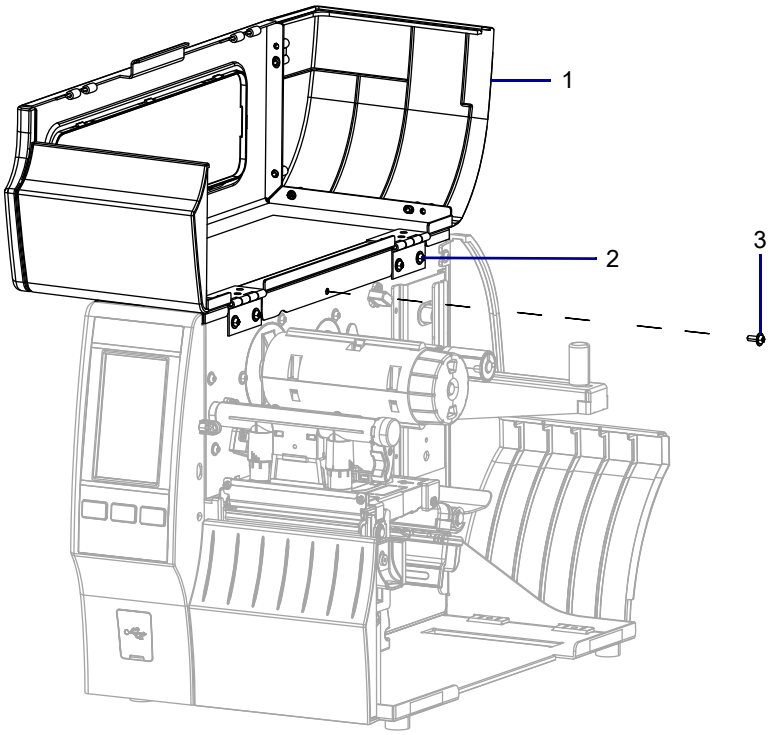
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 407. Remove the screw securing the electronics cover.

Figure 407 Locate the Electronics Cover Mounting Screw

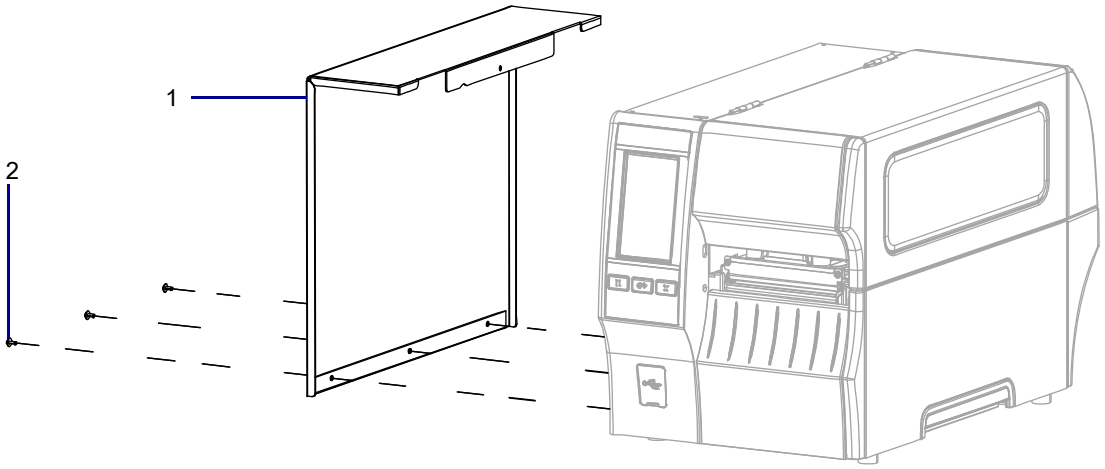


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 408. Remove the three mounting screws securing the electronics cover to the printer.

Figure 408 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

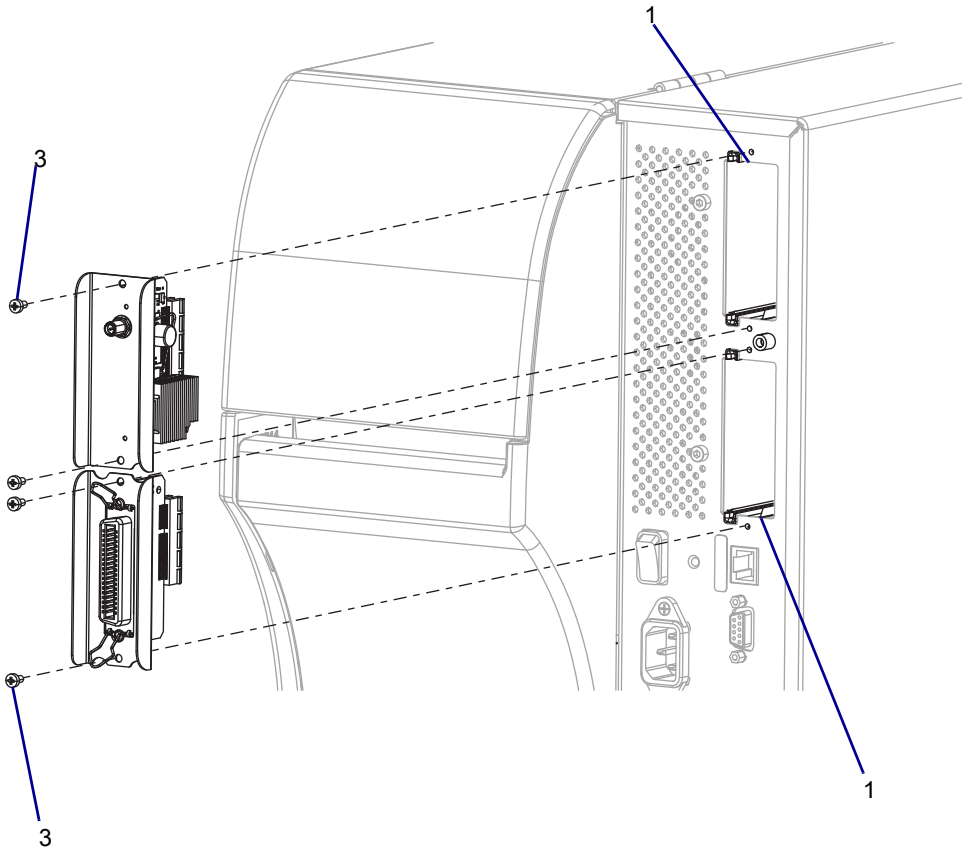
7. Are any option boards installed?

If…	Then…
Yes	Go to Remove the Option Boards on page 486.
No	Go to Remove the Option boards on page 486.

Remove the Option Boards

1. See Figure 409. Remove the two screws securing each option board to the printer.

Figure 409 Remove the Option boards

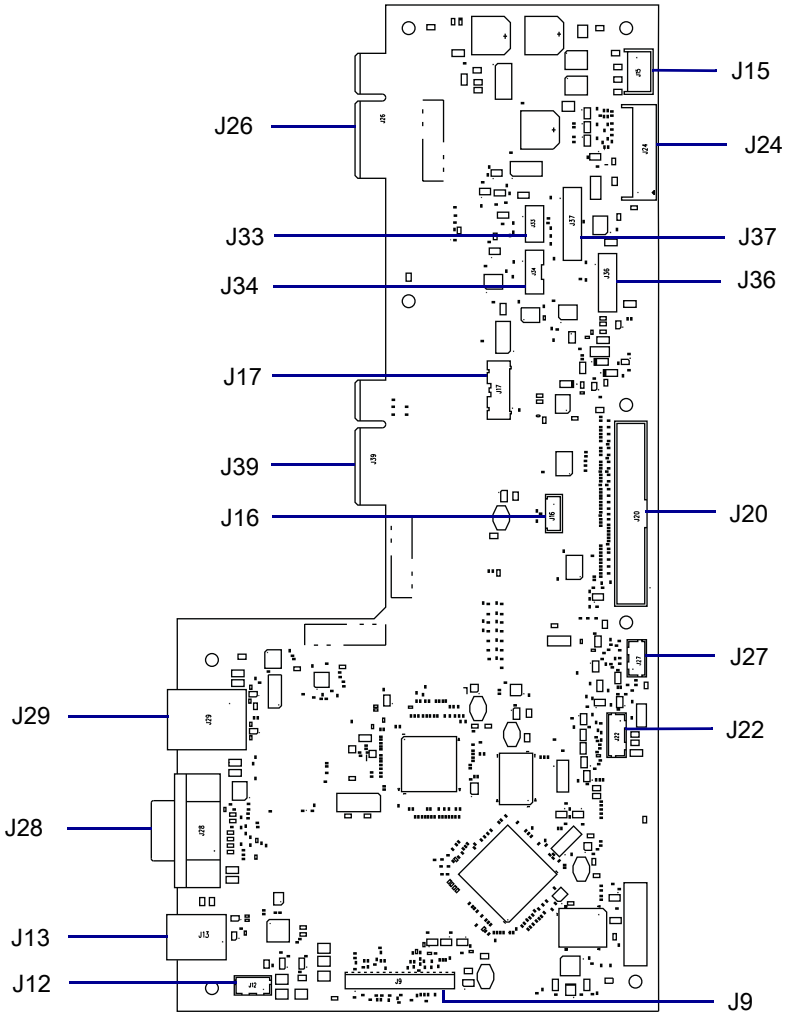


1	Option board slots
2	Mounting screws (2 each option)

2. Remove the option boards.
3. Remove the Main Logic Board Cables

4. See Figure 410. Disconnect all cables from the MLB.

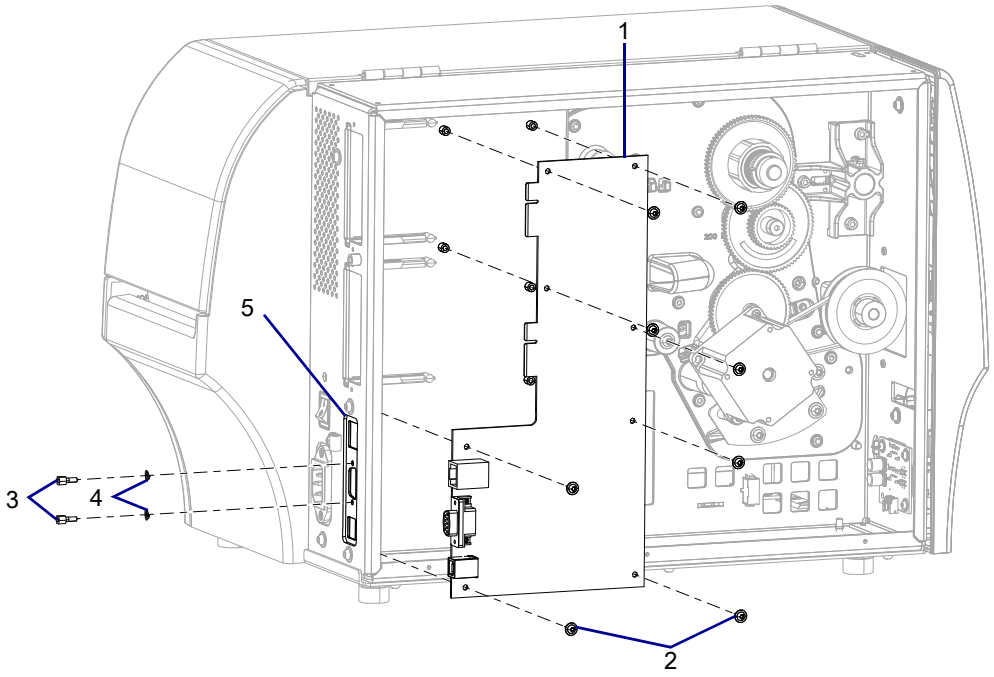
Figure 410 Main Logic Board Interconnections



J9	Control panel	J26	Option board connector
J12	USB cable connector‡	J27	RFID connector‡
J13	USB connector	J28	Serial port
J15	Stepper motor	J29	Ethernet
J16	Print mechanism path light‡	J33	Ribbon sensor
J17	Media path light‡	J34	Head open sensor
J24	Power supply	J36	Media sensor input
J20	Printhead data cable	J37	Media sensor output
J22	Rewind/LTU/Cutter connector‡	J39	Option board connector

Remove the Main Logic Board

Figure 411 Remove the Main Logic Board



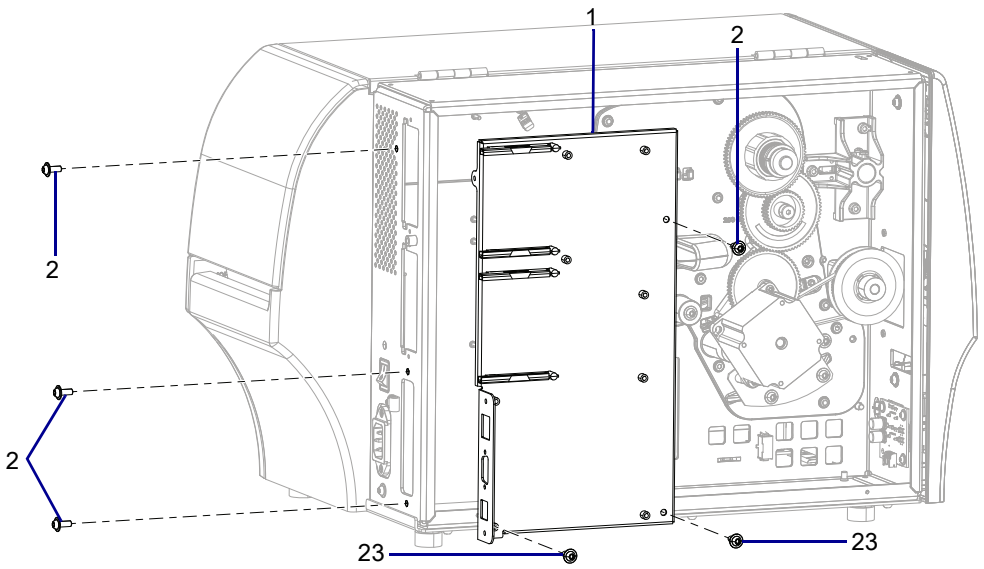
1	Main logic board
2	Screws (8)
3	Standoffs (2)
4	Lock washers (2)
5	Connectivity Ports

1. Remove the standoffs and lock washers from the serial port connector.
2. Remove the eight screws securing the MLB to the MLB bracket.
3. Move the MLB towards the front of the printer until the MLB clears the connectivity ports and set aside.

Remove the Old Main Logic Board Bracket Assembly

1. See Figure 412. Remove the three rear mounting screws.

Figure 412 Remove the Main Logic Board Bracket Assembly



1	MLB bracket assembly
2	Screws (6)

2. Remove the screws securing the MLB bracket.
3. Remove the MLB bracket.

Install the New Main Logic Board Bracket Assembly

1. See Remove the Main Logic Board Bracket Assembly on page 489. Insert the new MLB bracket into place.
2. Install the 8 new screws.

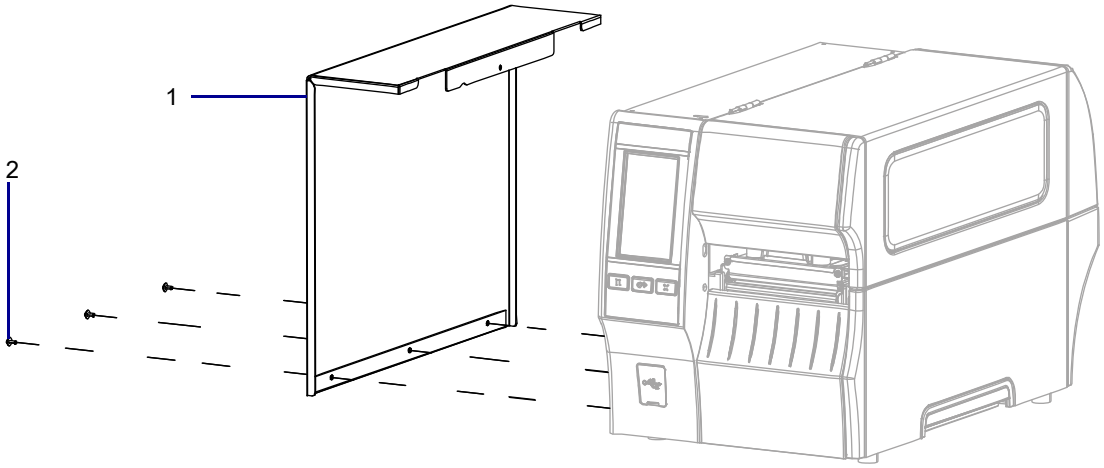
Reinstall the Main Logic Board

1. See Figure 411 on page 488. Align the MLB connectivity ports with the connectivity port slots on the MLB bracket assembly and slide the MLB into position.
2. Install the eight screws.
3. Install standoffs and lock washers on the serial port connector.
4. See Figure 411 on page 488. Connect all previously removed cables to the new main logic board.

Reinstall the Electronics Cover

1. See Figure 413. Slide the electronics cover onto the printer.

Figure 413 Reinstall the Electronics Cover Mounting Screws

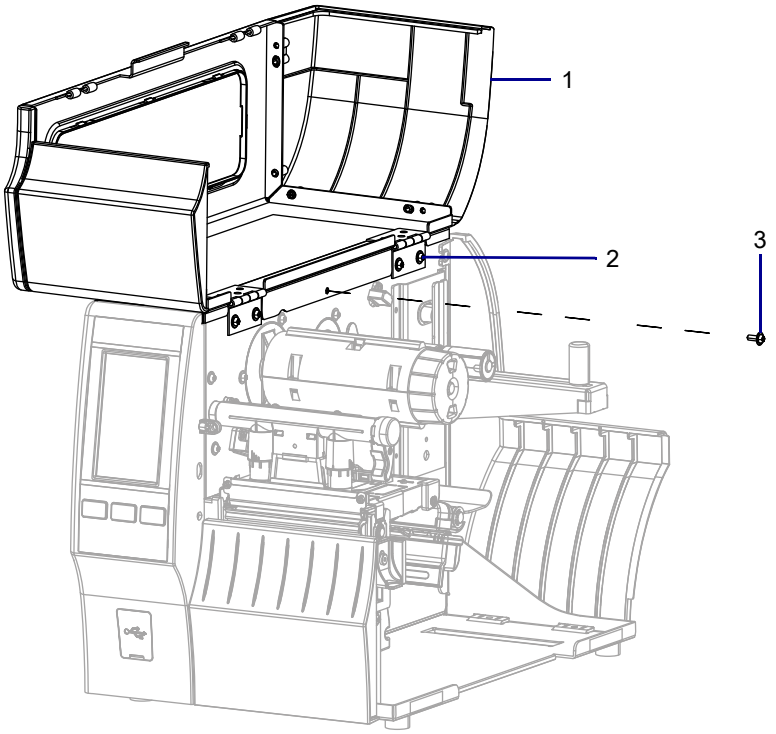


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 414. Open the media door and install the mounting screw.

Figure 414 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Reinstall the Option Boards

1. See Figure 409 on page 486. Insert the option boards into the option board slots. Remember to install the wireless print server into the top option board slot.
2. Install the two screws securing each option board.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Main Logic Board Maintenance Kit

This kit includes the parts and documentation necessary to install the Main Logic Board (MLB) Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: ZTxxxxx – **Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter **P**, your printer DOES NOT include these features.

Parts List

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

Figure 415 Kit Contents

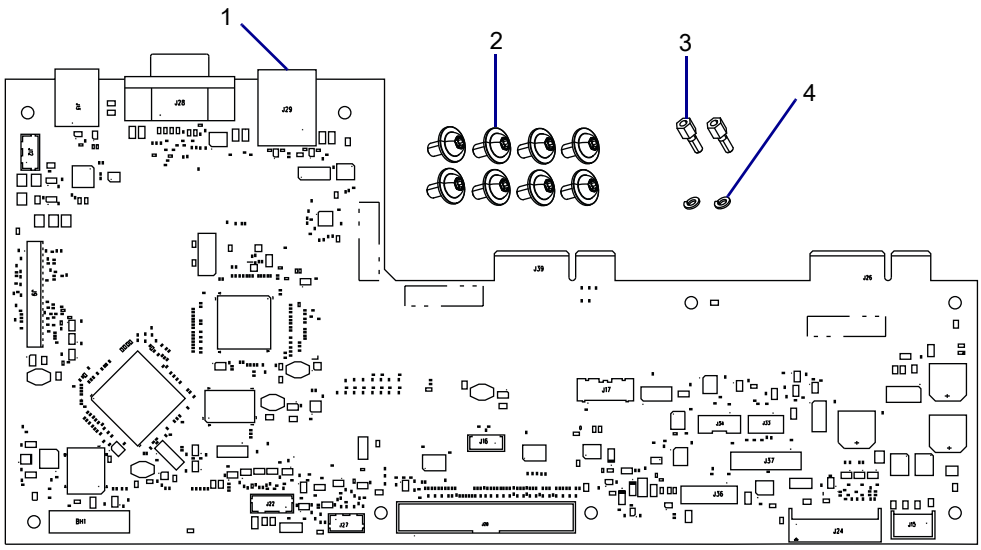


Table 58 Parts List

Item	Description	Qty
Ref	Main Logic Board Maintenance Kit	1
1	Main Logic Board (MLB)	1
2	Hexalobular Pan Washer Screws, M3 x 6	8
3	Stand offs	2
4	Lock Washers	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Screwdriver Set
- Metric Nut Driver Set
- Antistatic Wrist Strap and Mat

Remove the Electronics Cover

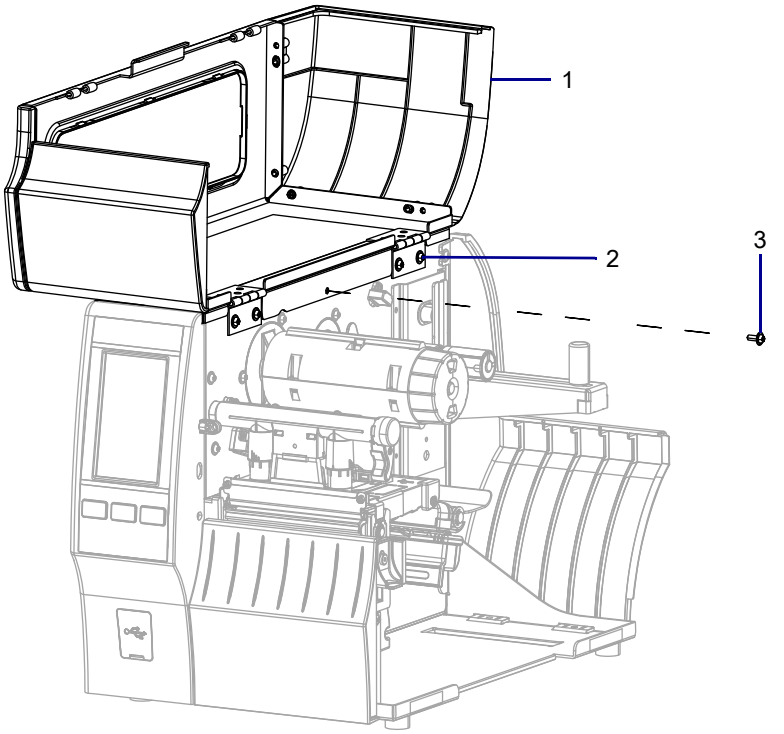
NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.

3. See Figure 416. Remove the screw securing the electronics cover.

Figure 416 Locate the Electronics Cover Mounting Screw

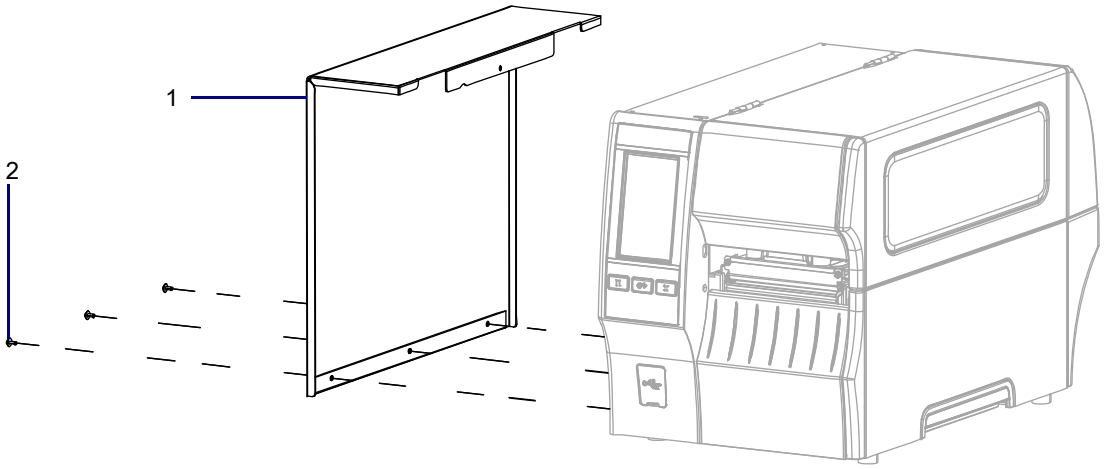


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 417. Remove the three mounting screws securing the electronics cover to the printer.

Figure 417 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

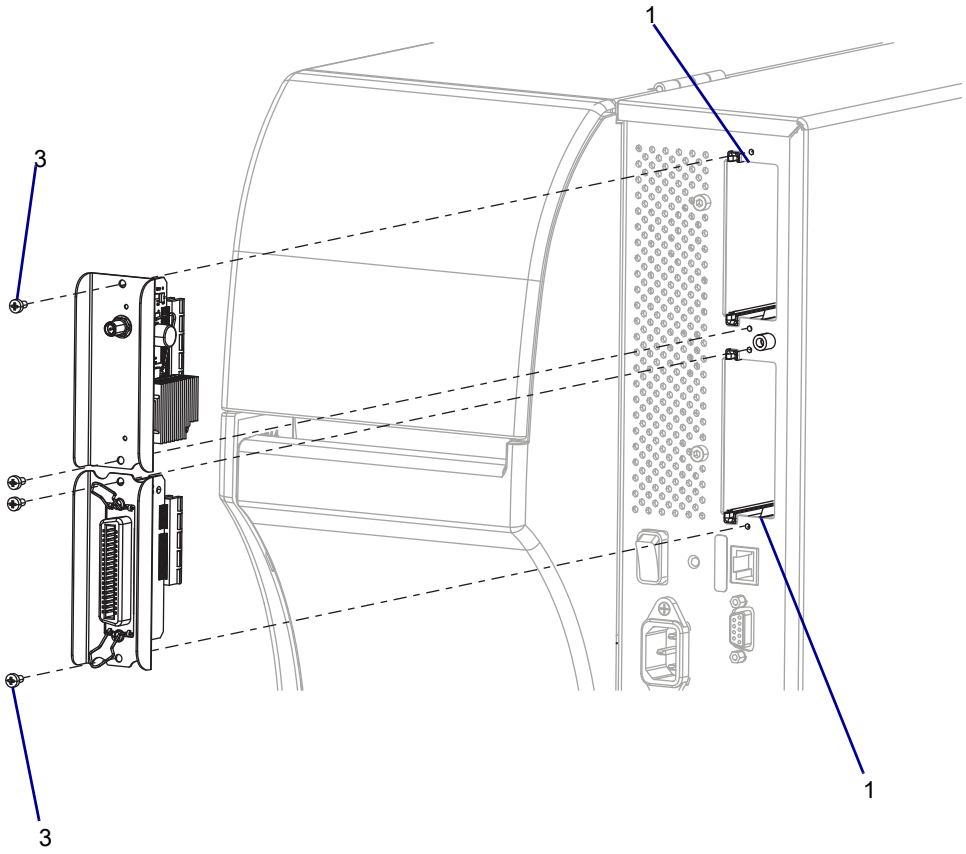
7. Are any option boards installed?

If…	Then…
Yes	Go to Remove the Option Boards on page 496.
No	Go to Remove the Main Logic Board Cables on page 497.

Remove the Option Boards

1. See Figure 418. Remove the two screws securing each option board to the printer.

Figure 418 Remove the Option Boards



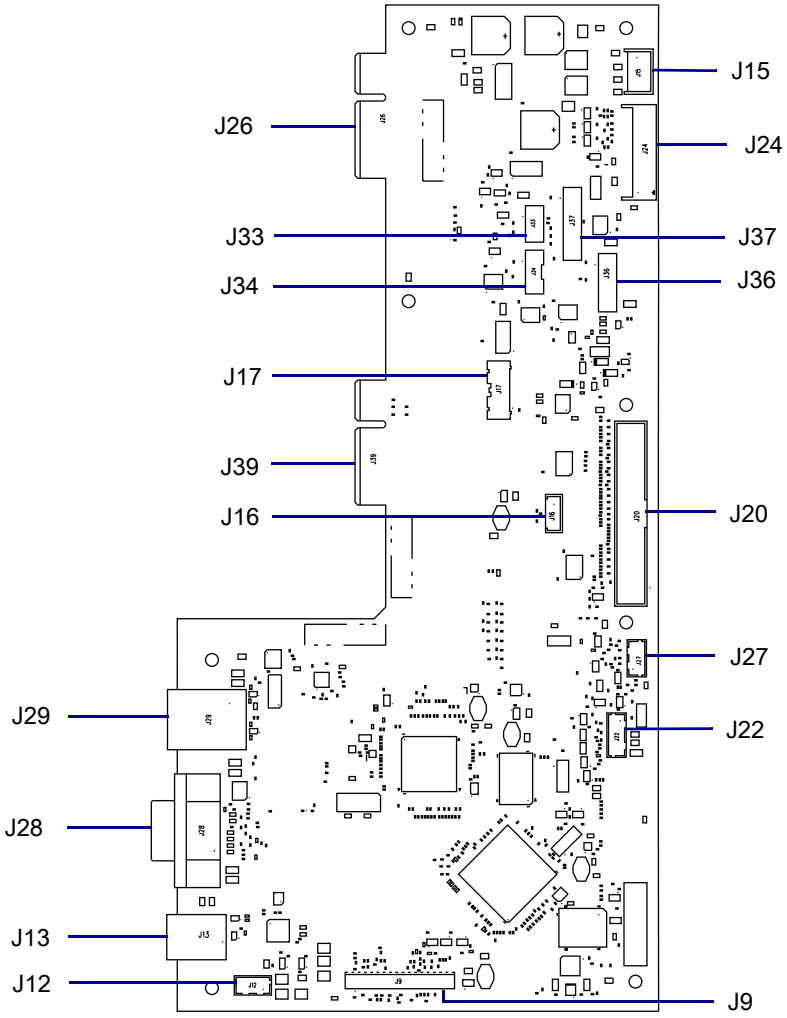
1	Option board slots
2	Mounting screws (2 each option)

2. Remove the option boards.

Remove the Main Logic Board Cables

1. See Figure 419. Disconnect all cables from the MLB.

Figure 419 Main Logic Board Interconnections

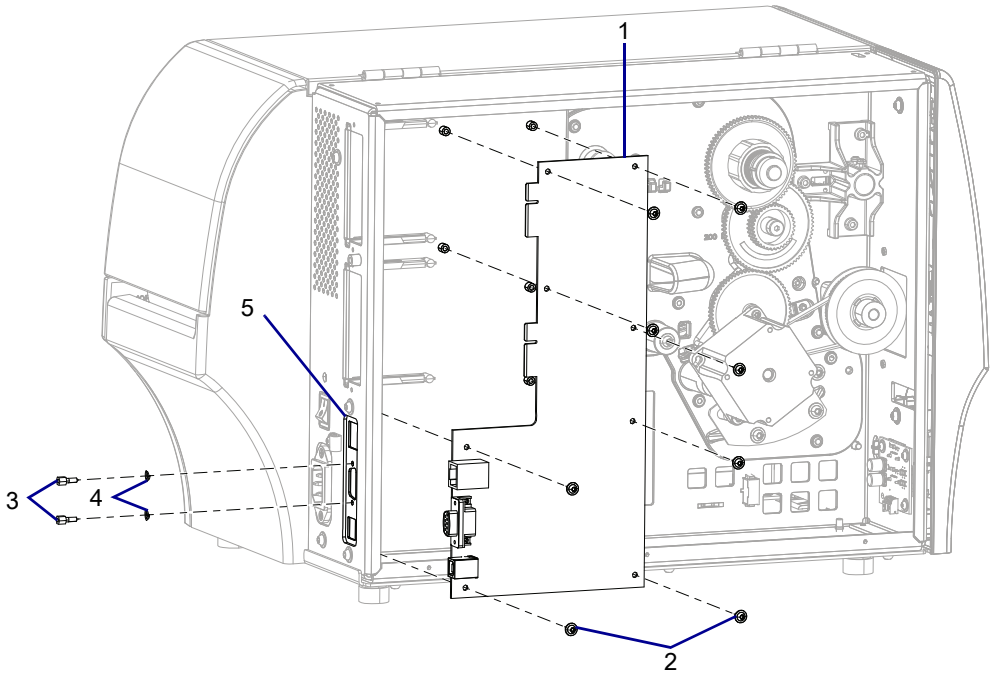


J9	Control panel	J26	Option board connector
J12	USB cable connector‡	J27	RFID connector‡
J13	USB connector	J28	Serial port
J15	Stepper motor	J29	Ethernet
J16	Print mechanism path light‡	J33	Ribbon sensor
J17	Media path light‡	J34	Head open sensor
J24	Power supply	J36	Media sensor input
J20	Printhead data cable	J37	Media sensor output
J22	Rewind/LTU/Cutter connector‡	J39	Option board connector

Remove the Main Logic Board

1. See Figure 420. Remove the standoffs and lock washers from the serial port connector.

Figure 420 Remove the Main Logic Board



1	Main logic board
2	Mounting screws (8)
3	Standoffs (2)
4	Lock washers (2)
5	Connectivity Ports

2. Remove the eight screws securing the MLB to the MLB bracket.
3. Remove the MLB.

Reinstall the Main Logic Board

1. See Figure 420 on page 498. Reinstall the MLB.
2. Reinstall the eight mounting screws.
3. See Figure 419 on page 497. Connect all previously removed cables to the new main logic board.
4. Re-install the standoffs and lock washers in the serial port connector.

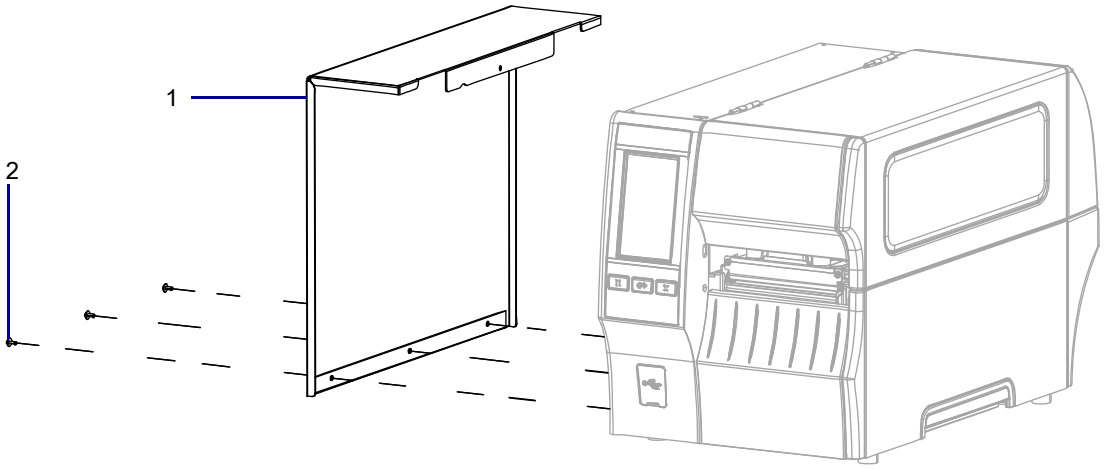
Reinstall the Option Boards

1. See Figure 418 on page 496. Insert the option boards into the option board slots. If you have a wireless print server, install it into the top option board slot.
2. Install the two screws securing each option board.

Reinstall the Electronics Cover

1. See Figure 421. Slide the electronics cover onto the printer.

Figure 421 Reinstall the Electronics Cover Mounting Screws

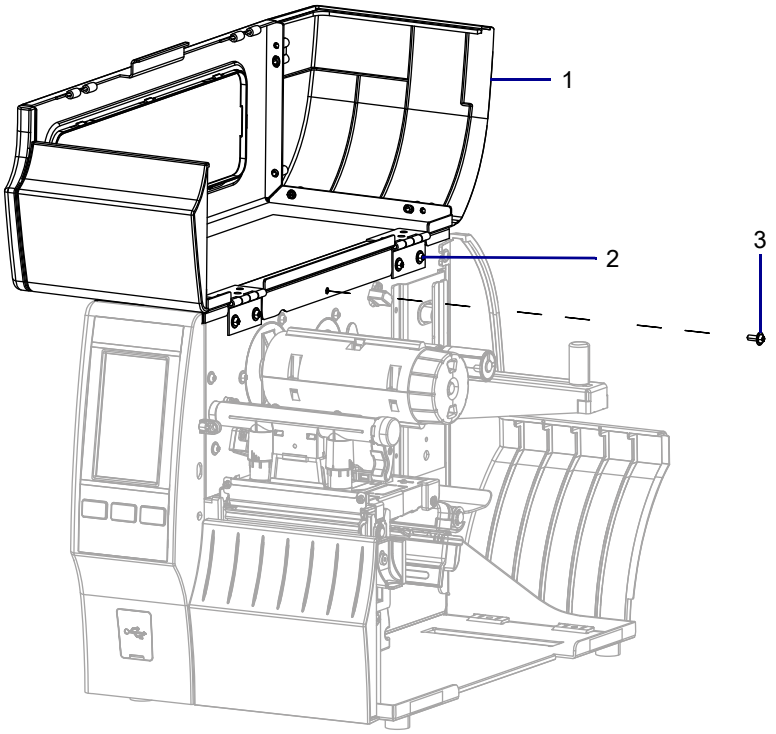


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 422. Open the media door and install the mounting screw.

Figure 422 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Parallel Port Maintenance Kit

This kit includes the parts and documentation necessary to install the Parallel Port Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 423 Kit Contents

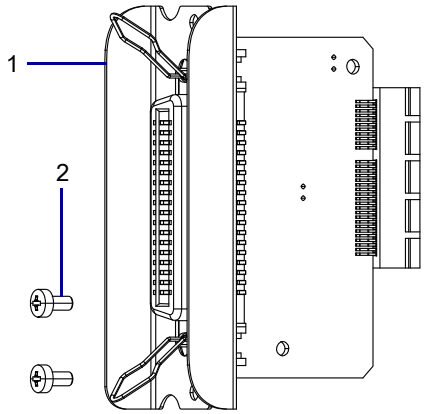


Table 59 Parts List

Item	Description	Qty
Ref	Parallel Port Maintenance Kit	
1	Parallel Port Option Board	1
2	Screws, M3 × 0.5 × 6	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wriststrap and Mat

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Remove the Old Parallel Port Board

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

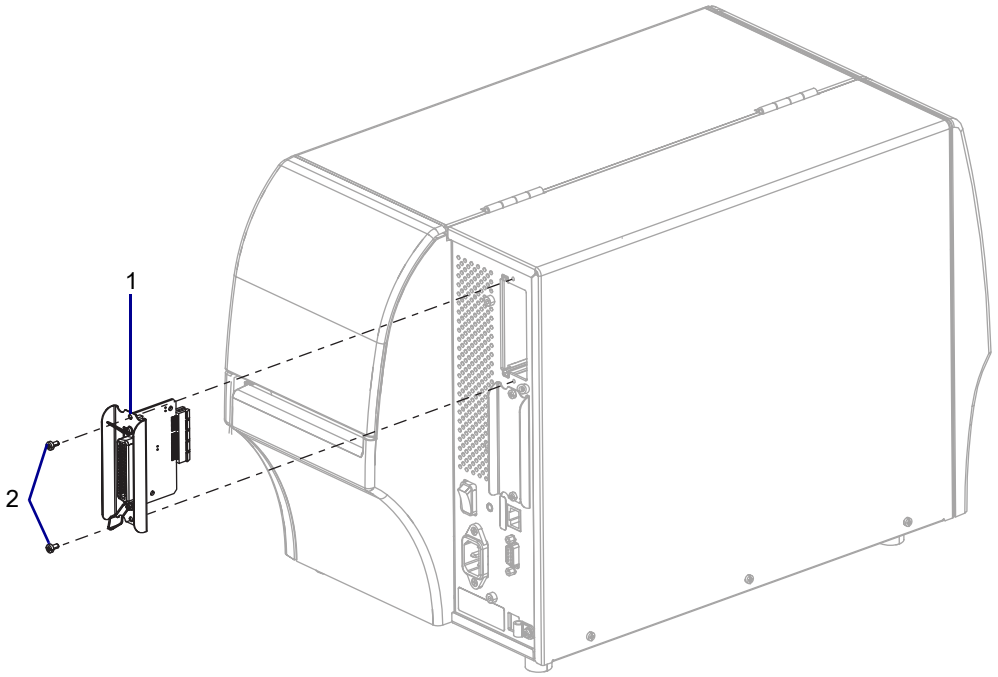
NOTE: The Parallel Port Option can be installed in either top or bottom slot.

1. Are you replacing an existing option board?

If…	Then…
Yes	Go to Remove the Old Parallel Port Board on page 502.
No	Go to Remove the Cover Plate on page 503.

2. Connect yourself to an antistatic device.
3. See Figure 424. Remove the two option board mounting screws.

Figure 424 Remove the Option Board

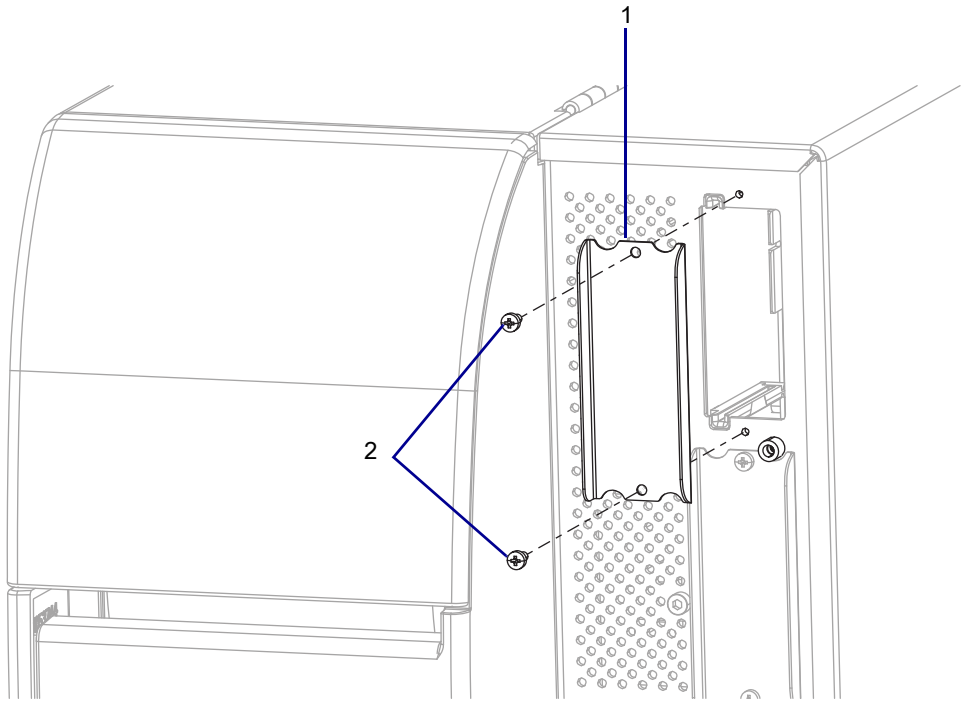


1	Option board
2	Mounting screws (2)

Remove the Cover Plate

1. See Figure 425. Remove the blank cover by removing the two mounting screws.

Figure 425 Remove the Blank Cover



1	Blank cover
2	Mounting screws (2)

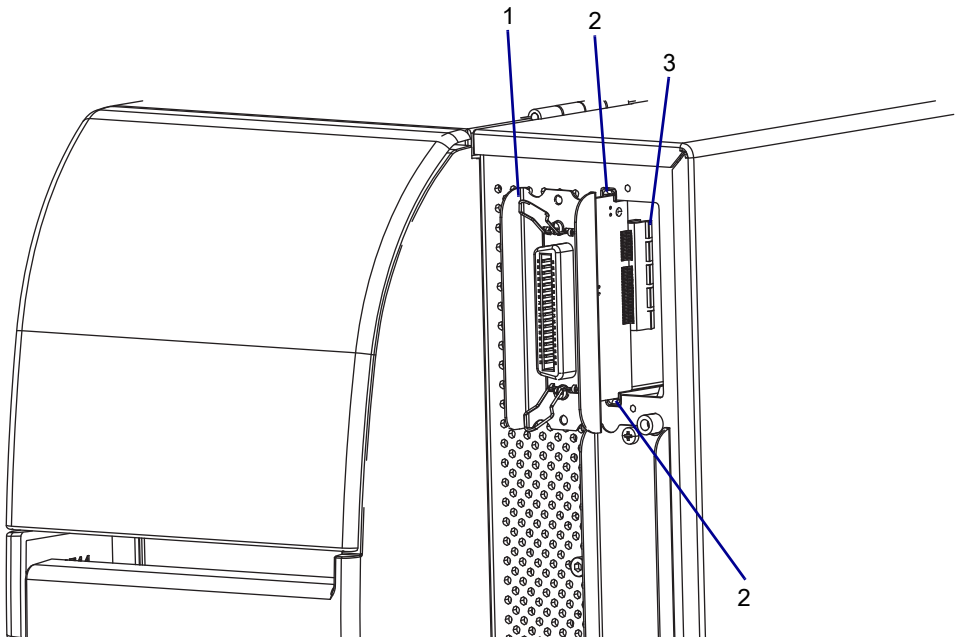
2. Go to Install the New Parallel Port Board on page 504.

Install the New Parallel Port Board

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 426. Align the parallel port option board with the main logic board guides.

Figure 426 Install the New Parallel Port Option Board

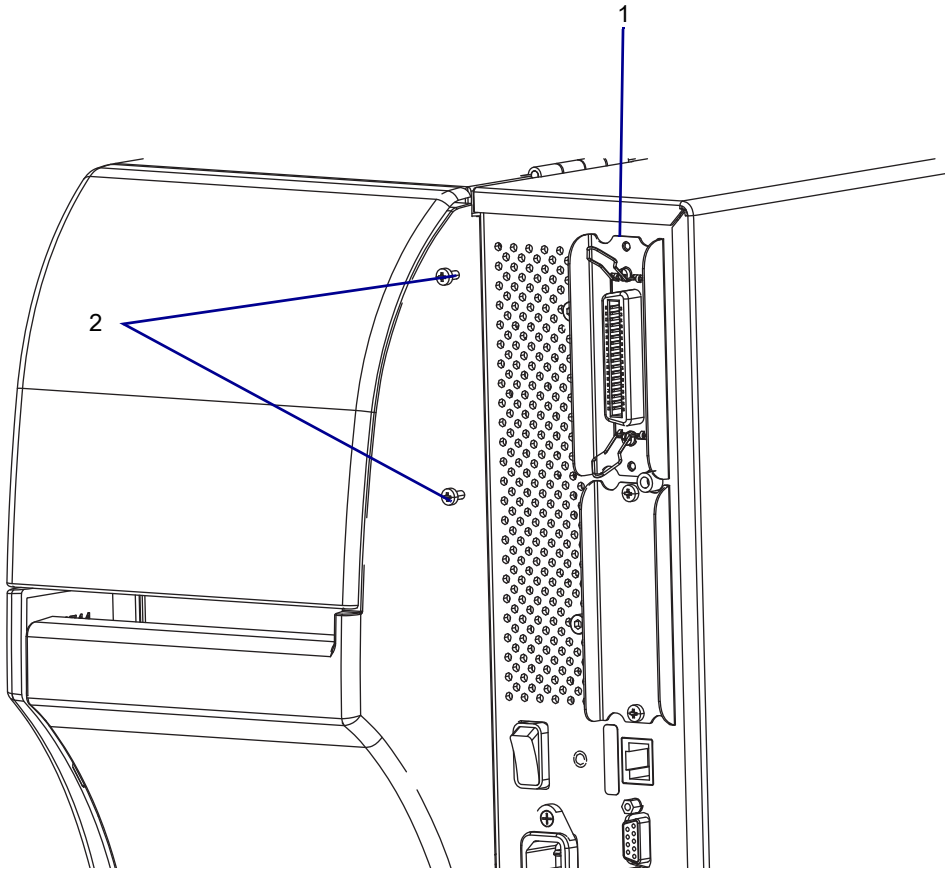


1	Parallel port option board
2	Main logic board guide (2)
3	Parallel option board to main logic board connector

3. Slowly slide the parallel port option board into the printer until it stops.
4. Ensure that the option board is aligned with the main logic board connector, and then push it in on the top and bottom until it is against the printer.

5. See Figure 427. Install the two mounting screws.

Figure 427 Install the Mounting Screws



1	Parallel port option board
2	Mounting screws (2)

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Applicator Interface Option/Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Applicator Interface Option/Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

IMPORTANT: A qualified service technician must perform this installation.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed in Table 60 below.

Figure 428 Kit Contents

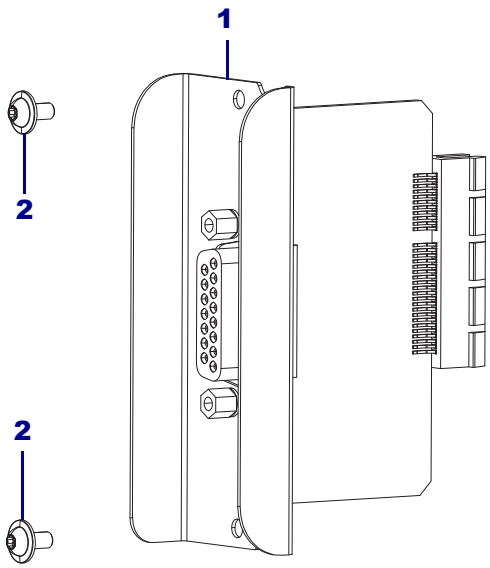


Table 60 Parts List

✓	Item	Description	Qty
	Ref	Applicator Interface Option/Maintenance Kit	1
	1	Applicator Interface	1
	2	Hexoglobular Screw, M3 × 6	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexoglobular Wrench Set
- Hexoglobular Screwdriver Set
- Antistatic Wriststrap and Mat

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Applicator Interface Option

The optional Applicator Interface provides a robust electrical signal interface between the printer and the outside world via a standard DB15 connector (see Figure 429 on page 509). The applicator **input** signals allow an external device to control when the printer prints. The applicator **output** signals provide handshaking and status information to the external host.

The applicator provides 5V or 24V of power to run the I/O interface and to power small external loads. All output signals are open collector with a light pull-up resistor built in. All signals and power are galvanically isolated from the host printer. The applicator provides a jumper to connect printer and applicator grounds, if required, but the default setting is isolation.

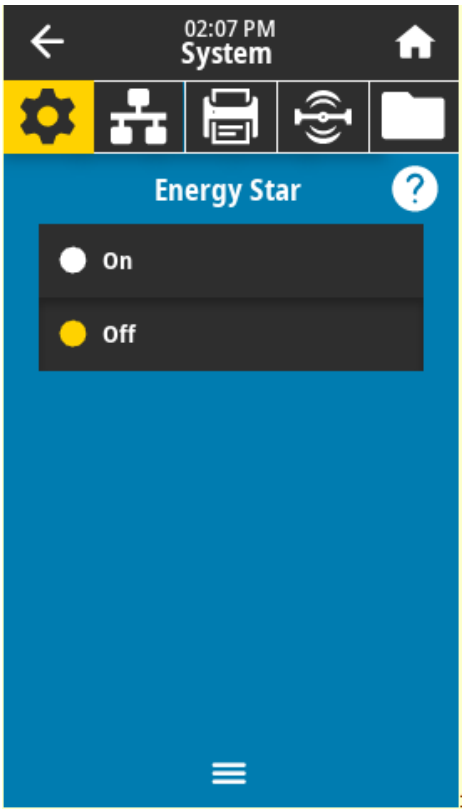
The applicator output voltage can be set to three levels: 0Vdc, 5Vdc and 24Vdc. The 0V setting can be used if the application requires a unique voltage—12V for example, but 12V must be provided externally. Setting of voltages (0V, 5V, 24V) is done through Set-Get-Do (SGD) command. (See Applicator Specifications on page 508.)

The applicator output power supply can sustain momentary short circuits but may be damaged with long-term shorts. There are no user-replaceable fuses on the applicator option PCBA.

Energy Star Effect on the Applicator Board

If the Energy Star feature is enabled and the printer goes to sleep, the applicator board shuts down. If the applicator board needs to remain on at all times, disable the Energy Star feature in one of the following ways:

- Setting the Energy Star user menu item to OFF:



- Sending the Energy Star disabling SGD command:

```
! U1 setvar "power.energy_star.enable"
"off"
```

To re-enable Energy Star, send the SGD command with the value "on".

Applicator Specifications

1. See the applicator specifications in Table 61 below.

Table 61

Output voltage selections	• 0 volts • 5 Vdc (+/- 10%) <= 1.0 Adc • 24 volts (+/- 10%) <= 0.4 Adc Set by the following SGD command: `! U1 setvar "device.applicator.voltage" "X"` where X is 0, 5, or 24 to indicate the desired voltage. The printer must be power cycled before the setting takes effect. **NOTE:** A high-voltage lockout jumper installed on the applicator interface PCBA prevents the output from going above 5V, even if the SGD is sent for 24V output. This precaution prevents accidental damage to external equipment. The jumper must be repositioned to allow for 24V operation. The default setting is for 5V operation.
Pull-up resistor on output	10K +/- 5%
Pull-up resistor on input	4.7K +/- 5%
Output signal current sink	<= 7 mAdc
User-supplied voltage range when output voltage set to 0V	0–24 volts

Applicator Option External Pinouts

Figure 429 DB15 Connector

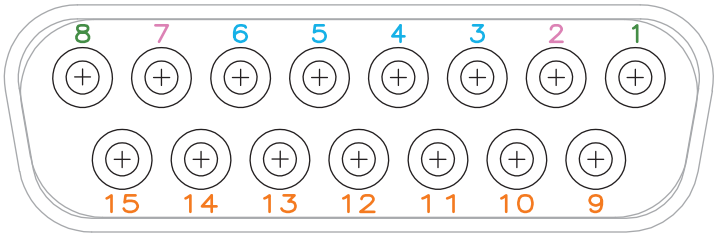
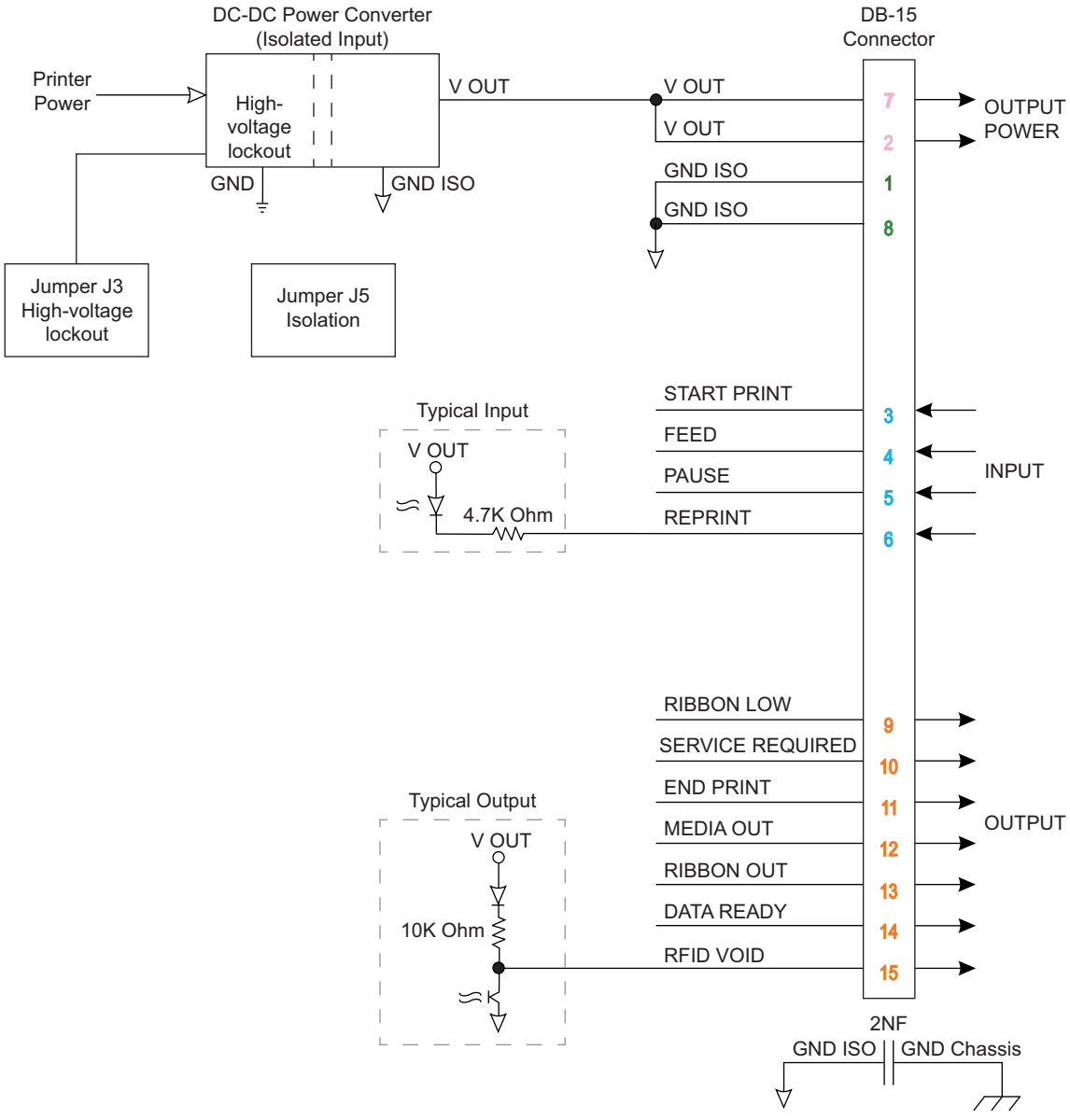
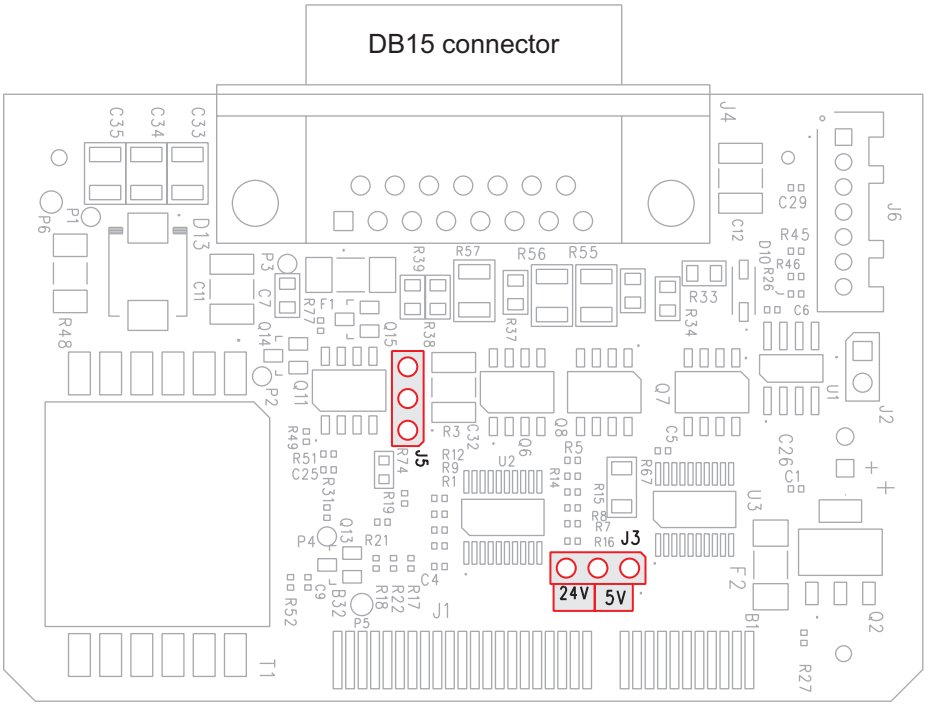


Figure 430 External Pinouts

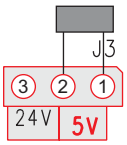
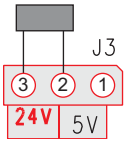


Jumper Configuration

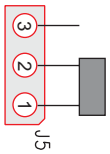
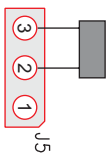
Figure 431 Location of Jumpers J3 and J5 on the Applicator Board



Jumper J3 — High-Voltage Lockout

	**Pins 1 and 2 connected** V out = 5V max (default)
	**Pins 2 and 3 connected** V out = 0V, 5V, 24V

Jumper J5 — Ground Isolation Jumper

	**Pins 1 and 2 connected** isolated (default)
	**Pins 2 and 3 connected** not isolated

Applicator Interface Pin Configuration

Table 62 Applicator Interface Connector Pin Configuration

Pin No.	Signal Name	Signal Type	Description
1	GROUND ISOLATED	Ground	Using jumper J5, this pin can be configured as isolated or non-isolated from the printer circuit ground (see Jumper Configuration on page 510). Default position is set to isolation.
2	VOUT	Power	Programmable output voltage of 0V, 5Vdc, 24Vdc. Voltage selection done by SGD command. Depending on configuration, jumper J3 will lock out 24V operation (see Jumper Configuration on page 510). If set in 5V position, only 0V and 5V will be available. If set to 24V position, 0V, 5V and 24V will be available, depending on the SGD command. Default is 5V configuration.
3	START PRINT	Input	See Applicator Signals on page 513 for more information about the start and end print signals. • **Pulse Mode**—The label printing process begins on the HIGH to LOW transition of this signal if a format is ready. Deassert this signal HIGH to inhibit printing of a new label. • **Level Mode**—Assert LOW to enable the printer to print if a label format is ready. When deasserted HIGH, the printer completes the label that is printing then stops and waits for this input to be reasserted LOW.
4	FEED	Input	When the printer is idle or has been paused, assert this input LOW to trigger repeated feeding of blank labels. Deassert HIGH to stop feeding blank labels and register to the top of the next label.
5	PAUSE	Input	To toggle the current Pause state, this input must be asserted LOW for 200 milliseconds, or until the SERVICE REQUIRED output (pin 10) changes state.
6	REPRINT	Input	• If the Reprint feature is enabled, this input must be asserted LOW to cause the printer to reprint the last label. • If the Reprint feature is disabled, this input is ignored.
7	VOUT	Power	Programmable output voltage of 0V, 5Vdc, 24Vdc. Voltage selection done by SGD command. Depending on configuration, jumper J3 will lock out 24V operation (see Jumper Configuration on page 510). If set in 5V position, only 0V and 5V will be available. If set to 24V position, 0V, 5V and 24V will be available, depending on the SGD command. Default is 5V configuration.

Table 62 Applicator Interface Connector Pin Configuration (Continued)

Pin No.	Signal Name	Signal Type	Description
8	GROUND ISOLATED	Ground	Using jumper J5, this pin can be configured as isolated or non-isolated from the printer circuit ground (see Jumper Configuration on page 510). Default position is set to isolation.
9	RIBBON LOW	Output	Asserted LOW if the Supplies Warning feature is enabled and the amount of ribbon remaining on the supply spindle is below the threshold level.
10	SERVICE REQUIRED	Output	Asserted LOW in the following circumstances: • the printhead is open • the ribbon or media is out • the printer is paused • an operational fault occurs • a Resynch error occurs while the applicator Resynch mode is set to Error mode
11	END PRINT	Output	See Applicator Signals on page 513 for more information about the start and end print signals. **NOTE:** A format (**^XA** ... **^XZ**) that does not print will signal that it is being processed. However, it will not trigger an End Print signal because no motion/printing is required. • **MODE 0**—The applicator port is OFF. • **MODE 1**—Asserted LOW only while the printer is moving the label forward; otherwise deasserted HIGH. • **MODE 2**—Asserted HIGH only while the printer is moving the label forward; otherwise deasserted LOW. • **MODE 3**—(Default) Asserted LOW for 20 milliseconds when a label is completed and positioned. Not asserted during continuous printing. • **MODE 4**—Asserted HIGH for 20 milliseconds when a label is completed and positioned. Not asserted during continuous printing.
12	MEDIA OUT	Output	Asserted LOW when there is no media in the printer.

Table 62 Applicator Interface Connector Pin Configuration (Continued)

Pin No.	Signal Name	Signal Type	Description
13	RIBBON OUT	Output	Asserted LOW when there is no ribbon in the printer.
14	DATA READY	Output	See Applicator Signals on page 513 for more information about this signal. • Asserted LOW when sufficient data has been received to begin processing the next label format. • Deasserted HIGH when printing/processing stops after the current label format, either due to a pause condition or the absence of a label format.
15	RFID VOID	Output	• Asserted LOW when the RFID transponder over the antenna is “voided.” • Deasserted HIGH when the end print signal is asserted.

Applicator Signals

The following timing diagrams show how applicator signals function in each applicator mode during the stages of printing a non-RFID label. For more information about applicator signals during RFID operation, see the **RFID Programming Guide 3**.

