







Xi4[™] Performance Printer

Maintenance Manual



P1011223-001 Rev. A

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FCC Radiation Exposure Statement (for printers with radios or RFID encoders) 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.



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Advanced Printer Information



This section contains advanced information designed for technicians or others who need to service or troubleshoot an Xi4 printer.

For basic printer information, refer to the User Guide. A copy of the guide in English is available on the Maintenance Manual CD. To check for an updated version of the guide or to find the guide in other languages, go to http://www.zebra.com/manuals.

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Troubleshooting



This section provides information about errors that you might need to troubleshoot. Assorted diagnostic tests are included.

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Troubleshooting Checklists

If an error condition exists with the printer, review this checklist:

- □ Is there an error message on the LCD? If yes, see *LCD Error Messages* on page 41.
- Did you receive a memory error? If yes, see *Memory Errors on page 15*.
- □ Are noncontinuous labels being treated as continuous labels? If yes, perform a media and ribbon sensor calibration. For instructions, refer to the User Guide.
- □ Is the CHECK RIBBON light on when ribbon is loaded properly? If yes, perform a media and ribbon sensor calibration. For instructions, refer to the User Guide.
- □ Are you experiencing problems with print quality? If yes, see *Print Quality Problems* on page 46.
- □ Are you experiencing communications problems? If yes, see *Communications Problems* on page 51.
- Are you experiencing other unexpected behavior? If yes, see *Firmware Issues on page 25*.

LCD Error Messages

The LCD displays messages when there is an error. See Table 1 for LCD errors, the possible causes, and the recommended solutions. For instructions on modifying printer parameters or calibrating the printer, refer to the User Guide.

LCD Display/ Printer Condition	Possible Cause	Recommended Solution
ERROR CONDITION INVALID HEAD The ERROR light flashes.	The printhead was replaced with one that is not a genuine Zebra [™] printhead.	Install a genuine Zebra™ printhead.
	In thermal transfer mode, ribbon is not loaded or incorrectly loaded.	Load ribbon correctly.
ERROR CONDITION RIBBON OUT	In thermal transfer mode, the ribbon sensor is not detecting ribbon.	 Load ribbon correctly. Calibrate the sensors.
The printer stops; the RIBBON light is on; the ERROR light flashes.	In thermal transfer mode, media is blocking the ribbon sensor.	 Load media correctly. Calibrate the sensors.
	In thermal transfer mode, the printer did not detect the ribbon even though it is loaded correctly.	 Print a sensor profile. The ribbon out threshold (1) is likely too high, above the black area that indicates where the ribbon is detected (2). 1 - RIBBON 2 - RIBBON 000 - 0
		2. Calibrate the sensors or load printer defaults.
WARN I NG	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.
RIBBON IN The RIBBON light is on; the ERROR light flashes.		If you are using thermal transfer media, which requires ribbon, set the printer for Thermal Transfer mode.

Table 1 • LCD Error Messages

LCD Display/ Printer Condition	Possible Cause	Recommended Solution
	The media is not loaded or is loaded incorrectly.	Load media correctly.
	Misaligned media sensor.	Check position of the media sensor.
PAPER OUT	The printer is set for noncontinuous media, but	Install proper media type, or reset printer for current media type and perform calibration
The printer stops; the MEDIA light is on; the ERROR light flashes.	continuous media is toaded.	
	The printhead is not fully closed.	Close printhead completely.
ERROR CONDITION HEAD OPEN	The head open sensor is not working properly.	Replace the sensor.
The printer stops; the ERROR light flashes.		
THERMISTOR FAULT	The printhead has a faulty thermistor.	Replace the printhead. See <i>Printhead Assembly</i> on page 98.
The ERROR light flashes.		

LCD Display/ Printer Condition	Possible Cause	Recommended Solution
	Caution • An improperly co can cause these error mess enough to cause severe bu	onnected printhead data or power cable sages. The printhead may be hot rns. Allow the printhead to cool.
HEAD COLD	The printhead data cable is not properly connected.	Caution • Turn off (O) the printer before performing this procedure. Failure to do so can damage the printhead
THERMISTOR FAULT		 Turn off (O) the printer. Disconnect and reconnect the data cable to the printhead. Ensure that the cable connector is fully inserted into the printhead
ERROR CONDITION HEAD ELEMENT BAD	The printhead has a faulty thermistor.	connector.4. Turn on (I) the printer.Replace the printhead. See <i>Printhead Assembly</i> on page 98.
The printer stops; the ERROR light is on; the printer cycles through these three messages.		

LCD Display/ Printer Condition	Possible Cause	Recommended Solution
	Caution • An improperly co can cause this error message cause severe burns. Allow	onnected printhead data or power cable ge. The printhead may be hot enough to the printhead to cool.
HEAD COLD	The printhead temperature is approaching its lower operating	Continue printing while the printhead reaches the correct operating
The printer prints while the ERROR light flashes.	limit.	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.	Caution • Turn off (O) the printer before performing this procedure. Failure to do so can damage the printhead.
		1. Turn off (O) the printer.
		2. Disconnect and reconnect the data cable to the printhead.
		3. Ensure that the cable connector is fully inserted into the printhead connector.
		4. Turn on (I) the printer.
	The printhead has a faulty thermistor.	Replace the printhead. See <i>Printhead Assembly</i> on page 98.
)71L(\////	Caution • The printhead m burns. Allow the printhead t	ay be hot enough to cause severe to cool.
WARNING	The printhead is over temperature.	Allow the printer to cool. Printing
HEAD TOO HOT		automatically resumes when the printhead elements cool to an
The printer stops; the ERROR light flashes.		acceptable operating temperature.

LCD Display/ Printer Condition	Possible Cause	Recommended Solution
DEFRAGMENTING DO NOT POWER OFF The printer stops.	The printer is defragmenting memory.	Caution • Do NOT turn off the printer power during defragmenting. Doing so can damage the printer. Allow the printer to finish defragmenting. If you get this error message frequently, check your label formats. Formats that write to and erase memory frequently may cause the printer to defragment often. Using properly coded label formats usually minimizes the need for defragmenting. If this error message does not go away, contact Technical Support. The printer requires service.
MUN///	Caution • The cutter blade with your fingers.	is sharp. Do not touch or rub the blade
ERROR CONDITION CUTTER JAMMED	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
The printer stops; the ERROR light flashes.		following the cleaning instructions in <i>Clean the Cutter</i> on page 91.

Print Quality Problems

Table 2 identifies problems with print quality, the possible causes, and the recommended solutions. For instructions on modifying printer parameters, calibrating the printer, or loading ribbon and media, refer to the User Guide.

Problem	Possible Cause	Recommended Solution
General print quality issues	neral print quality ues The printer is set at the incorrect print speed.	For optimal print quality, set the print speed to the lowest possible setting for your application via control panel, the driver, or the software. You may want to perform the <i>FEED Self Test</i> on page 58.
	You are using an incorrect combination of labels and ribbon for your application.	 Switch to a different type of media or ribbon to try to find a compatible combination. If necessary, consult your authorized Zebra reseller or distributor for information and advice.
	The printer is set at an incorrect darkness level.	For optimal print quality, set the darkness to the lowest possible setting for your application via the control panel, the driver, or the software. You may want to perform the <i>FEED Self Test</i> on page 58 to determine the ideal darkness setting.
	The printhead is dirty.	Clean the printhead. See <i>Clean the Printhead</i> <i>and Platen Roller</i> on page 84.
	Incorrect or uneven printhead pressure.	Set the printhead pressure to the minimum needed for good print quality. See <i>Adjust the</i> <i>Printhead</i> on page 102.
	The printhead is improperly balanced.	See Adjust the Printhead on page 102.
Long tracks of missing print on several labels	Print element damaged.	Replace the printhead. See <i>Printhead Assembly</i> on page 98.
	Wrinkled ribbon.	See wrinkled ribbon causes and solutions in this table.

Problem	Possible Cause	Recommended Solution
Wrinkled ribbon	Ribbon was fed through the ribbon system incorrectly.	Load the ribbon correctly.
	Incorrect burn temperature.	Set the darkness to the lowest possible setting for good print quality. See.
	Incorrect or uneven printhead pressure.	Set the printhead pressure to the minimum needed for good print quality.See <i>Adjust the</i> <i>Printhead</i> on page 102.
	Media not feeding properly; "walking" from side to side.	Make sure that media is snug by adjusting the media guide, or call a service technician.
	The strip plate needs adjusting.	See Adjust the Printhead on page 102.
	The printhead needs vertical adjustment.	See Adjust the Printhead on page 102.
	The printhead is improperly balanced.	See Adjust the Printhead on page 102.
	The printhead and platen roller need to be realigned.	See Adjust the Printhead on page 102 and Adjust the Lower Platen Roller on page 264.
Printing too light or too dark over the entire label	The media or ribbon is not designed for high-speed operation.	Replace supplies with those recommended for high-speed operation.
	You are using an incorrect combination of media and ribbon for your application.	 Switch to a different type of media or ribbon to try to find a compatible combination. If necessary, consult your authorized Zebra reseller or distributor for information and advice.
	You are using ribbon with direct thermal media.	Direct thermal media does not require ribbon. To check if you are using direct thermal media, perform the label scratch test in <i>When to Use Ribbon on page 34</i> .
	Incorrect or uneven printhead pressure.	Set the pressure to the minimum needed. See <i>Adjust the Printhead</i> on page 102.
Smudge marks on labels	The media or ribbon is not designed for high-speed operation.	Replace supplies with those recommended for high-speed operation.
Misregistration/skips	The printer is not calibrated.	Recalibrate the printer.
labels	The media sensor is not positioned correctly.	Place the media sensor in the proper position. See Adjust Transmissive Media Sensors on page 67.
	Improper label format.	Use correct label format.

Problem	Possible Cause	Recommended Solution
Misregistration and misprint of one to three labels	The platen roller is dirty.	See Clean the Printhead and Platen Roller on page 84.
	The media sensor is not positioned correctly.	Place the media sensor in the proper position. See Adjust Transmissive Media Sensors on page 67.
	Media does not meet specifications.	Use media that meets specifications.
Vertical drift in	The printer is out of calibration.	Recalibrate the printer.
top-of-form positionNormal tolerances of mechanical parts and printer modes.Note • A vertical drift of ± 4 to 6 dot rows (approximately 0.5 mm) is within normal tolerances.Vertical drift occurs during normal printer operation.Note • A vertical drift of ± 4 to 6 dot rows (approximately 0.5 mm) is within normal printer operation.Note • A vertical drift of ± 4 to 6 dot rows 	 Calibrate the printer. Adjust the label top position setting. 	
	 Vertical drift occurs during normal printer operation. Note • A vertical drift of ± 4 to 6 dot rows (approximately 0.5 mm) is within normal tolerances. The platen roller is dirty. 	Calibrate the printer. Clean the platen roller. See <i>Clean the Printhead</i>
		and Platen Roller on page 84.

Table 2 • Print Quality Problems (Continued)

Problem	Possible Cause	Recommended Solution
Vertical image or label drift	The printer is using non-continuous labels but is configured in continuous mode.	Configure the printer for non-continuous and run calibration routine, if necessary.
	The media sensor is positioned incorrectly.	Ensure that the media sensor is properly positioned to read a single/consistent interlabel gap. See <i>Adjust Transmissive Media Sensors on page</i> 67.
	The media sensor is calibrated improperly.	Refer to the User Guide for the procedure.
	The platen roller is dirty.	Clean the platen roller. See <i>Clean the Printhead</i> <i>and Platen Roller</i> on page 84.
	Improper printhead pressure settings (toggles).	Adjust the printhead pressure to ensure proper functionality.
	Improperly loaded ribbon or media.	Verify that the printer is loaded properly.
	Incompatible media.	Ensure that the interlabel gaps or notches are 2 to 4 mm and consistently placed. Media must not exceed minimum specifications for mode of operation.
The bar code printed on a label does not scan.	The bar code is not within specifications because the print is too light or too dark.	Perform the <i>FEED Self Test</i> on page 58. Adjust the darkness or print speed settings as necessary.
	Not enough blank space around the bar code.	Leave at least 1/8 in. (3.2 mm) between the bar code and other printed areas on the label and between the bar code and the edge of the label.

Calibration Problems

Table 3 identifies problems with calibration, the possible causes, and the recommended solutions. For instructions on modifying printer parameters or calibrating the printer, refer to the User Guide.

Problem	Possible Cause	Recommended Solution
Loss of printing registration on labels. Excessive vertical	The platen roller is dirty.	Clean the platen roller according to the instructions in <i>Clean the Printhead and Platen Roller</i> on page 84.
drift in top-of-form registration.	Media guides are positioned improperly.	Ensure that the media guides are properly positioned.
	The media type is set incorrectly.	Set the printer for the correct media type (non-continuous or continuous).
	An incorrect sensor is being used for the media type.	Manually select the correct sensor to use.
Auto Calibrate failed.	Media or ribbon is loaded incorrectly.	Ensure that media and ribbon are loaded correctly.
	The sensors could not detect the media or ribbon.	Manually calibrate the printer.
	The sensors are dirty or positioned improperly.	Ensure that the sensors are clean and properly positioned.

Table 3 • Calibration Problems

Communications Problems

Table 4 identifies problems with communications, the possible causes, and the recommended solutions. For instructions on modifying printer parameters or calibrating the printer, refer to the User Guide.

Problem	Possible Cause	Recommended Solution
A label format was sent to the printer but was not	The communication parameters are incorrect.	Check the printer driver or software communications settings (if applicable).
recognized. The DATA light does not flash.		If you are using serial communication, check the serial port setting in the control panel menu.
		If you are using serial communication, make sure that you are using a null modem cable or a null modem adapter.
		Using the control panel menu, check the protocol setting. It should be set to NONE .
		If a driver is used, check the driver communication settings for your connection.
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 Table 5 on page 27 for requirements.
		Check the printer driver or software communications settings (if applicable).
A label format was sent to the printer but was not recognized. The DATA light flashes but no	The prefix and delimiter characters set in the printer do not match the ones in the label format.	Verify the prefix and delimiter characters
printing occurs.	Incorrect data is being sent to the printer.	Check the communication settings on the computer. Ensure that they match the printer settings.
		Ensure that ZPL II is being used.
		If the problem continues, check the ZPL II format for changes to ^CC, ^CT, and ^CD.

Table 4 • Communications Problems

Ribbon Problems

Table 5 identifies problems that may occur with ribbon, the possible causes, and the recommended solutions. For instructions on modifying printer parameters or calibrating the printer, refer to the User Guide.

Problem	Possible Cause	Recommended Solution	
Broken or melted ribbon	Darkness setting too high.	 Reduce the darkness setting. Clean the printhead thoroughly. 	
The printer does not detect when the ribbon runs out. In thermal transfer mode, the printer did not detect the ribbon even though it is loaded correctly.	The ribbon-out threshold is set too high to detect the ribbon. On a sensor profile, the ribbon-out threshold (circled in Figure 1) appears above the black bars that indicate the ribbon. This happens if you calibrate the printer without ribbon and later insert ribbon without recalibrating the printer or loading printer defaults. Figure 1 • Ribbon-Out Threshold Too High	 Print a sensor profile. Calibrate the printer, this time using ribbon, or load printer defaults. Important • Loading defaults resets all printer parameters back to factory defaults. Print another sensor profile, and compare it to the first one. If the ribbon-out threshold is still too high, you may manually change the value. 	
The ribbon light is on even though ribbon is loaded correctly.	The printer was not calibrated for the label and ribbon being used.	Calibrate the sensors.	

Table 5 • Ribbon Problems

Miscellaneous Printer Problems

Table 6 identifies miscellaneous problems with the printer, the possible causes, and the recommended solutions. For instructions on modifying printer parameters or calibrating the printer, refer to the User Guide.

Problem	Possible Cause	Recommended Solution	
The LCD displays a language that I cannot read	The language parameter was changed through the control panel or a firmware command.	 Press SETUP/EXIT to enter configuration mode. Press MINUS (-). The printer displays the LANGUAGE parameter in the current language. Even if you cannot recognize the characters displayed, you can still scroll to another language. Press PLUS (+) or MINUS (-) to scroll through the choices until you find a language that you can read. Press SETUP/EXIT. The LCD displays SAVE CHANGES in the original language. Press NEXT/SAVE to exit configuration mode and save the changes (if the language does not change, you may need to scroll to a different save option by pressing PLUS (+) or MINUS (-) in the previous step). Repeat this process, if necessary, until you reach the desired language. 	
The LCD is missing characters or parts of characters	The LCD may need replacing.	Run the <i>Power-On Self Test</i> on page 55 and check that the LCD display shows all characters. If not, replace the control panel. See <i>Control</i> <i>Panel</i> on page 452.	
Changes in parameter settings	Parameters are set incorrectly.	 Set parameters and save permanently. Turn the printer off (O) and then on (I). 	
und not take effect	A firmware command turned off the ability to change the parameter.	Refer to the <i>Programming Guide</i> for the printer language being used.	
	A firmware command changed the parameter back to the previous setting.	Refer to the <i>Programming Guide</i> for the printer language being used.	
	If the problem continues, there may be a problem with the main logic board.	Replace the main logic board. See <i>Main Logic</i> <i>Board</i> on page 464.	

Table 6 • Miscellaneous Printer Problems

Problem	Possible Cause	Recommended Solution
The printer fails to calibrate or detect the	The printer was not calibrated for the label being used.	Calibrate the printer.
top of the label.	The printer is configured for continuous media.	Set the media type to noncontinuous media.
	The driver or software configuration is not set correctly.	Driver or software settings produce commands that can overwrite the printer configuration. Check the driver or software media-related setting.
Non-continuous labels are being	The printer was not calibrated for the media being used.	Calibrate the printer.
treated as continuous labels.	The printer is configured for continuous media.	Set the media type to noncontinuous media.
All lights are on, but nothing displays on the LCD, and the	Internal electronic or firmware failure.	Turn the printer power off (O) and then on (I). If the printer locks up again, replace the main logic board.
printer locks up.		Turn the printer power off (O) and then on (I). If the printer locks up again, replace the main logic board. Replace the main logic board. See <i>Main</i> <i>Logic Board</i> on page 464.
The printer locks up while running the Power-On Self Test.	Main logic board failure.	Replace the main logic board. See <i>Main Logic</i> <i>Board</i> on page 464.

Table 6 • Miscellaneous	Printer	Problems	(Continued))
			· · · · · · · · · · · · · · · · · · ·	

Printer Diagnostics

Self tests and other diagnostics provide specific information about the condition of the printer. The self tests produce sample printouts and provide specific information that helps determine the operating conditions for the printer. The most commonly used are the Power-On and the CANCEL self tests.



Important • Use full-width media when performing self tests. If your media is not wide enough, the test labels may print on the platen roller. To prevent this from happening, check the print width, and ensure that the width is correct for the media that you are using.

Each self test is enabled by pressing a specific control panel key or combination of keys while turning on (I) the printer power. Keep the key(s) pressed until the first indicator light turns off. The selected self test automatically starts at the end of the Power-On Self Test.



Note •

- When performing these self tests, do not send data to the printer from the host.
- If your media is shorter than the label to be printed, the test label continues on the next label.
- When canceling a self test prior to its actual completion, always reset the printer by turning it off (**O**) and then on (**I**).
- If printer is in applicator mode and the liner is being taken up by the applicator, the operator must manually remove the labels as they become available.

Power-On Self Test

A Power-On Self Test (POST) is performed each time the printer is turned on (I). During this test, the control panel lights (LEDs) turn on and off to ensure proper operation. At the end of this self test, only the POWER LED remains lit. When the Power-On Self Test is complete, the media is advanced to the proper position.

To initiate the Power-On Self Test, complete these steps:

1. Turn on (**I**) the printer.

The POWER LED illuminates. The other control panel LEDs and the LCD monitor the progress and indicate the results of the individual tests. All messages during the POST display in English; however, if the test fails, the resulting messages cycle through the international languages as well.

CANCEL Self Test

The CANCEL self test prints a configuration label (Figure 2).

To perform the CANCEL Self Test, complete these steps:

- **1.** Turn off (**O**) the printer.
- **2.** Press and hold CANCEL while turning on (I) the printer. Hold CANCEL until the first control panel light turns off.

A printer configuration label prints (Figure 2).

I	PRINTER CONFIGURATION
	Zebra Technologies ZTC 140Xi4-200dpi ZBR3099332
	2407-01.0301485 2287349332 2287349332 2287349332 2287349332 2287349332 12 175 10 18621-14624 10 17621-14624 10 24 10 24 10 24 10 24 10 24 10 24 2000 2000 2012 2001 2001 2013 2014 2015 2016 2010
	066
	DPCSWFXM
	007 POWER SUPPLY 932 INTERFACE FW VERSION

Figure 2 • Sample Configuration Label

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 3 shows a sample printout.

To perform a PAUSE self test, complete these steps:

- **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 3 shows a sample of the labels.



Figure 3 • 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.
- To exit this self test at any time, press and hold CANCEL.

FEED Self Test

Different types of media may require different darkness settings. This section contains a simple but effective method for determining the ideal darkness for printing bar codes that are within specifications.

During the FEED self test, labels are printed at different darkness settings at two different print speeds. The relative darkness and the print speed are printed on each label. The bar codes on these labels may be ANSI-graded to check print quality.

The darkness value starts at three settings lower than the printer's current darkness value (relative darkness of -3) and increase until the darkness is three settings higher than the current darkness value (relative darkness of +3).

Depending on the dot density of the printhead, seven labels are printed at each of the following speeds:

- 203 dpi printers: 2 ips, 6 ips, and 10 ips
- 300 dpi printers: 2 ips, 6 ips, 8 ips
- 600 dpi printers: 2 ips, 4 ips

To perform a FEED self test, complete these steps:

- 1. Print a configuration label to show the printer's current settings.
- **2.** Turn off (**O**) the printer.
- **3.** Press and hold FEED while turning on (I) the printer. Hold FEED until the first control panel light turns off.

The printer prints a series of labels (Figure 4) at various speeds and at darkness settings higher and lower than the darkness value shown on the configuration label.



Figure 4 • FEED Test Label

4. See Figure 5 and Table 7. Inspect the test labels and determine which one has the best print quality for your application. If you have a bar code verifier, use it to measure bars/ spaces and calculate the print contrast. If you do not have a bar code verifier, use your eyes or the system scanner to choose the optimal darkness setting based on the labels printed in this self test.



Figure 5 • Bar Code Darkness Comparison

Print Quality	Description	
Too dark	Labels that are too dark are fairly obvious. They may be readable but not "in-spec."	
	• The normal bar code bars increase in size.	
	• The openings in small alphanumeric characters may fill in with ink.	
	• Rotated bar code bars and spaces run together.	
Slightly dark	Slightly dark labels are not as obvious.	
	• The normal bar code will be "in-spec."	
	• Small character alpha numerics will be bold and could be slightly filled in.	
	• The rotated bar code spaces are small when compared to the "in-spec" code, possibly making the code unreadable.	
"In-spec"	The "in-spec" bar code can only be confirmed by a verifier, but it should exhibit some visible characteristics.	
	• The normal bar code will have complete, even bars and clear, distinct spaces.	
	• The rotated bar code will have complete, even bars and clear, distinct spaces. Although it may not look as good as a slightly dark bar code, the bar code 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" bar codes.	
	• Both normal and rotated bar codes 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 bar codes have incomplete bars and spaces.	
	• Small alphanumeric characters are unreadable.	

Table 7 • Judging Bar Code Quality

- 5. Note the relative darkness value and the print speed printed on the best test label.
- **6.** Add or subtract the relative darkness value from the darkness value specified on the configuration label. The resulting numeric value is the best darkness value for that specific label/ribbon combination and print speed.
- 7. If necessary, change the darkness value to the darkness value on the best test label.
- 8. If necessary, change the print speed to the same speed as on the best test label.

FEED and PAUSE Self Test

Performing this self test temporarily resets the printer configuration to the factory default values. These values are active only until power is turned off unless you save them permanently in memory. If the factory default values are permanently saved, a media calibration procedure must be performed.

To perform a FEED and PAUSE self test, complete these steps:

- **1.** Turn off (**O**) the printer.
- **2.** Press and hold FEED and PAUSE while turning on (I) the printer.
- **3.** Hold FEED and PAUSE until the first control panel light turns off.

The printer configuration is temporarily reset to the factory default values. No labels print at the end of this test.

Communications Diagnostics Test

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 6 shows a typical test label from this test.



Note • The test label prints upside-down.



Figure 6 • Communications Diagnostics Test Label

To use communications diagnostics mode, complete these steps:

1. Set the printer to **DIAGNOSTICS**. For instructions, refer to the User Guide.

The printer enters diagnostics mode and prints any data received from the host computer on a test label

2. 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.
- **3.** Turn the printer off (**O**) and then back on (**I**) to exit this self test and return to normal operation.

Sensor Profile

Use the sensor profile label to troubleshoot the following types of problems:

- If the media sensor experiences difficulty in determining gaps (web) between labels.
- If the media sensor incorrectly identifies preprinted areas on a label as gaps (web).
- If the ribbon sensor cannot detect ribbon.

Print a sensor profile and compare your results to the examples shown in this section. If the sensitivity of the sensors must be adjusted, calibrate the printer. For instructions on printing a sensor profile or for calibrating the printer, refer to the User Guide.

Ribbon Sensor Profile (Figure 7) The bars (1) on the sensor profile indicate the ribbon sensor readings. The ribbon sensor threshold setting is indicated by the word RIBBON (2). If the ribbon readings are below the threshold value, the printer does not acknowledge that ribbon is loaded.

Figure 7 • Sensor Profile (Ribbon Section)



Media Sensor Profile (Figure 8) The media sensor readings are shown as bars and flat areas on the sensor profile. The bars (1) indicate gaps between labels (the web), and the low areas (2) indicate where labels are located. If you compare the sensor profile printout to a blank length of your media, the bars 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.

The media sensor threshold settings are shown by the words MEDIA (**3**) for the media threshold and WEB (**4**) for the web threshold. Use the numbers to the left of the sensor readings to compare the numeric readings to the sensor settings.







Data Ports



This section describes the standard communication ports available to connect the printer to your computer or network.

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Parallel Data Port

The parallel data interface supports IEEE 1284 bidirectional parallel communications in nibble mode. The parallel interface provides a means of communication that typically is faster than the serial interface methods. In this method, the bits of data that make up a character are sent all at one time over several wires in the cable, one bit per wire.

When communicating via the parallel port, the values selected on the printer must be the same as those used by the host equipment connected to the printer. Port selection for status information is determined by the channel sending the request. The parallel port can be set for bidirectional or unidirectional communication. The default setting is bidirectional.

Parallel Cabling Requirements

A standard 36-pin parallel connector is available on the back of the printer for connection to the data source. An IEEE-1284 compatible bidirectional parallel data cable is required when this communication method is used. The required cable must have a standard 36-pin parallel connector on one end that is plugged into the mating connector located at the rear of the printer. The other end of the cable connects to the printer connector at the host computer. Port selection for status information is determined each time the printer is turned on.

Parallel Port Interconnections

Table 8 shows the pin configuration and function of a standard computer-to-printer parallel cable.

36-Pin Connectors	Description	
1	nStrobe/HostClk	
2–9	Data Bits 1–8	
10	nACK/PtrClk	
11	Busy/PtrBusy	
12	PError/ACKDataReq	
13	Select/Xflag	
14	nAutoFd/HostBusy	
15	Not used	
16, 17	Ground	
18	+5 V at 750 mA	
	The maximum current draw may be limited by option configuration.	
	To enable this capability, a qualified service technician must install a jumper on the printer's main logic board on JP1, pins 2 and 3.	
19–30	Ground	

Table 8 • Parallel Cable Pin Configuration

36-Pin Connectors	Description
31	nInit
32	nFault/NDataAvail
33, 34	Not used
35	+5 V through a 1.8 KΩ Resistor
36	NSelectin/1284 active

Table 8 • Parallel Cable Pin Configuration (Continued)

Serial Data Port

To communicate using the serial data port of the printer, you must choose the number of data bits, parity, and handshaking. Parity applies only to data transmitted by the printer because the parity of received data is ignored.

The values selected must be the same as those used by the host equipment connected to the printer. Default printer settings are 9600 baud, 8 data bits, no parity, and XON/XOFF. The printer will accept any host setting for stop bits.

Hardware Control Signal Descriptions

For all RS-232 input and output signals, the printer follows both the Electronics Industries Association (EIA) RS-232 and the Consultative Committee for International Telegraph and Telephone (CCITT) V.24 standard signal level specifications.

When DTR/DSR handshaking is selected, the Data Terminal Ready (DTR) control signal output from the printer controls when the host computer may send data. DTR ACTIVE (positive voltage) permits the host to send data. When the printer places DTR in the INACTIVE (negative voltage) state, the host must not send data.



Note • When XON/XOFF handshaking is selected, data flow is controlled by the ASCII Control Codes DC1 (XON) and DC3 (XOFF). The DTR Control lead has no effect.

Request To Send (RTS) is a control signal from the printer that is connected to the Clear To Send (CTS) input at the host computer.

Pin Configuration

Connect the serial data cable to the female DB-9 connector on the back of the printer. For all RS-232 connections through a DB-25 cable, use a DB-9 to DB-25 interface module (see *DB-9* to *DB-25 Connections* on page 71).

Table 9 shows the pin configuration of the serial data connector.

Pin No.	Name	Description
1	-	Unused and unterminated
2	RXD	Receive data—data input to printer
3	TXD	Transmit data—data output from printer
4	DTR	Data terminal ready—output from printer
5	SG	Signal ground
6	DSR	Data set ready—input to printer
7	RTS	Request to send—output from printer
8	CTS	Clear to send—input to printer
9	+5 VDC	+5 VDC at 750 mA
		The maximum current draw may be limited by option configuration.
		Important • To enable this capability, a qualified service technician must install a jumper on the printer's main logic board on JP1, pins 2 and 3.

Table 9 • Serial Connector Pin Configuration

RS-232 Interface Connections

The printer is configured as Data Terminal Equipment (DTE). Figure 9 shows the internal connections of the printer's RS-232 connector.



Note • Use a null modem (crossover) cable to connect the printer to a computer or any other DTE device.



Figure 9 • RS-232 DB9 MLB Connections

Pin 9 is also available as a +5 VDC signal source at 750 mA. The maximum current draw may be limited by option configuration.



Important • To enable this capability, a qualified service technician must install a jumper on the printer's main logic board on JP1, pins 2 and 3.

DB-9 to DB-25 Connections

To connect the printer's RS-232 DB-9 interface to a DB-25 connector, an interface adapter is required. A generic DB-25 adapter can be used, although the +5 VDC signal source would not be passed through the adapter. Figure 10 shows the connections required for the DB-9 to DB-25 interface.



Figure 10 • DB-9 to DB-25 Cable Connections

Modem Connection

When the printer is connected via its RS-232 interface to Data Communication Equipment (DCE) such as a modem, use a standard RS-232 (straight-through) interface cable. Figure 11 shows the connections required for this cable.



Figure 11 • RS-232 Cable Connections

NOTE: Pin 1 is unused and unterminated at the printer.

USB 2.0 Port

A USB 2.0 port (which is USB 1.1 and 1.0 compatible) is available to connect your printer to the host equipment. The industry-standard USB cable has an A-male connector on one end and a B-male connector on the other end as shown in Figure 12.





Note • Use a USB 2.0-certified compliant cable no longer than 16.4 ft (5 m) long. A cable that meets these requirements is available from Zebra (part number 33011).
Applicator Interface Connector

An external DB-15 connector is present on the rear panel of the printer for communication with a customer applicator. An optional DB-15 to DB-9 adapter cable (Zebra part number 49609) is available to accommodate existing DB-9 interfaces.

Applicator Signals

The printer communicates with a customer applicator through a series of signals on the pins in the DB-15 connector. Each pin causes different things to happen when the signal is active (asserted) or not active (deasserted). *Applicator Interface Connector Pin Configuration* on page 75 provides additional information about each pin and signal.

	label format sent	label format processed	waiting for start print signal	label prints	ready for next label	
DATA READY (pin 14)						not ready
						ready
				r – r		do not start
START PRINT (pin 3)						
([┝━┛╴╴╴╴╴╴╴╴╴		start
						do not end
END PRINT						
(,,,,,,)				L		end

Figure 13 • Applicator Signals (Mode 1)

Figure 14 • Applicator Signals (Mode 2)

	label format sent	label format processed	waiting for start print signal	label prints	ready for next label	
DATA READY (pin 14)						not ready ready
				·		do not start
START PRINT						
(pin o)						start
						do not end
(pin 11)						
VI /				┢┛╴╴╴╴╴╴╴╴╴╴		end

	label format sent	label format processed	waiting for start print signal	label prints	ready for next label	
DATA READY (pin 14)						not ready ready
START PRINT (pin 3)						do not start start
END PRINT (pin 11)						do not end end

Figure 15 • Applicator Signals (Mode 3)

Figure 16 • Applicator Signals (Mode 4)

	label format sent	label format processed	waiting for start print signal	label prints	ready for next label	
DATA READY (pin 14)						not ready ready
START PRINT						do not start
(pin 3)						
						start
END PRINT						do not end
(Pirt 11)						end

Applicator Interface Connector Pin Configuration

The Applicator Interface Assembly is available in two versions: a + 5 V I/O and a + 24-28 V I/O. Table 10 lists the pin configurations and functions of the applicator interface connector for both +5 V and +24-28 V operation.