Figure 432 Applicator Signals (Mode 1)

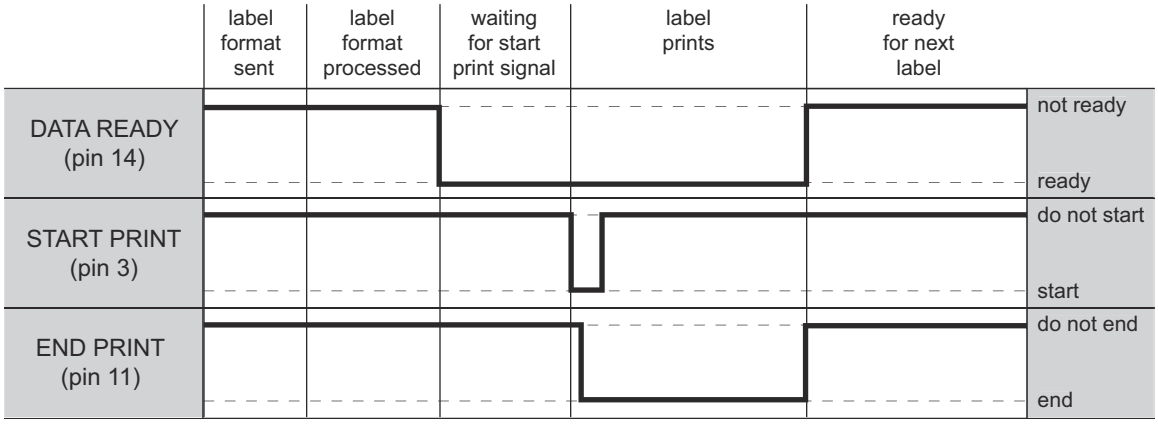


Figure 433 Applicator Signals (Mode 2)

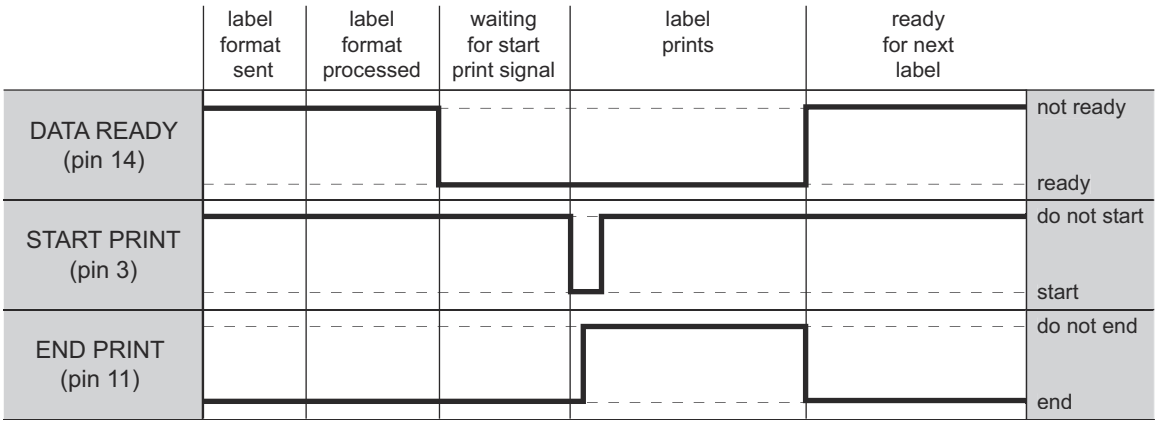


Figure 434 Applicator Signals (Mode 3)

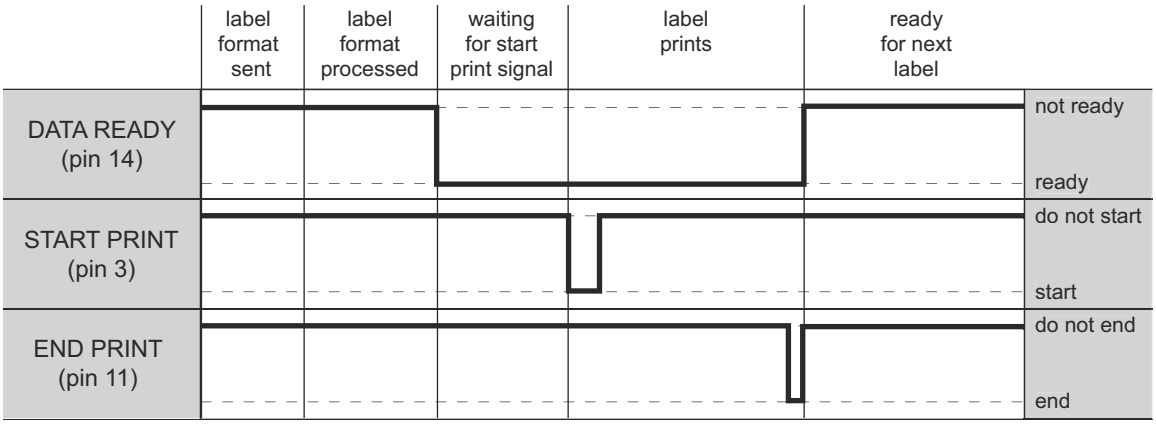
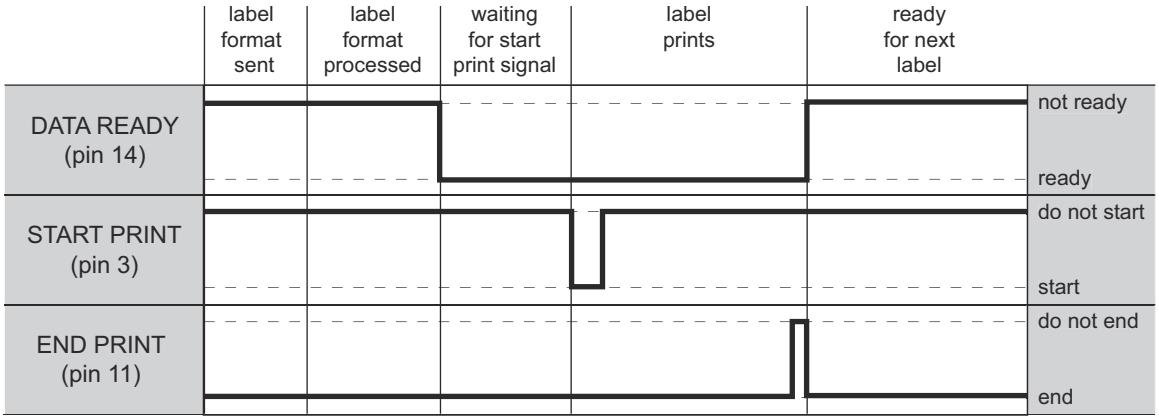


Figure 435 Applicator Signals (Mode 4)



Remove the Option Board or Cover Plate

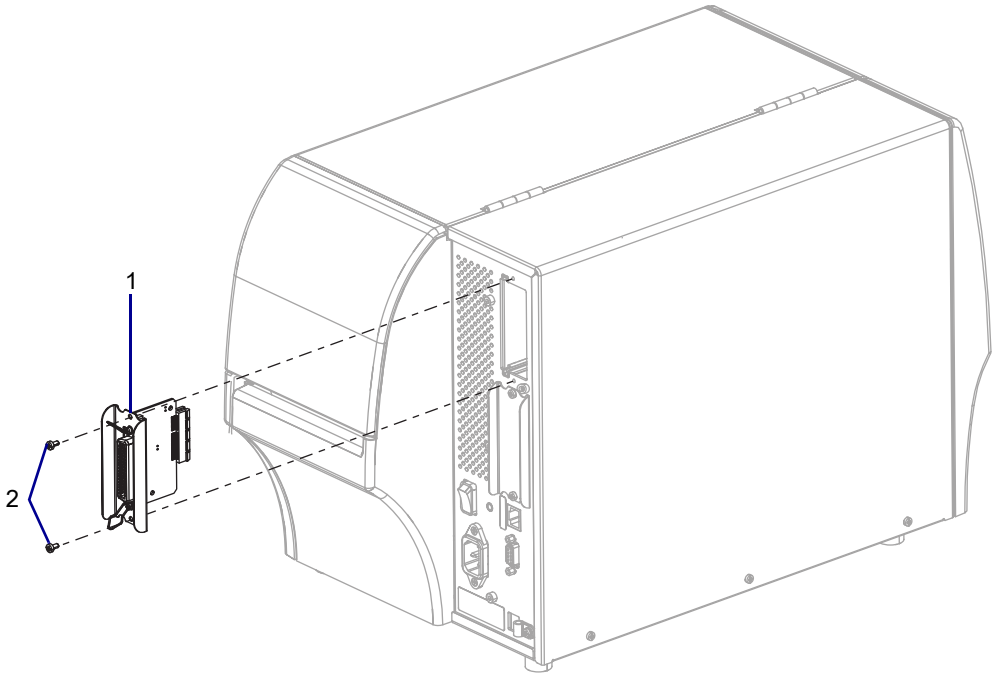
Are you replacing an existing option board?

If…	Then…
Yes	Go to Remove the Old Option Board on page 515.
No	Go to Remove the Cover Plate on page 516.

Remove the Old Option Board

1. Connect yourself to an antistatic device.
2. See Figure 436. Remove the two option board mounting screws from the top or bottom slots.

Figure 436 Remove the Option Board



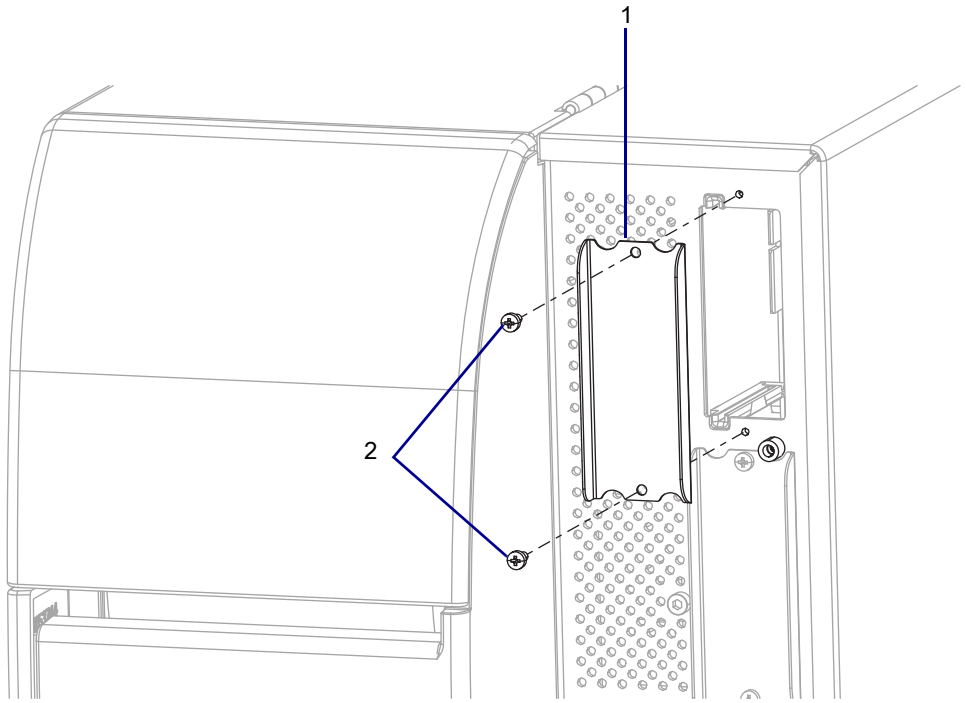
1	Option board
2	Mounting screws (2)

3. Slide the option board out of the printer.
4. Go to Install the New Applicator Interface on page 517.

Remove the Cover Plate

1. See Figure 437. Remove the blank cover covering the top slot by removing the two mounting screws.

Figure 437 Remove the Blank Cover



1	Blank cover
2	Mounting screws (2)

2. Go to Install the New Applicator Interface on page 517.

Install the New Applicator Interface

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. Make sure the applicator interface option board is configured according to your requirements.
   - Verify that the high-voltage lockout jumper matches your voltage requirements. See Jumper J3 — High-Voltage Lockout on page 510.
   - Verify that the ground isolation jumper is set to match your requirements. See Jumper J5 — Ground Isolation Jumper on page 510.
3. See Figure 438. Align the applicator option board with the option board guide slots in the top or bottom slot of the printer.

Figure 438 Install the Applicator Interface Board

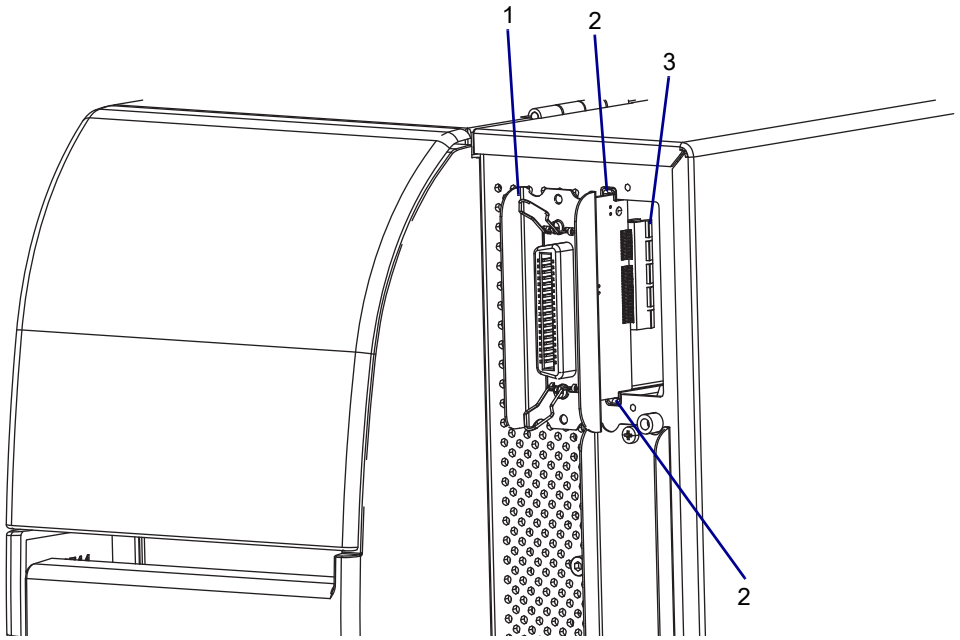


Figure 439

1	Applicator interface option board
2	Option board guide slots (2)
3	Locating post
4	Locating notch
5	Mounting screws (2)

4. Slowly slide the applicator interface board into the printer until it stops.
5. Ensure that the option board connector is aligned with the main logic board connector, and then push it in on the top and bottom until it is against the printer.
6. Install the two mounting screws.
7. Reconnect the AC power cord and all data cables, and then turn on (**I**) the printer.

Resume Operation with the New Option Board

1. If necessary, change your Energy Star setting, see Energy Star Effect on the Applicator Board on page 507.
2. If necessary, change the voltage using the SGD command, see Applicator Specifications on page 508.
3. To see your changes, you must power cycle the printer.
4. Open the media side cover.
5. Unlatch the toggle bar handle, reinstall the media and ribbon, and close and latch the toggle bar handle.
6. Close the media side cover.
7. Turn on (**I**) the printer.

The installation is complete.

ZT411/ZT421 Printers Wired Ethernet Maintenance Kit

This kit includes the parts and documentation necessary to install the wired Ethernet Maintenance kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: If this kit is installed the on-board Ethernet connector will not operate.

Parts List

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

Figure 440 Kit Contents

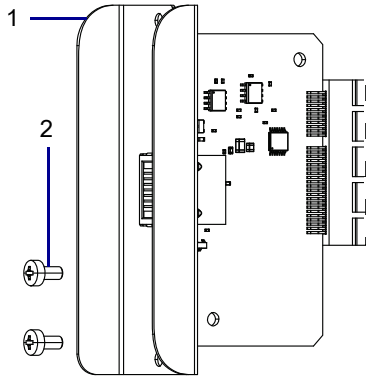


Table 63 Parts List

Item	Description	Qty
Ref	Wired Ethernet Maintenance Kit	
1	Wired Ethernet Option Board	1
2	Screws, M3 × 0.5 × 6	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wriststrap and Mat

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Remove the Old Wired Ethernet Option Board

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

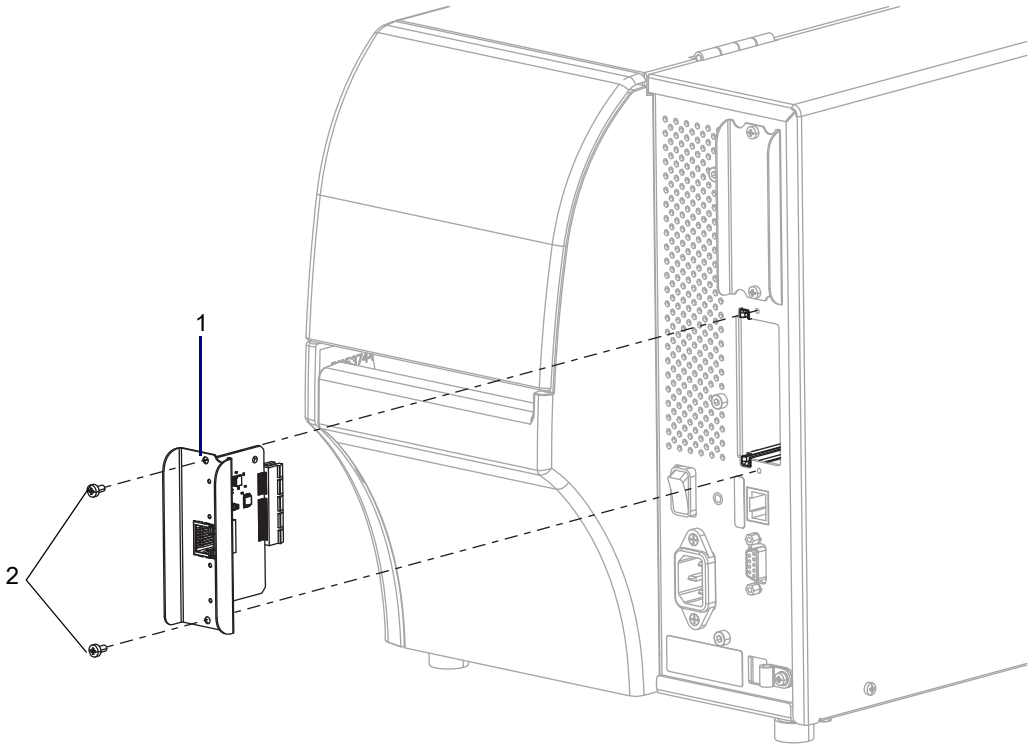
1. Are you replacing an existing option board?

If…	Then…
Yes	Go to Remove the Old Wired Ethernet Option Board on page 520.
No	Go to Remove the Cover Plate on page 521.

IMPORTANT: For the ZT411/ZT421 Printers the Wired Ethernet Option can only be installed in the lower option slot. The location post and the location slot ensure that the option is installed in the proper location.

2. See Figure 441. Remove the two option board mounting screws.

Figure 441 Remove the Option Board



1	Option board
2	Mounting screws (2)

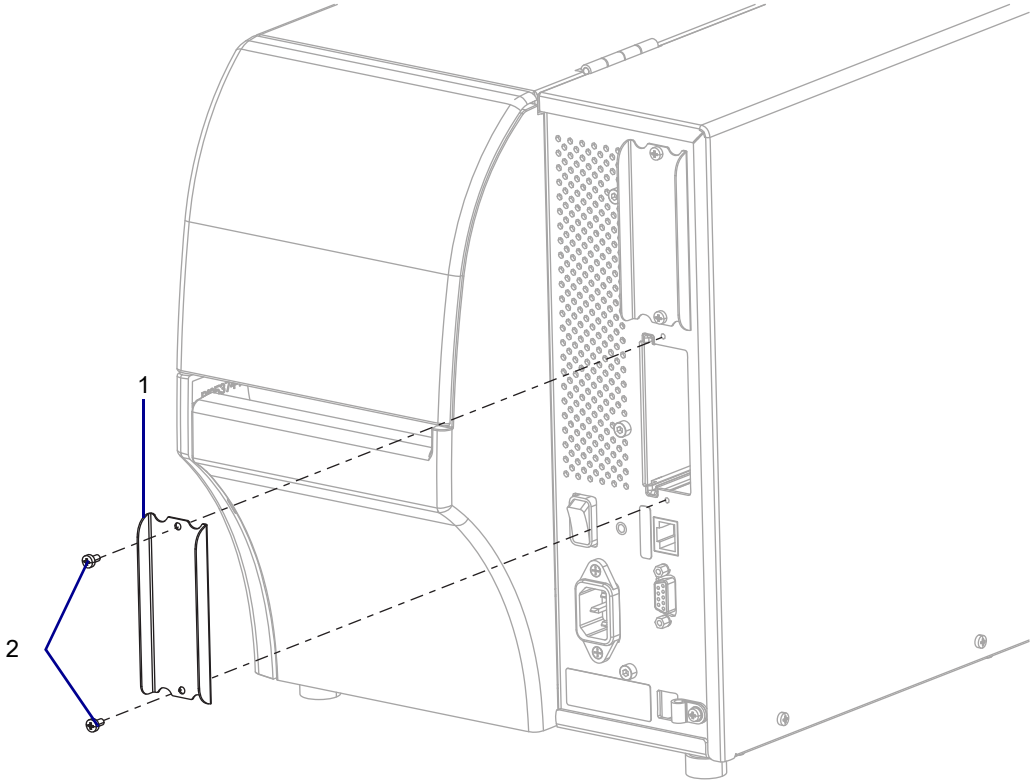
3. Remove the existing option board from the rear by slightly moving the board up and down while pulling out on the assembly.
4. Go to Install the New Wired Ethernet Board on page 522.

Remove the Cover Plate

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. See Figure 442. Remove the blank cover by removing the two mounting screws.

Figure 442 Remove the Blank Cover



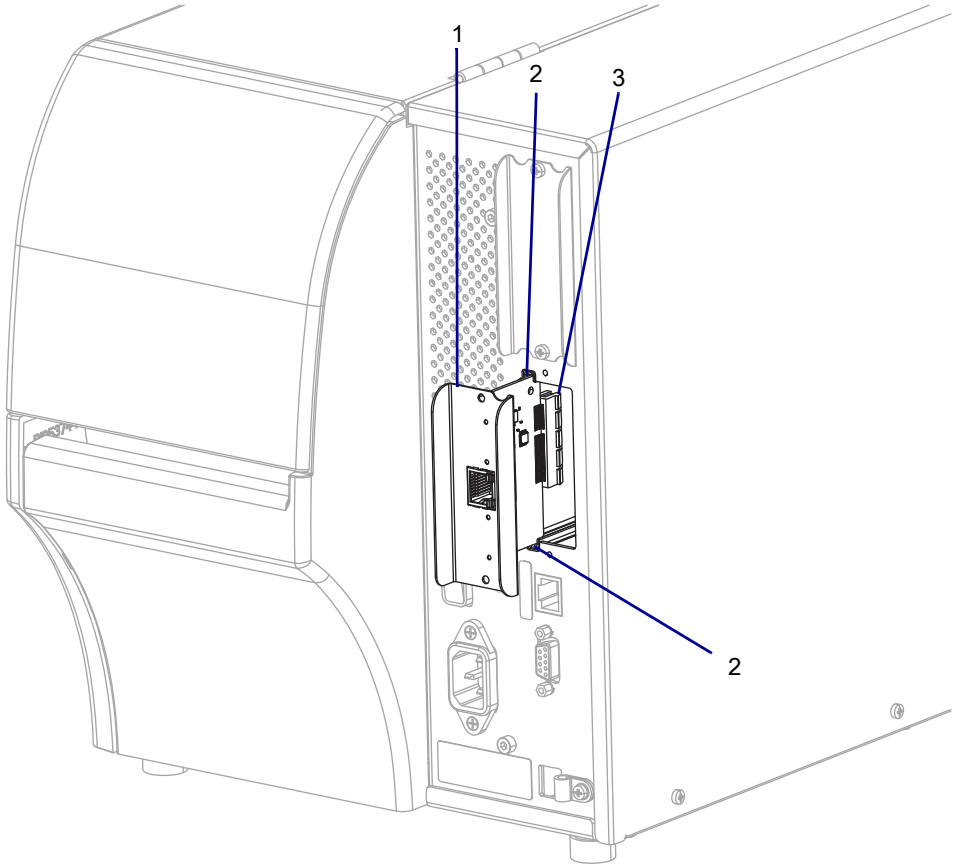
1	Blank cover
2	Mounting screws (2)

Install the New Wired Ethernet Board

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 443. Align the wired Ethernet option board with the main logic board guides.

Figure 443 Install the New Ethernet Option Board

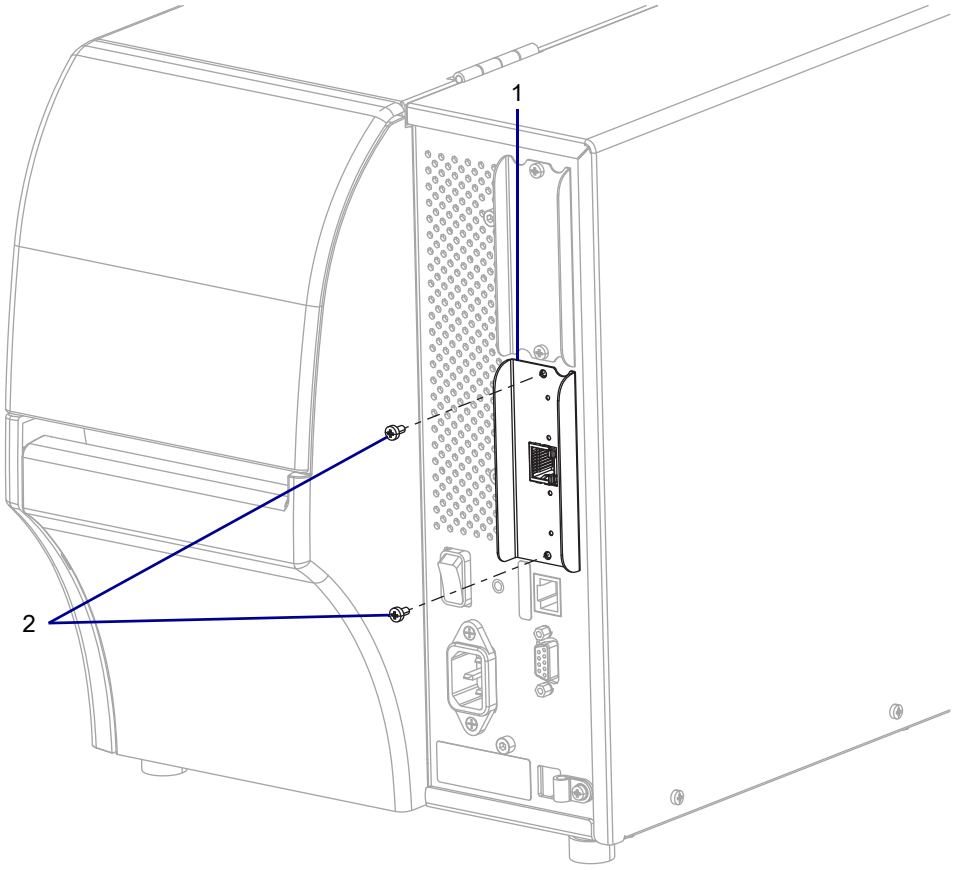


1	Wired Ethernet option board
2	Main logic board guides (2)
3	Wired Ethernet option board to main logic board connector

3. Slowly slide the wired Ethernet option board into the printer until it stops.
4. Ensure that the option board is aligned with the main logic board connector, and then push it in on the top and bottom until it is against the printer.

5. See Figure 444. Install the two mounting screws.

Figure 444 Install the Mounting Screws



1	Internal print server option
2	Mounting screws (2)

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers 802.11ac Radio Wireless Print Server Maintenance Kit

This kit includes the parts and documentation necessary to install the 802.11ac Radio Wireless Print Server Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

IMPORTANT: If the print server is being used in countries outside of the USA, Canada, or Japan, a qualified service technician must perform this installation.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed in Table 64 on page 524.

Figure 445 Kit Contents

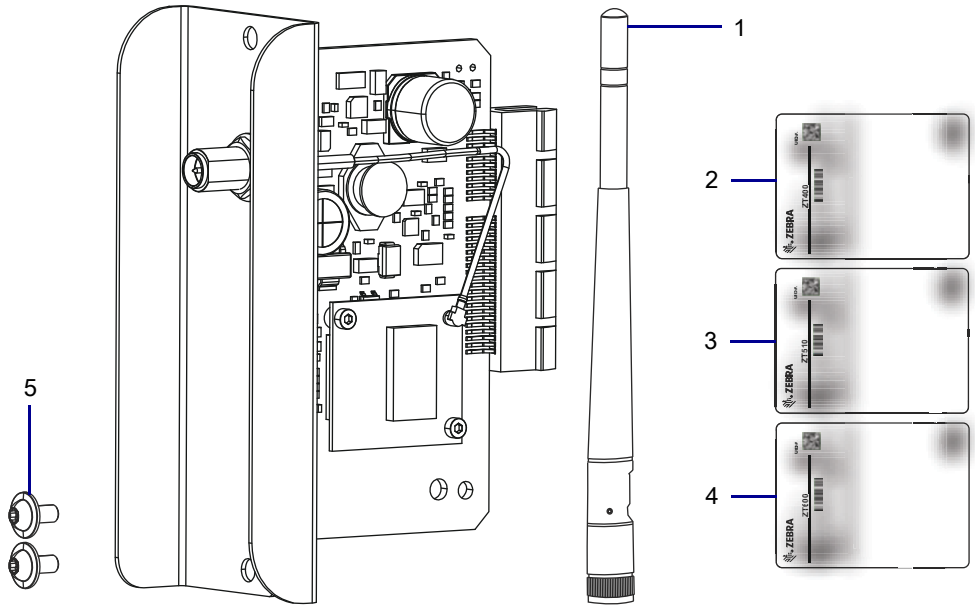


Table 64 Parts List

Item	Description	Qty
Ref	Wireless Print Server 802.11ac Radio Maintenance Kit, Region A (USA and Canada)	
	Wireless Print Server 802.11ac Radio Maintenance Kit, Region B (Japan)	
	Wireless Print Server 802.11ac Radio Maintenance Kit, Region C (All other countries other than regions, A and B)	
1	Print Server 802.11ac Antenna	1
2	ZT400 Series Printer Compliance Label	1
3	ZT510 Compliance Label (discard)	1
4	ZT600 Series Compliance Label (discard)	1
5	Screws, M3 × 0.5 × 6	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Hexalobular Wrench Set
- Antistatic Wriststrap and Mat
- Phillips Screwdriver Set
- Programming Guide for ZPL II, ZBI 2, Set-Get-Do, Mirror, and WML (P1012728-005 or later) or Internet access to download the guide from zebra.com.

NOTE: Installing this print server disables the ZT400 Series Printer's PrintTouch capability. After installation, Bluetooth devices must be paired with the printer manually.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

Remove the Old Option Board

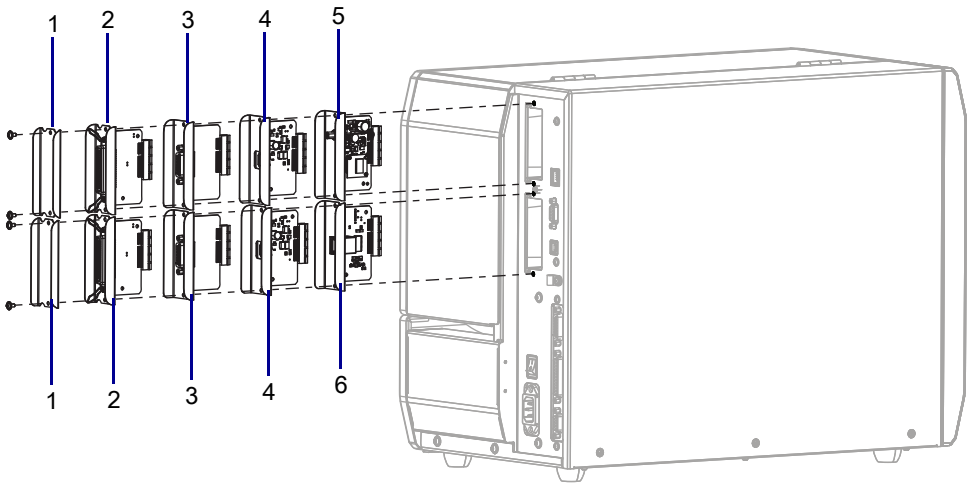
1. Are you replacing an existing option board?

If…	Then…
Yes	Go to Remove the Old Option Board on page 526.
No	Go to Remove the Cover Plate on page 528.

2.

3. See Figure 446 to verify the slots that can be used for the various option boards.

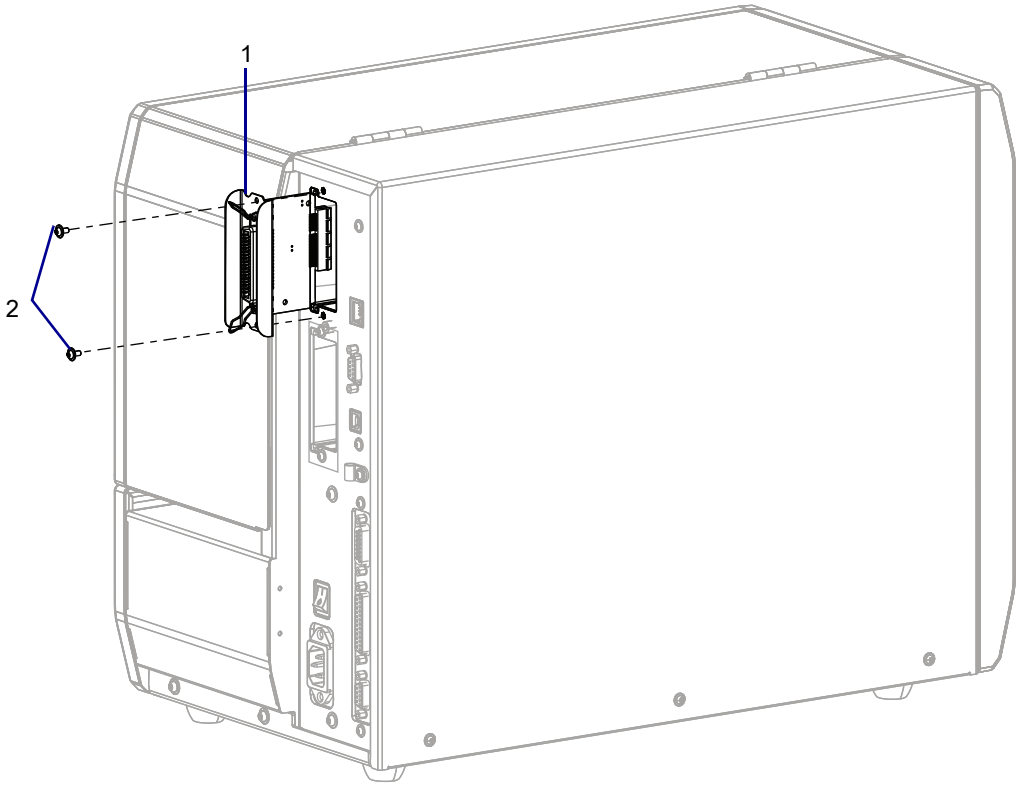
Figure 446 Option Board Locations (ZT610 shown)



1	Blank cover
2	Parallel port
3	Applicator interface
4	USB Host
5	Wireless (only in this location)
6	Internal print server IPV4 (only in this location)

4. See Figure 447. Remove the two option board mounting screws that secure it to the top slot.

Figure 447 Remove the Option Board



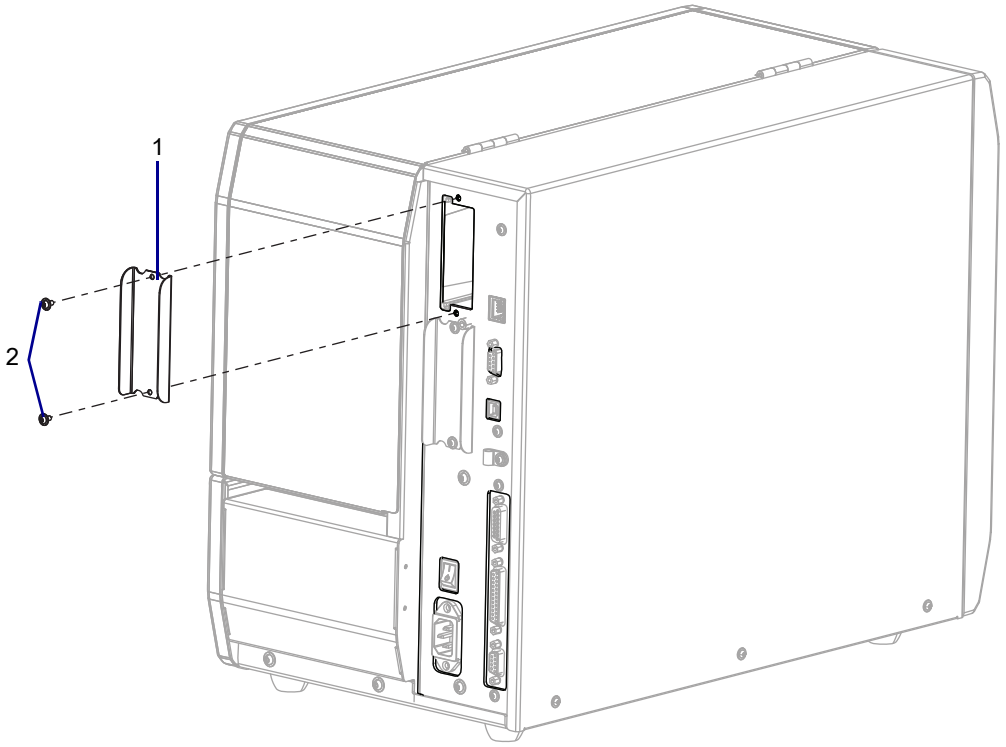
1	Option board
2	Mounting screws (2)

5. Slide the option board out of the printer.
6. Go to Install the 802.11ac Radio Print Server on page 529.

Remove the Cover Plate

1. See Figure 448. Remove the blank cover covering the top slot by removing the two mounting screws.

Figure 448 Remove the Blank Cover

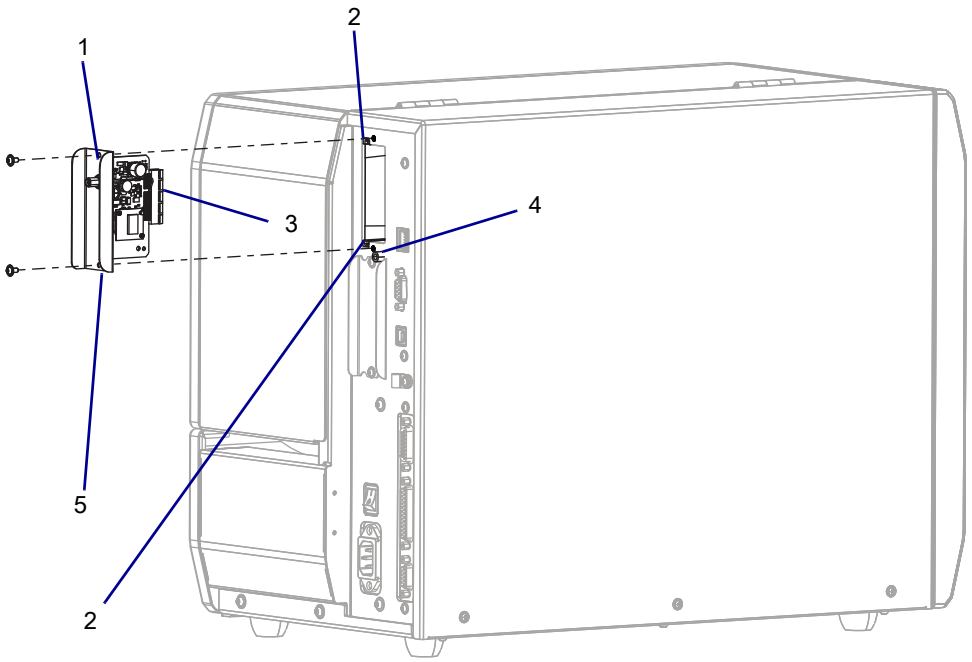


1	Blank cover
2	Mounting screws (2)

Install the 802.11ac Radio Print Server

1. See Figure 449. Align the print server board with the option board guide slots in the top slot of the printer.

Figure 449 Install the New Print Server Board

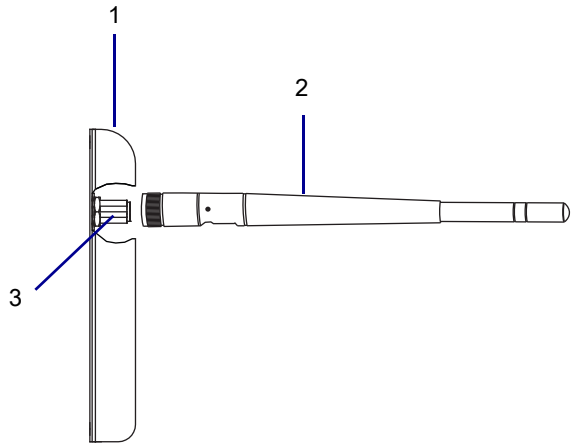


1	Wireless print server board
2	Option board guide slots (2)
3	Wireless print server board connector
4	Locating post
5	Locating notch

2. Slowly slide the wireless option board into the printer until it stops.
3. Ensure that the option board connector is aligned with the main logic board connector, and then push in the board on the top and bottom until the board is flush with the back of the printer.
4. Install the two mounting screws.

5. See Figure 450. To install the external antenna, screw the antenna onto the RF connector extending out of the option board.

Figure 450 Close-up of Antenna Installation

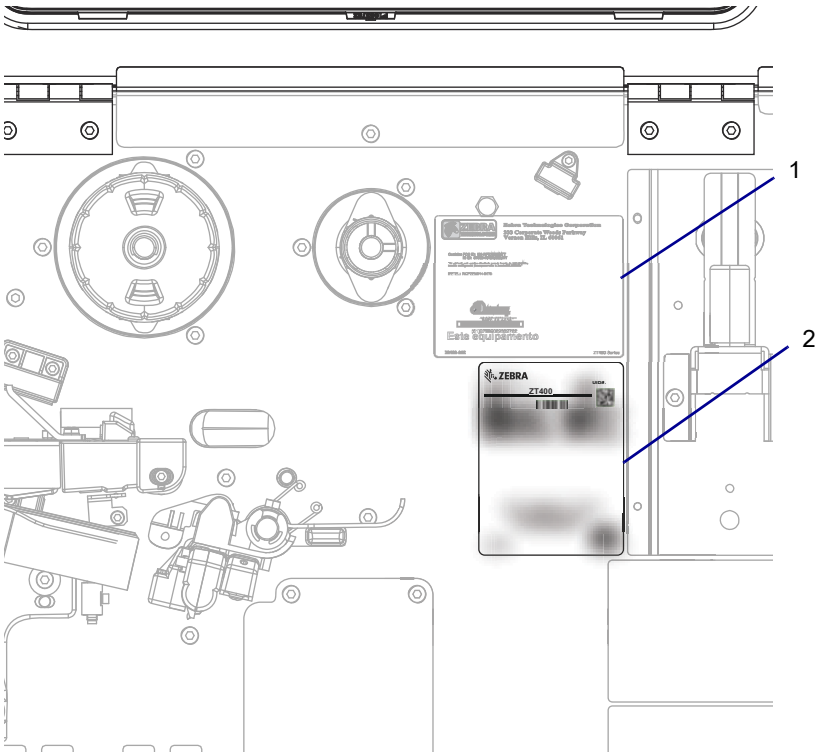


1	Option board mounting plate
2	RF antenna
3	RF connector

Apply the Compliance Label

1. Open the media door.
2. Remove the media.
3. See Figure 451. Locate the Product Label, already in place.

Figure 451 Locate the Product Label (ZT410 Printer shown)



1	Product label, ZT411/ZT421 Printers
2	Compliance label

4. Select the proper compliance label for your printer.
5. Peel the backing off of the label, (ZT11/ZT421 Printers), and then install the label below the product label as shown in Figure 451.

Programming the 802.11ac Radio Wireless Print Server

You may need to set your country code to enable the 5 Ghz band for the print server.

1. Is the printer to be used in the United States, Canada, or Japan?

If…	Then…
Yes	1. The country codes have been preset at the factory and cannot be changed. 2. Go to Resume Printer Operation on page 532.

No	1. Send the following Set/Get/Do to set the country code for which the radio is to be configured.
	`! U1 setvar "wlan.country_code" "value"`
	Once this code has been set, it can not be changed.
	IMPORTANT: The list of country codes is specific to each printer and depends on the printer model and its wireless radio configuration. The list is subject to change, addition, or deletion with any firmware update, at any time, without notice.
	To determine the country codes available on your printer, you can issue the following command to return all commands related to WLAN settings. Locate the **`wlan.country.code`** command in the results and view the country codes available for your printer.
	`! U1 getvar "wlan"`
	2. Go to Resume Printer Operation on page 532.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Wireless Print Server Antenna Maintenance Kit

This kit includes the parts and documentation necessary to install the Radio Wireless Print Server Antenna on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 452 Kit Contents

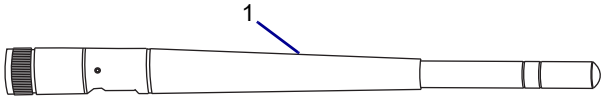


Table 65 Parts List

Item	Description	Qty
Ref	Wireless Print Server Antenna	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Remove the Old Antenna

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.

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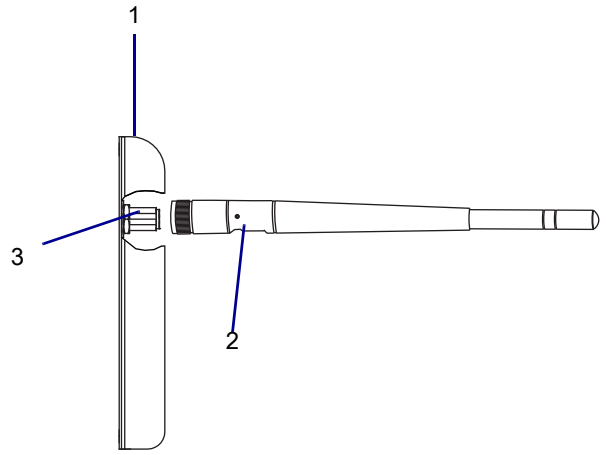
2. See Figure 453. Remove the external antenna by unscrewing the antenna from the RF connector extending out from the back plate of the printer.

Figure 453 Close-up of Antenna Installation



1	Cover
2	RF antenna
3	RF connector

Install the New Antenna

1. See Figure 453. Install the external antenna by screwing the antenna onto the RF connector extending out from the back plate of the printer.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT412 Printers Electronics Cables Maintenance Kit

This kit includes the parts and documentation necessary to install the Electronics Cables Maintenance Kit into the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed in Table 66 on page 536.

Figure 454 Kit Contents

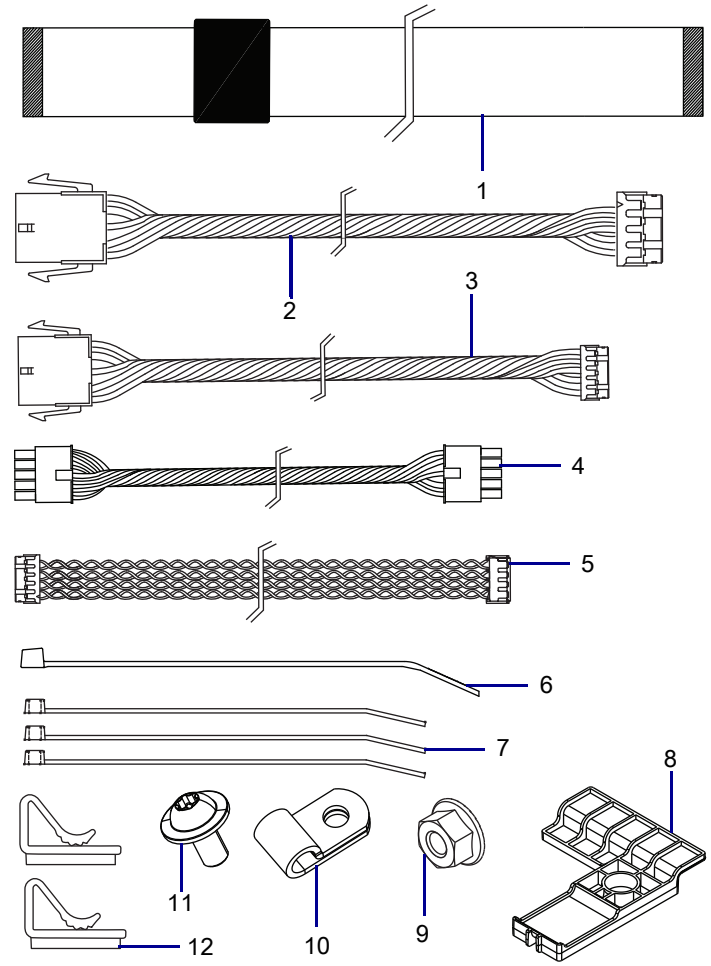


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Table 66 Parts List

Item	Description	Qty
Ref	Electronics Cables Maintenance Kit	
1	Control Panel Cable	1
2	Main Logic Board RFID Interface Cable	1
3	MLB Cable Cutter/Liner Take-up Unit (LTU)/Label Rewind	1
4	Cable Cutter/Liner Take-up Unit (LTU)/Label Rewind	1
5	USB Host Cable ZT411/ZT421	1
6	Cable Tie 5.5 Inches	1
7	Cable Tie	3
8	Cable Clamp	1
9	Hex Nut M4	1
10	Cable Clamp Back of Printer	1
11	Screw for Cable Clamp	1
12	Cable Clamp Electronics Side	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Screwdriver Set
- Antistatic Wrist Strap and Mat
- Metric Nut Driver Set
- Metric Hexalobular Key Set

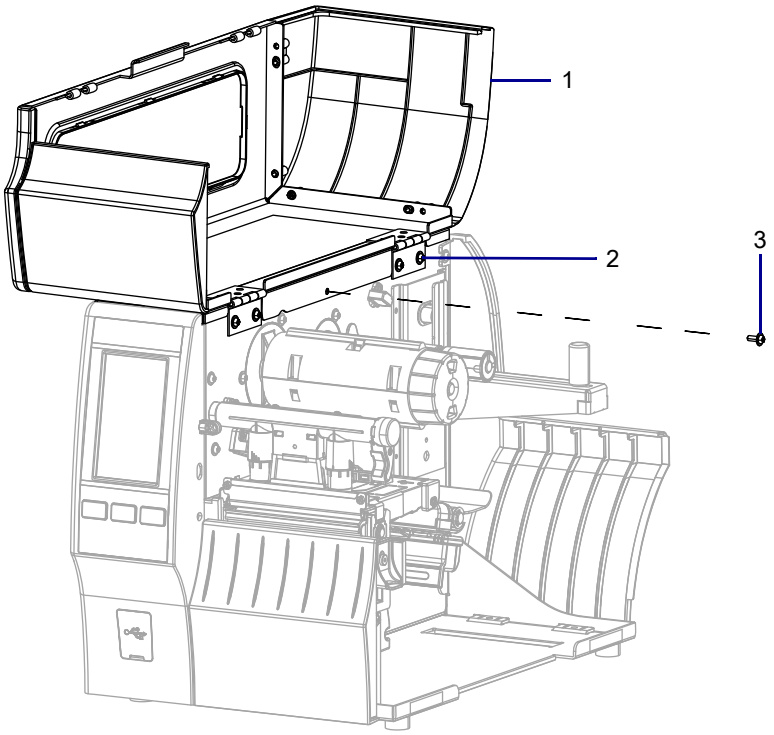
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 455. Remove the screw securing the electronics cover.

Figure 455 Locate the Electronics Cover Mounting Screw

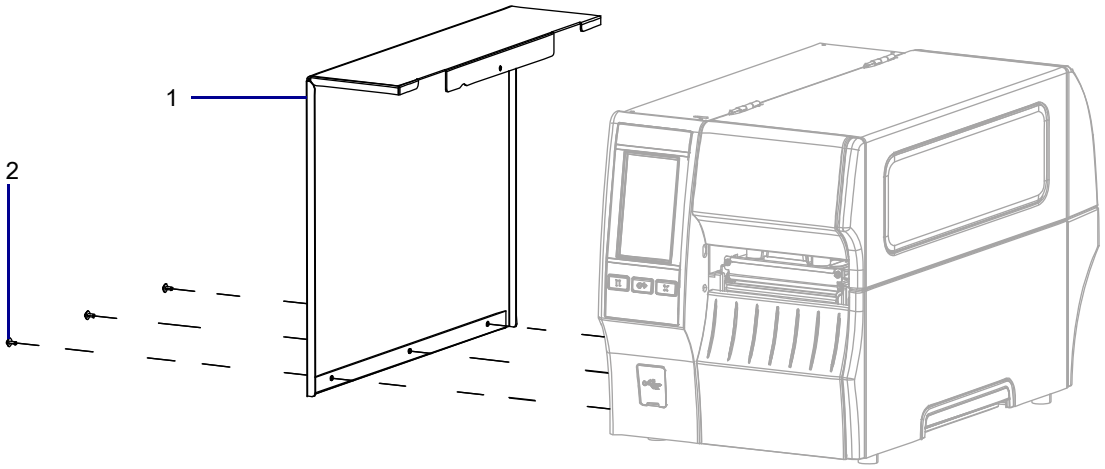


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 456. Remove the three mounting screws securing the electronics cover to the printer.

Figure 456 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

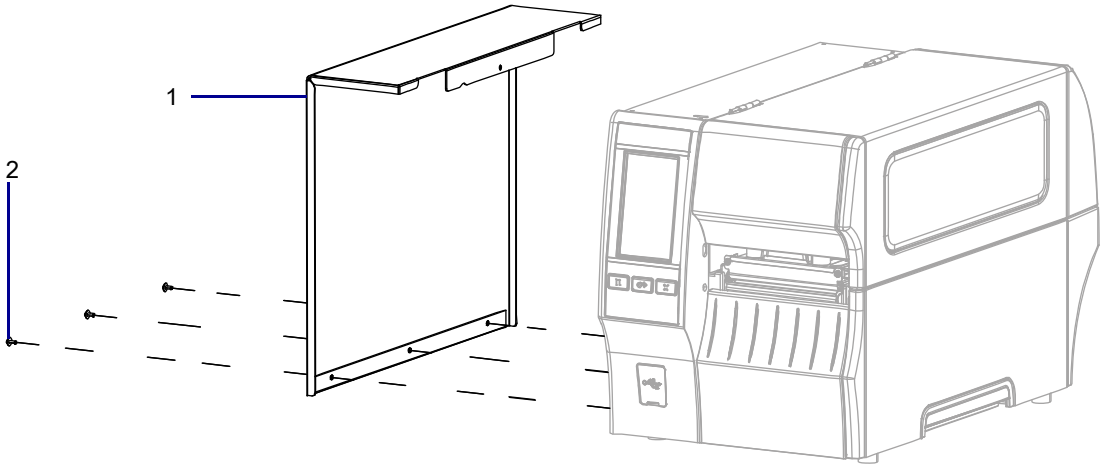
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

7. Connect yourself to an antistatic device.
8. Cut any cable ties securing the defective cable.
9. Remove the defective cable from the printer.
10. Choose the proper replacement cable from the kit.
11. Install the new cable(s).
12. Install any cable ties previously removed.

Reinstall the Electronics Cover

1. See Figure 457. Slide the electronics cover onto the printer.

Figure 457 Reinstall the Electronics Cover Mounting Screws

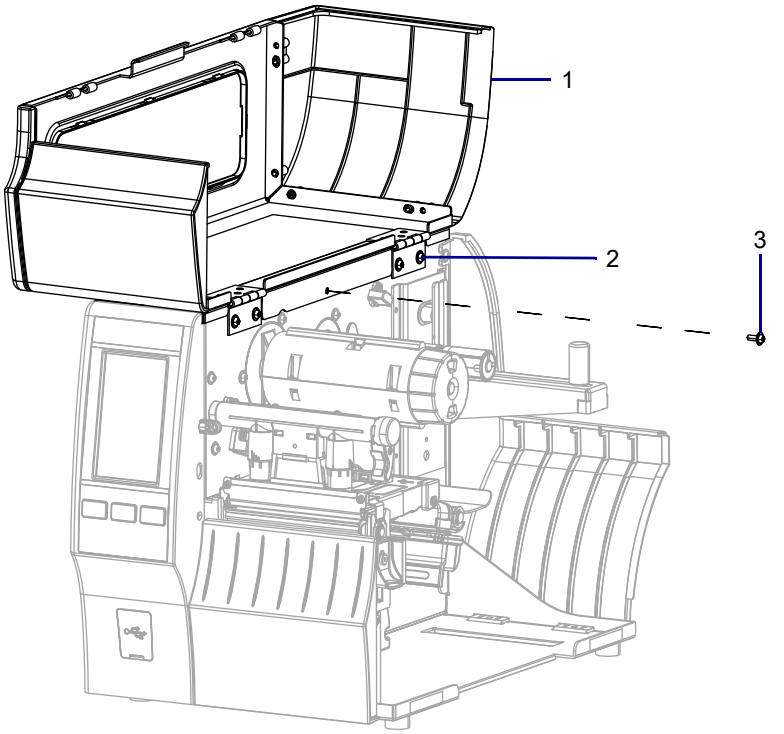


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 458. Open the media door and install the mounting screw.

Figure 458 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers RFID Assembly Maintenance Kit

This kit includes the parts and documentation necessary to install the RFID Assembly Option/Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 459 Kit Contents

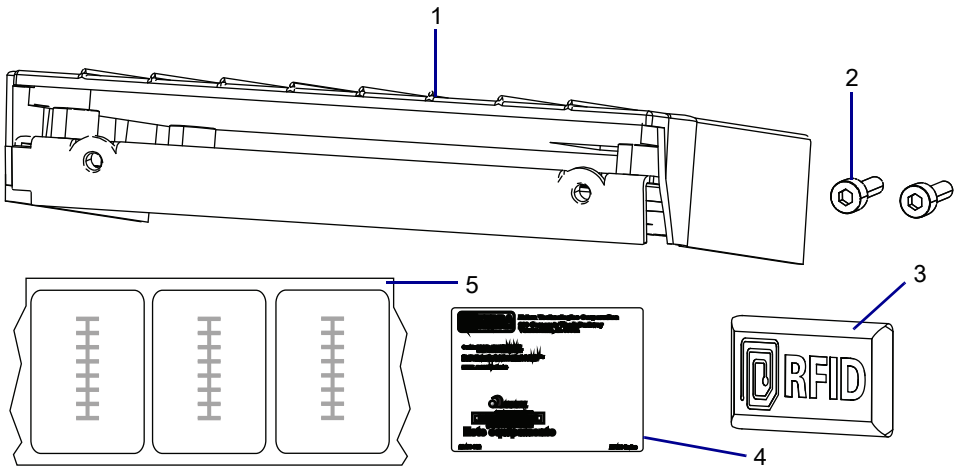


Table 67 Parts List

Item	Description	Qty
Ref	RFID Assembly North America Maintenance Kit	
	RFID Assembly Japan Assembly Maintenance Kit	
	RFID Assembly Rest of World (except Japan) Maintenance Kit	
1	RFID Assembly	1
2	Screw, M3 × 0.5 × 10	2
3	Name Plate (for option kit use only)	1
4	Label (for option kit use only)	1
5	RFID test labels	3

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hex Key Set

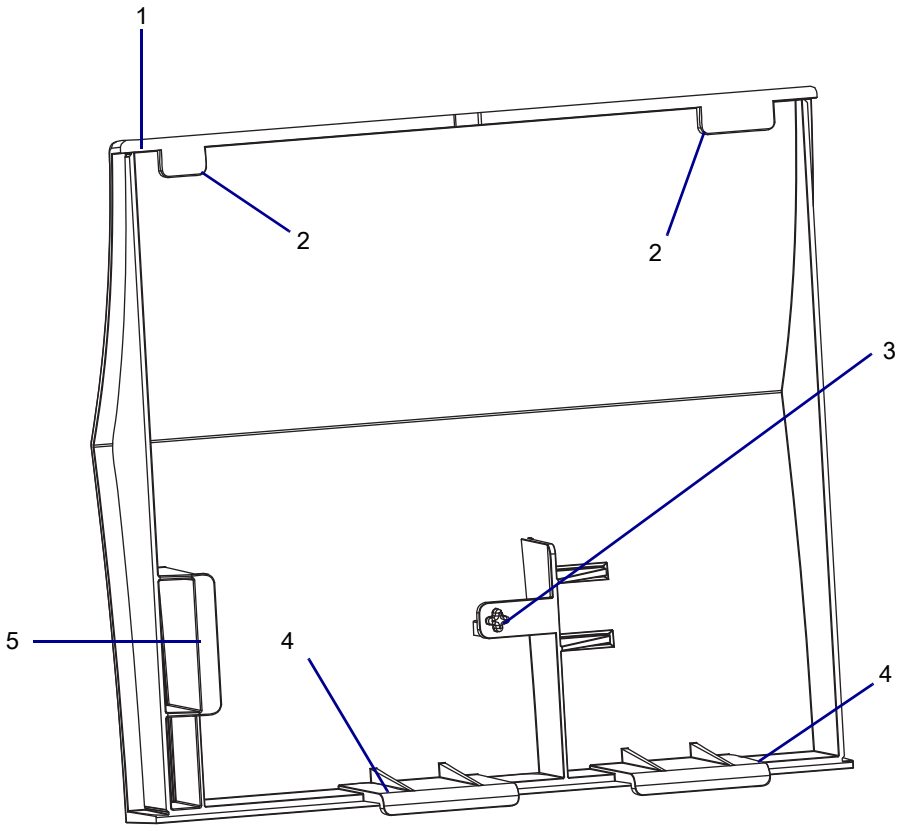
CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

Remove the Lower Front Trim Panel

1. Open the media door.
2. Remove the media and ribbon.
3. Which option board do you have?

If you have a…	Then…
Standard (tear)	Go to Remove the Lower Front Trim Panel on page 542.
Peel	Go to Remove the Tear Bar on page 551.
Cutter	Go to Remove the Cutter Assembly on page 548.

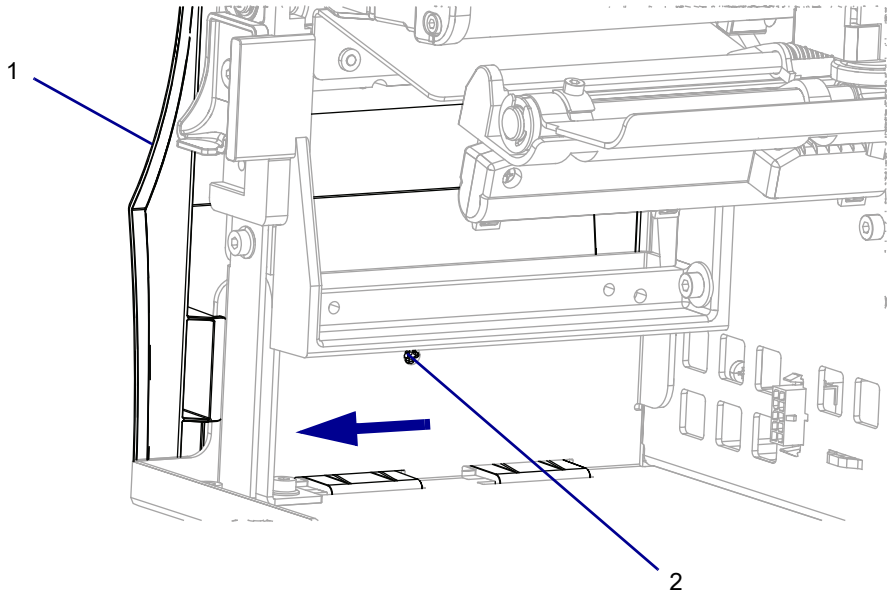
Figure 460 Lower Front Trim Panel Identification



1	Lower front trim panel
2	Trim panel top tabs
3	Trim panel detent
4	Trim panel lower tabs
5	Trim panel stop

4. See Figure 461. Remove the lower front trim panel by pressing in on the detent, and then sliding the panel to the left as far as possible.

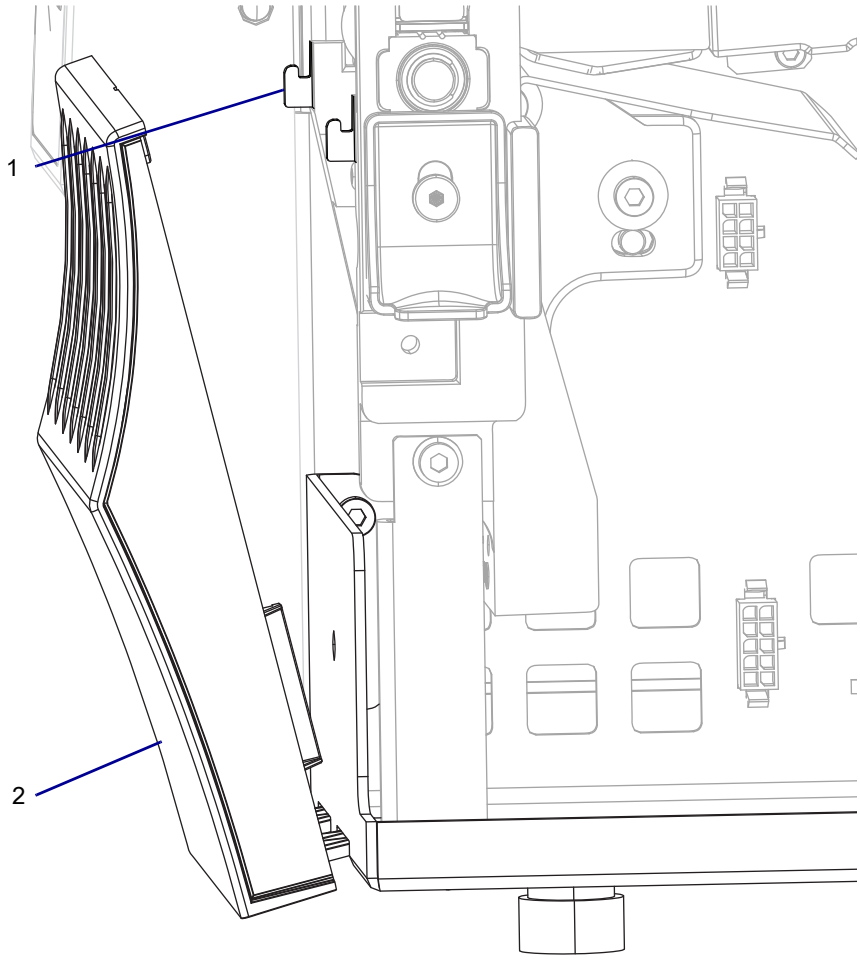
Figure 461 Release the Lower Front Trim Panel



1	Lower front trim panel
2	Detent

5. See Figure 462. Tip the top of the lower front trim panel off the hooks and away from the printer.

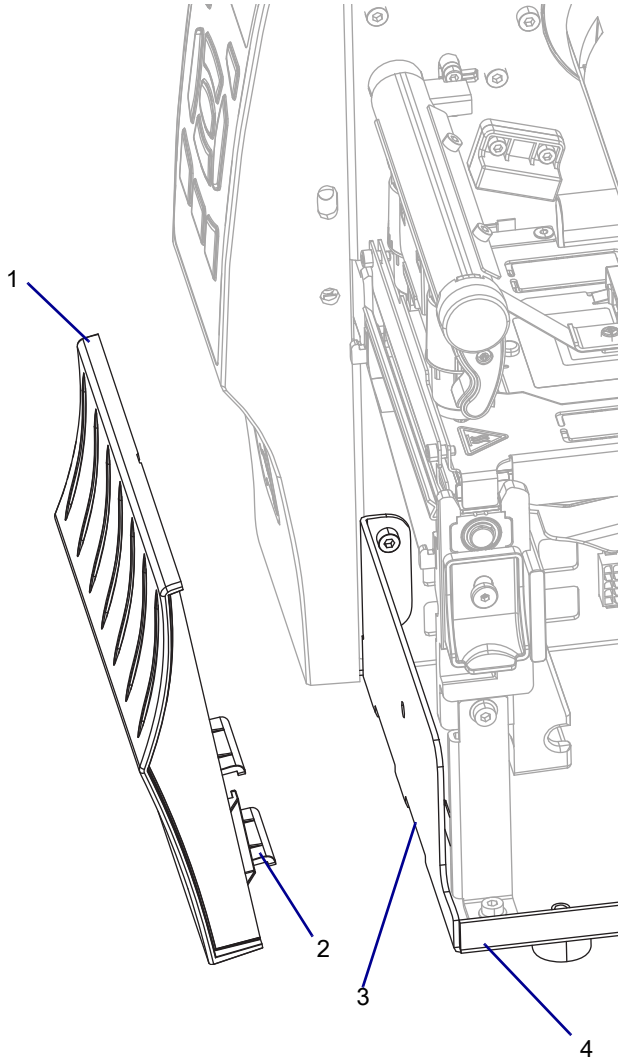
Figure 462 Hook Locations



1	Platen housing hooks (2)
2	Lower front trim panel

6. See Figure 463. Slide the lower front trim panel tabs out of the printer base.

Figure 463 Remove the Lower Front Trim Panel Tabs (ZT410 Printer Shown)



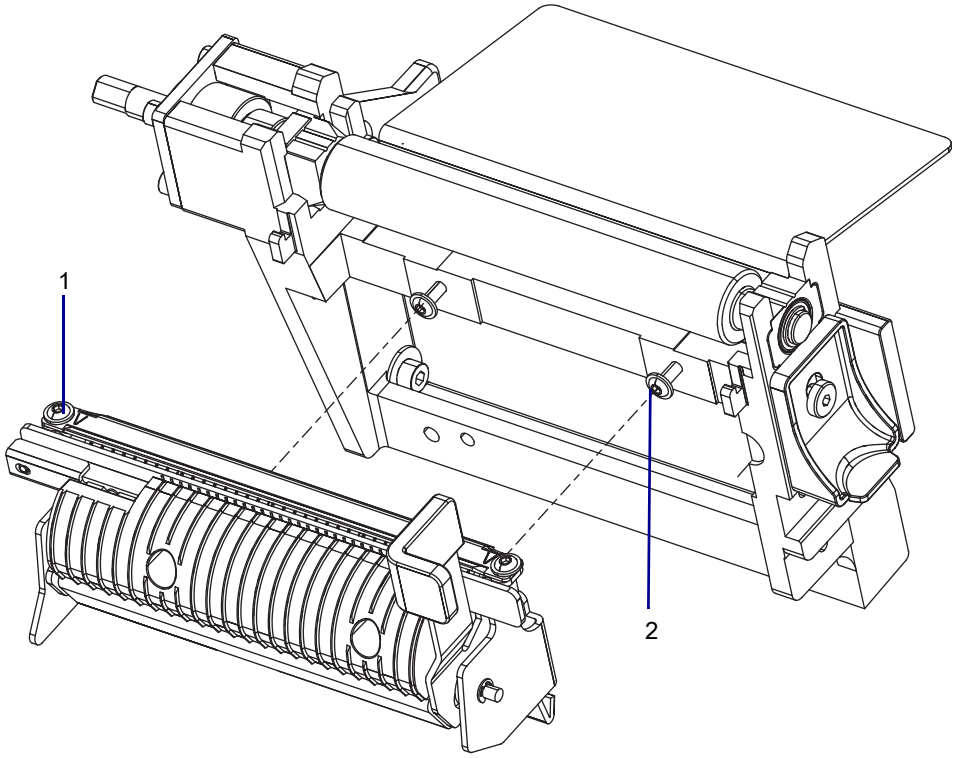
1	Lower front trim panel
2	Lower front trim panel tabs (2)
3	Printer base mounting slots (2)
4	Printer base

7. Go to Remove the Tear Bar on page 551.

Remove the Peel Assembly

1. See Figure 464. Remove the two mounting screws, and then remove the peel assembly.

Figure 464 Remove Old Peel Assembly



1	Peel Assembly
2	Mounting Screw (2)

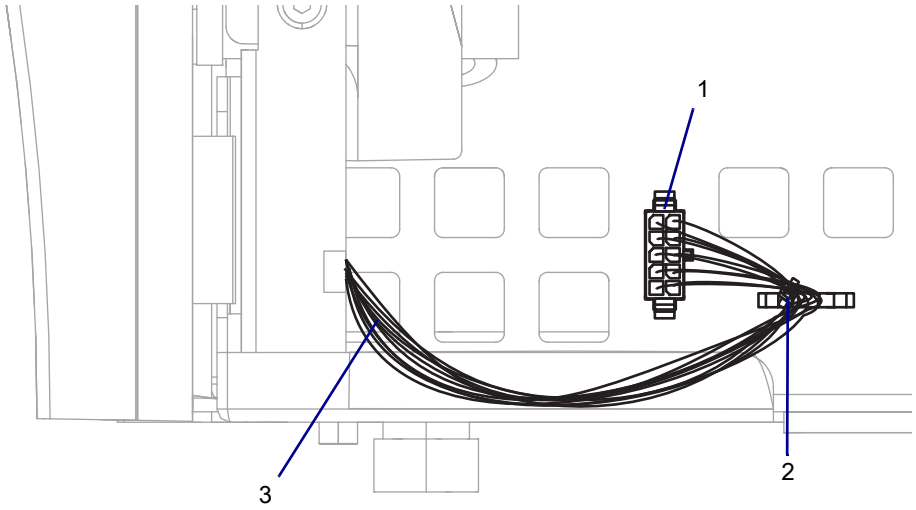
2. Are you replacing an existing RFID assembly?

If…	Then…
Yes	Go to Remove the Old RFID Assembly on page 552.
No	Go to Remove the Media Shelf on page 553.

Remove the Cutter Assembly

1. See Figure 465. Disconnect the cutter cable from the ten-pin option connector on the main frame.

Figure 465 Disconnect the Cutter Assembly



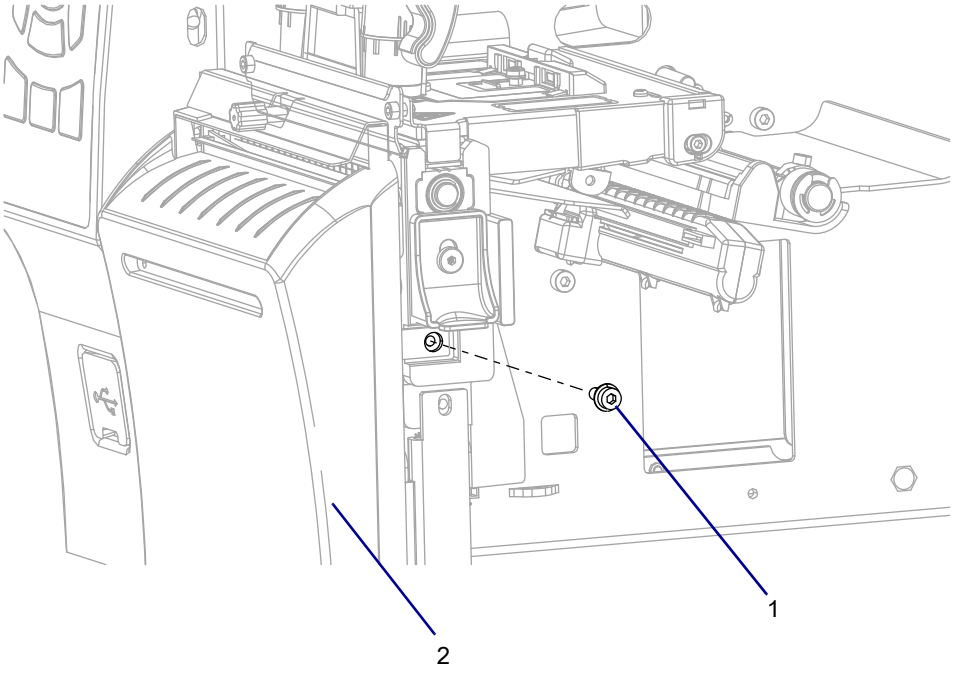
1	Ten-pin option connector
2	Cable tie
3	Cutter cable

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

2. Cut the cable tie.

3. See Figure 466. Remove the cutter mounting screw.

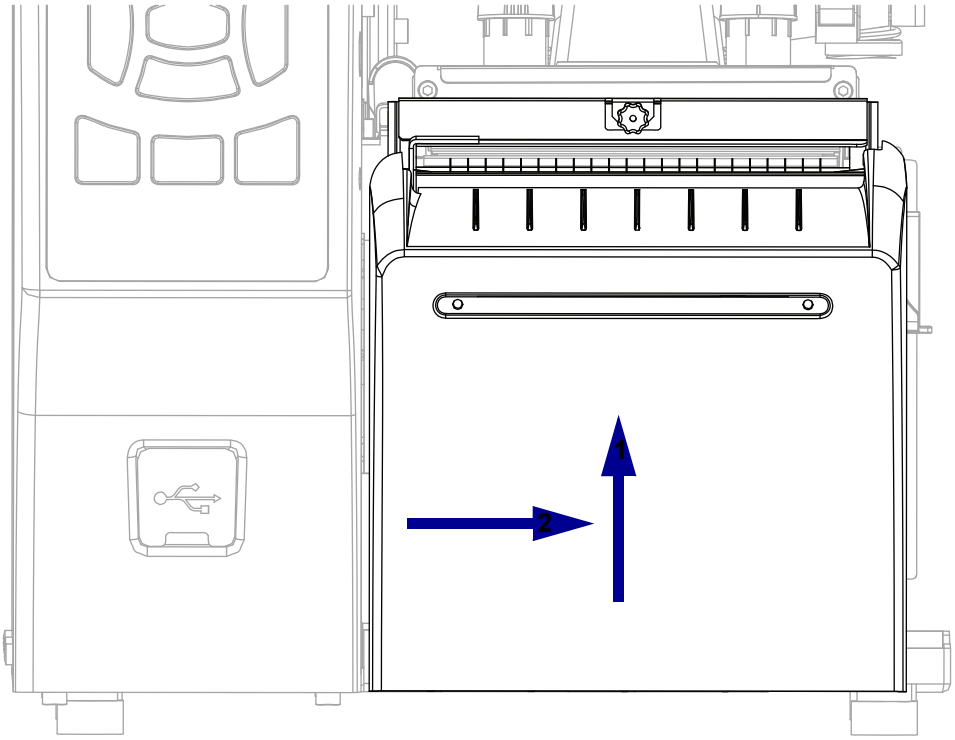
Figure 466 Remove the Cutter Assembly (ZT410 Printer Shown)



1	Mounting screw
2	Cutter assembly

4. See Figure 467. Lift up and slide the cutter assembly to the right, and then remove the cutter assembly from the platen assembly hooks.

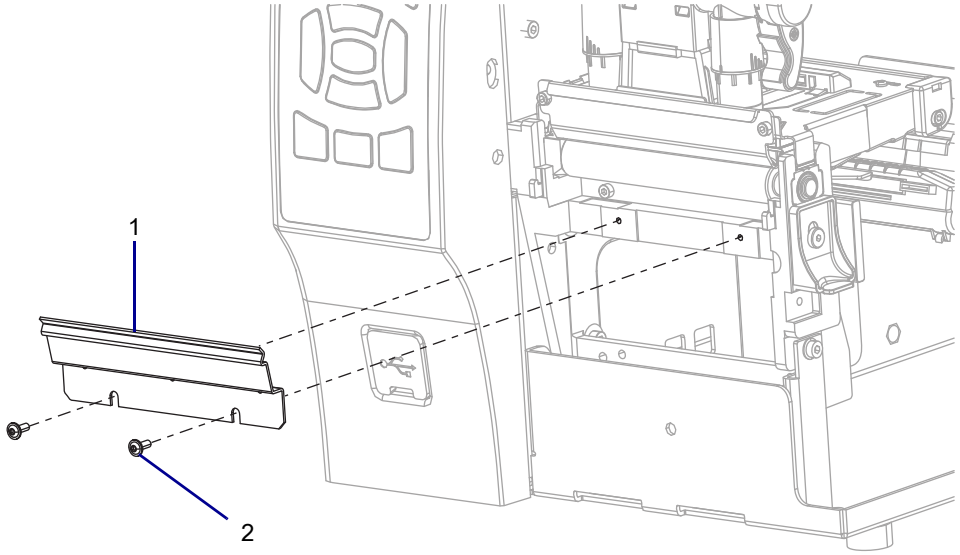
Figure 467 Lift and Slide the Cutter Assembly (ZT410 Printer Shown)



Remove the Tear Bar

1. See Figure 468. Remove the two tear bar mounting screws.

Figure 468 Remove and Install the Tear Bar (ZT410 Printer Shown)



1	Tear bar
2	Tear bar mounting screws (2)

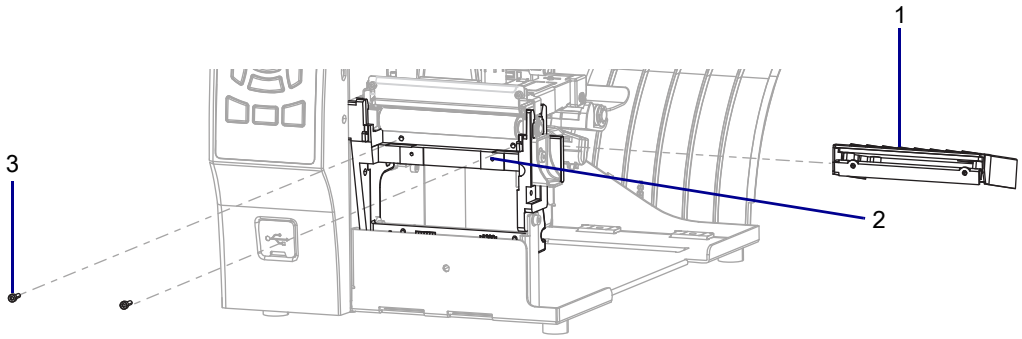
2. Remove the tear bar.
3. Are you replacing an existing RFID assembly?

If…	Then…
Yes	Go to Remove the Old RFID Assembly on page 552.
No	Go to Remove the Media Shelf on page 553.

Remove the Old RFID Assembly

1. To access the cable connector, loosen, but do not remove, the two RFID mounting screws.

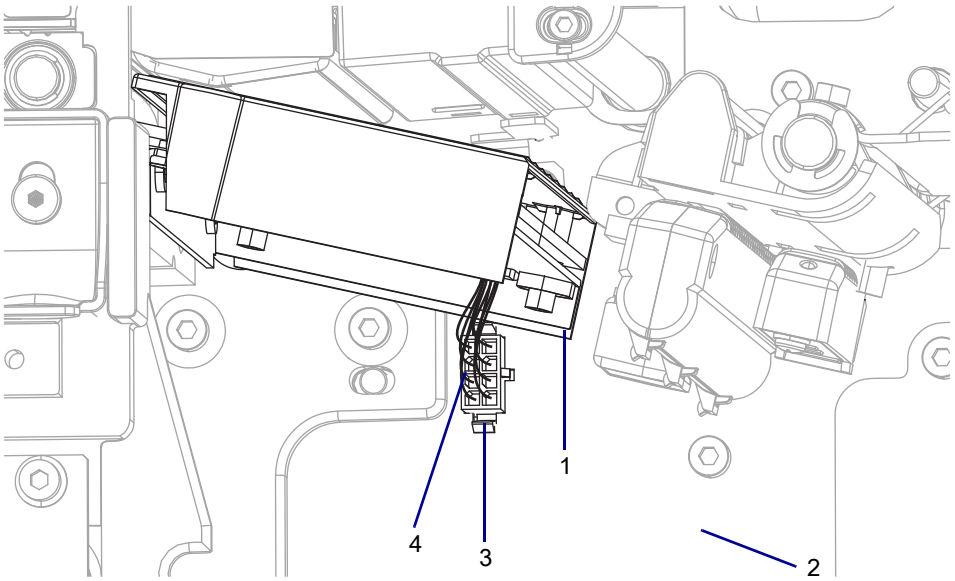
Figure 469 Remove the Old RFID Assembly (ZT410 Printer Shown)



1	RFID assembly
2	Platen housing
3	Mounting screws (2)

2. See Figure 470. Disconnect the RFID cable from the 8-pin connector on the main frame.

Figure 470 Disconnect the RFID Cable



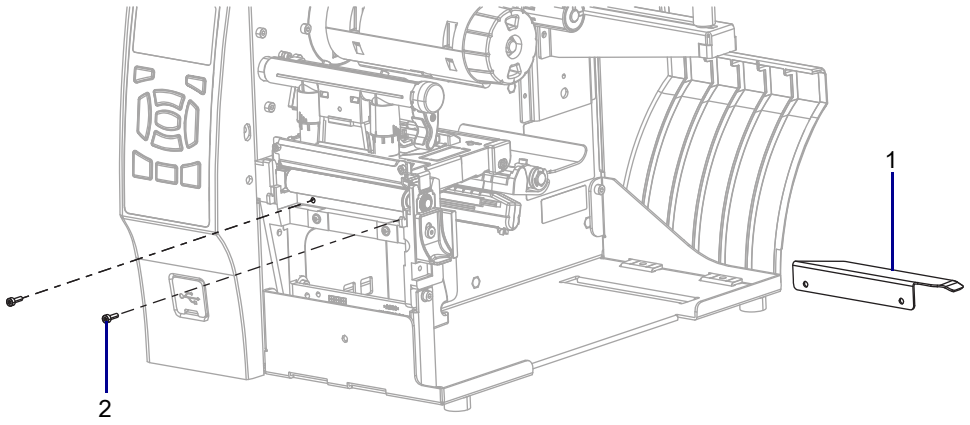
1	RFID assembly
2	Printer main frame
3	8-pin connector
4	RFID cable

3. See Figure 469 on page 552. Remove the two old RFID mounting screws.
4. Guide the old RFID assembly out of the printer.

Remove the Media Shelf

1. See Figure 471. Remove the two mounting screws.

Figure 471 Remove and Install the Media Shelf (ZT410 Printer Shown)



1	Media shelf
2	Mounting screws (2)

2. Slide the media shelf out of the printer.

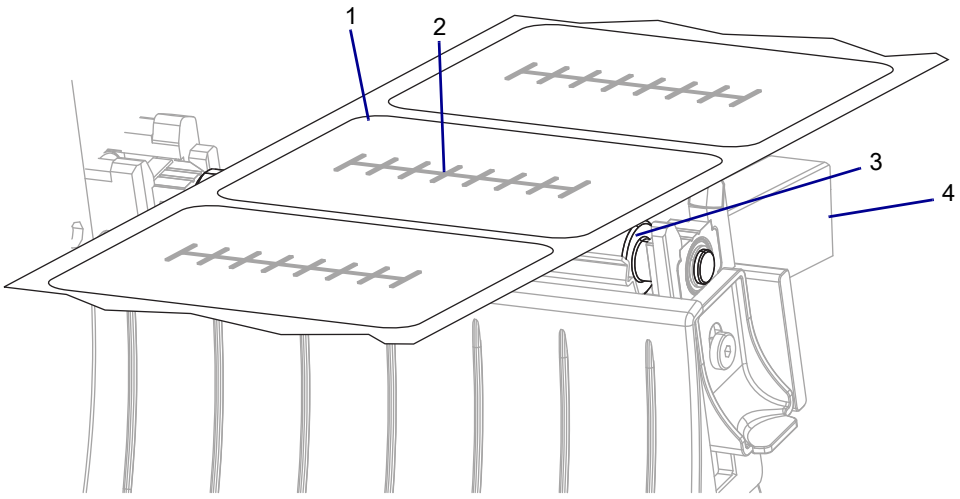
Install the New RFID Assembly

1. See Figure 469 on page 552. Guide the new RFID assembly into the printer.
2. Align the mounting holes with the platen housing mounting hole, and then loosely install the two new mounting screws.
3. See Figure 470 on page 552. Connect the RFID cable to the 8-pin connector on the main frame.
4. See Figure 469 on page 552. Tighten the two RFID mounting screws.

Verify the Operation of the RFID Assembly

1. Reconnect the AC power cord.
2. Turn on (**I**) the printer.
3. See Figure 472. Lay the test labels supplied in the kit over the RFID assembly with the RFID loop at the inside edge of the platen roller.

Figure 472 Lay the Test Label onto the RFID Assembly



1	Test label
2	RFID loop
3	Platen roller
4	RFID assembly

4. Go to the control panel and select Menu.
5. Choose the Read RFID Data menu option, and then select Read Label.
6. Follow the on screen instructions.
7. Does the screen fill with numbers (no certain sequence is needed)?

If…	Then…
Yes	The RFID assembly is working. Go to step 8.
No	**1.** Check all RFID assembly cable connections. **2.** Repeat step 5.

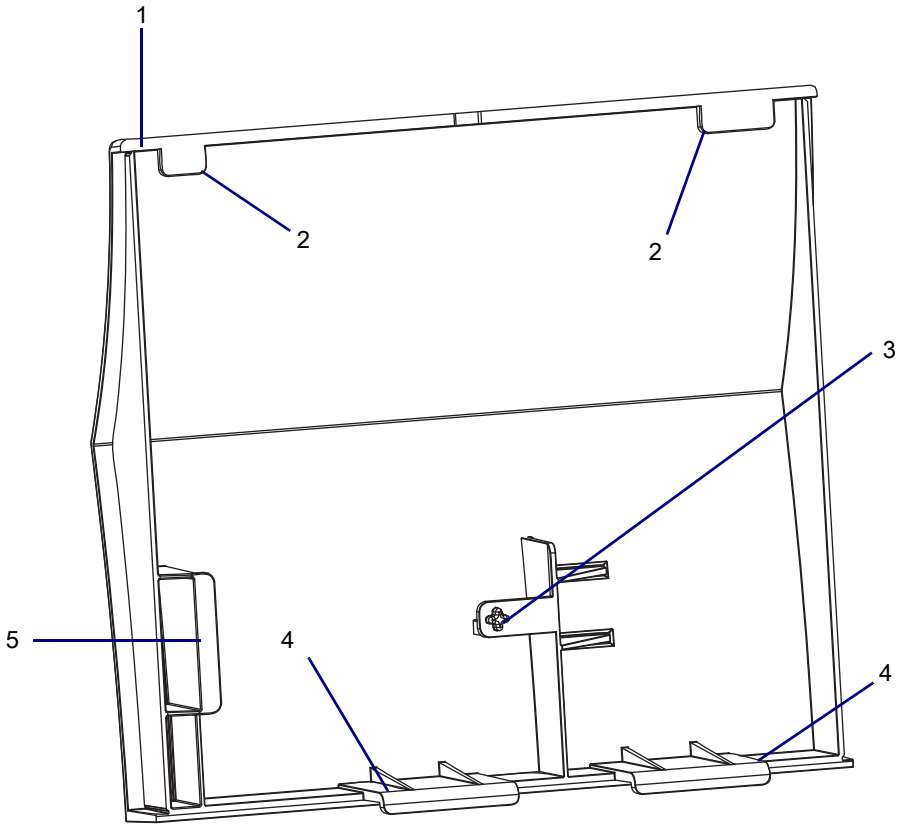
8. Unplug the AC power cord.
9. Which print option do you have?

If you have a…	Then…
Standard (tear)	Go to Reinstall the Lower Front Trim Panel on page 555.
Peel	Go to Reinstall the Peel Assembly on page 558.
Cutter	Go to Reinstall the Cutter Assembly on page 563.

Reinstall the Lower Front Trim Panel

1. Lower front trim panel parts identification.

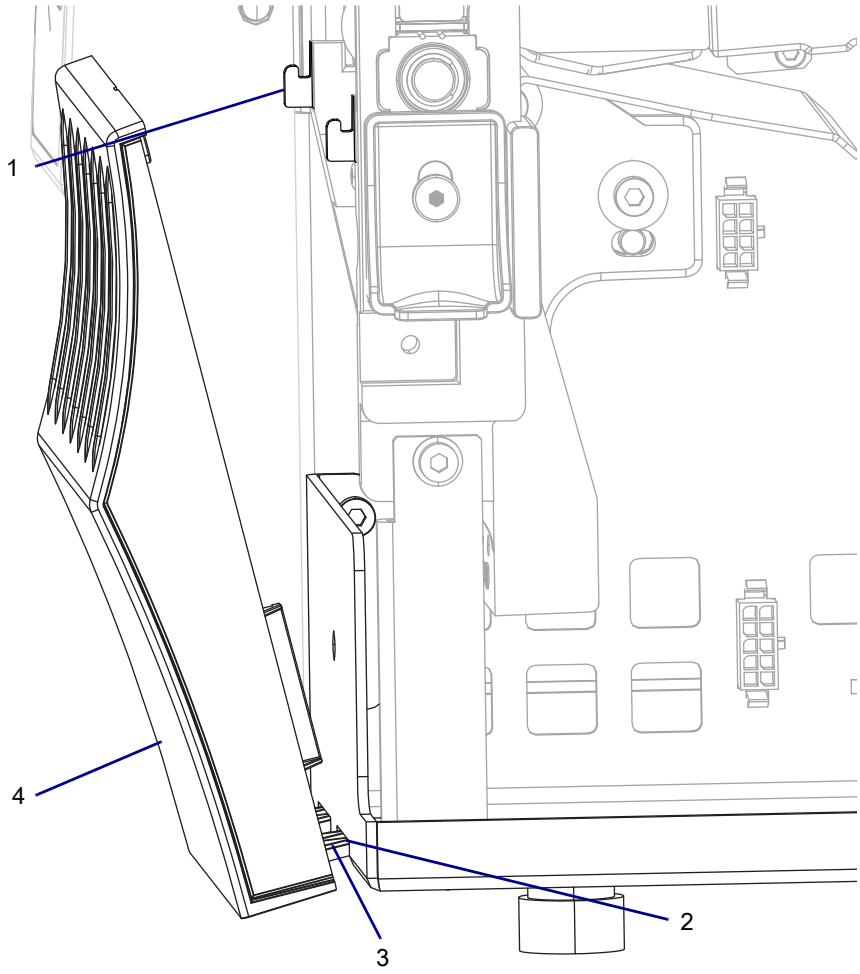
Figure 473 Tear Lower Font Trim Parts Panel Identification



1	Lower front trim panel
2	Trim panel top tabs
3	Trim panel detent
4	Trim panel lower tabs
5	Trim panel stop

2. See Figure 474. Slide the tabs into the printer base.

Figure 474 Hook Locations

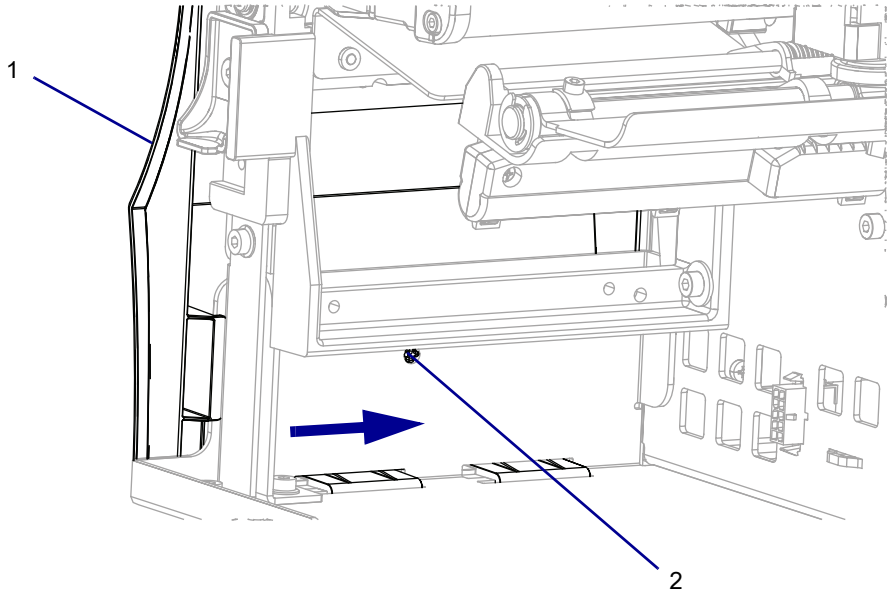


1	Platen housing hooks (2)
2	Slots in base
3	Tabs
4	Lower front panel

3. Lift the top of the lower front trim panel up and onto the hooks.

4. See Figure 475. Slide the lower front trim panel to the right until the detent pops into the detent hole.

Figure 475 Install the Lower Front Trim Panel



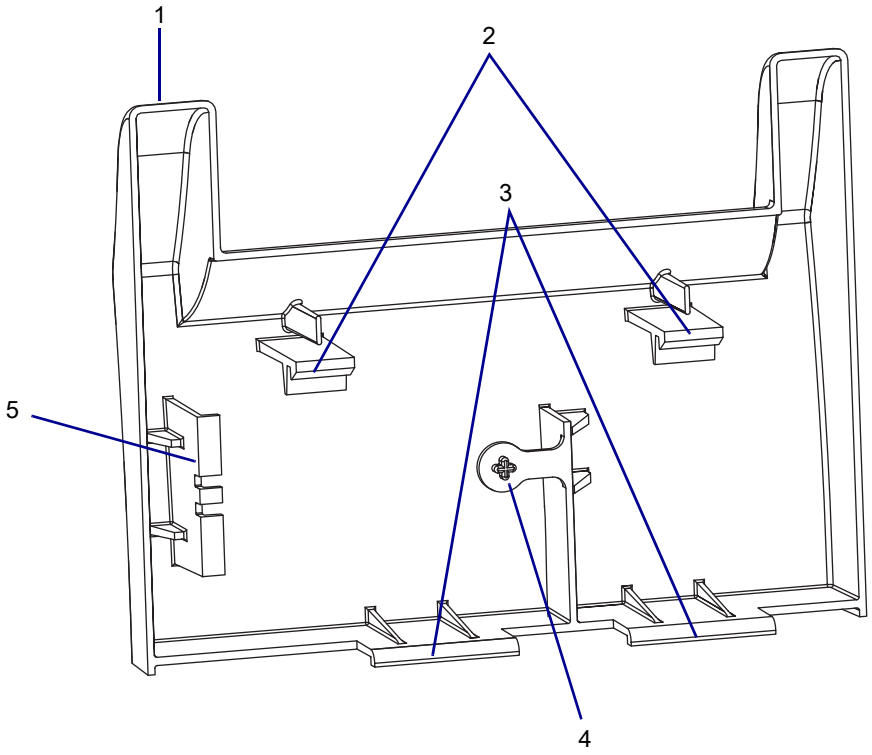
1	Lower front trim panel
2	Detent

5. Go to Are you installing this kit as an option? on page 568.

Reinstall the Peel Assembly

1. Figure 476 identifies the parts of the peel lower front trim panel.

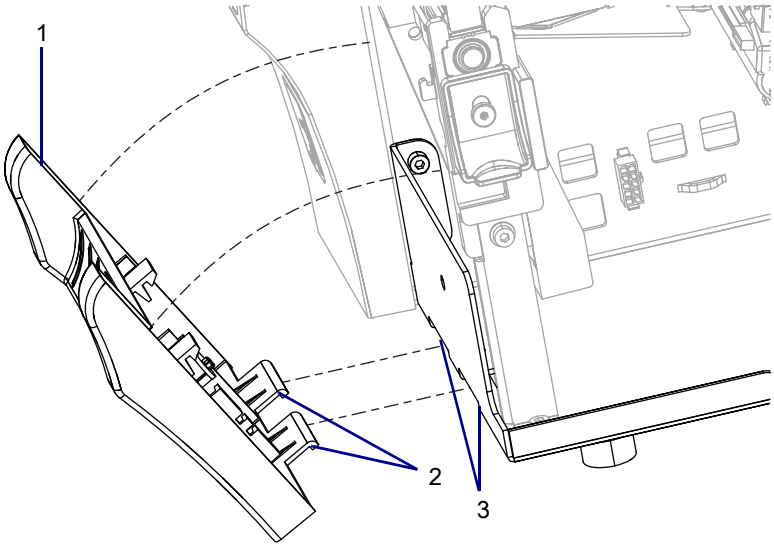
Figure 476 Peel Lower Front Trim Panel Identification



1	Peel lower front trim panel
2	Trim panel top tabs
3	Trim panel lower tabs
4	Trim panel detent
5	Trim panel stop

2. See Figure 477. Slide the lower front trim panel lower tabs into the printer base mounting slots.

Figure 477 Install the Lower Front Trim Panel Tabs

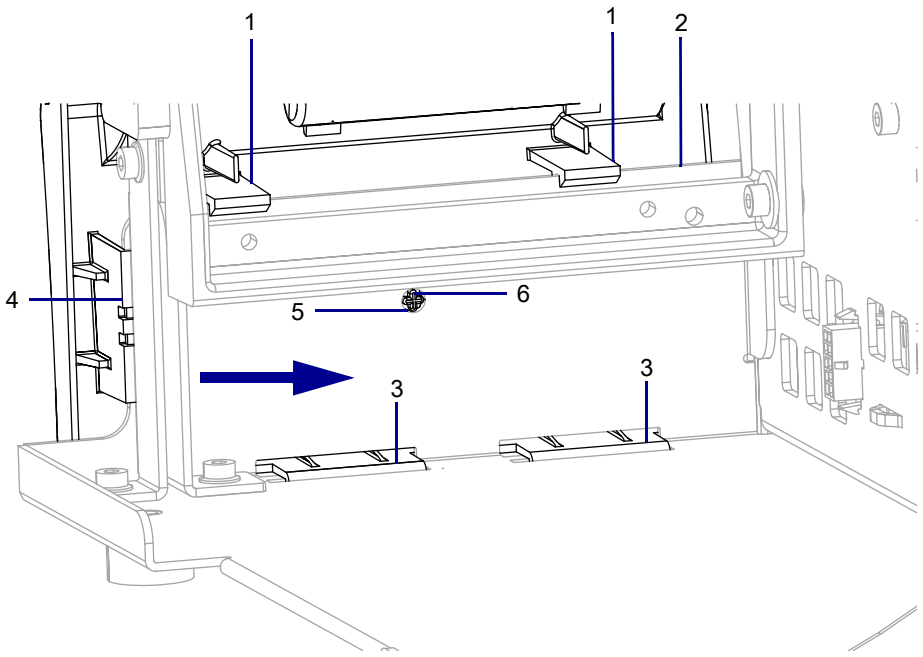


1	Peel lower front trim panel
2	Peel lower front trim panel lower tabs (2)
3	Printer base mounting slots (2)

3. See Figure 478. Lift the lower front trim panel toward the printer so that the tabs are seated in the slots.

   The top tabs will snap onto the printer base.

Figure 478 Install the Peel Lower Front Trim Panel (Rear View)

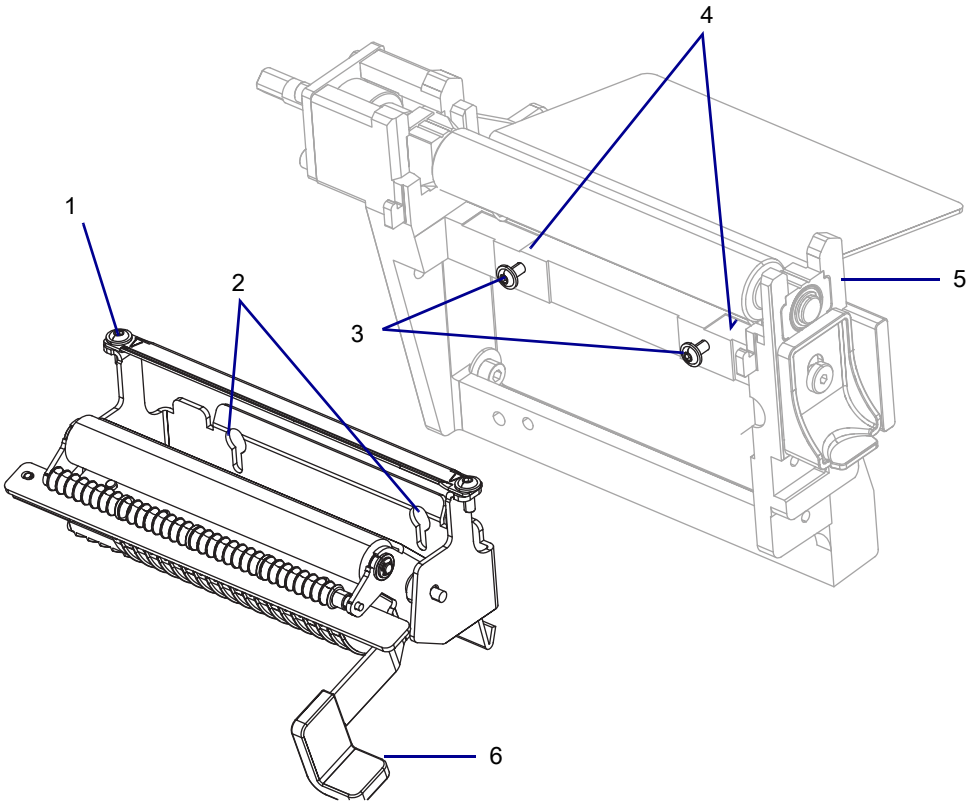


1	Lower front trim panel top tabs (2)
2	Printer base
3	Trim panel tabs (2)
4	Trim panel stop
5	Trim panel detent hole
6	Trim panel detent

4. Slide the trim panel toward the printer until it stops and the detent snaps into the detent hole.

5. See Figure 479. Using the 2 mounting screws from the kit and the metric hex key, install the 2 mounting screws into the tear bar mounting screw holes. Tighten them to within 1/4 in. of the platen housing.

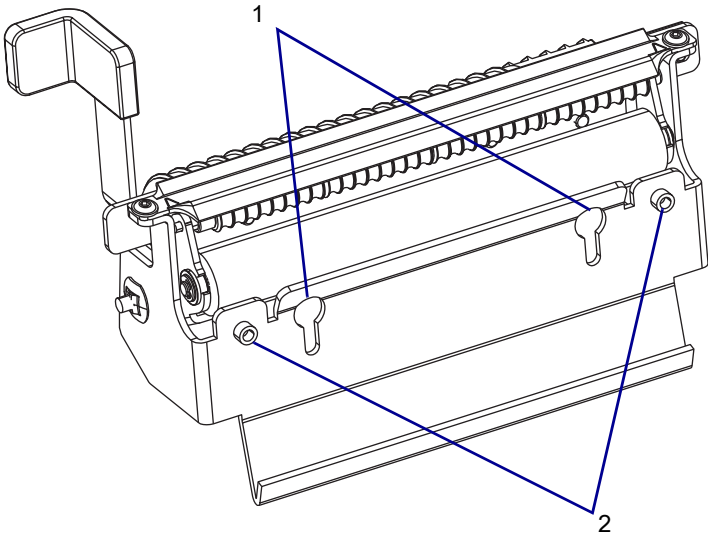
Figure 479 Install Peel Assembly



1	Peel assembly
2	Mounting slots (2)
3	Mounting screws (2)
4	Horizontal surface of platen housing.
5	Platen housing
6	Peel lever

6. See Figure 480. Notice the pems and the mounting slots.

Figure 480 Rear View of Peel Assembly



1	Mounting slots (2)
2	Pems (2)

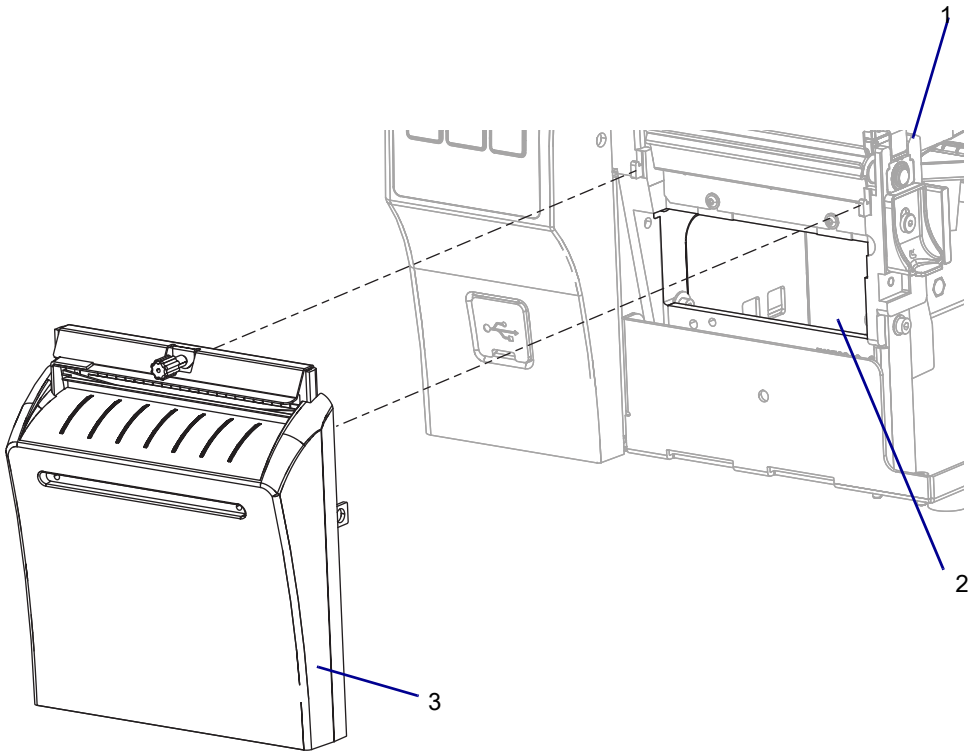
7. See Figure 479 on page 561. Install the peel assembly with the pems to the rear and the opening in the mounting slot to the top.
   a. Insert the mounting slot over the two screws and lift up on the assembly.
   b. Push the assembly back against the vertical surface of the platen housing, and then down, so that the pems are resting on the horizontal surface of the platen housing.
8. Maintain a slight pressure downward on the peel assembly, to keep the pems on the horizontal surface, and tighten the mounting screws.
9. Go to Are you installing this kit as an option? on page 568.

Reinstall the Cutter Assembly

CAUTION: The cutter blade is sharp. Do not touch or rub the blade with your fingers.

1. See Figure 481. While holding the cutter assembly, route the cutter cable through the access hole and into the media side of the printer.

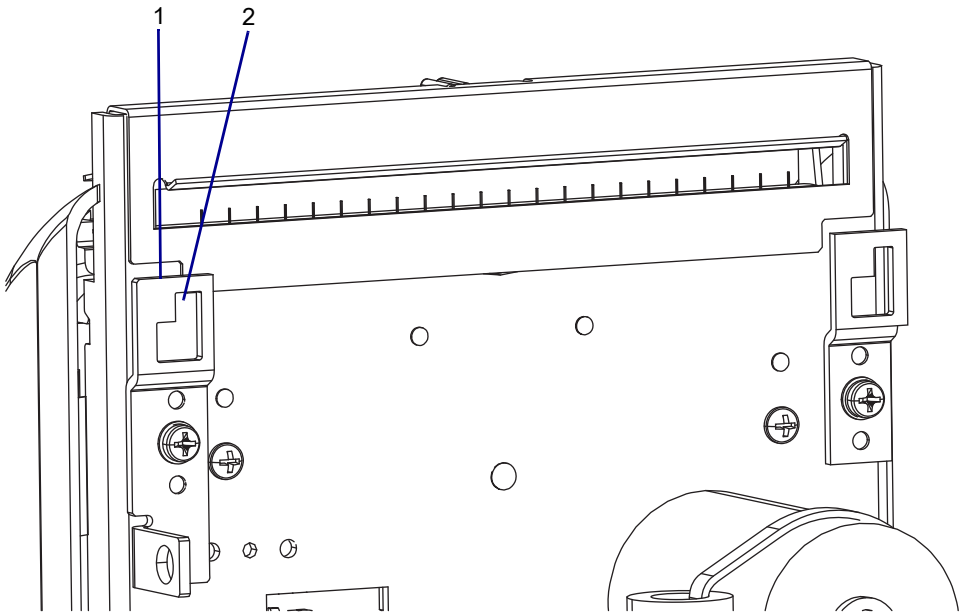
Figure 481 Install the Cutter Assembly
(Cable Not Shown)



1	Platen housing
2	Cutter cable access hole
3	Cutter assembly

2. Install the cutter assembly onto the hooks of the platen housing.
3. The ZT411/ZT421 Printers mounting brackets have stepped slots.

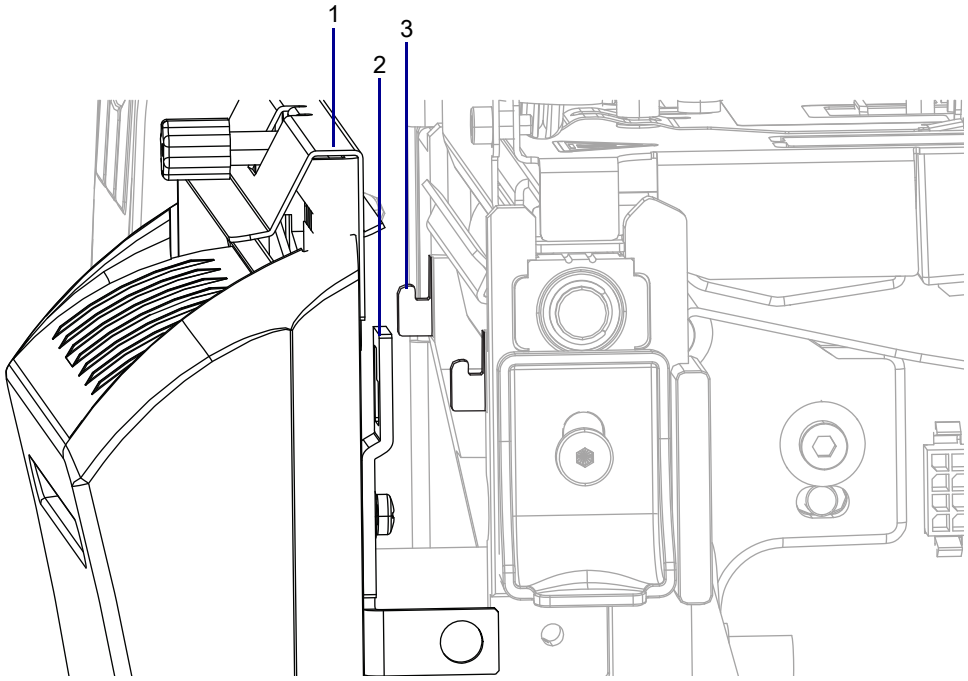
Figure 482 Cutter Mounting Brackets



1	Mounting brackets (2)
2	Stepped slots (2)

4. See Figure 483. Align the larger part of the slots with the hooks on the platen housing.

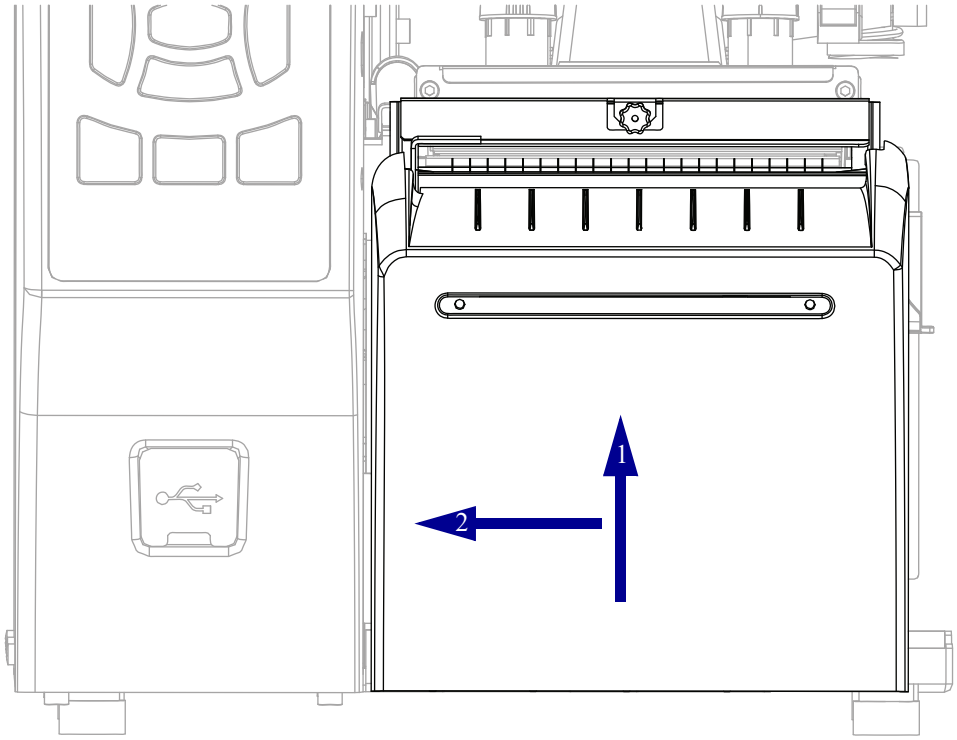
Figure 483 Align the Mounting Brackets and Platen Housing Hooks (ZT410 Printer Shown)



1	Cutter assembly
2	Cutter mounting brackets (2)
3	Platen housing hooks (2)

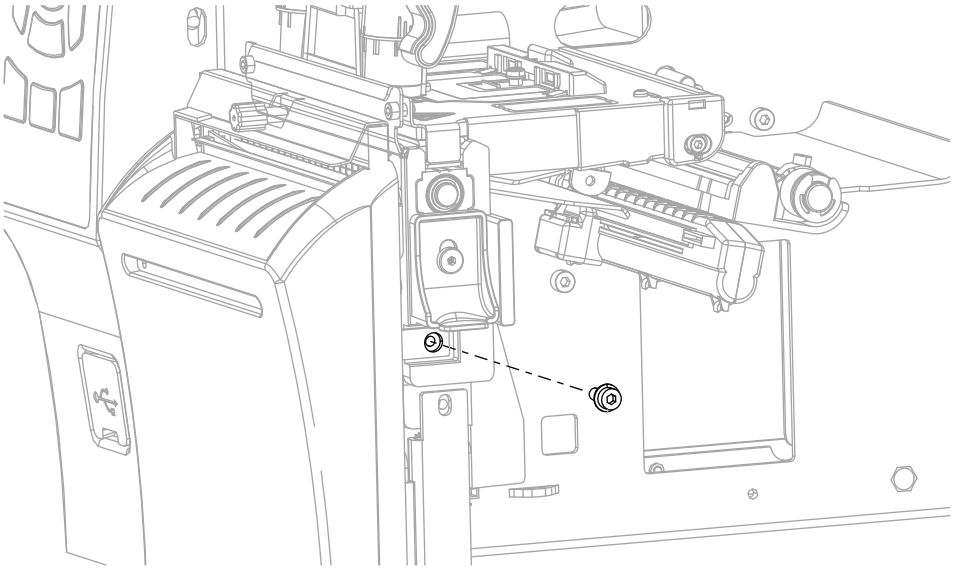
5. See Figure 484. Set the cutter assembly onto the hooks, then lift and slide the assembly to the left.

Figure 484 Lift and Slide the Cutter Assembly (ZT410 Printer Shown)



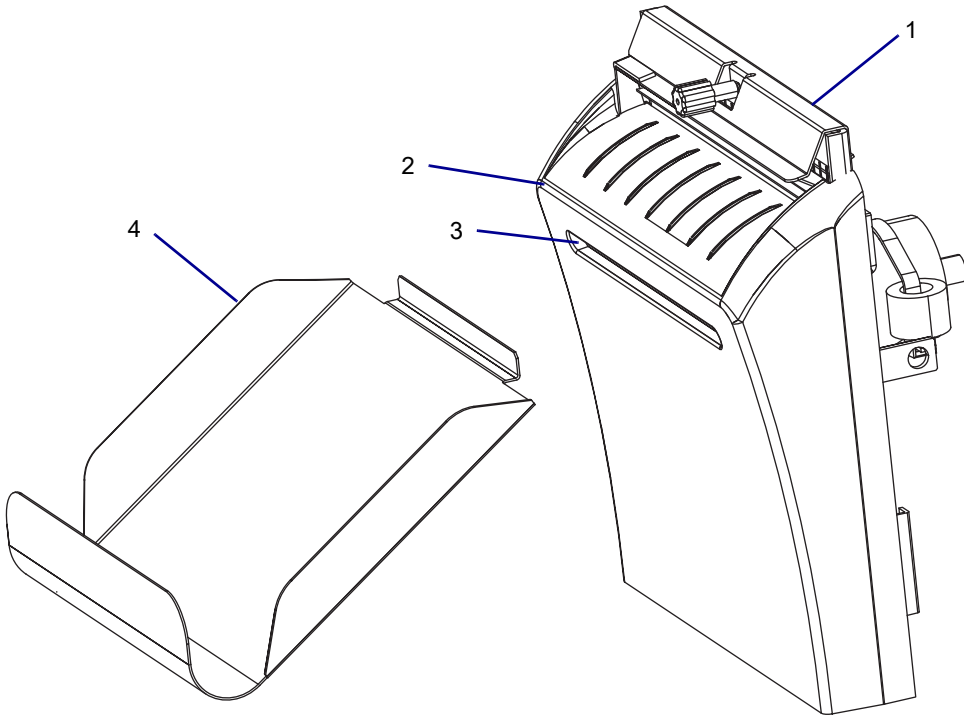
6. See Figure 485. Secure the cutter assembly onto the platen assembly using the mounting screw supplied.

Figure 485 Install the Mounting Screw (ZT410 Printer Shown)



7. See Figure 486. Place the catch tray in the cutter catch tray mounting slot of the cutter cover assembly.

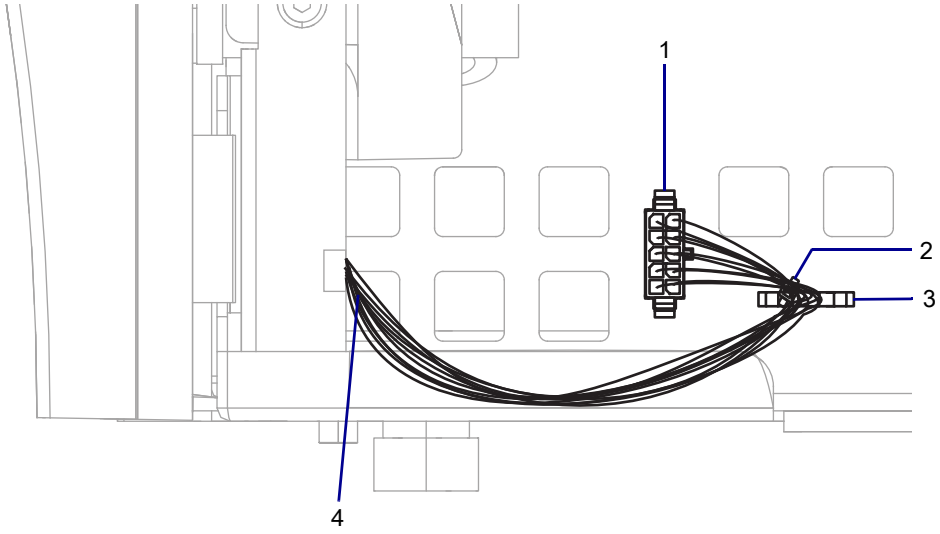
Figure 486 Cutter Catch Tray



1	Cutter assembly
2	Cutter cover assembly
3	Cutter catch tray mounting slot
4	Cutter catch tray

8. See Figure 487. Locate the 10-pin option connector on the printer main frame.

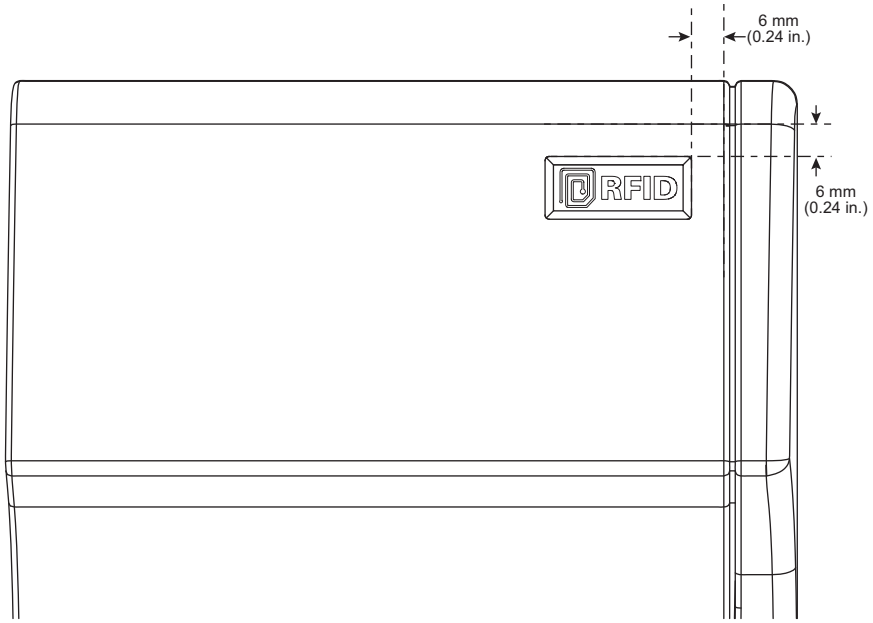
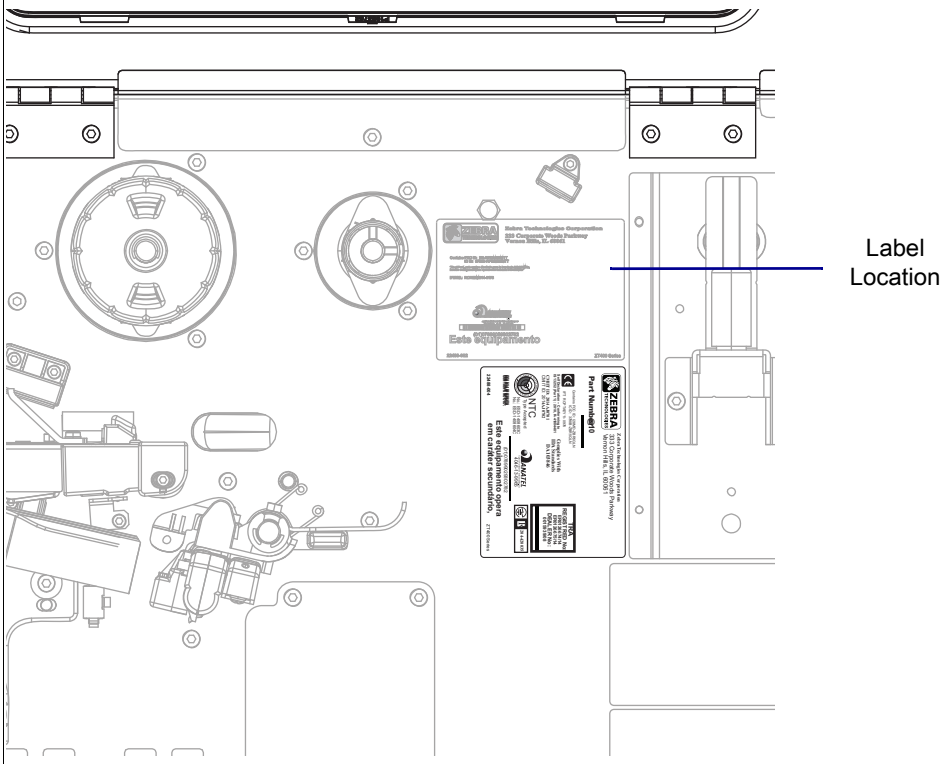
Figure 487 Locate Option Connector



1	Ten-pin Option connector
2	Cable tie
3	Printer tie point
4	Cutter cable

9. Connect the cutter cable to the 10-pin option connector.
10. Install a cable tie through the printer tie point and around the cutter cable.

11. Are you installing this kit as an option?

If…	Then…
Yes	**1.** See Figure 488. On the front of the printer, install the name plate on the upper right corner of the upper trim plate. **Figure 488** Install Name Plate  **2.** See Figure 489. Install the label as shown. **Figure 489** Install Label  **3.** Go to the next step.
No	Go to Resume Printer Operation on page 569.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers RFID Cables and Hardware Maintenance Kit

This kit includes the parts and documentation necessary to install the RFID Cables and Hardware Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 490 Kit Contents

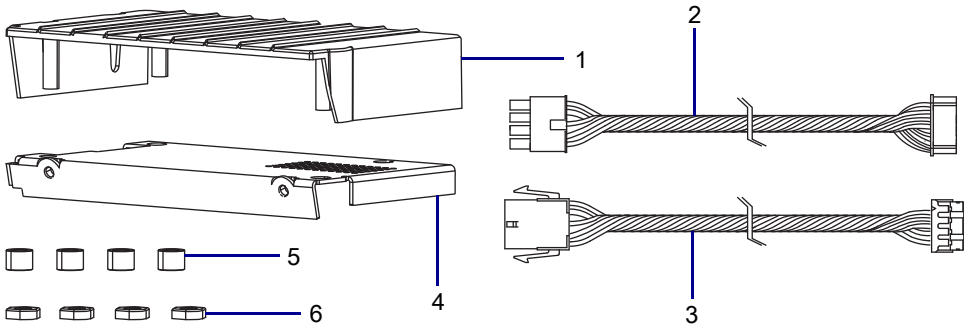


Table 68 Parts List

Item	Description	Qty
Ref	RFID Cables and Hardware Maintenance Kit	
1	RFID Radome	1
2	Coupler Cable, 3 inch	1
3	Main Logic Board to RFID Interface Cable	1
4	RFID Bracket	1
5	Spacer, 0.197 ID × 0.230 HT	4
6	Nut, 0.188 Self-threading	4

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hex Key Set
- Antistatic Wrist Strap and Mat
- Metric Nutdriver Set
- Phillips Screwdriver Set

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

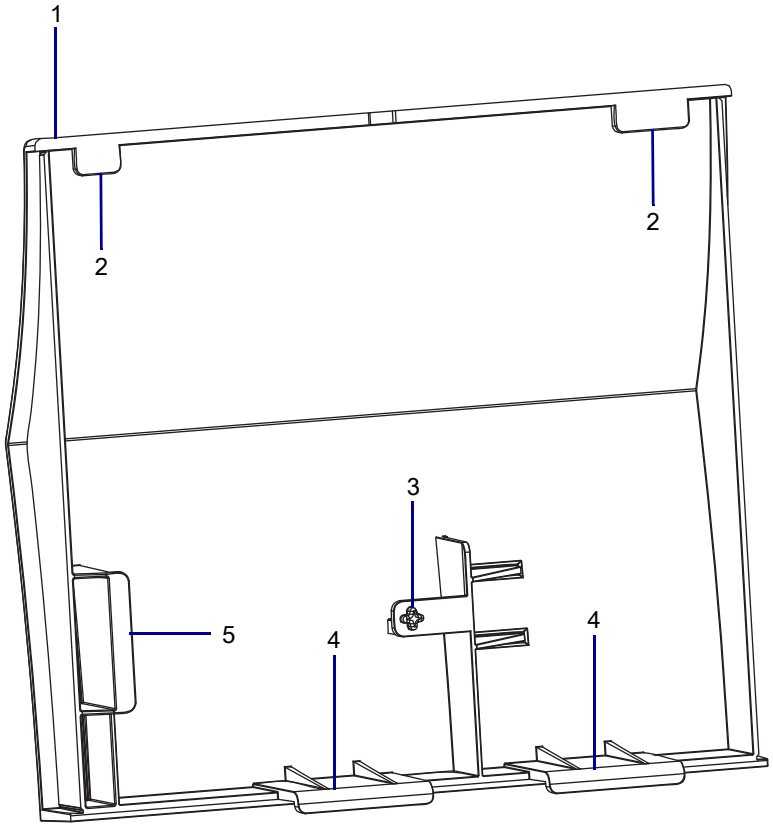
CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

Remove the Lower Front Trim Panel

1. Open the media door.
2. Remove the media and ribbon.
3. Which print option do you have?

If you have a…	Then…
Standard (tear-off)	Go to Remove the Lower Front Trim Panel on page 572.
Peel	Go to Remove the Peel Assembly on page 576
Cutter	Go to Remove the Cutter Assembly on page 577.

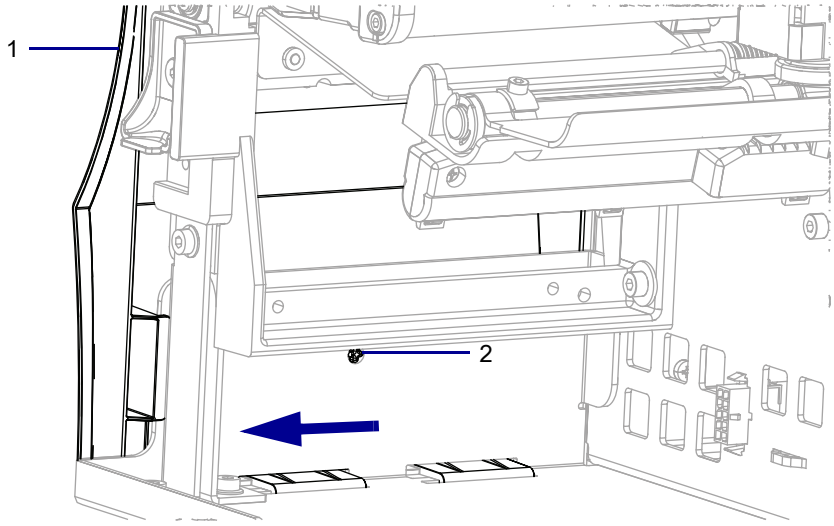
Figure 491 Lower Front Trim Panel Parts Identification



1	Lower front trim panel
2	Trim panel top tabs
3	Trim panel detent
4	Trim panel lower tabs
5	Trim panel stop

4. See Figure 492. Remove the lower front trim panel by pressing in on the detent, and then sliding the panel to the left as far as possible.