Pin No.	Signal Name	Signal Type	Description	
1	I/O SIGNAL GROUND (+5V Return)	I/O Signal Ground	Using jumper JP2, this pin can be configured as isolated or non-isolated from the printer signal ground. See <i>Jumper Configurations and Pinouts for +5 V I/O</i> <i>Operation</i> on page 78 for more information.	
1	I/O SIGNAL GROUND (+24-28V Return)	I/O Signal Ground	No jumpers to configure. Important • Customer must provide this external ground. (This ground can come from pin 8 when operating at 28V for all printers except the 110Xi4.) See <i>Pinouts for</i> +24-28 V I/O Operation on page 79 for more information.	
2	+5V I/O (Fused at 1 A) Caution • Replace the fuse only with one of the same type and rating.	Power	Using jumper JP1, this pin can be configured as isolated or non-isolated from the Applicator Interface Circuit +5 V Supply. See <i>Jumper Configurations and Pinouts for</i> +5 V I/O Operation on page 78 for more information.	
2	+24-28V I/O	Power	No jumpers to configure. This +24-28V power source also supplies voltage for output signal pull-up resistors. Important • Customer must provide this external power. (This power can come from pin 7 when operating at 28V for all printers except the 110Xi4.) See <i>Pinouts for +24-28 V I/O Operation</i> on page 79 for more information.	
3	START PRINT	Input	 See <i>Applicator Signals</i> on page 73 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.	

Table 10 • Applicator Interface Connector Pin Configuration

Pin No.	Signal Name	Signal Type	Description
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	+28 V (For the 5V board, +28V is fused at 2 A. For the 24–28V board, +28V is fused at 500 mA.) Caution • Replace the fuse only with one of the same type and rating.	Power	 The Interface Power Supply. Supplies power to external sensors as required. Note • If operating with 28V signals only, pin 7 may be used to supply power to pin 2, which creates a non-isolated mode of operation. (This is not applicable to the 110Xi4.)
8	POWER GROUND (+28 V DC Return)	Ground	The Interface Power Ground. Note • If pin 7 is used to supply power to pin 2, use this pin to ground pin 1. (This is not applicable to the 110Xi4.)
9	—	_	No function.
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

Table 10 • Applicator Ir	nterface Connector	Pin Configuration	(Continued)
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Pin No.	Signal Name	Signal Type	Description	
11	END PRINT	Output	See <i>Applicator Signals</i> on page 73 for more information about the start and end print signals.	
			• 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 while there is no media in the printer.	
13	RIBBON OUT	Output	Asserted LOW while there is no ribbon in the printer.	
14	DATA READY	Output	See <i>Applicator Signals</i> on page 73 for more information about this signal.	
			• Asserted LOW when sufficient data has been received to begin printing the next label.	
			• Deasserted HIGH whenever printing stops after the current label, due to either a pause condition or the absence of a label format.	
15	SPARE	Output	To be determined.	

Table 10 • Applicator Interface Connector Pin Configuration (Continued)

Jumper Configurations and Pinouts for +5 V I/O Operation

Jumpers JP1 and JP2 are used together to produce isolated or non-isolated modes of operation for applicator input and output control signals. JP1 configures the +5 V source for the optoisolator circuits, and JP2 configures the ground. For proper operation, when JP1 is installed, JP2 must be installed, and when JP1 is removed, JP2 must be removed.

Table 11 describes the pin and jumper configurations for +5 V I/O operation.

	Non-Isolated (Jumpers In)	Isolated (Jumpers Out)
Pin 1	Ground +5V, Jumper JP2 In I/O ground is connected to the printer signal ground.	External Ground +5V, Jumper JP2 Out I/O ground is disconnected from the printer signal ground. Ground must be provided externally to this pin.
Pin 2	+ 5V Output, Jumper JP1 In +5 V I/O is connected to the applicator interface circuit +5 V Supply.	External +5V Input, Jumper JP1 Out +5 V I/O is disconnected from the applicator interface circuit +5 V Supply. The +5 V for the applicator interface optoisolator circuits must be provided externally. This input also supplies voltage for output signal pull-up resistors.

Table 11 • Non-Isolated and Isolated Modes for +5V Operation

Pinouts for +24-28 V I/O Operation

Table 12 describes the pin configurations for +24–28 V I/O operation. There are no jumpers to configure for this mode.

	Isolated (External Power)	Non-Isolated (Internal Printer Power)	
Pin 1	External Ground +24-28V I/O ground must be connected to an external ground. (Required for the 110Xi4.)	Ground +28V from Pin 8 If pin 7 is used to supply power to pin 2, use pin 8 to ground pin 1. (Does not apply to the 110Xi4.)	
Pin 2	+24-28V External Input +24-28 V I/O must be connected to an external power supply. This input also supplies voltage for output signal pull-up resistors. (Required for the 110Xi4.)	 +28V Input from Pin 7 If operating with 28V signals only, pin 7 may be shorted to pin 2, which creates a non-isolated mode of operation. This input also supplies voltage for output signal pull-up resistors. (Does not apply to the 110Xi4.) 	
Pinouts	÷ +24-28V 1 2 3 4 5 6 +28V 6 +28V 500 mA 8 9 10 11 12 13 14 15 10 10 11 12 13 14 15 10 10 10 10 10 10 10 10 10 10	÷28V +28V +28V 500 mA ÷ 9 1 2 3 4 5 +28V 500 mA ÷ 9 1 1 2 3 4 5 +28V 5 0 1 1 2 3 4 5 +28V 5 1 1 2 3 4 5 5 1 1 2 3 4 5 5 1 1 1 2 3 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1	

Table 12 • Non-Isolated and Isolated Modes for +24–28V Operation



This section provides routine cleaning and maintenance procedures.

Contents

Replacing Printer Components
Ordering Replacement Parts 82
Recycling Printer Components 82
Lubrication
Cleaning Schedule and Procedures
Replace the Fuse

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 83 for the recommended cleaning intervals.

Ordering Replacement Parts

For optimal printing quality and proper printer performance across our product line, Zebra strongly recommends the use of genuine ZebraTM supplies as part of the total solution.

Contact your authorized Zebra reseller for part ordering information, or see *Contacts* on page 11 for contact addresses and telephone numbers.

Recycling Printer Components



The majority of this printer's components are recyclable. The printer's main logic board includes 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.

Lubrication

Other than lubricating the cutter blade after approximately 60,000 cuts, no lubrication is needed for this printer.



Caution • The cutter blade is sharp. Do not touch or rub the blade with your fingers.

Caution • Some commercially available lubricants will damage the finish and the mechanical parts if used inappropriately on this printer.

Cleaning Schedule and Procedures

Cleaning your printer regularly maintains print quality and may extend the life of the printer. The recommended cleaning schedule is shown in Table 13. See the following pages for specific procedures.

Caution • While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead. 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 • Use only the cleaning agents indicated. Zebra is not responsible for damage caused by any other fluids being used on this printer.

Area	Method	Interval
Printhead	Solvent*	Perform these procedures at the following times:
Platen roller	Solvent*	• When CLEAN HEAD NOW appears.
Transmissive (media) sensor	Air blow [†]	• Direct Thermal Print Mode: After every roll of labels or 500 ft (150 m) of forfold labels
Black mark sensor	Air blow [†]	Thermal Transfer Print Mode: After every roll
Media path	Solvent*	(1500 ft or 450 m) of ribbon.
Ribbon sensor	Air blow	
Label-available sensors	Air blow	Every 6 months, or as needed
Tear-off/peel-off bar	Solvent*	
Snap plate	Solvent*	As needed
Cutter	Solvent*	1

Table 13 • Recommended Printer Cleaning Schedule

* Zebra recommends using Preventive Maintenance Kit (part number 47362). In place of this kit, you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).

† If using canned air, it is recommended that you turn off the printer before cleaning.

Clean the Exterior

Clean the outside surfaces of the printer with a lint-free cloth. Use a mild detergent solution or desktop cleaner sparingly, as needed.

Caution • Do not use harsh or abrasive cleaning agents or solvents.

Clean the Media Compartment

After every four rolls of media, inspect the media compartment. Use a soft bristle brush or a vacuum cleaner to remove any dirt and lint from the interior of the printer.

Clean the Printhead and Platen Roller

If print quality does not improve after you perform this procedure, clean the printhead with *Save-a-Printhead* cleaning film. This specially coated material removes contamination buildup without damaging the printhead. Call your authorized Zebra reseller or distributor for more information.

Cleaning intervals are as follows, based on the printhead resolution:

For 203 and 300 dpi printers Clean the printhead after every roll (1500 feet or 450 m) of thermal transfer ribbon or after every roll (500 feet or 150 m) of direct thermal labels or when **CLEAN HEAD NOW** appears on the LCD. Clean the printhead more often if you see inconsistent print quality, such as voids in the bar code or graphics.

For 600 dpi printers Clean the printhead after each roll (500 feet or 150 m) of labels or when **CLEAN HEAD NOW** appears on the LCD. Clean the printhead more often if you see inconsistent print quality, such as voids in the bar code or graphics.



If power is removed from a 600 dpi printer when cleaning the printhead, the **CLEAN HEAD NOW** warning shown on the LCD will not disappear.



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



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

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

To clean the printhead and platen roller, complete these steps:

1. Open the printhead assembly by rotating the printhead-open lever (**1**) counter-clockwise.



2. Remove the media and ribbon (if loaded).

3. Using the swab from the Preventive Maintenance Kit (part number 47362), 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 a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%). Allow the solvent to evaporate.



- **4.** While manually rotating the platen roller, clean it thoroughly with the swab. Allow the solvent to evaporate.
- 5. Reload the media and the ribbon (if required).
- **6.** Push down the printhead assembly (**1**), and then rotate the printhead-open lever (**2**) clockwise until it locks into place.



Clean the Sensors

Brush or vacuum any accumulated paper lint and dust off the sensors. Clean the sensors according to the recommendations in *Cleaning Schedule and Procedures* on page 83.

Ribbon and Label-Available Sensor Locations

The ribbon sensor and optional label-available sensor are shown in Figure 17.



Figure 17 • Sensor Locations

1	Label-available sensors
2	Black mark sensor
3	Ribbon sensor

Transmissive Media Sensor

The uppper and lower transmissive media sensors are show in Figure 18 and Figure 19.



Figure 18 • Upper Media Sensor

Figure 19 • Lower Media Sensor



Media Out Sensor Location

The location of the media out sensor is shown in Figure 20.



Figure 20 • Media Out Sensor

Clean the Snap Plate

 1
 Left loop

Figure 21 • Snap Plate Location

Clean the snap plate when label adhesive or a label is stuck to the underside.

1	Left loop
2	Snap plate
3	Right loop

To clean the snap plate, complete these steps:

- **1.** See Figure 21. Insert a small-blade screwdriver or similar tool into the loop on the left side of the snap plate.
- **2.** Gently lift the left side of the snap plate.
- **3.** Insert a small-blade screwdriver or similar tool into the loop on the right side of the snap plate.
- 4. Gently lift the right side of the snap plate.
- 5. Remove the snap plate from the printer.
- 6. Using the swab from the Preventive Maintenance Kit (part number 47362), clean the snap plate. In place of the Preventive Maintenance Kit, you may use a clean swab or soft cloth dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%). Allow the solvent to evaporate.

- **7.** To reinstall the snap plate, insert the two tabs on the bottom of the snap plate into the two slots of the media path.
- **8.** Slide the snap plate toward you.
- **9.** Press down on the loops to lock the snap plate into place.

Clean the Cutter

If the cutter is not cutting the labels cleanly or if it jams with labels, clean the cutter.

To clean the cutter, complete these steps:

- **1.** Turn off (**O**) the printer.
- **2.** Unplug the power cord.
- **3.** Using the swab from the Preventive Maintenance Kit (part number 47362), clean the stationary cutter blade. In place of the Preventive Maintenance Kit, you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%). Allow the solvent to evaporate.



4. If cleaning does not remove label fragments and adhesive, contact an authorized service technician.

Replace the Fuse

The instructions that follow are for the 140Xi4, 170Xi4, and 220Xi4 printers only. Fuses are not user-replaceable in the 110Xi4.



Caution • Turn the AC power switch off (**O**) and remove the power cord before performing this procedure.

The printer uses a metric-style fuse $(5 \times 20 \text{ mm IEC})$ rated at F5A, 250 V. The AC power entry module comes with two approved fuses in the fuse holder: one is in-circuit, and the second is provided as a spare. The end caps of the fuse must bear the certification mark of a known international safety organization (see Figure 7 on page 31).

To replace a faulty fuse, complete these steps:

1. Use a small-blade screwdriver or similar tool to remove the fuse holder.

The fuse holder is part of the AC power entry module at the rear of the printer (Figure 22).



Figure 22 • AC Power Entry Module

1	Power switch
2	Fuse holder
3	AC power entry module
4	Small-blade screwdriver

2. Remove the faulty fuse and install a new fuse in the in-circuit position (Figure 23).

Important • If you use the spare fuse, be sure to order a replacement fuse from an authorized Zebra distributor. The spare fuse should be the exact type and rating as the original in-circuit fuse.







- 3. Snap the fuse holder back into the AC power entry module.
- **4.** Reconnect the power cord, and turn the printer on (**I**).

Note • If the printer does not power on, an internal component failure may have occurred, and the printer requires servicing by an authorized service technician.

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Notes •	 	 	
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3 Corrective Maintenance



This section shows you how to replace parts.

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Print System



This section contains information on changing the printhead, ribbon strip plate, pivot bar, toggle, and head open flag.

Contents

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Printhead Assembly

This kit includes the parts and documentation necessary to install a printhead into the following Xi4TM printers.

Read these instructions thoroughly before attempting to install this kit.



Note • For optimal printing quality and proper printer performance across our product line, Zebra strongly recommends the use of genuine ZebraTM supplies as part of the total solution. Specifically, the Xi4 are designed to work only with genuine ZebraTM printheads, thus maximizing safety and print quality.

Tools Required



Tools • You need these tools to complete this procedure:

- □ Flatblade Screwdriver Set
- □ SAE Hex Key (Allen Wrench) Set
- □ Antistatic Mat and Wrist Strap
- 47362* Zebra Preventive Maintenance Kit

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).



Note • For best print quality replaced the platen roller.

Remove the Printhead



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

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

2. See Figure 24. Open the media door.



Figure 24 • Open the Media Door

1	Media door
2	Lever

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

See Figure 25. Open the printhead assembly by rotating the head control lever to the open position. Remove the media and ribbon, and then close the printhead assembly by rotating the head control lever to the close position.



Figure 25 • Turn the Lever to Open the Printhead



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

Connect yourself to an antistatic device.

5. See Figure 26. Locate the mounting screw on top of the printhead assembly. Loosen the mounting screw until the printhead comes loose.



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

Slowly open the printhead assembly. The printhead will be resting on the platen while the rest of the assembly pivots out of the way.



Figure 26 • Replace Printhead

1	Printhead mechanism assembly
2	Printhead mounting screw
3	Printhead alignment posts
4	Power cable locking tab
5	Printhead power connector
6	Printhead alignment slots
7	Printhead data connector

- **7.** Spread the holding tabs on the sides of the printhead data connector to release the data cables and then disconnect the data cable.
- **8.** Grasp the outside edges of the printhead power cable connector and press down on the power cable locking tab.



Note • There are two power connectors on the 220Xi4.

- 9. While maintaining pressure on the locking tab(s), disconnect the printhead power cable(s).
- **10.** Remove the printhead.

Install the Printhead

1.



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

Spread the holding tab(s) on the top of the power connector(s) and connect the printhead data cable(s) to the proper connectors. The holding tab(s) must snap into place.

- **2.** Carefully position the alignment slots of the new printhead with the alignment posts on the mounting bracket.
- **3.** Make sure the cables are in their proper channels and are not binding.
- **4.** The two locating posts on either side of the mounting plate slip into the locating holes of the printhead assembly.
- 5. Make sure the printhead mounting screw is properly aligned, and then tighten it.
- **6.** Clean the new printhead elements using Zebra's Preventive Maintenance Kit, part number 47362 or you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).
- 7. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- 8. Reconnect the AC power cord and data cables.
- 9. Press and hold PAUSE while turning on (I) the printer.
- 10. When the printer begins printing labels, refer to Set the Darkness on page 108.
- **11.** Press PAUSE to pause the printer and check the labels for proper print quality. If the print quality not correct continue with *Adjust the Printhead*.

Adjust the Printhead

Five interrelated adjustments lead to optimum print quality with increased printhead life:

- Printhead Parallelism
- Wear Plate (Balance) Position
- Printhead Position
- Printhead Pressure
- Strip Plate Position



Note • To achieve optimum results with print quality adjustments, install full-width media and ribbon. Verify the media and ribbon are properly matched, and that darkness and print speed configurations are correct for the application before performing any mechanical adjustments.

Prior to Performing Printhead Adjustments

30mm

Figure 27 • Adjust Toggle

Position the toggle(s) as follows:

 See Figure 27. 110/140/170/220Xi4 and R110Xi4: Position each toggle over the width of the media.

- **2.** Adjust the toggle spring while the head is closed and locked by turning the lower knurled nut until the distance from the top of the toggle foot to the bottom of the lower knurled nut equals 1.18 in. (30mm).
- **3.** Press PAUSE to continue the Pause Self Test.
- 4. Press PAUSE to pause the Pause Seft Test.

Printhead Parallelism



Important • Excessive toggle pressure will increase printhead wear and decrease printhead life. Increase printhead life by combining minimum toggle pressure and optimum printhead position over the platen roller.

The order in which the adjustments are performed depends on the print quality of the labels printed during the Pause Self Test.

Complete the first two printhead adjustments (Parallelism and Wear Plate) prior to locating the optimum print position. As with the other adjustments, parallelism and wear plate adjustments are interrelated. Adjusting one may have an effect on the position of the other.

This adjustment is performed in conjunction with the wear plate position, printhead position, and printhead pressure adjustments.

Adjusting the printhead parallelism squares the printhead to the platen roller.

Test the Printhead Parallelism

See Figure 28. Prior to starting this test, ensure the installed media is square with the tear-off bar and that the toggle is set to 30 mm.

- **1.** Press PAUSE to continue the Pause Self Test.
- 2. The uppermost line on the test label should be parallel to the top edge of the label.
- **3.** Are the print lines parallel to the top of the label?

lf	Then
No	Continue to Adjust the Printhead Parallelism.
Yes	Go to Adjust the Wear Plate Position on page 105.

Adjust the Printhead Parallelism

- **1.** Ensure that the printhead is seated properly.
- **2.** Press PAUSE to continue the Pause Self Test.
- **3.** Press PAUSE to pause the Pause Self Test to adjust is necessary.
- 4. See Figure 28. Loosen the four screws at the top rear of the print mechanism.
- **5.** Adjust the parallel location of the uppermost lines by turning one of the two screws located at the back of the print mechanism. Only small adjustments are required.
- **6.** To move the printhead forward, turn the adjustment screw clockwise as viewed from the rear of the printer.
- **7.** To move the printhead backward, turn the adjustment screw counter-clockwise as viewed from the rear of the printer.
- **8.** Adjust each side as necessary to align the uppermost line of the test label parallel with the top edge of the label.
- **9.** Press PAUSE to run additional Pause Self Test labels to check for proper parallelism.
- **10.** Tighten the four top screws, and then run additional Pause Self Test labels to verify proper positioning.
- **11.** Press PAUSE to pause the Pause Self Test.



Figure 28 • Printhead Parallelism Adjustment

1	Toggle knurled adjusting nut
2	Parallelism adjustment screws (2)
3	Eccentric
4	Wear plate screws (2)
5	Strip plate
6	Tear-off bar

Adjust the Wear Plate Position

Adjusting the wear plate position produces even pressure across the full width of the printhead and platen roller.

- **1.** Ensure that the printhead is seated properly.
- 2. See Figure 29 on page 108. Loosen the two screws on the front of the strip plate.
- **3.** Press PAUSE to continue the Pause Self Test.
- **4.** After printing a few labels, press PAUSE and reduce the darkness value until the test labels are a charcoal gray color (see *Set the Darkness* on page 108).
- 5. Press PAUSE to run additional Pause Self Test labels and observe the print quality.
- **6.** If printing is evenly dark, the wear plate position is good. If lighter or no printing is observed on one side of the label, continue with this adjustment.
- 7. Loosen the two screws securing the wear plate.
- 8. Continue to print pause test labels while adjusting the wear plate eccentric.
- 9. Adjust the wear plate eccentric by turning it by hand, a wrench, or a pair of utility pliers.

- **10.** Adjust the wear plate eccentric clockwise to increase pressure on the main frame side of the label, or adjust it counter-clockwise to increase pressure on the outboard side of the printer.
- **11.** When even print quality is achieved, hold the wear plate in position and retighten the two wear plate screws.
- **12.** Press PAUSE to pause the Pause Self Test.
- **13.** Is parallelism out of tolerance?

lf	Then
No	Align the strip plate. Go to Align the Strip Plate on page 109.
Yes	Go to Adjust the Printhead Parallelism on page 104.

Adjust the Printhead Position

This adjustment is performed in conjunction with the printhead parallelism, wear plate position, and printhead pressure adjustments.

Adjusting the printhead position aligns the printhead for optimum print quality.

- **1.** See Figure 28 on page 105. The thermal elements of the printhead should be aligned just behind the crest of the platen roller.
- 2. Press PAUSE to continue the Pause Self Test.
- **3.** Set the darkness to achieve as close to optimum print quality as possible (see *Set the Darkness* on page 108).
- **4.** If the position is incorrect press PAUSE to pause the Pause Self Test and then loosen the four screws at the top rear of the print mechanism.

Caution • To prevent printhead damage, loosen the four top screws before turning the two adjustment screws.

5. Adjust the printhead position for optimum print quality by equally turning the two screws located at the back of the print mechanism.



Note • Adjustments are made in very small increments.

Due to spring pressure, there may be a dead spot in the actual printhead movement when switching adjustments from one direction to the other.

- **6.** Turn both screws 1/8 turn clockwise and observe the changes in print quality. Turn both screws 1/8 turn counter-clockwise and observe the changes in print quality.
- **7.** Press PAUSE and check the test labels for streaks, flouring, and other print quality problems.
- 8. Adjust the screws while observing print quality.

- **9.** Since printhead parallelism, wear plate position, and printhead positions are interrelated, look at the test labels for changes in these settings and adjust if necessary.
- **10.** Press PAUSE to pause the Pause Self Test.

Adjust the Printhead Pressure

Printhead pressure is the fourth of the five interrelated adjustments. Using lower printhead pressure and darkness settings can extend printhead life. If printing is too light on one side, or if thick media is used, printhead pressure may require adjustment.

See Figure 29. Locate the pressure toggles. The Xi4 printers have two toggles. These toggles are typically positioned at the 1/4 and 3/4 positions across the width of the media. If the media is sufficiently narrow that both toggles will not fit within its edges, the inside toggle should be centered above the media.

- **1.** Press PAUSE to continue the Pause Self Test.
- **2.** See Figure 27 on page 103. To increase printhead pressure, loosen the upper knurled nut on the toggle and adjust the lower toggle adjusting nut downwards.
- **3.** To decrease printhead pressure, loosen the upper knurled nut and adjust the lower toggle adjusting nut upwards.
- 4. Adjust printhead pressure for optimum print quality.
- **5.** To lock the toggle pressure, tighten the upper knurled nut against the lower toggle adjusting nut.
- **6.** Though different media and ribbon combinations may require different toggle settings, a suggested initial distance between the top of the toggle foot to the bottom of the lower knurled nut equals 1.18 in. (30 mm).
- 7. Continue to *Set the Darkness* on page 108.



Figure 29 • Adjust the Printhead Pressure

Set the Darkness

Darkness settings depend on a variety of factors, including ribbon type, labels, and the condition of the printhead. You may adjust the darkness for consistent high quality printing.

- If printing is too light, or if there are voids in printed areas, you should increase the darkness.
- If printing is too dark, or if there is spreading or bleeding of printed areas, you should decrease the darkness.
- Darkness settings also may be changed by the driver or software settings.

Press PAUSE to continue the Pause Self Test to determine the best darkness setting. Because the darkness setting takes effect immediately, you can see the results on labels that are currently printing.



Note • Turning off (**O**) the printer is not required for the new setting to take effect.

Set the darkness to the lowest setting that provides good print quality. If the darkness is set too high, the ink may smear, or the ribbon may burn through.

Begin printing a batch of labels, using the Pause Self Test labels. Adjust the darkness setting to obtain the desired print quality. the Darkness does not need saved until the correct darkness is found. The darkness settings can be adjusted while the Pause Self Test is running.

- Decreasing the value in the display causes a lighter (less black) image.
- Increasing the value causes a darker (blacker) image.
- 1. Press SETUP/EXIT to enter the Configuration Mode. DARKNESS is displayed.
- 2. Press the left oval to decrease the value or right oval to increase the value.
- 3. Press SETUP/EXIT and then NEXT/SAVE to permanently save the darkness setting.
4. Press PAUSE to pause the Pause Self Test.

Align the Strip Plate

The strip plate adjustment is a very important part of the printhead adjustment procedure, and can be adjusted for proper tracking and separation of the ribbon from the media.

See Adjust the Printhead Pressure on page 108.

- **1.** Press PAUSE to continue the Pause Self Test.
- **2.** Press PAUSE to pause the Pause Self Test and observe the ribbon for possible problems such as wrinkling.
- **3.** Press PAUSE to continue the Pause Self Test, lower the strip plate until the ribbon is an inverted V (Λ), smooth and tracks properly when fed to the ribbon take-up spindle.
- **4.** Tighten the strip plate screws and print a minimum of 25 labels while checking for ribbon wrinkle, tracking, and media/ribbon separation problems. If ribbon problems persist, check the torque settings of the ribbon supply spindle and adjust tension if required.

Print Mechanism Hardware

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Flat-blade Screwdriver Set
- □ Safety Glasses

- □ Needle-nose Pliers
- □ Antistatic Wriststrap and Mat
- □ 47362* Zebra Preventive Maintenance Kit
- * In place of the Preventive Maintenance Kit, you may use clean swabs and a solution containing isopropyl alcohol (≥ 90%) with deionized water (≤10%).

Remove the Printhead



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

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

2. See Figure 30. Open the media door.



Figure 30 • Open the Media Door

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

See Figure 31. Open the printhead assembly by rotating the head control lever to the open position. Remove the media and ribbon, and then close the printhead assembly by rotating the head control lever to the close position.



Figure 31 • Turn the Lever to Open the Printhead



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

Connect yourself to an antistatic device.

5. See Figure 32. Locate the mounting screw on top of the printhead assembly. Loosen the mounting screw until the printhead comes loose.



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

Slowly open the printhead assembly. The printhead will be resting on the platen while the rest of the assembly pivots out of the way.



Figure 32 • Replace Printhead

1	Printhead mechanism assembly
2	Printhead mounting screw
3	Printhead alignment posts
4	Power cable locking tab
5	Printhead power connector
6	Printhead alignment slots
7	Printhead data connector

- **7.** Spread the holding tabs on the sides of the printhead data connector to release the data cables and then disconnect the data cable.
- **8.** Grasp the outside edges of the printhead power cable connector and press down on the power cable locking tab.



Note • There are two power connectors on the 220Xi4.

- 9. While maintaining pressure on the locking tab(s), disconnect the printhead power cable(s).
- **10.** Remove the printhead.

11. See Figure 33. Close the print mechanism and remove the two mounting screws and lock washers that secure the pressure plate to the print mechanism.



Figure 33 • Disconnect the Printhead Ground

- **12.** Slide the ground cable under the print mechanism pressure plate and then open the print mechanism.
- **13.** Pull the ground cable out of the print mechanism.

14. See Figure 34. Remove the printhead cable cover by removing the two mounting screws.



Figure 34 • Remove the Printhead Cable Cover

- 2 Mounting screws (2)
- **15.** See Figure 35. Remove the ribbon sensor from the print mechanism removing the mounting screw and rubber washer.



Figure 35 • Remove the Ribbon Sensor

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.

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

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

Open the media door and remove the media and ribbon.

3. See Figure 36. Remove the electronics cover by removing the three mounting screws securing it.



Figure 36 • Remove the Electronics Cover

4. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

5. Which model of Xi4 are you working on?

If you have a	Then
110Xi4 w/printhead test board	Continue with <i>Remove the Printhead Test Board</i> .
• 110Xi4 w/o printhead test board	Go to Remove the Old Print Mechanism on page 119.
• 140Xi4	
• 170Xi4	
• 220Xi4	

Remove the Printhead Test Board

- **1.** Take note of all cable connections and then disconnect all cables.
- **2.** See Figure 37. Remove and discard the mounting screw securing the printhead test board shield.



Figure 37 • Remove the Printhead Test Board Shield



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

Connect yourself to an antistatic device.

- **4.** See Figure 38. Disconnect all cables connected to the printhead test board.
- **5.** Lift the printhead test board shield and then remove the two mounting screws and the printhead test board.





1	Printhead test board shield
2	Top mounting spacer
3	Right mounting spacer
4	Left mounting spacer
5	Printhead test board
6	Mounting screws (2)

Remove the Old Print Mechanism



1. **Caution** • 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.

See Figure 39. With a pair of needle nose pliers remove the printhead lift spring from the printhead lift spring stop.



Figure 39 • Remove the Printhead Lift Spring and E-ring

- **2.** Remove the e-ring and then slide the printhead lift spring off the print mech shaft.
- **3.** Remove the c-ring from the print mech shaft.

4. See Figure 40. On the media side turn the head open handle to open and the remove and discard the two mounting screws, flat washers, lock washer, eccentric pin, and wear plate.





1	Print mechanism
2	Eccentric pin
3	Flat washer
4	Long mounting screw
5	Lock washer
6	Short mounting screw
7	Wear plate
8	Head open handle

5. See Figure 41. Slide the print mechanism out of the printer.



Figure 41 • Remove the Print Mechanism

Install the New Print Mechanism

- 1. See Figure 41. Slide the new crescent washer onto the print mechanism shaft and then slide the print mechanism into the print mechanism mounting hole, ensuring the printhead cables do not snag on the print mechanism.
- **2.** See Figure 40 on page 120. Install the new wear plate using the new screws, flat washers, lock washer, and eccentric pin. Snug the screws but do not tighten at this time you will have to adjust the wear plate.
- **3.** Close the print mechanism.

 \bigcirc

4. **Caution** • 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.

See Figure 42. On the electronics side install the new c-ring.



Figure 42 • Install the C-ring and Printhead Lift Spring

1	Printhead lift spring stop
2	C-ring
3	Printhead lift spring
4	E-ring
5	Print mechanism shaft

- **5.** Slide the new printhead lift spring onto the print mechanism shaft shown and then install the e-ring.
- **6.** With a needle-nose pliers turn the printhead lift spring counter clockwise and hook it to the printhead lift spring stop.

7. Which model Xi4 are you working on?

If you have a	Then	
110Xi4 w/printhead test board	a. See Figure 38 on page 118. Align the printhead test board, with J1 and J2 at the bottom and facing out, with the mounting spacers and then install the top and right mounting screws.	
	 b. See Figure 37 on page 117. Bend the printhead test board shield down until the mounting hole aligns with the left mounting hole in the printhead test board and then reinstall the printhead mounting board shield mounting screw. 	
• 110Xi4 w/o printhead test board	Continue with <i>Reinstall the Electronics Cover</i> .	
• 140Xi4		
• 170Xi4		
• 220Xi4		

Reinstall the Electronics Cover

- **1.** See Figure 36 on page 116. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.

Reinstall the Printhead

- **1.** See Figure 33 on page 114. Remove the two print mechanism pressure plate mounting screws and lock washers.
- **2.** Open the print mechanism slide the printhead ground cable through the left hole in the print mechanism and then under the print mechanism pressure plate.
- **3.** Close the print mechanism.
- **4.** Slide the left print mechanism pressure plate mounting screw through the printhead ground cable's eyelet, lock washer, and then reinstall the screw into the print mechanism and tighten.
- 5. Reinstall and tighten the right mounting screw and lock washer.
- **6.** Open the print mechanism.