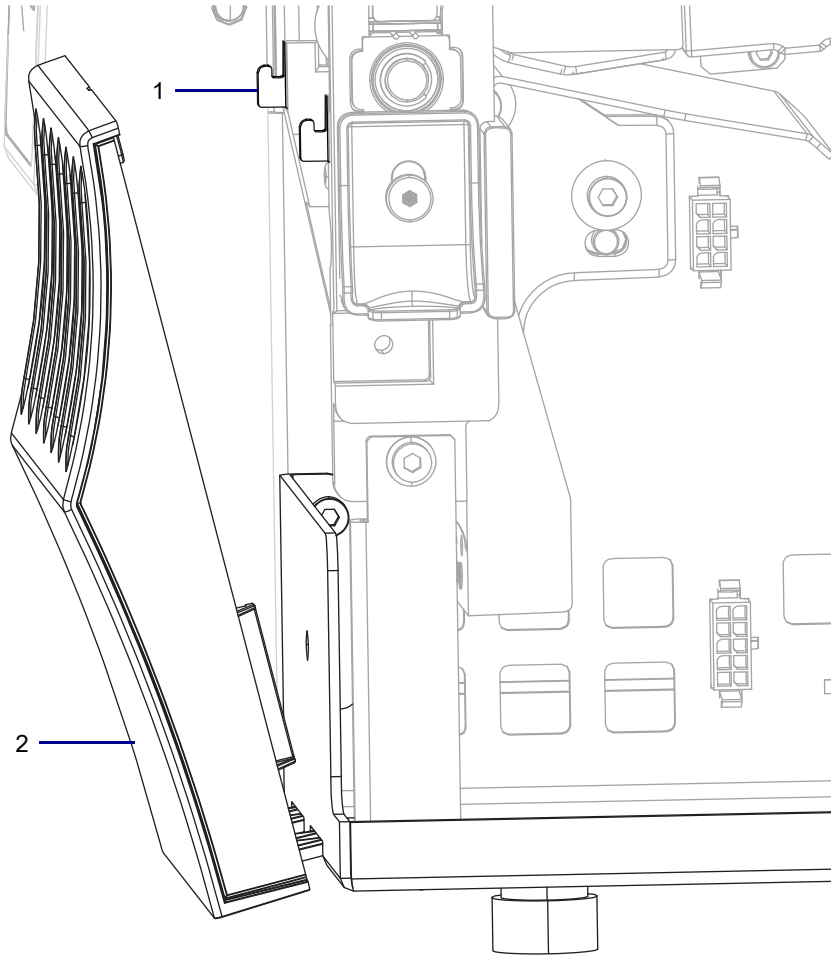
Figure 492 Release the Lower Front Trim Panel



1	Lower front trim panel
2	Detent

5. See Figure 493. Tip the top of the lower front trim panel off the hooks and away from the printer.

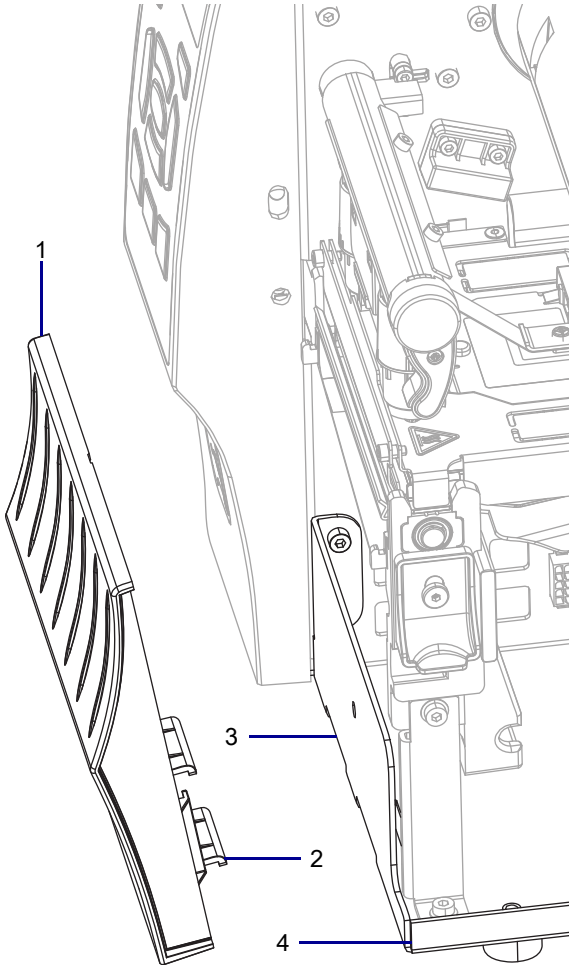
Figure 493 Hook Locations



1	Platen housing hooks (2)
2	Lower front trim panel

6. See Figure 494. Slide the lower front trim panel tabs out of the printer base.

Figure 494 Remove the Lower Front Trim Panel Tabs (ZT410 Printer Shown)



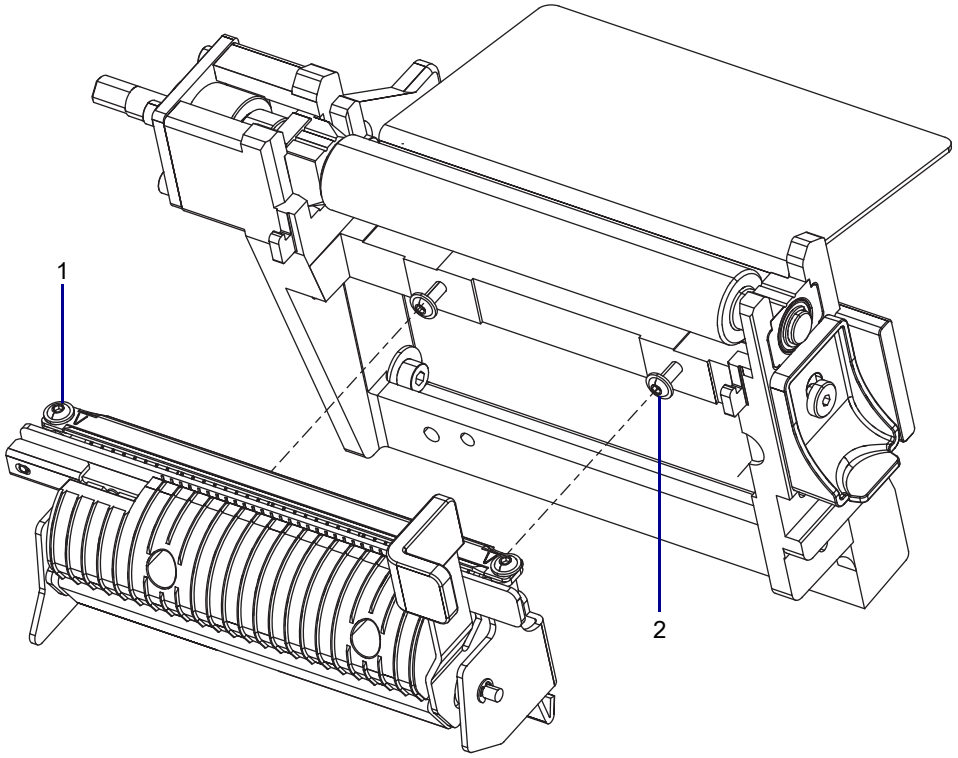
1	Lower front trim panel
2	Lower front trim panel tabs (2)
3	Printer base mounting slots (2)
4	Printer base

7. Go to Remove the Tear Bar on page 580.

Remove the Peel Assembly

1. See Figure 495. Remove the two mounting screws, and then remove the peel assembly.

Figure 495 Remove Old Peel Assembly



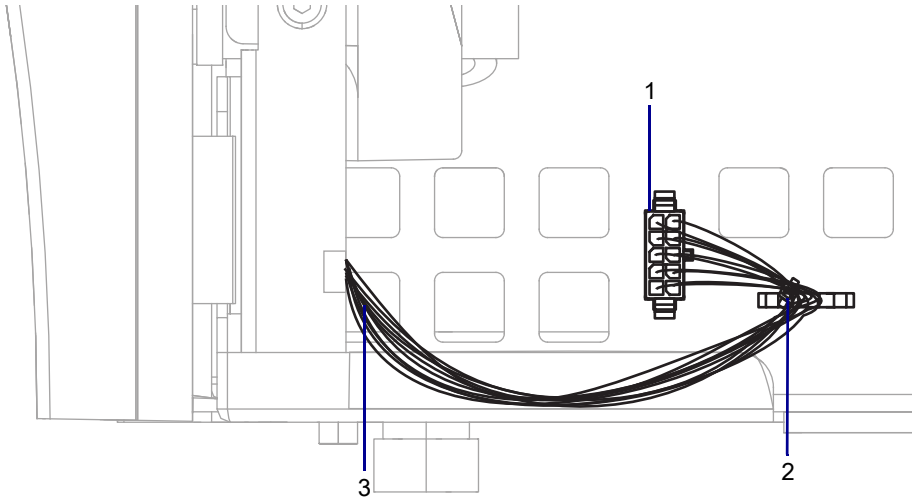
1	Peel assembly
2	Mounting screw (2)

2. Go to Remove the RFID Assembly on page 581.

Remove the Cutter Assembly

1. See Figure 496. Disconnect the cutter cable from the ten pin option connector on the main frame.

Figure 496 Disconnect the Cutter Assembly

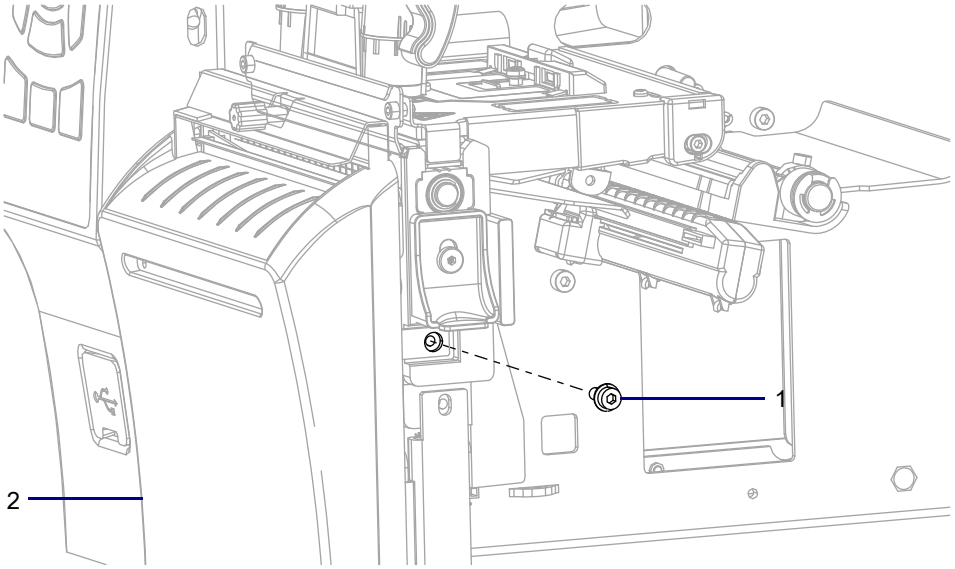


1	Ten-pin option connector
2	Cable tie
3	Cutter cable

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

2. Cut the cable tie.
3. See Figure 497. Remove the cutter mounting screw.

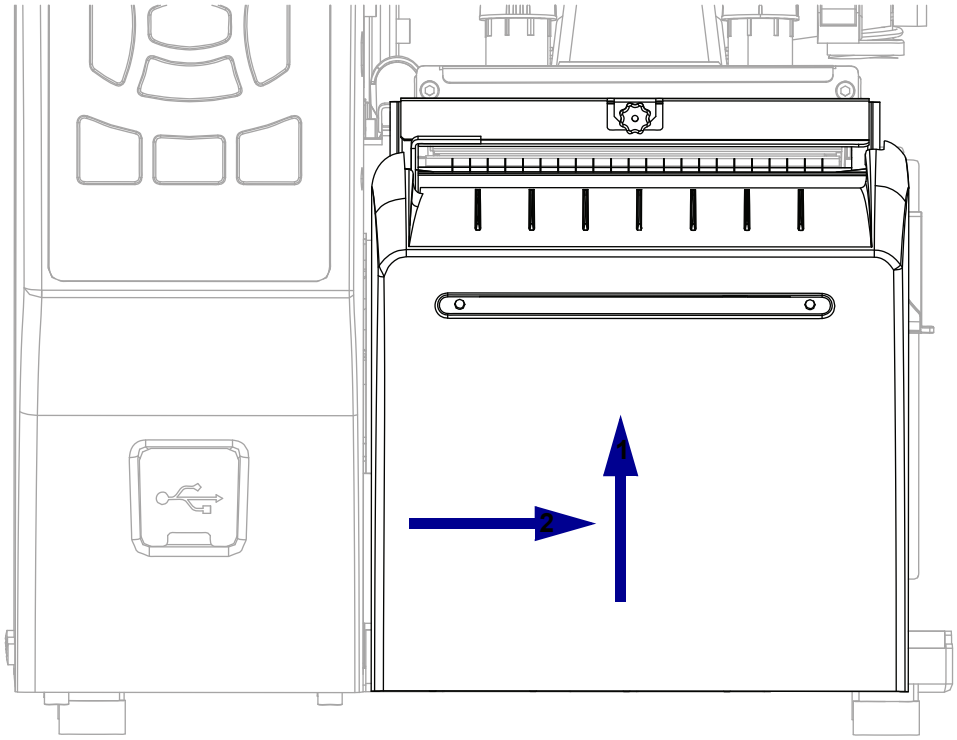
Figure 497 Remove the Cutter Assembly (ZT410 Printer Shown)



1	Mounting screw
2	Cutter assembly

4. See Figure 498. Lift up and slide the cutter assembly to the right, and then remove the cutter assembly from the platen assembly hooks.

Figure 498 Lift and Slide the Cutter Assembly (ZT410 Printer Shown)

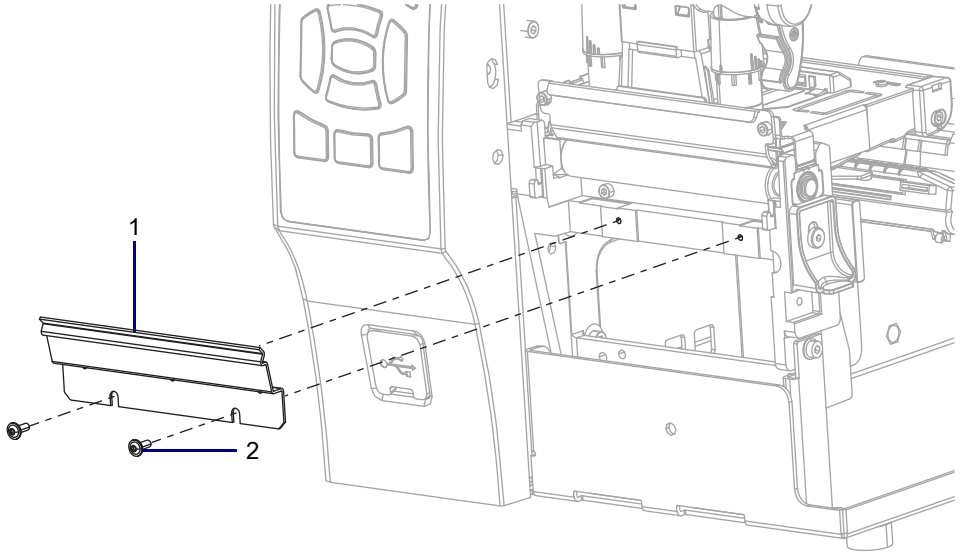


5. Go to Remove the RFID Assembly on page 581.

Remove the Tear Bar

1. See Figure 499. Remove the two tear bar mounting screws.

Figure 499 Remove and Install the Tear Bar (ZT410 Printer Shown)



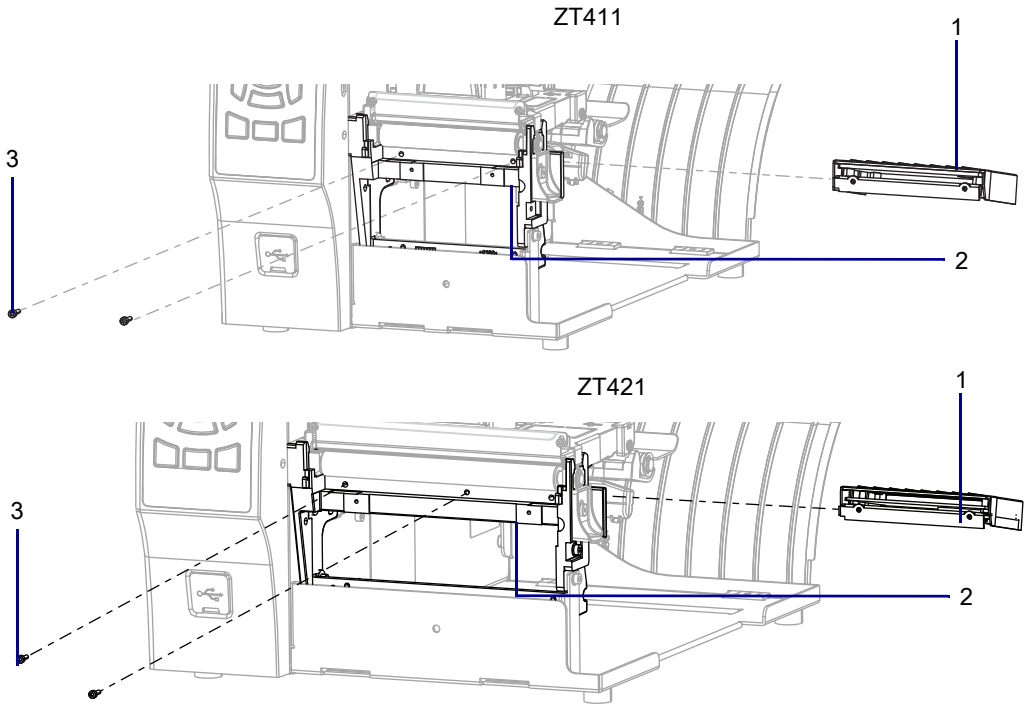
1	Tear bar
2	Tear bar mounting screws (2)

2. Remove the tear bar.

Remove the RFID Assembly

1. To access the cable connector, loosen, but do not remove, the two RFID mounting screws.

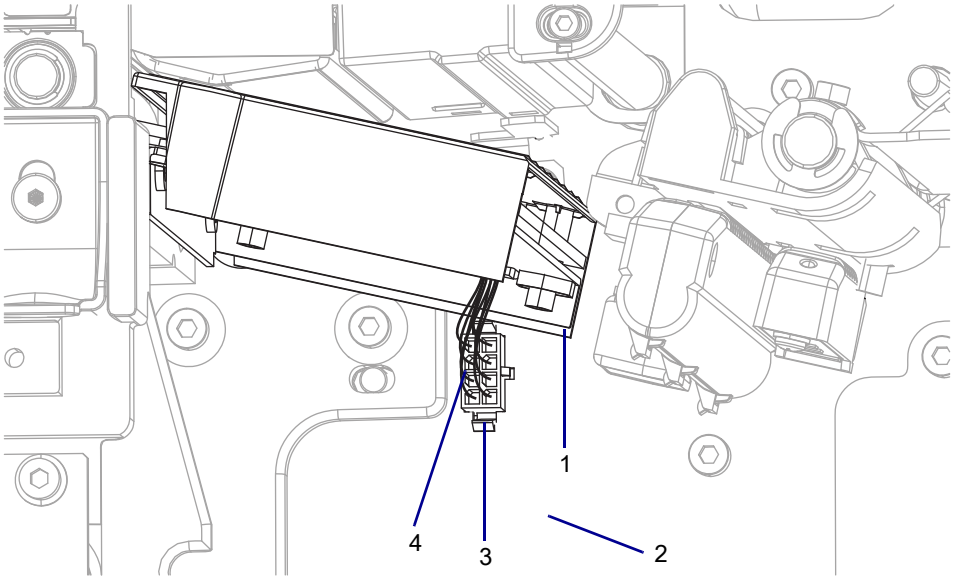
Figure 500 Remove the RFID Assembly



1	RFID assembly
2	Platen Housing
3	Mounting screws (2)

2. See Figure 501. Disconnect the RFID cable from the 8-pin connector on the main frame.

Figure 501 Disconnect the RFID Cable



1	RFID assembly
2	Printer main frame
3	8-pin connector
4	RFID cable

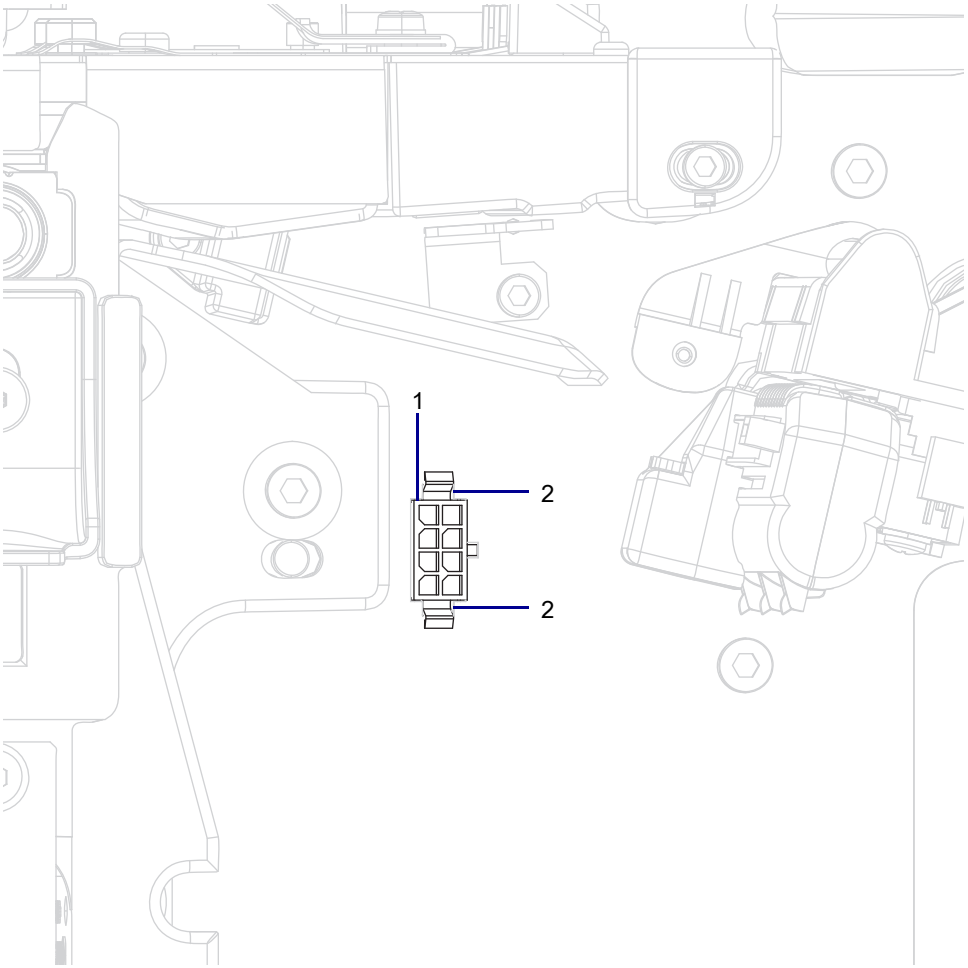
3. See Figure 500 on page 581. Remove the two RFID mounting screws.
4. Guide the old RFID assembly out of the printer.

Install the New RFID Hardware

Install the Interface Cable

1. Squeeze the two tabs on the interface cable connector, and then push the connector into the electronics side.

Figure 502 Remove the Interface Cable Connector

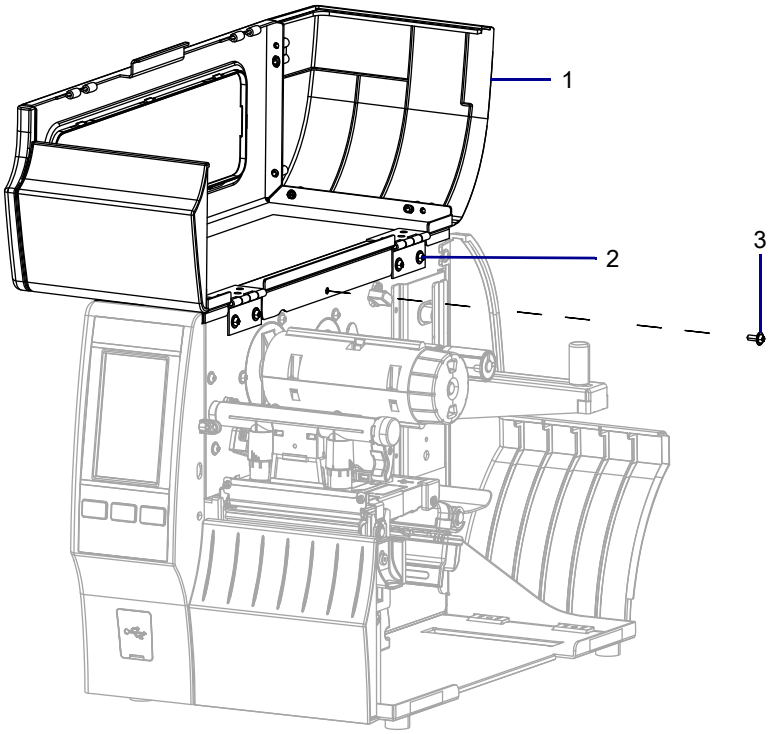


1	RFID interface cable connector
2	RFID interface cable connector tabs (2)

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 503. Remove the screw and washer securing the electronics cover.

Figure 503 Locate the Electronics Cover Mounting Screw

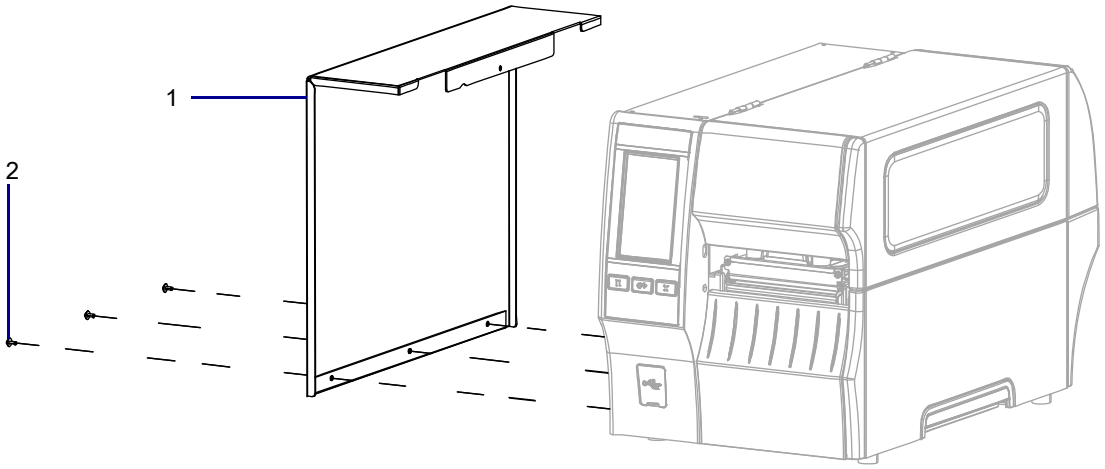


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 504. Remove the three mounting screws securing the electronics cover to the printer.

Figure 504 Remove the Electronics Cover Mounting Screws

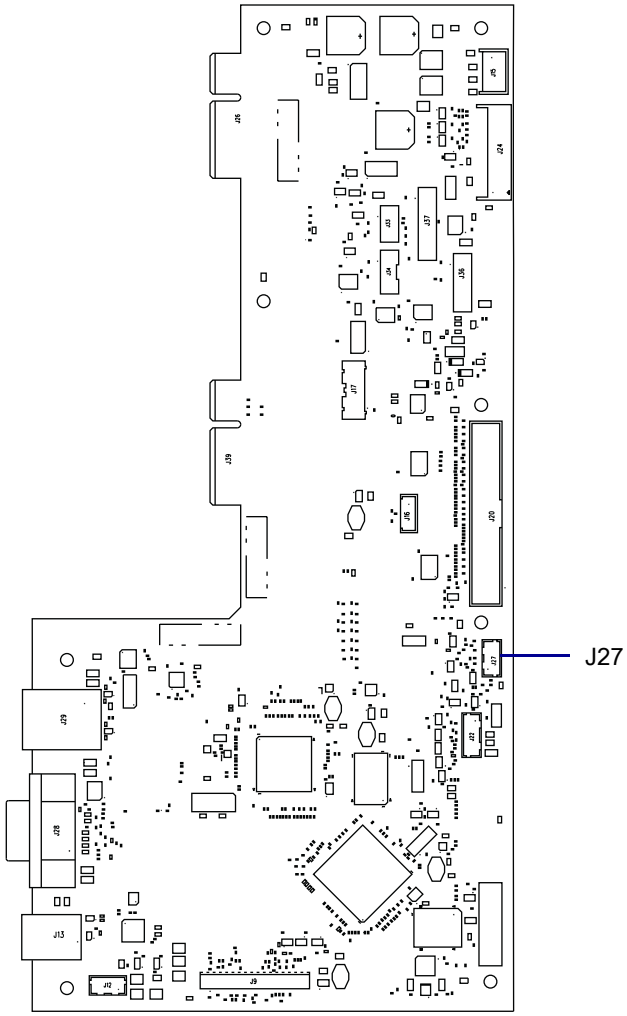


1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

7. See Figure 505. Disconnect the RFID interface cable from J27.

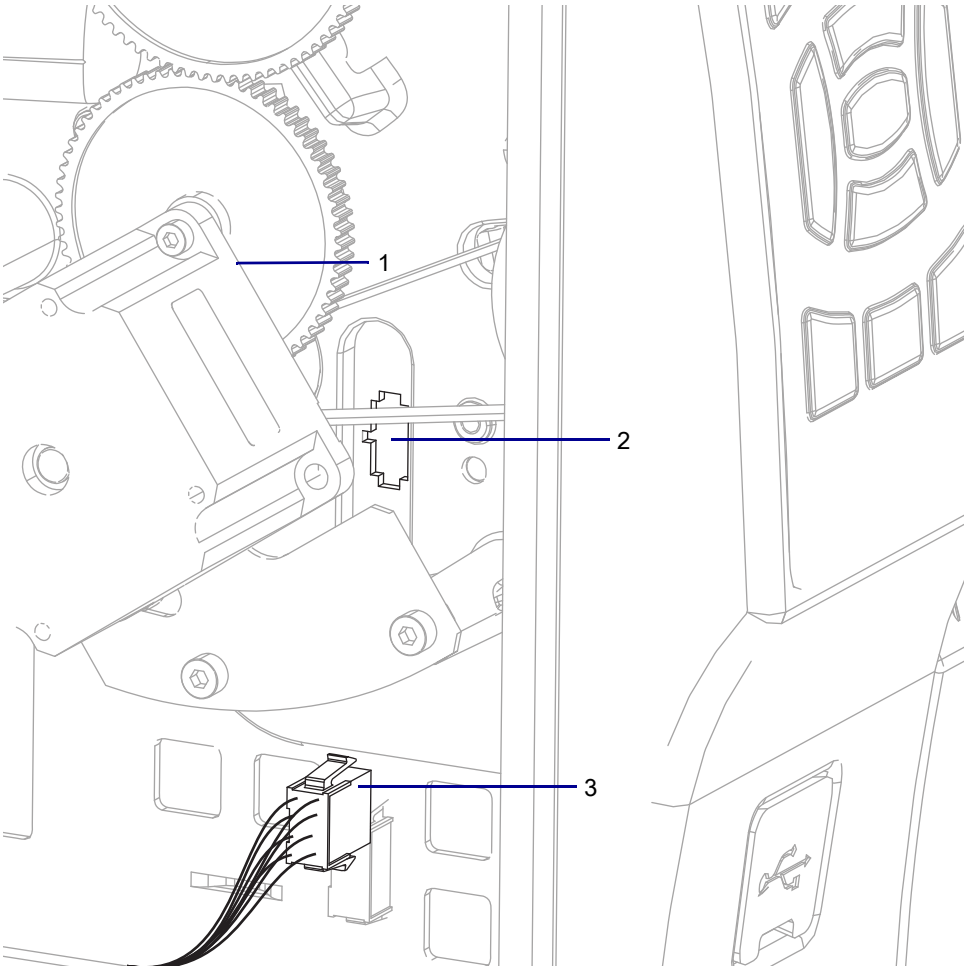
Figure 505 Disconnect RFID Interface Cable



8. Cut any cable ties securing the old RFID interface cable to any cable bundles.
9. Remove and discard the old RFID interface cable from the printer.
10. Connect the new interface cable to J29.

11. See Figure 506. Insert the other end into the RFID interface cable connector mounting hole, behind the stepper motor, until it snaps in place.

Figure 506 Install the RFID Interface Cable (ZT410 Printer Shown)



1	Stepper motor
2	RFID interface cable connector mounting hole
3	RFID interface cable connector

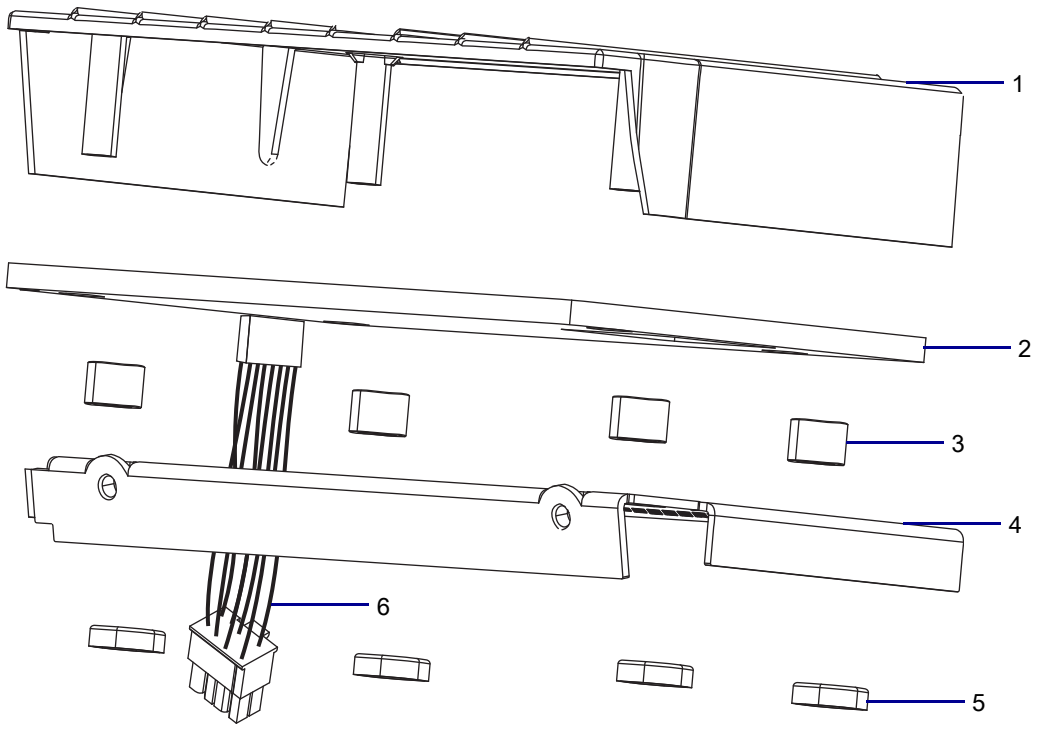
12. Reinstall any cable ties you removed previously.

Install All Other RFID Hardware

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.
2. See Figure 507. Remove the four nuts from the RFID unit assembly.

Figure 507 Exploded View of RFID Unit Assembly



1	Radome
2	RFID board
3	Spacers (4)
4	RFID mounting bracket
5	Self-threading nut (4)
6	RFID coupler cable

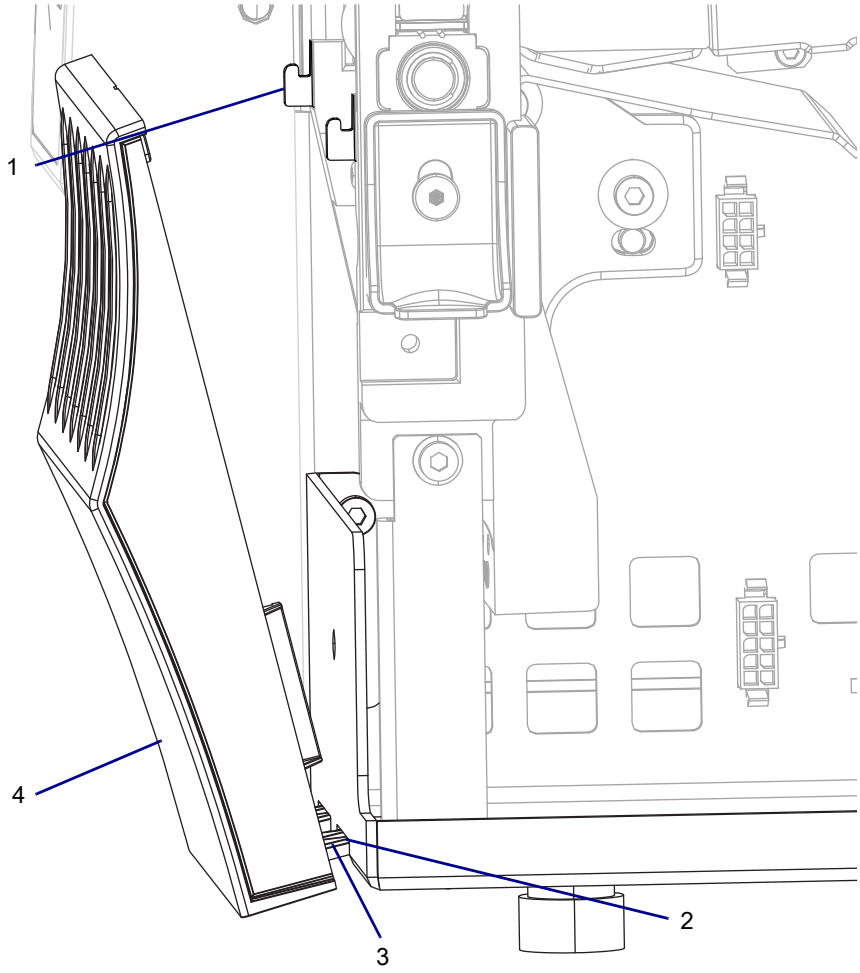
3. Separate the RFID assembly components.
4. See Figure 507. Using the new RFID components and the retained board and cable, reassemble the RFID assembly in the order shown.
5. Which print option do you have?

If you have a…	Then…
None	Go to Reinstall the Lower Front Trim Panel on page 589.
Peel	Go to Reinstall the Peel Assembly on page 591.
Cutter	Go to Reinstall the Cutter Assembly on page 595.

Reinstall the Lower Front Trim Panel

1. See Figure 508. Slide the tabs into the printer base.

Figure 508 Hook Locations

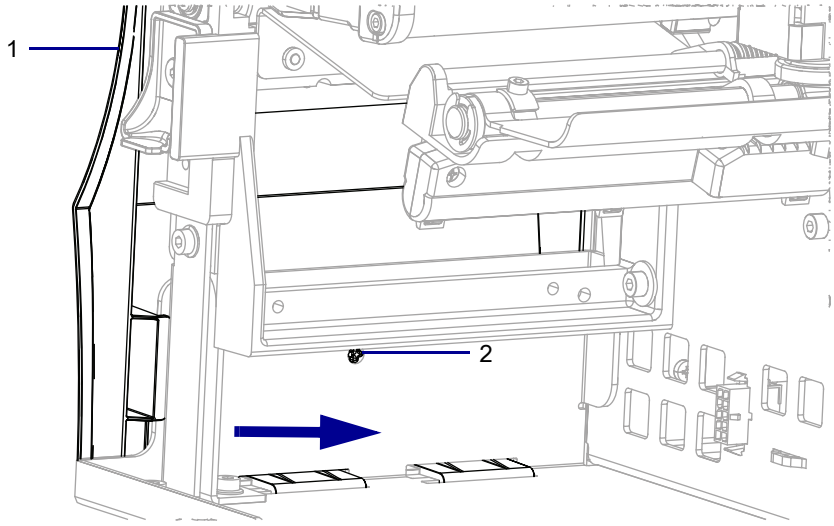


1	Platen housing hooks (2)
2	Slots in base
3	Tabs
4	Lower front panel

2. Lift the top of the lower front trim panel up and onto the hooks.

3. See Figure 509 on page 590. Slide the lower front trim panel to the right until the detent pops into the detent hole.

Figure 509 Install the Lower Front Trim Panel



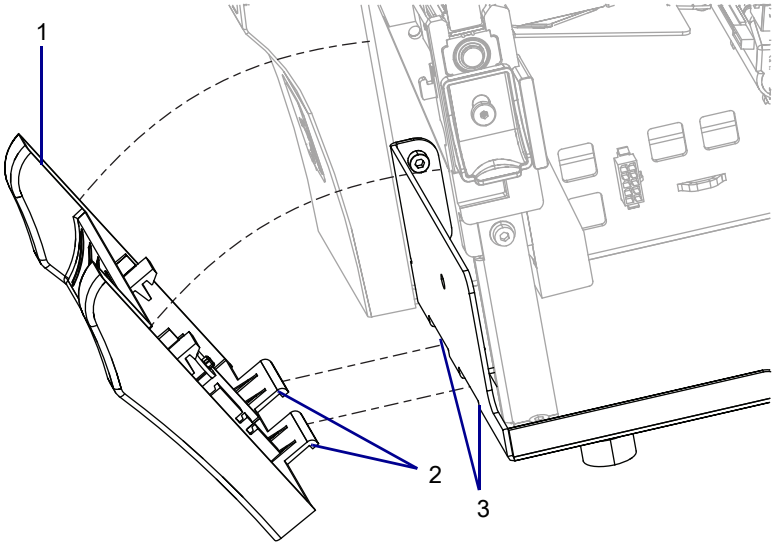
1	Lower front panel
2	Detent

4. Go to Resume Printer Operation on page 600.

Reinstall the Peel Assembly

1. See Figure 510. Slide the lower front trim panel lower tabs into the printer base mounting slots.

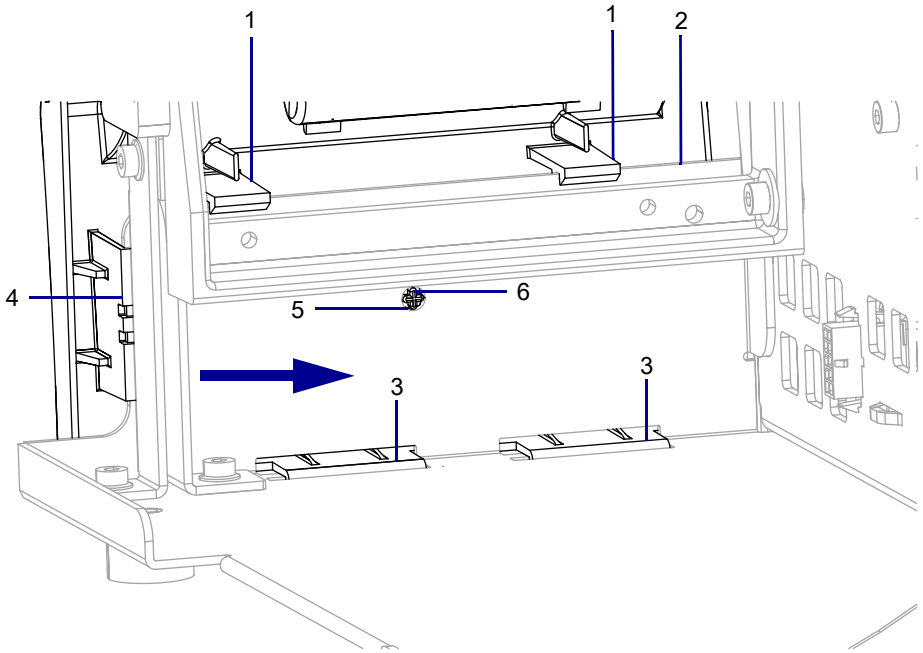
Figure 510 Install the Lower Front Trim Panel Tabs



1	Peel lower front trim panel
2	Trim panel lower tabs (2)
3	Printer base mounting slots (2)

2. See Figure 511. Lift the lower front trim panel toward the printer so that the tabs are seated in the slots. The top tabs will snap onto the printer base.

Figure 511 Install the Peel Lower Front Trim Panel (rear view)

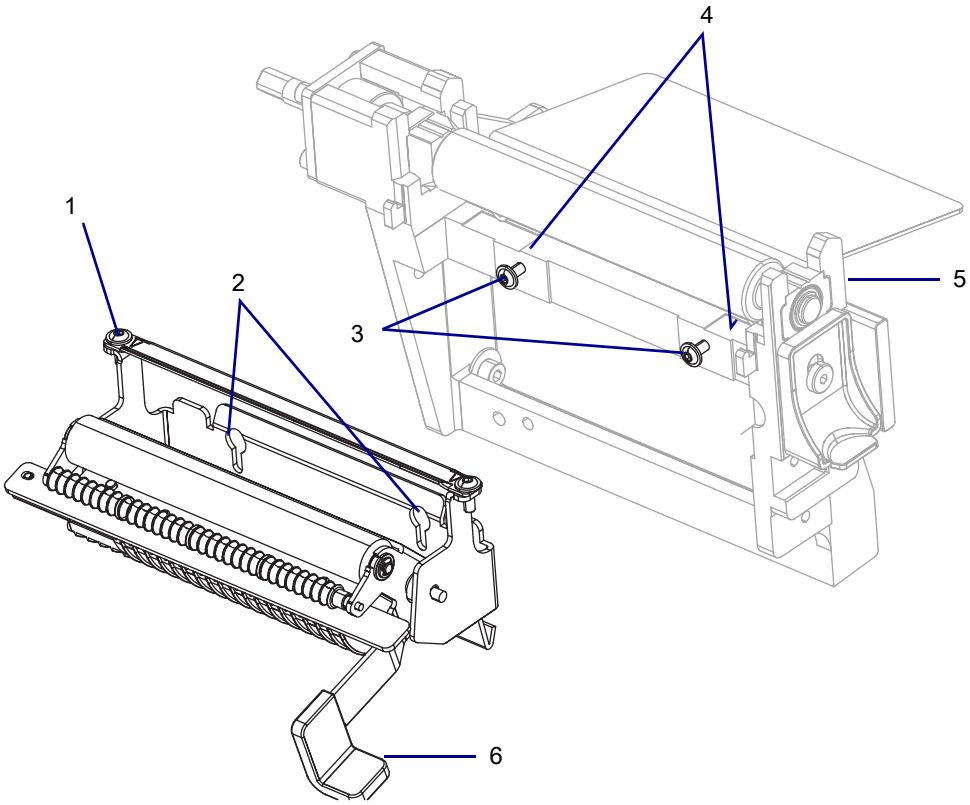


1	Lower front trim panel top tabs (2)
2	Printer base
3	Trim panel tabs (2)
4	Trim panel stop
5	Trim panel detent hole
6	Trim panel detent

3. Slide the lower front trim panel toward the printer until it stops and the detent snaps into the detent hole.

4. See Figure 512. Install the two mounting screws from the kit, using the hex key supplied, into the tear bar mounting screw holes. Tighten them to within 1/4 in. of the platen housing.

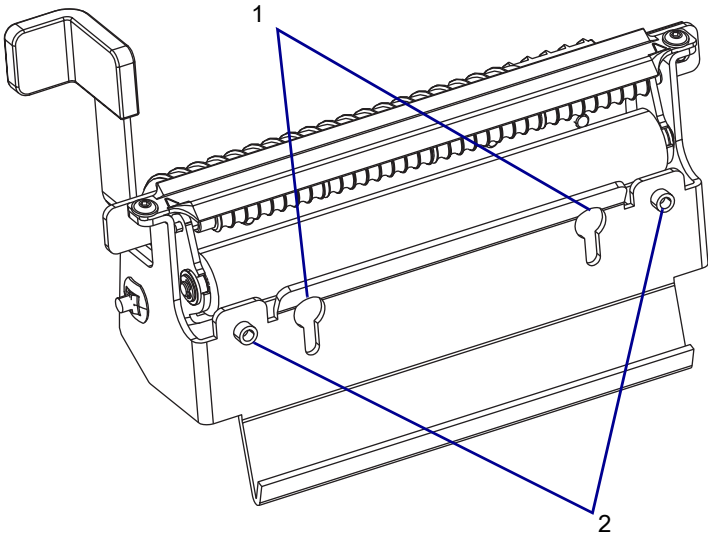
Figure 512 Install Peel Assembly



1	Peel assembly
2	Mounting slots (2)
3	Mounting screws (2)
4	Pems
5	Platen housing
6	Peel lever

5. See Figure 513. Notice the pems and the mounting slots.

Figure 513 Rear View of Peel Assembly



1	Mounting slots (2)
2	Pems (2)

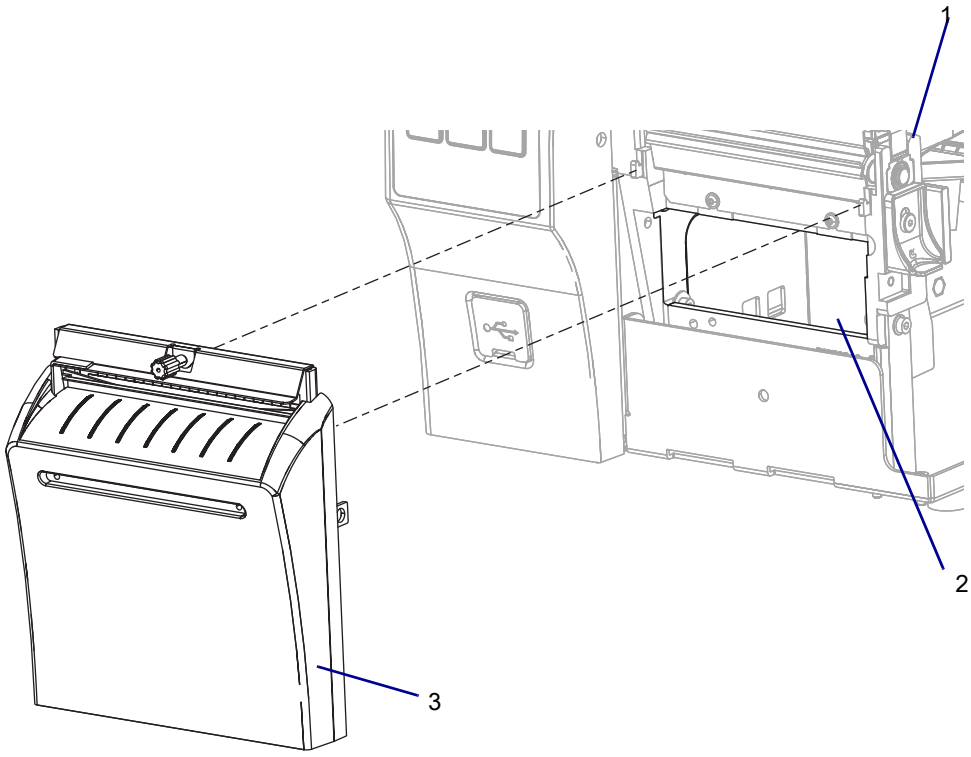
6. See Figure 512 on page 593. Install the peel assembly with the pems to the rear and the opening in the mounting slot to the top.
   a. Insert the mounting slot opening over the two screws and lift up on the assembly.
   b. Push the assembly back against the vertical surface of the platen housing, and then down, so that the pems are resting on the horizontal surface of the platen housing.
7. Maintain a slight pressure downward on the peel assembly, to keep the pems on the horizontal surface, and tighten the mounting screws.
8. Go to Resume Printer Operation on page 600.

Reinstall the Cutter Assembly

CAUTION: The cutter blade is sharp. Do not touch or rub the blade with your fingers.

1. See Figure 514. While holding the cutter assembly, route the cutter cable through the access hole and into the media side of the printer.

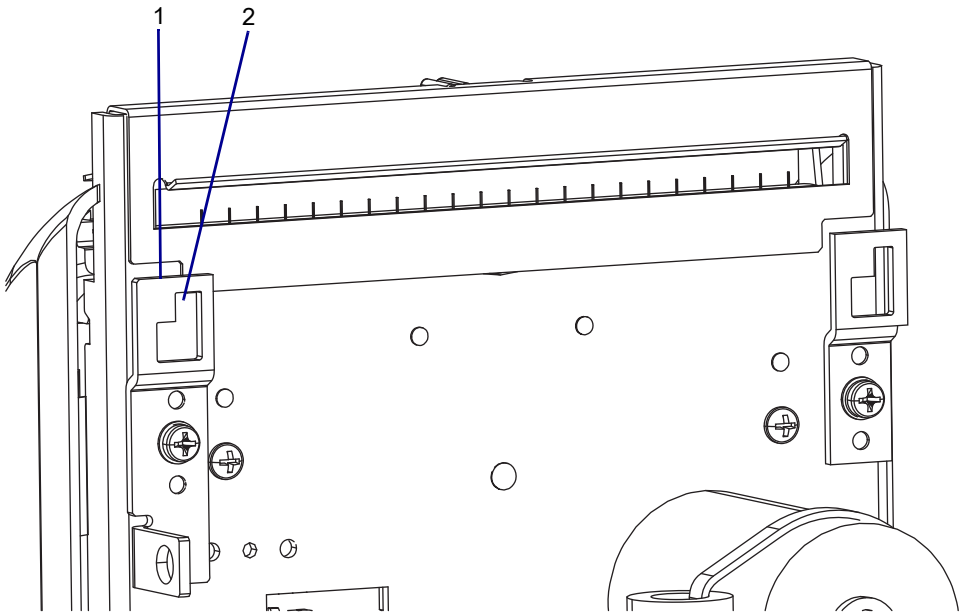
Figure 514 Install the Cutter Assembly (cable not shown)



1	Platen housing
2	Cutter cable access hole
3	Cutter assembly

2. See Figure 515. Install the cutter assembly onto the hooks of the platen housing.
3. The ZT411/ZT421 Printers mounting brackets have stepped slots.

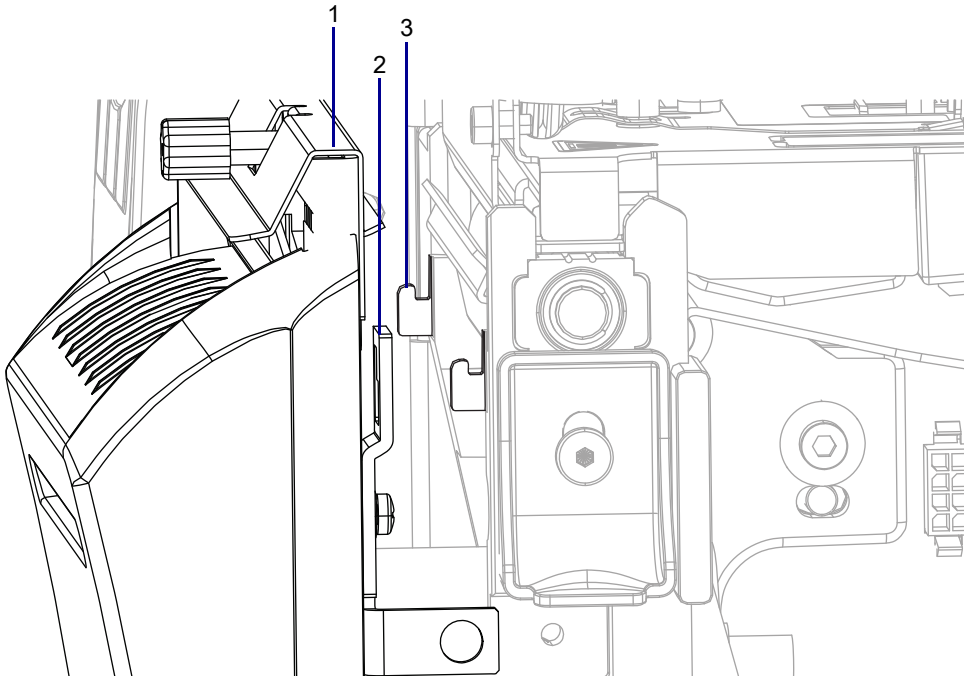
Figure 515 Cutter Mounting Brackets



1	Mounting brackets (2)
2	Stepped slots (2)

4. See Figure 516. Align the larger part of the slots with the hooks on the platen housing.

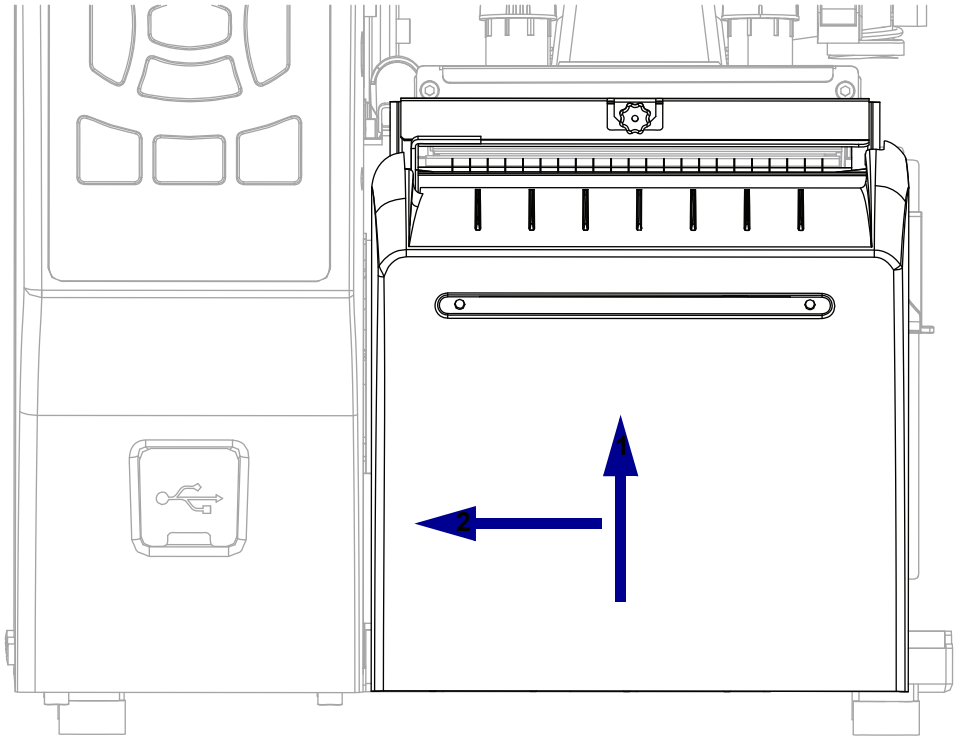
Figure 516 Align the Mounting Brackets and Platen Housing Hooks



1	Cutter assembly
2	Cutter mounting brackets (2)
3	Platen housing hooks (2)

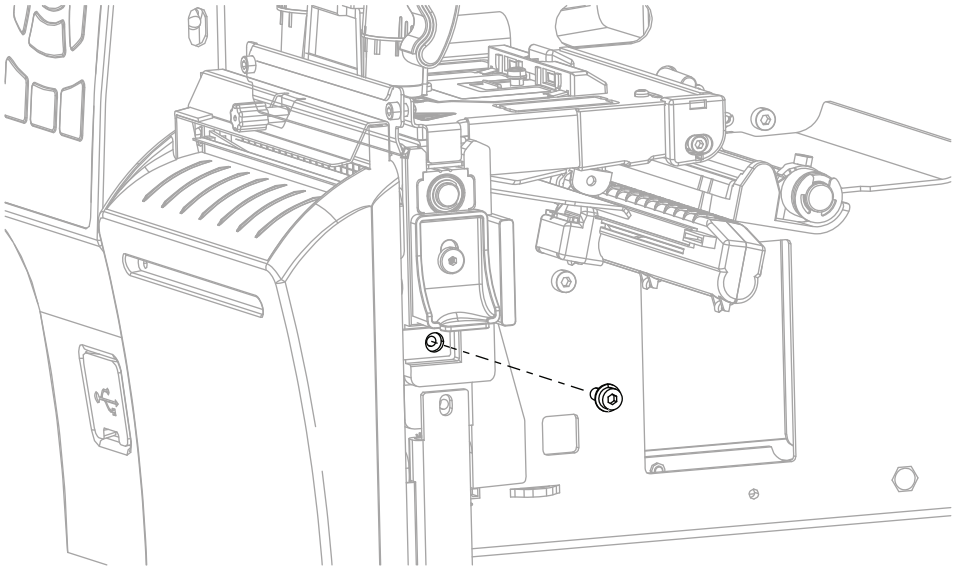
5. See Figure 517. Set the cutter assembly onto the hooks, and then lift and slide the assembly to the left.

Figure 517 Lift and Slide the Cutter Assembly (ZT410 Printer Shown)



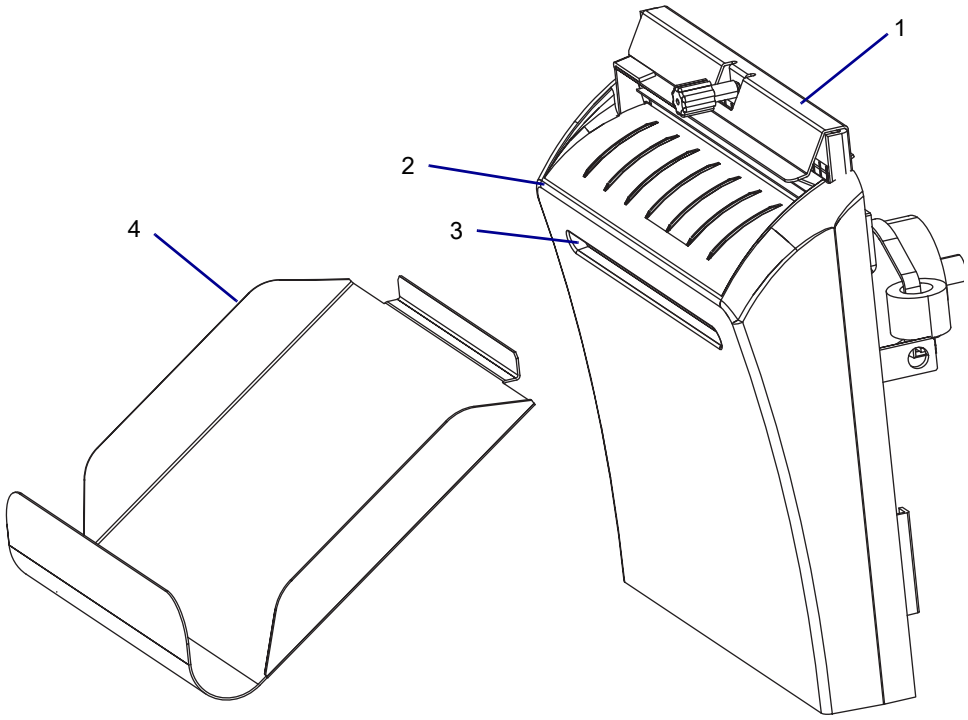
6. See Figure 518. Secure the cutter assembly onto the platen assembly using the mounting screw supplied.

Figure 518 Install the Mounting Screw (ZT410 Printer Shown)



7. See Figure 519. Place the catch tray in the cutter catch tray mounting slot of the cutter cover assembly.

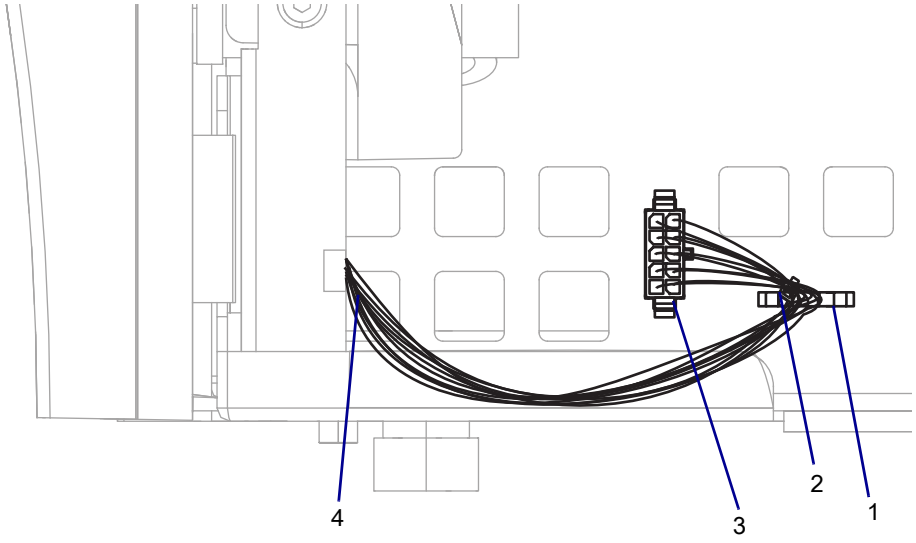
Figure 519 Cutter Catch Tray



1	Cutter assembly
2	Cutter cover assembly
3	Cutter catch tray
4	Cutter catch tray mounting slot

8. See Figure 520. Locate the 10-pin option connector on the printer main frame.

Figure 520 Locate Option Connector



1	Printer tie point
2	Cable tie
3	10-pin option connector
4	Cutter cable

9. Connect the cutter cable to the 10-pin option connector.
10. Install a cable tie through the printer tie point and around the cutter cable.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Media Sensor Maintenance Kit

This kit includes the parts and documentation necessary to install the Ribbon Sensor Maintenance Kit on the ZT410/ZT420 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 521 Kit Contents

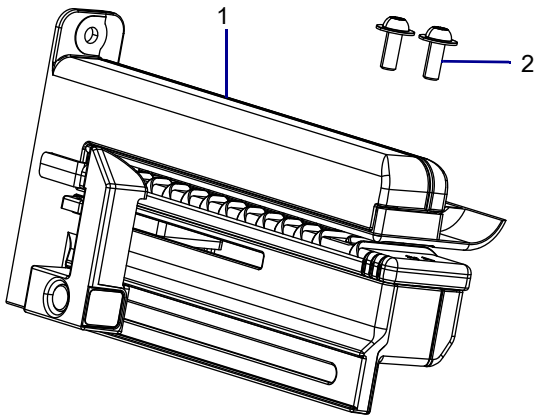


Table 69 Parts List

Item	Description	Qty
Ref	Media Sensor Maintenance Kit	1
1	Media Sensor Assembly	1
2	Screws, M4 × 10	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Metric Hexalobular Key Set
- Metric Hexalobular Screwdriver Set
- Antistatic Wrist Strap and Mat
- Wire Cutters
- Safety Glasses

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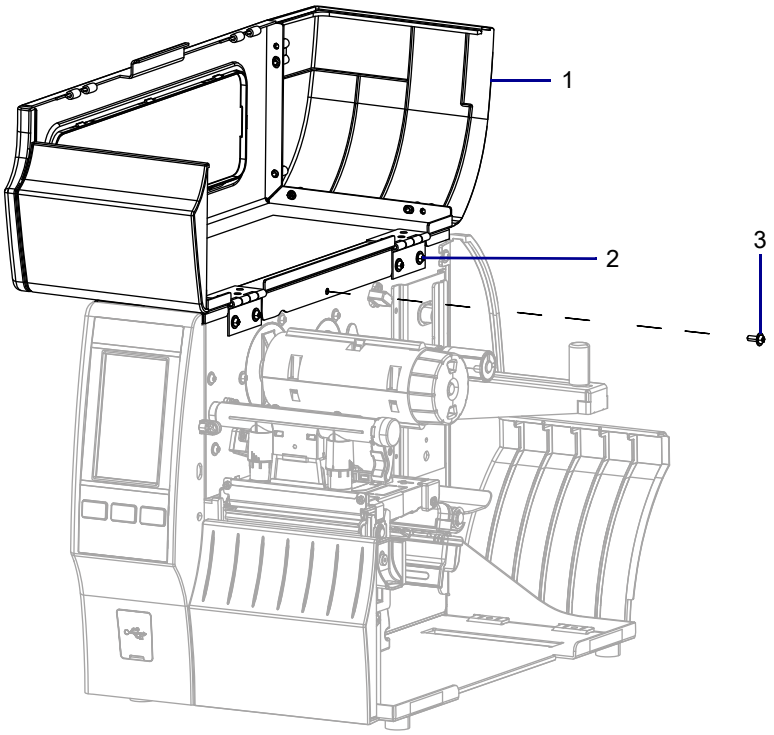
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 522. Remove the screw securing the electronics cover.