 Caution • Do not over tighten the ribbon sensor mounting screw, damage will occur to the ribbon sensor.

See Figure 35 on page 115. Reinstall the ribbon sensor into the print mechanism by sliding the mounting screw through the mounting hole in the ribbon sensor, rubber washer, and then into the print mechanism and slightly tighten.

8. See Figure 43. Push the printhead cables behind and above the print mechanism roller.



Figure 43 • Move the Printhead Cables

3 Printhead power cable
9. See Figure 34 on page 115. Reinstall the printhead cable cover plate by aligning the plate with mounting holes in the print mechanism shaft and then reinstall the two mounting



screws.

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

See Figure 32 on page 113. Spread the holding tab(s) on the top of the power connector(s) and connect the printhead data cable(s) to the proper connectors. The holding tab(s) must snap into place.

- **11.** Carefully position the alignment slots of the new printhead with the alignment posts on the mounting bracket.
- **12.** Make sure the cables are in their proper channels and are not binding.

- **13.** The two locating posts on either side of the mounting plate slip into the locating holes of the printhead assembly.
- 14. Make sure the printhead mounting screw is properly aligned, and then tighten it.
- **15.** Clean the new printhead elements using Zebra's Preventive Maintenance Kit, part number 47362 or you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).
- 16. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **17.** Reconnect the AC power cord and data cables.
- **18.** Press and hold PAUSE while turning on (I) the printer.
- **19.** Press PAUSE to pause the printer and check the labels for proper print quality. If the print quality not correct continue with .

Adjust the Printhead

Caution • Other than printhead pressure, printhead adjustments rarely need to be performed, even after replacing the printhead. These adjustments should be performed only by a qualified technician who has been specifically trained. Do not perform these adjustments unless you have been trained to do so.

There are four printhead adjustments that affect print quality. The adjustments must be performed in the following order:



Note • The following adjustments are interrelated and may have to be performed more than once to achieve desired results.

- Printhead Pressure
- Printhead Position
- Wear Plate (Balance) Position
- Printhead Parallelism



Note • To achieve optimum results with print quality adjustments, install full width media and ribbon. Verify that media and ribbon are properly matched and darkness/print speed configurations are correct for the application before performing any mechanical adjustments.

Toggle Pressure

- **1.** Ensure that the power switch is in the off (**O**) position.
- **2.** See Figure 44. Measure the distance from the top of the toggle foot to the bottom of the lower knurled nut. If the measurement is not 1-3/16 in. (30 mm), loosen the upper knurled nut and adjust the lower knurled nut until the distance is correct.

Figure 44 • Set the Initial Toggle

1 Toggle assembly 2 Lock nut Upper knurled nut 3 4 Set to 1-3/16 inch (30 mm) 5 Toggle foot 6 Spring Lower knurled nut 7

- **3.** Tighten the upper knurled nut against the lower knurled nut to lock that position.
- **4.** Repeat step 2 and step 3 on the other toggle.
- 5. Caution • When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon, and reposition the toggles for printing.

6. Perform the Pause Key Self Test by pressing and holding PAUSE while turning the printer on (**I**).

Note • To increase printhead pressure, loosen the upper knurled nut on the toggle and adjust the lower toggle knurled nut downward. To decrease printhead pressure, loosen the upper knurled nut and adjust the lower knurled nut upward.

7. Adjust printhead pressure for the lowest pressure that produces acceptable print quality. Lock the toggle pressure by tightening the upper knurled nut against the lower knurled nut.



Adjust the Wear Plate

- **1.** Press and hold PAUSE while turning on the printer. Pause Key Test labels will start printing.
- **2.** Press PAUSE to pause the printer.
- 3. Press SETUP/EXIT to enter the configuration mode, DARKNESS will be displayed.
- 4. Press Minus (-) to decrease the darkness setting.
- **5.** Press PAUSE to restart the printer and then continue pressing Minus (–) until the Pause Key Self Test labels are a charcoal-gray color.
- 6. Press PAUSE to stop the printer.
- 7. Slightly loosen the two screws on the wear plate.



Figure 45 • Adjust the Wear Plate



Note • Print Pause Key Test labels while adjusting the wear plate eccentric and check for even printing.

Adjust the wear plate eccentric by turning it by hand or with an open-end wrench or pliers. Make very small adjustments and check the results.

Wear plate adjustments can adversely affect all adjustments. Additional adjustments may be necessary.

8. Adjust the wear plate eccentric clockwise to increase pressure on the main frame side of the label or adjust it counterclockwise to increase pressure on the outboard side of the printer.

- **9.** When even print quality is achieved, hold the wear plate eccentric in position and tighten the two wear plate screws.
- **10.** Press Plus (+) to increase the darkness setting until the Pause Key Self Test labels are at optimum resolution and contrast.
- **11.** Continue to print Pause Key Self Test labels and verify even printing and parallelism.
- 12. If parallelism is out of tolerance, perform the *Adjust Printhead Parallelism* on page 130.
- **13.** If no other adjustment is required, tighten the two screws to lock the adjustment.

Printhead Position

Caution • Other than printhead pressure, printhead adjustments rarely need to be performed, even after replacing the printhead. These adjustments should be performed only by a qualified technician who has been specifically trained. Do not perform these adjustments unless you have been trained to do so.

Adjusting the printhead position moves the printhead with respect to the platen for optimum print quality. If satisfactory print quality cannot be achieved or can be achieved only with higher than normal darkness settings or higher than normal printhead pressure, the printhead may not be in the proper position.



Note • The thermal elements of the printhead should be aligned just behind top dead center of the platen roller.

- 1. Print test labels using the Pause Key Self Test.
- 2. See Figure 46. Loosen the four screws at the top rear of the print mechanism.







Note • Make very small adjustments and check the results. Turn the screws clockwise to move the printhead toward the front of the printer. Turn the screws counterclockwise to move the printhead toward the back of the printer.

A special hex key wrench allows adjustment of the printhead location screws while the printer is running.

- **3.** Adjust the printhead position by turning equally the two screws located at the back of the print mechanism. Turn both screws one-eighth of a turn clockwise and observe the changes in print quality. Turn both screws one-sixteenth of a turn counterclockwise and observe the changes in print quality. Due to spring pressure, there may be a dead spot in the actual printhead movement when changing adjustment direction.
- 4. Continue to make small adjustments until the best quality is achieved.
- **5.** Decrease the darkness setting until the Pause Key Self Test labels are a charcoal-gray color.
- 6. Inspect the test labels for streaks and other print quality problems.
- 7. If required, adjust the printhead position until print quality problems are corrected.
- **8.** Increase the darkness until the Pause Key Self Test labels are printed at optimum resolution and contrast.

- **9.** When acceptable print quality is achieved, tighten the four screws at the top of the printhead.
- **10.** Run additional Pause Key Self Test labels to verify proper positioning.

Adjust Printhead Parallelism

Caution • Printhead parallelism adjustment rarely needs to be performed. Do not perform this adjustment unless you have been trained to do so. If the procedure is not done correctly, print quality will be adversely affected.

The printhead parallelism adjustment corrects for printing skew. If the lines at the top of the Pause Key Self Test labels are not parallel to the media, this adjustment should be performed.

1. See Figure 46 on page 129. Loosen the four screws at the top rear of the print mechanism.



Note • Make very small adjustments and check the results. Turn the screws clockwise to move the printhead toward the front of the printer. Turn the screws counterclockwise to move the printhead toward the back of the printer.

A special hex key wrench allows adjustment of the printhead location screws while the printer is running.

- **2.** Adjust the parallel location of the uppermost lines by turning one of the screws located at the back of the print mechanism.
- **3.** Adjust one side as necessary to align the uppermost line of the test label parallel with the top edge of the label.
- **4.** To check the results of your adjustments, run additional Pause Key Self Test labels and check for proper parallelism.
- 5. When parallelism is achieved, tighten the four screws at the top of the printhead.
- 6. Run additional Pause Key Self Test labels to verify proper positioning.

Adjust the Strip Plate

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

- **1.** Print Pause Key Self Test labels.
- **2.** Press PAUSE, wait until the printer pauses, then observe the ribbon for problems such as wrinkling.

3. See Figure 47. Loosen but do not remove the two screws securing the strip plate to the front of the printhead assembly.



Figure 47 • Adjust the Ribbon Strip Plate

- **4.** While running the Pause Key Self Test, raise the strip plate all the way up and then lower the strip plate until the ribbon tracks flat and smoothly when fed to the ribbon take-up spindle.
- **5.** Tighten the strip plate screws. Print a minimum of 25 labels and check for ribbon wrinkle, tracking, and media and ribbon separation problems.
- **6.** Press SETUP/EXIT and then press NEXT/SAVE.

Printhead Cables

This kit includes the parts and documentation necessary to install the Printhead Cable maintenance kit in the Xi4[™] printers. Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

□ Wire Cutters

- □ SAE Nutdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ 47362* Zebra Preventive Maintenance Kit
- * In place of the Preventive Maintenance Kit, you may use clean swabs and a solution containing isopropyl alcohol (≥ 90%) with deionized water (≤10%).

Remove the Printhead



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

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

2. See Figure 48. Open the media door.



Figure 48 • Open the Media Door

1	Media door
2	Lever

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

See Figure 49. Open the printhead assembly by rotating the head control lever to the open position. Remove the media and ribbon, and then close the printhead assembly by rotating the head control lever to the close position.



Figure 49 • Turn the Lever to Open the Printhead



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

Connect yourself to an antistatic device.

5. See Figure 50. Locate the mounting screw on top of the printhead assembly. Loosen the mounting screw until the printhead comes loose.



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

Slowly open the printhead assembly. The printhead will be resting on the platen while the rest of the assembly pivots out of the way.



Figure 50 • Replace Printhead

1	Printhead mechanism assembly
2	Printhead mounting screw
3	Printhead alignment posts
4	Power cable locking tab
5	Printhead power connector
6	Printhead alignment slots
7	Printhead data connector

- **7.** Spread the holding tabs on the sides of the printhead data connector to release the data cables and then disconnect the data cable.
- **8.** Grasp the outside edges of the printhead power cable connector and press down on the power cable locking tab.

Note • There are two power connectors on the 220Xi4.

9. While maintaining pressure on the locking tab(s), disconnect the printhead power cable(s).



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

Remove the printhead.

11. See Figure 51. Close the print mechanism and the remove the two screws securing the print mechanism pressure plate.



Figure 51 • Remove the Printhead Ground

- **12.** Slide the ground cable under the print mechanism pressure plate and then open the print mechanism.
- **13.** Pull the ground cable out of the print mechanism.

Remove the Electronics Cover



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

4

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

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

2. See Figure 52. Remove the electronics cover by removing the three mounting screws securing it.



Figure 52 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Disconnect All Printhead Cables



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

Connect yourself to an antistatic device.

2. See Figure 53. Unplug the printhead data cable connected to P19 on the main logic board (MLB).



Figure 53 • Disconnect the Printhead Data Cable

3. Which model of Xi4 are you working on?

If you have a	Then
110Xi4 w/ printhead test board	Go to Remove the Printhead Test Board on page 141.
110Xi4 w/o printhead	a. See Figure 54 on page 139. Unplug the AC power input cable from the AC/DC power supply.
test board	b. See Figure 55 on page 139. Remove the two AC/DC power supply shield mounting screws and then remove the shield.
	c. See Figure 56 on page 140. Unplug the printhead power cable from J3 on the AC/DC power supply.
	d. Go to <i>Remove the Old Printhead Cables</i> on page 143.
• 140Xi4	e. See Figure 57 on page 140. Disconnect the printhead power
• 170Xi4	cable(s) from J2 and/or J3 on the DC power supply.
• 220Xi4*	1. Go to <i>Kemove the Ota Frittineda Cables</i> off page 145.

*.The 220Xi4 has two power cables for the printhead.



Figure 54 • Disconnect AC/DC Power Input Cable

1	AC power input cable
2	AC power input cable connector
3	White beaded cable tie

Figure 55 • Remove the AC/DC Power Supply Shield



1	AC/DC power supply shield
2	Mounting screws (2)



Figure 56 • Remove the Printhead Power Cable 110Xi4

Figure 57 • Disconnect the Printhead Power Cable 140Xi4, 170Xi4, and 220Xi4



Remove the Printhead Test Board

- **1.** Take note of all cable connections and then disconnect all cables.
- **2.** See Figure 58. Remove and discard the mounting screw securing the printhead test board shield.

Figure 58 • Remove the Printhead Test Board Shield





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

Connect yourself to an antistatic device.

4. See Figure 59. Lift the printhead test board shield and the remove and discard the two mounting screws, printhead test board, and shield.



Figure 59 • Remove the Printhead Test Board

1	Printhead test board shield
2	Top mounting spacer
3	Right mounting spacer
4	Printhead test board
5	Mounting screws (2)

Remove the Old Printhead Cables

If you have a	Then
110Xi4 w/o printhead test board	a. See Figure 60 on page 144. Remove the mounting nut securing the cable clamp and printhead ground cable and then open the cable clamp and remove the printhead ground.
	b. Remove the mounting nut securing the cable containing the printhead power cable and then open the clamp and remove the printhead power cable.
	c. Remove the two mounting nuts securing the two cable clamps containing the printhead data cable and then open the clamps and remove the printhead data cable.
	d. Go to step 2 on page 147.
110Xi4 w/ printhead test board	a. See Figure 61 on page 145. Remove the mounting nut securing the cable clamp and printhead ground cable and then open the cable clamp and remove the printhead ground.
	b. Remove the mounting nut securing the cable containing the printhead power cable and then open the clamp and remove the printhead power cable.
	c. Remove the printhead test board spacer securing the cable clamp containing the printhead data cable and then open the cable clamp and remove the printhead data cable.
	d. Cut cable tie securing the printhead data cable to the printhead test board spacer and the remove the lock washer.
	e. Go to step 2 on page 147.
140Xi4 170Xi4	a. See Figure 62 on page 146. Remove the mounting nut securing the cable clamp and printhead ground cable and then open the cable clamp and remove the printhead ground.
	b. Remove the mounting nut securing the cable containing the printhead power cable and then open the clamp and remove the printhead power cable.
	c. Remove the two mounting nuts securing the two cable clamps containing the printhead data cable and then open the clamps and remove the printhead data cable.
	d. Go to step 2 on page 147.
220Xi4	a. See Figure 63 on page 147. Remove the mounting nut securing the cable clamp and printhead ground cable and then open the cable clamp and remove the printhead ground.
	b. Remove the mounting nut securing the cable clamp containing the printhead power cables and then open the clamp and remove the printhead power cables.
	c. Remove the two mounting nuts securing the two cable clamps containing the printhead data cable and then open the clamps and remove the printhead data cable.
	d. Go to step 2 on page 147.

1. Which model of Xi4 are you working on?



Figure 60 • Remove the Printhead Cables 110Xi4 w/o printhead test board

1	Printhead ground cable
2	Cable clamp mounting nut
3	Printhead power cable
4	Ferrite
5	Printhead data cable


Figure 61 • Remove the Printhead Cables 110Xi4 w/printhead test board

1	Printhead ground cable
2	Cable clamp mounting nut
3	Printhead power cable
4	Ferrite
5	Printhead data cable
6	Cable tie
7	Printhead test board spacer and lock washer



Figure 62 • Remove the Printhead Cables 140Xi4 and 170Xi4

1	Printhead ground cable
2	Cable clamp mounting nut
3	Printhead power cable
4	Ferrite
5	Printhead data cable



Figure 63 • Remove the Printhead Cables 220Xi4

2. From the electronics side pull the printhead cables out of the printer and discard them.

Install the New Printhead Cables

- **1.** From the electronics side feed the printhead power, data and ground cables through the main frame and into the print mechanism.
- **2.** Which model Xi4 are you working on?

If you have a	en	
110Xi4 w/o printhead test board	See Figure 60 on page 144. Slide the printhead ground cable onto the mounting stud and then slide the cable clamp onto the mounting stud.	e
	Reinstall the mounting nut, tighten and then install the cable the around the head open sensor cable, ribbon sensor cable and ground.	ie
	Route the printhead power cable under the drive belt and then open the cable clamp that you remove the old printhead power cable from and insert the new printhead power cable into it.	r
	Slide the cable clamp onto the mounting stud, reinstall the mounting nut and tighten.	
	Route the printhead data cable under the drive belt and then insert the printhead data cable into the two cable clamps.	
	Slide the two cable clamps onto the two mounting studs, reinst the mounting nuts and tighten.	all
	See Figure 56 on page 140. Connect the printhead power cable J3 on the AC/DC power supply.	to
	See Figure 55 on page 139. Reinstall the AC/DC power supply shield and secure it. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate.	у
	See Figure 54 on page 139. Connect the AC power input cable and then reinstall the white plastic beaded cable tie.	e
	See Figure 53 on page 138. Connect the printhead data cable to P19 on the main logic board.	ίΟ

If you have a Then			
110Xi4 w/ printhead test board	a. See Figure 61 on page 145. Slide the printhead ground cable onto the mounting stud and then slide the cable clamp onto the mounting stud.		
	b. Reinstall the mounting nut, tighten and then install the cable tie around the head open sensor cable, ribbon sensor cable and ground.		
	c. Route the printhead power cable under the drive belt and then open the cable clamp that you remove the old printhead power cable from and insert the new printhead power cable into it.		
	d. Slide the cable clamp onto the mounting stud, reinstall the mounting nut and tighten.		
	e. Route the printhead data cable under the drive belt and then insert the printhead data cable into the cable clamp.		
	f. Slide the cable clamp onto the mounting stud, reinstall the lock washer and printhead test board spacer and tighten.		
	g. Route the cable tie through the cable clamp above the left printhead spacer, around the spacer and around the printhead data cable and then tighten the cable tie.		
	h. See Figure 56 on page 140. Connect the printhead power cable to J3 on the AC/DC power supply.		
	i. See Figure 55 on page 139. Reinstall the AC/DC power supply shield and secure it. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate.		
	j. SeeFigure 54 on page 139. Connect the AC power input cable and then reinstall the white plastic beaded cable tie.		
	k. See Figure 53 on page 138. Connect the printhead data cable to P19 on the main logic board.		
140Xi4 170Xi4	a. See Figure 62 on page 146. Slide the printhead ground cable onto the mounting stud and then slide the cable clamp onto the mounting stud.		
	b. Reinstall the mounting nut, tighten and then install the cable tie around the head open sensor cable, ribbon sensor cable and ground.		
	c. Route the printhead power cable under the drive belt and then open the cable clamp that you remove the old printhead power cable from and insert the new printhead power cable into it.		
	d. Slide the cable clamp onto the mounting stud, reinstall the mounting nut and tighten.		
	e. Route the printhead data cable under the drive belt and then insert the printhead data cable into the two cable clamps.		
	f. Slide the two cable clamps onto the two mounting studs, reinstall the mounting nuts and tighten.		
	g. See Figure 57 on page 140. Reconnect the printhead power cable to J3 on the DC power supply.		
	h. See Figure 53 on page 138. Connect the printhead data cable to P19 on the main logic board.		

If you have a	Then
220Xi4	a. See Figure 63 on page 147. Slide the printhead ground cable onto the mounting stud and then slide the cable clamp onto the mounting stud.
	b. Reinstall the mounting nut, tighten and then install the cable tie around the head open sensor cable, ribbon sensor cable and ground.
	c. Route the printhead power cables under the drive belt and then open the cable clamp that you remove the old printhead power cable from and insert the new printhead power cables into it.
	d. Slide the cable clamp onto the mounting stud, reinstall the mounting nut and tighten.
	e. Route the printhead data cable under the drive belt and then insert the printhead data cable into the two cable clamps.
	f. Slide the two cable clamps onto the two mounting studs, reinstall the mounting nuts and tighten.
	g. See Figure 57 on page 140. Reconnect the printhead power cables to J2 and J3 on the DC power supply.
	h. See Figure 53 on page 138. Connect the printhead data cable to P19 on the main logic board.

- **3.** See Figure 51 on page 136. On the media side, feed the other end of the printhead ground cable through the left side of the print mechanism and under the print mechanism pressure plate.
- **4.** Close the print mechanism.
- **5.** Slide the left print mechanism pressure plate mounting screw through the printhead ground cables eyelet, lock washer, and then reinstall the screw into the print mechanism and tighten.
- 6. Reinstall and tighten the right mounting screw and lock washer.
- **7.** Open the print mechanism.

8. See Figure 64. Push the printhead cables behind and above the print mechanism roller.



Figure 64 • Move the Printhead Cables

1	Printhead data cable
2	Print mechanism roller
3	Printhead power cable



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

See Figure 50 on page 135. Spread the holding tab(s) on the top of the power connector(s) and connect the printhead data cable(s) to the proper connectors. The holding tab(s) must snap into place.

- **10.** Carefully position the alignment slots of the new printhead with the alignment posts on the mounting bracket.
- **11.** Make sure the cables are in their proper channels and are not binding.
- **12.** The two locating posts on either side of the mounting plate slip into the locating holes of the printhead assembly.
- **13.** Make sure the printhead mounting screw is properly aligned, and then tighten it.
- **14.** Clean the new printhead elements using Zebra's Preventive Maintenance Kit, part number 47362 or you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).

- 15.
 - **Caution** When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

Reinstall the Electronics Cover

- **1.** See Figure 52 on page 137. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Press and hold PAUSE while turning on (I) the printer.
- 5. Press PAUSE to pause the printer and check the labels for proper print quality.

Ribbon Strip Plate and Static Brush

This kit includes the parts and documentation necessary to install the Ribbon Strip Plate and Static Brush in the Xi4 printers. Read these instructions thoroughly before installing this kit.

Tools Required

1.



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Metric Hex Key (Allen wrench) Set

Remove the Old Static Brush



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

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

Open the media door and remove the media and ribbon.

3. See Figure 65. Remove and discard the two static brush mounting screws.



Figure 65 • Remove the Static Brush

4. Remove and discard the old static brush.

Install the New Static Brush

- **1.** Remove the new static brush from the kit.
- **2.** See Figure 65 on page 154. Align the new static brush with the mounting holes, brush angled toward the rear of the printer, and then install the new mounting screws.

Remove the Old Ribbon Strip Plate

1. See Figure 66. Remove and discard the two ribbon strip plate mounting screws.

Figure 66 • Remove the Old Ribbon Strip Plate

1	Ribbon strip plate
2	Mounting screws (2)

2. Remove and discard the old ribbon strip plate.

Install the New Ribbon Strip Plate

- **1.** Align the new ribbon strip plate with the print mechanism and install the two mounting screws supplied in the kit.
- **2.** Slightly tighten the mounting screws.
- **3.** Align the strip plate with the screw heads in the center of the slots in the ribbon strip plate.
- 4. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **5.** Reinstall the AC power cord and data cables.
- **6.** Press and hold PAUSE and turn then on (**I**) the printer.
- 7. After the Power On Self Test (POST), the printer will start to print the Pause test labels.
- **8.** Press PAUSE. After the printer pauses, observe the ribbon for possible problems such as wrinkling.
- **9.** Does the ribbon wrinkle or track incorrectly?

lf	Then	
No	a. Tighten the mounting screws.b. Installation is complete.	
Yes	Continue with Adjust the Strip Plate.	

Adjust the Strip Plate

- **1.** The strip plate can be adjusted for proper tracking and separation of the ribbon from the media after printing.
- **2.** Loosen the two mounting screws securing the strip plate to the front of the print mechanism assembly.
- **3.** Press PAUSE to restart the printing.
- **4.** While the printer is running adjust the strip plate so that the ribbon is flat, smooth and tracks properly when fed to the ribbon take-up spindle.
- **5.** Tighten the strip plate mounting screws and print a minimum of 25 labels while checking for ribbon wrinkle, tracking and media/ribbon separation problems.
- **6.** If problem persists repeat step 4.

Toggle Assembly

This kit includes the parts and documentation necessary to install the Toggle Assembly in the Xi4 printers.

Read these instructions thoroughly before installing this kit.

Tools Required

1.



Tools • You need these tools to complete this procedure:

□ SAE Hex Key (Allen wrench) Set

Remove the Old Toggle Assembly



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

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

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

Open the media door and remove the ribbon and media.

3. See Figure 67. Take note of the location of the toggle(s). With the head open remove the head handle mounting screw and then slide the handle and washer(s) off the pivot bar.



Figure 67 • Remove the Head Open Handle

1	Pivot bar
2	Handle mounting screw
3	Wave washer (may have flat washer also)
4	Head handle

4. See Figure 68. Slide the pivot bar toward the main frame.



Figure 68 • Remove the Toggle Assembly

5. See Figure 69. Loosen the top knurled locking nut on the toggles and then slide them off the pivot bar.



Figure 69 • Slide the Toggles Off the Pivot Bar

Install the New Toggle Assembly

- **1.** Remove the new toggle(s) from the kit(s).
- **2.** See Figure 69. Loosen the top knurled locking nut and then slide the toggle(s) onto the pivot bar ensuring that the locating marks can be seen.
- **3.** See Figure 68 on page 159 and Figure 67 on page 158. Align the pivot bar with the mounting hole in the side plate and slide the pivot bar through it.
- **4.** Holding the pivot bar, slide the washer(s) onto it and then slide the handle onto the pivot bar as shown in Figure 67 on page 158.
- **5.** Insert the handle mounting screw into the handle and then tighten the mounting screw.

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

Reinstall the media and ribbon.

- **7.** Set the toggles in the proper location on the pivot bar.
- **8.** Reconnect the AC power cord and data cables.
- **9.** Turn on (**I**) the printer.
- **10.** See the printer's *User Guide* for toggle pressure adjustment procedure.

Pivot Bar

This kit includes the parts and documentation necessary to install the Pivot Bar maintenance kit in the Xi4 printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Hex Key (Allen Wrench) Set

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 70. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.







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



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

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

4. See Figure 71. Remove the electronics cover by removing the three mounting screws securing it.



Figure 71 • Remove the Electronics Cover

5. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Old Pivot Bar Assembly

- **1.** See Figure 72. Locate the sensor flag in the upper right corner of the electronics cabinet. Remove and discard the tri-mount and flag.
- **2.** Remove the toggle pivot bar handle by removing and discarding the mounting screw and then sliding and discarding the handle and wave washer.
- **3.** Slide the toggle pivot bar further into the main frame until the other end comes out of the side plate, and then remove and discard the toggle pivot bar assembly.



Figure 72 • Replace Head Handle

1	Toggle pivot bar	7	Set screw
2	Tri-mount	8	Head handle
3	Sensor flag	9	Side plate
4	Main Frame	10	Head open sensor
5	Flat washer	11	Toggle assemblies (1) or (2)
6	Curved washer		

Install the New Pivot Bar

1. See Figure 72. Install the toggle pivot bar by sliding the long round end into the main frame and then the short round end into the side plate.



Note • The toggle assembly(s) are attached to the toggle pivot bar at the factory.

- **2.** Install the flat washer, curved washer, and handle onto the short end of the toggle pivot bar, and then tighten the set screw.
- **3.** Install the sensor flag by aligning the flat in the sensor flag hole with the flat on the toggle pivot bar.
- **4.** Close the printhead assembly. The sensor flag must be centered in the slot of the head open sensor assembly.
- 5. Push the tri-mount into the hole of the sensor flag and toggle pivot bar.

Reinstall the Electronics Cover

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

Reinstall the media and ribbon.

- **2.** See Figure 71 on page 164. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **3.** Reinstall the mounting screws to secure the electronics cover.
- 4. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Open the media door and reinstall media and ribbon.

5. Turn on (**I**) the printer.

Head Open Sensor Flag

This kit includes the parts and documentation for installing the sensor flag.Read these instructions thoroughly before attempting to install this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Metric Hex Key (Allen wrench) Set
- □ Flat-Blade Screwdriver Set
- Safety Goggles

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 73. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.







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



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

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

4. See Figure 73. Remove the electronics cover by removing the three mounting screws securing it.





5. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Old Sensor Flag

1.



Caution • 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.

Pry out and discard the trimount clip and the old sensor flag.



Figure 75 • Remove and Install the Sensor Flag

1	Sensor flag
2	Curved washer
3	Trimount clip
4	Toggle pivot bar

Install the New Sensor Flag

1. See Figure 75. Push in the new sensor flag, curved washer, and trimount clip onto the toggle pivot bar.

Reinstall the Electronics Cover

- **1.** See Figure 74 on page 169. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (**I**) the printer.

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Sensors



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Media Sensor Assemblies

Read these instructions thoroughly before attempting to install this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Antistatic Wriststrap and Mat
- □ Flat-blade Screwdriver Set
- □ SAE Hex Key (Allen Wrench) Set
- Needle Nose Pliers

□ SAE Nutdriver Set

□ Safety Goggles

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.

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

2. See Figure 76. Remove the electronics cover by removing the three mounting screws securing it.





1	Electronics cover
2	Mounting screws (3)

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

5. Do you have a 110Xi4 with a printhead test board?

lf	Then
No	Go to Remove the Mounting and Printhead Stop Spring Stud on page 177.
Yes	Continue to Remove the Printhead Test Board on page 176.

Remove the Printhead Test Board

- **1.** Take note of all cable connections and then disconnect all cables.
- 2. See Figure 77. Remove the mounting screw securing the printhead test board shield.

Figure 77 • Remove the Printhead Test Board Shield





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

Connect yourself to an antistatic device.

4. See Figure 78. Lift the printhead test board shield and the remove the two mounting screws and then remove the printhead test board and shield.



Figure 78 • Remove the Printhead Test Board

1	Printhead test board shield
2	Top mounting spacer
3	Right mounting spacer
4	Printhead test board
5	Mounting screws (2)

Remove the Mounting and Printhead Stop Spring Stud

Caution • 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.

2. See Figure 79. Using a needle nose pliers, remove the spring from the mounting and spring tension stud.



Figure 79 • Remove the Mounting and Spring Tensioner Stud

3. Remove the mounting and spring tension stud.

Disconnect Media Sensor Cables

1. See Figure 80. Disconnect the upper media sensor cable from P10 on the main logic board (MLB).



Figure 80 • Disconnect the Upper and Lower Media Sensor Connectors

2. Disconnect the lower media sensor cable from P8 of the MLB.

3. Did you remove a printhead test board?

lf	Then
No	See Figure 81. Remove the nuts securing the cable clamps.
Yes	See Figure 81. Remove the printhead test board standoffs and lock washers.





1	Cable clamps (3)
2	Mounting nuts (3)
3	Lock washers (3)
4	Mounting standoffs (3)

4. Remove only the media sensor wires from the cable clamps.
Remove the Upper Media Sensor

1. See Figure 82. Remove the two thumbscrews securing the upper media sensor bracket assembly.



Figure 82 • Remove the Upper Media Sensor Assembly

1	Thumbscrew (2)
2	Mounting screw

- **2.** Remove the mounting screw.
- **3.** Lift the old upper media sensor assembly out of the printer while guiding the upper media sensor cable through the access hole.



Figure 83 • Remove the Upper Media Sensor Assembly

1	Upper media sensor assembly
2	Mounting screw
3	Upper media sensor cable
4	Access hole

Install the New Upper Media Sensor Assembly

- 1. Remove the upper media sensor assembly from the maintenance kit.
- **2.** See Figure 84. Feed the sensor wires and connector through the access hole in the main frame.

Figure 84 • Install the Upper Media Sensor Assembly



1	Upper media sensor assembly
2	Upper media sensor connector
3	Main frame
4	Mounting and printhead stop spring stud
5	Access hole
6	Mounting screw

3. Slide the upper media assembly into the printer and align the two mounting holes.

4. Install the mounting screw and the mounting and spring tensioner.

5. See Figure 85. Install the two thumbscrews.



Figure 85 • Install the Two Thumbscrews

1	Thumbscrew (2)
2	Upper media sensor assembly

Remove the Old Lower Media Sensor Printed Circuit Board (PCB)

1. See Figure 86. Slide the lower media sensor away from the printer main frame. Minimally pry apart the sides of the bracket holding the sensor PCB. The sensor PCB should fall free and dangle from its wires.



Figure 86 • Remove the Lower Media Sensor PCB

1	Lower media sensor bracket
2	Lower media sensor PCB
3	Lower media sensor wires

- **2.** Remove the grommet from the access hole in the main frame. Gently pull on the sensor while guiding the wires through the access hole in the main frame.
- **3.** Remove the lower media sensor PCB.

Install the New Lower Sensor PCB

- **1.** See Figure 86. Guide the wires of the new lower media sensor through the main frame and reinstall the grommet.
- **2.** Slightly spread the lower media bracket open and install the lower media sensor PCB with the component side up.
- **3.** Ensure the sensor PCB is properly seated in the bracket.
- **4.** See Figure 80 on page 179. Connect the upper and lower media sensor connector to the MLB.
- **5.** Route the wires through the cable clamps and reinstall the grommet around the upper and lower sensor cables.

6. Do you have a 110Xi4 with the printhead test board?

lf	Th	nen
No	a.	Reinstall the nuts to secure cables clamps.
	b.	Go to Reinstall the Electronics Cover on page 187.
Yes	a.	See Figure 81 on page 180. Reinstall the three printhead test board standoffs.
	b.	See Figure 87. Install the hook of the printhead test board shield around the top mounting spacer.
	c.	See Figure 78 on page 177. Align the printhead test board, with J1 and J2 facing down and out, with the mounting spacers and then install the top and right mounting screws.
	d.	See Figure 77 on page 176. Install the printhead mounting board shield mounting screw.
	e.	Reinstall all cables removed from the printhead test board.
	f.	Continue with <i>Reinstall the Electronics Cover</i> .

Figure 87 • Install the Printhead Test Board Shield



1	Printhead test board shield
2	Top mounting spacer
3	Hook
4	Lower mounting spacers (2)

Reinstall the Electronics Cover

- **1.** See Figure 76 on page 175. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the data cables and the AC power cord.
- **5.** Turn on (**I**) the printer.

Adjust the Upper Media Sensor



Note • There is an LED on the lower media sensor that shines through the media guide slot to aid in the alignment of the media sensors.

Do you need to set the media sensor to the outside half of the media?

lf	Then
No	Continue with Adjust to the Inside Half of Media.
Yes	Go to Adjust to the Outside Half of Media on page 188.

Adjust to the Inside Half of Media

1. See Figure 88. Slightly loosen the upper media sensor adjustment screw.



Figure 88 • Upper Media Sensor Location

- 1Upper media sensor adjustment screw2Upper media sensor
- **2.** Using the tip of the screwdriver, slide the upper sensor along the slot to the desired position for non-continuous media with a notch or hole in the media, the sensor must be directly above the notch or hole.
- **3.** Tighten the adjustment screw to secure the upper media sensor.

Adjust to the Outside Half of Media

- **1.** See Figure 88. Remove the upper media sensor adjustment screw.
- **2.** Lift the upper media sensor assembly from the slot, and move it and the wire cover to the outside slot. Carefully pull the wires through the cable clamp. You may need to set aside the sensor wire cover if the adjustment is too far to the outside.
- **3.** Replace and slightly tighten the adjustment screw.
- **4.** Slide the upper media sensor along the slot to the desired position (for noncontinuous media with a notch or hole in the media, the sensor must be directly above the notch or hole).
- **5.** Tighten the adjustment screw.
- 6. Ensure that the wires are routed in the groove of the media sensor bracket.

Adjust the Lower Media Sensor

a spring clip holding a circuit board.

I

Lower media sensor

2

Figure 89 • Lower Media Sensor Location

1. See Figure 89. Locate the lower media sensor assembly under the rear roller. The sensor is

- **2.** Slide the lower sensor until it is under the upper media sensor. Gently pull wires out as needed (wires should have a little slack).
- **3.** If you move the sensor inward and a large loop of wire develops, remove the electronics cover from the side of the printer, and gently pull the wires through. Secure the wires so that they do not touch any drive belts.

Media Low Sensor

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Antistatic Wriststrap and Mat
- □ SAE Hex Key (Allen wrench) 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 90. Remove the electronics cover by removing the three mounting screws securing it.



Figure 90 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media.

Remove the Old Media Low Sensor

1. See Figure 91. Disconnect the media low sensor cable from J9 on the main logic board (MLB).





2. Which model of Xi4 printer are you working on?

If you have a…	Then
110Xi4 140Xi4 170Xi4	a. See Figure 92. Remove the two media low sensor mounting screws and then remove the media low sensor from the mounting bracket.
	b. Pull the media low sensor cable out of the printer while guiding it through the access hole.c. Go to <i>Install the New Media Low Sensor</i> on page 195.
220Xi4	 a. See Figure 93. Remove the two media low sensor mounting screws and then remove the media low sensor from the mounting bracket. b. Go to <i>Remove the Damper</i> on page 194.



Figure 92 • Remove the Media Low Sensor (110Xi4, 140Xi4, and 170Xi4)

1	Media low sensor bracket
2	Media low sensor
3	Mounting screws (2)





1	Media low sensor bracket
2	Media low sensor
3	Mounting screws (2)
4	Access hole

Remove the Damper



1. **Caution** • 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.

See Figure 94. Remove the e-ring and washer from the pivot pin on the media door.

2. Remove the pivot pin and washer to release the arm of the damper from the media door.



Figure 94 • Remove the Media Cover Damper

1	Media door
2	E-ring
3	Washers (2)
4	Pivot pin
5	Damper mounting screws (4)
6	Media low sensor mounting bracket
7	Media low sensor
8	Damper mounting bracket

- **3.** Remove the four screws securing the damper assembly and media low bracket to the damper mounting bracket.
- **4.** Pull the media low sensor cable out of the printer while guiding it through the access hole and through the damper mounting bracket.

Install the New Media Low Sensor

Caution • Do not touch the media low sensor lens.

1. Which model of Xi4 printer are you working on?

If you have a	Then
110Xi4 140Xi4	a. Guide the new media low sensor cable into the printer via the access hole.
170Xi4	b. See Figure 92. Install the new media low sensor onto the media low sensor bracket.
	c. See Figure 91 on page 192. Connect the media low sensor cable to J9 on the main logic board.
	d. Go to <i>Reinstall the Electronics Cover</i> on page 196.
220Xi4	a. See Figure 94 on page 194. Guide the media low sensor cable through the damper mounting bracket as shown.
	b. Slide the new damper into the damper mounting bracket, ensuring that the cable for the media low sensor is not pinched between the damper and bracket as shown in Figure 95.
	c. See Figure 93 on page 193. Slide the new media low sensor mounting bracket into the damper mounting bracket, ensuring that the cable for the media low sensor is not pinched between the two brackets and then install the two front damper mounting screws.
	d. Guide the media low cable through the access hole.
	e. See Figure 91 on page 192. Connect the media low sensor cable to J9 on the main logic board.
	f. Go to <i>Reinstall the Electronics Cover</i> on page 196.



Figure 95 • Route the Media Low Sensor Cable

1	Media low sensor mounting bracket
2	Damper assembly
3	Damper assembly mounting bracket
4	Rear damper assembly mounting screws (2)
5	Cable guide
6	Media low sensor cable
7	Front damper assembly mounting screws (2)

Reinstall the Electronics Cover

- **1.** See Figure 90 on page 191. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and all data cables.
- **5.** Turn on (**I**) the printer.

Calibrate the Media Low Sensor

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

Open the media door and remove the media.

- 2. On the control panel press and hold MINUS (–) while turning on (I) the printer until **BBlock** is displayed.
- **3.** Press NEXT/SAVE until **MEDIA LOW** is displayed.
- 4. Press PLUS (+); LOAD FULL ROLL displays.
- 5. See Figure 96. Familiarize yourself with the media low sensor calibration tool.



Figure 96 • Media Low Calibration Tool

1	Media roll empty
	posts
2	Media roll full posts

Full Media Roll Calibration

1. See Figure 97. Slide media roll full posts of the calibration tool into the keyholes in the media low sensor bracket and then slide the tool down to secure it in place.



Figure 97 • Full Roll

- 2. Press PLUS (+) to calibrate; CALIBRATING PLEASE WAIT displays.
- **3.** After LOAD EMPTY ROLL is displayed, remove the calibration tool.
- 4. Continue with *Empty Media Roll Callibration*.

Empty Media Roll Callibration

1. See Figure 98. Slide media roll empty posts of the calibration tool into the keyholes in the media low sensor bracket and then slide the tool down to secure it in place.



- 2. Press PLUS (+) to calibrate, CALIBRATING PLEASE WAIT displays.
- **3.** After **MEDIA LOW** is displayed, remove the calibration tool.

Complete the Installation

- **1.** Turn off (**O**) the printer.
- 2. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media.

- **3.** Turn on (**I**) the printer.
- 4. Verify that the printer is operating correctly.

If you had previously made changes to the default configuration, you will need to make those changes again and save them. See the *User Guide* for instructions.

Ribbon Sensor

This kit includes the parts and documentation necessary to install the Ribbon Out Sensor maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Nutdriver Set
- Phillips Screwdriver Long Set
- □ Flat-blade Screwdriver Set
- Antistatic Wriststrap and Mat
- □ Wire Cutters
- □ 47362* Zebra Preventive Maintenance Kit

□ SAE Hex Key (Allen wrench) Set

* In place of the Preventive Maintenance Kit, you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).

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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 99. Remove the electronics cover by removing the three mounting screws securing it.



Figure 99 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

Disconnect the Old Ribbon Sensor



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

Connect yourself to an antistatic device.

2. See Figure 100. Disconnect the ribbon sensor from P4 on the main logic board (MLB).



Figure 100 • Disconnect the Ribbon Sensor

3. Are you working on a 110Xi4 with the printhead test board?

lf	Then
Yes	Continue with Remove the Printhead Test Board.
No	Go to Access the Ribbon Out Sensor Cable on page 205

Remove the Printhead Test Board

- **1.** Take note of all cable connections and then disconnect all cables.
- **2.** See Figure 101. Remove the mounting screw securing the printhead test board shield.

Figure 101 • Remove the Printhead Test Board Shield





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

Connect yourself to an antistatic device.

4. See Figure 102. Lift the printhead test board shield and then remove the two mounting screws, printhead test board, and shield.





1	Printhead test board shield
2	Top mounting spacer
3	Right mounting spacer
4	Printhead test board
5	Mounting screws (2)

Access the Ribbon Out Sensor Cable

1. Did you remove a printhead test board?

lf	Then	
No	a. See Figure 103. Remove the nut securing the cable clamp.	
	b. Open the cable clamp and then remove the ribbon out sensor cable.	
Yes	a. See Figure 103. Remove the printhead test board spacer and lock washer securing the cable clamp.	
	b. Open the cable clamp and then remove the ribbon out sensor cable.	

Figure 103 • Access the Ribbon Out Sensor Cable



1	Cable clamp
2	Mounting nut
3	Mounting spacer
4	Lock washer

2. Cut and discard any cable ties holding the ribbon out sensor cable to the other cables in the printer.

Remove the Printhead

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

See Figure 104. Open the printhead assembly by rotating the head control lever to the open position. Remove the media and ribbon, and then close the printhead assembly by rotating the head control lever to the close position.



Figure 104 • Turn the Lever to Open the Printhead

1 Lever in open position.



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

Connect yourself to an antistatic device.

3. See Figure 105. Locate the mounting screw on top of the printhead assembly. Loosen the mounting screw until the printhead comes loose.



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

Slowly open the printhead assembly. The printhead will be resting on the platen while the rest of the assembly pivots out of the way.



Figure 105 • Remove the Printhead

1	Printhead mechanism assembly
2	Printhead mounting screw
3	Printhead alignment posts
4	Power cable locking tab
5	Printhead power connector
6	Printhead alignment slots
7	Printhead data connector

- **5.** Spread the holding tabs on the sides of the printhead data connector to release the data cables and then disconnect the data cable.
- **6.** Grasp the outside edges of the printhead power cable connector and press down on the power cable locking tab.

Note • There are two power connectors on the 220Xi4.

7. While maintaining pressure on the locking tab(s), disconnect the printhead power cable(s).

8. Remove the printhead.

Remove the Old Ribbon Out Sensor

1. See Figure 106. With the print mechanism in the most vertical position, remove the guard plate by removing the two mounting screws.



Figure 106 • Remove the Ribbon Out Sensor

1	Print mechanism
2	Guard plate
3	Mounting Screws (2)
4	Guard plate access hole
5	Mounting screw
6	Neoprene washer
7	Ribbon out sensor
8	Print mechanism roller

- **2.** Remove the ribbon out sensor by sliding a long phillips screw driver behind the print mechanism roller and removing the mounting screw.
- 3. Slide the ribbon out sensor out of the printer.
- 4. Pull the ribbon out cable out of the printer and discard it.

Install the New Ribbon Out Sensor

- **1.** See Figure 106. Install the new ribbon out sensor by sliding the neoprene washer and the ribbon out sensor into the printer and then install but do not tighten the new mounting screw.
- 2. Guide the ribbon out sensor cable through the access hole in the printer.
- **3.** Reinstall the guard plate by aligning the ribbon out sensor with the access hole in the guard plate and then align the mounting holes in the plate with the mounting holes in the print mechanism and then reinstall the mounting screws.
- **4.** Snug the ribbon out sensor mounting screw, over tightening the mounting screw will damage the sensor.
- 5. Route the ribbon out cable through the cable clamp and then connect it to P4 on the MLB.
- 6. Install any cable ties previously removed.
- **7.** Did you remove a printhead test board?

lf	Then	
No	Se	e Figure 103 on page 205. Reinstall the nut securing the cable clamp.
Yes	a.	See Figure 103 on page 205. Reinstall the printhead test board standoff and lock washer securing the cable clamp.
	b.	See Figure 107. Install the hook around the top mounting spacer.
	c.	Align the printhead test board, with J1 and J2 facing down and out, with the mounting spacers and then install the top and right mounting screws.
	d.	See Figure 102 on page 204. Reinstall the two mounting screws.
	e.	Fold the printhead test board shield over the printhead test board and then install the shield mounting screw.
	f.	Reconnect all cables removed from the printhead test board.



Figure 107 • Install the Printhead Test Board Shield

Reinstall the Printhead

1.

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

- **2.** See Figure 105 on page 207. Ensure that all the cables ar behind the guard plate and then reinstall the printhead.
- **3.** Carefully position the alignment slots of the new printhead with the alignment posts on the mounting bracket.
- 4. Make sure the cables are in their proper channels and are not binding.
- **5.** The two locating posts on either side of the mounting plate slip into the locating holes of the printhead assembly.
- 6. Make sure the printhead mounting screw is properly aligned, and then tighten it.
- **7.** Clean the new printhead elements using Zebra's Preventive Maintenance Kit, part number 47362 or a solution of 90% isopropyl alcohol and 10% deionized water.
- Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

Reinstall the Electronics Cover

- **1.** See Figure 99 on page 201. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Ribbon Low Sensors

This kit includes the parts and documentation necessary to install the Ribbon Low Sensors maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required

1.



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

Antistatic Wriststrap and Mat

□ 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.

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

2. See Figure 108. Remove the electronics cover by removing the three mounting screws securing it.





3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Old Ribbon Low Sensors



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

Connect yourself to an antistatic device.

2. See Figure 109. Disconnect the ribbon low sensors from J8 and J10 on the main logic board (MLB).



Figure 109 • Disconnect the Ribbon Low Sensors

3. Cut the cable tie securing the two ribbon low sensor cables to the other cables.

4. See Figure 110. Remove and discard the two ribbon low sensors from the printer by removing the two screws securing them.



Figure 110 • Remove the Ribbon Low Sensors

1	Ribbon supply spindle
2	Upper ribbon low sensor, five pin connector, J8
3	Mounting screws (2)
4	Lower ribbon low sensor, six pin connector, J10
5	Main frame slots

Install the New Ribbon Low Sensors

- **1.** See Figure 110. Choose the ribbon low sensor with the five pin connector, align it with the upper mounting slot and mounting hole and then install the mounting screw.
- **2.** Choose the ribbon low sensor with the six pin connector, and align it with the lower mounting slot and mounting hole, and then install the mounting screw.
- **3.** Figure 109 on page 214. Connect the five pin connector to J8 on the MLB.
- 4. Connect the six pin connector to J10 on the MLB.
- **5.** Install the cable tie around all wires that previously cable tied together.

Reinstall the Electronics Cover

- **1.** See Figure 108 on page 213. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (**I**) the printer.
Head Open Sensor

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Nutdriver Set
- □ Flat-blade Screwdriver 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 111. Remove the electronics cover by removing the three mounting screws securing it.



Figure 111 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Disconnect the Head Open Sensor



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

Connect yourself to an antistatic device.

2. See Figure 112. Disconnect the head open sensor cable from P5 on the main logic board (MLB).



Figure 112 • Disconnect the Head Open Sensor

3. Cut the cable tie securing the head open cable to the other cables.

4. Are you working on a 110Xi4 with the printhead test board installed?

lf	Then
No	Continue with Remove the Printhead Test Board.
Yes	Go to Access the Head Open Sensor Cable on page 222.

Remove the Printhead Test Board

- **1.** Take note of all cable connections and then disconnect all cables.
- 2. See Figure 113. Remove the mounting screw securing the printhead test board shield.

Figure 113 • Remove the Printhead Test Board Shield





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

Connect yourself to an antistatic device.

4. See Figure 114. Lift the printhead test board shield and then remove the two mounting screws, printhead test board, and shield.



Figure 114 • Remove the Printhead Test Board

1	Printhead test board shield
2	Top mounting spacer
3	Right mounting spacer
4	Printhead test board
5	Mounting screws (2)

Access the Head Open Sensor Cable

1. Did you remove a printhead test board?

lf	Then
No	a. See Figure 115. Remove the three nuts securing the three cable clamps.
	b. Open the three clamps and remove only the head open sensor cable.
Yes	a. See Figure 115. Remove the two printhead test board spacers and lock washers.
	b. Remove the one nut securing the last cable clamp.
	c. Open the three clamps and remove only the head open sensor cable.

Figure 115 • Access the Head Open Sensor Cable



1	Cable clamp (3)
2	Mounting nut (3)
3	Mounting spacers (2)
4	Lock washer (2)

Remove the Old Printhead Open Sensor Assembly

- **1.** Open the printhead so that the head open flag is not within the head open sensor.
- **2.** See Figure 116. Remove and discard the trimount clip securing the flag and then slide the curved washer and flag out of the printer and discard them.

Figure 116 • Remove the Head Open Sensor Assembly



3. Remove and discard the mounting nut securing the head open sensor assembly and then slide the sensor assembly out of the printer and discard it.

Install the New Head Open Sensor Assembly

- **1.** See Figure 116. Align the new head open sensor assembly with the mounting stud and then slide it onto the stud.
- **2.** Install the mounting nut onto the stud, ensuring that the tab on the head open sensor assembly is in the slot and then tighten the it.
- 3. Align the new flag with the pivot shaft and slide it onto it.
- **4.** Slide the curved washer onto the pivot shaft and then push the trimount clip into the pivot shaft hole to secure the flag.
- **5.** Close the head.
- **6.** See Figure 112 on page 219. Route the head open sensor cable behind the main drive belt and connect it to P5 on the MLB.
- **7.** Insert the head on cable into the three cable clamps and then slide the clips onto the corresponding mounting studs.
- **8.** Install any cable tie previously removed.
- 9. Did you remove a printhead test board?

lf	Then	
No	See Figure 115 on page 222. Reinstall the three nuts onto the mounting studs to secure the three cable clamps.	
Yes	a. See Figure lock washe	e 115 on page 222. Reinstall the printhead test board standoff and er securing the cable clamp.
	b. See Figure	117. Install the hook around the top mounting spacer.
	c. Align the p mounting	brinthead test board, with J1 and J2 facing down and out, with the spacers and then install the top and right mounting screws.
	d. See Figure	114 on page 221. Reinstall the two mounting screws.
	e. Fold the print install the	rinthead test board shield over the printhead test board and then shield mounting screw.
	f. Reconnect	all cables removed from the printhead board.



Figure 117 • Install the Printhead Test Board Shield

Reinstall the power supplyElectronics Cover

- **1.** See Figure 111 on page 218. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Take-Label Sensors

This kit includes the parts and documentation necessary to install the take-label sensor maintenance kit in the $Xi4^{TM}$ printers.

Read these instructions thoroughly before installing this kit.

Tools Required

1.



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Antistatic Wristband and Pad
- □ SAE Hex Key (Allen wrench) 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.

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

2. See Figure 118. Remove the electronics cover by removing the three mounting screws securing it.



Figure 118 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Disconnect the Old Take-Label Sensors



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

Connect yourself to an antistatic device.

2. See Figure 119. Disconnect the take-label connectors from J2 and J3 on the control panel.



Note • Do not remove the control panel from the printer.



Figure 119 • Disconnect the Take-Label Sensors

1	J2, upper sensor, black and yellow wires
2	J3, lower sensor, black and red wires

3. Remove and discard the mounting screws.



Figure 120 • Remove the Take-Label Sensor Mounting Screws

4. See Figure 121. While guiding the take-label sensor cables out of the printer, remove and discard the upper and lower take-label sensors.





1	Mounting holes (2)
2	Upper take-label sensor
3	Lower take-label sensor

Install the New Take-Label Sensors

- Figure 122 Install the Take-Label Sensors

1. See Figure 122. Feed the upper sensor cable through the upper mounting hole.

1	Mounting holes (2)
2	Two pin connector, black and yellow wires
3	Upper take-label sensor
4	Upper take-label sensor window
5	Three pin connector, black and red wires
6	Lower take-label sensor window
7	Lower take-label sensor

- **2.** Position the sensor with the window facing down, and secure with a screw.
- **3.** Feed the lower sensor cable through the lower mounting hole.
- 4. Position the sensor with the window facing up, and secure with screw.
- **5.** See Figure 119 on page 228. Connect the upper take-label sensor to J2 on the control panel.
- 6. Connect the lower take-label sensor to J3 on the control panel.

Reinstall the Electronics Cover

- **1.** See Figure 118 on page 227. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reinstall the AC power cord and data cables and then turn on (I) the printer.

Cutter Sensor

This kit includes the parts and documentation necessary to install the Cutter Sensor maintenance kit in the *Xi*III*Plus*TM and Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Antistatic Wriststrap and Mat

□ SAE Nutdriver Set

- □ Flat-blade Screwdriver Set
- □ SAE Open-End Wrench Set

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



1.

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

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

2. See Figure 124. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.







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



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

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

4. See Figure 124. Remove the electronics cover by removing the three mounting screws securing it.





1	Electronics cover
2	Mounting screws (3)

- **5.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **6.** Which model printer are you working?

If you have a…	Then
110Xi4	Go to Remove the AC/DC Power Supply on page 236.
All other Xi4	Continue with <i>Remove the DC Power Supply</i> .

Remove the DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 125. Make note of all cables connected to the DC power supply and then remove them..





1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

3. See Figure 126. Remove the mounting screw and then remove the two mounting nuts.



Figure 126 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Go to *Remove the Old Cutter Sensor* on page 240.

Remove the AC/DC Power Supply

1. See Figure 127. Remove the AC power connector from the AC/DC power supply.



Figure 127 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 128. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 128 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 129. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 129 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

6. See Figure 130. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 130 • Remove the AC/DC Power Supply

7. See Figure 131. Lift the AC/DC power supply assembly out of the printer.

Figure 131 • Remove the AC/DC Power Supply



Remove the Old Cutter Sensor

1. See Figure 132. Rotate the lower drive arm enough for the flag to clear the cutter sensor.



Figure 132 • Remove the Old Cutter Sensor

2. Locate the old cutter sensor and then remove the mounting nut and cable clamp.

Lower drive arm

3. Slide the cutter sensor off the mounting stud.

6

4. See Figure 133. Disconnect the cutter sensor from J3 on the cutter board.



Figure 133 • Disconnect the Cutter Sensor

5. Remove and discard the old cutter sensor.

Install the New Cutter Sensor

- 1. See Figure 134. Slide the new cutter sensor onto the mounting stud.
- **2.** Slide the cable clamp onto the mounting stud ensuring the cutter sensor cable routing is as shown.



Figure 134 • Routing Cable

1	Mounting nut	
2	Cable clamp	
3	Cutter sensor	
4	Mounting stud	
5	Cutter sensor cable	

3. See Figure 133. Connect the cutter cable to J3 on the cutter board.

4. Rotate the lower drive arm to verify that the flag enters the cutter sensor freely.

Reinstall the Power Supply

1. Which model printer are you working?

If you have a	Then
110Xi4	a. See Figure 131 on page 239. Set the AC/DC power supply onto the two mounting studs.
	b. See Figure 130 on page 239. Reinstall the two mounting nuts and mounting screws.
	c. See Figure 129 on page 238. Reinstall all cables except the AC power input cable.
	d. See Figure 128 on page 237. Reinstall the AC/DC shield.
	e. See Figure 127 on page 236. Reconnect the AC power input cable.
	f. Continue with <i>Reinstall the Electronics Cover</i> .
All other Xi4	a. See Figure 126 on page 235. Set the DC power supply into the printer and onto the two mounting studs
	b. Reinstall the two mounting nuts and mounting screw.
	c. See Figure 125 on page 234. Reconnect all cables.
	d. Continue with <i>Reinstall the Electronics Cover</i> .

Reinstall the Electronics Cover

- **1.** See Figure 124 on page 233. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Drive System



Contents

Platen Roller
Main Drive System
Main Drive Belt
Rewind Drive System
Rewind Drive Belt
110Xi4, 140Xi4, and 170Xi4 DC Stepper Motor w/Pulley
220Xi4 DC Stepper Motor w/Pulley 330
110Xi4 Media Hanger 348
140Xi4, 170Xi4, and 220Xi4 Media Supply Hanger
Ribbon Supply Spindle
Ribbon Supply Spindle Hardware 366
Ribbon Take-Up Spindle
Ribbon and Media Supply Pulley 384
Media Rewind Spindle 398
Media Supply Spindle 411

Platen Roller

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Small Flat-blade Screwdriver Set
- □ Standard Hex Key (Allen wrench) Set
- □ Metric Hex Key (Allen wrench) Set
- □ Long Metric Hex Key (Allen wrench) Set with a 25 cm (10 in.) minimum shaft
 □ length
- 0.020 in Shim on Faalan Course
- □ 0.020 in. Shim or Feeler Gauge
- Torque Wrench calibrated in inchpounds
 - □ 11303 Spring Gauge 2200g

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 135. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.



Figure 135 • Remove the Electronics Cover



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



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

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

4. See Figure 135. Remove the electronics cover by removing the three mounting screws securing it.





	_	2		Mounting screws (3)
5. Li	ift up	on	the	ear of the electronics cover and then lift the electronics cover off the

6. Are you replacing the upper platen roller?

printer.

lf	Then	
Yes	Continue with <i>Remove the Old Upper Platen Roller</i> .	
No	Go to Remove the Old Lower Platen Roller on page 251.	

Remove the Old Upper Platen Roller

- **1.** See Figure 137. Align the three access holes in the ribbon take-up pulley with the three mounting screws.
- **2.** Loosen, but do not remove, the three mounting screws.
- **3.** Slide the ribbon take-up assembly toward the front of the printer to remove the tension on the main drive belt.
- **4.** Remove the drive belt.
- 5. Loosen, but do not remove, the two set screws in the platen pulley assembly.



Figure 137 • Main Drive Belt

1	Ribbon take-up pulley
2	Ribbon take-up access holes (3)
3	Inside peel/tear-off bar mounting screw
4	Upper platen roller pulley
5	Main drive belt

- 6. Remove the platen pulley from the platen roller shaft.
- **7.** See Figure 138. Using a piece of a label (or masking tape), mark the peel/tear-off bar to identify the top and right side for reinstallation.
- **8.** Remove the peel/tear-off bar.

9.

Caution • 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.

Remove the C-clip.

- **10.** Slide the platen roller as far to the left as possible and remove the right bearing.
- **11.** Slide the platen roller to the right and remove the roller.
- **12.** Remove the left bearing.



Figure 138 • Remove the Tear Bar and Platen Roller

1	Platen roller pulley	6	Mark top right side with label or
			tape.
2	Large spacer (all models)	7	Peel/tear-off bar outside mounting
			screw
3	Flanged roller bearings (2)	8	Washer
4	Platen roller	9	C-clip
5	Peel/tear-off bar		

[•]

Install the New Upper Platen Roller

- **1.** See Figure 138. Install a flanged bearing, flange facing out, into right side of the print mechanism.
- 2. Insert the long end of the platen roller shaft through the hole in the main frame.
- **3.** Slide the short end into the flanged bearing previously installed.
- 4. Install the washer included in the kit onto the right end of the platen roller shaft as shown.



5. Caution • 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.

Install the C-clip onto the shaft.

- **6.** From the electronics side, install the left flanged bearing, flange facing out, onto the long end of the platen roller shaft.
- **7.** Reinstall the peel/tear-off bar using the markings for top and right side.
- **8.** Loosely install both of the peel/tear-off bar mounting screws.
- **9.** Ensure that there is a gap between the platen roller and then peel/tear-off bar approximately the thickness of a business card.
- **10.** Tighten both peel/tear-off bar mounting screws.

Note • For upper platen roller replacement, the small spacer is not used and should be discarded.

- **11.** Slide the large spacer onto the left side of the platen roller shaft.
- **12.** Slide rewind platen pulley onto the shaft and align the two set screws with the flat surfaces of the shaft.
- **13.** Leave approximately a 0.5 mm (0.020 in.) gap between the C-clip and washer on the media side of the platen roller shaft.
- **14.** Tighten the two set screws of the platen roller pulley.

15. See Figure 139. Reinstall the main drive belt onto the outer most pulley of the stepper motor pulley, onto the platen pulley, and then slide it onto the take-up spindle pulley.





1	Ribbon take-up pulley
2	Belt
3	Platen pulley
4	Measuring device
5	Stepper motor pulley
6	Spring gauge
7	Access holes (3)

- **16.** Hook a 2200-gram spring scale to the belt as shown in Figure 139, and carefully slide the ribbon take-up spindle assembly to the left to increase belt tension.
- 17. When a scale reading of 2000 grams ±250 grams (4.5 lbs. ±0.5 lbs.) creates a deflection of 6 mm (1/4 in.), tighten the three mounting screws to a torque of 2.3 N•m (20 inch-pounds).

Remove the Old Lower Platen Roller

- **1.** Turn the printer off (**O**) and remove the AC power cord. Remove the communications cable.
- 2. Open the media cover and remove all media and ribbon.
- **3.** See Figure 140. Remove the rewind plate by sliding it off of the print mechanism.

Figure 140 • Rewind Plate Removal and Installation



1	Rewind plate
2	Lip
3	Adjustable hook plate
4	Slot

4. What model printer are you working on?

If you have a	Then
110Xi4	a.
140Xi4 170Xi4 220Xi4	 a. Select another user variable from the list. b. Change the variable definition to a single space. c. Repeat until all variables that need to be removed have been changed. d. Click Done. e. Click Done again to exit.

Remove the 140Xi4, 170Xi4, and 220Xi4 DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 141. Make note of all cables connected to the DC power supply and then remove them..





1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power
3. See Figure 142. Remove the mounting screw and then remove the two mounting nuts.



Figure 142 • Remove the DC Power Supply

4. Lift the DC power supply out of the printer.

Remove the 110Xi4 AC/DC Power Supply

1. See Figure 143. Remove the AC power connector from the AC/DC power supply.



Figure 143 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 144. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 144 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 145. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 145 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

6. See Figure 146. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 146 • Remove the AC/DC Power Supply

7. See Figure 147. Lift the AC/DC power supply assembly out of the printer.

Figure 147 • Remove the AC/DC Power Supply



Remove the Rewind Drive Belt

1. See Figure 148. Locate and remove the access hole plug.



Figure 148 • Locate the Print Mechanism Lower Access Hole

2. Using a hex key (Allen wrench) with a 25 cm (10 in.) minimum shaft length, reach through the hole and loosen the idler pulley mounting screw.

3. See Figure 149. Slide the idler pulley assembly toward the front of the printer to relieve the tension on the rewind drive belt and then remove the belt.



Figure 149 • Rewind Belt

1	Rewind pulley
2	Rewind drive belt
3	Idler pulley
4	Lower platen pulley

- 4. Loosen, but do not remove, the two set screws in the rewind platen pulley.
- 5. Pull the rewind platen pulley off of the lower platen roller shaft.

6. See Figure 150. Remove the two screws securing the roller adjust plate to the print mechanism.





1	Lower platen roller pulley
2	Spacer
3	Flanged bearing
4	Lower platen roller
5	Lower platen roller adjust plate
6	Flat washers (2)
7	Mounting screws (2)
8	C-clip

- 7. Remove the roller adjust plate and lower platen roller.
- **8.** Remove the old bearing from the printer main frame.



9. Caution • 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.

Remove the C-clip from the end of the old platen roller.

10. Slide the roller adjust plate off of the old platen roller shaft and remove the bearing.



Note • Do not re-use the old bearings.