Figure 522 Locate the Electronics Cover Mounting Screw

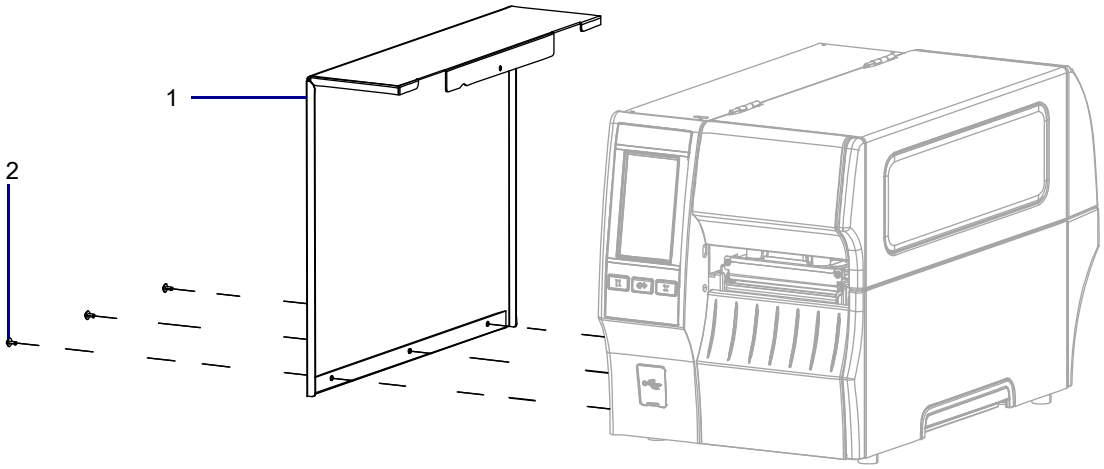


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 523. Remove the three mounting screws securing the electronics cover to the printer.

Figure 523 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

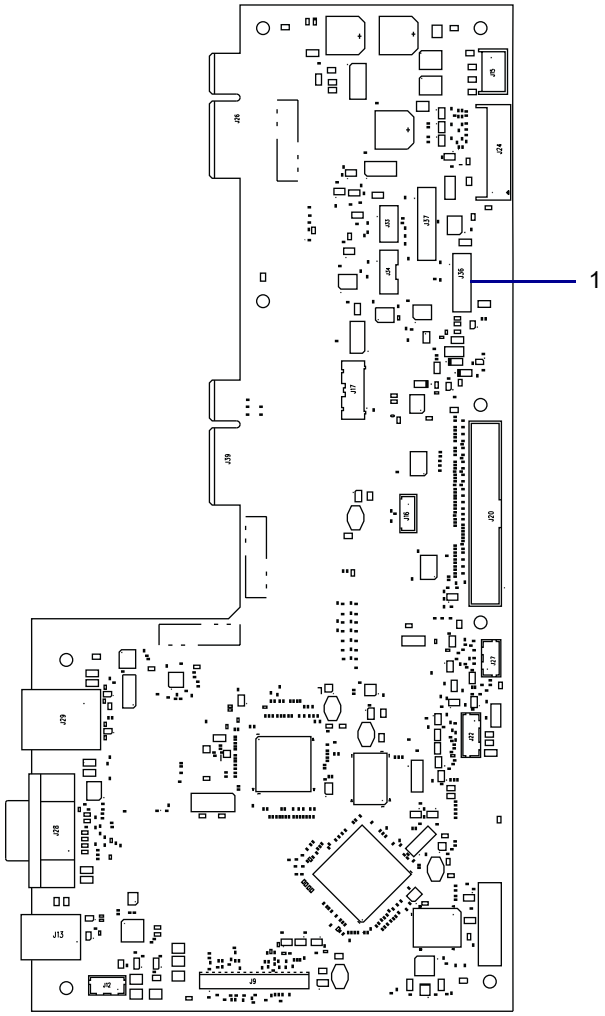
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

7. Connect yourself to an antistatic device.

Remove the Old Media Sensor Assembly

1. See Figure 524. Disconnect the media sensor from the MLB.

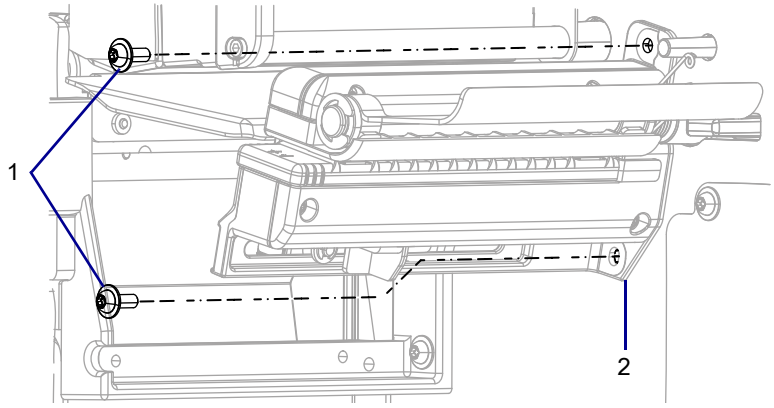
Figure 524 Disconnect Media Sensor Cable



1	Media sensor (J36)

Figure 525 Remove the Media Sensor Screws

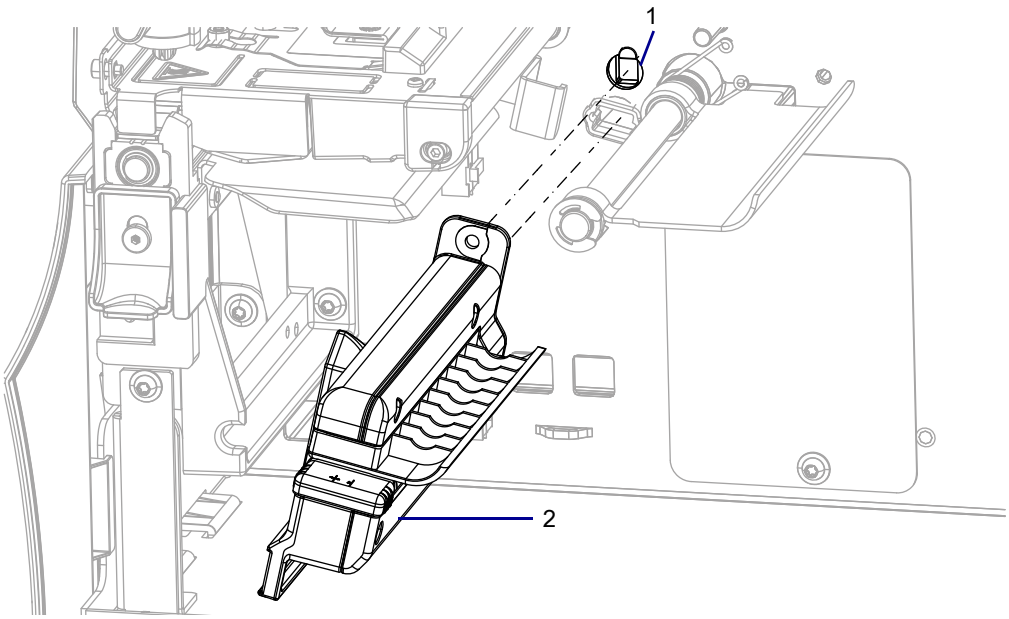
1. Remove the two screws securing the media sensor assembly.



1	Screws (2)
2	Media sensor assembly

2. See Figure 526. Remove the media sensor assembly from the printer.
3. Guide the media sensor assembly wires through the main frame of the printer.

Figure 526 Remove the Media Sensor Assembly



1	Main frame pass-through opening
2	Media sensor assembly

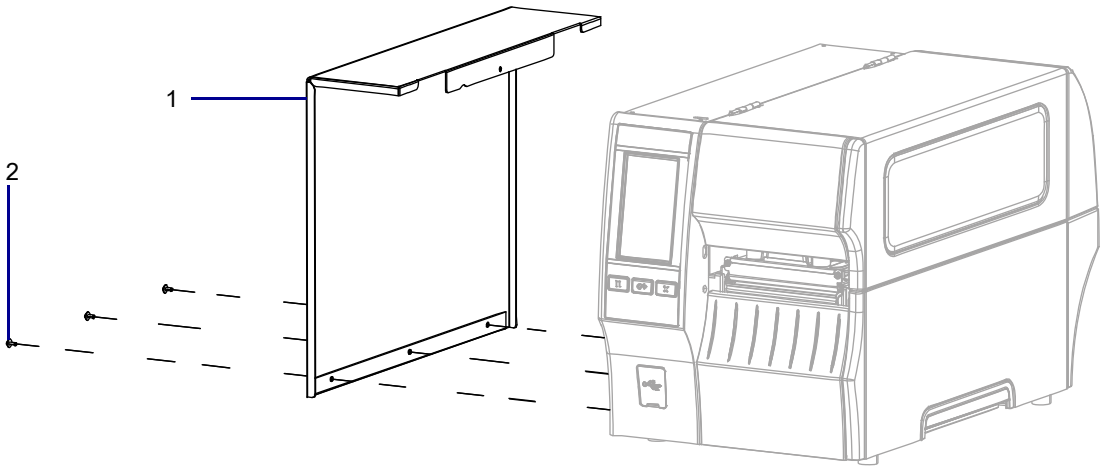
Install the New Media Sensor Assembly

1. See Figure 526 on page 605. Carefully insert the new media sensor cables through the main frame pass-through opening.
2. Guide the new media sensor assembly into place.
3. See Figure 525 on page 605. Install the two new screws to hold the media sensor assembly.
4. See Figure 524 on page 604. Reconnect the media sensor cable to J36 on the MLB.

Reinstall the Electronics Cover

1. See Figure 527. Slide the electronics cover onto the printer.

Figure 527 Reinstall the Electronics Cover Mounting Screws

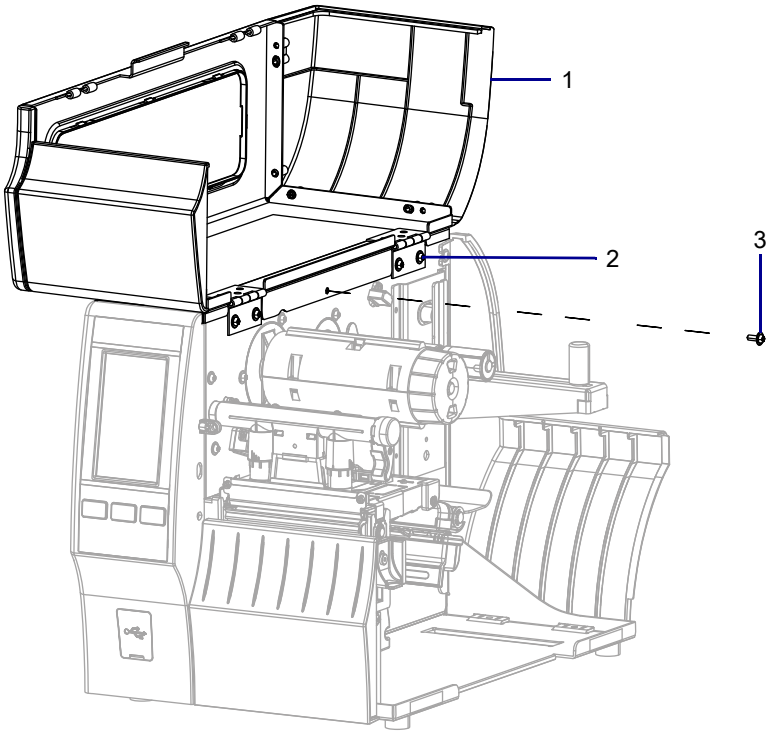


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 528. Open the media door and install the mounting screw.

Figure 528 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Head-Open Sensor Maintenance Kit

This kit includes the parts and documentation necessary to install the Head-Open Sensor Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 529 Kit Contents

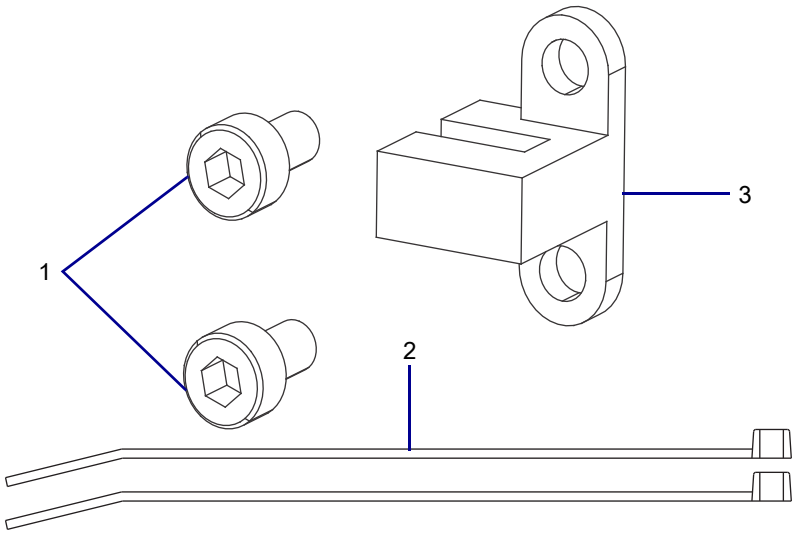


Table 70 Parts List

Item	Description	Qty
Ref	Head-Open Sensor Maintenance Kit	
1	Screw, M3 × 0.5 × 6	2
2	Cable Tie, 0.09 × 3.62	2
3	Head-Open Sensor Assembly	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Wire Cutters
- Antistatic Wriststrap and Mat

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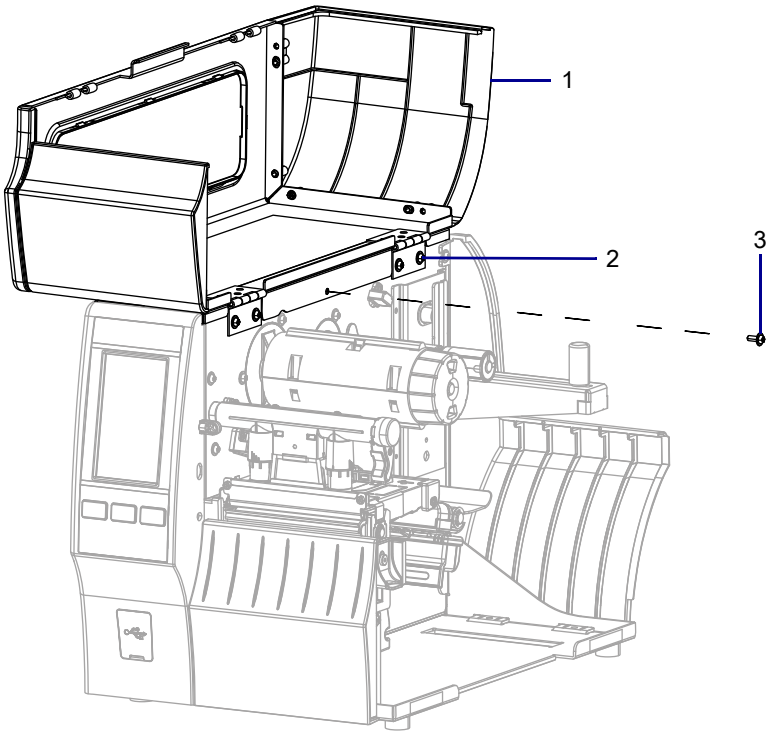
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 530. Remove the screw securing the electronics cover.

Figure 530 Locate the Electronics Cover Mounting Screw

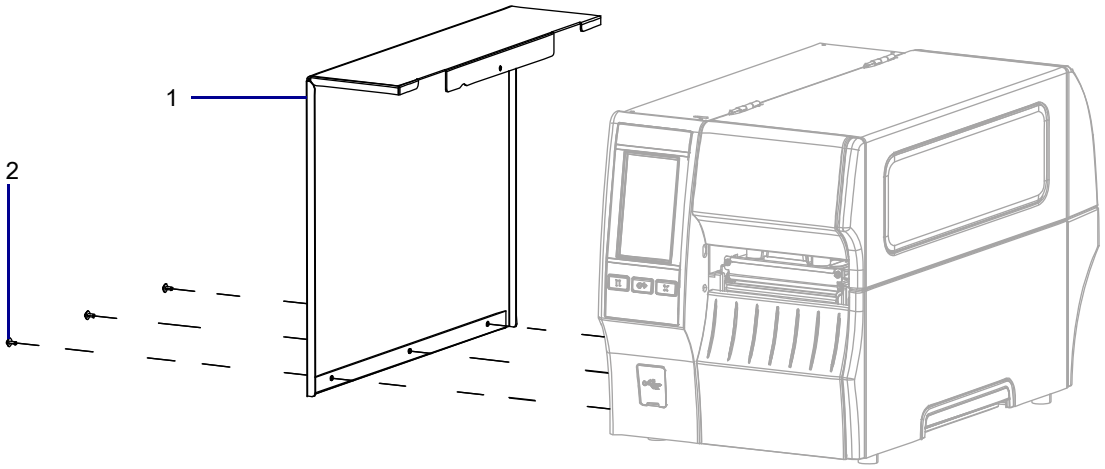


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 531. Remove the three mounting screws securing the electronics cover to the printer.

Figure 531 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

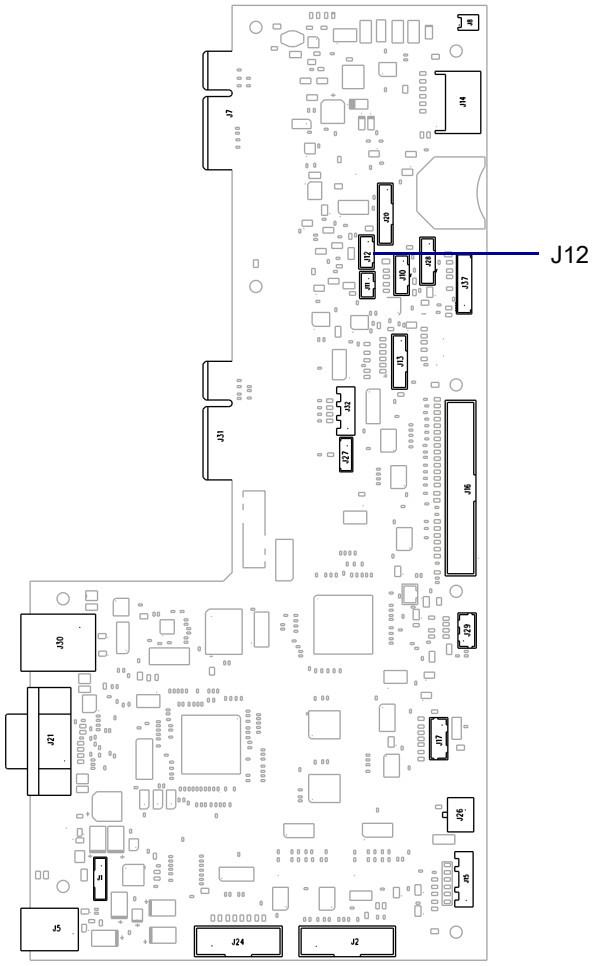
6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Old Sensor

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

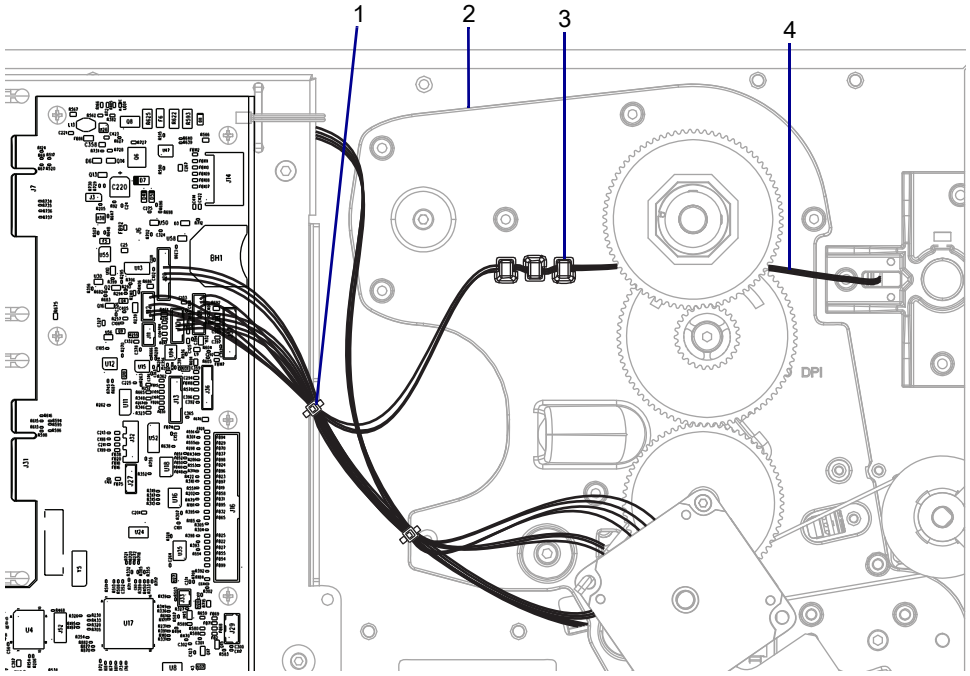
1. Connect yourself to an antistatic device.
2. See Figure 532. Disconnect the head-open sensor cable from J12.

Figure 532 Disconnect the Head-Open Sensor Cable



3. See Figure 533. Cut any cable ties securing the head-open sensor cable to the cable bundles.

Figure 533 Remove the Head-Open Cable

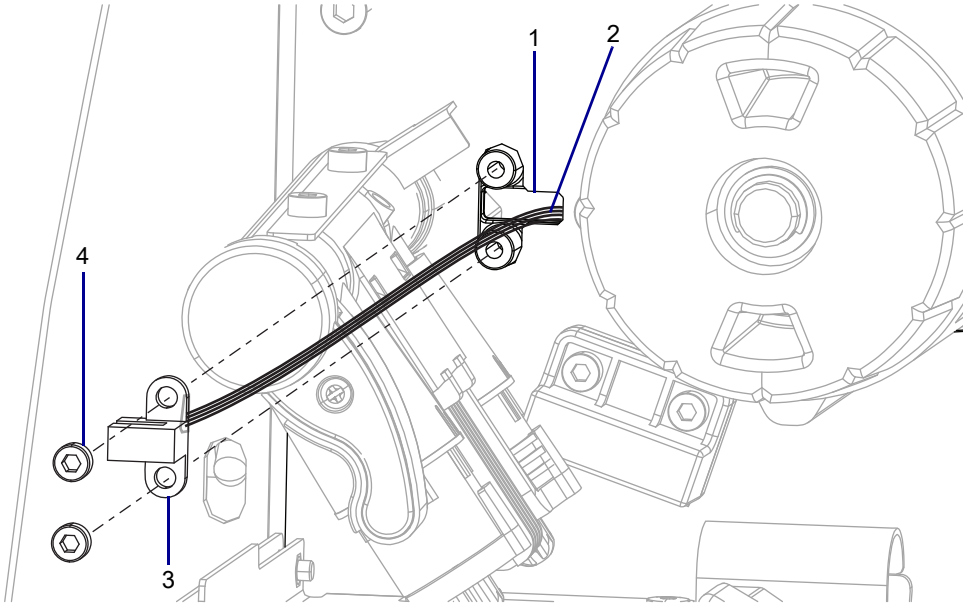


1	Cable tie
2	Drive unit assembly
3	Cable clamps (3)
4	Head-Open sensor cable

4. Remove the head-open sensor cable from the three cable clamps built into the drive unit assembly.

5. See Figure 534. Remove the head-open sensor by opening the toggle bar slightly, and then remove and discard the two mounting screws.

Figure 534 Remove the Head-Open Sensor



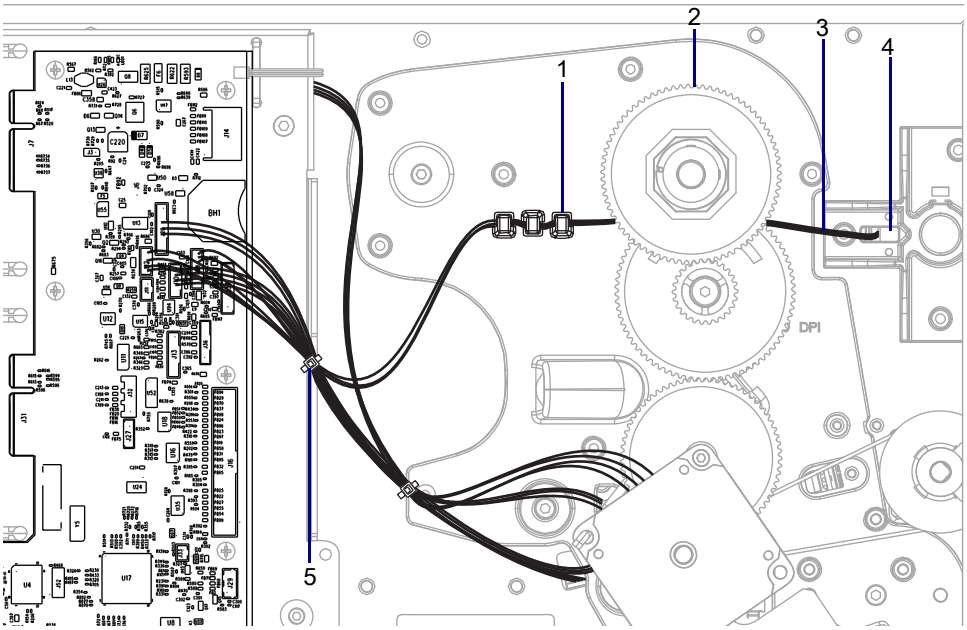
1	Pass-through hole
2	Head-open sensor cable
3	Head-open sensor
4	Mounting screws (2)

6. Slide the head-open sensor out of the printer while guiding the cable out of the pass-through hole.

Install the New Head-Open Sensor

1. See Figure 534 on page 613. Guide the new head-open sensor cable into the pass-through hole.
2. Align the new head-open sensor with the mounting holes.
3. Install the two new mounting screws.
4. See Figure 535. From the electronics side, guide the new cable behind the gear.

Figure 535 Cable Routing



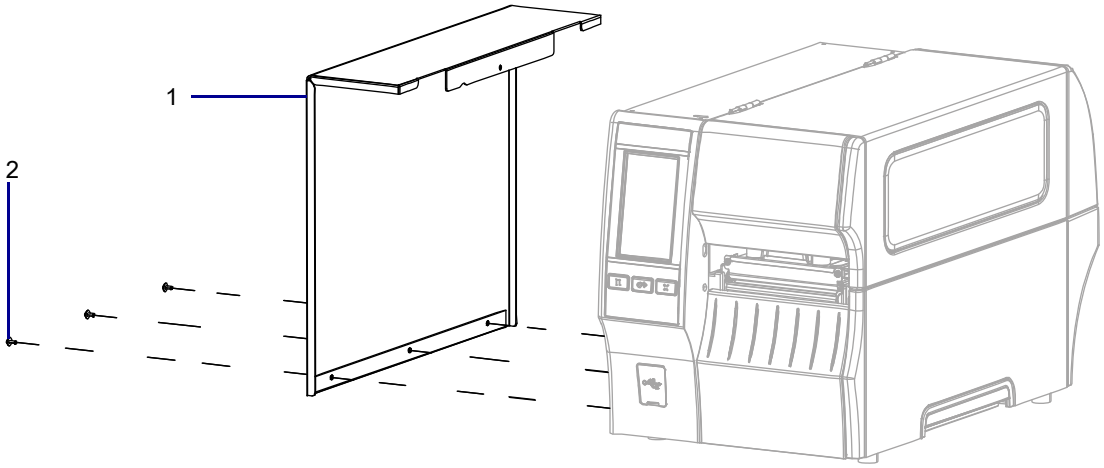
1	Cable clamps (3)
2	Ribbon take-up clutch and gear
3	Head-open sensor cable
4	Cable tie

5. Ensure there is no slack in the head-open sensor cable between the cable clamps and the pass-through hole.
6. Install the head-open sensor cable into the three clamps.
7. See Figure 532 on page 611. Connect the head-open sensor cable to J12.
8. Wrap the cable tie around the bundle of wires, and then tighten the cable tie.

Reinstall the Electronics Cover

1. See Figure 536. Slide the electronics cover onto the printer.

Figure 536 Reinstall the Electronics Cover Mounting Screws

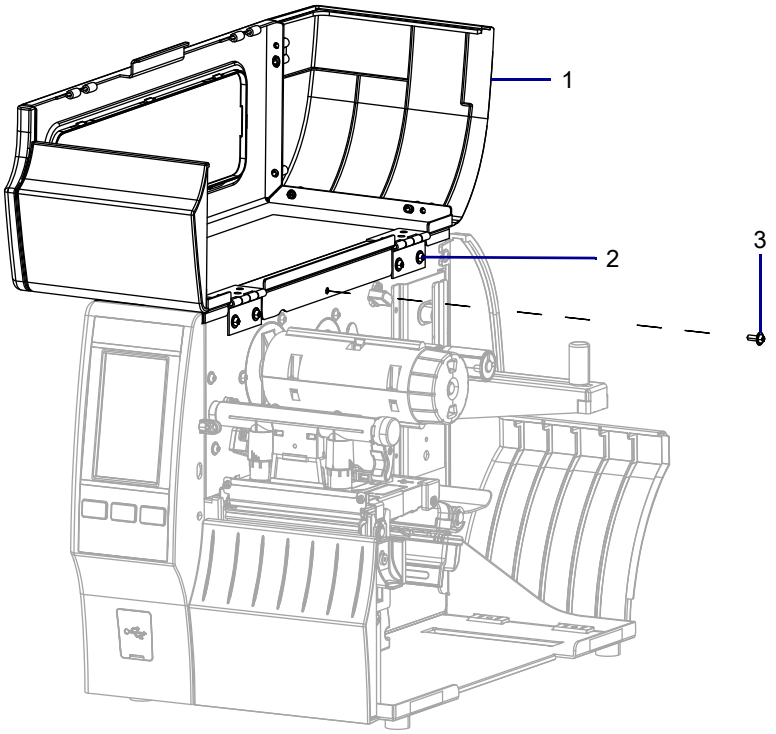


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 537. Open the media door and install the mounting screw.

Figure 537 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Take-Label Sensor Maintenance Kit

This kit includes the parts and documentation necessary to install the Take-Label Sensor Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before performing this procedure.

Parts List

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

Figure 538 Kit Contents

Table 71 Parts List

Item	Description	Qty
Ref	Take-Label Sensor Maintenance Kit	
1	Take-Label Sensor	1
2	Hexalobular Pan Washer Screws, M3 × 6	2
3	Take-Label Sensor Cable	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Key Set
- Metric Hexalobular Screwdriver Set
- Antistatic Wrist Strap and Mat
- Metric Nutdriver Set

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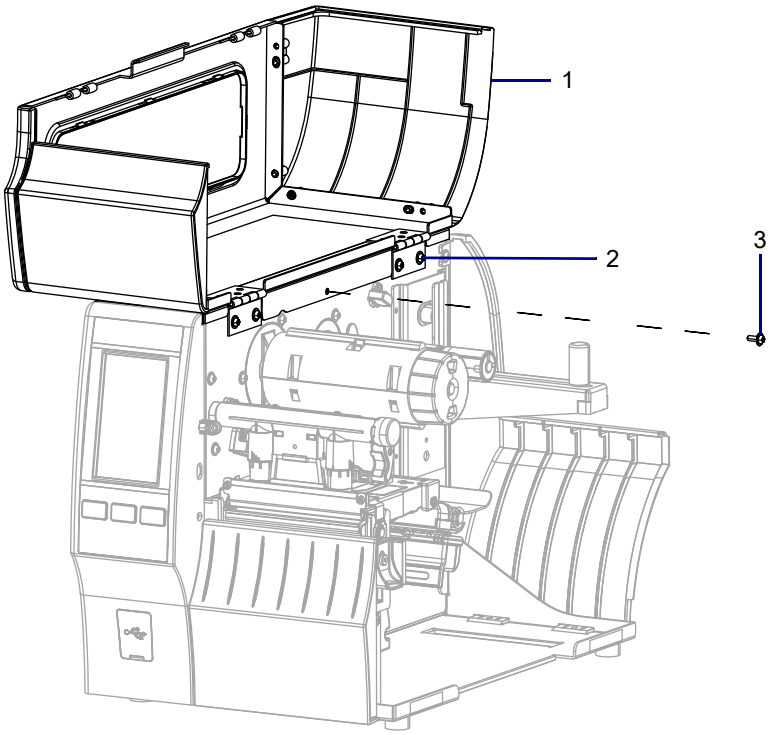
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 539. Remove the screw securing the electronics cover.

Figure 539 Locate the Electronics Cover Mounting Screw

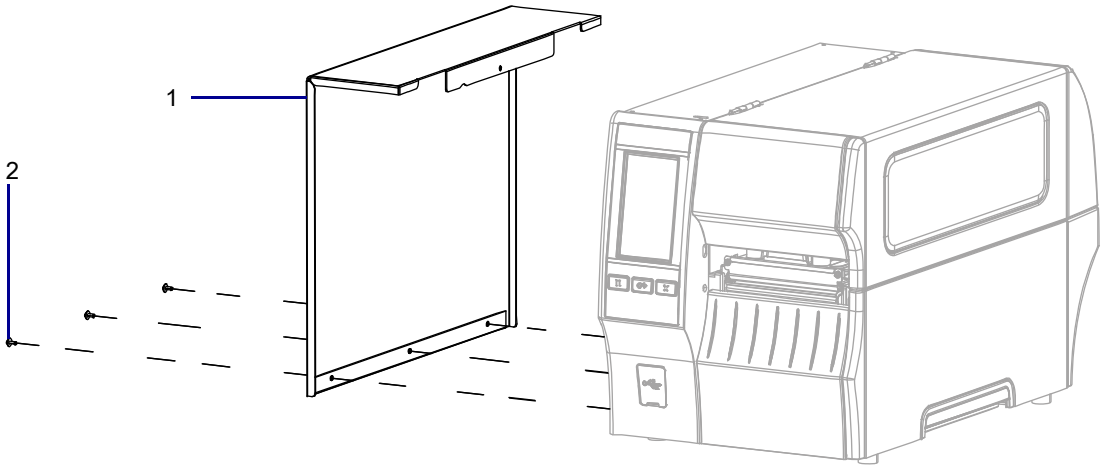


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 540. Remove the three mounting screws securing the electronics cover to the printer.

Figure 540 Remove the Electronics Cover Mounting Screws



1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

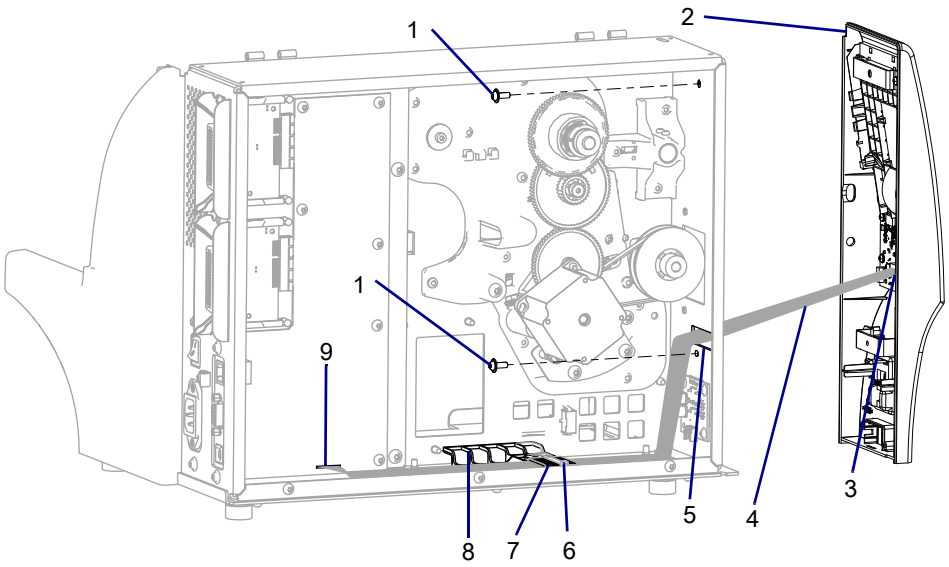
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

7. Connect yourself to an antistatic device.

Remove the Control Panel

1. See Figure 541. Disconnect the control panel cable from J9.

Figure 541 Remove the Control Panel



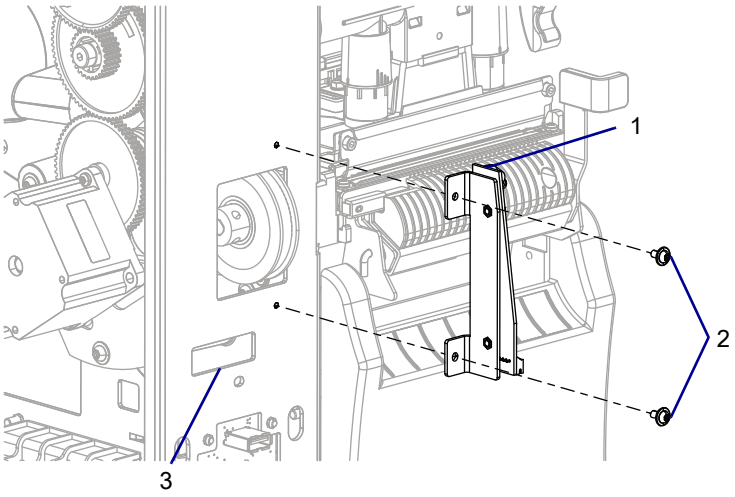
1	Control panel mounting screws (2)
2	Control panel
3	J2 on control panel PCB
4	Control panel cable
5	Main frame pass-through opening
6	Cable tie
7	Ferrite
8	Cable clamp
9	J9 on MLB

2. Cut the cable tie securing the loose cables and ferrite to the cable clamp.
3. Remove the loose cables and ferrite from the cable clamp on the base of the printer.
4. Remove the two control panel mounting screws.
5. Disconnect the take-label sensor from J2 on the control panel PCB.
6. Slide the control panel out of the printer while guiding the cables through the main frame pass-through opening.

Remove Take-Label Sensor

1. See Figure 542. Remove the two mounting screws holding the take-label sensor.

Figure 542 Remove the Take-Label Sensor



1	Take-Label sensor
2	Take-Label sensor mounting screws (2)
3	Main frame pass-through opening

2. Guide the take-label sensor cable through the main frame pass-through opening and remove the take-label sensor.

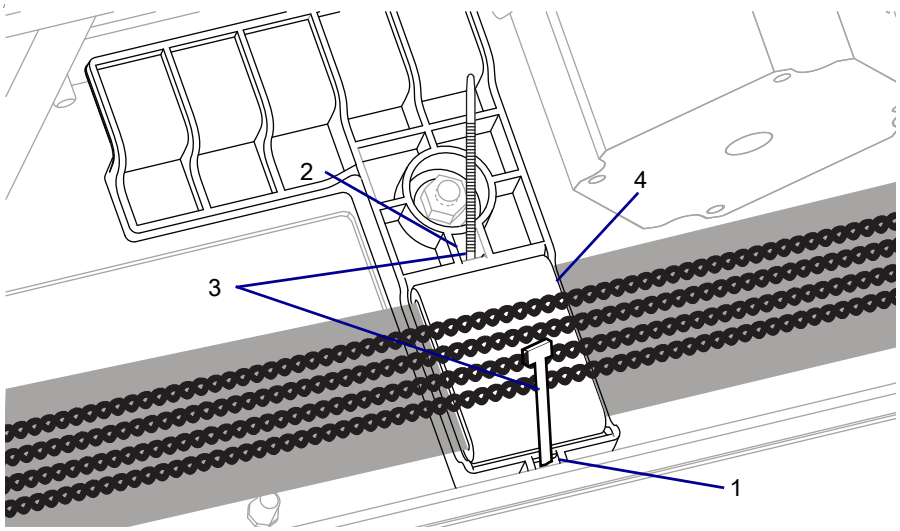
Install New Take-Label Sensor

1. See Figure 542. Align the take-label sensor with the mounting holes in the main frame of the printer.
2. Install the screws to secure the take-label sensor.
3. Guide the take-label sensor cable through the pass-through opening and connect the cable to J2 on the control panel PCB.

Install the Control Panel

1. See Figure 541 on page 620. Guide the cables through the pass-through opening in the main frame.
2. Align the two control panel mounts.
3. Install the two mounting screws.
4. Connect the cable to J9.
5. See Figure 543. Install the ferrite in the cable clamp at the base of the printer and lay any loose wires on top of the ferrite.
6. Insert the cable tie through the front opening of the cable clamp and push the cable tie in until it comes through the rear opening in the cable clamp.
7. Secure the cable tie.

Figure 543 Install Cable Tie

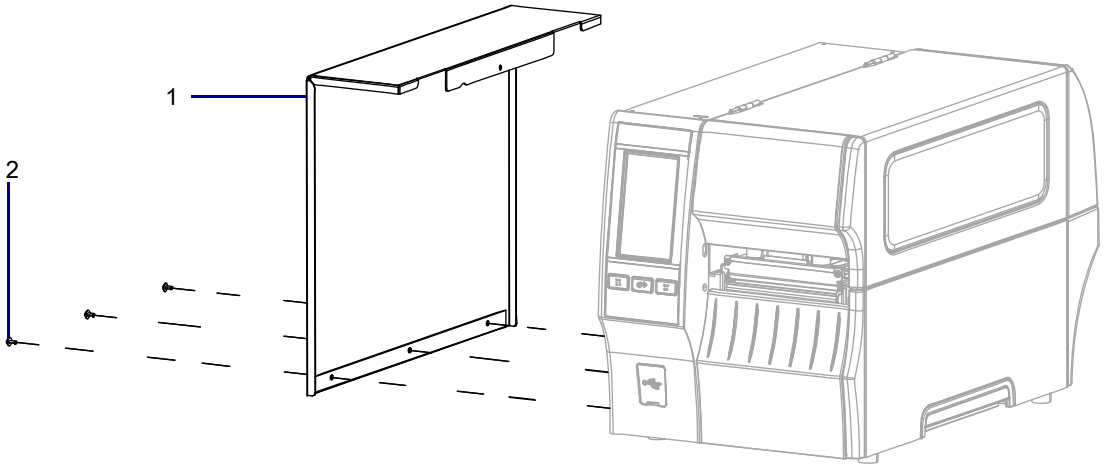


1	Front opening
2	Back Opening
3	Cable tie
4	Ferrite

Reinstall the Electronics Cover

1. See Figure 544. Slide the electronics cover onto the printer.

Figure 544 Reinstall the Electronics Cover Mounting Screws

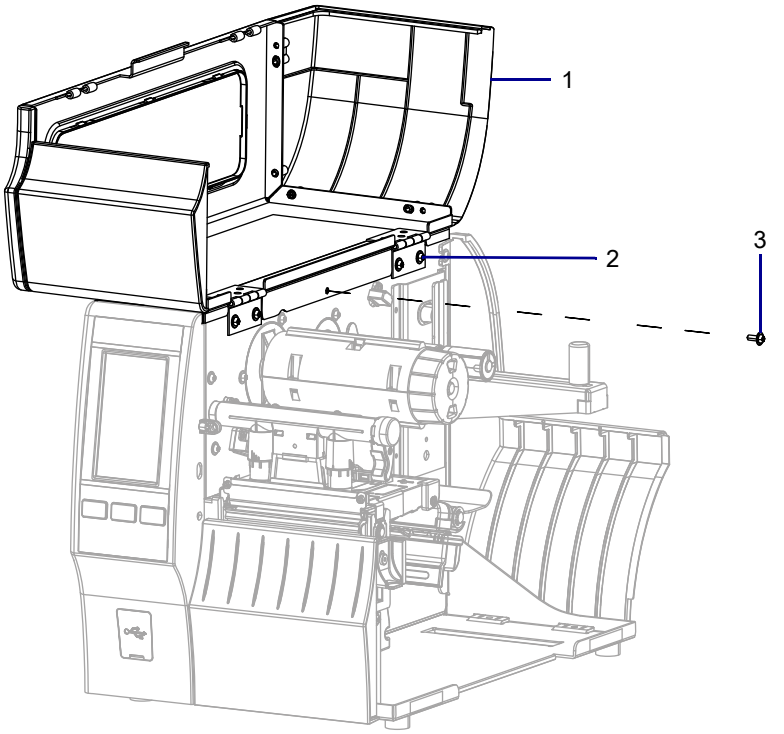


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 545. Open the media door and install the mounting screw.

Figure 545 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Ribbon Sensor Maintenance Kit

This kit includes the parts and documentation necessary to install the Ribbon Sensor Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 546 Kit Contents

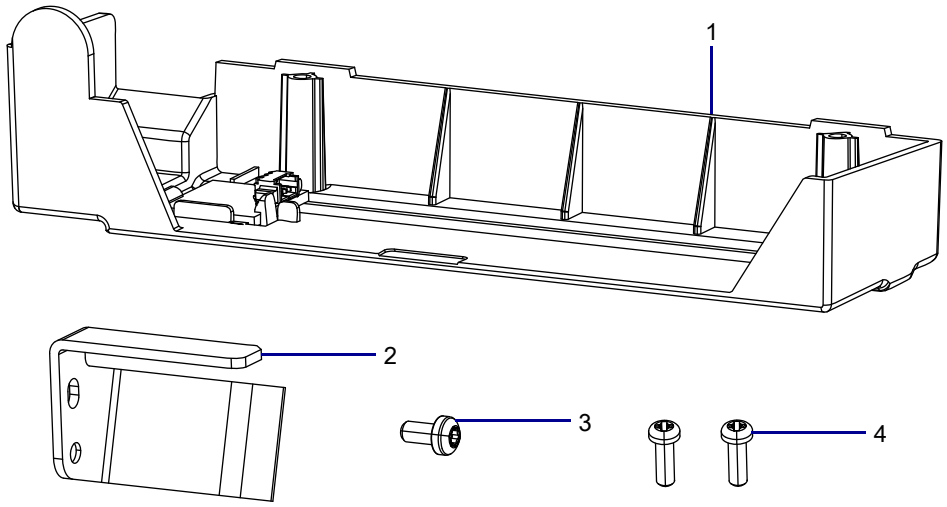


Table 72 Parts List

Item	Description	Qty
Ref	Ribbon Sensor Maintenance Kit	
1	Ribbon Sensor Assembly	1
2	Ribbon Reflector	1
3	Screw, M3 × 6	1
4	Screws, M2.5 × 8	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Hexalobular Screwdriver Set
- 47362 Zebra Preventive Maintenance Kit*
- Antistatic Wriststrap and Mat
- Metric Hexalobular Key Set

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in 90% or higher isopropyl alcohol.

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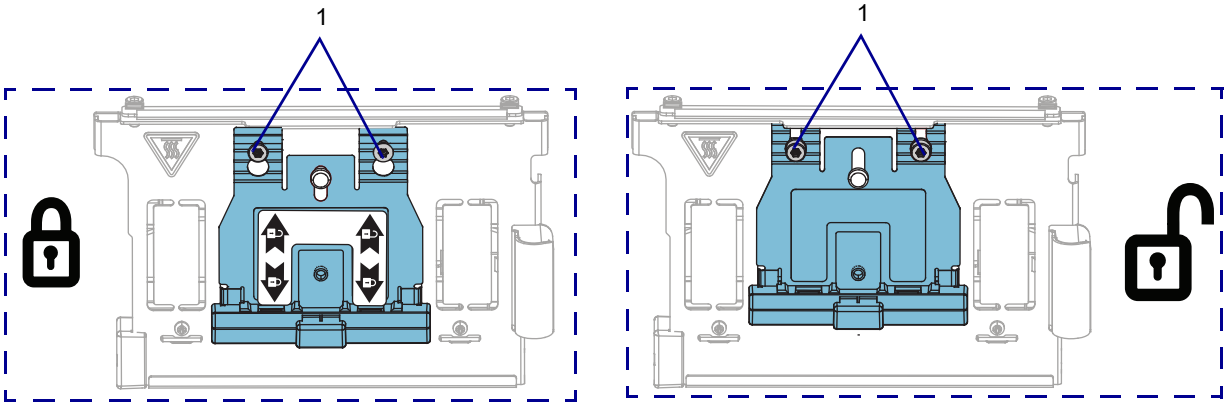
Remove the Ribbon Sensor Assembly

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 547. Slide the printhead latch forward until the large holes are aligned with the two printhead locking posts.

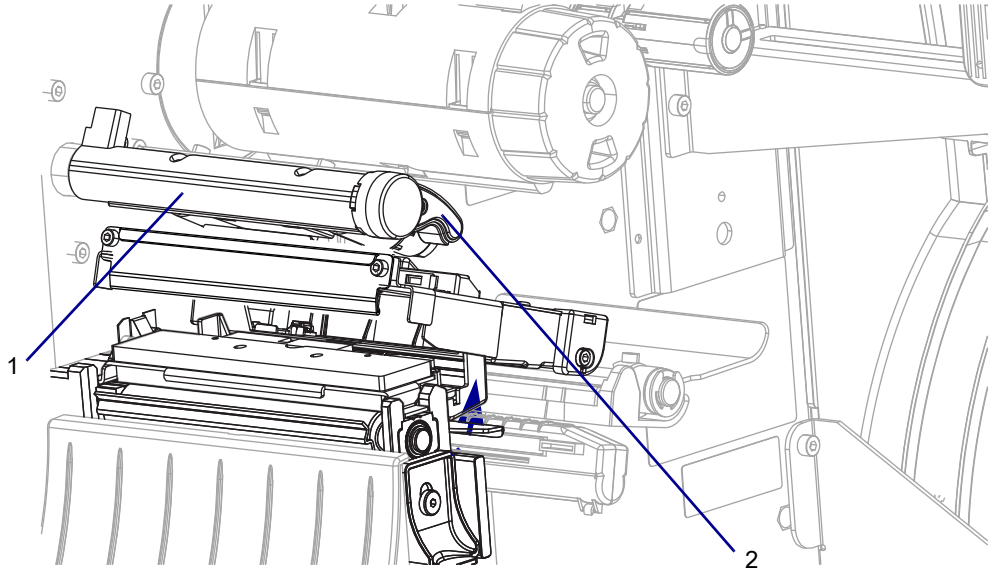
Figure 547 Slide the Printhead Latch



1	Printhead locking posts (2)

4. See Figure 548. Unlatch the toggle bar assembly.

Figure 548 Raise the Toggle Bar (ZT410 Printer Shown)



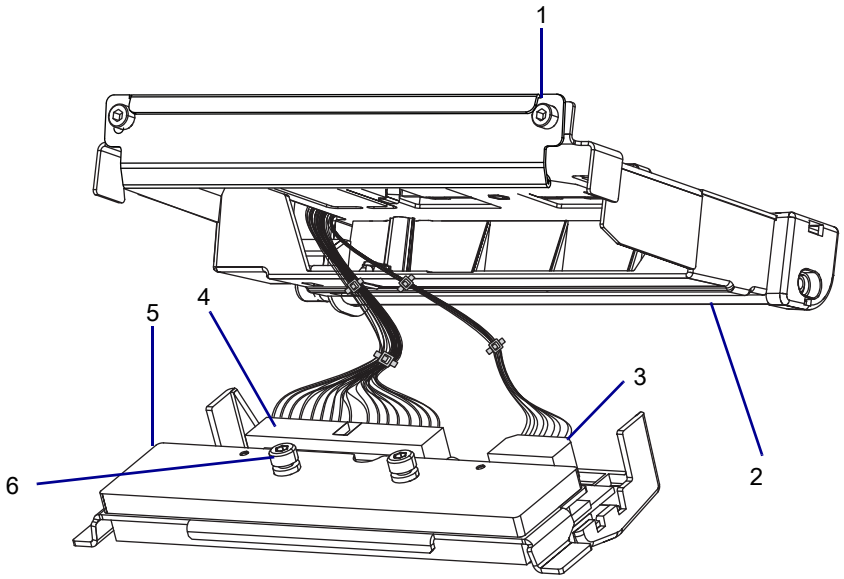
1	Toggle bar
2	Toggle bar handle

CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

5. Connect yourself to an antistatic device.

6. See Figure 549. Pull the printhead out of the print mechanism, and then disconnect the printhead cables.

Figure 549 Disconnect the Printhead Cable

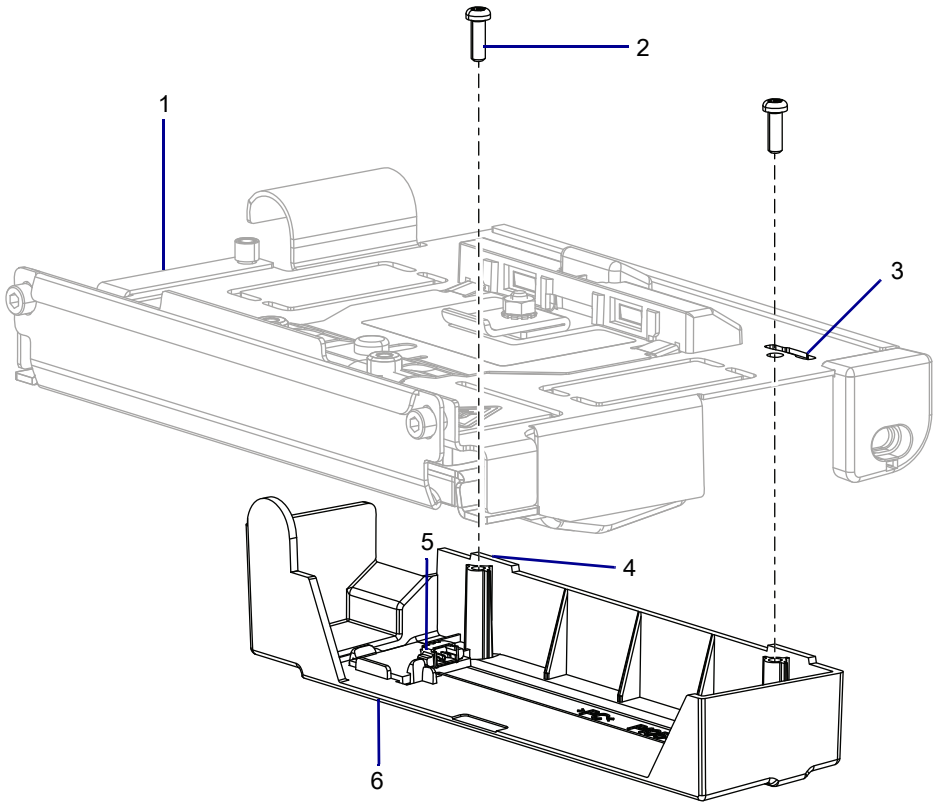


1	Print mechanism assembly
2	Printhead cable cover and ribbon sensor assembly
3	Printhead power cable
4	Printhead data cable
5	Printhead assembly
6	Printhead assembly shoulder screws (2)

7. Remove the printhead from the printer.

8. See Figure 550. Remove and discard the two printhead cable cover mounting screws.

Figure 550 Remove the Mounting Screws



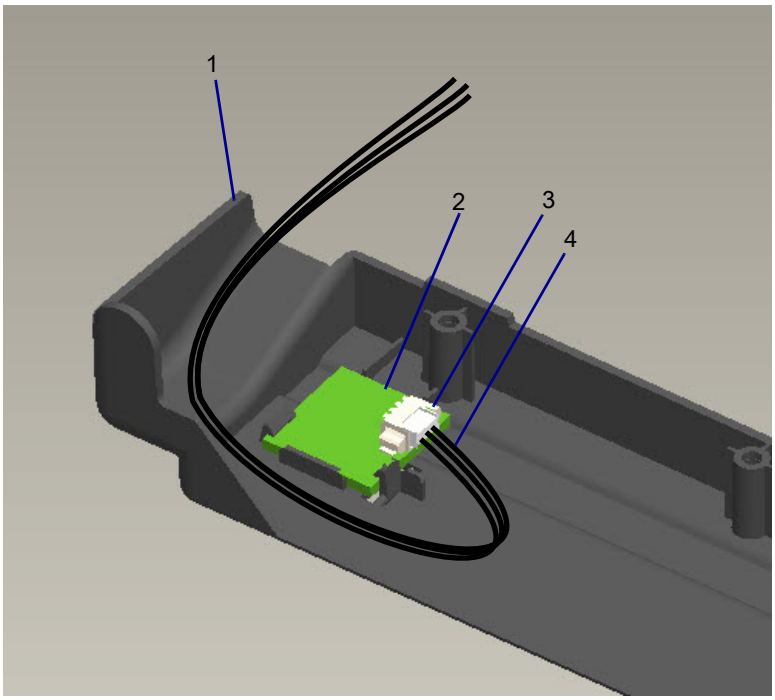
1	Print mechanism support bracket
2	Mounting screws (2)
3	Slots (2)
4	Ribbon sensor cable connector
5	Tabs (2)
6	Printhead cable cover

9. Drop the printhead cable cover and ribbon sensor out of the print mechanism and disconnect the ribbon sensor cable.
10. Remove and discard the printhead cable cover and ribbon sensor.

Install the Printhead Cable Cover and Ribbon Sensor

1. See Figure 551. Connect the ribbon sensor cable to the new ribbon sensor assembly cable connector.

Figure 551 Ribbon Sensor Cable Routing



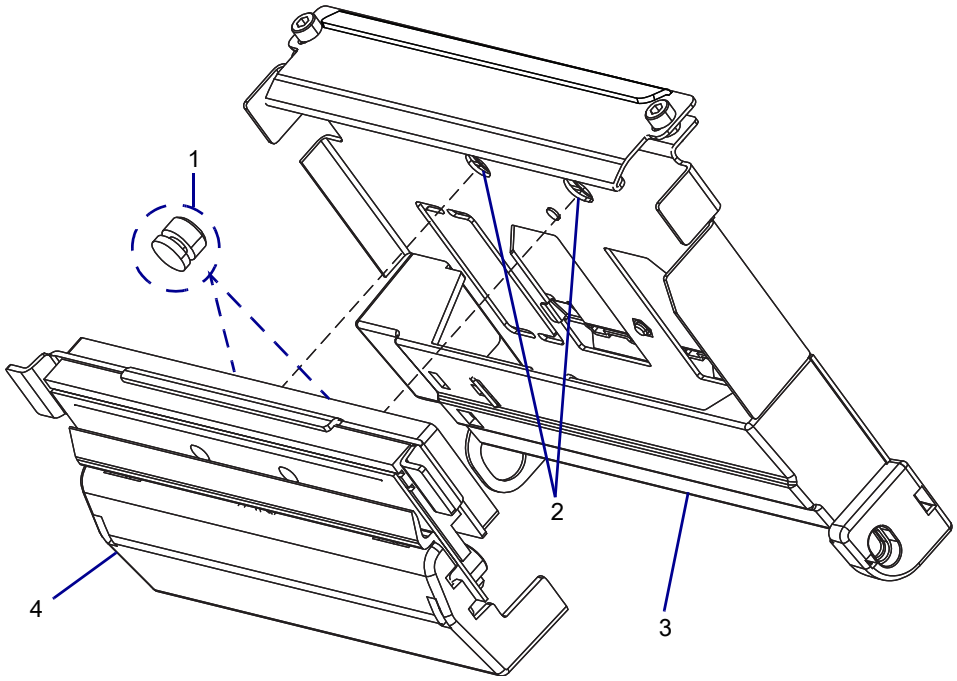
1	Printhead cable cover
2	Ribbon sensor assembly
3	Ribbon sensor cable connector
4	Ribbon sensor cable

NOTE: Ensure that the printhead and ribbon sensor cables are not pinched between the print mechanism support bracket and the printhead cable cover.

2. Set the printhead cable cover and ribbon sensor assembly into the print mechanism.
3. See Figure 547 on page 626. Install the two mounting screws ensuring that the tabs on the printhead cable cover are inserted in the slots in the print mechanism.
4. See Figure 549 on page 628. Reconnect the printhead cables to the printhead assembly.
5. Carefully slide the printhead cable into the space between the printhead support bracket and the printhead cable cover and ribbon sensor.
6. See Figure 547 on page 626. Ensure that the printhead latch is in the unlatched position.

7. See Figure 552. Insert the printhead assembly shoulder screws through the print mechanism support bracket mounting openings and the large keyholes in the printhead latch.

Figure 552 Install the Printhead



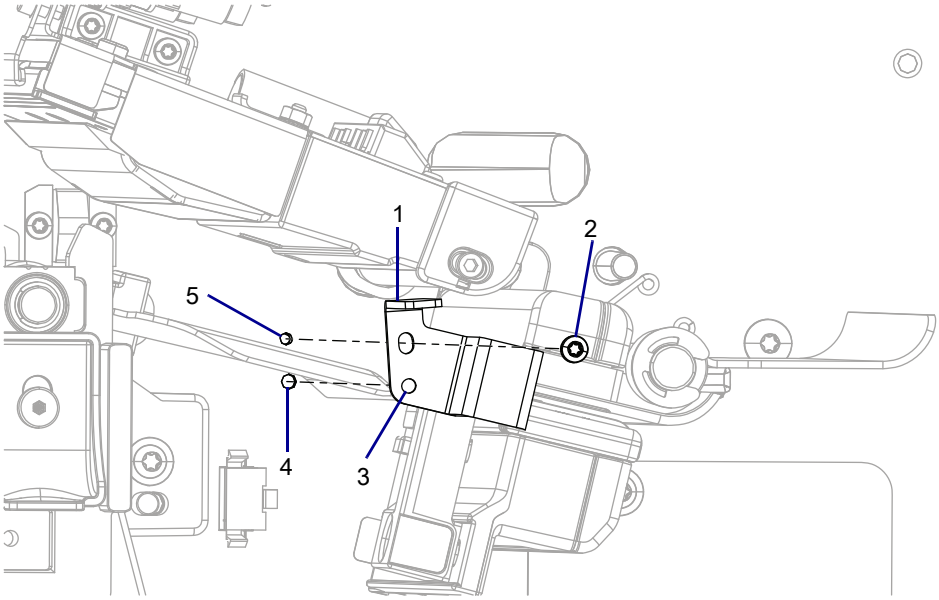
1	Shoulder screws (2)
2	Print mechanism support bracket mounting openings (2)
3	Printhead cable cover and ribbon sensor
4	Printhead assembly

8. Ensure the printhead assembly is making full contact with the print mechanism support bracket.
9. See Figure 547 on page 626. While holding the printhead in place, lock the printhead into the print mechanism by sliding the printhead latch toward the rear of the printer.

Remove Ribbon Sensor Reflector

1. See Figure 553. Removing the ribbon sensor reflector mounting screw.
2. Pull the old ribbon sensor reflector clear of the printer.

Figure 553 Remove the Ribbon Sensor Reflector



1	Ribbon reflector
2	Mounting screw
3	Alignment tab
4	Alignment tab opening
5	Mounting opening

Install the New Ribbon Sensor Reflector

1. See Figure 553 on page 632. Insert the new reflector alignment tab into the alignment opening.
2. Align the ribbon sensor reflector mounting opening.
3. Install the ribbon sensor reflector mounting screw.
4. Using the preventive maintenance kit, clean the printhead.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

Outer Casing Components

This section supplies you with the parts information and installation procedures for the exterior parts.