Install the New Lower Platen Roller

- **1.** Install a new flanged bearing on the roller adjust plate with the flange facing out.
- 2. Install a new flanged bearing into the main frame from the media side.
- **3.** Insert the long of the shaft new platen roller through the bearing in the main frame.
- **4.** Slide the flanged bearing and roller adjust plate onto the right end of the platen roller shaft.
- **5.** Reinstall the two washers and mounting screws to secure the roller adjust plate.

Note • For lower platen roller replacement (Peel/Rewind Option only), the washer is not used and should be discarded.

6. Slide the c-clip into the groove on the right end of the platen roller shaft.

Note • For lower platen roller replacement, the small spacer is used for all models except the 220Xi4.

- 7. On the electronics side, slide the spacer onto the shaft.
- **8.** Slide the rewind platen pulley onto the platen roller and align the two set screws with the flat surfaces of the platen roller.
- **9.** Leave approximately 0.5 mm (0.020 in.) gap between c-clip and roller adjust plate on the media side of the platen roller shaft.
- **10.** Tighten the two set screws on the rewind platen pulley. Both set screws must be on flat portions of the shaft.



Reinstall the Rewind Drive Belt

1. See Figure 151. Reinstall the rewind drive belt. Hook a 2200-gram spring scale to the belt and carefully slide the idler gear assembly to the left to increase belt tension.



Figure 151 • Adjust the Rewind Drive Belt Tension

1	Rewind drive belt
2	Stepper motor pulley
3	Spring gauge
4	Idler pulley
5	Lower peel roller pulley
6	Measuring device
7	Rewind spindle pulley

- When a scale reading of 2000 grams ± 250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 1/4 inch (6 mm), tighten the idler pulley mounting screw to a torque of 2.3 N•m (20 inch-pounds).
- **3.** See Figure 148 on page 258. Reinstall the plug into the lower access hole.

4. Which model printer are you working on?

If have a	Then
110Xi4	a. See Figure 147 on page 257 and Figure 146 on page 257. Set the AC/DC power supply into the printer and then reinstall the two mounting nuts and mounting screws.
	b. See Figure 145 on page 256. Reinstall all cables except the AC input cable.
	c. See Figure 144 on page 255. Reinstall the AC/DC power supply shield and secure it. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate.
	d. See Figure 143 on page 254. Connect the AC power input cable and then reinstall the white plastic beaded cable tie.
	e. Go to <i>Reinstall the Electronics Cover</i> .
140Xi4 170Xi4 220Xi4	a. See Figure 142 on page 253. Set the DC power supply into the printer and then reinstall the two mounting nuts and one mounting screw.
	b. See Figure 141 on page 252. Reconnect all cables to the DC power supply.
	c. Go to Reinstall the Electronics Cover.

Reinstall the Electronics Cover

- **1.** See Figure 136 on page 246. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- **4.** Press and hold PAUSE while turning on (**I**) the printer. Observe the printer Power-On Self Test and examine the test labels for proper print quality.
- **5.** Is the liner material tracking off to one side?

lf	Then
No	Installation is complete.
Yes	Continue with Adjust the Lower Platen Roller.

Adjust the Lower Platen Roller

- **1.** See Figure 150. Loosen the two screws securing the roller adjust plate to the print mechanism.
- **2.** Move the roller adjust plate in the appropriate direction to compensate for the tracking and tighten the screws.



Note • Moving the roller adjust plate toward the front of the printer moves the liner material away from the roller adjust plate. Moving the roller adjust plate toward the rear of the printer moves the liner material toward the roller adjust plate.

3. Repeat step 1 and step 2 until the required results are achieved.

Main Drive System

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ Flat-Blade Screwdriver Set
- □ 11303 Spring Gauge 2200g
- □ SAE Hex Key (Allen wrench) Set
- □ Safety Glasses
- **D** Ruler

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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 152. Remove the electronics cover by removing the three mounting screws securing it.



Figure 152 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Old Main Drive System

Remove the Old Drive Belt

1. Which model of Xi4 printer are you working on?

If you have a…	Then
110Xi4 140Xi4 170Xi4	See Figure 154. Remove the old main drive belt by pulling out on the belt while turning the ribbon take-up pulley.
220Xi4	a. See Figure 153. Loosen the idler pulley mounting screw and slide the pulley up to loosen the belt tension.b. Remove the drive belt.



Figure 154 • Remove the Drive Belt



1	Ribbon take-up pulley
2	Main drive belt
3	Platen pulley
4	Stepper motor pulley

Remove the Ribbon Take-up and Platen Pulleys



1.

Caution • 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.

See Figure 155. Remove the e-ring securing the ribbon take-up pulley.



Figure 155 • Remove the Old Ribbon Take-up Pulley

2. Slide the pulley, spacer flat washer, and wave washer off the ribbon take-up spindle shaft.

Platen pulley set screws (2)

Platen pulley

6

7

3. See Figure 155. Loosen the two set screws and then slide the platen pulley off the platen roller shaft.

Install the New Main Drive System

Install the New Ribbon Take-up Pulley

- **1.** See Figure 155 on page 268. Slide the wave washer, flat washer, and spacer onto the ribbon take-up spindle shaft.
- **2.** See Figure 156. Choose the proper ribbon take-up pulley from the maintenance kit and then slide it onto the ribbon take-up spindle shaft.

 $\frac{1}{2}$

Figure 156 • Choose the Proper Ribbon Take-up Pulley

3. See Figure 155 on page 268. Install the new e-ring to secure the ribbon take-up pulley.

Toward printer

3

Install the New Platen Pulley

1. See Figure 157. Choose the proper platen pulley from the maintenance kit and then slide it onto the platen roller shaft and align the two set screws with the flat surfaces of the shaft.



Figure 157 • Choose the Proper Platen Pulley

- **2.** Leave approximately a 0.5 mm (0.020 in.) gap between the C-clip and washer on the media side of the platen roller shaft.
- **3.** Tighten the two set screws of the platen roller pulley.

Install the New Main Drive Belt

If you have a	Then
110Xi4 140Xi4 170Xi4	a. See Figure 154 on page 267. Install the main drive belt onto the outer most pulley of the stepper motor pulley, onto the platen pulley, and then slide it onto the take-up spindle pulley while turning the take-up pulley.
	b. Go to <i>Adjust the Main Drive Belt Tension</i> on page 272.
220Xi4	a. See Figure 158. From the electronics side, slide the idler pulley from the idler pulley shaft.
	b. See Figure 153 on page 267. From the media side, remove and discard the idler pulley shaft mounting screw and washer.
	c. Install the new idler pulley shaft by inserting the new mounting screw and washer through the mounting hole and then from the electronics side align the new idler pulley shaft with the mounting screw and tighten.
	d. See Figure 158. From the electronics side, slide the new idler pulley onto the idler pulley shaft.
	e. Reinstall the main drive belt onto the outer most pulley of the stepper motor pulley, onto the platen pulley, and then slide it onto the take-up spindle pulley.
	f. Go to Adjust the Main Drive Belt Tension on page 272.

1. Which model of Xi4 printer are you working on?





1	Mounting screw
2	Idler pulley shaft
3	Idler pulley

Adjust the Main Drive Belt Tension

1. Which model of Xi4 printer are you working on?

If you have a	Then
220Xi4	a. See Figure 159. Hook a 2200-gram spring scale to the belt as shown.
	b. See Figure 153 on page 267 and Figure 159. Use a hex key (Allen wrench) to loosen the idler pulley mounting screw and carefully slide it to increase the belt tension. When a scale reading of 2000 grams ± 250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 6 mm (1/4 in.), tighten the idler pulley mounting screw.
110Xi4 140Xi4	a. See Figure 160. Hook a 2200-gram spring scale to the belt as shown.
170Xi4	b. Loosen the three ribbon take-up spindle mounting screws by accessing them through the three access holes in the ribbon take-up pulley.
	 c. Slide the ribbon take-up pulley to the left to increase belt tension. When a scale reading of 2000 grams ±250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 1/4 inch (6 mm), tighten the three mounting screws.



Figure 159 • Adjust the Main Drive Belt Tension (220Xi4)

1	Idler pulley
2	Decrease tension
3	Increase tension
4	Platen pulley
5	Ruler
6	Stepper motor pulley
7	Spring tension gauge
8	Ribbon take-up pulley



Figure 160 • Adjust the Main Drive Belt Tension (110Xi4, 140Xi4, and 170Xi4)

Reinstall the Electronics Cover

- **1.** See Figure 152 on page 266. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Main Drive Belt

This kit includes the parts and documentation necessary to install the Main Drive Belt maintenance kit in the $Xi4^{TM}$ printers.

Read these instructions thoroughly before installing this kit.

Tools Required

1.



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ 11303 Spring Gauge 2200g

Remove the Electronics Cover



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



Caution • Turn off (\mathbf{O}) the printer and disconnect it from the power source before performing the following procedure.

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

2. See Figure 161. Remove the electronics cover by removing the three mounting screws securing it.



Figure 161 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Old Main Drive Belt



1.

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

Connect yourself to the printer by using an antistatic device.

2. Remove the main drive belt by holding the belt and rotate it towards the ribbon take-up pulley as you pull it off that pulley.



Figure 162 • Remove the Main Drive Belt, 110Xi4



Figure 163 • Remove the Main Drive Belt, 140Xi4

Install the New Main Drive belt

1. See Figure 163. Install main drive belt by holding the belt and rotating it towards the ribbon take-up pulley as you push it on that pulley.

Adjust the Main Drive Belt Tension

1. See Figure 164. Hook a 2200-gram spring scale to the belt as shown.





1	Ribbon take-up spindle mounting screw access holes (3)
2	Ribbon take-up spindle pulley
3	Idler wheel (only on 220Xi4)
4	Main drive belt

2. Are you working on a 220Xi4?

lf	Then
No	See Figure 164. Slide the ribbon take-up pulley to the left to increase belt tension. When a scale reading of 2000 grams ± 250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 1/4 inch (6 mm), tighten the three mounting screws.
Yes	See Figure 164 and Figure 165. Use an hex key (Allen wrench) to loosen the idler pulley mounting screw and carefully slide it to the right to increase belt tension. When a scale reading of 2000 grams ± 250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 6 mm (1/4 in.), tighten the idler pulley mounting screw.





3. Continue with *Reinstall the Electronics Cover*.

Reinstall the Electronics Cover

- **1.** See Figure 161 on page 276. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Rewind Drive System

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ SAE Nutdriver Set
- □ Safety Glasses
- **D** Ruler

- □ Antistatic Wriststrap and Mat
- □ Spring Gauge 2200g
- □ Feeler Gauge, 0.020 inch (0.5 mm)

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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 166. Remove the electronics cover by removing the three mounting screws securing it.



Figure 166 • Remove the Electronics Cover

1	
2	Mounting screws (3)

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **4.** .Which model of Xi4 printer are you working on?

If you have a…	Then
140Xi4 170Xi4 220Xi4	Go to <i>Remove the DC Power Supply</i> on page 288.
110Xi4	Go to Remove the AC/DC Power Supply on page 283.

Remove the AC/DC Power Supply

1. See Figure 167. Remove the AC power connector from the AC/DC power supply.



Figure 167 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 168. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 168 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
 2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 169. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 169 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

6. See Figure 170. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 170 • Remove the AC/DC Power Supply

7. See Figure 171. Lift the AC/DC power supply assembly out of the printer.

Figure 171 • Remove the AC/DC Power Supply



8. Go to *Remove the Old Rewind Drive System* on page 289.

Remove the DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 172. Make note of all cables connected to the DC power supply and then remove them..



Figure 172 • Remove all Cables

1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

3. See Figure 173. Remove the mounting screw and then remove the two mounting nuts.



Figure 173 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Continue with *Remove the Old Rewind Drive System* on page 289.
Remove the Old Rewind Drive System

Remove the Old Rewind Drive Belt

1. See Figure 174. Remove the access hole cover and then with a long hex key remove and discard the screw and washer securing the idler pulley shaft.



Figure 174 • Remove the Idler Pulley

1	Access hole
2	Access hole cover
3	Idler pulley
4	Idler pulley shaft
5	Idler pulley shaft mounting washer
6	Idler pulley shaft mounting screw

2. Remove and discard the idler pulley and shaft.

3. See Figure 175. Remove the main drive belt by pulling it off while turning the ribbon take-up pulley.



Figure 175 • Remove the Drive Belts

1	Ribbon take-up pulley
2	Main drive belt
3	Upper platen pulley
4	Stepper motor pulley
5	Rewind platen pulley
6	Rewind drive belt
7	Rewind spindle pulley

4. Remove and discard the rewind drive belt.

Remove the Old Rewind Drive Pulleys



1.

Caution • 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.

See Figure 176. Remove and discard the e-ring securing the rewind spindle pulley and then slide the pulley, spacer, flat washer, and wave washer off the rewind spindle shaft and discard.



Figure 176 • Remove the Rewind Drive Pulleys

1	Rewind spindle shaft
2	Rewind platen roller shaft
3	Rewind platen roller pulley set screws (2)
4	Rewind platen roller pulley
5	E-ring
6	Spacer
7	Rewind spindle pulley
8	Flat washer
9	Wave washer

2. Loosen the two set screws in the rewind platen roller drive pulley and then slide the rewind platen pulley off of the rewind platen roller shaft and discard.

Install the New Rewind Drive System

Install the New Rewind Spindle Pulley

- **1.** See Figure 176 on page 291. Slide the new wave washer and flat washer onto the rewind spindle shaft.
- **2.** See Figure 177. Choose the proper rewind spindle pulley from the maintenance kit and then slide it onto the rewind spindle shaft.



Figure 177 • Choose the Proper Ribbon Take-up Pulley

1	600 dpi pulley
2	203/300 dpi pulley
3	Toward printer

3. Slide the new spacer onto the rewind spindle shaft.

 \bigcirc

4.

Caution • 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.

See Figure 176 on page 291. Install the new e-ring to secure the ribbon take-up pulley.

Install the New Rewind Platen Pulley

1. See Figure 178. Choose the proper rewind platen pulley from the maintenance kit and then slide it onto the rewind platen roller shaft and align the two set screws with the flat surfaces of the shaft.



Figure 178 • Choose the Proper Rewind Platen Pulley

- **2.** Leave approximately a 0.5 mm (0.020 in.) gap between the C-clip and washer on the media side of the platen roller shaft.
- **3.** Tighten the two set screws of the rewind platen roller pulley.

Install the New Rewind Drive Belt

- **1.** See Figure 174 on page 289. Slide the new washer onto the new idler shaft mounting screw and then align the new idler shaft with the mounting hole and install the mounting screw and washer.
- **2.** Slide the idler shaft to the left as far as possible and snug the mounting screw.
- **3.** See Figure 176 on page 291. Choose the proper rewind drive belt from the maintenance kit and then put the belt onto the inner pulley of the stepper motor pulley, rewind platen pulley and rewind spindle pulley.
- **4.** See Figure 174 on page 289. Loosen the idler pulley and slide to the right until the rewind drive belt is snug.

Reinstall the Main Drive Belt

1. See Figure 175 on page 290. Reinstall the main drive belt onto the outer most pulley of the stepper motor pulley, onto the platen pulley, and then slide it onto the take-up spindle pulley while turning the take-up pulley.

Adjust the Rewind Belt Tension

1. See Figure 179. Hook a 2200-gram spring scale to the belt as shown.



Figure 179 • Adjust the Belt Tension

1	Increase tension
2	Stepper motor pulley
3	Decrease tension
4	Idler pulley
5	Rewind platen pulley
6	Rewind spindle pulley

2. See Figure 174 on page 289. Use a hex key (Allen wrench) to loosen the idler pulley mounting screw and carefully slide it to increase the belt tension. When a scale reading of 2000 grams ± 250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 6 mm (1/4 in.), tighten the idler pulley mounting screw.

Reinstall the Power Supply

If you have a	Then
140Xi4 170Xi4 220Xi4	a. See Figure 173 on page 288. Set the DC power supply into the printer and then reinstall the two mounting nuts and one mounting screw.
	b. See Figure 172 on page 287. Reconnect all cables to the DC power supply.
	c. Continue with <i>Reinstall the Electronics Cover</i> .
110Xi4	a. See Figure 171 on page 286 and Figure 170 on page 286. Set the AC/DC power supply into the printer and then reinstall the two mounting nuts and mounting screws.
	b. See Figure 169 on page 285. Reinstall all cables except the AC input cable.
	c. See Figure 168 on page 284. Reinstall the AC/DC power supply shield and secure it. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate.
	d. See Figure 167 on page 283. Connect the AC power input cable and then reinstall the white plastic beaded cable tie.
	e. Continue with <i>Reinstall the Electronics Cover</i> .

1. Which model of Xi4 printer are you working on?

Reinstall the Electronics Cover

- **1.** See Figure 166 on page 282. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Rewind Drive Belt

This kit includes the parts and documentation necessary to install the Rewind Drive Belt maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Nutdriver Set
- □ Safety Glasses
- Ruler

- □ SAE Hex Key (Allen wrench) Set
- Antistatic Wriststrap and Mat
- □ 11303 Spring Gauge 2200g
- □ Feeler Gauge, 0.020 inch (0.5 mm)

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.

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

2. See Figure 180. Remove the electronics cover by removing the three mounting screws securing it.





2	Mounting screw	ws (3)			

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **4.** Are you working on a 110Xi4 with printhead test board?

lf	Then
No	Go to Remove the AC/DC Power Supply on page 298.
Yes	Go to Remove the DC Power Supply on page 302.

Remove the AC/DC Power Supply

1. See Figure 181. Remove the AC power connector from the AC/DC power supply.



Figure 181 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 182. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 182 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 183. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 183 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

6. See Figure 184. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 184 • Remove the AC/DC Power Supply

7. See Figure 185. Lift the AC/DC power supply assembly out of the printer.

Figure 185 • Remove the AC/DC Power Supply



8. Go to *Remove the Old Rewind Drive Belt* on page 304.

Remove the DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 186. Make note of all cables connected to the DC power supply and then remove them..



Figure 186 • Remove all Cables

1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

3. See Figure 187. Remove the mounting screw and then remove the two mounting nuts.



Figure 187 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Continue with *Remove the Old Rewind Drive Belt*.

Remove the Old Rewind Drive Belt

1. See Figure 188. Remove the access hole cover and then with a long hex key loosen the screw and washer securing the idler pulley shaft.



Figure 188 • Remove the Idler Pulley

2. Slide the idler pulley and shaft to release the tension on the rewind drive belt and then slightly tighten the screw to ensure that the idler pulley is not interfering with the rewind drive belt removal.

3. See Figure 189. Remove the main drive belt by pulling it off while turning the ribbon take-up pulley.





1	Ribbon take-up pulley
2	Main drive belt
3	Upper platen pulley
4	Stepper motor pulley
5	Rewind platen pulley
6	Rewind drive belt
7	Rewind spindle pulley

4. Remove and discard the rewind drive belt.

Install the New Rewind Drive Belt

- **1.** Slide the idler shaft to the left as far as possible and snug the mounting screw.
- **2.** See Figure 190 on page 306. Choose the proper rewind drive belt from the maintenance kit and then put the belt onto the inner pulley of the stepper motor pulley, rewind platen pulley, and rewind spindle pulley.
- **3.** See Figure 188 on page 304. Loosen the idler pulley and slide it until the rewind drive belt is snug and then slightly tighten the mounting screw.
- **4.** See Figure 189 on page 305. Reinstall the main drive belt onto the outer most pulley of the stepper motor pulley, onto the platen pulley, and then slide it onto the take-up spindle pulley while turning the take-up pulley.

Adjust the Rewind Belt Tension

1. See Figure 190. Hook a 2200-gram spring scale to the belt as shown.



Figure 190 • Adjust the Belt Tension

2	Stepper motor pulley
3	Decrease tension
4	Idler pulley
5	Rewind platen pulley
6	Rewind spindle pulley

2. See Figure 188 on page 304. Use a hex key (Allen wrench) to loosen the idler pulley mounting screw and carefully slide it to increase the belt tension. When a scale reading of 2000 grams ± 250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 6 mm (1/4 in.), tighten the idler pulley mounting screw.

Reinstall the Electronics Cover

- **1.** See Figure 180 on page 297. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (I) the printer.

110Xi4, 140Xi4, and 170Xi4 DC Stepper Motor w/Pulley

This kit includes the parts and documentation necessary to install the DC Stepper Motor and Pulley maintenance kit into the following printers:

- 110Хі4^{тм}
- 140Xi4TM
- 170Хі4^{тм}

Read these instructions thoroughly before attempting to install this kit.

Note • The 220Xi4 have different kit part numbers and installation instructions. See your maintenance manual for the proper stepper motor and pulley maintenance kit part number.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Safety Glasses

□ Standard Nutdriver Set

□ Antistatic Wriststrap and Mat

□ SAE Hex Key (Allen wrench) Set

Note • Please make absolutely sure that the DC stepper motor is isolated and identified as the cause of printer non-conformance before starting this kit.



Note • Because this kit is so extensive and involved, users are asked to read all instructions first until they have an understanding of all the steps involved. Work slowly and carefully, taking notes and labeling parts as you go, as necessary, so you can get all the parts back together as easily as possible.



Note • Even though the printer models referred to in these instructions are basically similar, individual art will be shown for each model. Make sure you are looking at the correct illustration and reading the instructions that apply to your model printer. If no printer models are listed, the instructions apply to all printers.

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.

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

110Xi4, 140Xi4, and 170Xi4 DC Stepper Motor w/Pulley

2. See Figure 191. Remove the electronics cover by removing the three mounting screws securing it.





	2	Mounting screws (3)
3. Lift u	p on the	e rear of the electronics cover and then lift the electronics cover off the

4. On the second se

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

Open the media door and remove the media into the printer.

5. Is there a rewind option installed?

lf	Then
No	Go to Remove the Main Drive Belt on page 316.
Yes	Continue with step 6.

6. Which model printer are you working on?

If you have an	Then
140Xi4 or 170Xi4	Continue with <i>Remove the DC Power Supply</i> on page 310.
110Xi4	Go to <i>Remove the AC/DC Power Supply</i> on page 312.

Remove the DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 192. Note wire connector positions. Tag and label any connector you remove from the DC power supply to ensure correct reassembly. Unplug ribbon cables and small wire connectors as necessary to remove the DC power supply board.



Figure 192 • Disconnect the DC Power Supply (early 105SL shown)

1	J9	LCD display
2	J4	Stepper motor
3	J7	Cutter
4	J10	Option
5	J1	AC input
6	J11	Main logic board (MLB)
7	J3	Printhead

3. See Figure 193. Remove the mounting screw and two hex nuts holding the DC power supply assembly to the printer chassis.





1	DC power supply
2	Mounting nuts (2)
3	Mounting screw

4. Remove the DC power supply assembly from the printer.

Important • The black heat conduction pad MUST NOT be removed.

5. Go to *Remove the Main Drive Belt* on page 316.

Remove the AC/DC Power Supply

1. See Figure 194. Remove the AC power connector from the AC/DC power supply.



Figure 194 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain component located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 195. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 195 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 196. Make note of all cables connected to the AC/DC power supply and then remove them.



J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

Figure 196 • Remove All Cables

6. See Figure 197. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 197 • Remove the AC/DC Power Supply

7. Lift the AC/DC power supply assembly out of the printer.





Remove the Main Drive Belt



Note • The ribbon take-up pulley has no lip on it and is designed to allow the main belt to be pulled off as the pulley is rotated.

1. See Figure 199. Remove the main drive belt by holding the belt and rotate it towards the ribbon take-up pulley as you pull it off that pulley.



Figure 199 • Remove the Main Drive Belt and Platen Pulley

1	Main drive belt
2	Platen roller pulley
3	Stepper motor pulley
4	Rewind drive belt
5	Platen pulley setscrews (2)
6	Ribbon take-up pulley

2. Is there a rewind option installed?

lf	Then
No	Go to Remove the Platen Roller on page 318.
Yes	Continue with Remove the Rewind Drive Belt.

Remove the Rewind Drive Belt



Note • The media take-up pulley has no lip on it and is designed to allow the rewind belt to be pulled off as the pulley is rotated.

1. See Figure 200. Remove the rewind drive belt by holding the belt and rotating it towards the media take-up pulley as you pull it off that pulley.



Figure 200 • Remove the Rewind Drive Belt and Pulley

1	Rewind drive belt
2	Stepper motor pulley
3	Idler pulley
4	Rewind platen pulley
5	Rewind platen pulley setscrews (2)
6	Rewind spindle pulley

Remove the Platen Roller

- **1.** See Figure 199 on page 316. Using a hex key, loosen, but do not remove, the two set screws in the platen pulley assembly.
- 2. See Figure 201. Pull the platen pulley and spacer off of the platen roller shaft.

Figure 201 • Remove the Platen Roller (*Xi*lll*Plus* shown)



1	Platen pulley
2	Spacer
3	Bearings (2)
4	Tear bar mounting screws (2)
5	Tear bar
6	Mark with label/tape top and right side
7	Platen roller
8	Washer (not on XiIIIPlus)
9	C-clip

3. Mark with label/tape top and right side of the tear bar.

4. Remove the two tear bar mounting screws and the remove the tear bar.

5. Is there a rewind option installed?

lf	Then
No	Go to Remove the Side Plate on page 321.
Yes	Continue with <i>Remove the Rewind Platen Roller</i> .

Remove the Rewind Platen Roller

1. See Figure 202. Using a hex key, loosen but do not remove, the two set screws in the rewind platen pulley.





1	Platen pulley set screws (2)
2	Spacer
3	Bearing (2)
4	Rewind platen pulley
5	Rewind platen roller
6	Bracket
7	C-clip
8	Bracket mounting screws (2)
9	Bracket mounting washers (2)

2. Slide the rewind platen pulley off the lower peel roller shaft.

4.

3. Remove the small spacer and bearing.



Note • Do not remove the roller adjust bracket unless it is damaged, twisted, or bent. If the adjust bracket is removed, the alignment is lost and an adjustment procedure must be performed.

Caution • 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.

On the media side remove the C-clip and bearing.

5. Slide the platen roller as far to the left as possible to free the right end from the adjust plate. Remove the roller.

Remove the Side Plate

1. See Figure 203. Remove the head control handle mounting screw and then slide the head control handle and wave washer off the pivot bar.



Figure 203 • Remove the Side Plate (105SL shown)

1	Head control handle
2	Mounting screw
3	Wave washer
4	Flat washer
5	Pivot bar
6	Printhead pivot shaft
7	Hex key side plate mounting screws (4 wo/dancer, 5 w/dancer)
8	Long hex key screw with lock washer for dancer
9	Phillips head side plate mounting screws (6)
10	Side plate



Note • To ensure that the side plate is reinstalled in the exact position, mark two thin lines from the side plate to the stepper motor housing.

- **2.** Remove the brass screw from the media guide into side plate and then release the dancer spring from the side plate.
- **3.** Remove and retain the side plate mounting screws and then remove the side plate.



Note • When removing the side plate, the dancer assembly, upper media sensor bracket, and media guide plate will still be attached to the main frame.

Remove the Old Stepper Motor



Note • Due to the fact that there are different cable routings for the different printers involved in this installation, during removal make a note of all cable clamps and cable ties used.

- **1.** Remove the nut securing the cable clamp(s) holding the stepper motor cable.
- **2.** Open the clamp(s) and then remove the stepper motor cable.
- **3.** Cut any cable ties holding the stepper motor cable.
- **4.** See Figure 204. With a long hex key, reach into the motor housing and remove the four mounting screws.

Figure 204 • Remove the DC Stepper Motor (105SL shown)



1	Grommet
2	Stepper motor
3	Mounting screws (4)

5. Pull out the old stepper motor, cable, and grommet and then discard.

Install the New Stepper Motor

- 1. See Figure 204 on page 322. Position the new stepper motor near the motor housing. Feed the motor power cord through the grommet and the slot in the main frame. Turn the split in the grommet away from the large opening.
- 2. Secure the new motor to the main frame with 4 screws, using the long hex key. The mounting screws are to be torqued to 1.7-1.8 №m (15-16 lbf. in.).

Reinstall the Side Plate

- **1.** See Figure 203 on page 321. Realign the side plate using the two thin lines that were drawn and the reinstall the side plate mounting screws.
- **2.** Install the 11 screws removed previously to secure the side plate.
- **3.** The head control lever must be installed in the same orientation as the toggle assembly. If the toggle is pointing down, then the head control handle must point down.
 - **a.** You must compress the wave washer to install the head control lever and to get the mounting screw to line up with pivot bar.
 - **b.** Install and tighten the mounting screw.
- **4.** Route the stepper motor cable and connector over to and through the cable clamp(s) removed previously.
- **5.** Secure the cable clamp(s) with the nut(s) removed previously.

Reinstall the Rewind Platen Roller Pulley

- **1.** From the electronics side, install the flange bearing, flange facing out, into the rewind platen mounting hole and from the mechanical side, insert the long end of the rewind platen roller shaft into the flange bearing.
- **2.** From the mechanical side, insert the flange bearing into the platen support bracket, flange facing out and onto the short end of the rewind platen roller.

3. Caution • 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.

Reinstall the C-clip onto the right side of the platen roller shaft.

- **4.** From the electronics side, slide the spacer and the rewind platen pulley onto the platen roller shaft.
- **5.** Align the two pulley set screws with the flat surfaces of the platen roller shaft and tighten. The pulley should be positioned with approximately 5 mm (0.20 in.) between the C-clip and the flange bearing on the media side.



Note • The media take-up pulley has no lip on it and is designed to allow the rewind belt to be pushed on as the pulley is rotated.

6. Install rewind drive belt by holding the belt and rotating it towards the rewind take-up pulley as you push it onto the pulley.

Reinstall the Platen Roller and Pulley

- **1.** See Figure 202 on page 319. Install a flanged bearing, flange facing out, into right side of the print mechanism.
- **2.** Insert the long end of the platen roller shaft through the hole in the main frame.
- 3. Slide the short end into the flanged bearing previously installed.
- 4. Install the washer included in the kit onto the right end of the platen roller shaft as shown.

5.

Caution • 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.

Install the C-clip onto the shaft.

- **6.** From the electronics side, install the left flanged bearing, flange facing out, onto the long end of the platen roller shaft.
- 7. Slide the large spacer onto the left side of the platen roller shaft.
- **8.** Slide rewind platen pulley onto the shaft and align the two set screws with the flat surfaces of the shaft.
- **9.** Leave approximately a 0.5 mm (0.020 in.) gap between the C-clip and washer on the media side of the platen roller shaft.
- **10.** Tighten the two set screws of the platen roller pulley.



Note • The ribbon take-up pulley has no lip in it and is designed to allow the main belt to be pushed on as the pulley is rotated.

11. Install main drive belt by holding the belt and rotate it towards the ribbon take-up pulley as you push it on that pulley.
Reinstall the Tear Bar



Note • Reinstalling the motor housing cover (side plate) involves a lot of adjustment. There are bearings that need to be inserted, shafts that need to be installed and several supports that have to line up with screw holes. Be patient and work carefully. Don't tighten any screws until all of the screws are installed.

- **1.** See Figure 201 on page 318. Reinstall the peel/tear-off bar using the markings for top and right side.
- **2.** Loosely install both of the peel/tear-off bar mounting screws.
- **3.** Insert the 0.003 inch (0.075 mm) feeler gauge between the peel/tear bar and the platen roller.

Ensure that the clearance is equal along the length of the platen roller.

- **4.** Tighten both peel/tear-off bar mounting screws.
- 5. Which model of printer are you working on?

If you have an	Then
Xi4 (except 110Xi4)	Continue with <i>Reinstall DC Power Supply</i> .
110Xi4	Continue with Reinstall AC/DC Power Supply

Reinstall DC Power Supply

- **1.** See Figure 193 on page 311. Ensure that the black heat conduction pad is in position and then install the DC power supply securing it the two nuts and one screw.
- **2.** See Figure 192 on page 310. Connect the stepper motor cable to connector J4 on DC power supply.
- **3.** Reconnect all other cables.

Reinstall AC/DC Power Supply

- **1.** See Figure 198 on page 315. Position the cables out of the way while installing the AC/ DC power supply assembly over the two mounting studs.
- **2.** See Figure 197 on page 315. Install the mounting screws and nuts securing the AC/DC power supply assembly.
- 3. See Figure 196 on page 314. Connect all cables to their proper connectors.
- **4.** See Figure 195 on page 313. Reinstall the AC/DC power supply shield and secure it. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate.
- 5. Connect the AC power input cable and then reinstall the white plastic beaded cable tie.

Adjust the Rewind Drive Belt Tension

1. See Figure 205. Remove the cover on the lower access hole in the side plate.



Figure 205 • Remove the Lower Access Hole Cover

2. Using a hex key (Allen wrench) with a 10-inch minimum shaft length, reach through the hole and loosen the idler pulley mounting screw.