Exterior Parts and Drawings

Figure 554 Exterior Overview

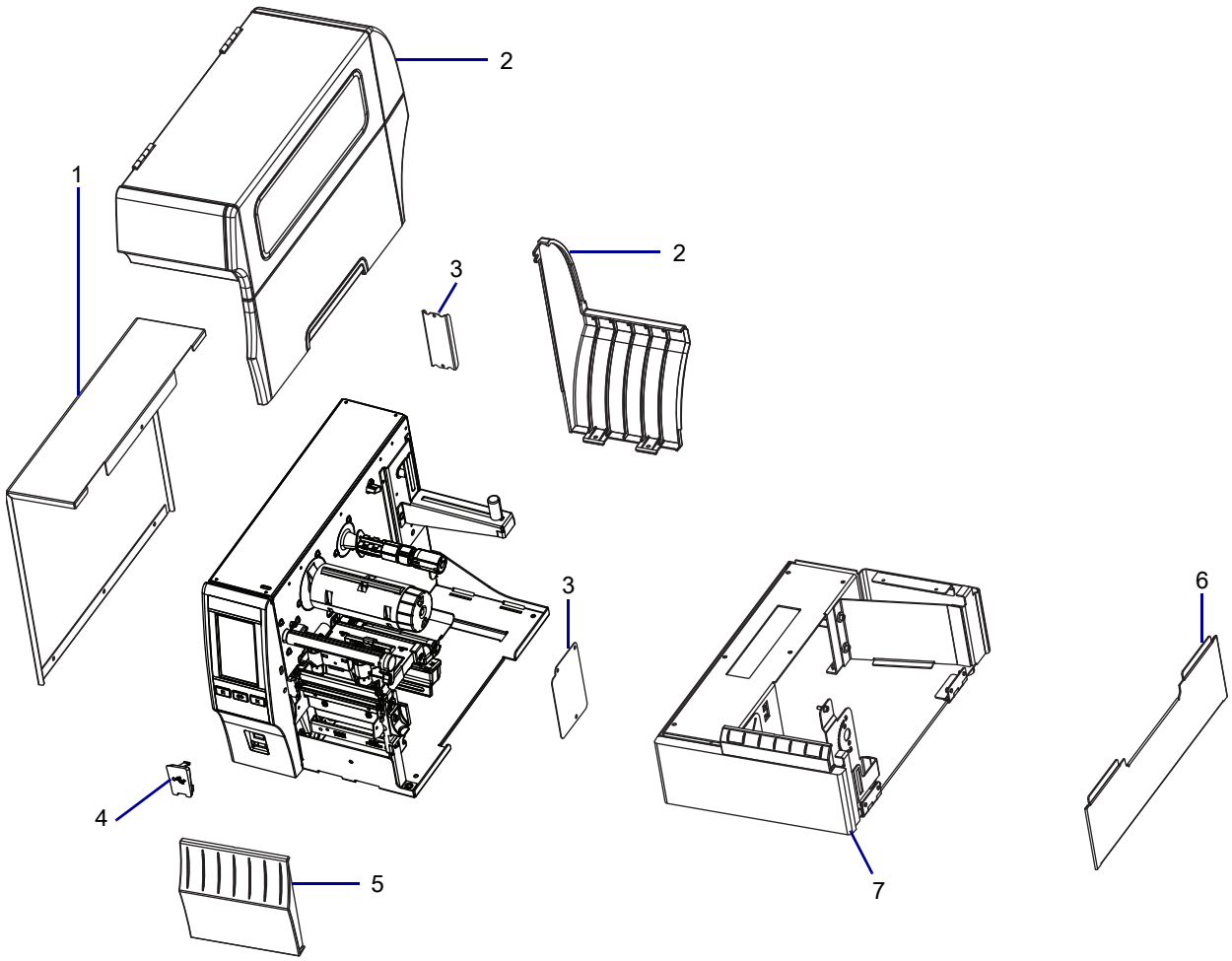


Table 73 Exterior Overview

Item	Part Number	Description
1	P1058930-003	ZT411/ZT421 Printers Electronics Cover
2	P1058930-004	ZT411 Media Door and End Cap Maintenance Kit
	P1058930-005	ZT421 Media Door and End Cap Maintenance Kit
3	P1058930-062	ZT411/ZT421 Printers Option Covers Maintenance Kit
4	P1058930-404	ZT411/ZT421 Printers* Dual Port USB Cover
5	P1058930-006	ZT411 Lower Front Trim Panels
	P1058930-007	ZT421 Lower Front Trim Panels
6	P1058930-060	ZT411 Rewind Door and Trim Maintenance Kit
	P1058930-061	ZT421 Rewind Door and Trim Maintenance Kit
7	P1058930-060	ZT411 Printers Rewind Door and Trim Maintenance Kit
	P1058930-061	ZT421 Printers Rewind Door and Trim Maintenance Kit

Figure 555 Exterior Parts Kits

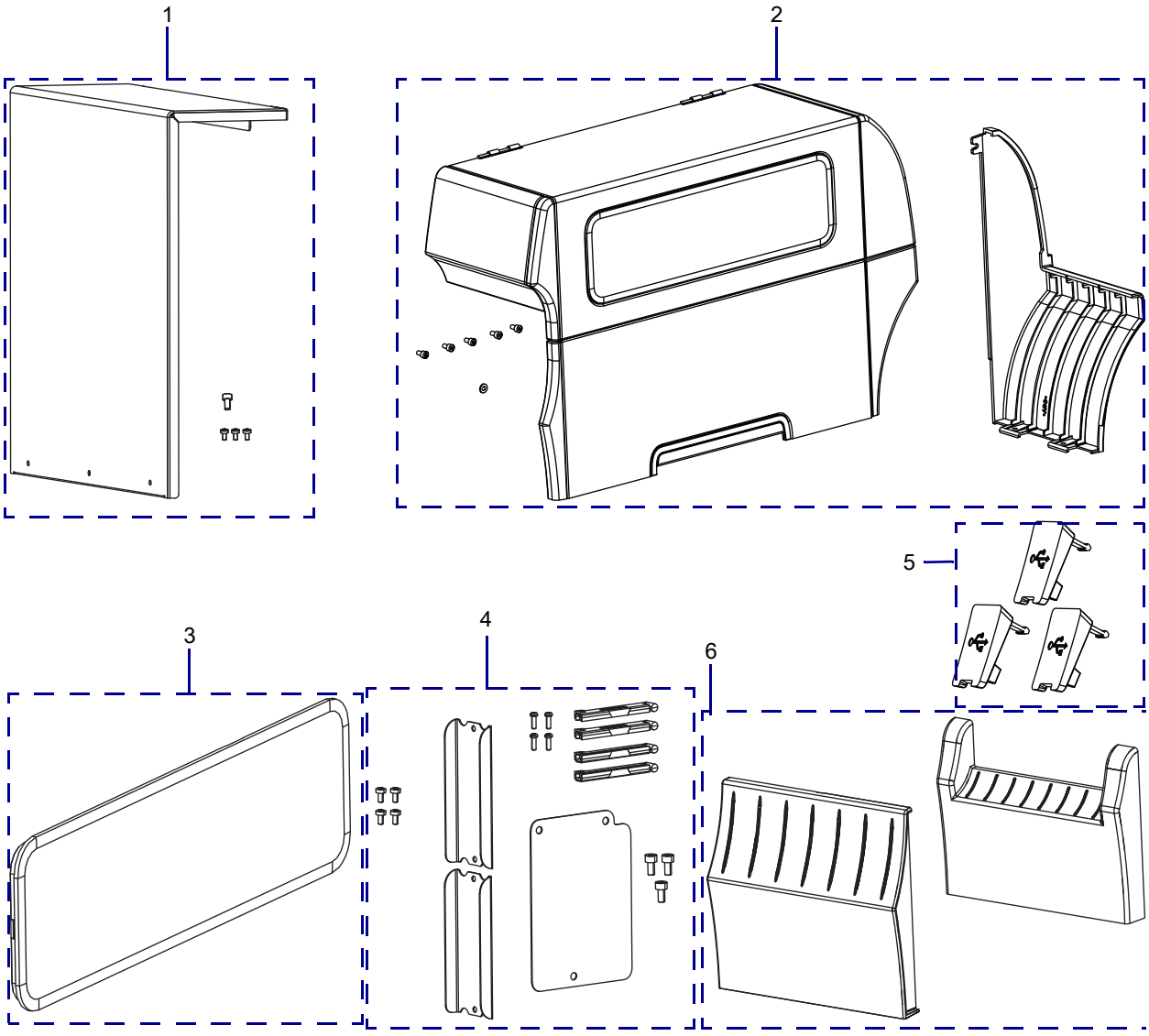


Table 74 Exterior Parts Kits

Item	Part Number	Description
1	P1058930-003	ZT411/ZT421 Printers Electronics Cover
2	P1058930-004	ZT411 Printers Media Door and End Cap Maintenance Kit
	P1058930-005	ZT421 Printers Media Door and End Cap Maintenance Kit
3	P1058930-008	ZT411/ZT421 Printers Media Door Window Maintenance Kit
4	P1058930-062	ZT411/ZT421 Printers Option Covers Maintenance Kit
5	P1058930-404	ZT411/ZT421 Printers* printers Dual Port USB Cover
6	P1058930-006	ZT411 Printers Lower Front Trim Panels
	P1058930-007	ZT421 Printers Lower Front Trim Panels

Figure 556 Rewind Panels Kit

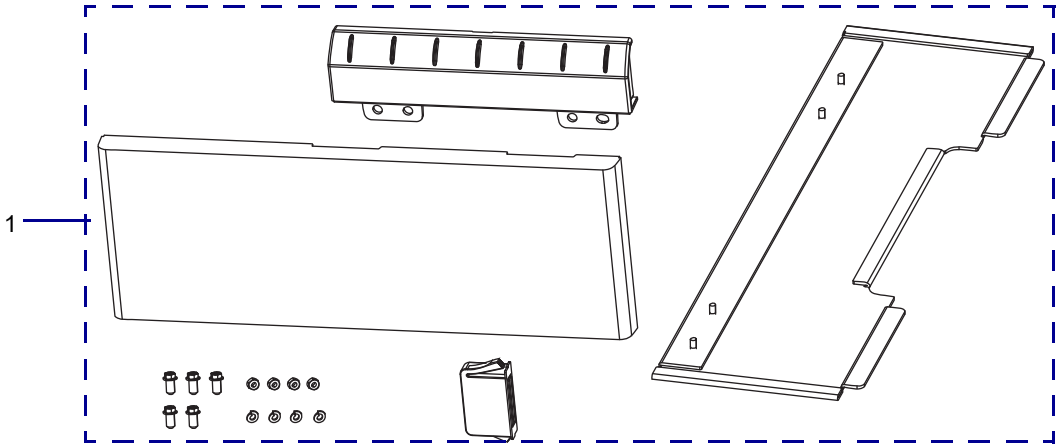


Table 75 Rewind Panels Kit

Item	Part Number	Description
1	P1058930-060	ZT411 Printers Rewind Door and Trim Maintenance Kit
	P1058930-061	ZT421 Printers Rewind Door and Trim Maintenance Kit

Figure 557 Repacking Kits

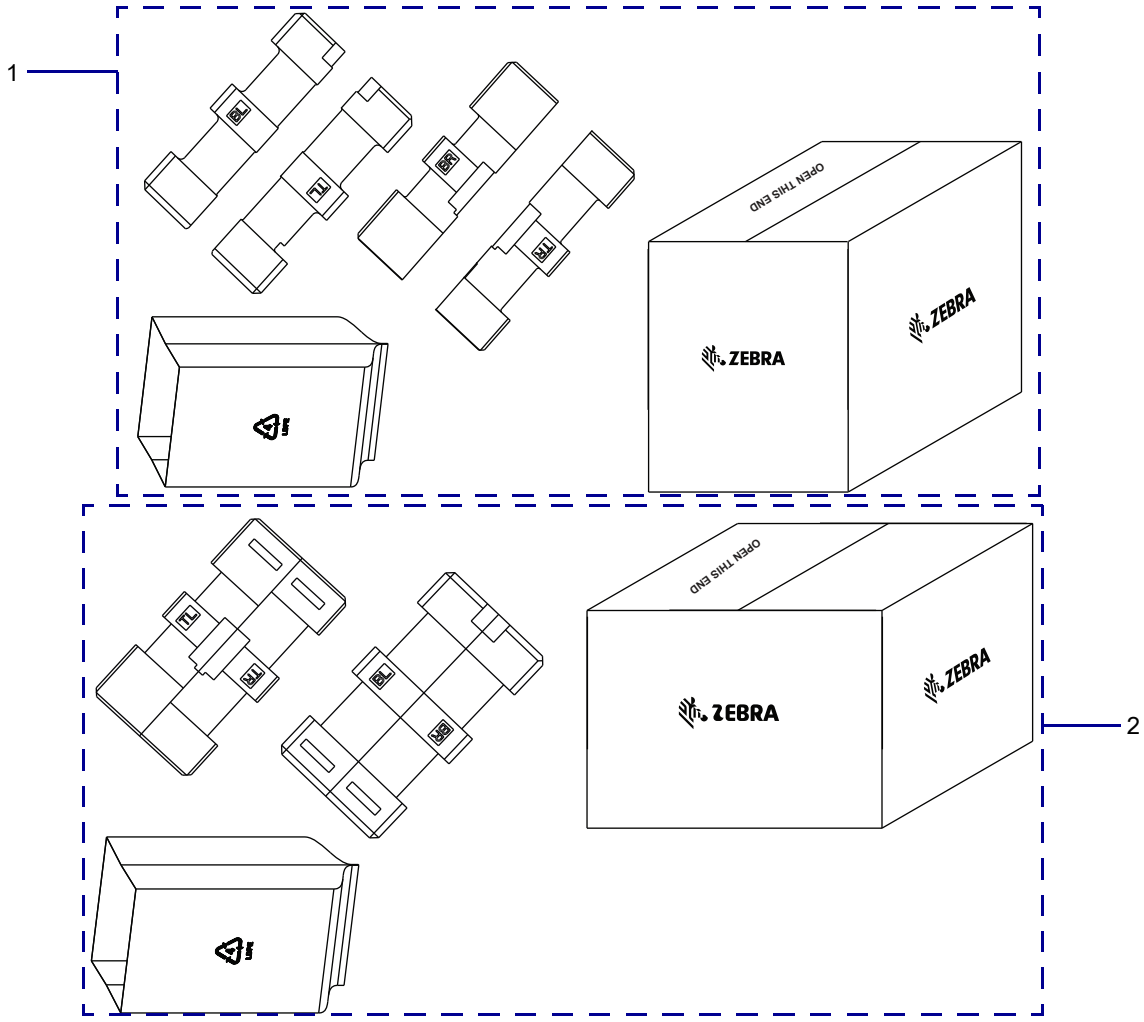


Table 76 Repacking Kits

Item	Part Number	Description
1	P1058930-166	ZT411 Printers Packing Kit (one packing kit)
	P1058930-167	ZT411 Printers Packing Kit (eight packing kits)
2	P1058930-070	ZT411 Printers With Rewind Option Packing Kit
	P1058930-071	ZT421 Printers With Rewind Option Packing Kit
	P1058930-068	ZT421 Printers Packing Kit (one packing kit)
	P1058930-069	ZT421 Printers Packing Kit (eight packing kits)

Figure 558 ZT411/ZT421 Printers Assorted Hardware Kit

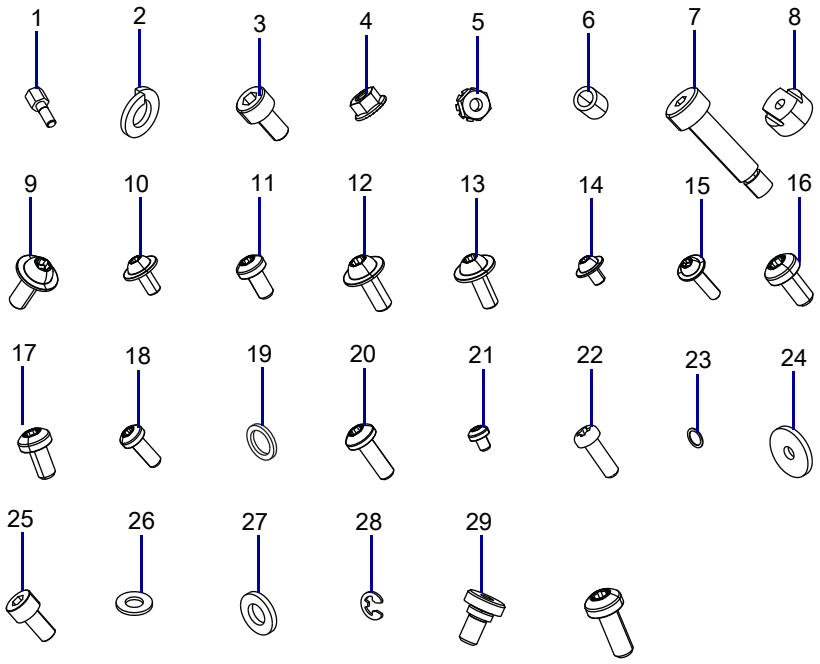


Table 77 ZT411/ZT421 Printers Assorted Hardware Kit

Item	Description	Qty
Ref	Assorted Hardware Kit	
1	Standoff 4-40 Hex M-F	5
2	Lock Washer M4	5
3	Hexalobular Screw M3 x .5	5
4	Hex Nut M4	5
5	Nut	5
6	Standoff Antistatic Brush	5
7	Hexalobular Screw M5	1
8	Adjustment Nut	5
9	Hexalobular Machine Screw M4 x 10	20
10	Hexalobular Machine Screw M3 x 10	10
11	Hexalobular Screw Black M3 x 6	10
12	Hexalobular Screw M4 x 10	10
13	Hexalobular Screw M3 x 8	10
14	Hexalobular Screw M4 x 6	5
15	Hexalobular Screw M4 x 16	5
16	Hexalobular Screw M3 x 6	5
17	Hexalobular Screw M3 x 10	10
18	Hexalobular Screw M3 x 8	5
19	Flat Washer	5
20	Hexalobular Screw M4 x 12	5
21	Hexalobular Cap Screw M3 x 4	5
22	Hexalobular Screw M2.5 x 8	2
23	Flat Washer	2
24	Flat Washer	3
25	Hexalobular Screw M4	5
26	Flat Washer	5
27	Flat Washer Nylon	2
28	E-ring	2
29	Shoulder Screw	2

ZT411/ZT421 Printers Electronics Cover Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the electronics cover maintenance kit on ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 559 Kit Contents

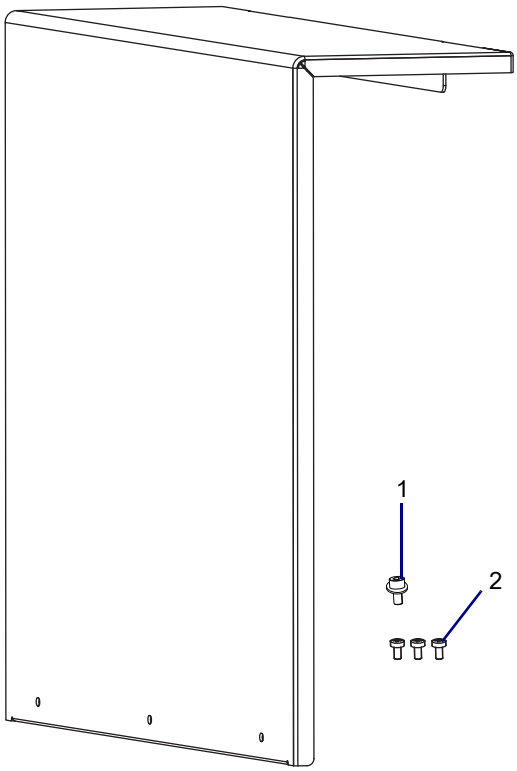


Table 78 Parts List

Item	Description	Qty
Ref	Electronics Cover	
1	Screw, M4 × 0.7 X8 CP	1
2	Screw, M3 × 0.5 × 6	3

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wrist Strap and Mat
- Metric Hex Key Set

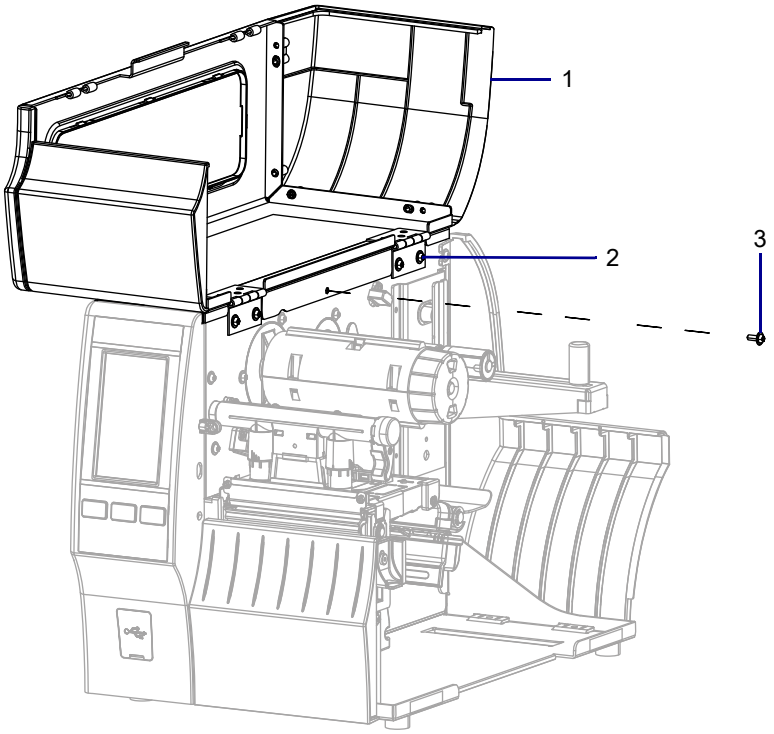
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. See Figure 560. Remove the screw securing the electronics cover.

Figure 560 Locate the Electronics Cover Mounting Screw

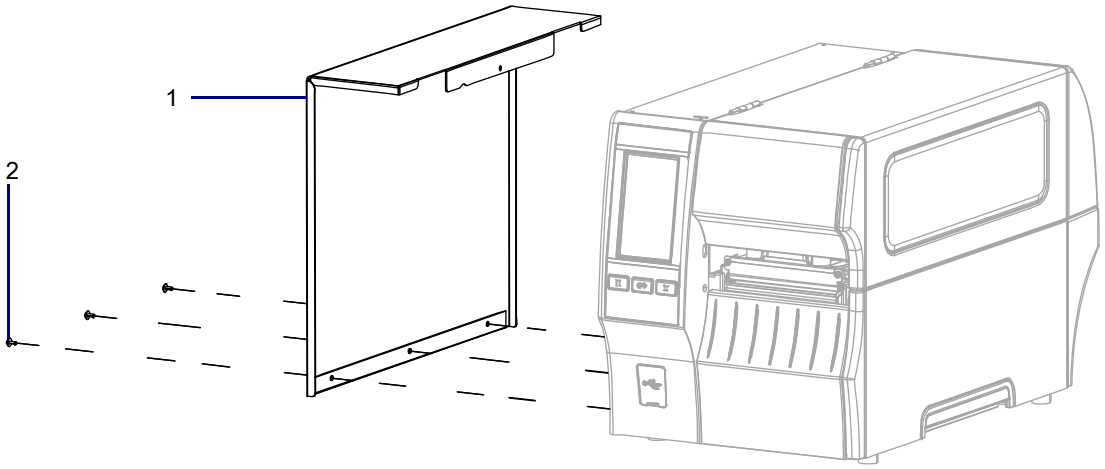


1	Media door
2	Electronics cover
3	Mounting screw

2. Close the media door.

3. See Figure 561. Remove the three mounting screws securing the electronics cover to the printer.

Figure 561 Remove the Electronics Cover Mounting Screws



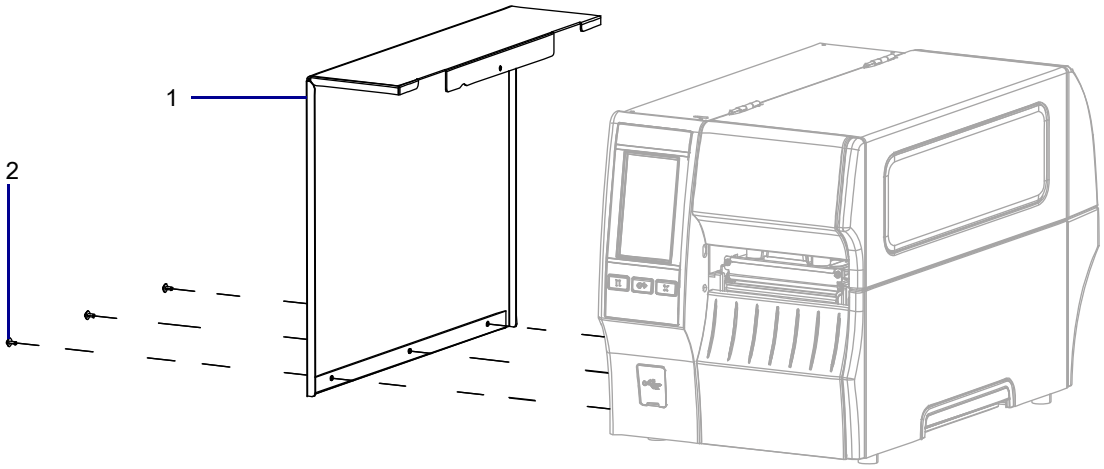
1	Electronics cover
2	Mounting screws (3)

4. Remove the electronics cover by lifting up on the electronics cover.

Install the New Electronics Cover

1. See Figure 562. Slide the electronics cover onto the printer.

Figure 562 Reinstall the Electronics Cover Mounting Screws

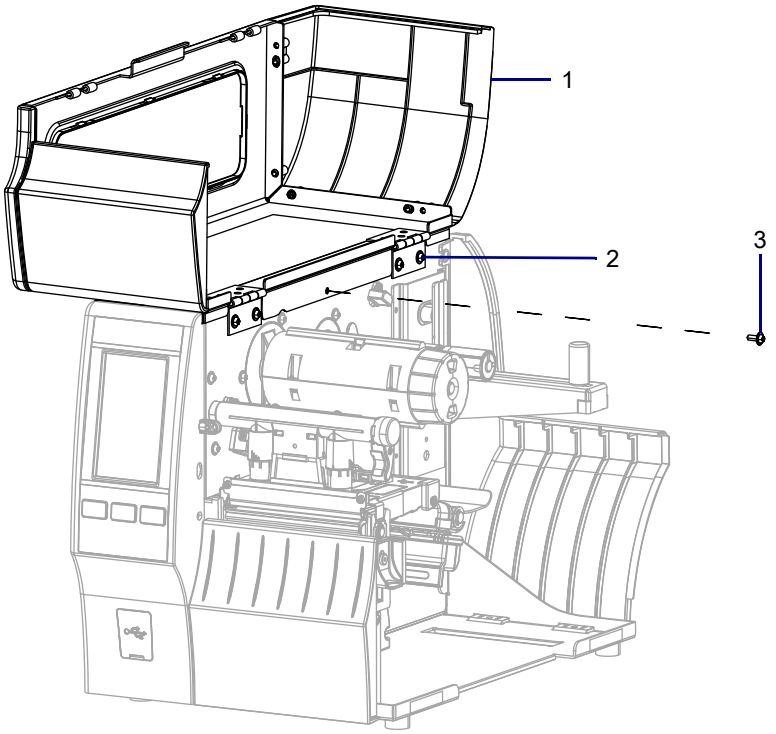


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 563. Open the media door and install the mounting screw.

Figure 563 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Media Door Window Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Media Door Window Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 564 Kit Contents

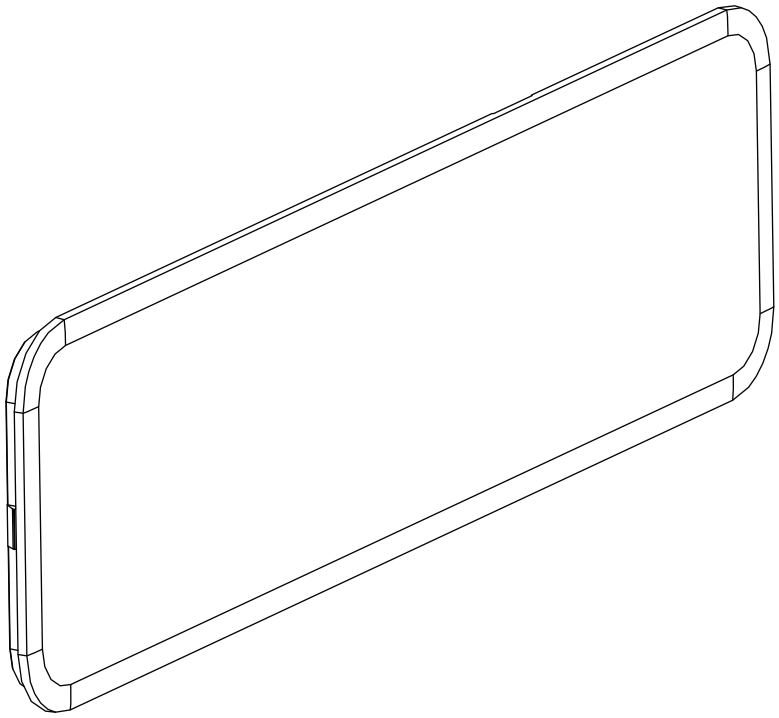


Table 79 Parts List

Item	Description	Qty
Ref	Media Door Window Maintenance Kit	

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Flat Blade Screwdriver Set

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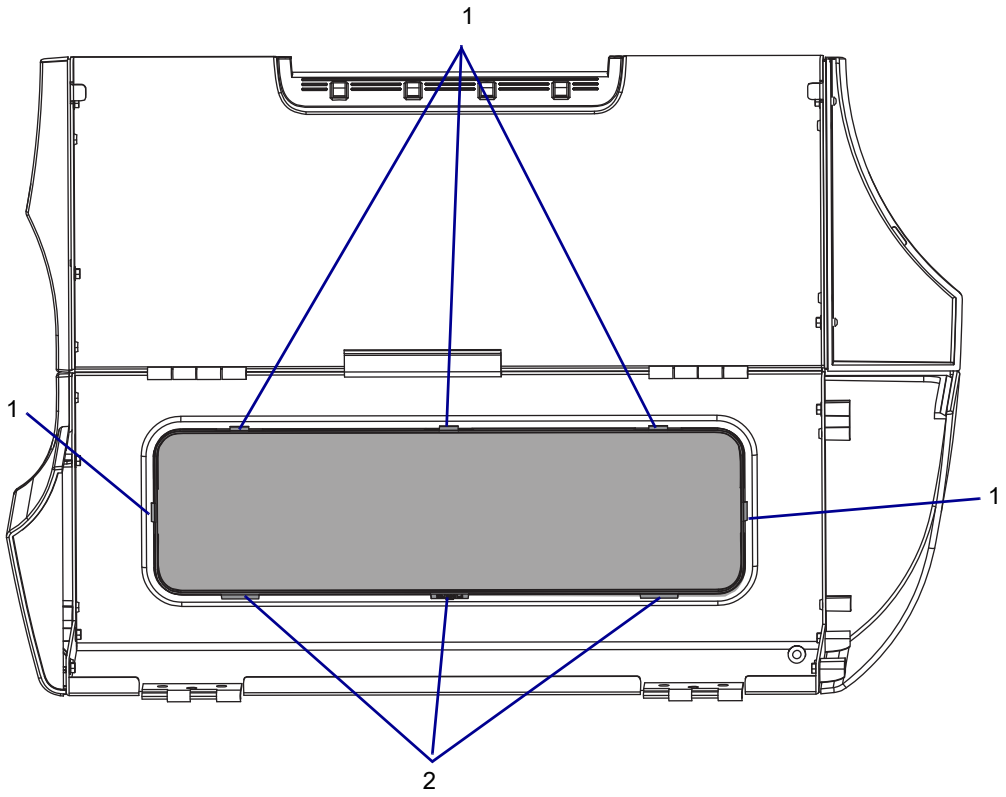
Remove the Old Media Door Window

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. See Figure 565. Open the media door and locate the flexible tabs securing the window in to the door.

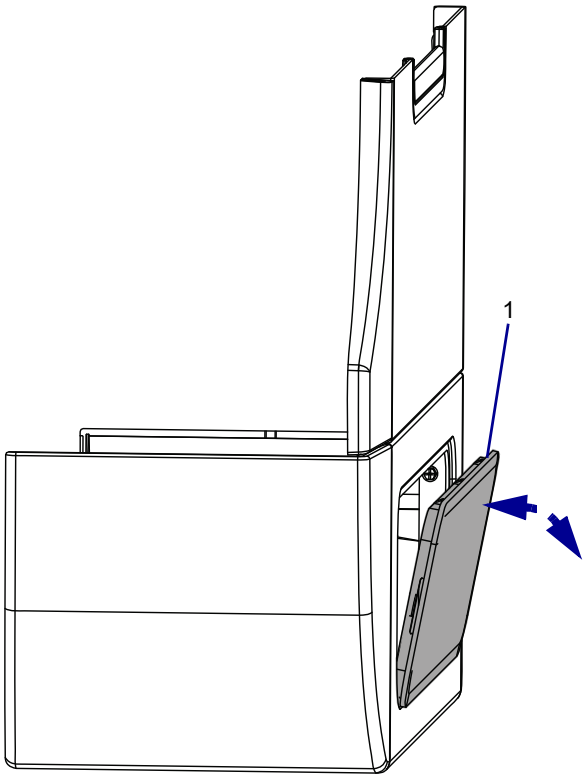
Figure 565 Window Tabs



1	Flexible tabs (5)
2	Non-flexible tabs (3)

2. See Figure 565 on page 648 and Figure 566. Push the tabs toward the center of the window while pushing the window out of the door.

Figure 566 Remove and Install the Media Door Window



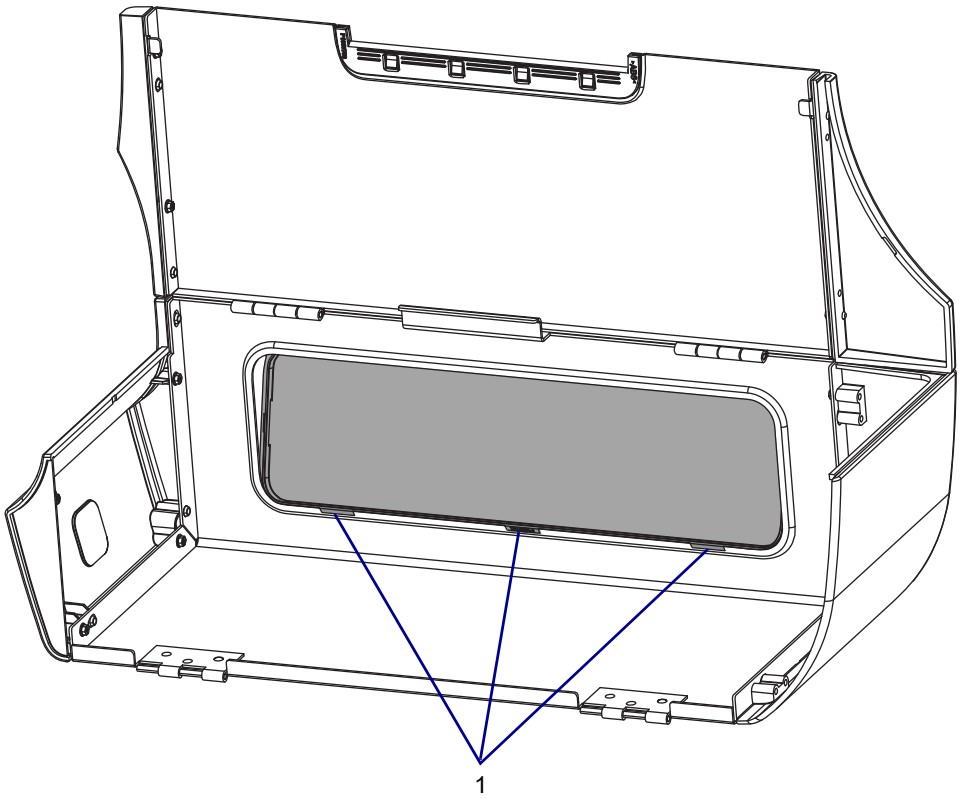
1	Media door window

3. Lift the window out of the media door.

Install the New Media Door Window

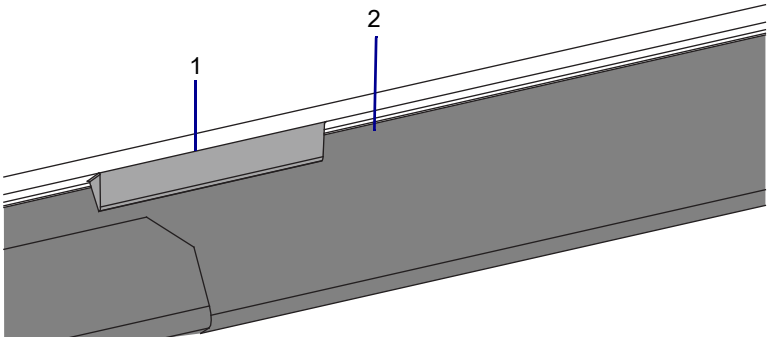
1. See Figure 567 and Figure 568. Hold the new window with the top away from the windowless door and set the non-flexible tabs over the door edge.

Figure 567 Align Non-Flexible Tabs



1	Non-flexible tabs (3)

Figure 568 Position Tab



1	Window stationary tab
2	Inside door edge

2. See Figure 566 on page 649. Lift and press the window into place until all flexible tabs have snapped in place and the window is secure.
3. Clean the new window.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Option Covers Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Option Covers Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

NOTE: Some configurations of this printer do not include the features that are marked with this symbol (‡) in this chapter. The part number sticker inside the media compartment, usually located below the media hanger, indicates if your printer includes these features. The information will be in the following format:

Part Number: ZTxxxxx – **Xxxxxxxx**

If the last part (**Xxxxxxxx**) begins with the letter **P**, your printer DOES NOT include these features.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed in Table 80 on page 653.

Figure 569 Kit Contents

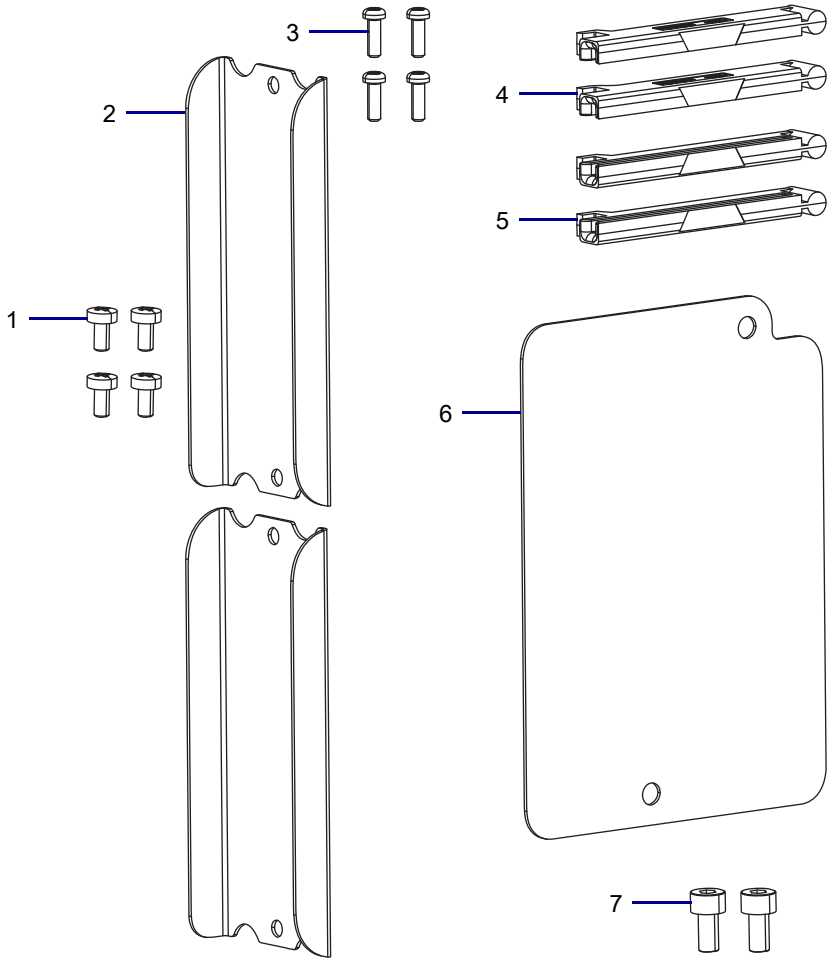


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Table 80 Parts List

Item	Description	Qty
Ref	Option Covers Maintenance Kit	
1	Screw, M3 × 0.65 × 6	4
2	Option Cover	2
3	Screw, M2.5 × 8	4
4	Upper Option Board Guide	2
5	Lower Option Board Guide	2
6	Liner Take-up Opening Cover	1
7	Screw, M4 × 0.7 × 8	2

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Nutdriver Set
- Antistatic Wrist Strap and Mat

Phillips Screwdriver Set

Safety Glasses

Prepare for Installation

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

Replace the Option Boards or Option Board Covers

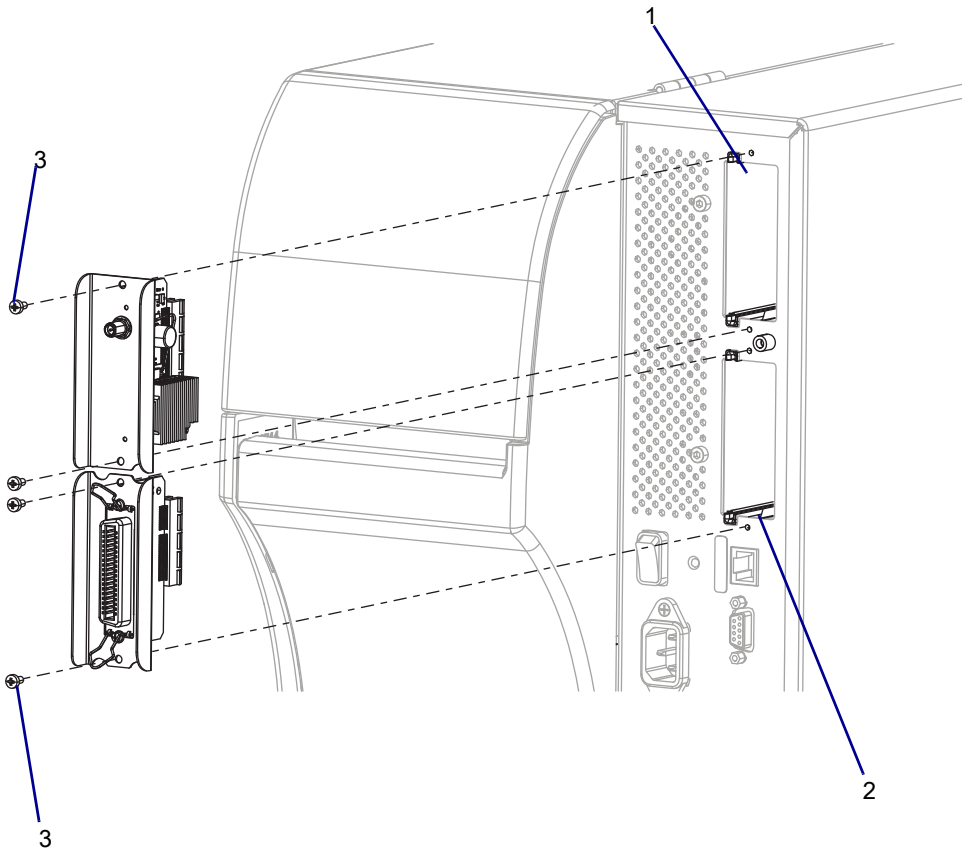
Remove the Option Boards

1. Which item are you replacing?

If the…	Then…
Option Board Cover	Go to Replace the Option Boards or Option Board Covers on page 654.
Liner Take-up Cover	Go to Replace the Liner Take-up Cover on page 656.
Option Board Guides	Go to Replace the Option Board Guides on page 659.

2. See Figure 570. Remove the two screws securing each option board to the printer.

Figure 570 Remove the Option Boards



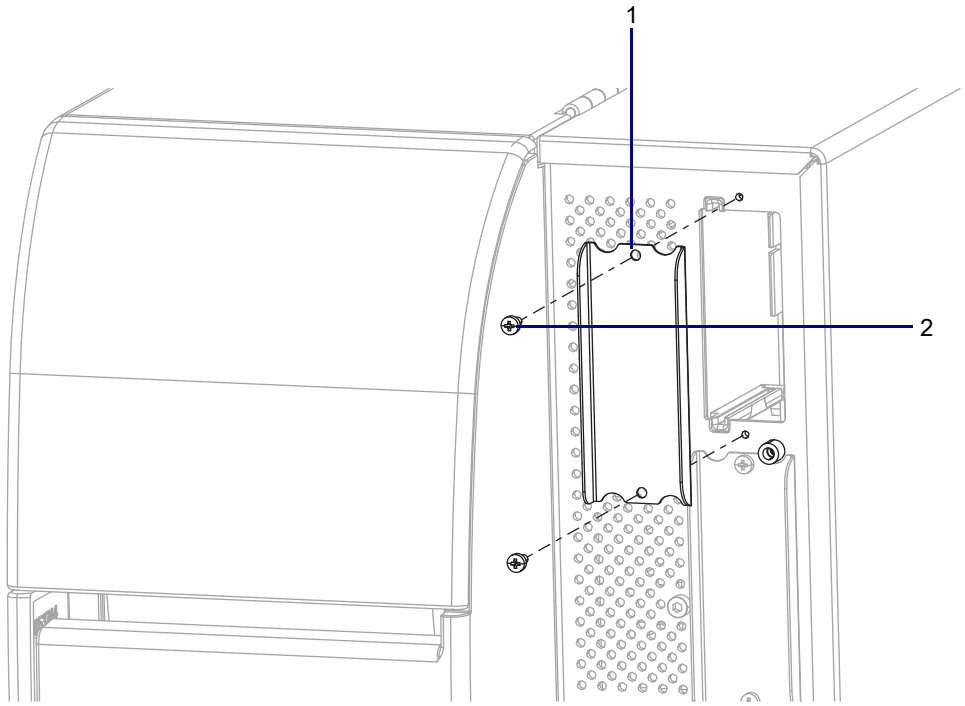
1	Upper option mounting hole
2	Lower option mounting hole
3	Mounting screws (2 each option)

3. Remove the option boards.

Install the Options Covers

1. See Figure 571. Install the new covers by lining up the mounting holes in the printer with the mounting holes in the new cover.

Figure 571 Install the Options Cover



1	Options cover
2	Mounting screws (2 each cover)

2. Install the new mounting screws.
3. Do you need to replace other parts included with this kit?

If…	Then…
Yes	1. To replace the Take-Up Cover go to page 656. 2. To replace the Options Board Guides go to page 659.
No	Go to Resume Printer Operation on page 667.

3. Go to Resume Printer Operation on page 667.

Replace the Liner Take-up Cover

Remove the Liner Take-up Assembly

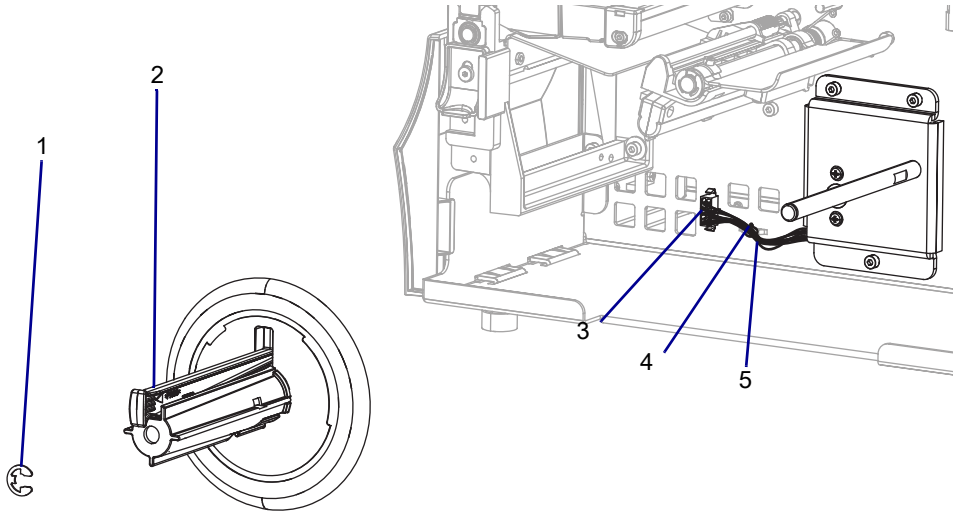
CAUTION—ESD: Observe proper electrostatic safety precautions when handling static-sensitive components such as circuit boards and printheads.

1. Connect yourself to an antistatic device.

CAUTION—EYE INJURY: Wear protective eyewear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

2. See Figure 572. Remove the E-ring securing the liner take-up (LTU) spindle to the shaft.

Figure 572 Remove the Liner Take-up Spindle Assembly Cable

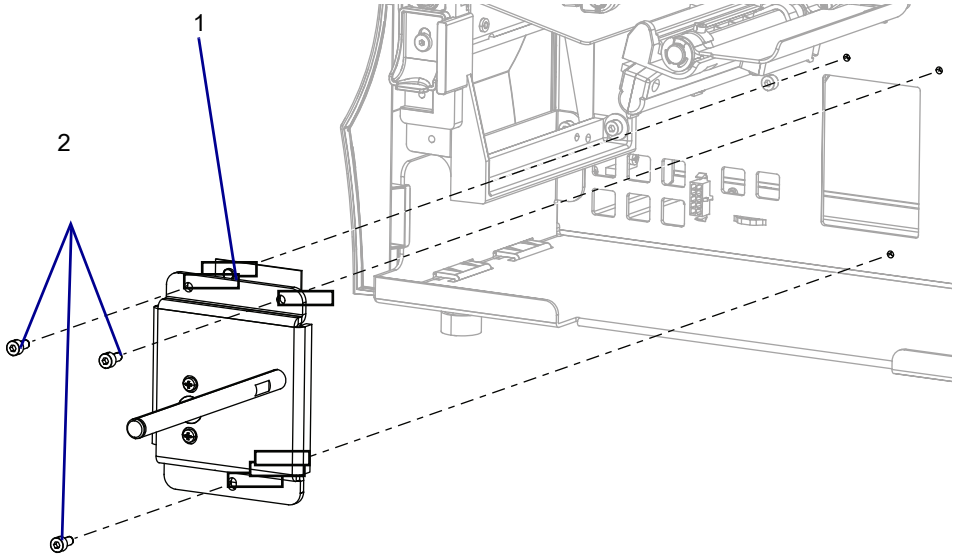


1	E-ring
2	LTU spindle
3	Ten-pin connector
4	Cable tie
5	LTU cable

3. Disconnect the liner take-up cable from the ten-pin option connector and cut the cable tie.
4. Slide the spindle assembly off of the shaft.

5. See Figure 573. Remove the three mounting screws securing the liner take-up motor assembly.

Figure 573 Remove the Liner Take-up Motor Assembly



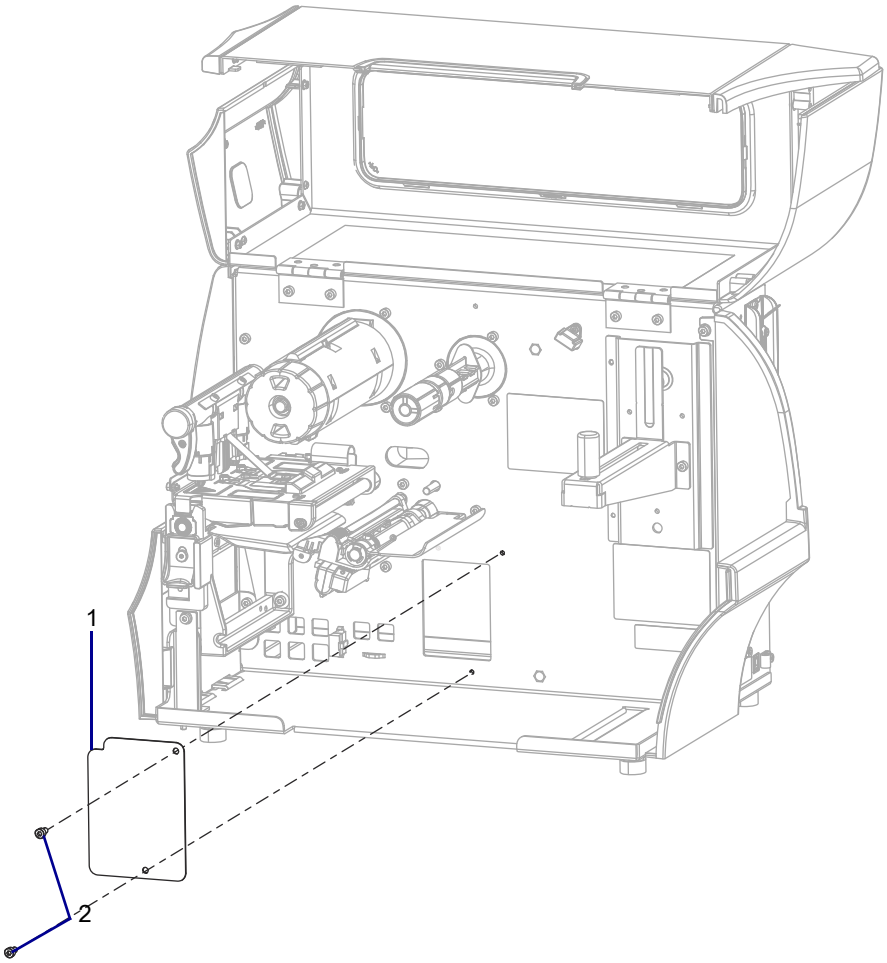
1	Liner take-up motor assembly
2	Mounting screws (3)

6. Remove the liner take-up motor assembly from the printer.

Install the Liner Take-up Cover

1. See Figure 574. Align the two holes in the liner take-up cover with the two holes in the printer.

Figure 574 Install the Cover



1	LTU cover
2	LTU cover mounting screws (2)

2. Install the two mounting screws.
3. Do you need to replace other parts included with this kit?

If…	Then…
Yes	1. To replace the Take-Up Cover go to page 654. 2. To replace the Options Board Guides go to page 659.
No	Go the Resume Printer Operation on page 667.

Replace the Option Board Guides

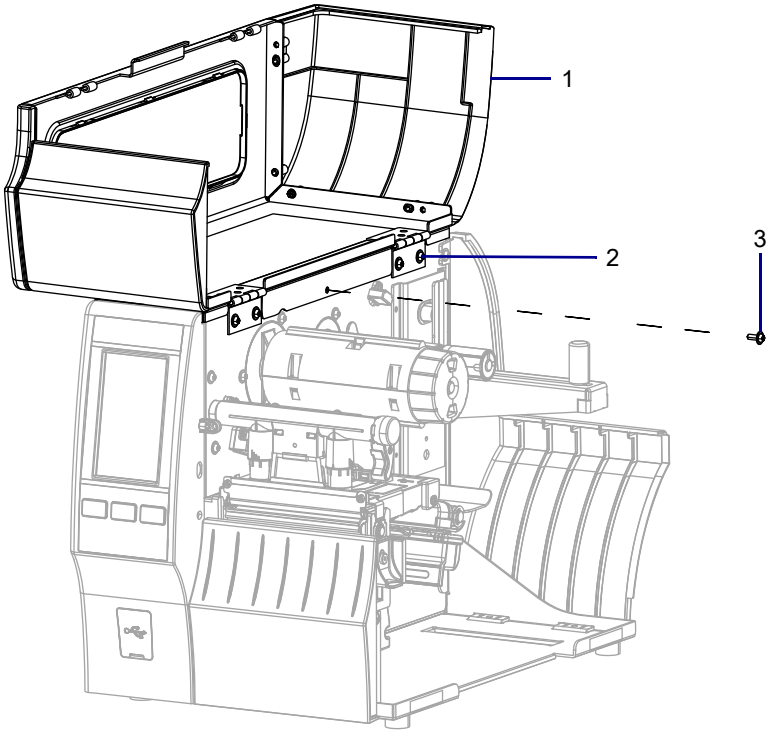
Remove the Electronics Cover

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Open the media door.
2. Remove the media and ribbon.
3. See Figure 575. Remove the screw securing the electronics cover.

Figure 575 Locate the Electronics Cover Mounting Screw

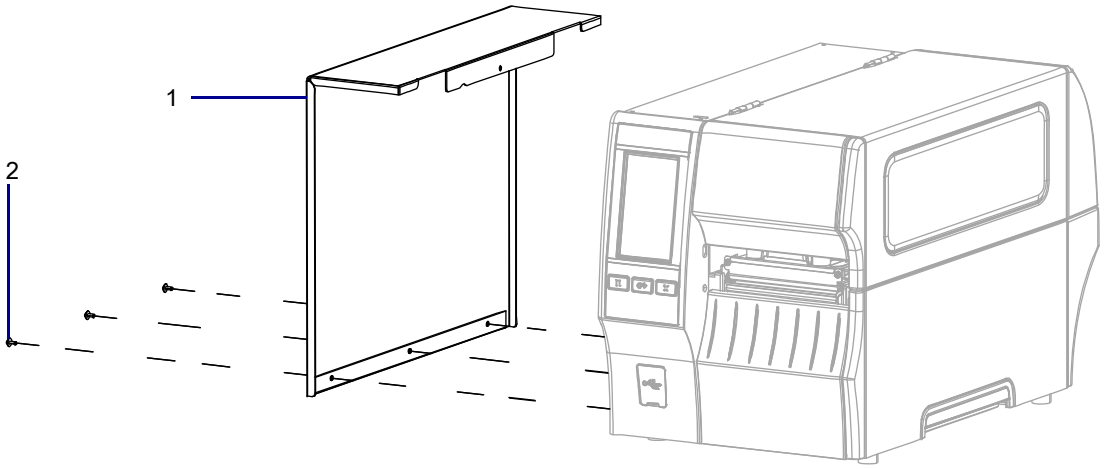


1	Media door
2	Electronics cover
3	Mounting screw

4. Close the media door.

5. See Figure 576. Remove the three mounting screws securing the electronics cover to the printer.

Figure 576 Remove the Electronics Cover Mounting Screws



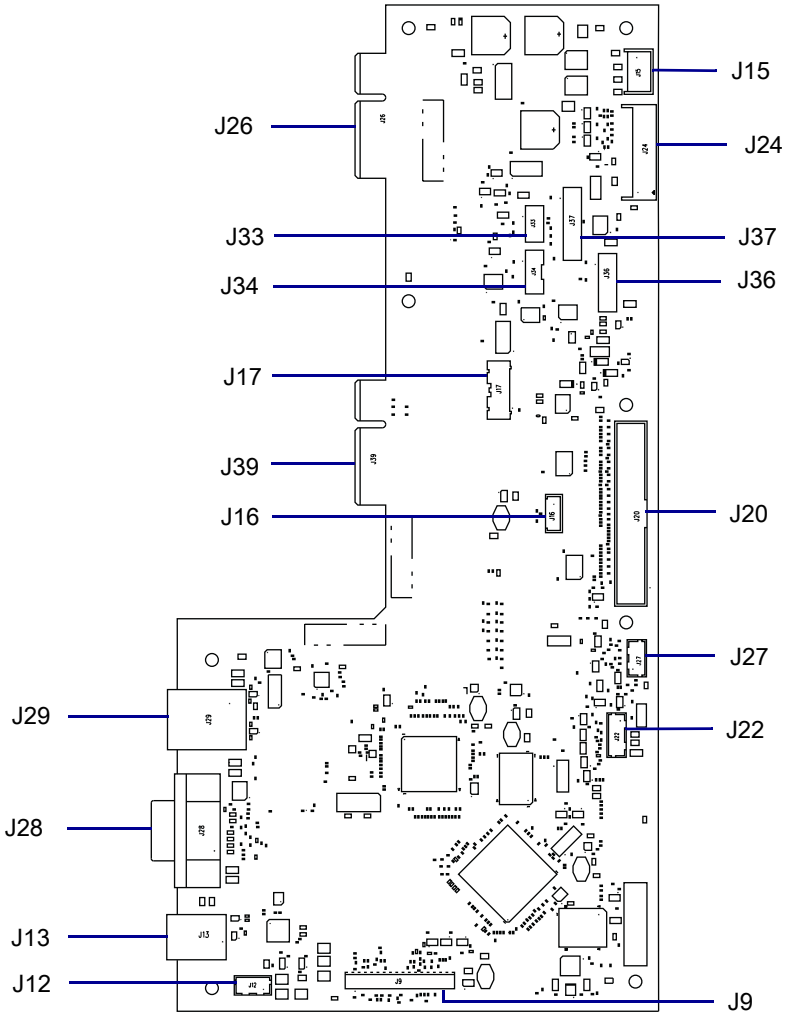
1	Electronics cover
2	Mounting screws (3)

6. Remove the electronics cover by lifting up on the electronics cover.

Remove the Main Logic Board Cables

1. See Figure 577. Disconnect all cables from the MLB.

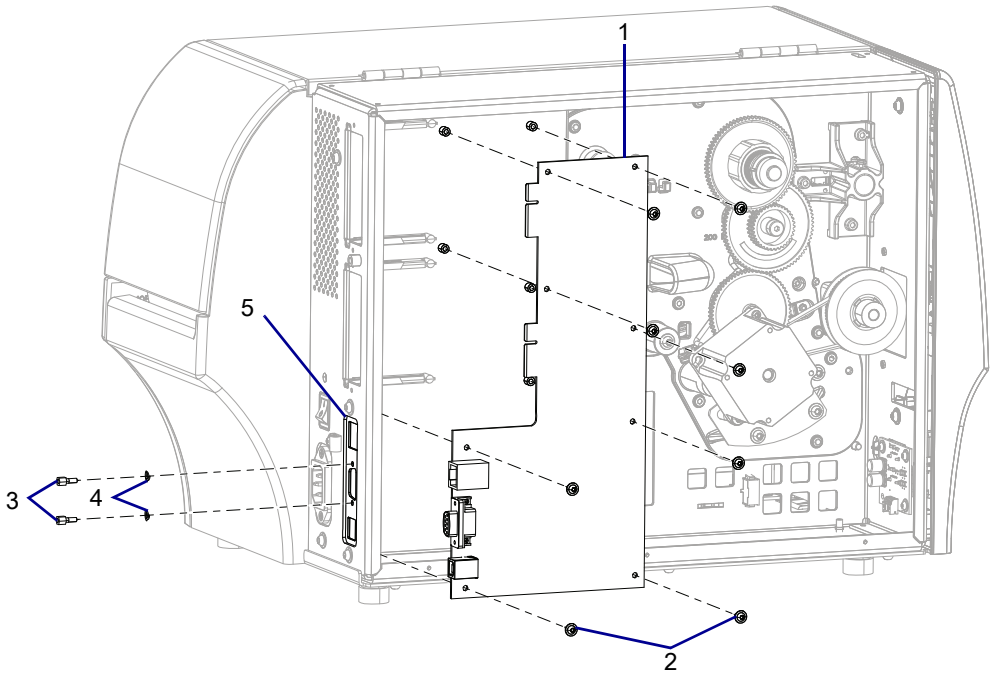
Figure 577 Main Logic Board Interconnections



J9	Control panel	J26	Option board connector
J12	USB cable connector*	J27	RFID connector‡
J13	USB connector	J28	Serial port
J15	Stepper motor	J29	Ethernet
J16	Print mechanism path light‡	J33	Ribbon sensor
J17	Media path light‡	J34	Head open sensor
J24	Power supply	J36	Media sensor input
J20	Printhead data cable	J37	Media sensor output
J22	Rewind/LTU/Cutter connector‡	J39	Option board connector

Remove the Main Logic Board

Figure 578 Remove the Main Logic Board



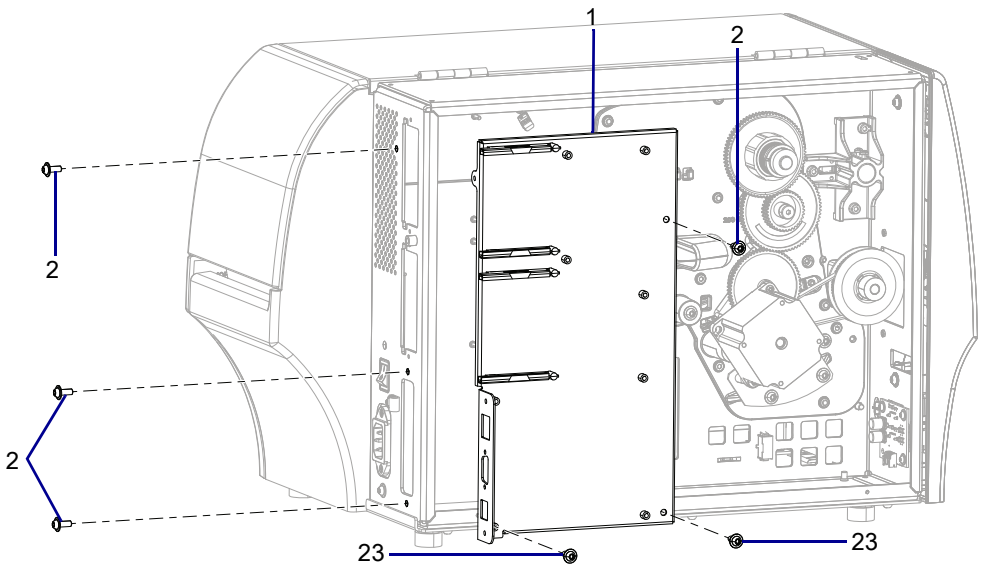
1	Main logic board
2	Screws (8)
3	Standoffs (2)
4	Lock washers (2)
5	Connectivity Ports

1. Remove the standoffs and lock washers from the serial port connector.
2. Remove the eight screws securing the MLB to the MLB bracket.
3. Move the MLB towards the front of the printer until the MLB clears the connectivity ports and set aside.

Remove the Old Main Logic Board Bracket Assembly

1. See Figure 579. Remove the three rear mounting screws.

Figure 579 Remove the Main Logic Board Bracket Assembly



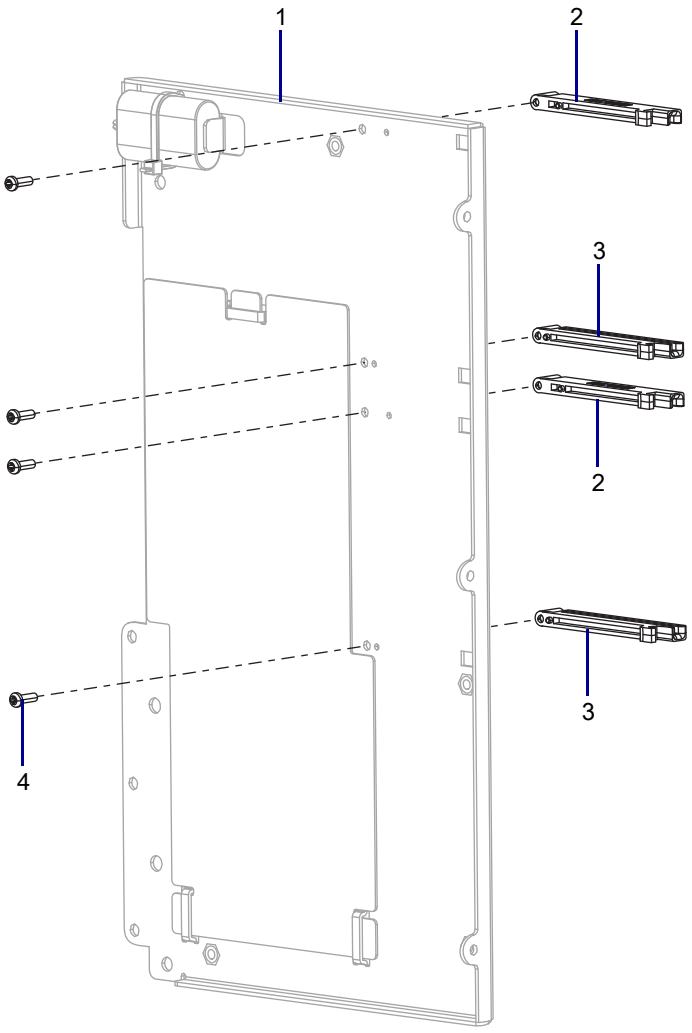
1	MLB bracket assembly
2	Screws (6)

2. Remove the screws securing the MLB bracket.
3. Remove the MLB bracket.

Remove the Option Board Guides

1. Turn the main logic board bracket over and remove the four mounting screws securing the option board guides.

Figure 580 Remove the Option Board Guides (ZT410 Printer MLB Bracket Shown)



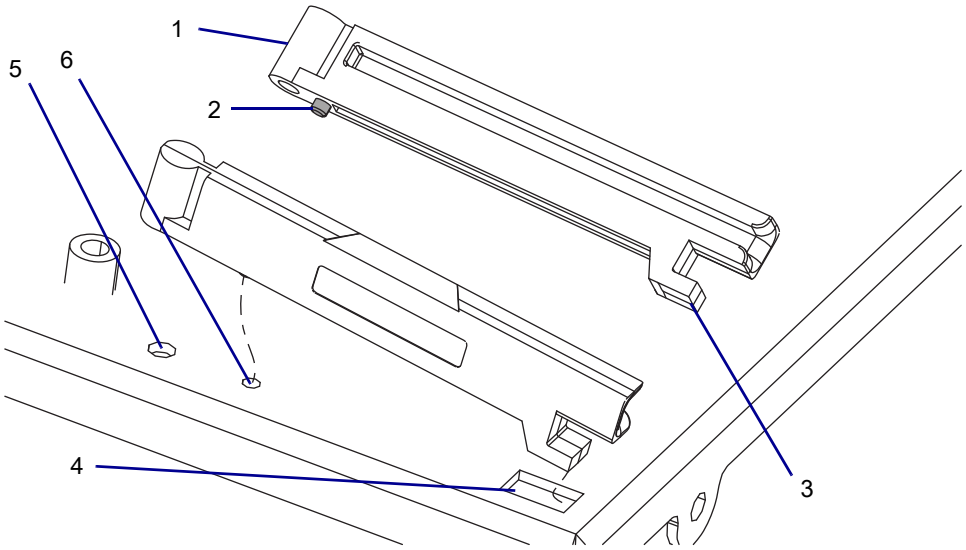
1	Main logic board bracket
2	Upper option board guide
3	Lower option board guide
4	Mounting screws (4)

2. Remove the four options board guides.

Install the New Option Board Guides

1. See Figure 581. From the front of the main logic board bracket hook the guide into the outer hole in the main logic board.