3. See Figure 206. Hook a 2200-gram spring scale to the belt and carefully slide the idler gear assembly to the left to increase belt tension.



Figure 206 • Adjust the Rewind Drive Belt Tension

1.	When a scale reading of 2000 grams \pm 250 grams (4.5 lbs. \pm 0.5 lbs.) creates a deflection
	of 6 mm (1/4 in.), tighten the idler pulley mounting screw to a torque of 2.3 N•m
	(20 lbf, in.).

5. See Figure 205 on page 326. Reinstall the plug into the lower access hole.

4

Adjust the Main Drive belt Tension

- **1.** See Figure 207. Loosen the three ribbon take-up mounting screws through the access holes in the ribbon take-up pulley.
- **2.** Hook a 2200-gram spring scale to the belt and carefully slide the ribbon take-up spindle assembly to the left to increase belt tension.



Figure 207 • Install the Drive Belt

1	Ribbon take-up pulley
2	Belt
3	Platen pulley
4	Measuring device
5	Stepper motor pulley
6	Spring gauge
7	Access holes (3)

3. When a scale reading of 2000 grams ±250 grams (4.5 lbs. ±0.5 lbs.) creates a deflection of 1/4 in. (6 mm), tighten the three mounting screws to a torque of 2.3 N•m (20 lbf. in.).

Adjust the Printhead

To achieve optimum print quality, install full-width media and ribbon in the printer before making the printhead adjustments. Perform the five printhead adjustments for optimum printer performance after installation of a new stepper motor. See the printhead adjustment section in your printer's *Maintenance Manual*.

Reinstall the Electronics Cover

- **1.** See Figure on page 307. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- 4. **Caution** When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **5.** Reinstall the AC power cord and all data cables.
- **6.** Turn on (**I**) the printer.

220Xi4 DC Stepper Motor w/Pulley

This kit includes the parts and documentation necessary to install the DC stepper motor into the 220Xi4TM printer. Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Standard Hex Key (Allen wrench) Set
 Metric Hex Key (Allen wrench) Set

- □ Standard Nutdriver Set
- Metric Nutdriver Set
- □ Antistatic Wriststap and Pad



Note • Please make absolutely sure that the DC stepper motor is isolated and identified as the cause of printer non-conformance before starting this kit.

□ Safety Glasses



Note • Because this kit is so extensive and involved, users are asked to read the entire instructions first until they have an understanding of all the steps involved. Work slowly and carefully, taking notes and labeling parts as you go, as necessary, so you can get all the parts back together as easily as possible.

1

Note • Even though the printer models referred to in these instructions are basically similar, individual art will be shown for each model. Make sure you are looking at the correct illustration and reading the instructions that apply to your model printer. If no printer models are listed, the instructions apply to all printers.

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.

14	7

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

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

2. See Figure 208. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.

Figure 208 • Remove the Electronics Cover

Lip of cover

4

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

Remove the media and ribbon.

3. Is there a rewind option installed?

lf	Then
No	Go to Remove the Main Drive Belt on page 335.
Yes	Continue with <i>Remove the Rewind Drive Belt</i> on page 336.

Remove the DC Power Supply



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

Connect yourself to the printer by using an antistatic device.

2. See Figure 209. Note wire connector positions. Label any connector you remove from the DC power supply to ensure correct reassembly. Unplug ribbon cables and small wire connectors as necessary to remove the DC power supply board.



Figure 209 • Interconnections

1	Nut
2	Cable clamp
3	Stepper motor connector

Table 14 • DC Power Supply Connections

J2	Printhead power	J9	LCD display power
J3	Printhead power	J10	J20 Main logic board (MLB)
J4	Stepper motor	J11	J11 MLB
J5	N/A		

3. See Figure 210. Remove the mounting screw and nuts securing the DC power supply assembly.



Figure 210 • DC Power Supply Removal and Installation

1	DC power supply
2	Mounting nuts (2)
3	Mounting screw

4. Remove the DC power supply assembly from the printer.



Note • The black heat conductor pad must remain with the printer.

Remove the Main Drive Belt

1. Remove the main drive belt by holding the belt and rotate it towards the ribbon take-up pulley as you pull it off that pulley.





1	Ribbon take-up pulley
2	Spindle assembly mounting screws access holes (3)
3	Main drive belt
4	Idler pulley
5	Stepper motor pulley

Remove the Rewind Drive Belt

1. Remove the rewind drive belt by holding the belt and rotating it towards the media take-up pulley as you pull it off that pulley.



Figure 212 • Rewind Drive Belt Removal and Installation

1	Rewind drive belt
2	Stepper motor pulley
3	Idler pulley
4	Rewind platen pulley
5	Media take-up pulley

Remove the Platen Roller

1. Refer to Figure 213. Loosen, but do not remove, the set screws in the platen roller pulley.



Figure 213 • Remove the Upper Platen Roller

1	Platen roller pulley
2	Large spacer (all models)
3	Bearing
4	Peel/Tear bar mounting screws (2)
5	Peel/Tear bar
6	Mark with label/tape top and right side
7	Platen roller
8	Washer
9	C-clip

2. Pull the platen roller pulley and spacer off the platen roller shaft.

3. Mark with label/tape top and right side



4. **Caution** • Wear protective eye wear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

While facing the front of the printer, slide the upper platen roller to the right. Remove the c-clip, washer, and right bearing from the upper platen roller.

5. Slide the platen roller as far to the left as possible to free the right end from the side plate. Remove the upper platen roller.

Remove the Rewind Platen Roller

1. See Figure 214. Using a hex key, loosen but do not remove the two set screws in the rewind platen pulley.





1	Rewind platen pulley
2	Large spacer for 220XiIIIPlus only
3	Bearing
4	Platen roller
5	Platen roller adjustment plate
6	Washers (2)
7	Mounting screws (2)
8	C-clip

- 2. Slide the rewind platen pulley off the lower platen roller shaft.
- **3.** Remove the spacer and bearing.
- **4.** Push the lower platen roller to the right.

Note • Do not remove the roller adjust plate unless it is damaged, twisted, or bent. If the adjust plate is removed, the alignment is lost and an adjustment procedure must be performed.

5. Caution • 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.

Remove the C-clip.

6. Slide the platen roller as far to the left as possible to free the right end from the adjust plate. Remove the roller.

Remove the Side Plate

1. See Figure 215. Loosen the printhead lever mounting screw and remove the printhead lever and the wave washer, as shown in Detail A.



Figure 215 • Side Plate Removal and Installation

1	Side plate mounting screws (11)
2	Side plate
3	Stepper motor housing
4	Bearing
5	Pivot bar
6	Wave washer
7	Mounting screw
8	Printhead lever



Note • To ensure that the side plate is reinstalled in the exact position, mark two thin lines from the side plate to the stepper motor housing.

2. Remove and retain the 11 side plate mounting screws and remove the side plate.

Note • When removing the side plate, the dancer assembly, upper media sensor bracket, and media guide plate will still be attached to the main frame.

8/12/2009

Remove the Old Stepper Motor



Note • Due to the fact that there are different cable routings for the different printers involved in this installation, make a note of all cable clamps and cable ties used.

- **1.** On the electronics side, remove the nut, open the cable clamp(s) securing the stepper motor cable.
- **2.** Open the clamp(s) then remove the stepper motor cable.
- **3.** Cut any cable ties holding the stepper motor cable.
- **4.** See Figure 216. With a long hex key, reach into the motor housing and remove the 4 mounting screws.

Figure 216 • Remove and Install DC Stepper Motor



1	Grommet
2	Stepper mother cable connector
3	Stepper motor cable
4	Stepper motor
5	Stepper motor mounting screws (4)
6	Side plate
7	Stepper motor housing

5. Pull out the old motor, cable and grommet.

Install the New Stepper Motor

- 1. See Figure 216 on page 340. Position the new stepper motor near the motor housing. Feed the motor power cord through the grommet and the slot in the main frame. Turn the split in the grommet away from the large opening.
- **2.** See Figure 209 on page 333. Route the stepper motor wire leads through the cable clamp and retighten the nut.
- **3.** Secure the new motor to the main frame with 4 screws, using the long hex key. The mounting screws are to be torqued to 1.7-1.8 **№m** (15-16 lbf. in.).

Note • Reinstalling the motor housing cover (side plate) involves a lot of adjustment. There are bearings that need to be inserted, shafts that need to be installed and several supports that have to line up with screw holes. Be patient and work carefully. Don't tighten any screws until all of the screws are installed.

Reinstall the Side Plate

- **1.** See Figure 215 on page 339. Realign the side plate using the two thin lines that were drawn and replace the side plate using screws 1 through 11.
- 2. Slide the flat washer, wave washer, and head control lever onto the pivot bar.
- **3.** The head control lever must be installed in the same orientation as the toggle assembly. If the toggle is pointing down, then the head control handle must point down.
 - **a.** You must compress the wave washer to install the head control lever and to get the mounting screw to line up with pivot bar.
 - **b.** Install and tighten the mounting screw.
- **4.** Route the stepper motor cable and connector over to and through the cable clamp(s) removed previously.
- **5.** Secure the cable clamp(s) with the nut(s) removed previously.

Reinstall the Tear Bar

- 1. See Figure 213. Reinstall the peel/tear-off bar using the markings for top and right side.
- 2. Loosely install both of the peel/tear-off bar mounting screws.
- **3.** Ensure that there is a gap between the platen roller and the peel/tear-off bar approximately the thickness of a business card.
- 4. Tighten both peel/tear-off bar mounting screws.

Reinstall the Rewind Platen Roller Pulley

- **1.** See Figure 214 on page 338. Install the platen support bracket the side plate with two washers and two screws. Do not tighten the screws at this time.
- **2.** From the electronics side, install the flange bearing, flange facing out, into the rewind platen mounting hole and from the mechanical side, insert the long end of the rewind platen roller shaft into the flange bearing.
- **3.** From the mechanical side, insert the flange bearing into the platen support bracket), flange facing out and onto the short end of the rewind platen roller.
- **4.** Tighten the mounting screws to secure the platen support bracket. The bracket may need adjustment later.
- 5. Reinstall the C-clip onto the right side of the platen roller shaft.
- **6.** From the electronics side, slide the spacer and the rewind platen pulley onto the platen roller shaft.



Note • The platen support bracket will need adjustment later.

7. Align the two pulley set screws with the flat surfaces of the platen roller shaft and tighten. The pulley should be positioned with approximately 5 mm (0.20 in.) between the C-clip and the platen support bracket.

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Note • The media take-up pulley has no lip on it and is designed to allow the rewind belt to be pushed on as the pulley is rotated.

8. Install rewind drive belt by holding the belt and rotating it towards the media take-up pulley as you push it on that pulley.

Adjust the Rewind Drive Belt Tension

1. See Figure 217. Remove the cover on the lower access hole in the side plate.



Figure 217 • Remove the Lower Access Hole Cover

2. Using a hex key (Allen wrench) with a 10-inch minimum shaft length, reach through the hole and loosen the idler pulley mounting screw.

3. See Figure 218. Hook a 2200-gram spring scale to the belt and carefully slide the idler gear assembly to the left to increase belt tension.



Figure 218 • Adjust the Rewind Drive Belt Tension

4.	When a scale reading of 2000 grams \pm 250 grams (4.5 lbs.) \pm 0.5 lbs.) creates a deflection
	of 6 mm (1/4 in.), tighten the idler pulley mounting screw to a torque of 2.3 $N \cdot m$
	(20 lbf. in.).

5. See Figure 217 on page 343. Reinstall the plug into the lower access hole.

Reinstall the Platen Roller and Pulley

- **1.** See Figure 213 on page 337. Install a flanged bearing, flange facing out, into right side of the print mechanism.
- **2.** Insert the long end of the platen roller shaft through the hole in the main frame.
- **3.** Slide the short end into the flanged bearing previously installed.
- 4. Install the washer included in the kit onto the right end of the platen roller shaft as shown.



5. Caution • 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.

Install the C-clip onto the shaft.

- **6.** From the electronics side, install the left flanged bearing, flange facing out, onto the long end of the platen roller shaft.
- 7. Slide the large spacer onto the left side of the platen roller shaft.
- **8.** Slide rewind platen pulley onto the shaft and align the two set screws with the flat surfaces of the shaft.
- **9.** Leave approximately a 0.5 mm (0.020 in.) gap between the C-clip and washer on the right-hand side of the platen roller shaft.
- **10.** Tighten the two set screws of the platen roller pulley.



Note • The ribbon take-up pulley has no lip in it and is designed to allow the main belt to be pushed on as the pulley is rotated.

11. Install main drive belt by holding the belt and rotating it towards the ribbon take-up pulley as you push it on that pulley.

Adjust the Main Drive belt Tension

- **1.** See Figure 219. Loosen the three ribbon take-up mounting screws through the access holes in the ribbon take-up pulley.
- **2.** Hook a 2200-gram spring scale to the belt and carefully slide the ribbon take-up spindle assembly to the left to increase belt tension.



Figure 219 • Install the Drive Belt

1	Ribbon take-up pulley
2	Belt
3	Platen pulley
4	Measuring device
5	Stepper motor pulley
6	Spring gauge
7	Access holes (3)

3. When a scale reading of 2000 grams ±250 grams (4.5 lbs. ±0.5 lbs.) creates a deflection of 1/4 in. (6 mm), tighten the three mounting screws to a torque of 2.3 N•m (20 lbf. in.).

Reinstall DC Power Supply

- **1.** See Figure 210 on page 334. Ensure that the black heat conduction pad is in position and then install the DC power supply securing it the two nuts and one screw.
- **2.** See Figure 209 on page 333. Connect the stepper motor cable to connector J4 on DC power supply.
- **3.** Reconnect all other cables.
- 4. Reinstall the plug into the lower access hole.

Reinstall the Electronics Cover

- **1.** See Figure 208 on page 331. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Open the media door and reinstall media and ribbon.

4. Turn on (**I**) the printer.

110Xi4 Media Hanger

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set □ Utility Pliers
- □ 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 220. Remove the electronics cover by removing the three mounting screws securing it.



Figure 220 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media cover and remove the media and ribbon.

Move the Rear Panel



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

Connect yourself to an antistatic device.

2. Do you have a wireless board installed?

lf	Th	ien
No	a.	See Figure 221. Remove the two screws securing the main logic board to the main frame.
	b.	Remove the five screws securing the rear panel to the main frame.
	c.	See Figure 222. Move the rear panel to gain access to the media hanger hooks.
Yes	a.	See Figure 221. Remove the screw in the upper left corner of the wireless board.
	b.	Remove the two screws securing the main logic board.
	c.	Remove the five screws securing the rear panel to the main frame.
	d.	See Figure 222. Move the rear panel to gain access to the media hanger
		hooks.

Figure 221 • Remove the Rear Panel



1	Rear panel
2	Main frame
3	Wireless board mounting screw
4	Main logic board mounting screws (2)
5	Rear panel mounting screws (5)





Remove the Old Media Hanger

1. See Figure 223. Remove the media by straightening the hanger hooks.





1	Main frame
2	Mounting hooks (4)
3	Mounting slots (4)

2. See Figure 224. Lift up on the hanger and then pull it out of the printer.



Figure 224 • Remove and Install the Media Hanger

Install the New media Hanger

- **1.** See Figure 224. Slide the new media hanger into the main frame mounting slots and then slide it down until the hooks a resting on the main frame.
- **2.** See Figure 223 on page 351. Bend the bottom of the hooks inward to secure the media hanger.

Reinstall the Rear Panel

- **1.** See Figure 221 on page 350. Align the rear panel with the five mounting holes and the reinstall the five mounting screws.
- **2.** Reinstall the two main logic board mounting screws.
- **3.** If you have a wireless board installed, reinstall the mounting screw into the upper left mounting hole.

Reinstall the Electronics Cover

- **1.** See Figure 220 on page 349. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (**I**) the printer.

140Xi4, 170Xi4, and 220Xi4 Media Supply Hanger

This Kit includes the parts and documentation necessary to install the Media Supply Hanger maintenance kit into the Xi4 printers.

Read this document thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Standard Hex Key (Allen Wrench) Set
- □ Antistatic Mat and Wrist Strap

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 225. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.







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



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

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

4. See Figure 225. Remove the electronics cover by removing the three mounting screws securing it.





5. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Main Logic Board (MLB)

- 1. See Figure 227. Remove the radio card cover by removing the screw securing it.
- **2.** Remove the wireless radio card by pressing the eject button.



Figure 227 • Remove the Radio Card

3. Remove any optional interface boards installed in the printer.

Refer to the removal instructions in the maintenance manual for that board before continuing with this procedure.

Move the Rear Panel



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

Connect yourself to an antistatic device.

2. Do you have a wireless board installed?

lf	Tł	nen
No	a.	See Figure 228. Remove the two screws securing the main logic board to the main frame.
	b.	Remove the five screws securing the rear panel to the main frame.
	c.	See Figure 229. Move the rear panel to gain access to the media hanger hooks.
Yes	a.	See Figure 228. Remove the screw in the upper left corner of the wireless board.
	b.	Remove the five screws securing the rear panel to the main frame.
	c.	See Figure 229. Move the rear panel to gain access to the media hanger hooks.





1	Rear panel
2	Main frame
3	Wireless board mounting screw
4	Main logic board mounting screws (2)
5	Rear panel mounting screws (5)



Figure 229 • Access the Mounting Screw

Remove the Old Media Supply Hanger

1. See Figure 230. Remove the mounting screw and washer from the media side, lift up on the hanger, and then pull it out of the printer.



Figure 230 • Remove the Media Supply Hanger

1	Mounting screw
2	Hooks seated on the main frame
3	Hooks lifted off the main frame

2. Remove and discard the media hanger by lifting it straight up then out from the printer frame.

Install the New Media Hanger

- 1. Install the media hanger by inserting it into the main frame and then pressing down.
- 2. Install the hanger mounting screw and washer.
- **3.** Tighten the mounting screw.
- **4.** Do you have a wireless board installed?

lf	Tł	Then	
No	a.	See Figure 228 on page 358. Align the rear panel with the mounting holes and then reinstall the two screws securing the main logic board to the main frame.	
	b.	Reinstall the five screws securing the rear panel to the main frame.	
	c.	Continue with Reinstall the Electronics Cover.	
Yes	a.	See Figure 228 on page 358. Align the rear panel with the mounting holes and then reinstall the two screws securing the main logic board to the main frame.	
	b.	Reinstall the upper left mounting securing the wireless board.	
	c.	Reinstall the five screws securing the rear panel to the main frame.	
	d.	Continue with <i>Reinstall the Electronics Cover</i> .	

Reinstall the Electronics Cover

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

Reinstall the media and ribbon.

- **2.** See Figure 226 on page 356. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 3. Reinstall the mounting screws to secure the electronics cover.
- 4. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **5.** Reconnect the AC power cord and data cables.
- **6.** Turn on (**I**) the printer.
Ribbon Supply Spindle

This kit includes the parts and documentation necessary to install the Ribbon Supply Spindle maintenance kit on the Xi4TM printers.

Read these instructions thoroughly before attempting to install this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Antistatic Wriststrap and Mat
- □ SAE Hex Key (Allen Wrench) 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.

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

2. See Figure 231. Remove the electronics cover by removing the three mounting screws securing it.



Figure 231 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

Remove the Ribbon Supply Spindle



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

Connect yourself to an antistatic device.

2. See Figure 232. Disconnect the ribbon low sensors from J9 and J10 on the main logic board (MLB).



Figure 232 • Disconnect the Ribbon Low Sensors

3. Cut the cable tie securing the ribbon low cables to the other cables.

4. See Figure 233. Remove and discard the three screws securing the ribbon supply spindle and then remove the spindle from the printer.



Figure 233 • Remove the Ribbon Supply Spindle

1	Ribbon supply spindle mounting screws (3)
2	Ribbon low sensors (2)

Install the New Ribbon Supply Spindle

1. See Figure 234. Orient the new spindle so that the blades face up.



- **2.** See Figure 233 on page 364. Orient the new ribbon spindle with the two access holes in the main frame for the ribbon low sensors and the feed the rbbon sensors wires through the access holes.
- **3.** Align the three mounting holes in the spindle mount with the three holes in the main frame and then install the three mounting screws.
- **4.** See Figure 232 on page 363. Reconnect the ribbon low sensor cables to J 8 and J9 on the MLB.
- **5.** Install the cable tie to the same location it was cut from.

Reinstall the Electronics Cover

- **1.** See Figure 231 on page 362. Reinstall the electronics cover and secure it with two screws.
- 2. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **3.** Reconnect the data cables and AC power cord.
- **4.** Turn on (**I**) the printer.

Ribbon Supply Spindle Hardware

This kit includes the parts and documentation necessary to install the Ribbon Supply Spindle (RSS) Hardware Kit in the Xi4TM printers. Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

Box-End Wrench Set

- Phillips Screwdriver Set
- □ 11303 Spring Gauge 2200g
- □ 01773 Spindle Torque Adjustment Kit

Remove the Old RSS Parts

1.



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

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

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

Open the media door and remove the media and ribbon from the printer.

3. Which model of *Xi*4 are you working on?

If you have a	Then
110Xi4	See Figure 235. Remove adjustment nut and then slide the old parts off of the RSS shaft.
140Xi4	See Figure 236. Remove adjustment nut and then slide the old parts off of the RSS shaft.
170Xi4	See Figure 237. Remove adjustment nut and then slide the old parts off of the RSS shaft.
220Xi4	See Figure 238. Remove adjustment nut and then slide the old parts off of the RSS shaft.





1	Ribbon supply shaft	10	Outer blade 30070-1
2	Thrust washer (4)	11	Outer housing
3	Thrust bearing* (2)	12	Friction clutch No. 1
4	Screws (4)	13	O-ring, 47439
5	Inner blade	14	Tension plate
6	Inner housing	15	Compression spring
7	O-ring (3)	16	Torsion spring
8	Friction clutch No. 3, white	17	Spring housing
9	Wear plate (2)	18	Adjustment nut

*. Add a small amount of grease before installing.

clutch No. 1, black



Torsion spring

Spring housing

Adjustment nut

16

17

18

Figure 236 • Remove the Old Ribbon Supply Spindle Parts 140Xi4

*. Add a small amount of grease before installing.

Friction clutch No. 3, white

O-ring (3)

Wear plate (2)

7

8

9



Figure 237 • Remove the Old Ribbon Supply Spindle Parts 170Xi4

*. Add a small amount of grease before installing.



Figure 238 • Remove the Old Ribbon Supply Spindle Parts 220Xi4

*. Add a small amount of grease before installing.

Install the New Ribbon Supply Spindle Parts

1. Which model of *Xi*4 are you working on?

If you have a…	Then
110Xi4	See Figure 235. Slide the new parts onto the RSS shaft as shown.
140Xi4	See Figure 236. Slide the new parts onto the RSS shaft as shown.
170Xi4	See Figure 237. Slide the new parts onto the RSS shaft as shown.
220Xi4	See Figure 238. Slide the new parts onto the RSS shaft as shown.

2. Install the new adjustment nut.

Adjust the Ribbon Supply Spindle

1. See Figure 239. Align the sections of the spindle and then install a 1 inch inside diameter cardboard core on it.



Figure 239 • Adjust the Ribbon Supply Spindle Tension

1	Ribbon supply spindle
2	Align the plates
3	Core
4	Mylar strip

- **2.** Push the cap in to increase the tension. Let the cap move out to decrease the tension.
- **3.** Use adhesive tape to attach a 2 inch wide strip of polyester strip to the core. Wind the polyester strip around the core about 5 times in the direction shown.
- **4.** Slowly and evenly, at about 2 inches per second, pull the strip of polyester using a spring scale. The rotation of the spindle should be smooth and should not cause the reading on the spring scale to move excessively.
- **5.** Compare the spring scale reading with the load values provided.

Model	110Xi4	140Xi4	170Xi4	220Xi4
	(Grams)	(Grams)	(Grams)	(Grams)
Tension	450 ±50	450 ± 50	500 ± 50	600 ± 50

6. Turn the adjustment nut clockwise to increase the tension or counter clockwise to decrease it.

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

Reinstall the media and ribbon.

8. Reconnect the AC power cord and turn on (I) the printer.

Ribbon Take-Up Spindle

This kit includes the parts and documentation necessary to install the Ribbon Take-Up Spindle Assembly maintenance kit on the Xi4TM printers:

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Flat-blade Screwdriver Set
- □ Standard Allen Key Set
- □ Standard Open-End Wrench Set
- □ Adhesive Tape
- Clean Lint-Free Cloth

- □ 47362* Zebra Preventive Maintenance Kit
- 2200-Gram Spring Scale (Zebra part # 11303
- **Q** 2-inch Wide Strip of Polyester Film
- □ Safety Glasses
- * In place of the Preventive Maintenance Kit, you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 240. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.







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



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

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

4. See Figure 240. Remove the electronics cover by removing the three mounting screws securing it.



Figure 241 • Remove the Electronics Cover

- **5.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- 6. Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media cover and remove all media and ribbon.

7. Close and latch the printhead.

Remove the Old Ribbon Take-Up Spindle

3

1. See Figure 242. Remove the main drive belt by turning the ribbon take-up pulley to the right and pulling off the belt.





Ribbon take-up pulley



2.

Caution • 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.

See Figure 243. Using a flat-blade screwdriver, remove the E-ring securing the ribbon take-up pulley on the shaft and remove the pulley.



Figure 243 • Remove the Ribbon Take-up Spindle

1	E-ring
2	Ribbon take-up pulley
3	Spacer
4	Flat washer
5	Wave washer
6	Mounting screws (3)
7	Mounting washers (3)
8	Bearing assembly
9	Spindle/Clutch assembly

3. Remove the spacer, flat washer, and wave washer.

Install the Ribbon Take-up Assembly

- **1.** Clean the main frame on both sides with isopropyl alcohol.
- **2.** See Figure 243. Mount the new bearing housing on the media side of main frame by using the mounting screws previously removed. Lightly tighten each screw.
- **3.** Install the new ribbon take-up spindle/clutch assembly by sliding its shaft through the bearing housing.
- **4.** Reinstall the wave washer, flat washer, spacer, and pulley. Secure the assembly with the new E-ring.
- 5. See Figure 244 on page 379. Reinstall the main drive belt.
- 6. Continue with Adjust the Main Drive Belt Tension.

Install the Spindle/Clutch Assembly

- **1.** Install the new ribbon take-up spindle/clutch assembly by sliding its shaft through the bearing housing.
- **2.** Reinstall the wave washer, flat washer, spacer, and pulley. Secure the assembly with the new E-ring.
- **3.** See Figure 244 on page 379. Reinstall the main drive belt.
- 4. Continue with Adjust the Main Drive Belt Tension.

Adjust the Main Drive Belt Tension

1. See Figure 244. Hook a 2200-gram spring scale to the belt as shown.



Figure 244 • Adjust the Main Drive Belt Tension (220Xi4 shown)

1	Ribbon take-up spindle mounting screw access holes (3)	
2	Ribbon take-up spindle pulley	
3	Idler wheel (only on 220Xi4/XiIIIPlus)	
4	Main drive belt	

See Figure 244. Slide the ribbon take-up pulley to the left to increase belt tension. When a scale reading of 2000 grams ±250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 1/4 inch (6 mm), tighten the three mounting screws.

3. See Figure 244 and Figure 245. Use a hex key (Allen wrench) to loosen the idler pulley mounting screw and carefully slide it to the right to increase belt tension. When a scale reading of 2000 grams ± 250 grams (4.5 lbs. ± 0.5 lbs.) creates a deflection of 6 mm (1/ 4 in.), tighten the idler pulley mounting screw.



Figure 245 • Loosen the Idler Pulley

Reinstall the Electronics Cover

- **1.** See Figure 241 on page 375. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.

Remove the End Cap/Release Bar Assembly

1. See Figure 246. Remove the end cap/release bar assembly from the spindle/clutch assembly by pressing in on the two buttons and pulling on the assembly.

Figure 246 • Remove the End Cap/Release Bars

1	Ribbon take-up (RTU) assembly
2	Release bars (2)
3	Release buttons (2)
4	End cap
5	Nut
6	Locking holes (2)
7	Spindle alignment hole
8	Spindle/Clutch assembly

2. Continue with *Adjust the Ribbon Take-Up Spindle Assembly Tension*.

Adjust the Ribbon Take-Up Spindle Assembly Tension

- **1.** See Figure 246 on page 381. Remove the end cap/release bar assembly, if not already removed, by pressing in on the two buttons and pulling on the assembly.
- **2.** See Figure 247. Use adhesive tape to attach a 51 mm (2 in.) wide strip of polyester film to the ribbon take-up spindle shaft. Wind the polyester film around the spindle about five times.



Figure 247 • Adjust the RTU Spindle Tension

- **3.** Measure the tension by slowly pulling the film with a spring scale. Pull only in the direction shown in a smooth steady motion. The pull rate should typically be 51 mm (2 in.) per second.
- **4.** Compare the spring scale reading with the force values shown in Table 16. Perform the spindle adjustment only if the reading is out of specification.
- **5.** Insert a hex key (Allen wrench) through the hole on the spindle into the hole in the spindle shaft to keep the spindle from spinning. Turn the adjustment nut clockwise to increase the tension or counterclockwise to decrease tension. Remove the hex key (Allen wrench) from the hole.

6. Measure the spindle tension as performed above. Compare the tension reading on the spring scale with the appropriate force value found in Table 16. Repeat the adjustment procedure until the correct tension is obtained.

Printer	Force (Grams)
110Xi4	450 ±50
140Xi4	450 ±50
170Xi4	550 ±50
220Xi4	630 ±50

 Table 16 • Spindle Force Values for Full Width Media

7. Reinstall the end cap/release bar assembly by pressing in on the two buttons and sliding it into the spindle/clutch assembly.

Note • In Direct Thermal mode, slide the O-ring over the ribbon take-up spindle to silence the release bars. Remove the O-ring when using a ribbon in thermal transfer mode.

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

Reinstall the media and ribbon.

- **9.** Reconnect the AC power cord and data cables.
- **10.** Turn on (**I**) the printer.
- **11.** Run sample labels to ensure the printer is operating properly.



Ribbon and Media Supply Pulley

Tools Required



 $\ensuremath{\text{Tools}}$ $\ensuremath{\bullet}$ You need these tools to complete this procedure:

Phillips Screwdriver Set

□ Flat-blade Screwdriver Set

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 248. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.



Figure 248 • Remove the Electronics Cover



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



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

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

4. See Figure 248. Remove the electronics cover by removing the three mounting screws securing it.





2	Mounting screws (3)

- **5.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- 6. Which pulley are you replacing?

lf	Then
RTU	Go to Remove the Old RTU Pulley on page 387
MTU	Continue with step 7.

7. Which model Xi4 printer are you working on?

If you have a	Then
110Xi4	Go to <i>Remove the AC/DC Power Supply</i> on page 390.
All other models Xi4	Go to Remove the DC Power Supply.

Remove the Old RTU Pulley



Caution • 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 • The media take-up pulley has no lip on it and is designed to allow the rewind belt to be pulled off as the pulley is rotated.

- **1.** Remove the main drive belt.
- 2. See Figure 250. Using a screwdriver or pliers, remove the E-ring securing the RTU pulley.
- 3. Slide the RTU pulley and spacer off the ribbon take-up spindle shaft.

Figure 250 •	Remove th	e RTU Pulley
--------------	-----------	--------------

1	E-ring
2	RTU pulley assembly
3	Spacer
4	Flat washer
5	Wave washer

Install the New RTU Pulley



Caution • 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 250. Slide the new spacer and the new RTU pulley onto the ribbon take-up spindle shaft.
- **2.** Install the E-ring to secure it.



Note • The ribbon take-up pulley has no lip on it and is designed to allow the main belt to be pushed on as the pulley is rotated.

- **3.** Reinstall the main drive belt around the outer gear of the stepper motor pulley, the platen pulley, and the ribbon take-up pulley.
- 4. Are you also replacing the MTU?

lf	Then
No	Go to Reinstall the Electronics Cover on page 397.
Yes	Continue with step 5.

5. Continue with *Remove the Power Supply*.

Remove the Power Supply

If you have a…	Then
110Xi4	Go to <i>Remove the AC/DC Power Supply</i> on page 390.
All other models of Xi4	Continue with <i>Remove the DC Power Supply</i> .

Remove the DC Power Supply



Caution • Certain components located under the insulation shield can store a residual charge for as long as 10 minutes after power has been removed. Use extreme care when removing the AC/DC power supply. Handle the board only around the outer edges.

- 1. Unplug all ribbon cables and small wire connectors from the DC power supply
- **2.** See Figure 251. Remove the DC power supply by removing two hex nuts and one mounting screw.



Figure 251 • Remove and Install the DC Power Supply

1	Screw
2	DC power supply assembly
3	Heat-conduction pad
4	Nut (2)

1.

Remove the AC/DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 252. Make note of all cables connected to the DC power supply and then remove them..





1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

3. See Figure 253. Remove the mounting screw and then remove the two mounting nuts.



Figure 253 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Go to Install the New MTU Pulley on page 397.

6. See Figure 254. Remove the AC power connector from the AC/DC power supply.



Figure 254 • Disconnect the AC Power Input Cable

7. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

8. See Figure 255. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 255 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

10. See Figure 256. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 256 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

11. See Figure 257. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 257 • Remove the AC/DC Power Supply

12. See Figure 258. Lift the AC/DC power supply assembly out of the printer.

Figure 258 • Remove the AC/DC Power Supply



13. Continue with *Remove the Old MTU Pulley*.

Remove the Old MTU Pulley



Caution • 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 • The media take-up pulley has no lip on it and is designed to allow the rewind belt to be pulled off as the pulley is rotated.

- **1.** See Figure 259. Remove the rewind drive belt.
- **2.** Use a screwdriver or pliers to remove the E-ring securing the MTU pulley.
- **3.** Slide the spacer and MTU pulley off the rewind spindle shaft.



Figure 259 • Remove the MTU Pulley

1	Wave washer
2	Flat washer
3	MTU Pulley
4	Spacer
5	E-ring
6	Rewind spindle
Install the New MTU Pulley



Caution • 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 259. Slide the new MTU pulley and spacer onto the rewind spindle shaft.
- **2.** Install the E-ring to secure it.
- **3.** Reinstall the rewind drive belt around the inner stepper motor pulley, inside the idler pulley, around the lower peel roller pulley, and slide it around the rewind spindle pulley.



Note • The media take-up pulley has no lip on it and is designed to allow the rewind belt to be pushed on as the pulley is rotated.

Reinstall the Electronics Cover

- **1.** See Figure 249 on page 386. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Open the media door and reinstall media and ribbon.

4. Turn on (**I**) the printer.

Media Rewind Spindle

This kit includes the parts and documentation necessary to install the media rewind spindle maintenance kit onto the Xi4TM printers.

Read these instructions thoroughly before attempting to install this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Flat-blade Screwdriver Set
- □ N•m (Inch/pound) Torque Wrench
- □ 11303 Spring Gauge 2200g
- □ SAE Hex Key (Allen wrench) minimum 30 cm (12 in.) Long
- Antistatic Wriststrap and Mat
- Safety Glasses

Remove the Electronics Cover

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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 260. Remove the electronics cover by removing the two mounting screws securing it and then lifting up from the rear corner.



Figure 260 • Remove the Electronics Cover



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



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

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

4. See Figure 260. Remove the electronics cover by removing the three mounting screws securing it.





2	Mounting screws (3)

- **5.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

7. Which model printer are you working on?

If you have a	Then
110Xi4	Continue with <i>Remove AC/DC the Power Supply, Remove AC/DC the Power Supply.</i>
All other models Xi4	Go to <i>Remove the DC Power Supply</i> on page 405.

Remove AC/DC the Power Supply

1. See Figure 262. Remove the AC power connector from the AC/DC power supply.



Figure 262 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 263. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 263 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 264. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 264 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

6. See Figure 265. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 265 • Remove the AC/DC Power Supply

7. See Figure 266. Lift the AC/DC power supply assembly out of the printer.

Figure 266 • Remove the AC/DC Power Supply



8. Go to *Remove the Old Rewind Spindle Assembly* on page 406.

Remove the DC Power Supply



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

Connect yourself to an antistatic device.

- **2.** Note their positions and then disconnect all connectors from the DC power supply assembly.
- **3.** See Figure 267. Remove the mounting screw and two nuts securing the DC power supply assembly to the printer and then remove the DC power supply assembly from the printer.



Figure 267 • Remove the DC Power Supply

1	DC power supply
2	Mounting screw
3	Mounting nuts (2)

4. Got to Remove the Old Rewind Spindle Assembly on page 406.

Remove the Old Rewind Spindle Assembly

1. See Figure 268. Locate the lower access hole in the print mechanism side plate and remove the plug.

Figure 268 • Loosen the Idler Pulley



- **2.** Using a 7/64 in. hex key (Allen wrench) with a 12-inch minimum shaft length, reach through the hole and loosen the idler pulley mounting screw.
- **3.** Slide the idler pulley assembly toward the front of the printer to relieve the tension on the rewind drive belt and then remove the belt.



4.

Caution • 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.

See Figure 269. Remove the media rewind spindle E-ring and the remove the spacer, rewind pulley, flat washer, wave washer, and media rewind spindle assembly.



Figure 269 • Remove the Rewind Spindle Assembly

1	E-ring
2	Spacer
3	Rewind spindle pulley
4	Flat washer
5	Wave washer
6	Spindle assembly

5. Which model printer are you working on?

If you have a…	Then
220Xi4	See Figure 271. Remove the three mounting screws and washers securing the rewind bearing housing to the printer.
All other models	See Figure 270. Remove the three mounting screws and washers securing the rewind bearing housing to the printer.

Figure 270 • Remove the Old Bearing Housing (all models except 220Xi4)



1	Rewind bearing housing
2	Mounting screws (3)
3	Mounting washers (3)





1	Rewind bearing housing
2	Mounting screws (3)
3	Mounting washers (3)
4	Flat spot

Install the New Media Rewind Spindle Assembly

If you have a	Then
220Xi4	See Figure 271. Align the new rewind bearing housing with the mounting holes, flat side up, and then reinstall the three mounting washers and screws.
All other models	See Figure 270. Align the new rewind bearing housing with the mounting holes and then reinstall the three mounting washers and screws.

1. Which model printer are you working on?

- **2.** See Figure 269 on page 407. Slide the media rewind spindle assembly through the bearing housing.
- **3.** Reinstall the wave washer, flat washer, rewind pulley, and spacer and then reinstall the E-ring.
- **4.** Reinstall the rewind drive belt.
- **5.** See Figure 272. Hook a 2200-gram spring scale to the belt and carefully slide the idler gear assembly to the left to increase belt tension.



Figure 272 • Adjust the Rewind Drive Belt Tension

1	Rewind drive belt
2	Spring scale
3	Ruler

- 6. When a scale reading of 2000-grams ± 250 grams creates a deflection of 6 mm (1/4 in.), tighten the idler pulley mounting screw to a torque of 2.3 N•m (20 inch-pounds).
- 7. See Figure 268 on page 406. Reinstall the plug into the lower access hole.

Reinstall the Power Supply

1. Which model printer are you working on?

If you have a	Then
110Xi4	a. See Figure 265 on page 404. Align the AC/DC power supply with the mounting studs and then set it into the printer.
	b. Reinstall the mounting nuts and screws.
	c. See Figure 264 on page 403. Reinstall all cables except the AC input cable.
	d. See Figure 263 on page 402. Reinstall the AC/DC power supply shield.
	e. See Figure 262 on page 401. Install the AC power input to J4 on the AC/DC power supply.
All other models of Xi4	a. See Figure 267 on page 405. Ensure the black heat-conduction pad is in place.
	b. Reinstall the DC power supply.
	c. Set the DC power supply on the two mounting studs and then secure the power supply with the two nuts and one screw previously removed.
	d. Connect all ribbon cables and small wire connectors to the DC power supply.

2. Continue with *Reinstall the Electronics Cover*.

Reinstall the Electronics Cover

- **1.** See Figure 261 on page 400. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (**I**) the printer.

Media Supply Spindle

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ SAE Nutdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ Metric Hex Key (Allen wrench) Set
- Polyester Film

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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 273. Remove the electronics cover by removing the three mounting screws securing it.



Figure 273 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Move the Rear Panel



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

Connect yourself to an antistatic device.

2. Do you have a wireless board installed?

lf	Th	nen
No	a.	See Figure 274. Remove the two screws securing the main logic board to the main frame.
	b.	Remove the five screws securing the rear panel to the main frame.
	c.	See Figure 276. Move the rear panel to gain access to the media hanger hooks or mounting screw.
Yes	a.	See Figure 274. Remove the screw in the upper left corner of the wireless board.
	b.	Remove the five screws securing the rear panel to the main frame.
	c.	See Figure 276. Move the rear panel to gain access to the media hanger hooks or mounting screw.





1	Rear panel
2	Main frame
3	Wireless board mounting screw
4	Main logic board mounting screws (2)
5	Rear panel mounting screws (5)



Figure 275 • Gain Access to the Mounting Hooks (110Xi4 only)





3. Do you have a media hanger installed?

lf	Then
No	Go to See Figure 280. Remove the mounting screw and washer and then remove the old media supply spindle. on page 416.
Yes	Continue with See Figure 277. Remove the media hanger by straightening the hanger hooks

Remove the Old Media Supply Hanger

- **1.** See Figure 277. Remove the media hanger by straightening the hanger hooks.
- 2. See Figure 278. Lift up on the hanger and then pull it out of the printer.

Figure 277 • Bend the Media Supply Hanger Hooks



1	Main frame
2	Mounting hooks (4)
3	Mounting slots (4)





1	Media hanger
2	Main frame
3	Mounting hooks (4)
4	Mounting slots (4)



Figure 279 • Remove the Media Supply Hanger (all models except 110Xi4)

3. Go to *Install the New Media Supply Spindle* on page 417.

Remove the Old Media Supply Spindle

1. See Figure 280. Remove the mounting screw and washer and then remove the old media supply spindle.



Figure 280 • Remove the Old Media Spindle

1	Lock washer
2	Mounting screw

- **2.** Remove the old media spindle from the printer.
- 3. Continue with Install the New Media Supply Spindle.

Install the New Media Supply Spindle

1. See Figure 281. Install the media supply spindle with the support between the shaft and the printer frame align the mounting holes.



Figure 281 • Install the Media Spindle

- **2.** Install the mounting screw and lock washer onto the spindle shaft and then tighten.
- **3.** Reinstall any optional memory/font cards or radio cards.

Adjust the Spindle Tension

- **1.** See Figure 282. Use adhesive tape to attach a 5 cm (2 in.) wide strip of polyester film to the spindle shaft (or core where required).
- **2.** Wind the polyester film around the spindle (or core) about five times in the direction shown.



Figure 282 • Adjust the Spindle Tension

- **3.** Measure tension by slowly pulling the film with a spring scale. Pull **only** in the direction shown. The pull rate should be 5 cm (2 in.) per second.
- **4.** Is the spring tension reading 300 grams ± 50 ?

4

5

Core

Adjustment nut

lf	Then
No	a. See Figure 282. Make adjustments using the tension adjustment nut.
	Clockwise increases tension.
	Counterclockwise decreases tension.
	b. Recheck the tension after running a full roll of labels.
	c. Continue with <i>Reinstall the Electronics Cover</i> on page 419.
Yes	Continue with Reinstall the Electronics Cover on page 419.

Reinstall the Electronics Cover

- **1.** See Figure 273 on page 412. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables
- **5.** Turn on (**I**) the printer.



Roller System



Contents

Dancer Assembly	422
Rewind Platen Roller Adjustment Bracket	431
Ribbon Rollers	434

Dancer Assembly

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ Antistatic Wriststrap and Pad

Remove the Electronics Cover



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



1. $\ensuremath{\textit{Caution}}$ \bullet Turn off $(\ensuremath{\textit{O}})$ the printer and disconnect it from the power source before performing the following procedure.

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

2. See Figure 283. Remove the electronics cover by removing the three mounting screws securing it.





•	
2	Mounting screws (3)

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media cover and remove the media and ribbon.

5. Which model of printer are you working on?

If you have a	Then
140Xi4170Xi4220Xi4	Go to Remove the Old Dancer Assembly on page 426.
110Xi4 w/printhead test board	Continue with continue with <i>Remove the Printhead Test Board</i> .

Remove the Printhead Test Board



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

Connect yourself to an antistatic device.

- **2.** Take note of all cable connections and then disconnect all cables.
- **3.** See Figure 284. Remove the mounting screw securing the printhead test board shield.



Figure 284 • Remove the Printhead Test Board Shield

- **4.** See Figure 285. Lift the printhead test board shield and then remove and the two mounting screws, printhead test board, and shield.
- **5.** Move the printhead test board out of the way.

Note • There is no need to remove the cables from the printhead test board, unless you need more room to access the dancer mounting screw.



Figure 285 • Remove the Printhead Test Board

1	Printhead test board shield
2	Top mounting spacer
3	Right mounting spacer
4	Printhead test board
5	Mounting screws (2)

6. Continue with *Remove the Old Dancer Assembly*.

Remove the Old Dancer Assembly

1. See Figure 286. Locate the mounting screw on the electronics side between the two cable clamps.





1	Mounting screw
2	Cable clamps (2)



2.

Caution • 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.

On the media side remove and discard the mounting screw and lock washer in the side plate.

Figure 287 • Remove the Mounting Screw and Lock Washer



1	Mounting screw	
2	Lock washer	
3	Side plate	
4	Outer torsion spring	
5	Inner torsion spring	
6	Main frame	

- **3.** See Figure 288. Slip the outer torsion springs through the hole in the side plate.
- **4.** Slip the inner torsion spring out of the main frame.
- **5.** Slide the dancer assembly out of the printer.

Figure 288 • Remove the Dancer Assembly



1	Dancer assembly
2	Inner torsion spring
3	Outer torsion spring

Install the New Dancer Assembly

- **1.** Remove the dancer assembly from the kit.
- 2. See Figure 289. Prepare the dancer assembly for installation.





1	Dancer housing
2	Roller shaft
3	Roller
4	Bearings (2)
5	Outer torsion spring
6	Inner torsion spring
7	Preparation complete

- **3.** Ensure that all components of the dancer assembly are in place.
- **4.** See Figure 288 on page 428. Slide the dancer assembly into the printer.

- **5.** Insert the inner torsion spring into the main frame hole and then insert the outer into the hole in the side plate.
- **6.** See Figure 287 on page 427. Install the new screw and lock washer through the side plate mounting hole, into the dancer assembly, and then tighten the mounting screw.
- **7.** See Figure 286 on page 426. On the electronics side align the dancer assembly roller shaft with the mounting hole.
- **8.** Install the remaining new screw and lock washer through the mounting hole, into the dancer roller shaft and then tighten the mounting screw.
- **9.** Which model of printer are you working on?

If you have a	Then
110Xi4 w/printhead test board	 a. See Figure 285 on page 425. Align the printhead test board, with J1 and J2 facing down and out, with the mounting spacers and then install the top and right mounting screws. b. See Figure 284 on page 424. Bend the printhead test board shield down until the mounting hole aligns with the left mounting hole in the printhead test board and then reinstall the printhead mounting board shield mounting screw. c. Continue with <i>Reinstall the Electronics Cover</i>.
 110Xi4 w/o printhead test board 140Xi4 	Continue with <i>Reinstall the Electronics Cover</i> .
170Xi4220Xi4	

Reinstall the Electronics Cover

- **1.** See Figure 283. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Open the media door and reinstall media and ribbon.

4. Turn on (**I**) the printer.

Rewind Platen Roller Adjustment Bracket

This kit includes the parts and documentation necessary to install the Rewind Platen Adjustment Bracket maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- □ SAE Hex Key (Allen wrench)
- □ 47362* Zebra Preventive Maintenance Kit

Remove the Rewind Platen Roller Adjustment Bracket

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

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



2.

Caution • 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.

See Figure 290. Remove and discard the C-clip from the platen roller.



Figure 290 • Remove and Install the Rewind Platen Roller Adjustment Bracket

- **3.** Slide the flange bearing out of the rewind adjustment bracket.
- **4.** Remove and discard the two mounting screws and washers, and then discard the old rewind adjustment bracket.

Install the Rewind Platen Roller Adjustment Bracket

- **1.** See Figure 290. Remove the two mounting screws and flat washers from the kit and then slide one of the washers onto each of the screws.
- **2.** Align the new rewind platen adjustment bracket with the two mounting holes on the printer.
- **3.** Install the two mounting screws and washers.
- **4.** While holding the rewind platen, slide the new flange bearing, flange facing out, onto the platen shaft and into the new rewind platen adjustment bracket.

5. Caution • 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.

While still holding the rewind platen, install the new C-clip.

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

Reinstall the media and ribbon.
- **7.** Press and hold PAUSE while turning on (I) the printer and check for proper tracking of the media onto the rewind spindle.
- **8.** Is the media tracking properly?

lf	Then
Yes	Installation complete.
No	Continue with Adjust the Rewind Platen Roller Adjustment Bracket.

Adjust the Rewind Platen Roller Adjustment Bracket

1. See Figure 291. Loosen the two screws securing the rewind adjustment bracket to the print mechanism.





2. Move the roller adjust plate in the appropriate direction to compensate for the tracking and tighten the screws.

Note • Moving the rewind adjustment bracket toward the front of the printer moves the liner material away from the roller adjust plate. Moving the rewind adjustment bracket toward the rear of the printer moves the liner material toward the rewind adjustment bracket.

- **3.** Repeat step 1 and step 2 until the required results are achieved.
- **4.** Turn off (**O**) the printer and reconnect all data cables.
- **5.** Turn on (**I**) the printer.

Ribbon Rollers

This kit includes the parts and documentation necessary to install the Ribbon Rollers maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required

1.



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Flatblade Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ SAE Nutdriver 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.

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

2. See Figure 292. Remove the electronics cover by removing the three mounting screws securing it.





	1	Electronics cover
	2	Mounting screws (3)
-		

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

5. Which ribbon roller assembly are you replacing?

lf	Then
Top Ribbon Roller	Go to Remove the Top Ribbon Roller Assembly on page 436.
Lower Ribbon Roller	Go to Are you working on a 110Xi4 with the printhead test board installed? on page 438.
Ribbon Dancer Rollers	Go to Remove the Ribbon Dancer Rollers on page 444.
Print Mechanism Roller	Go to .

Remove the Top Ribbon Roller Assembly

1. See Figure 293. Remove and discard the mounting screw on the electronics side.



Figure 293 • Remove the Top Ribbon Roller Assembly

1	Electronics side mounting screw
2	Roller, shaft, and bearings assembly
3	Media side mounting screw

2. Remove and discard the mounting screw on the media side and then slide the roller, shaft, and bearings out of the printer and discard.

3. See Figure 294. Assemble the roller, shaft, and bearings assembly.



Figure 294 • Assemble the Top Roller, Shaft, and Bearings Assembly

1	Bearings (2)
2	Top ribbon roller
3	Top ribbon roller shaft

Install the New Top Ribbon Roller Assembly

- **1.** See Figure 293 on page 436. Slide the top ribbon roller assembly into the printer and align it with the mounting hole on the media side.
- 2. Start the media side mounting screw.
- **3.** Align the top ribbon roller assembly with the electronics side mounting hole.
- 4. From the electronics side start the mounting screw and then tighten it.
- **5.** Tighten the media side mounting screw.
- 6. Are you installing another ribbon roller assembly?

lf	Then
No	Go to See Figure 292 on page 435. Reinstall the electronics cover by aligning the cover so that it slips over the main frame. on page 449.
Yes	a. For the lower ribbon roller continue with <i>Are you working on a 110Xi4 with the printhead test board installed?</i> on page 438.
	b. For the ribbon dancer rollers go to <i>Remove the Ribbon Dancer Rollers</i> on page 444.
	c. For the print mechanism roller assembly go to .

Remove the Lower Ribbon Roller Assembly

1. Are you working on a 110Xi4 with the printhead test board installed?

lf	Th	en
No	Co	ontinue with step 295.
Yes	а. b.	See Figure 295. Remove the printhead test board shield by removing the screw securing it. See Figure 296. Remove the two mounting screws securing the printhead
	~.	test board.
	c.	See Figure 297. Move the printhead test board to gain access to the upper reflective media sensor cable and head spring lift stop.
	d.	Continue with step 295.





1	Printhead test board shield
2	Shield mounting screw



Figure 296 • Remove the Printhead Test Board

1	Printhead test board
2	Printhead test board mounting screws (2)

Figure 297 • Remove the Head Lift Spring Stop



1	Head lift spring
2	Head lift spring stop
3	Printhead test board

2. Caution • 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.

See Figure 297. Open the printhead and then remove the head lift spring from the head lift spring stop with a pair of needle nose pliers.

- **3.** Remove the head lift spring stop.
- 4. Disconnect the black mark sensor cable from P9 on the main logic board. Do not remove the cable from any cable ties or cable clamps.



Figure 298 • Disconnect the Upper Reflective Media Sensor

5. See Figure 299. From the media side remove the mounting screw from the side plate.



Figure 299 • Remove the Brass Screws

1	Mounting screw
2	Brass screws (2)

- **6.** See Figure 300. Pull the upper media sensor assembly out of the printer while ensuring that the cable does not get damaged until you can remove the roller, shaft, and bearings.
- 7. Slide the upper media sensor assembly out of the printer



Figure 300 • Remove the Upper Media Sensor Assembly

- **8.** See Figure 301. Slide the shaft out of the roller and black mark sensor assembly and discard it.
- **9.** Remove and discard the roller and then remove and discard the two bearings.

Figure 301 • Assemble and Disassemble the Lower Ribbon Roller



Install the New Lower Ribbon Roller

- **1.** See Figure 301. Insert the two new bearings into the black mark sensor assembly as shown.
- **2.** See Figure 300 on page 441. Slide the new lower ribbon roller between the two bearings and then slide the lower ribbon roller shaft through the outside bearing, into the lower ribbon roller and then through the inside bearing.
- **3.** While pulling the black mark sensor cable back into the electronics side, slide the assembly into the printer.
- **4.** See Figure 299 on page 440. Align the upper media sensor assembly with the two mounting holes for the brass screws and then reinstall the two brass screws.
- **5.** Align the upper media sensor assembly with the media side mounting screw hole and then install the mounting screw.mounting screw.
- **6.** See Figure 297 on page 439. Align the upper media sensor assembly with the electronics head lift mounting spring stop mounting hole.
- 7. Install the head lift spring stop.
- 8. Reinstall the head lift spring onto the head lift spring stop.

- **9.** See Figure 298 on page 440. Reconnect the black mark sensor cable to P9 on the main logic board.
- **10.** Are you working on a 110Xi4 with the printhead test board install?

lf	Then
No	Continue with step 11.
Yes	a. Align the printhead test board with the mounting standoffs and then install the two mounting screws.
	b. Align the printhead test board shield with the mounting hole and then install the mounting screw.
	c. Reconnect any cables removed to gain access to the black head spring stop.
	d. Continue with step 11.

11. Are you installing another ribbon roller assembly?

lf	Th	Then	
No	Go	to Reinstall the Electronics Cover on page 449.	
Yes	a.	For the print mechanism roller assembly continue with <i>Remove the Ribbon Dancer Rollers</i> .	
	b.	For the top ribbon roller go to <i>Remove the Top Ribbon Roller Assembly</i> on page 436.	
	c.	For the ribbon dancer rollers go to .	

Remove the Ribbon Dancer Rollers

1. See Figure 302. Remove and discard the two screws securing the small ribbon dancer roller assembly and then remove and discard the small ribbon dancer assembly.

 Mounting scraws (2)

Figure 302 • Remove the Old Ribbon Dancer Rollers

1	Mounting screws (2)
2	Mounting washers (2)
3	Ribbon dancer small roller assembly

2. See Figure 303. Slide the outer washer of the ribbon dancer roller shaft and then slide the large roller off the shaft. Slide the inside washer off the shaft.



Figure 303 • Remove the Large Ribbon Dancer Roller

Install the Ribbon Dancer Rollers

- **1.** See Figure 303. Slide the inside washer, new ribbon dancer large roller, and then the outside washer onto the ribbon dancer roller shaft.
- **2.** See Figure 304. Install the small roller assembly in the slot on the shaft with the large roller inside and outside washers closest to the large roller, as shown.

Figure 304 • Install the Small Ribbon Dancer Roller



1	Mounting screws (2)
2	Mounting washers (2)
3	Large roller inside washer
4	Large roller
5	Small roller assembly
6	Large roller outside washer

Remove the Print Mechanism Roller Assembly

1. See Figure 305. Open the printhead and align the print mechanism roller mounting screw with the printhead cable access hole in the main frame.



Figure 305 • Remove the Inside Mounting Screw

2. See Figure 306. Remove the print mechanism roller outside mounting screw.

Figure 306 • Remove the Outside Mounting Screw



3. See Figure 307. Remove and discard the print mechanism roller and shaft.



Figure 307 • Remove the Print Mechanism Roller

1	Inside print mechanism roller mounting screw
2	Outside print mechanize roller mounting screw
3	Print mechanism roller and shaft

Install the New Print Mechanism Roller

- **1.** Slide the print mechanism roller shaft into the print mechanism roller and then insert it into the printer.
- **2.** See Figure 306 on page 447. Align the print mechanism roller with outside mounting hole and then start the outside mounting screw.
- **3.** See Figure 305 on page 447. Align the inside mounting hole with the access hole and then align the print mechanism roller with the inside mounting hole.
- 4. Install and tighten the inside mounting screw.
- **5.** Tighten the outside mounting screw.
- **6.** Are you installing another ribbon roller assembly?

lf	Then		
No	Continue with See Figure 292 on page 435. Reinstall the electronics cover by aligning the cover so that it slips over the main frame. on page 449.		
Yes	a. For the lower ribbon roller continue with <i>Are you working on a 110Xi4 with the printhead test board installed?</i> on page 438.		
	b. For the top ribbon roller go to <i>Remove the Top Ribbon Roller Assembly</i> on page 436.		
	c. For the ribbon dancer rollers go to <i>Remove the Ribbon Dancer Rollers</i> on page 444.		

Reinstall the Electronics Cover

- **1.** See Figure 292 on page 435. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and all data cables.
- **5.** Press and hold PAUSE while turning on the printer.
- 6. After the Power On Self Test (POST), the printer will start to print the Pause test labels.
- **7.** Press PAUSE. After the printer pauses, observe the ribbon for possible problems such as wrinkling.
- **8.** Does the ribbon wrinkle or track incorrectly?

lf	Then
No	Installation is complete.
Yes	Continue with .

Adjust the Print Mechanism Roller

- **1.** The print mechanism roller can be adjusted for proper ribbon tracking and to eliminate ribbon wrinkle.
- 2. Open the printhead and loosen the outside mounting screw.
- **3.** Which way do you want to move the ribbon?

If you want to move the ribbon	Then
Away from the main frame	Slide the roller up and then retighten the outside mounting screw.
Toward the main frame	Slide the roller down and then retighten the outside mounting screw.

- **4.** Close the printhead and press PAUSE to restart the printing.
- **5.** Repeat step 2 through step 4 until the tracking is correct and there is no ribbon wrinkle.

NOTES •	 	 	

Contents

Control Panel
Control Panel Cover
Main Logic Board
AC Power Supply
110Xi4 AC/DC Power Supply Assembly 493
DC Power Supply
Cutter Printed Circuit Board 504
110Xi4 Power Entry
140Xi4, 170Xi4, and 220Xi4 Power Entry 521
Electronics Cables
Printhead Test Board Option 532
Twinax/Coax Option
Applicator Interface
Wired Ethernet
Wireless Plus PCMCIA Option/Maintenance Kit 574
Compact Flash Adapter
ZebraNet [®] Internal Wireless Plus Print Server
SEH PS102-Z IPv6 Internal Print Server

Printed Circuit Boards

Control Panel

Tools Required



Tools • You need these tools to complete this procedure:

- D Phillips Screwdriver Set
- □ SAE Nutdriver Set

- □ Metric Hex Key (Allen wrench) 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 308. Remove the electronics cover by removing the three mounting screws securing it.



Figure 308 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

Remove the Old Control Panel



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

Connect yourself to an antistatic device.

2. Which model of Xi4 are you working on?

If you have a	Then
110Xi4	See Figure 309. Disconnect the control panel cable from P29 on the main logic board (MLB).
140Xi4, 170Xi4, or 220Xi4	See Figure 310. Disconnect the control panel cable from P29 on the main logic board (MLB).

Figure 309 • Disconnect the Control Panel (110Xi4)



1	Main logic board (MLB)
2	MLB connector P29
3	Control panel cable
4	Cable clamps (3)
5	Cable clamp nuts and washers (3)
6	Control panel



Figure 310 • Disconnect the Control Panel (140Xi4, 170Xi4, and 220Xi4)

1	Main logic board (MLB)
2	MLB connector P29
3	Control panel cable
4	Cable clamps (3)
5	Cable clamp nuts and washers (3)
6	Control panel

3. Are working on a 110Xi4 with the printhead test board installed?

lf	Then	
No	a.	See Figure 309 on page 454 or Figure 310. Remove the three nuts and washers securing the three cable clamps.
	b.	Continue with step 4.
Yes	a.	See Figure 311. Remove mounting screw securing the printhead board shield and then open lift it up to access the other two mounting screws.
	b.	Remove the two remaining mounting screws securing the printhead test board.
	c.	Move the printhead test board to gain access to the standoffs.
	d.	Remove the right standoff and lock washer.
	e.	Remove the cable clamp mounting nut.
	f.	Cut the cable tie.
	g.	Continue with step 4.



Figure 311 • Remove the Printhead Test Board

1	Printhead test board shield
2	Mounting screw

Figure 312 • Remove the Standoff



1	Standoff	
2	Mounting nut	
3	Cable clamp2 (2)	
4	Lock washer	
5	Cable tie	

4. Open the cable clamps and then remove the control panel cable.

5. See Figure 313. Open the ferrite block by using a flat-blade screwdriver to raise the tabs and then remove the control panel cable.



Figure 313 • Open the Ferrite Block

1	Ferrite block
2	Tabs (2)





1	1 Control panel cable	
2	Ferrite block	

6. See Figure 315. Remove the control panel by removing and discarding the two lower mounting screws, one on the electronics side and one on the media side.





- **7.** Remove and discard the upper mounting screw.
- **8.** Slide the control panel out of the printer while guiding the control panel cable through the access hole.
- 9. Remove and discard the old ferrite block by cutting the cable tie securing it to the printer.



Figure 316 • Remove the Ferrite Block

Install the New Control Panel

1. See Figure 317. Remove the ferrite block from the kit. Turn it so that the rear is facing you and then slide a cable tie in one slot and out the other.



Figure 317 • Install the Cable Tie on the Ferrite Block

- 2. From the electronics side insert the cable tie through the main frame and then attach it.
- **3.** Cut the excess cable tie.
- **4.** Open the ferrite block.



Figure 318 • Open the Ferrite Block

1	Ferrite block
2	Tabs (2)

- 5. See Figure 319. Guide the new control panel cable through the access hole.
- **6.** Slide the two mounting tabs into the two slots and then set the control panel into the main frame so that the two guide posts are in the two guide holes.



Figure 319 • Align the Control Panel

1	Control panel
2	Main frame
3	Control panel cable access hole
4	Guide holes (2)
5	Guide posts (2)
6	Slots (2)
7	Mounting tabs (2)

- 7. See Figure 315 on page 458. Install the upper mounting screw.
- **8.** Install the two lower mounting screws.
- **9.** See Figure 314 on page 457. Thread the new control panel cable up through the ferrite block and then close it, ensuring not to pinch the cable.
- **10.** See Figure 309 on page 454 or Figure 310 on page 455. Thread the new control panel cable behind the drive belt, through the cable clamps.

lf	Then	
No	Noa. See Figure 309 on page 454 or Figure 310 on page 455. Reinstall the mounting nuts to secure the cable clamps.	
	b.	Connect the control panel cable to P29 on the MLB.
Yes a. See Figure 312 on page 456. Reinstall the mounting nut to secure right cable clamp.		See Figure 312 on page 456. Reinstall the mounting nut to secure the far right cable clamp.
b. Reinstall the lock washer and standoff to secure the other cable c		Reinstall the lock washer and standoff to secure the other cable clamp.
	c.	Install a new cable tie to secure the control panel cable to the left standoff.
d. Align the printhead test board with the three standoffs and then top and right mounting screws.		Align the printhead test board with the three standoffs and then reinstall the top and right mounting screws.
	e.	See Figure 311 on page 456. Reinstall the printhead mounting board shield mounting screw.
	f.	Connect the control panel cable to P29 on the MLB.

11. Are you working on a 110Xi4 with the printhead test board installed?

12. Ensure that the control panel cable does not come contact with any moving parts.

Reinstall the Electronics Cover

- **1.** See Figure 308 on page 453. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (I) the printer.