Figure 581 Install the Option Board Guides



1	Option board guides
2	Locating nub
3	Hook
4	Hook hole
5	Screw hole
6	Locating hole

2. From the rear of the main logic board bracket ensure that you have the option board guides aligned with the mounting hole, and then install the new mounting screw.
3. Go to step 2 for the remaining option board guides.

Reinstall the Main Logic Board Bracket

1. See Remove the Main Logic Board Bracket Assembly on page 663. Insert the new MLB bracket into place.
2. Install the 8 new screws.

Reinstall the Main Logic Board

1. See Figure 578 on page 662. Align the MLB connectivity ports with the connectivity port slots on the MLB bracket assembly and slide the MLB into position.
2. Install the eight screws.
3. Install standoffs and lock washers on the serial port connector.
4. See Figure 578 on page 662. Connect all previously removed cables to the new main logic board.

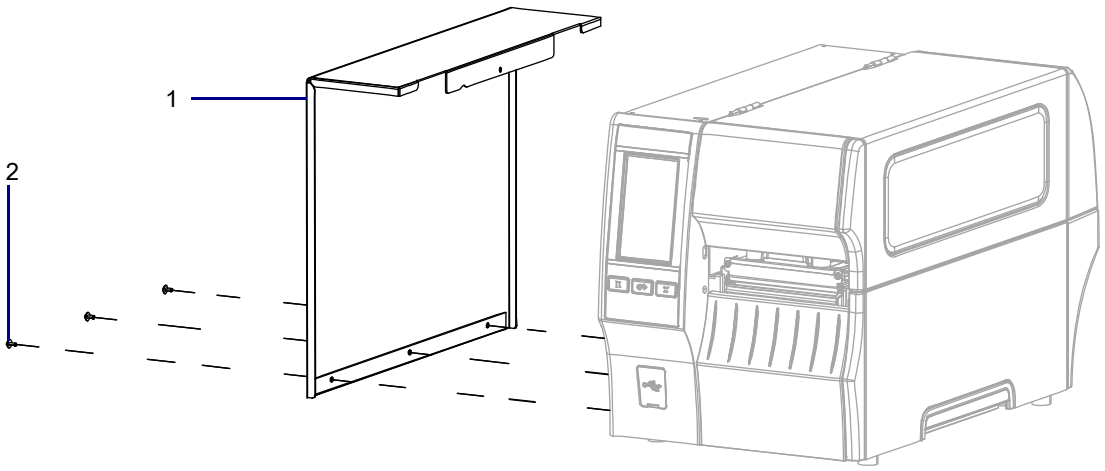
Reconnect the Main Logic Board

1. See Remove the Main Logic Board Cables on page 661. Connect all cables removed previously to the main logic board.
2. Reinstall the two cables ties removed previously.
3. See Figure 570 on page 654. Reinstall any option boards that were removed.

Reinstall the Electronics Cover

1. See Figure 582. Slide the electronics cover onto the printer.

Figure 582 Reinstall the Electronics Cover Mounting Screws

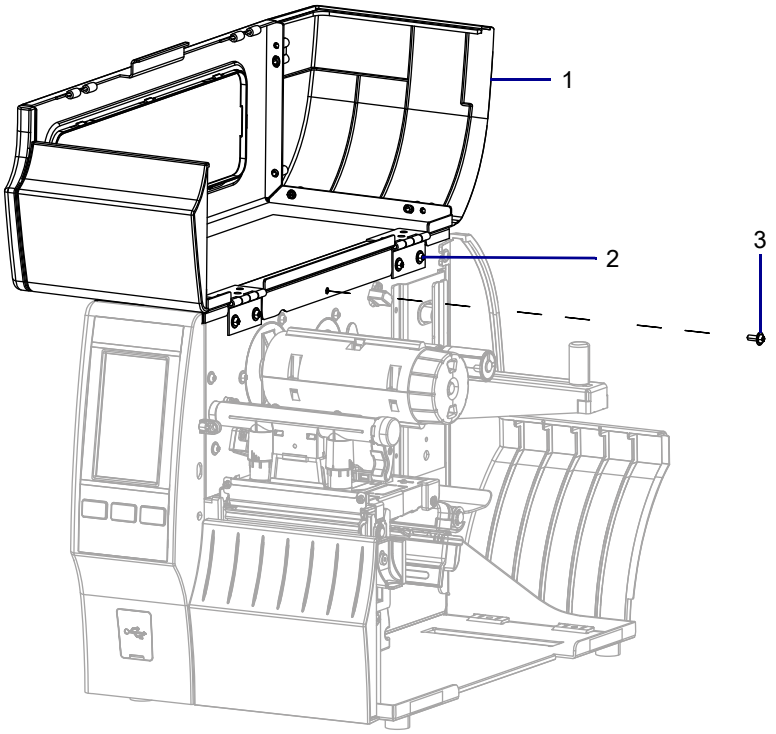


1	Electronics cover
2	Mounting screws (3)

2. Reinstall the three mounting screws.

3. See Figure 583. Open the media door and install the mounting screw.

Figure 583 Locate the Electronics Cover Mounting Screw



1	Media door
2	Electronics cover
3	Mounting screw

4. Do you need to replace other parts included with this kit?

If…	Then…
Yes	1. To replace the Take-Up Cover go to page 654. 2. To replace the Options Board Guides go to page 659.
No	Go to Resume Printer Operation on page 667.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Dual Port USB Cover Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Dual Port USB Cover maintenance kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before attempting to install this kit.

Parts List

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

Figure 584 Kit Contents

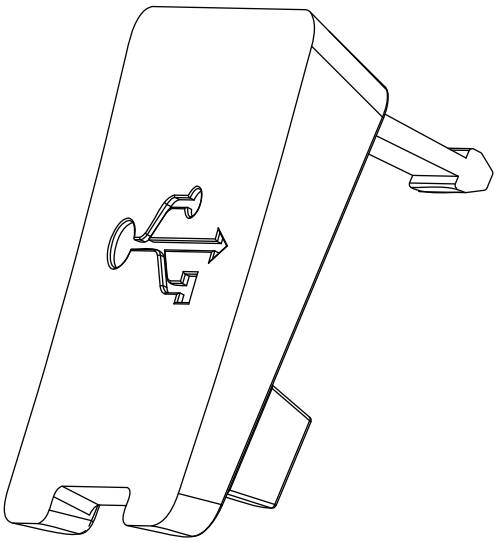


Table 81 Parts List

Item	Description	Qty
Ref	Dual Port USB Cover	3

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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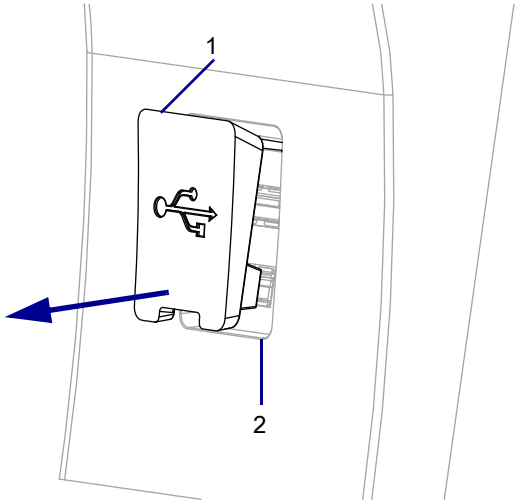
Remove the Old USB Cover

1. See Figure 585. Pull the old USB cover forward from the USB access port.

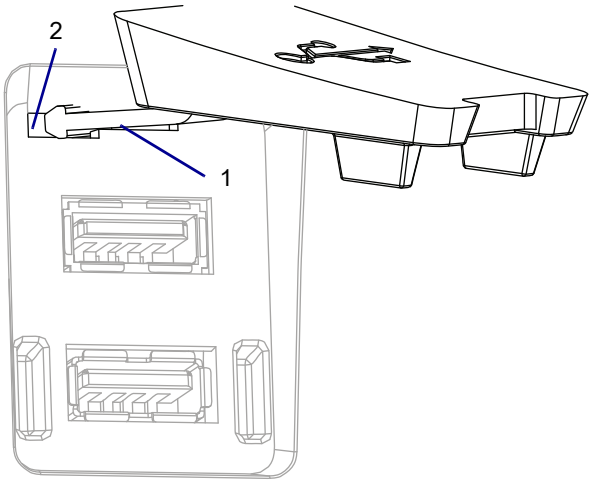
Figure 585 Remove the Old USB Cover



1	USB cover
2	USB access port

2. Slide the USB cover to the left until it stops.
3. See Figure 586. Rotate the USB cover to the left and pull the tab out of the large hole in the mounting slot.

Figure 586 USB Cover Tab

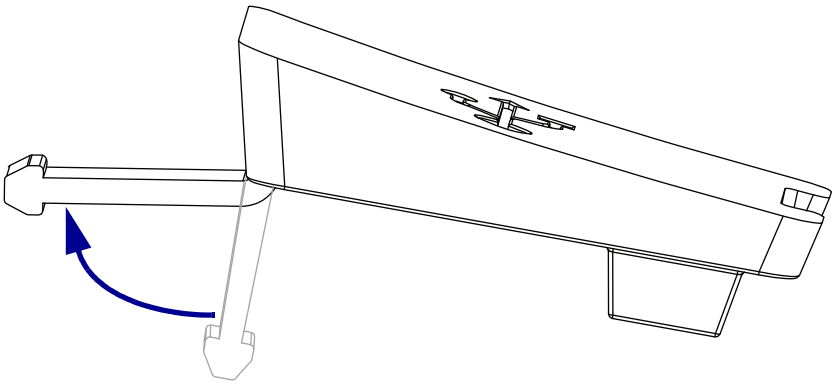


1	Tab
2	Mounting slot

Install the New USB Cover

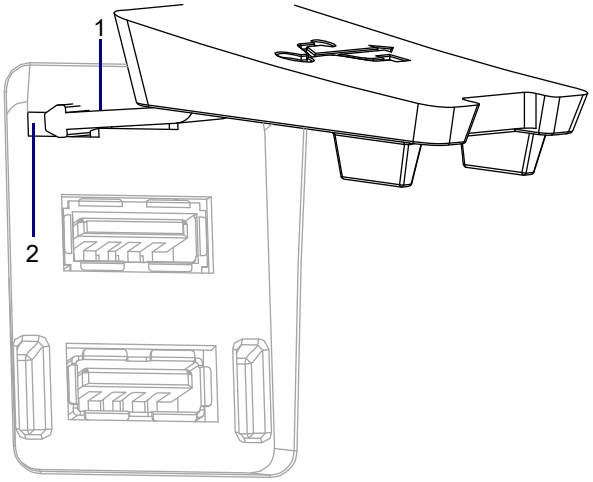
1. Hold the new USB cover so the tab is pushed forward.

Figure 587 USB Cover with Tab Pushed Forward



2. See Figure 588. Push the front right corner of the new USB cover tab through the large hole in the mounting slot.

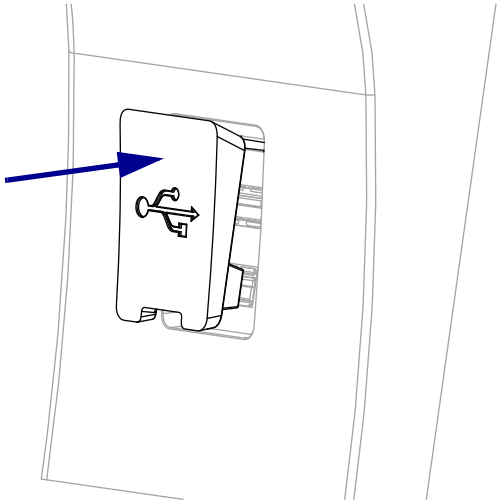
Figure 588 Install the New USB Cover



1	Tab
2	Mounting slot

3. See Figure 589. Slide the new USB cover to the right and then press it in to the cover over the USB ports.

Figure 589 Seat the New Cover



Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Lower Front Trim Panels Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Lower Front Trim Panels Maintenance Kit in the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 590 Kit Contents

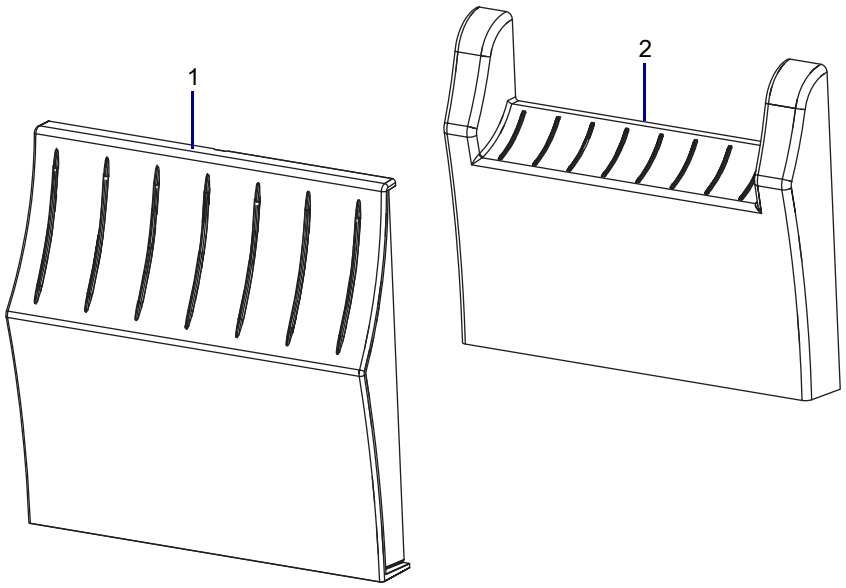


Table 82 Parts List

Item	Description	Qty
Ref	Lower Front Trim Panels	
1	Tear Lower Front Trim Panel	1
2	Peel Lower Front Trim Panel	1

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Flat Blade Screwdriver Set

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

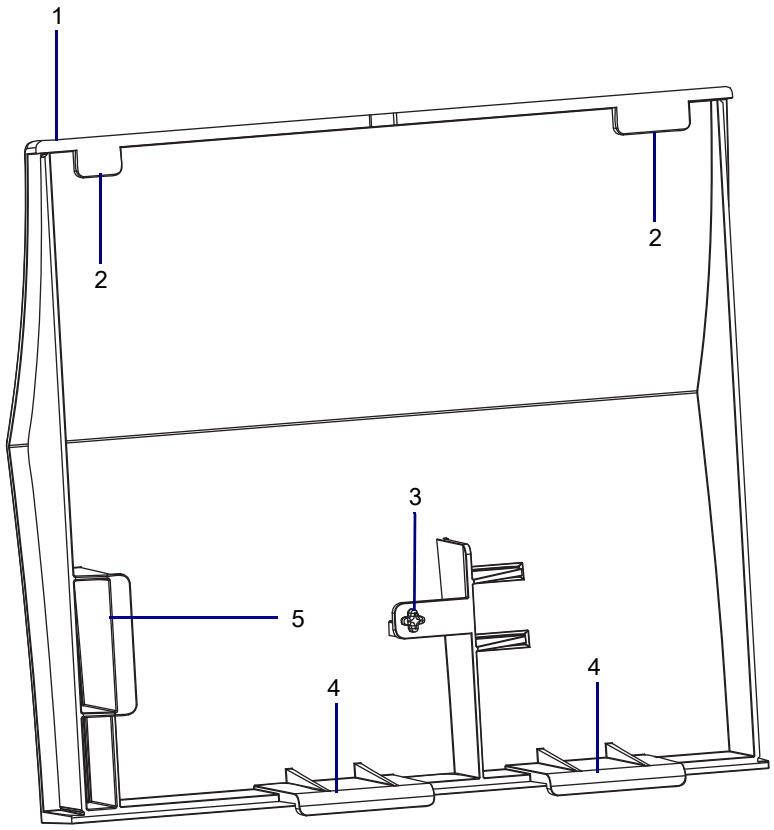
Which lower front trim panel are you replacing?

If you have a…	Then…
Tear	Go to Replace the Tear Lower Front Trim Panel on page 674.
Peel	Go to Replace the Peel Lower Front Trim Panel on page 681.

Replace the Tear Lower Front Trim Panel

Lower Front Panel Identification

Figure 591 Lower Front Trim Panel Identification

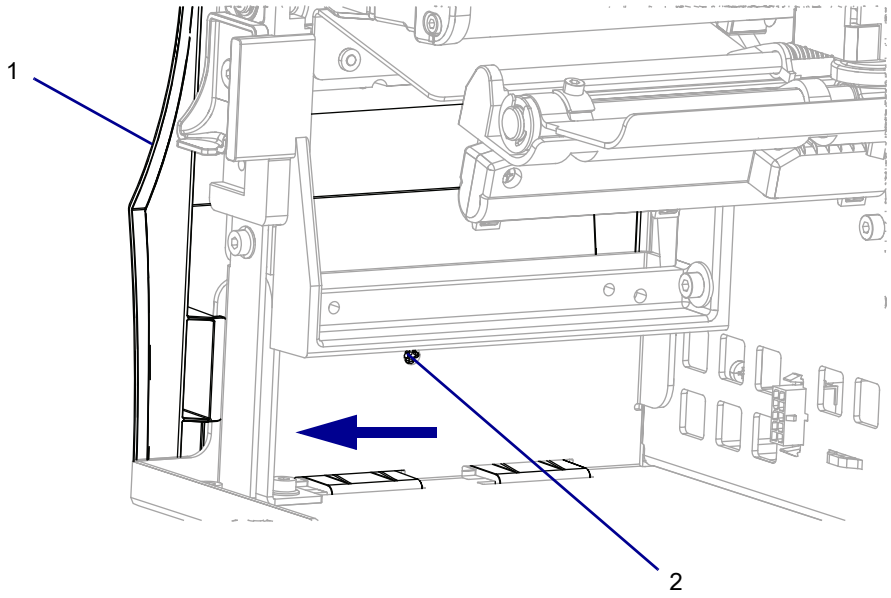


1	Lower front trim panel
2	Lower front trim panel top tabs
3	Lower front trim panel detent
4	Lower front trim panel lower tabs
5	Lower front trim panel stop

Remove the Old Lower Front Trim Panel

1. See Figure 592. Remove the lower front trim panel by pressing in on the detent, and then sliding the panel to the left as far as possible.

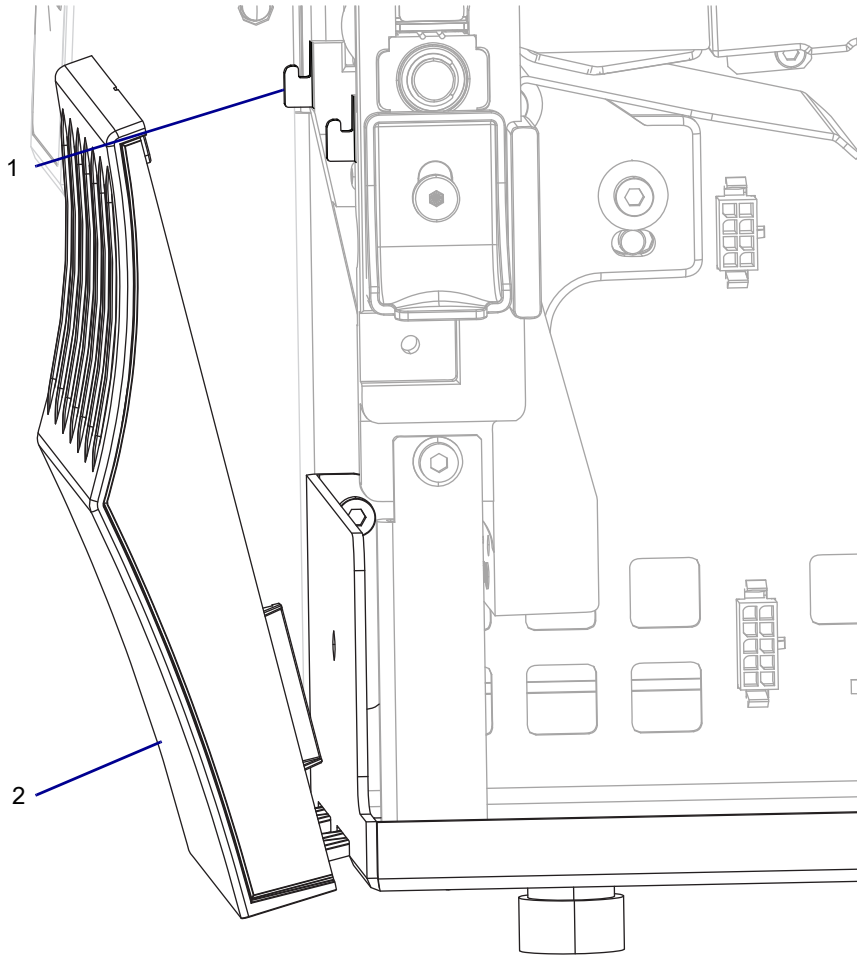
Figure 592 Release the Tear Lower Front Trim Panel



1	Lower front trim panel
2	Detent

2. See Figure 593. Tip the top of the lower front trim panel off the hooks and away from the printer.

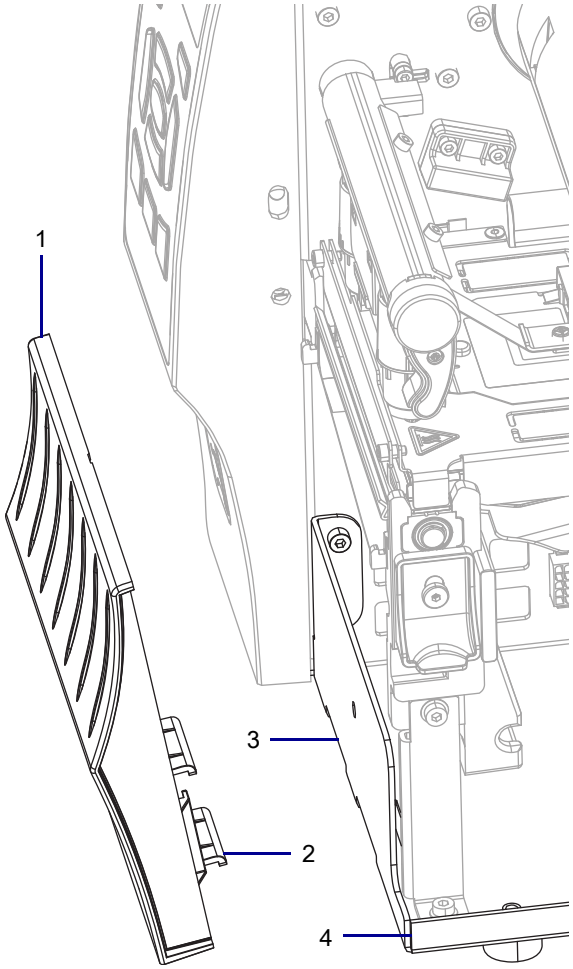
Figure 593 Hook Locations



1	Platen housing hooks (2)
2	Lower front trim panel

3. See Figure 594. Slide the lower front trim panel tabs out of the printer base.

Figure 594 Remove the Tear Lower Front Trim Panel (ZT410 Printer Shown)

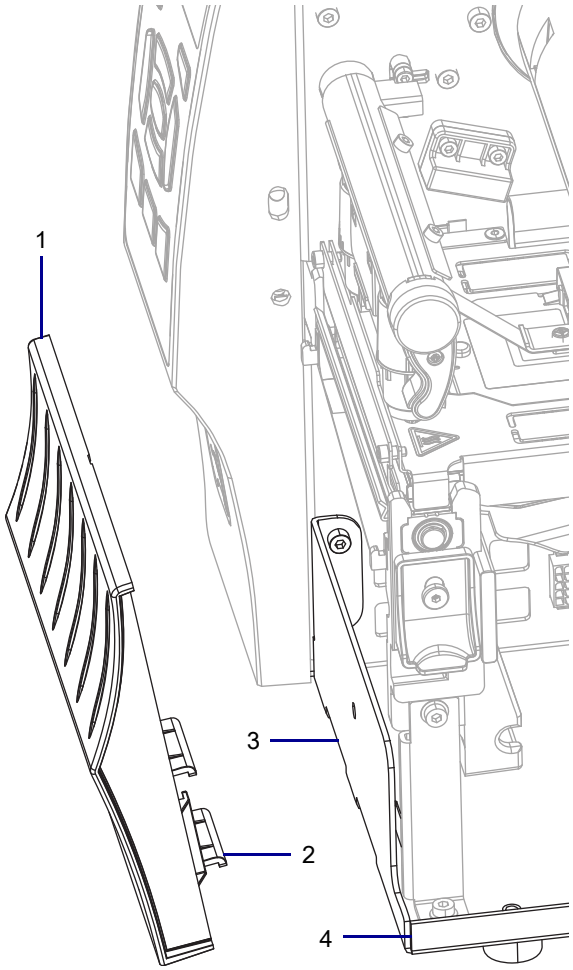


1	Lower front trim panel
2	Lower front trim panel tabs (2)
3	Printer base mounting slots (2)
4	Printer base

Install the New Tear Lower Front Trim Panel

1. See Figure 595. Slide the lower front trim panel tabs into the printer base.

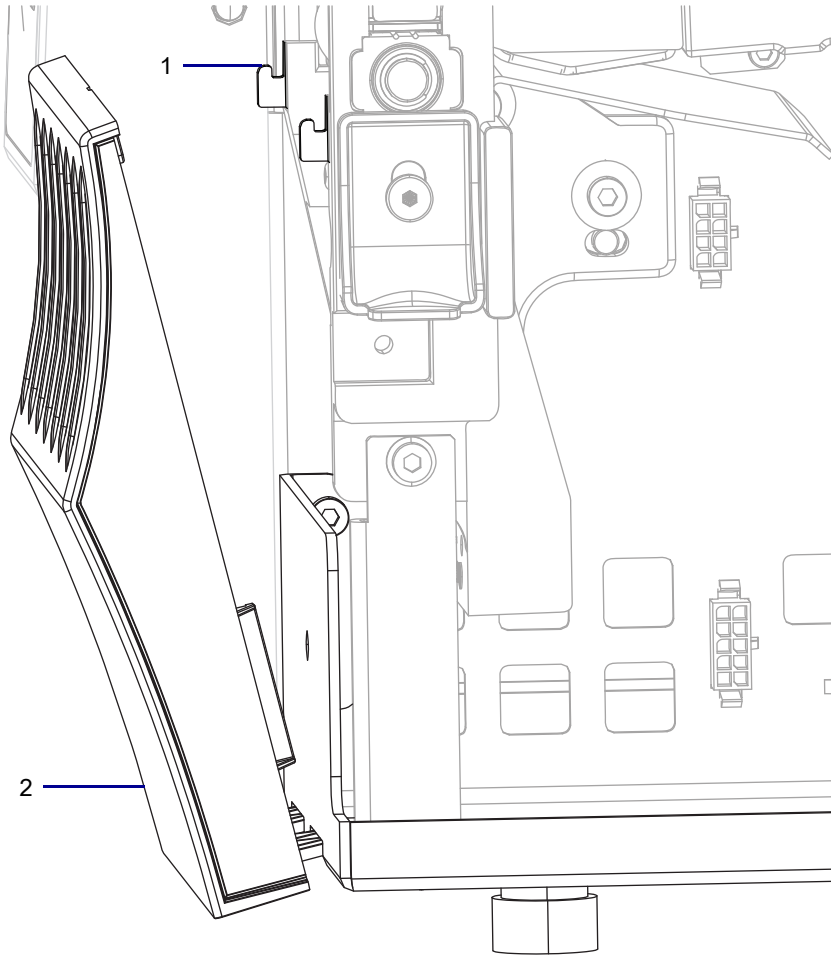
Figure 595 Install the Tear Lower Front Trim Panel Tabs (ZT410 Printer Shown)



1	Lower front trim panel
2	Lower front trim panel tabs (2)
3	Printer base mounting slots (2)
4	Printer base

2. See Figure 596. Tip the top of the lower front trim panel toward the printer and onto hooks.

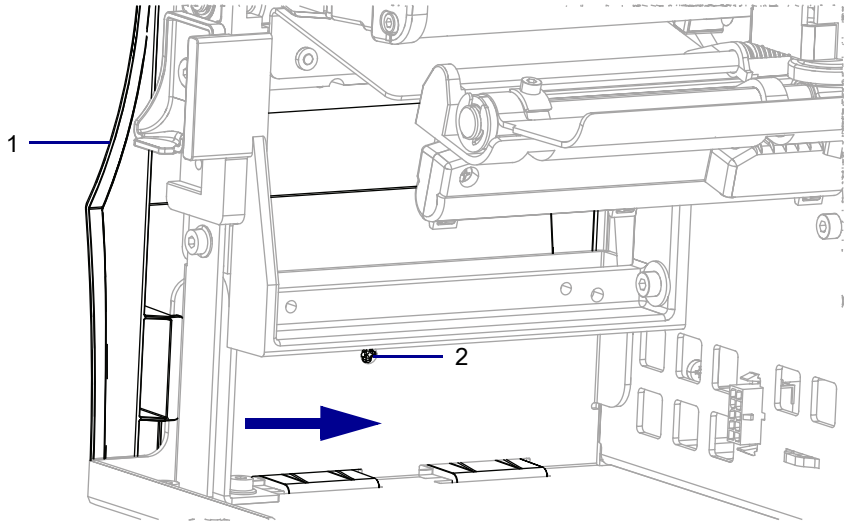
Figure 596 Hook Locations



1	Platen housing hooks (2)
2	Lower front trim panel

3. See Figure 597. Slide the lower front trim panel into the printer until the detent pops into the hole.

Figure 597 Release the Lower Front Trim Panel



1	Lower front trim panel
2	Detent hole

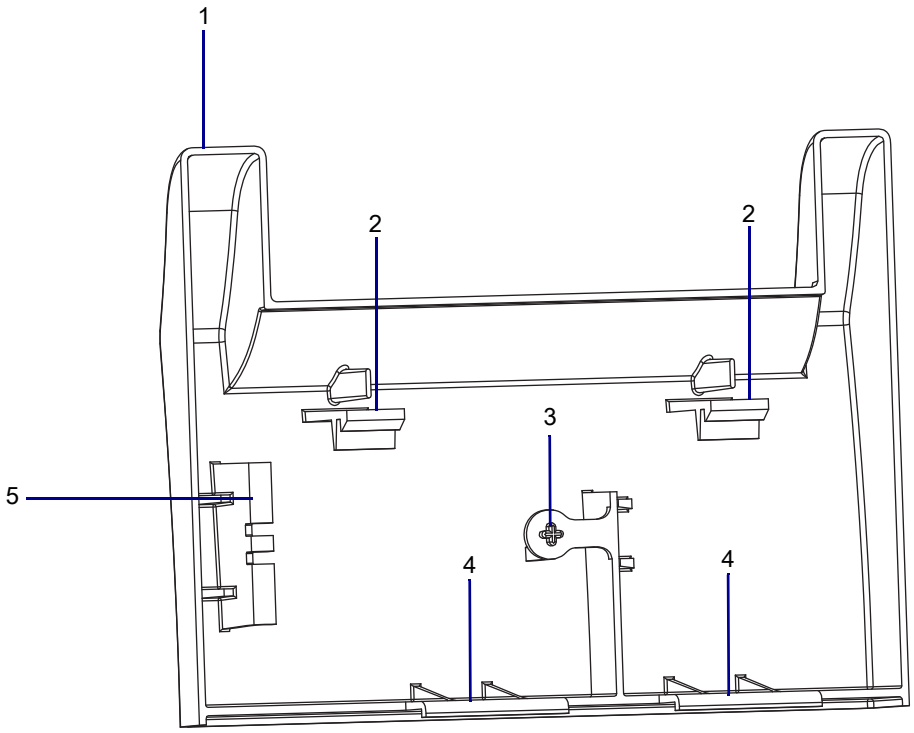
4. Go to Resume Printer Operation on page 689.

Replace the Peel Lower Front Trim Panel

To remove the peel lower front trim panel you must remove the peel assembly.

Peel Lower Front Trim Panel Identification

Figure 598 Peel Lower Front Trim Panel Identification



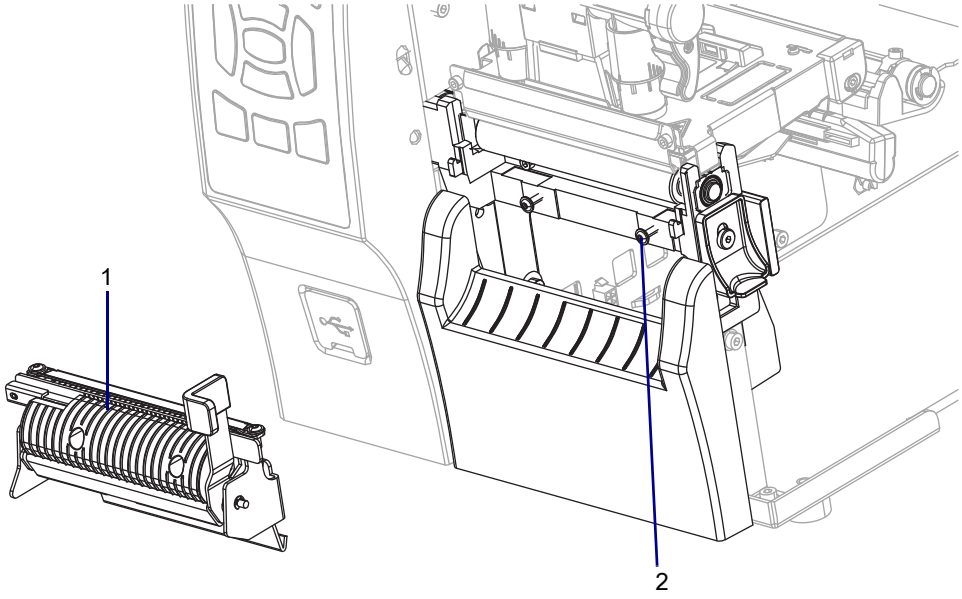
1	Lower front trim panel
2	Lower front top tabs
3	Lower front detent
4	Lower front lower tabs
5	Lower front stop

Remove the Peel Assembly

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

1. Remove the media and ribbon.
2. See Figure 599. Remove the two mounting screws,

Figure 599 Remove Peel Assembly (ZT410 Printer Shown)

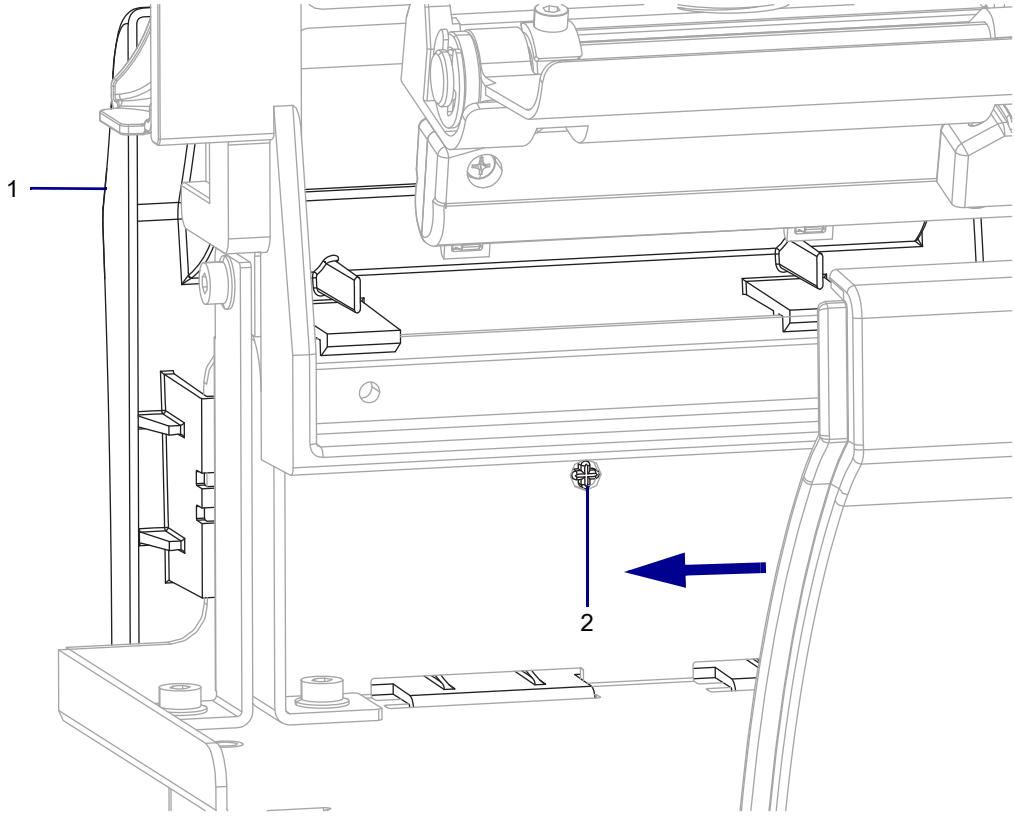


1	Peel assembly
2	Mounting screw (2)

3. Remove the peel assembly.

4. See Figure 600. Remove the front trim panel by pressing in on the detent, and then sliding the panel to the left as far as possible.

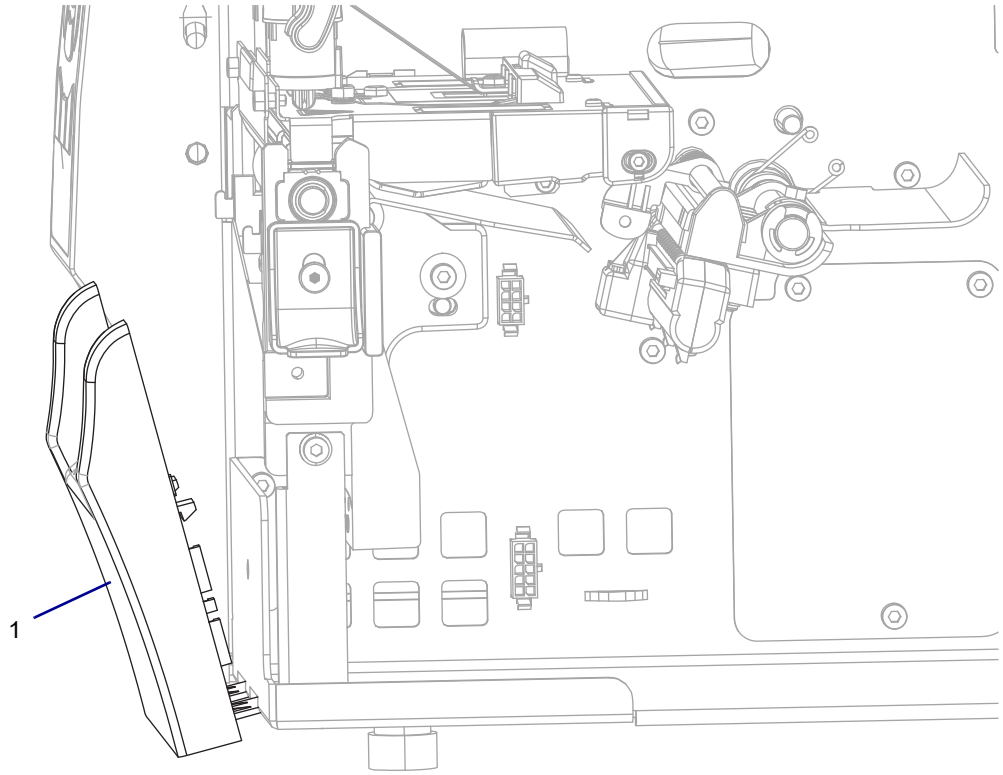
Figure 600 Remove the Peel Lower Front Trim Panel



1	Lower front trim panel
2	Detent

5. See Figure 601. Tip the top of the front trim panel away from the printer.

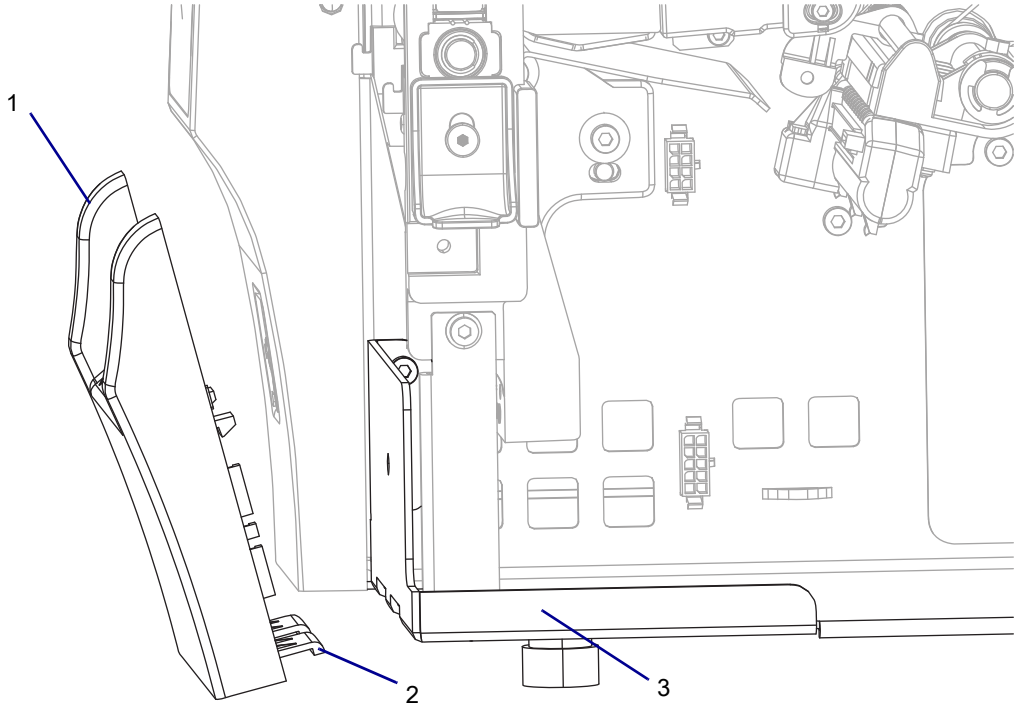
Figure 601 Tip the Peel Lower Front Trim Panel (ZT410 Printer Shown)



1	Lower front trim panel

6. See Figure 602. Slide the lower front trim panel out of the printer.

Figure 602 Remove the Peel Lower Front Trim Panel

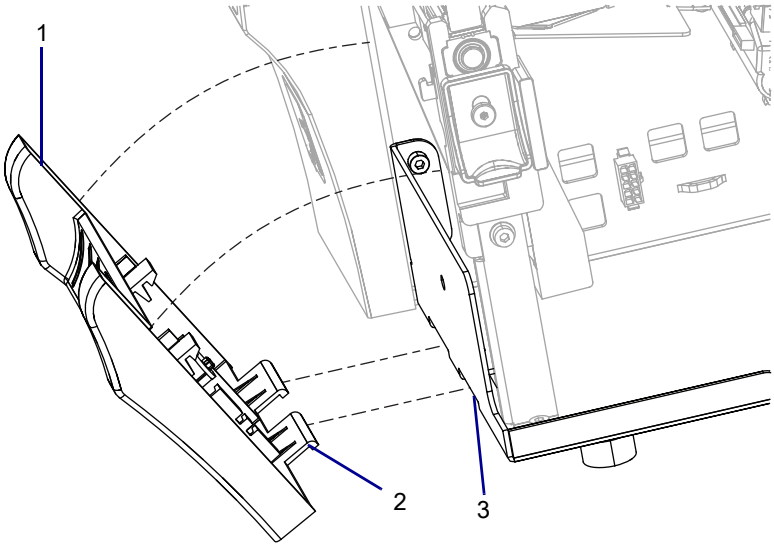


1	Front trim panel
2	Front trim panel tabs (2)
3	Printer base

Install the New Peel Lower Front Trim Panel

1. See Figure 603. Slide the lower front panel lower tabs into the printer base mounting slots.

Figure 603 Install the Peel Lower Front Trim Panel

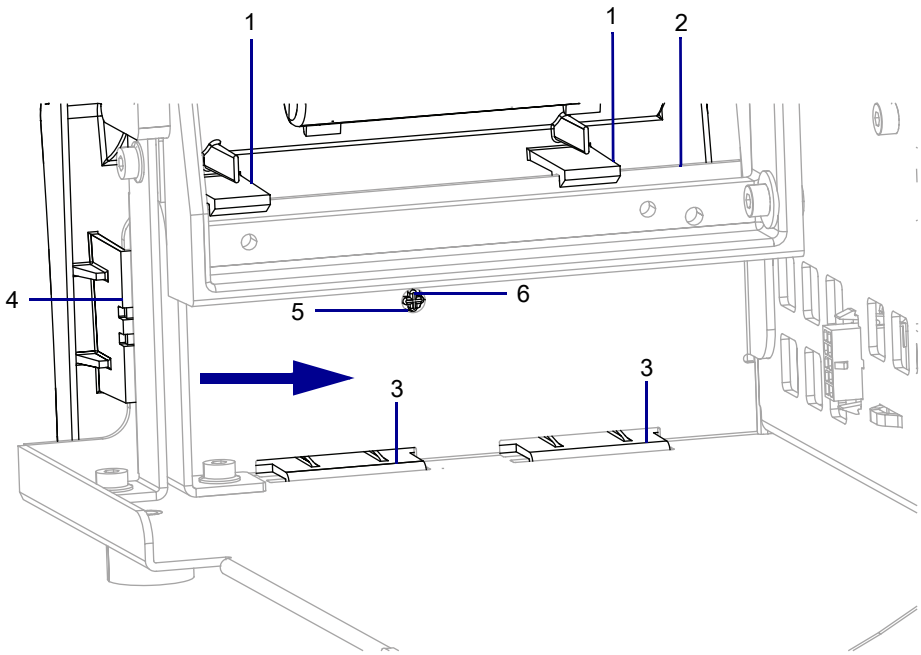


1	Lower front trim panel
2	Lower front trim panel lower tabs (2)
3	Printer base mounting slots (2)

2. Lift the lower front panel to the printer so that the tabs are seated in the slots.

3. See Figure 604. The top tabs will snap onto the platen housing.

Figure 604 Install the Peel Lower Front Panel (Rear View)



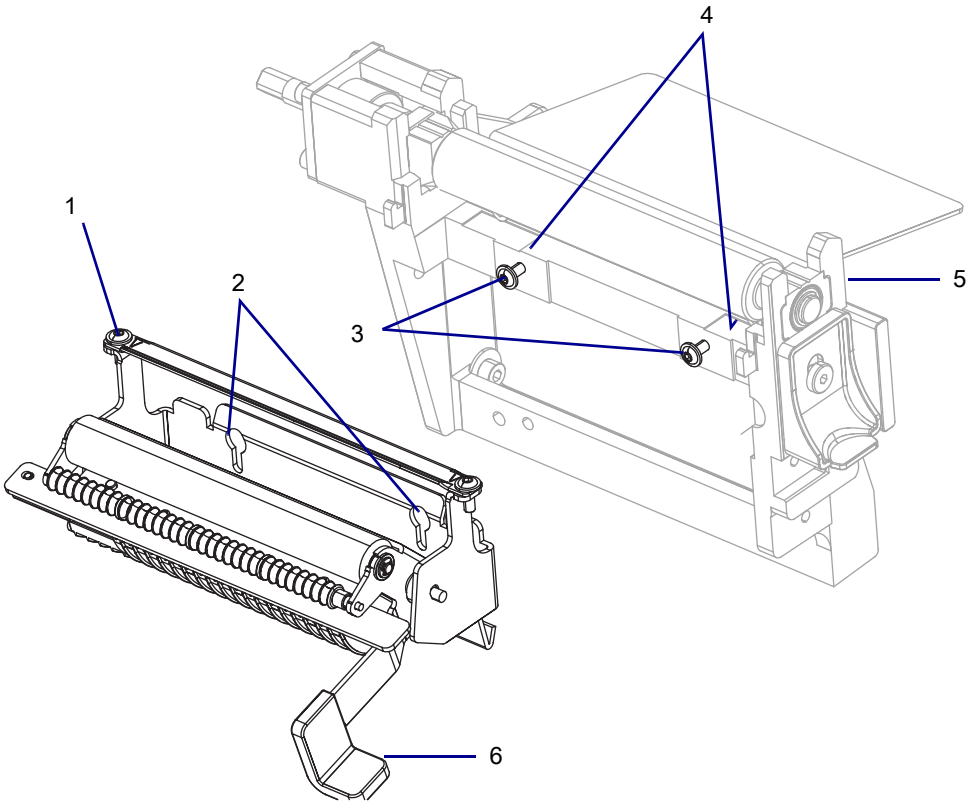
1	Lower front trim panel top tabs (2)
2	Printer base
3	Lower front trim panel tabs (2)
4	Lower front trim panel stop
5	Lower front trim panel detent hole
6	Lower front trim panel detent

4. Slide the lower front trim panel toward the printer until it stops and the detent snaps into the detent hole.

Reinstall the Peel Assembly

1. See Figure 605. Install the two mounting screws from the kit into the tear bar mounting screw holes. Tighten them to within 1/4 in. of the platen housing.

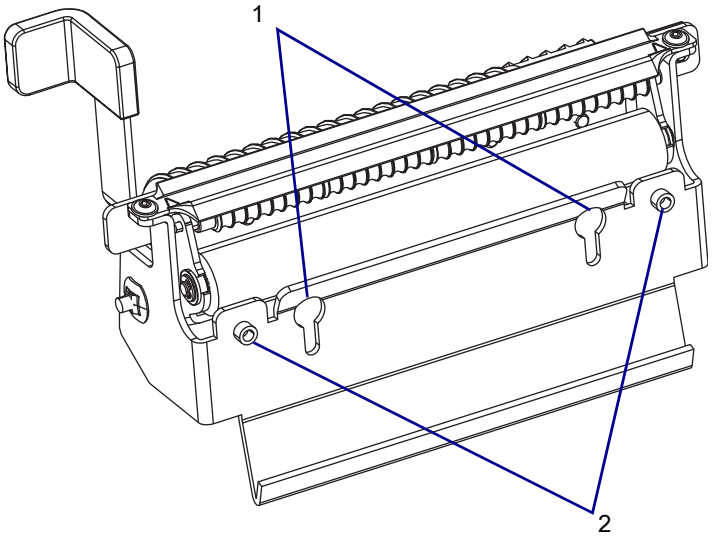
Figure 605 Install Peel Assembly



1	Peel assembly
2	Mounting slots (2)
3	Mounting screws (2)
4	Pems
5	Platen housing
6	Peel lever

2. See Figure 606. Locate the pems and the mounting slots.

Figure 606 Rear View of Peel Assembly



1	Mounting slots (2)
2	Pems (2)

3. See Figure 605 on page 688. Install the peel assembly with the pems to the rear and the opening in the mounting slot to the top.
   a. Insert the mounting slot opening over the two screws and lift up on the assembly.
   b. Now push the assembly back against the vertical surface of the platen housing then down, so that the pems are resting on the horizontal surface of the platen housing.
4. Maintain a slight pressure downward on the peel assembly, to keep the pems on the horizontal surface, and tighten the mounting screws.
5. Go to Resume Printer Operation on page 689.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Rewind Door and Trim Maintenance Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Rewind Door and Trim Maintenance Kit on the ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 607 Kit Contents

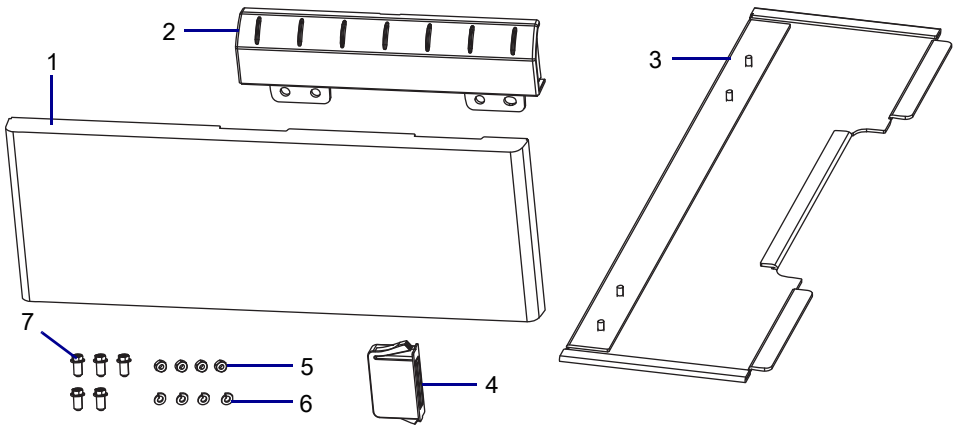


Table 83 Parts List

Item	Description	Qty
Ref	Rewind Door and Trim Maintenance Kit	
1	Rewind Lower Trim Panel	1
2	Rewind Upper Trim Panel	1
3	Rewind Door	1
4	Rewind Door Magnet	1
5	Nut, M3 × 2.4 × 5.5	4
6	Split Washer, M3	4
7	Screw, M4 × 0.2 × 8	5

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Tools Required

TOOLS: You need these tools to complete this procedure:

- Metric Nutdriver Set
- Phillips Screwdriver Set

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Prepare for Installation

NOTE: Retain all parts removed during disassembly, unless otherwise directed.

CAUTION: Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

Replace the Lower Trim and Upper Panel

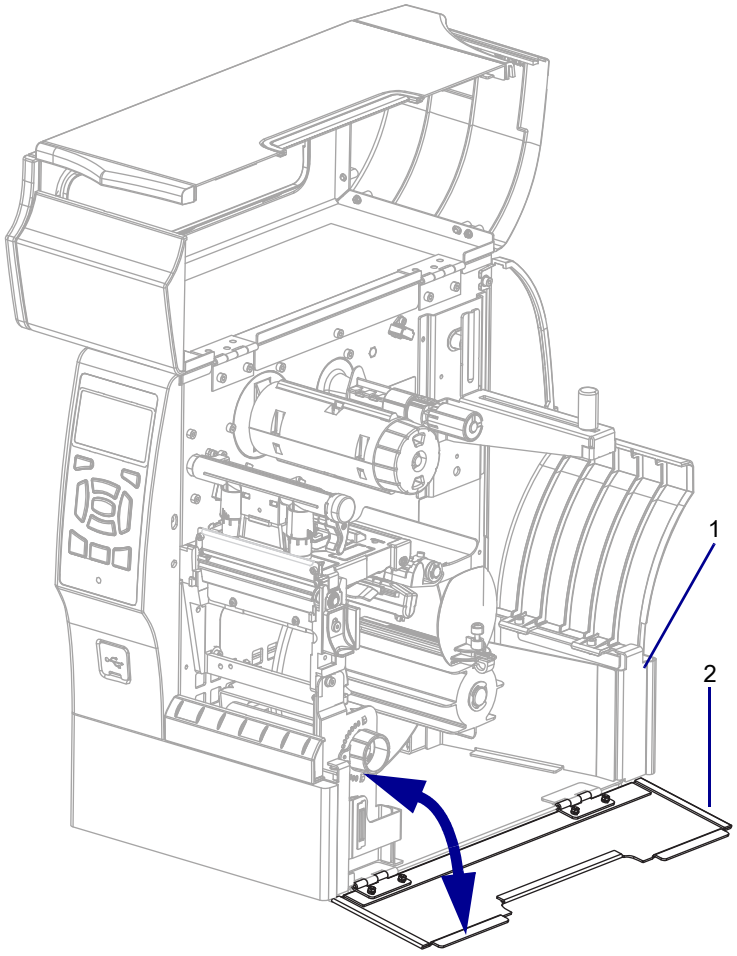
1. Remove all media and ribbon.
2. Which are you replacing?

If the…	Then…
Lower panel	Go to Replace the Lower Trim and Upper Panel on page 691.
Upper panel	Go to Replace the Upper Trim Panel on page 698.
Door	Go to Replace the Rewind Base Door on page 700.
Door Magnet	Go to Replace the Rewind Base Door Magnet on page 702.

Remove the Old Lower Trim Panel

1. See Figure 608. Open the rewind base door.

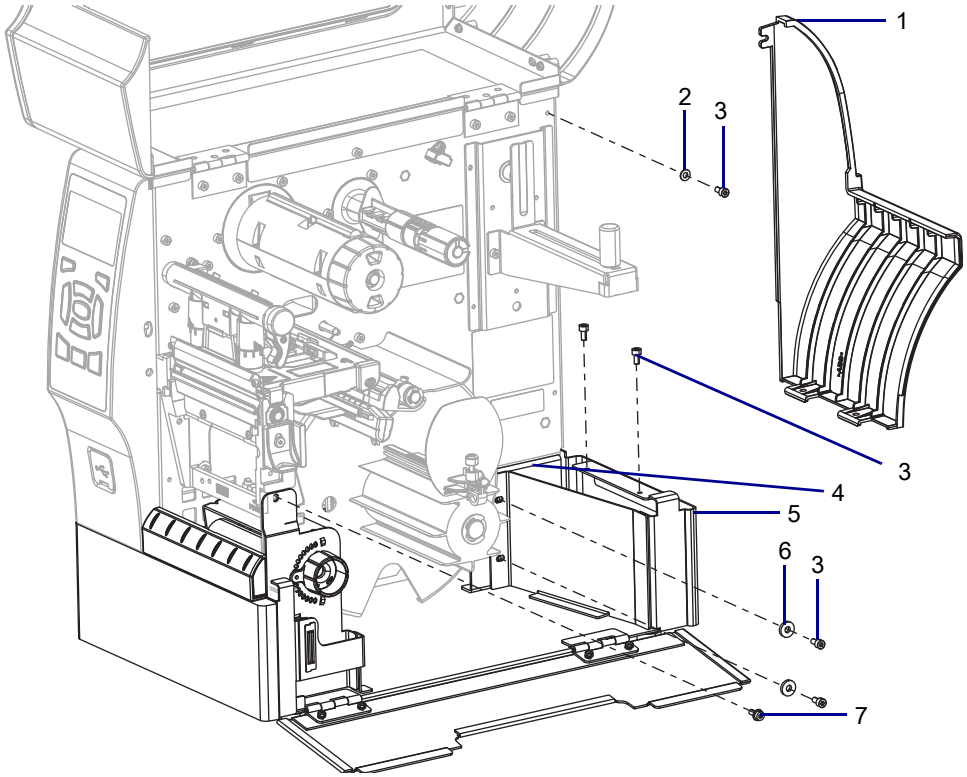
Figure 608 Open the Rewind Door (ZT410 Printer Shown)



1	Rewind base
2	Rewind base door

2. See Figure 609. Remove the two screws securing the rear trim panel to the rewind base.

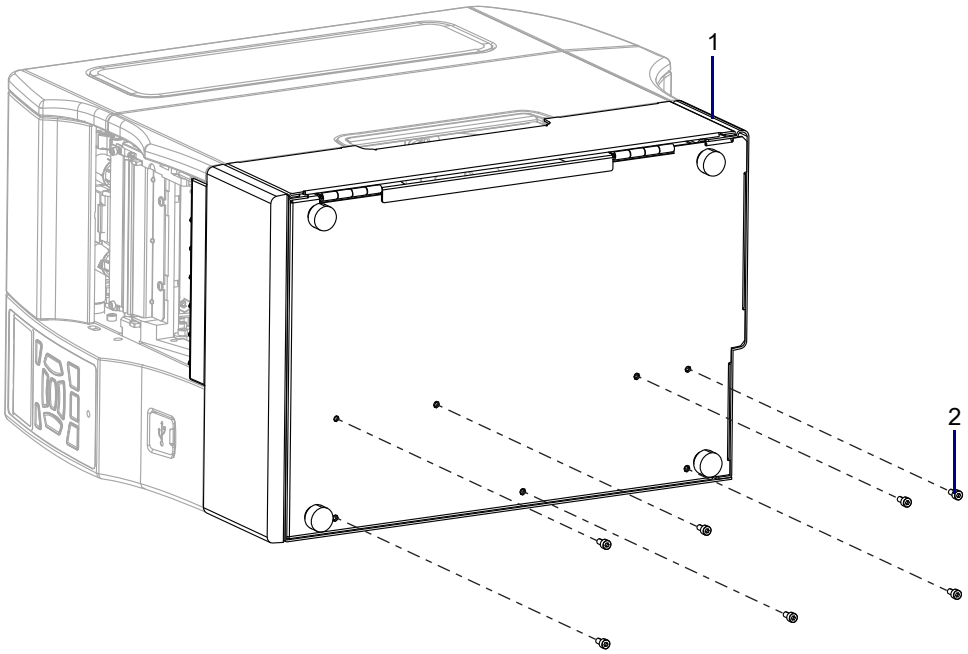
Figure 609 Remove the Rear Trim Panel (ZT410 Printer Shown)



1	Rear trim panel
2	Rear trim panel flat washer
3	Rewind base mounting screws (5)
4	Printer support bracket
5	Rewind base
6	Flat washers (2)
7	Platen assembly mounting screw

3. Remove the upper rear trim panel mounting screw and washer.
4. Remove the rear trim panel.
5. Remove the two screws securing the rewind base to the support plate.
6. See Figure 610. Remove the seven bottom mounting screws to secure the rewind base to the printer.
7. Close the media door and rewind door and lay the printer on the electronics side.

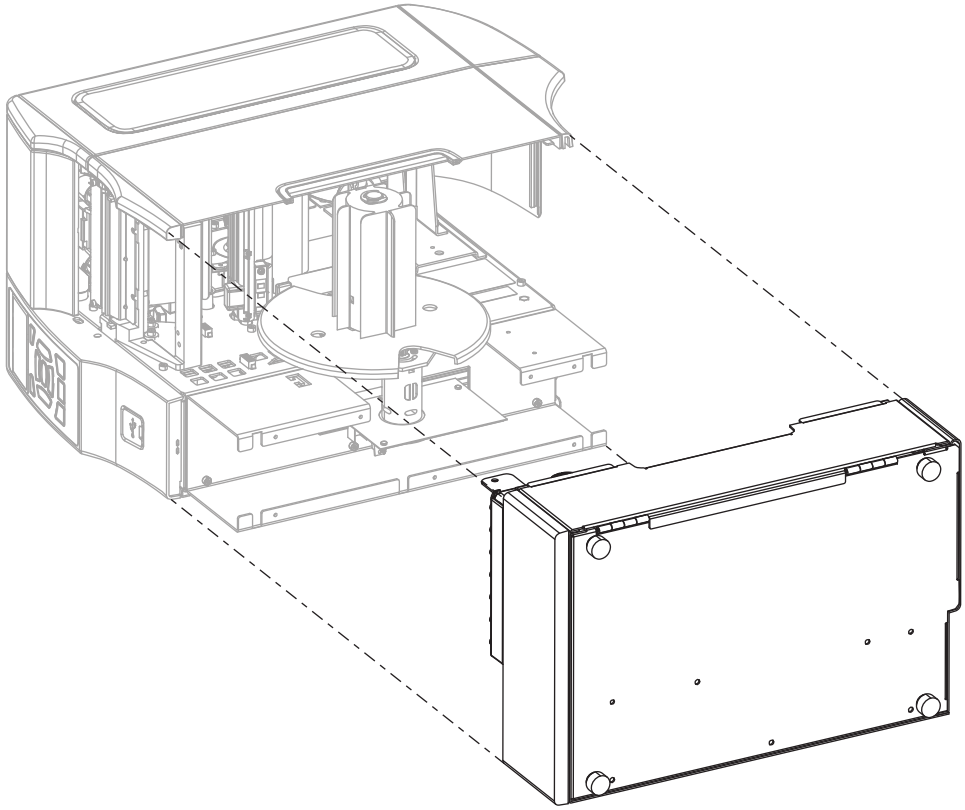
Figure 610 Remove the Rewind Base Bottom Mounting Screws (ZT410 Printer Shown)



1	Rewind base
2	Mounting screws (7)

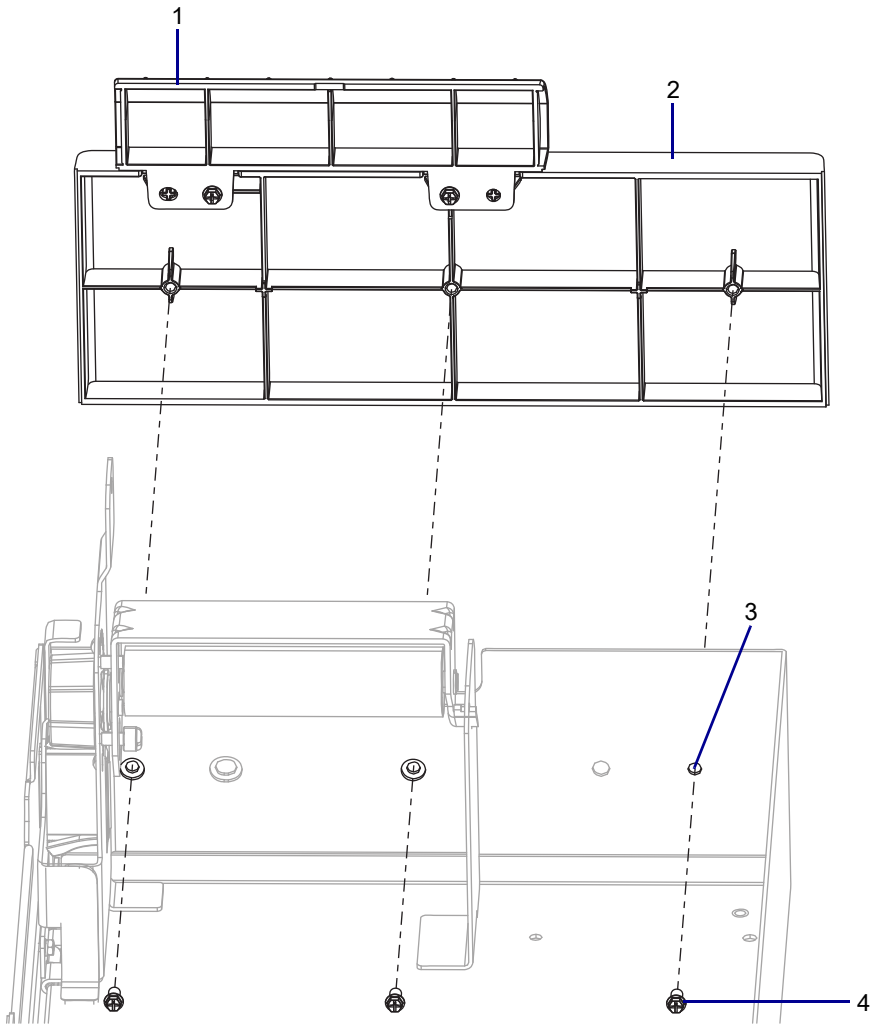
8. See Figure 611. Slide the rewind base from the printer.

Figure 611 Slide the Rewind Base Off the Printer (ZT410 Printer Shown)



9. See Figure 612. Remove and discard the three mounting screws securing the trim panel assembly.

Figure 612 Remove the Rewind Base Trim Panel Assembly



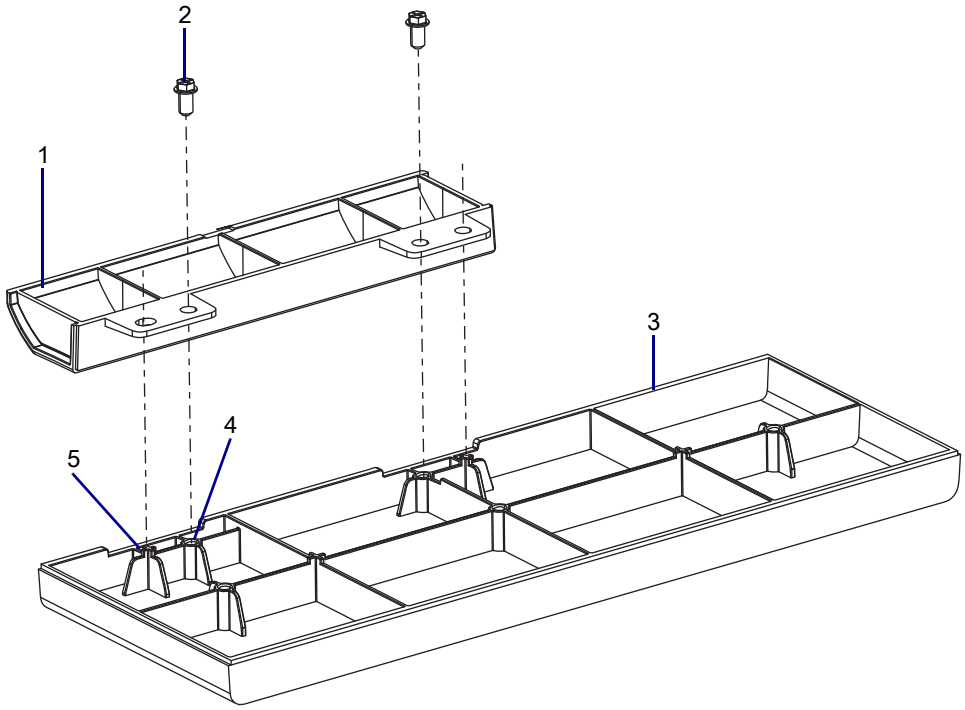
1	Upper rewind base cover
2	Lower rewind base cover
3	Mounting holes (3)
4	Mounting screws (3)

10. Discard the rewind base cover assembly.

Install the New Lower Rewind Base Trim Panel

1. See Figure 613. Attach the upper trim panel to the lower trim panel.

Figure 613 Assemble the Upper and Lower Trim Panels



1	Upper rewind trim panel
2	Mounting screws (2)
3	Lower rewind trim panel
4	Mounting holes
5	Positioning tabs

2. See Figure 612 on page 696. Install the rewind panel trim assembly onto the rewind base.
3. See Figure 611 on page 695. Slide the rewind base onto the printer.
4. See Figure 610 on page 694. Reinstall the seven bottom mounting screws to secure the rewind base to the printer.
5. See Figure 608 on page 692. Place the printer in the normal operating position, and then open the media and rewind base doors.
6. Reinstall the mounting screws and washers.
7. Reinstall the platen assembly mounting screw. Align the rear panel mounting holes.
8. Install the two base mounting screws. Install the mounting screw and washer to secure the rear panel to the printer.

9. If you need to replace other parts, which ones?

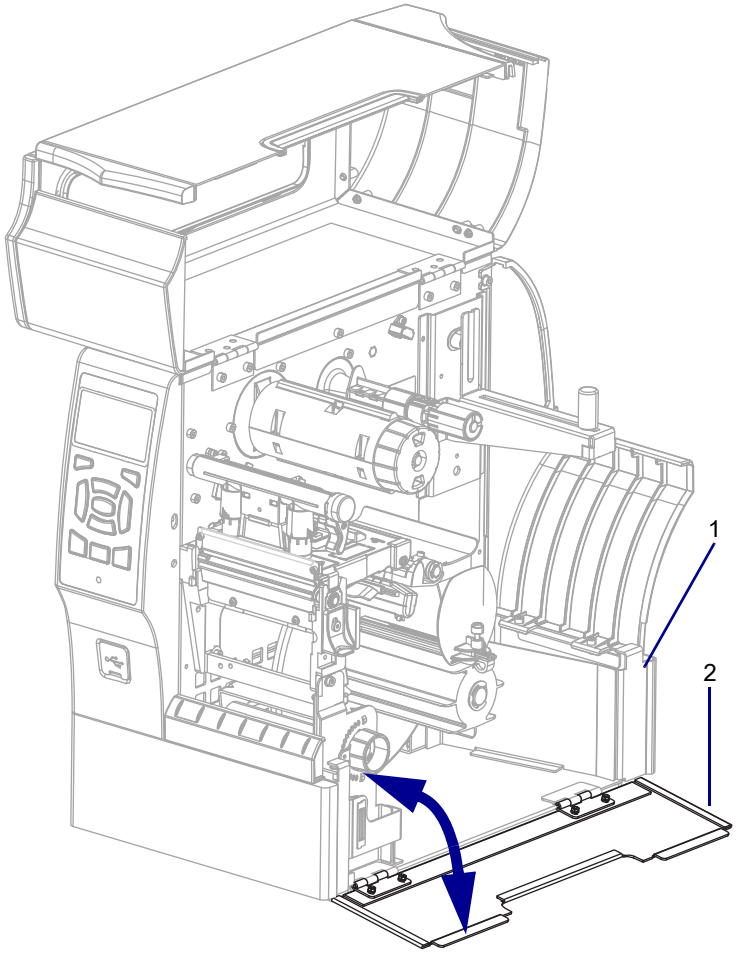
If the…	Then…
Lower panel	Go to Replace the Lower Trim and Upper Panel on page 691.
Upper panel	Go to Replace the Upper Trim Panel on page 698.
Door	Go to Replace the Rewind Base Door on page 700.
Door Magnet	Go to Replace the Rewind Base Door Magnet on page 702.
No	Go to Resume Printer Operation on page 703.

Replace the Upper Trim Panel

Remove the Old Upper Rewind Trim Panel

1. See Figure 614. Open the rewind base door.

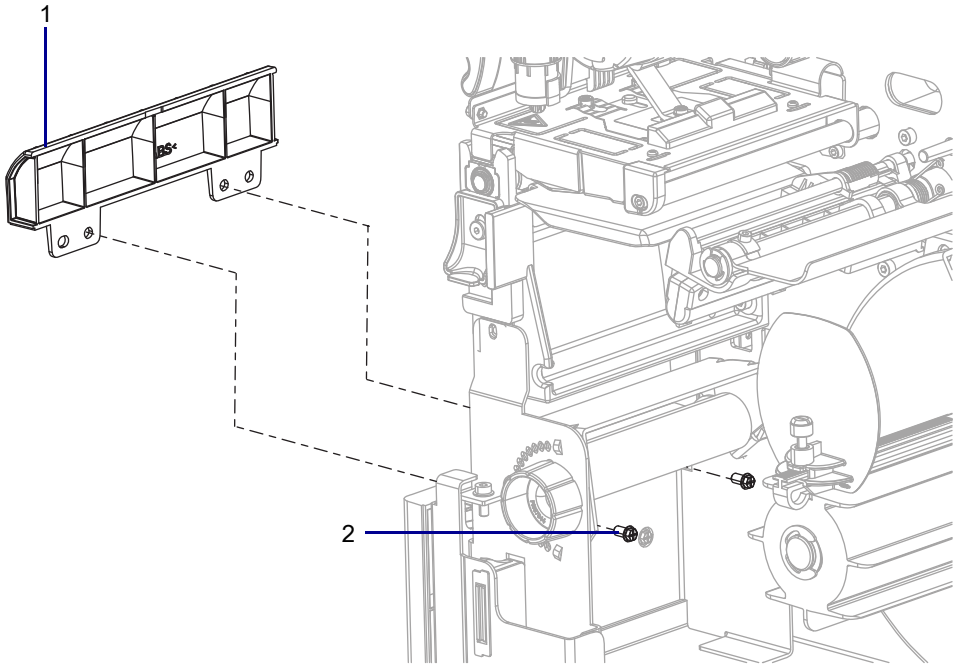
Figure 614 Open the Rewind Door (ZT410 Printer Shown)



1	Rewind base
2	Rewind base door

2. See Figure 615. Remove and discard the two upper panel mounting screws.

Figure 615 Remove the Upper Rewind Base Panel



1	Upper rewind base panel
2	Upper rewind base panel mounting screws (2)

3. Lift the upper rewind base panel out of the printer.

Install the New Upper Rewind Trim Panel

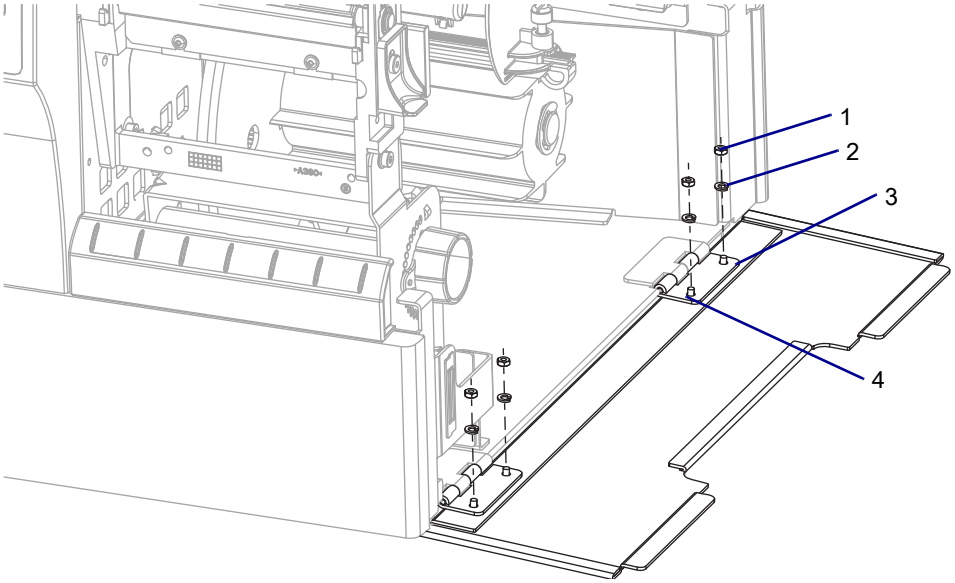
1. See Figure 613 on page 697. Align the new upper rewind base panel with the mounting holes on the lower rewind base panel.
2. Install the two new mounting screws.
3. If you need to replace other parts, which ones?

If the…	Then…
Lower panel	Go to Replace the Lower Trim and Upper Panel on page 691.
Upper panel	Go to Replace the Upper Trim Panel on page 698.
Door	Go to Replace the Rewind Base Door on page 700.
Door Magnet	Go to Replace the Rewind Base Door Magnet on page 702.
No	Go to Resume Printer Operation on page 703.

Replace the Rewind Base Door

1. See Figure 616. Open the rewind base door.

Figure 616 Remove the Nuts and Lock Washers

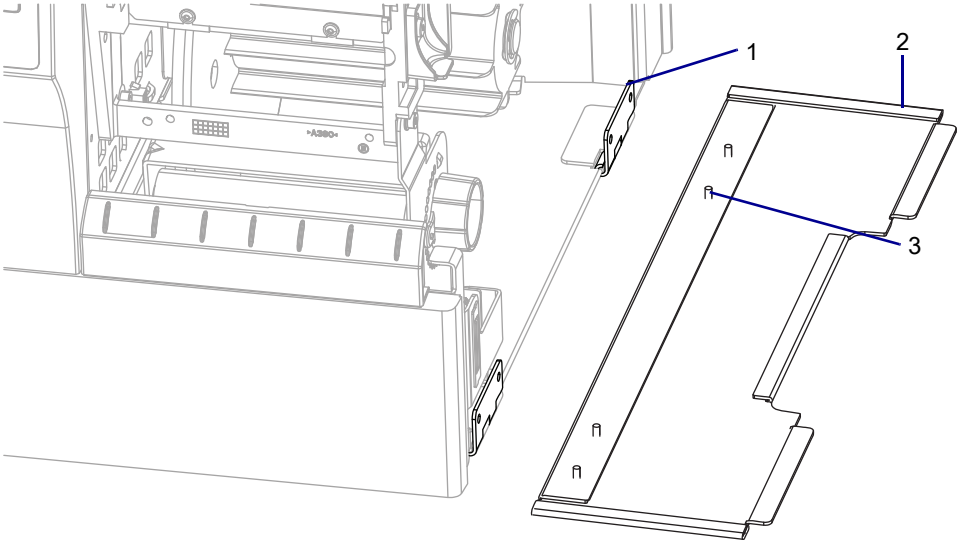


1	Nut (4)
2	Split lock washer (4)
3	Hinges (2)
4	Mounting studs (4)

2. Remove the four nuts and split lock washers securing the rewind base door to the two hinges.

3. See Figure 617. Flip the two hinges up, and then remove the rewind base door.

Figure 617 Remove the Rewind Base Door



1	Hinges (2)
2	Rewind base door
3	Rewind base door mounting studs (4)

Install the New Rewind Base Door

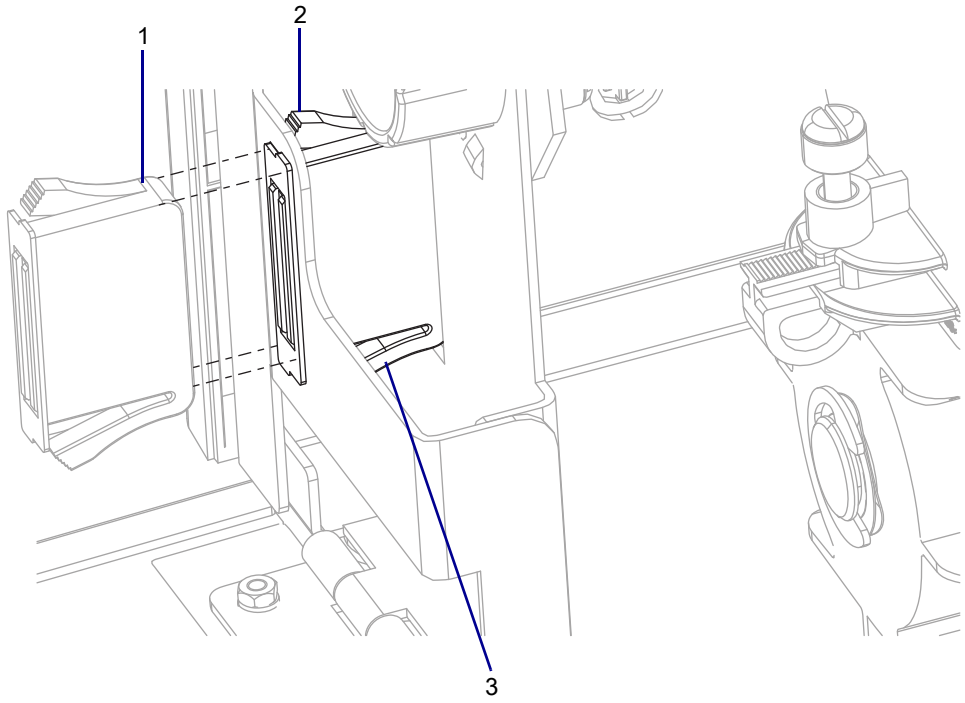
1. Align the two hinges with the four new rewind base door mounting studs.
2. See Figure 616 on page 700. Install the new mounting split washers and nuts.
3. If you need to replace other parts, which ones?

If the…	Then…
Lower panel	Go to Replace the Lower Trim and Upper Panel on page 691.
Upper panel	Go to Replace the Upper Trim Panel on page 698.
Door	Go to Replace the Rewind Base Door on page 700.
Door Magnet	Go to Replace the Rewind Base Door Magnet on page 702.
No	Go to Resume Printer Operation on page 703.

Replace the Rewind Base Door Magnet

1. See Figure 618. Press the upper and lower locking tabs toward each other while pushing out on the old magnet.

Figure 618 Install the Rewind Door Magnet



1	Magnet
2	Upper locking tab
3	Lower locking tab

2. Align the new rewind base door magnet with the hole in the rewind base.
3. Push the magnet into the hole until the upper and lower locking tabs snap into the locking position.
4. If you need to replace other parts, which ones?

If the…	Then…
Lower panel	Go to Replace the Lower Trim and Upper Panel on page 691.
Upper panel	Go to Replace the Upper Trim Panel on page 698.
Door	Go to Replace the Rewind Base Door on page 700.
Door Magnet	Go to Replace the Rewind Base Door Magnet on page 702.
No	Go to Resume Printer Operation on page 703.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Color Touch Control Panel Cover Kit

Installation Instructions

This kit includes the parts and documentation necessary to install the Touch Control Panel Cover Kit on ZT411/ZT421 Printers.

Read these instructions thoroughly before installing this kit.

Parts List

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

Figure 619 Kit Contents

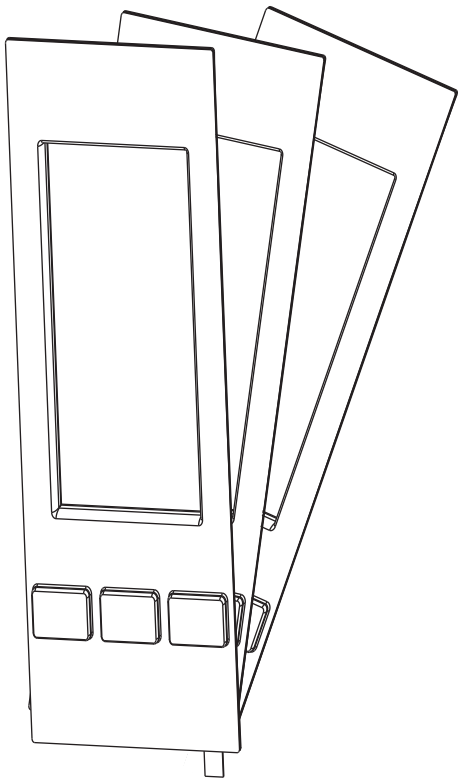


Table 84 Parts List

Item	Description	Qty
Ref	Touch Control Panel Cover Kit	3

To reorder specific parts, navigate to http://www.zebra.com/parts and select your printer model.

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Tools Required

TOOLS: You need these tools to complete this procedure:

- Microfiber Cloth
- Mild degreaser/detergent

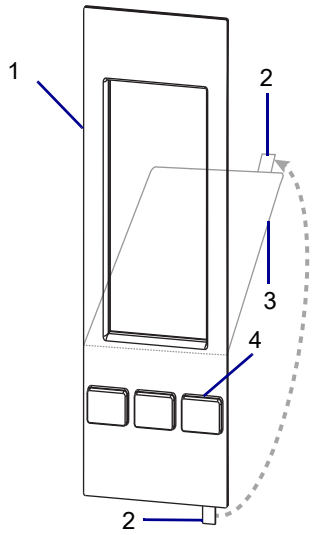
Clean Control Panel

1. Wipe any dust and debris from the printer control panel with a microfiber cloth. If there is extensive debris stuck on the control panel, moisten the microfiber cloth with a mild degreaser/detergent and remove the debris.
2. Allow time for the control panel to be completely dry.

Remove Touch Control Panel Cover Backing

1. Pull up on the pull tab attached to the backing on the touch control panel cover.

Figure 620 Remove Backing



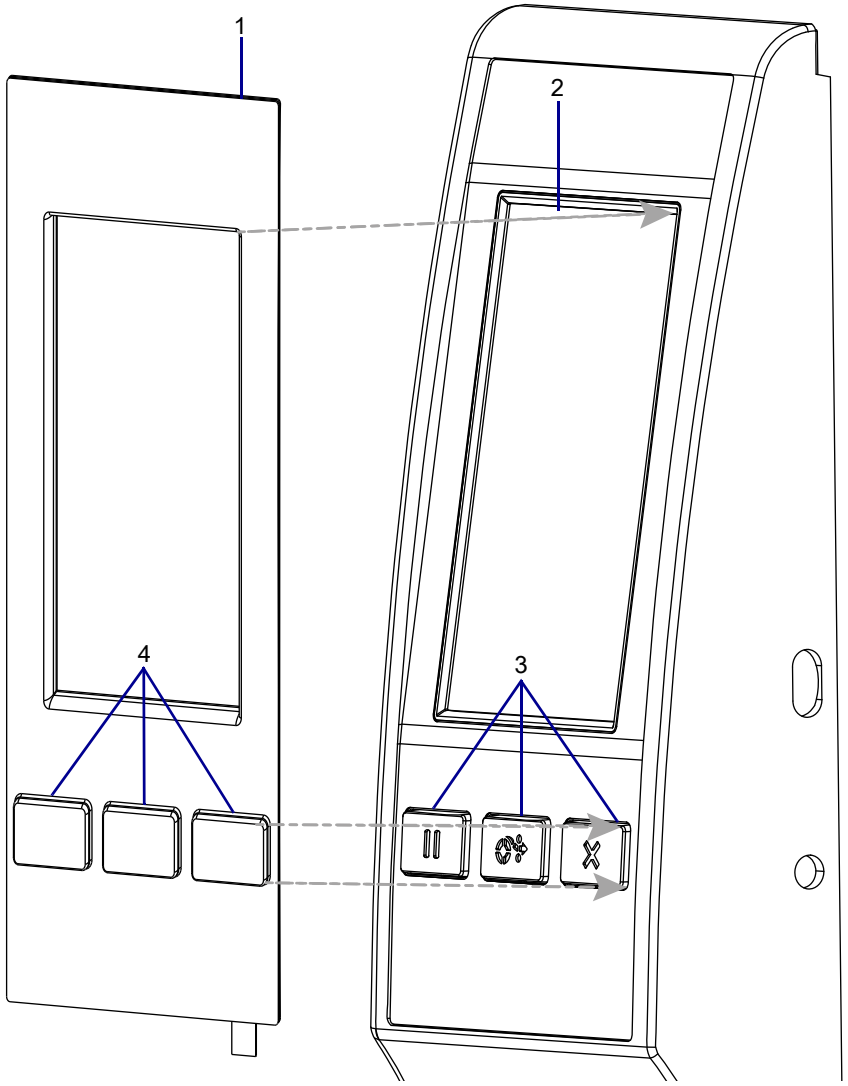
1	Touch screen overlay
2	Tab
3	Backing
4	Button covers

2. Stop when the backing is roughly .25 inch above the bottom of the touch screen overlay opening.

Aligning the Control Panel Cover

1. Align the control button covers over the buttons and ensure that the bottom of the screen cover overlay nests squarely into the bottom of the touch screen window frame.

Figure 621 Align Control Panel Cover



1	Control panel cover
2	Control panel window
3	Control buttons
4	Control button covers

2. Press the bottom portion of the protective cover until it adheres to the printer control panel.
3. Gently remove the remainder of the backing.
4. Press and smooth the protective cover from the bottom of the control panel towards the top until the cover is adhered smoothly to the complete control panel.

Resume Printer Operation

1. Reinstall media and ribbon (if used).
2. Close the media door.
3. If you disconnected the AC power cord and interface cables, reconnect them, and then turn on the printer power.
4. If necessary, press Pause to resume printer operation.

The installation is complete.

ZT411/ZT421 Printers Assorted Hardware Kit

Installation Instructions

This kit includes the parts for the Assorted Hardware Kit on the ZT411/ZT421 Printers.

Parts List

Before proceeding, verify that your kit contains the items for your printer listed on Table 85 on page 709.

NOTE: Not all parts listed are shown in the following graphics. Refer to individual maintenance kits or maintenance manual for installation instructions.

Figure 622 Assorted Hardware Kit

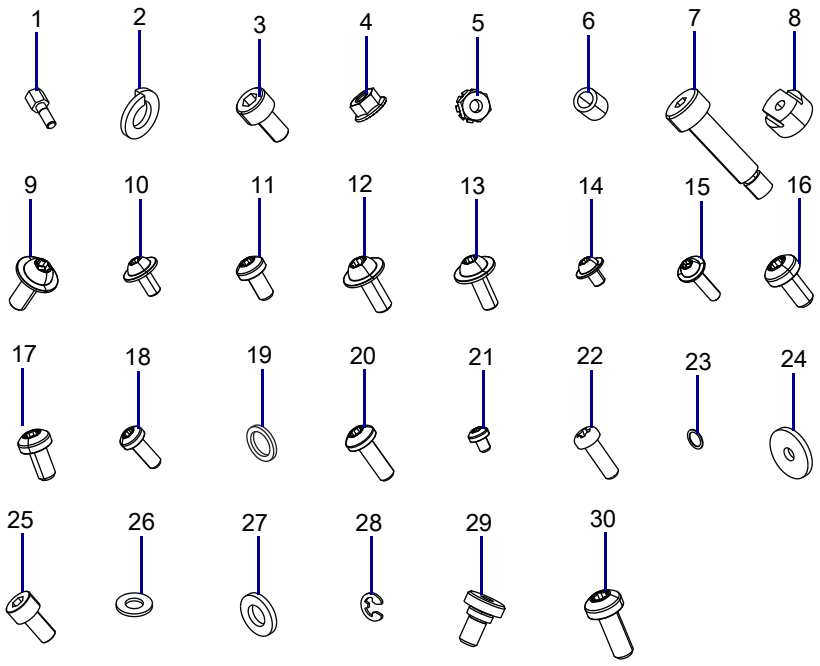


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Table 85 Parts List

Item	Description	Qty
Ref	Assorted Hardware Kit	
1	STANDOFF,4-40,HEX,M-F	5
2	WASHER,LOCK,#4	5
3	SC M3 X .5 6 CP SO ZN	5
4	UT,M4,HEX,FLNG	5
5	NUT,KEPS,M3 CAPTIVE LOCKWASHER	5
6	STANDOFF ANTISTATIC BRUSH	5
7	SC M5X.8X20 SHLDER SC SS	1
8	NUT ADJ	5
9	Hexalobular Pan Washer Mach Screw M4x10	20
10	Hexalobular Pan Head Cap Screw 3x10	10
11	SCREW, PAN HD, HEXALOBULAR, BLACK, M3X6	10
12	Hexalobular Pan Hd Washer Mach Screw M4x10	10
13	Hexalobular Pan Washer Mach Screw M3x8	10
14	Hexalobular Pan Washer Mach Screw M4x6	5
15	Hexalobular Pan Washer Mach Screw M4x16	5
16	Hexalobular Pan Washer Mach Screw M3x6	10
17	Hexalobular Pan Head Cap Screw 3x6!	10
18	Hexalobular Pan Head Cap Screw 3x8	5
19	WASHER,FLAT,.379 .53 .056	5
20	Hexalobular Pan Head Cap Screw 4x12	5
21	Hexalobular Pan Head Cap Screw 3x4	5
22	SC M2.5 X 8 PN PH ZN TRFMNG	2
23	WASHER,FLAT,.250 .125 .023,SST	5
24	WASHER,FLAT,.198 .75 .085	3
25	SC M4 X 0.7 X 8 CP SO ZnNi	5
26	WASHER,FLAT,.500 .377 .020,SST	5
27	WASHER,FLAT,NYLON	2
28	RING E EXT .156 BLK	2
29	SCR SHLDR 5.5MM DIA 2MM LG M4	2
30	Hexalobular Pan Head Cap Screw 3x8	5

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

Figure 623 Right View 1 (Refer to Table 85 on page 709.)

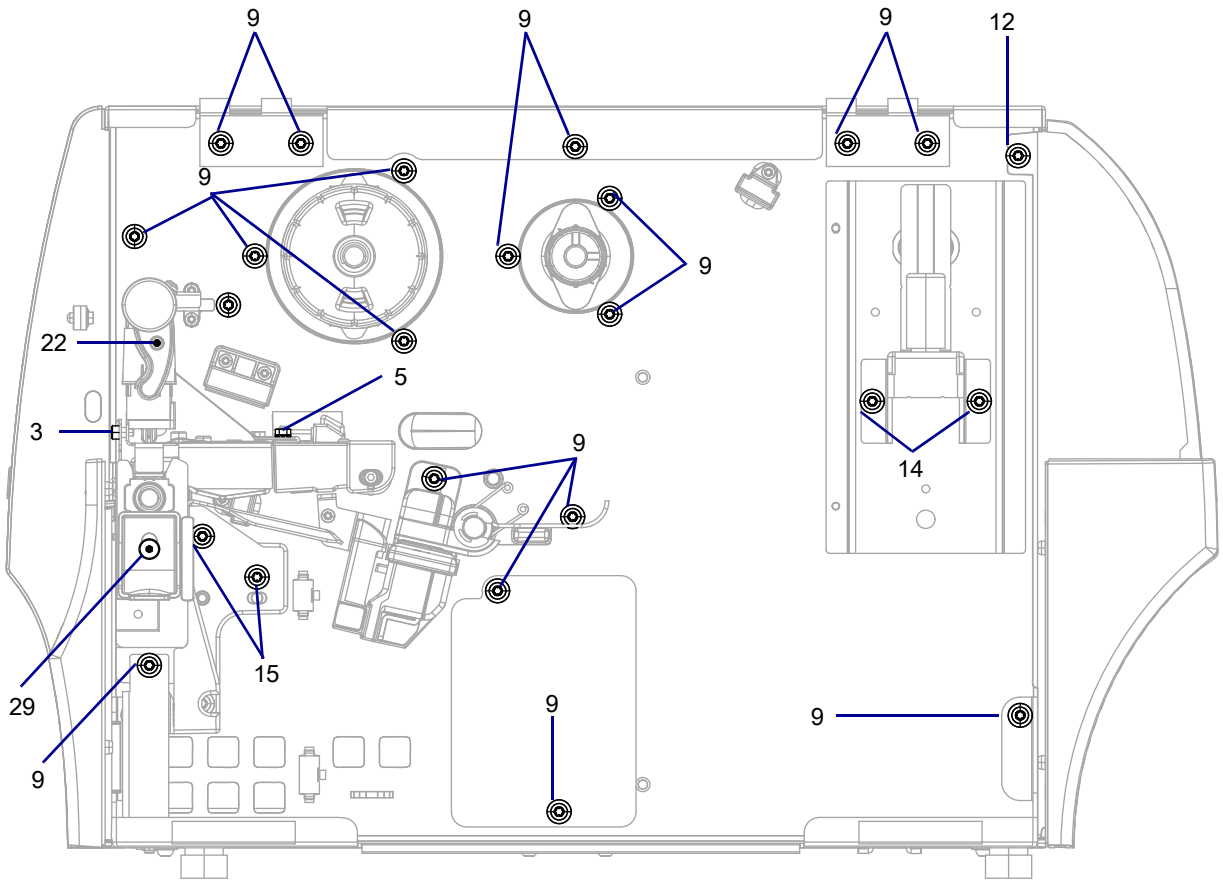


Figure 624 Left View (Refer to Table 85 on page 709.)

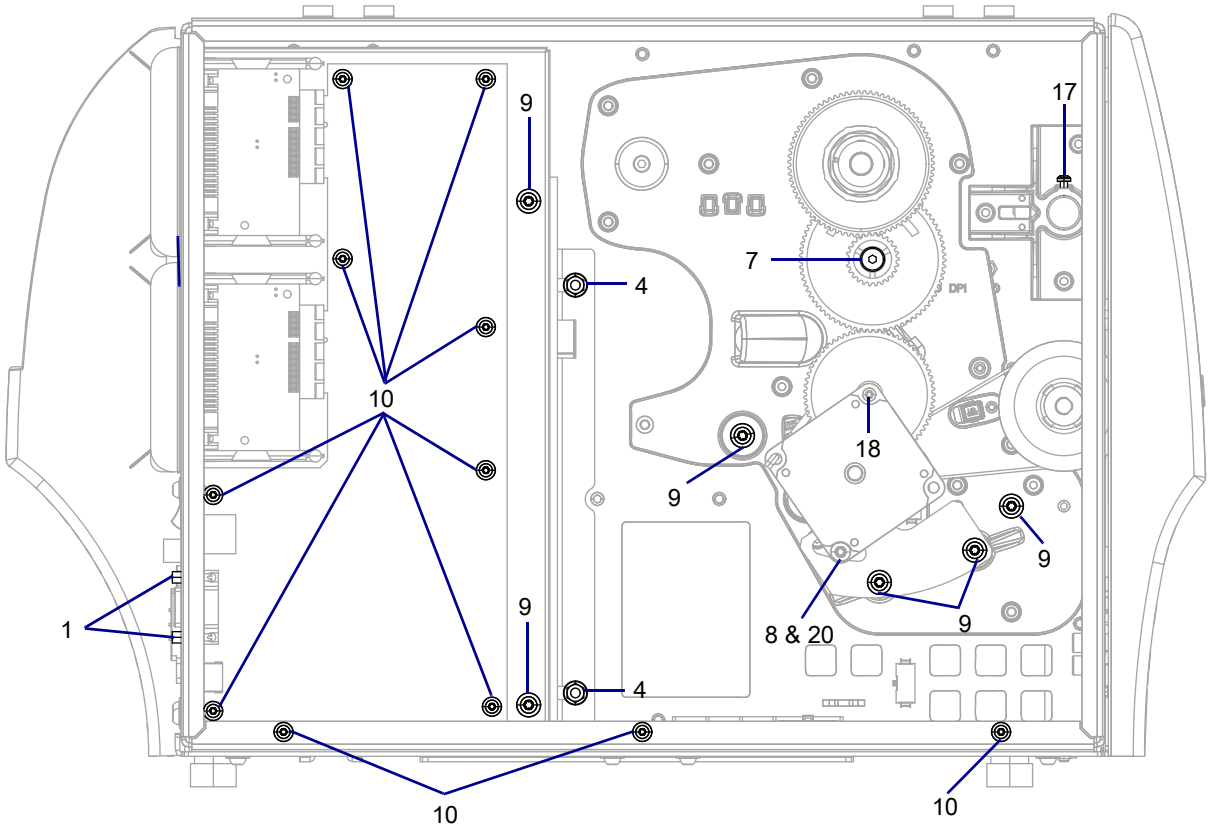


Figure 625 Rear View (Refer to Table 85 on page 709.)

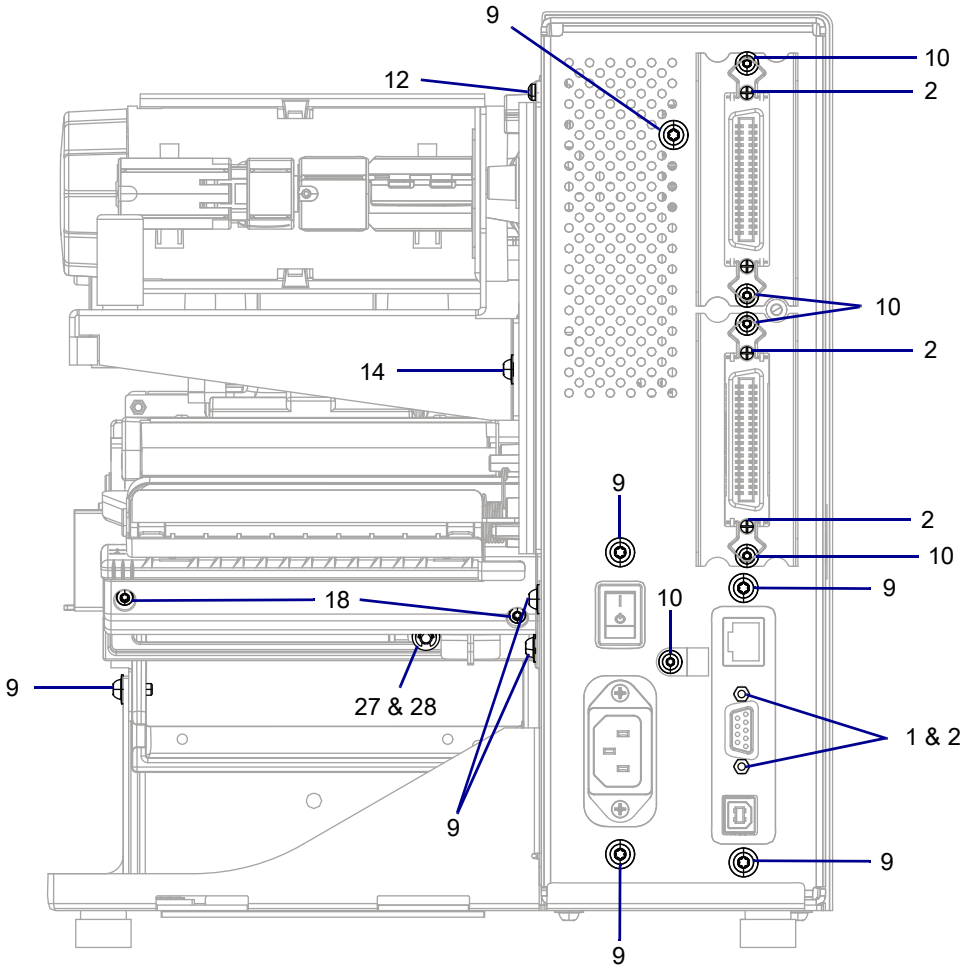
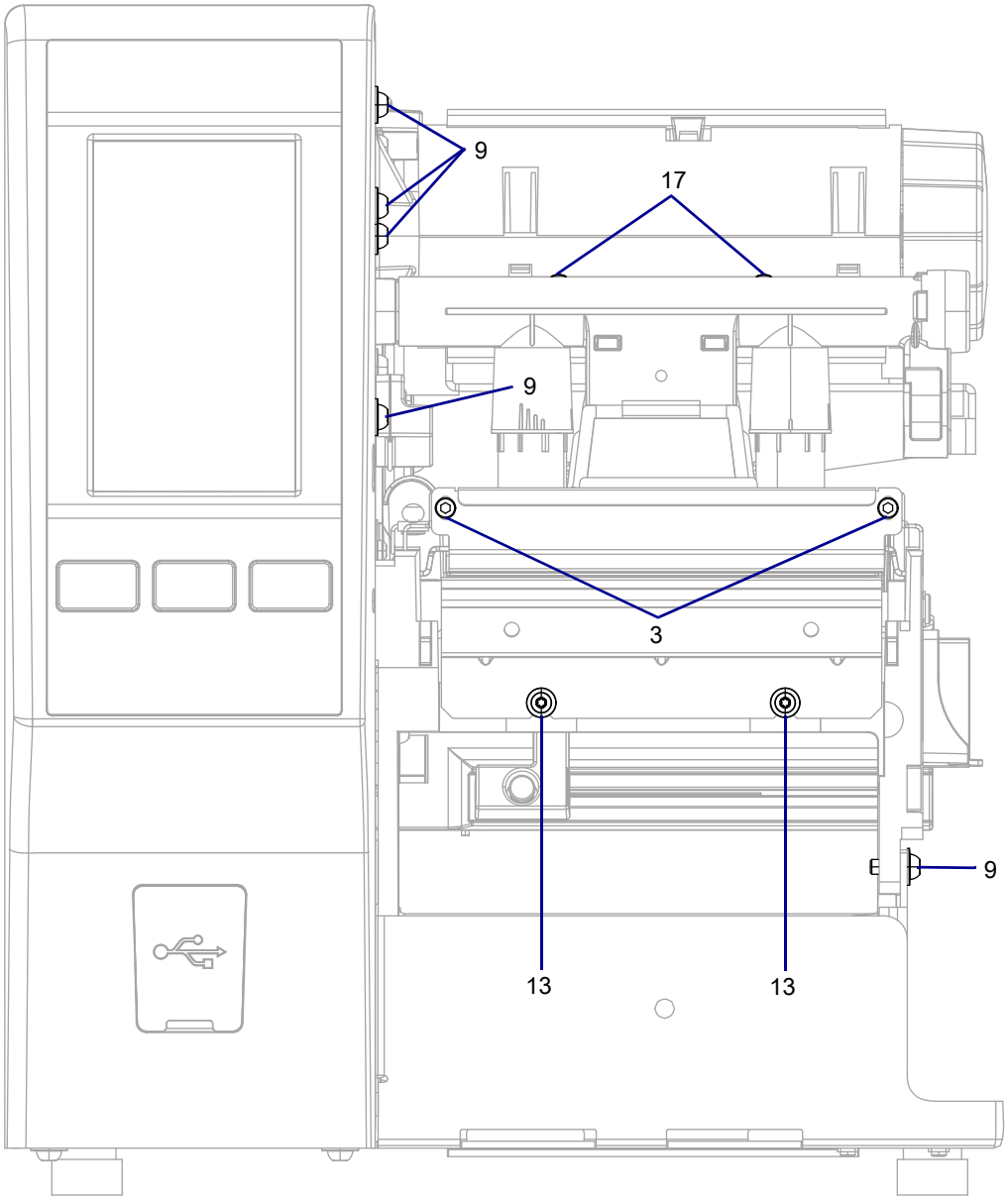


Figure 626 Front View (Refer to Table 85 on page 709.)



Repacking Kit for ZT411 Printers Without the Rewind Option

Installation Instructions

NOTE: Before repacking, call 1.877.ASK.ZEBRA (1.877.275.9327) for a Repair Order number (RO) or refer to www.zebra.com/repair.

The following instructions are for the ZT411 printers without the rewind option. Repack the complete unit as shown.

The repacking kit includes all the material needed to repack the printer and transport it safely. Before packing the printer, remove the media and ribbon, and make sure that the printhead is closed.

Parts List

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

Figure 627 Kit Contents

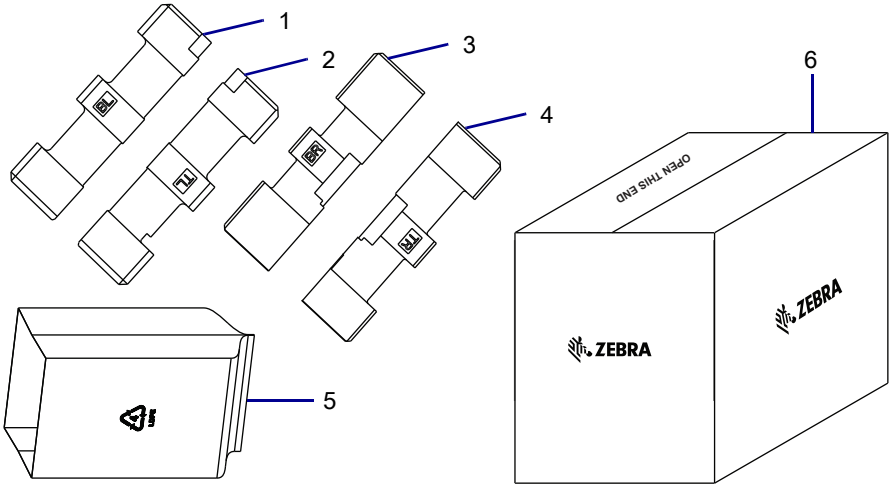


Table 86 Available Kits

Item	Description	Qty
Ref	ZT411 Packing Kit (one packing kit)	
	ZT411 Packing Kit (eight packing kits)	
1	Bottom Left Insert	1 or 8
2	Top Left Insert	1 or 8
3	Bottom Right Insert	1 or 8
4	Top Right Insert	1 or 8
5	Plastic Bag	1 or 8
6	Shipping Carton	1 or 8

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

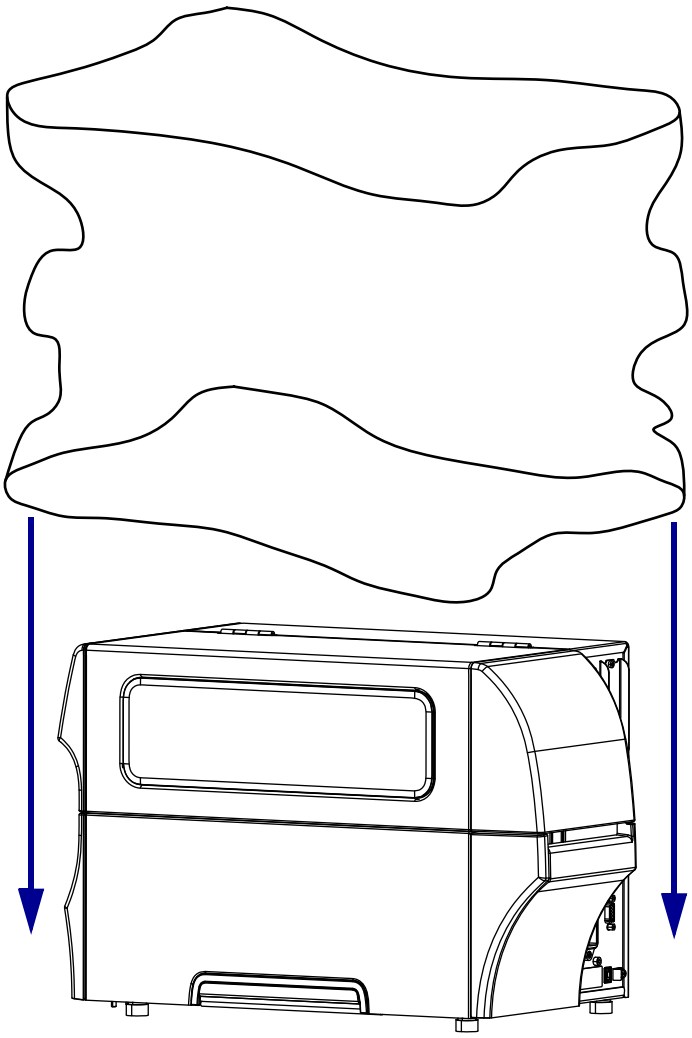
TOOLS: You need these tools to complete this procedure:

- Packing Tape

Packaging Instructions

1. Close the media door.
2. See Figure 628. Slide the bag over the printer.

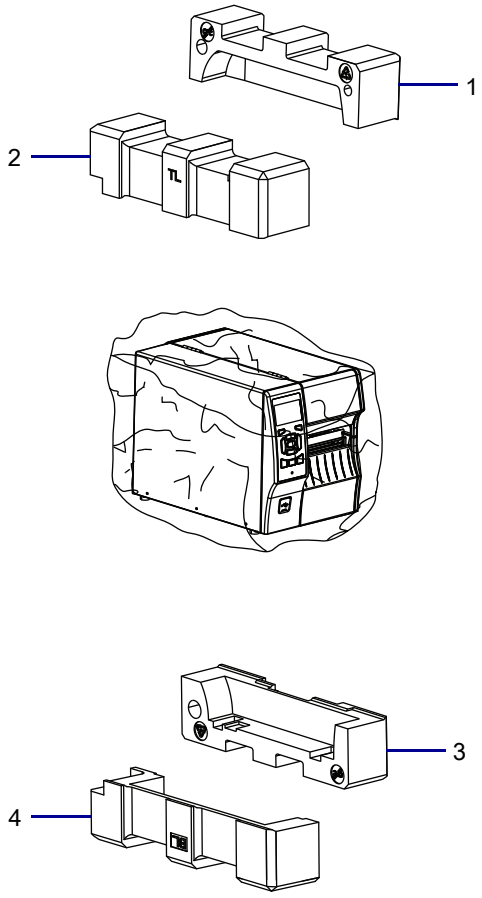
Figure 628 Slide Bag Over the Printer



3. Lay the printer on its side.
4. Slide the bag under the printer.
5. Gather the bag to close it on the bottom (footed side) of the printer.

6. See Figure 629. Place the printer back in the upright position.

Figure 629 Repacking the Printer(ZT410 Printer Shown)



1	Top right (TR) insert
2	Top left (TL) insert
3	Bottom right (BR) insert
4	Bottom left (BL) insert

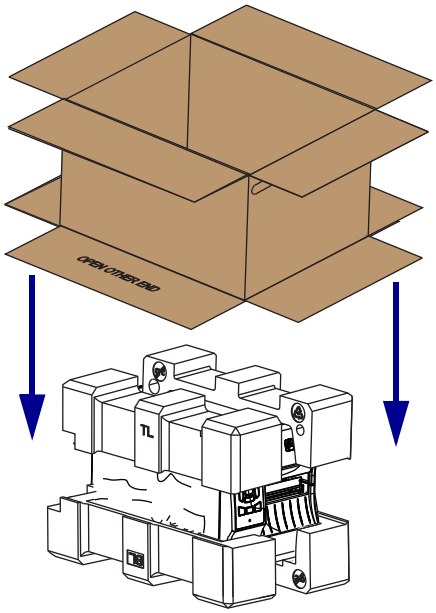
4. Lift the bottom left edge of the printer, and then fit the bottom left insert under the printer.
5. Lift the other bottom right edge of the printer, and then fit the bottom right insert under the printer.
6. Install the top left and top right inserts.

Load the Printer into the Shipping Carton

1. Cut open the bottom of the shipping carton, the end that says “Open Other End.”
2. See Figure 630. Lower the shipping carton, bottom first, over the printer with the packing inserts attached.

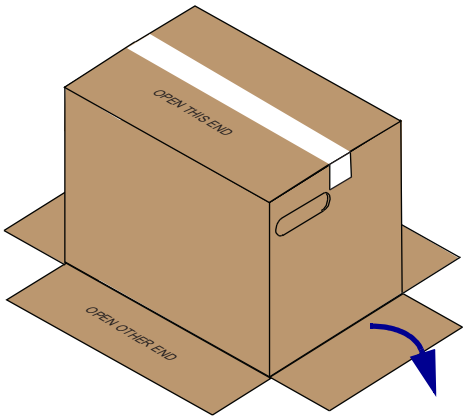
   This will allow the printer to remain upright during shipping.

Figure 630 Lower the Shipping Carton over the Printer (ZT410 Printer Shown)



3. See Figure 631. Close the top flaps, and seal with postal quality shipping tape.

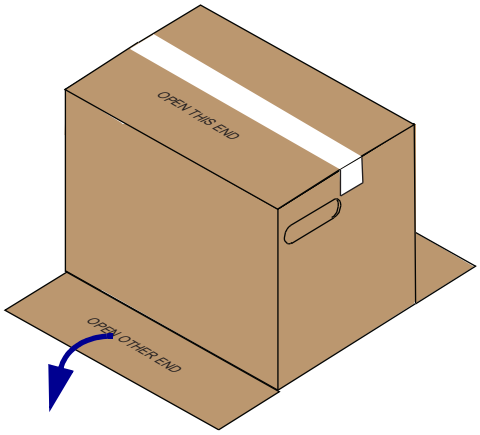
Figure 631 Seal Top with Postal Quality Shipping Tape



4. Turn and shift the shipping carton until a short flap is off the edge of the table. Lift the edge of the printer and shipping carton slightly. Fold the short flap under the printer.
5. Turn and shift the shipping carton 180 degrees and repeat step 4 with the second short flap.

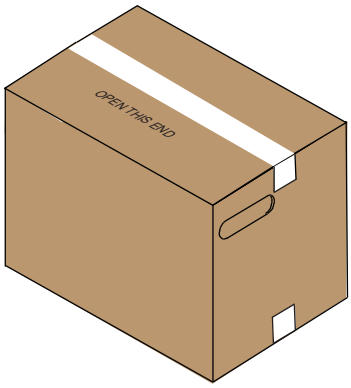
6. See Figure 632. Rotate the shipping carton until a large flap is hanging off the table. Lift the edge of the shipping carton and printer slightly. Fold the large flap under the printer.

Figure 632 Fold Under Large Flaps



7. Turn and shift the shipping carton 180 degrees and repeat step 6 with the second large flap.
8. See step 633. Turn the shipping carton over while supporting the closed flaps. Seal the bottom of shipping carton with postal quality shipping tape.

Figure 633 Seal the Shipping Carton



9. Apply the return shipping label and write the RO number on the outside of the shipping carton.

The installation is complete.

Repacking Kit for ZT411/ZT421 Printers With Rewind Option

Installation Instructions

NOTE: Before repacking, call 1.877.ASK.ZEBRA (1.877.275.9327) for a Repair Order number (RO) or refer to www.zebra.com/repair.

The following instructions are for the ZT411/ZT421 Printers with the rewind option and ZT421 printers without the rewind option. Repack the complete unit as shown. This kit does not include materials for the ZT411 printers without the rewind option.

The repacking kit includes all the material needed to repack the printer and transport it safely. Before packing the printer, remove the media and ribbon, and make sure that the printhead is closed.

Parts List

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

Figure 634 Kit Contents

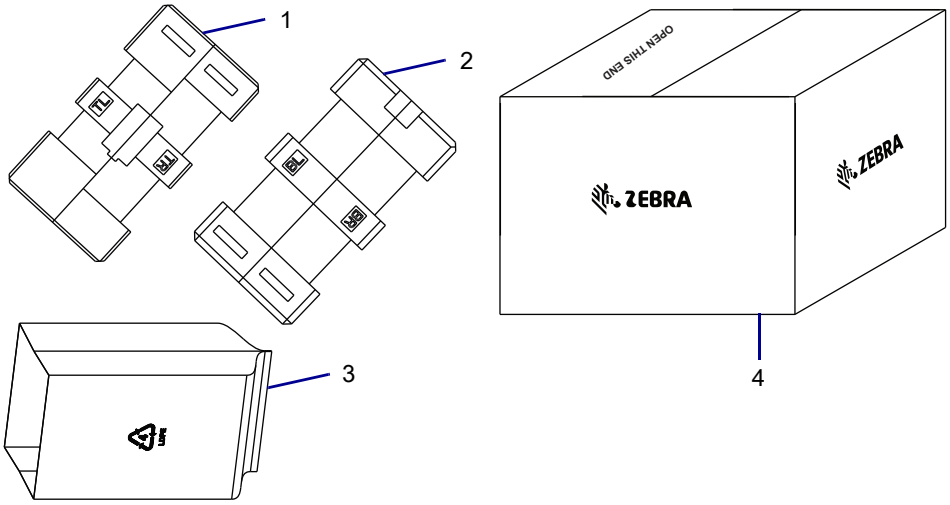


Table 87 Kit Part List

Item	Description	Qty
Ref	Printer with Rewind Option Packing Kit	
	ZT421 Packing Kit	
1	Top Inserts	1 or 8
2	Bottom Inserts	1 or 8
3	Plastic Bag	1 or 2 or 8
4	Shipping Carton	1 or 8

To reorder specific parts, navigate to http://www.zebra.com/parts, and select your printer model.

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Tools Required

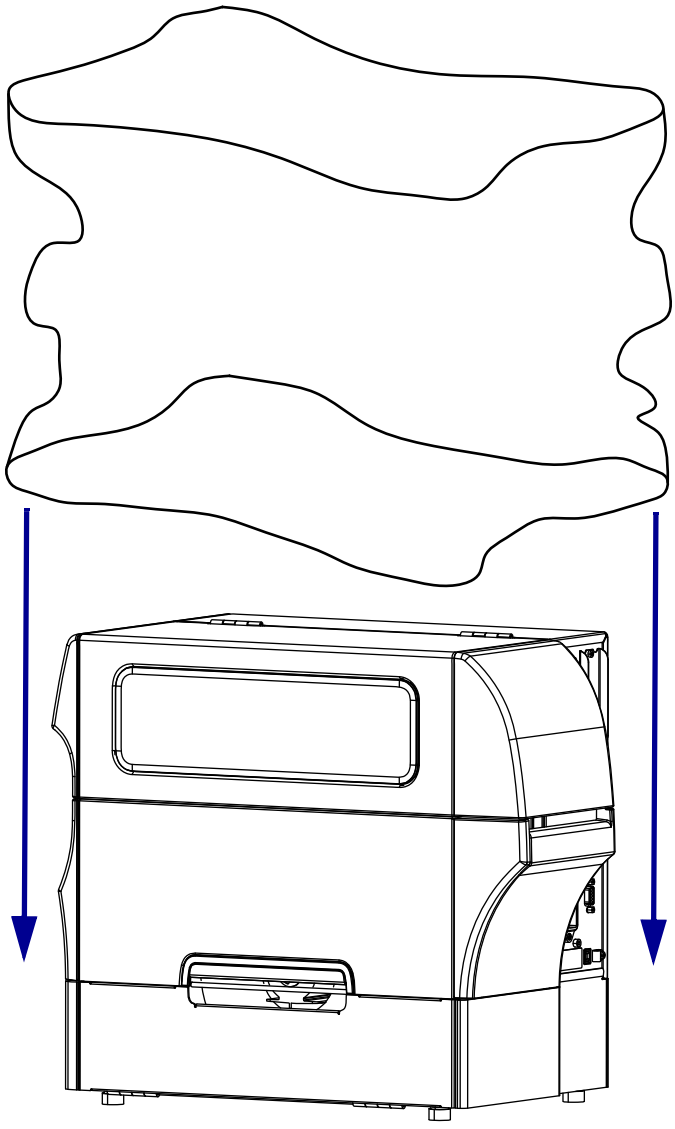
TOOLS: You need these tools to complete this procedure:

- Packing Tape

Packaging Instructions

1. Close the media door.
2. See Figure 635. Slide the bag over the printer.

Figure 635 Slide Bag Over the Printer



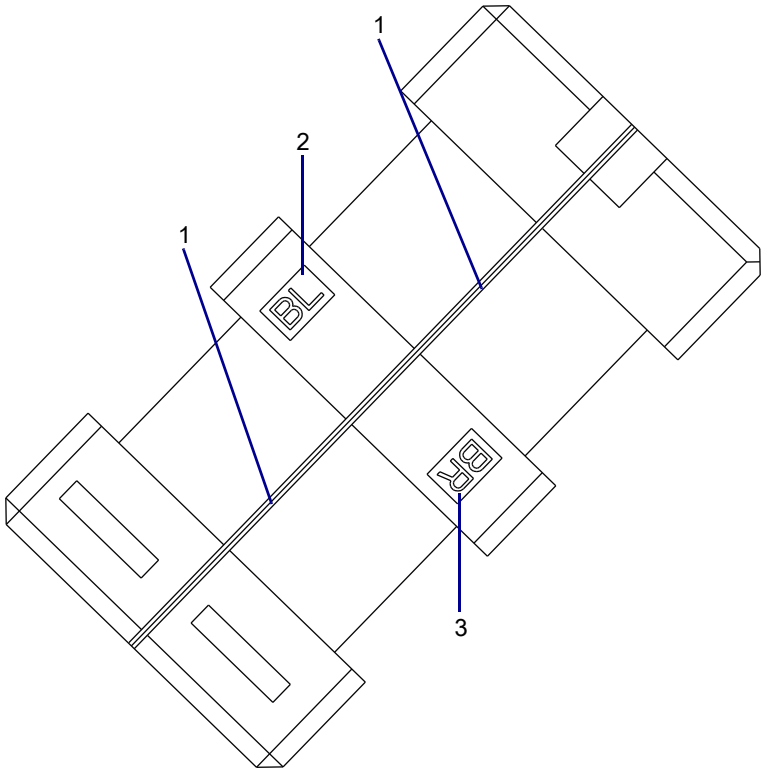
3. Lay the printer on its side.
4. Slide the bag under the printer.
5. Gather the bag closed on the bottom (footed side) of the printer.

6. What printer are you packaging?

If the printer is a…	Then…
ZT411/ZT421 Printers with rewind	Go to step 2 on page 720 through step 5 with the second plastic bag, and then go to step 7.
ZT421 Printers	Go to step 7.

7. See Figure 636. Separate the top and bottom parts of the inserts along the thin break line holding the two pieces together. Each insert has a location indicator to show where the insert belongs on the printer.

Figure 636 Break Apart the Inserts



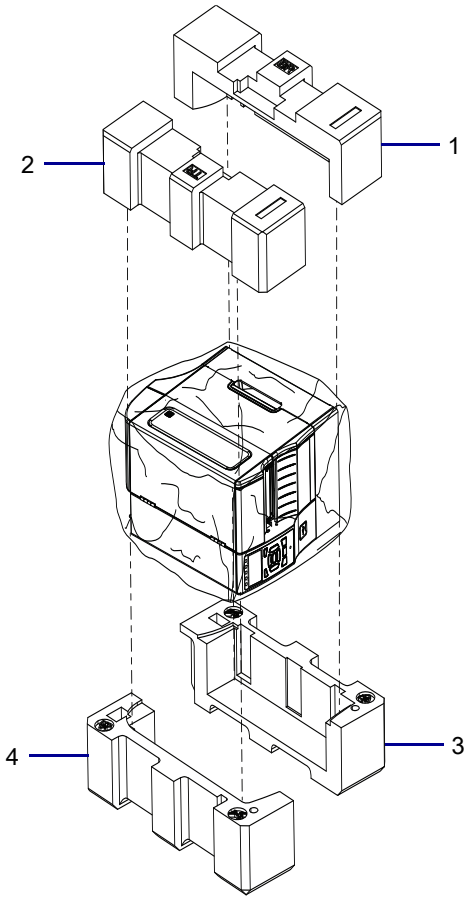
1	Break line
2	BL—Bottom left
	TL—Top left
3	BR—Bottom right
	TR—Top right

The insert initials (TL, BL, etc.) identify the placement on the physical location of an upright front-facing printer.

8. See Figure 637. Lay printer on its left side on a solid surface.

IMPORTANT: The insert initials (TL, BL, etc.) identify the placement on the physical location of an upright front-facing printer.

Figure 637 Repacking the Printer (ZT410 with Rewind Shown)



1	Bottom right (BR) insert
2	Top right (TR) insert
3	Bottom left (BL) insert
4	Top left (TL) insert

The insert initials (TL, BL, etc.) identify the placement on the physical location of an upright front-facing printer.

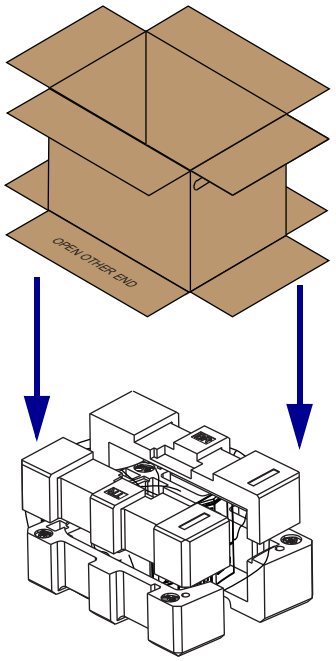
9. Lift the bottom left edge of the printer, and then fit the top left insert under the printer.
10. Lift the bottom right edge of the printer, and then fit the bottom left insert under the printer.
11. Install the top right and bottom right inserts on the top corners of the printer.

Load the Printer into the Shipping Carton.

1. Cut open the bottom of the shipping carton, the end that says “Open Other End.”
2. See Figure 638. Lower the shipping carton, bottom first, over the printer with the packing inserts attached.

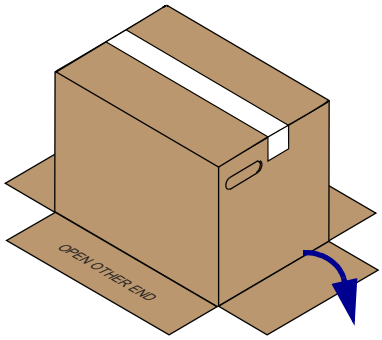
   This will allow the printer to remain on its side during shipping.

Figure 638 Lower the Shipping Carton over the Printer



3. See Figure 639. Close the top flaps, and seal with postal quality shipping tape.

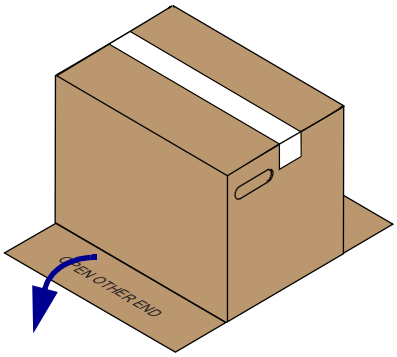
Figure 639 Seal Top with Postal Quality Shipping Tape



4. Turn and shift the shipping carton until a short flap is off the edge of the table. Lift the edge of the printer slightly and fold the short flap under the printer.
5. Turn and shift the shipping carton 180 degrees and repeat step 4 with the second short flap.

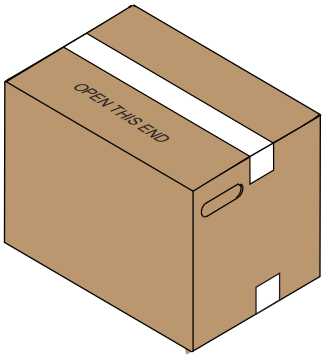
6. See Figure 640. Rotate the printer until a large flap is hanging off the table. Lift the edge of the printer slightly and fold the large flap under the printer.

Figure 640 Fold Under Large Flaps



7. Turn and shift the shipping carton 180 degrees and repeat step 6 with the second large flap.
8. See step 641. Turn the shipping carton over while supporting the closed flaps. Seal the bottom of shipping carton with postal quality shipping tape.

Figure 641 Seal the Shipping Carton



9. Apply the return shipping label and write the RO number on the outside of the shipping carton.

The installation is complete.