Control Panel Cover

Remove the Old Control Panel Cover



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

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

2. See Figure 320. Choose a corner and peel the old control panel cover off of the control panel.



Figure 320 • Remove and Install the Control Panel Cover

3. If there is any residual adhesive, remove it using isopropyl alcohol and a clean cloth.

Install the New Control Panel Cover

- **1.** See Figure 320. Peel the backing off of the new control panel cover.
- **2.** Hold the new control panel cover in both hands and then align it with lower left and right keys on the control panel, ensuring that the cover does not interfere with the buttons.
- **3.** To ensure that the control panel cover adheres, press the cover onto the control panel working from the center out to the edges.
- 4. Reconnect the AC power cord and turn on (I) the printer.

Main Logic Board

This kit includes the parts and documentation necessary to install the Main Logic Board (MLB) maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before attempting to install this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Standard Hex Key (Allen Wrench) Set
- □ Standard Nutdriver Set
- □ Antistatic Mat and Wrist Strap

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.

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

2. See Figure 321. Remove the electronics cover by removing the three mounting screws securing it.





•		
2	Mounting screws (3)	

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **4.** Which option do you have installed?

If you have an…	Then	
Applicator interface board	Go to Remove the Applicator Board on page 466.	
Twinax/Coax board	Go to Remove the Twinax/Coax Board on page 468.	
Internal print server	Go to Remove the Internal Printer Server on page 469.	
Wireless board w/external Antenna	Go to Remove the External Antenna on page 470.	
Wireless board w/radio card	Go to Remove the Wireless Card on page 471.	
Ethernet board	Go to Disconnect all cables from the MLB. on page 472.	
None	Go to Disconnect all cables from the MLB. on page 472.	

Remove the Applicator Board



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

Connect yourself to an antistatic device.

2. See Figure 322. Disconnect the DC power connector from the applicator board.



Figure 322 • Disconnect the Applicator Board Cables

3. Disconnect the data cable from either connector P31 through P34 on the main logic board (MLB).

4. See Figure 323. Remove the two mounting screws and then slide the applicator interface board out of the printer.



Figure 323 • Remove the Applicator Interface Board

5. Go to *Disconnect all cables from the MLB*. on page 472.

Remove the Twinax/Coax Board

1. See Figure 324. Remove the two mounting screws.



Figure 324 • Remove the Twinax/Coax Board and Cable

- **2.** Pull the Twinax/Coax board slightly out of the printer and then disconnect the internal parallel cable from the MLB.
- **3.** Remove the twinax/Coax board from the printer.
- 4. Go to *Remove the Applicator Board* on page 466.
Remove the Internal Printer Server

- **1.** See Figure 325. Remove the two mounting screws and then pull the printer server out slightly.
- **2.** Disconnect the print server cable from the internal parallel port on the MLB and then remove the print server.



Figure 325 • Remove the Internal Print Server

1	Print server
2	Main logic board (MLB)
3	Internal parallel port connector
4	Print server cable
5	Mounting screws (2)

3. Go to *Disconnect all cables from the MLB*. on page 472.

Remove the External Antenna

- **1.** See Figure 326. Unscrew the external antenna and then remove the mounting screw.
- **2.** Remove the nut and lock washer securing the mounting plate to the internal print server board.

Figure 326 • Remove the External Antenna



1	Mounting plate
2	Lock washer
3	Nut
4	Antenna
5	Mounting screw

- **3.** Remove the mounting plate mounting screw and then remove the mounting plate.
- **4.** Go to *Disconnect all cables from the MLB*. on page 472.

Remove the Wireless Card

1. See Figure 327. Remove the radio card cover by removing the mounting screw and then removing the cover.



Figure 327 • Remove the Wireless Radio Card

1	Mounting screw
2	Radio card cover
3	Radio card
4	Eject button

- 2. Push the eject button in. After the radio card pops out, remove the radio card.
- 3. Continue with *Disconnect all cables from the MLB*..

Remove the MLB

1. Disconnect all cables from the MLB.





Conn	Description	Conn	Description
J 1	Serial port	P23	Wireless board connector
J2	Internal Ethernet	P24	Wireless board connector
J 3	Media sensor receiver	P25	DC power input
J5	Parallel port	P26	Cutter/Rewind
J8	Ribbon low sensor	P27	DC output
J9	Media low sensor	P28	DC output
J10	Ribbon low quadrature	P29	Control Panel Connector
P4	Ribbon sensor	P31	SPI Connector *
P5	Head open sensor	P32	SPI Connector
P7	Reflective media sensor	P33	SPI Connector
P9	Media Sensor emitter	P34	SPI Connector
P19	Printhead data cable	P36	USB Port
P21	Internal parallel connector		
*SPI—Seria	al Peripheral Interface		

2. Which model of Xi4 printer are you working on?

If you have a	Then
110Xi4	Continue with <i>Remove the 110Xi4 MLB</i> .
140Xi4, 170Xi4, and 220Xi4	Go to <i>Remove the 140Xi4, 170Xi4, and 220Xi4 MLB</i> on page 475.

Remove the 110Xi4 MLB

1. Is there a wireless board installed?

lf	Then	
No	a. See Figure 329. Remove the two screws securing the 36-pin parallel p connector.	ort
	b. Remove the two standoffs and washers securing the 9-pin serial port connector.	
	c. Remove the two screws securing the MLB to the printer.	
	d. Pull out the MLB as you guide the connectors out of the openings in the panel.	e rear
Yes	a. See Figure 330. Remove the three mounting screws securing the wirel and main logic boards.	ess
	b. Remove the two screws securing the 36-pin parallel port connector.	
	c. Remove the two standoffs and washers securing the 9-pin serial port connector.	
	d. Pull out the MLB and wireless board assembly as you guide the conne out of the openings in the rear panel.	ectors

Figure 329 • Remove the 110Xi4 MLB



1	Main logic board (MLB)
2	Mounting screws (2)
3	Mounting screws (2)
4	Mounting studs (2)
6	Mounting washers (2)



Figure 330 • Remove the 110Xi4 MLB with Wireless Board

1	Wireless board and MLB assembly
2	Mounting screws (3)
3	Mounting screws (2)
4	Mounting studs (2)
5	Washers (2)

Remove the 140Xi4, 170Xi4, and 220Xi4 MLB

1. Is there a wireless board installed?

lf	Then
No	a. See Figure 331. Remove the two screws securing the 36-pin parallel port connector.
	b. Remove the two standoffs and washers securing the 9-pin serial port connector.
	c. Remove the two screws securing the MLB to the printer.
	d. Pull out the MLB as you guide the connectors out of the openings in the rear panel.
Yes	a. See Figure 332. Remove the three mounting screws securing the wireless and main logic boards.
	b. Remove the two screws securing the 36-pin parallel port connector.
	c. Remove the two standoffs and washers securing the 9-pin serial port connector.
	d. Pull out the MLB and wireless board assembly as you guide the connectors out of the openings in the rear panel.

Figure 331 • Remove the 140Xi4, 170Xi4, and 220Xi4 MLB





Figure 332 • Remove the 140Xi4, 170Xi4, and 220Xi4 MLB and Wireless Assembly

1	Wireless board
2	Mounting screws (3)
3	Main logic board (MLB)
4	Mounting screws (2)
5	Mounting studs (2)
6	Washers (2)

2. Is there a wireless board installed?

lf	Then
No	Continue with step 3.
Yes	Go to Remove the Wireless Board on page 477.

3. Is there an internal Ethernet board installed?

lf	Then
No	Go to Install the New Main Logic Board on page 478.
Yes	Go to Remove the Internal Ethernet Board on page 478.

Remove the Wireless Board

1. See Figure 333. Set the MLB and wireless board assembly on the antistatic mat and then remove the three mounting screws.





1	Main logic board (MLB)
2	Wireless board
3	Mounting screws (3)
4	Mounting studs (3)
5	Wireless board w/external antenna

2. Remove the three standoffs from the MLB.

Remove the Internal Ethernet Board

1. See Figure 334. Set the MLB/Ethernet assembly on the antistatic mat and then remove the three nuts securing the ethernet board to the MLB.



Figure 334 • Remove the Ethernet Board

2. Remove the ethernet board and then remove the three standoffs from the MLB.

Install the New Main Logic Board

1. Is there a wireless board installed?

lf	Then	
No	Continue with step 2.	
Yes	a.	See Figure 333 on page 477. Set the new MLB on the antistatic mat and then install the three standoffs for the wireless board mounting.
	b.	Align the two connectors on the wireless board with P23 and P24 on the MLB and then push them together.
	c.	Install the three mounting screws to secure the wireless board.
	d.	Go to step 3 on page 479.

2. Is there an internal Ethernet board installed?

lf	Then
No	Go to step 3.
Yes	 a. See Figure 334 on page 478. Set the new MLB on the antistatic mat and then install the three standoffs for the wireless board mounting. b. Align the ethernet board, component side down, with the three standoffs and then reinstall the three mounting nuts. c. Continue with step .

3. See Figure 328 on page 472. Connect all cables to the MLB.

Reinstall Removed Components

1. Which option do you have installed?

If you have an	Then
Applicator interface board	a. See Figure 323 on page 467. Reinstall the Applicator interface board and tighten the two mounting screws.
	b. See Figure 322 on page 466. Reconnect the data cable from the MLB to J2 on the applicator board.
	c. Reconnect the power connector to J5 on the applicator board.
	d. Continue with <i>Reinstall the Electronics Cover</i> .
Twinax/Coax board	a. See Figure 324 on page 468. Route the Twinax/Coax cable through the mounting hole and then connect it to P21 on the MLB.
	b. Slide the Twinax/Coax board into the printer and then reinstall the two mounting screws.
	c. Continue with <i>Reinstall the Electronics Cover</i> .
Internal print server	a. See Figure 325 on page 469. Route the print server cable through the mounting hole and then connect it to P21 on the MLB.
	b. Slide the print server board into the printer and then reinstall the two mounting screws.
	c. Continue with <i>Reinstall the Electronics Cover</i> .

Reinstall the Electronics Cover

- **1.** See Figure 321. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (l) the printer.

Calibrate the Media Low Sensor

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

Open the media door and remove the media.

- On the control panel press and hold Minus (-) while turning on (I) the printer until BBlock is displayed.
- 3. Press NEXT/SAVE until Media Low is displayed.
- 4. Press Plus (+), Load Full Roll will be displayed.
- 5. See Figure 335. Familiarize yourself with the media low sensor calibration tool.



Figure 335 • Media Low Calibration Tool

1	Roll empty posts (2)
2	Roll full posts (2)

6. See Figure 336. Slide the posts of the calibration tool into the keyholes in the media low sensor bracket and then slide the tool down to secure it in place.



Figure 336 • Full Roll

- 7. Press Plus (+) to calibrate, Load Empty Roll will be displayed.
- **8.** Remove the calibration tool.

9. See Figure 337. Slide the posts of the calibration tool into the keyholes in the media low sensor bracket and then slide the tool down to secure it in place.



Figure 337 • Roll Empty

1	Calibration tool
2	Keyholes
3	Media low bracket

- **10.** Press Plus (+) to calibrate and then remove the calibration tool.
- **11.** Press **SETUP/EXIT** to save the calibration.
- 12. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media.

13. Verify that the printer is operating correctly.

If you had previously made changes to the default configuration, you will need to make those changes again and save them. See the *User Guide* for instructions.

AC Power Supply

This kit includes the parts and documentation necessary to install the AC Power Supply maintenance kit in the following printers:

- 140Xi4TM
- 170Xi4TM
- 220Хі4^{тм}

Read these instructions thoroughly before installing this kit.

Tools Required

1.



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ Antistatic Wriststrap and Mat

□ SAE Nutdriver 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.

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

2. See Figure 338. Remove the electronics cover by removing the three mounting screws securing it.



Figure 338 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the AC Power Supply



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

Connect yourself to an antistatic device.





Figure 339 • Disconnect Main Logic Board Cables

Conn	Description	Conn	Description
J1	Serial port	P23	Wireless board connector
J2	Internal Ethernet	P24	Wireless board connector
J 3	Media sensor receiver	P25	DC power input
J5	Parallel port	P26	Cutter/Rewind
J8	Ribbon low sensor	P27	DC output
J9	Media low sensor	P28	DC output
J10	Ribbon low quadrature	P29	Control Panel Connector
P4	Ribbon sensor	P31	SPI Connector *
P5	Head open sensor	P32	SPI Connector
P7	Reflective media sensor	P33	SPI Connector
P9	Media Sensor emitter	P34	SPI Connector
P19	Printhead data cable	P36	USB Port
P21	Internal parallel connector		
*SPI—Serial Peripheral Interface			

3. Do you have a wireless option board installed?

lf	Then
No	a. See Figure 340. Remove the main logic board (MLB) by removing the two serial port mounting studs and lock washers.
	b. Remove the two parallel port mounting screws.
	c. Remove the two MLB mounting screws and then remove MLB from the printer.
Yes	a. See Figure 340. Remove the main logic board (MLB) and wireless option board assembly by removing the wireless board mounting screw.
	b. Remove the two serial port mounting studs and lock washers.
	c. Remove the two parallel port mounting screws.
	d. Remove the two MLB mounting screws and then remove MLB from the printer.

Figure 340 • Remove the Main Logic Board



1	Wireless option board
2	Wireless board mounting screw
3	MLB mounting screws (2)
4	Main logic board (MLB)
5	Parallel port mounting screws (2)
6	Serial port mounting screws (2)
7	Serial port lock washers (2)

4. See Figure 341. Slide the AC power supply shield out of the printer.



Figure 341 • Remove the AC Power Supply Shield

5. Disconnect all cables from the AC power supply.



Figure 342 • Disconnect all Cables

6. See Figure 343. Remove the three mounting nuts and two spacers securing the AC power supply.



Figure 343 • Remove the AC Power Supply

7. Remove the MLB standoff securing the AC power supply.

8. See Figure 344. Slide the AC power supply off of the mounting studs and then out of the printer.





Install the New AC Power Supply

- **1.** See Figure 343. Set the new AC power supply into the printer and align the mounting holes with the corresponding mounting studs and then slide it onto the mounting studs.
- **2.** Slide the new spacers onto the upper and lower left mounting studs and then install the two mounting nuts.
- **3.** Install the lower right mounting nut onto the lower right mounting stud.
- **4.** Install the new standoff onto the upper right mounting stud.
- **5.** See Figure 342 on page 487. Reconnect the AC input and output connectors.

Install the New AC Power Supply Shield

1. See Figure 345. Form the AC power supply shield for installation.



Figure 345 • Form the New AC Power Supply Shield

1	AC power supply shield unfolded
2	Fold at this score
3	Fold the mounting tab up
4	Fold tab up
5	Fold at this score
6	Fold at this score
7	Fold at this score
8	Fold at this score
9	AC power supply shield folded
10	Hooks

2. After forming the AC power supply shield, slide the hooks between the printed circuit board (PCB) and the AC power supply bracket.



Figure 346 • Install the AC Power Supply Shield

1	AC power supply shield
2	PCB
3	AC power supply bracket

Reinstall the MLB

1. Do you have a wireless option board installed?

lf	Th	en
No	a. See Figure 340 on page 486. Slide the serial and parallel ports of the MLB into the rear panel and then align the mounting holes with the two mounting standoffs, ensuring the shield mounting tab is on the outside of the MLB, and then reinstall the two mounting screws.	
	b.	Reinstall the two serial port mounting studs and lock washers.
	c.	Reinstall the two parallel port mounting screws.
Yes	a.	See Figure 340 on page 486. Slide the serial and parallel ports of the MLB into the rear panel and then align the mounting holes of the MLB with the two mounting standoffs and the wireless board standoff, ensuring the shield mounting tab is on the outside of the MLB, and then reinstall the three mounting screws.
	b.	Reinstall the two serial port mounting studs and lock washers.
	c.	Reinstall the two parallel port mounting screws.

2. See Figure 342 on page 487. Reconnect all cables to the MLB.

Reinstall the Electronics Cover

- **1.** See Figure 338 on page 484. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables
- **5.** Turn on (**I**) the printer.

110Xi4 AC/DC Power Supply Assembly

This kit includes the parts and documentation necessary to install the AC/DC Power Supply Assembly maintenance kit in the 110Xi4TM printers.

Read these instructions thoroughly before attempting to install this kit.



Caution • A qualified service technician must perform this installation.

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

□ SAE Nutdriver Set

□ Antistatic Wriststrap and Pad

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.

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

2. See Figure 347. Remove the electronics cover by removing the three mounting screws securing it.





3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the AC/DC Power Supply Assembly

1. See Figure 348. Remove the AC power connector from the AC/DC power supply.



Figure 348 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 349. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 349 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 350. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 350 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J7	DC output

6. See Figure 351. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 351 • Remove the AC/DC Power Supply

7. Lift the AC/DC power supply assembly out of the printer.



Figure 352 • Remove the AC/DC Power Supply

Install the AC/DC Power Supply Assembly

- **1.** See Figure 352 on page 498. Position the cables out of the way while installing the AC/ DC power supply assembly over the two mounting studs.
- **2.** See Figure 351 on page 498. Install the mounting screws and nuts securing the AC/DC power supply assembly.
- 3. See Figure 350 on page 497. Connect all cables to their proper connectors.
- **4.** See Figure 349 on page 496. Reinstall the AC/DC power supply shield and secure it. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate.
- **5.** Connect the AC power input cable and then reinstall the white plastic beaded cable tie.

Reinstall the Electronics Cover

- **1.** See Figure 347 on page 494. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- **4.** Turn on (I) the printer.

DC Power Supply

This kit includes the parts and documentation necessary to install the DC Power Supply maintenance kit in the following printers:

- 140Хі4^{тм}
- 170Xi4TM
- 220Хі4^{тм}

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Nutdriver 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.

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

2. See Figure 353. Remove the electronics cover by removing the three mounting screws securing it.



Figure 353 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Old DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 354. Remove all cables from the DC power supply.



I Iquie 334 · Neillove all Cables

1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

3. See Figure 355. Remove and discard the mounting screw and the two mounting nuts.



Figure 355 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Remove and discard the mounting spacer.

Install the New DC Power Supply

- 1. See Figure 355. Install the new mounting spacer.
- **2.** Set the DC power supply into the printer and then install the two mounting nuts and one mounting screw.
- **3.** See Figure 354 on page 502. Reconnect all cables to the DC power supply.

Reinstall the Electronics Cover

- **1.** See Figure 353 on page 501. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- **4.** Turn on (**I**) the printer.

Cutter Printed Circuit Board

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ Antistatic Wriststrap and Mat

Remove the Electronics Cover



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



1. $\ensuremath{\textit{Caution}}$ \bullet Turn off (O) the printer and disconnect it from the power source before performing the following procedure.

Turn off (**O**) the printer and disconnect the AC power cord and all data cables.
2. See Figure 356. Remove the electronics cover by removing the three mounting screws securing it.





1	Electronics cover
2	Mounting screws (3)

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **4.** Which model of Xi4 printer are you working on?

If you have a…	Then
140Xi4 170Xi4 220Xi4	Go to <i>Remove the DC Power Supply</i> on page 510.
110Xi4	Go to Remove the AC/DC Power Supply on page 506.

Remove the AC/DC Power Supply

1. See Figure 357. Remove the AC power connector from the AC/DC power supply.



Figure 357 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 358. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 358 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 359. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 359 • Remove All Cables

J1	Control connector to P26 on the Main Logic	
	Board	
J2	Stepper motor	
J 3	Head voltage	
J4	AC power input	
J5	DC output	
J 6	DC output	
J7	DC output	

6. See Figure 360. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 360 • Remove the AC/DC Power Supply

7. See Figure 361. Lift the AC/DC power supply assembly out of the printer.

Figure 361 • Remove the AC/DC Power Supply



8. Go to *Make a note of all cable connections to the cutter control board and then remove them.* on page 512.

Remove the DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 362. Make note of all cables connected to the DC power supply and then remove them..





1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

3. See Figure 363. Remove the mounting screw and then remove the two mounting nuts.



Figure 363 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Continue with *Remove the Old Cutter Control Board*.

Remove the Old Cutter Control Board

1. Make a note of all cable connections to the cutter control board and then remove them.



Figure 364 • Disconnect all Cables from the Cutter Control Board

J1	Cutter data cable connector
J2	DC power cable connector
J 3	Cutter sensor cable connector
J4	Cutter motor cable connector

2. See Figure 365. Remove and discard the four cutter control board mounting screws and then remove the cutter control board.



Figure 365 • Remove the Old Cutter Control Board

Install the New Cutter Control Board

- **1.** See Figure 365 on page 512. Align the cutter control board, component side out and J3 and J4 on the bottom, with the mounting studs and then install the four new mounting screws.
- **2.** See Figure 364 on page 512. Connect all cables to the cutter control board.
- 3. Which model of Xi4 printer are you working on?

If you have a	Then	
140Xi4 170Xi4 220Xi4	See Figure 363 on page 511. Set the DC power a printer and then reinstall the two mounting nuts mounting screw.	supply into the and one
	See Figure 362 on page 510. Reconnect all cabl power supply.	es to the DC
110Xi4	See Figure 361 on page 509 and Figure 360 on p AC/DC power supply into the printer and then r mounting nuts and mounting screws.	page 509. Set the reinstall the two
	See Figure 359 on page 508. Reinstall all cables input cable.	s except the AC
	See Figure 358 on page 507. Reinstall the AC/E shield and secure it. Ensure the shield flaps are to between the power supply and the aluminum metabolic secure is a secure supply and the aluminum metabolic secure	DC power supply tucked in ounting plate.
	See Figure 357 on page 506. Connect the AC per and then reinstall the white plastic beaded cable	ower input cable tie.

Reinstall the Electronics Cover

- **1.** See Figure 356 on page 505. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- **4.** Turn on (I) the printer.

110Xi4 Power Entry

This kit includes the parts and documentation necessary to install the Power Entry maintenance kit in the 110Xi4TM printers. Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set

□ SAE Nutdriver 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 366. Remove the electronics cover by removing the three mounting screws securing it.



Figure 366 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Power Entry Module



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

Connect yourself to an antistatic device.

2. See Figure 367. Remove the AC power connector from the AC/DC power supply.



Figure 367 • Disconnect the AC Power Input Cable

3. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

4. See Figure 368. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 368 • Remove the AC/DC Power Supply Shield

1	1	AC/DC power supply shield
	2	Shield mounting screws (2)

5. See Figure 369. Remove the AC ground nut, cable, and lock washer.



Figure 369 • Remove the AC Ground

6. See Figure 370. Disconnect the AC power cables from the on/off switch.



Figure 370 • Disconnect the AC Cables

7. See Figure 371. Remove the power entry module by removing the two mounting screws and then sliding the power entry module out of the printer.





1	Power entry module
2	Mounting screws (2)
3	On/Off switch
4	Tabs (2 on top and bottom)

Remove and Install the On/Off Switch

- **1.** Push out on the old on/off switch and remove it from the printer.
- **2.** Orient the new on/off switch with the bar (I) at the top and then push it into the printer mounting hole.
- **3.** See Figure 370 on page 518. Connect the new AC power cable top terminals of the AC power switch, brown on the left and blue on the right.

Install the New Power Entry Module

- 1. See Figure 371. Orient the new power entry module as shown.
- **2.** Guide the cables through the mounting hole, align the mounting holes and the install the two new mounting screws.
- **3.** See Figure 370 on page 518. Connect the blue cable to the lower right connector on the on/off switch.
- **4.** Connect the brown cable to the lower left connector.
- **5.** See Figure 369 on page 518. Remove the new external lock washer from the kit and slide it onto the ground stud, and then slide the ground lug onto the ground stud.

6. Install the new mounting nut onto the ground lug and then tighten it.

Reinstall the AC/DC Power Supply Shield

- 1. See Figure 368 on page 517. Reinstall the AC/DC power supply shield and secure it. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate.
- **2.** See Figure 367 on page 516. Connect the AC power input cable and then reinstall the white plastic beaded cable tie.

Reinstall the Electronics Cover

- **1.** See Figure 366 on page 515. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- **4.** Turn on (**I**) the printer.

140Xi4, 170Xi4, and 220Xi4 Power Entry

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Nutdriver Set

- □ SAE Hex Key (Allen wrench) 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 372. Remove the electronics cover by removing the three mounting screws securing it.



Figure 372 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Power Entry Module



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

Connect yourself to an antistatic device.

2. See Figure 373. Disconnect all cables connected to the main logic board.



Figure 373 • Disconnect Main Logic Board Cables

Conn	Description	Conn	Description
J1	Serial port	P23	Wireless board connector
J2	Internal Ethernet	P24	Wireless board connector
J3	Media sensor receiver	P25	DC power input
J5	Parallel port	P26	Cutter/Rewind
J8	Ribbon low sensor	P27	DC output
J9	Media low sensor	P28	DC output
J10	Ribbon low quadrature	P29	Control Panel Connector
P4	Ribbon sensor	P31	SPI Connector *
P5	Head open sensor	P32	SPI Connector
P7	Reflective media sensor	P33	SPI Connector
P9	Media Sensor emitter	P34	SPI Connector
P19	Printhead data cable	P36	USB Port
P21	Internal parallel connector		
*SPI—Serial Peripheral Interface			

3. Do you have a wireless option board installed?

lf	Then
No	a. See Figure 374. Remove the main logic board (MLB) by removing the two serial port mounting studs and lock washers.
	b. Remove the two parallel port mounting screws.
	c. Remove the two MLB mounting screws and then remove MLB from the printer.
Yes	a. See Figure 374. Remove the main logic board (MLB) and wireless option board assembly by removing the wireless board mounting screw.
	b. Remove the two serial port mounting studs and lock washers.
	c. Remove the two parallel port mounting screws.
	d. Remove the two MLB mounting screws and then remove MLB from the printer.

Figure 374 • Remove the Main Logic Board



1	Wireless option board
2	Wireless board mounting screw
3	MLB mounting screws (2)
4	Main logic board (MLB)
5	Parallel port mounting screws (2)
6	Serial port mounting screws (2)
7	Serial port lock washers (2)

4. See Figure 375. Slide the AC power supply shield out of the printer.



Figure 375 • Remove the AC Power Supply Shield

5. See Figure 376. Remove the AC ground nut, cable, and lock washer.

Figure 376 • Remove the AC Ground

1	Grounding nut
2	Ground cable
3	Lock washer
4	Ground stud

6. See Figure 377. Disconnect the AC power cables from the on/off switch.



Figure 377 • Disconnect the AC Cables

1	Brown cable
2	Blue cable
3	Ground cable

7. See Figure 378. Remove the power entry module by removing the two mounting screws and then sliding the power entry module out of the printer.





1	Power entry module
2	Mounting screws (2)
3	On/Off switch
4	Tabs (2 on top and bottom)
5	Bar

Remove and Install the On/Off Switch

- **1.** Push out on the old on/off switch and remove it from the printer.
- **2.** Orient the new on/off switch with the bar (I) at the top and then push it into the printer mounting hole.
- **3.** See Figure 377 on page 526. Connect the new AC power cable top terminals of the AC power switch, brown on the left and blue on the right.

Install the New Power Entry Module

- 1. See Figure 378. Orient the new power entry module as shown.
- **2.** Guide the cables through the mounting hole, align the mounting holes and then install the two new mounting screws.
- **3.** See Figure 377 on page 526. Connect the blue cable to the lower right connector on the on/off switch.
- **4.** Connect the brown cable to the lower left connector.

- **5.** See Figure 376 on page 525. Remove the new external lock washer from the kit and slide it onto the ground stud, and then slide the ground lug onto the ground stud.
- 6. Install the new mounting nut onto the ground lug and then tighten it.

Reinstall the AC Power Supply Shield

1. Reinstall the AC power supply shield, slide the hooks between the printed circuit board (PCB) and the AC power supply bracket.



Figure 379 • Install the AC Power Supply Shield

1	AC power supply shield
2	PCB
3	AC power supply bracket

Reinstall the MLB

1. Do you have a wireless option board installed?

lf	Th	nen
No	a.	See Figure 374 on page 524. Slide the serial and parallel ports of the MLB into the rear panel and then align the mounting holes with the two mounting standoffs, ensuring the shield mounting tab is on the outside of the MLB, and then reinstall the two mounting screws.
	b.	Reinstall the two serial port mounting studs and lock washers.
	c.	Reinstall the two parallel port mounting screws.
Yes	a.	See Figure 374 on page 524. Slide the serial and parallel ports of the MLB into the rear panel and then align the mounting holes of the MLB with the two mounting standoffs and the wireless board standoff, ensuring the shield mounting tab is on the outside of the MLB, and then reinstall the three mounting screws.
	b.	Reinstall the two serial port mounting studs and lock washers.
	c.	Reinstall the two parallel port mounting screws.

2. See Figure 373 on page 523. Reconnect all cables to the MLB.

Reinstall the Electronics Cover

- **1.** See Figure 372 on page 522. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables
- **5.** Turn on (I) the printer.

Electronics Cables

Tools Required

1.



Tools • You need these tools to complete this procedure:

□ Phillips Screwdriver 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.

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

2. See Figure 380. Remove the electronics cover by removing the three mounting screws securing it.



Figure 380 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove and Install the Electronics Cables



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

Connect yourself to an antistatic device.

- **2.** Cut any cable ties.
- **3.** Remove the defective cable from the printer.
- 4. Choose the proper replacement cable from the kit and then install the new cable.
- **5.** If a 200 ohm ferrite block was installed on the cable, install the ferrite block.
- **6.** Install any cable ties previously removed.

Reinstall the Electronics Cover

- **1.** See Figure 380. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- 3. Reconnect the AC power cord and data cables
- **4.** Turn on (**I**) the printer.

Printhead Test Board Option

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ SAE Nutdriver Set

- □ SAE Hex Key (Allen wrench) Set
- □ Antistatic Wriststrap and Pad

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.

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

2. See Figure 381. Remove the electronics cover by removing the three mounting screws securing it.





1	Electronics cover
2	Mounting screws (3)

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media cover and remove the media and ribbon.

5. Are you installing the printhead test board for the first time?

lf	Then
No	Go to Remove the Old Printhead Test Board on page 536.
Yes	Continue with Install the Printhead Test Board Spacers.

Install the Printhead Test Board Spacers

1. See Figure 382. Remove the three mounting nuts securing the three cable clamps and the remove the one cable clamp noted.



Figure 382 • Remove the Three Mounting Nuts

1	Cable clamps (3)
2	Mounting nuts (3)
3	Remove this cable clamp.

2. See Figure 383. Remove the three lock washers from the kit and then slide them onto the three studs.





- **3.** Install the three spacers onto the studs.
- 4. Got to Install the Printhead Test Board Shield on page 538.

Remove the Old Printhead Test Board



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

Connect yourself to an antistatic device.

- **2.** Take note of all cable connections and then disconnect all cables.
- **3.** See Figure 384. Remove and discard the mounting screw securing the printhead test board shield.



Figure 384 • Remove the Printhead Test Board Shield

1	Printhead test board
2	Printhead test board shield
3	Mounting screw

4. See Figure 385. Lift the printhead test board shield and the remove and discard the two mounting screws, printhead test board, and shield.



Figure 385 • Remove the Printhead Test Board

1	Printhead test board shield
2	Top mounting spacer
3	Right mounting spacer
4	Printhead test board
5	Mounting screws (2)

5. Continue with Install the Printhead Test Board Shield.

Install the Printhead Test Board Shield

1. See Figure 386. Form the printhead test board shield by bending the sides and top away from the shock symbol and then inserting the tabs into the corresponding slots.



Figure 386 • Form the Printhead Test Board Shield

- 2. Insert a cable tie through the two cable tie holes and then tighten the cable tie.
- **3.** Bend the mounting hole tab up as shown.

4. See Figure 387. Install the hook around the top mounting spacer.



Figure 387 • Install the Printhead Test Board Shield

Install the Printhead Test Board



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

Connect yourself to an antistatic device.

- **2.** See Figure 385 on page 537. Align the printhead test board, with J1 and J2 facing down and out, with the mounting spacers and then install the top and right mounting screws.
- **3.** See Figure 384 on page 536. Bend the printhead test board shield down until the mounting hole aligns with the left mounting hole in the printhead test board and then reinstall the printhead mounting board shield mounting screw.
- 4. Is this a new installation of the printhead test board option?

lf	Then
No	Go to Reconnect the Printhead Test Board on page 543.
Yes	Continue with Connect the Printhead Test Board Cables.

Connect the Printhead Test Board Cables

1. See Figure 388. Disconnect the AC power input connector from the AC/DC power supply.



Figure 388 • Remove the AC/DC Power Input Connector



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

2. See Figure 389. Remove the AC/DC power supply shield by removing the two screws securing it to the power supply.



Figure 389 • Remove the AC/DC Power Supply Shield
3. See Figure 390. Disconnect the printhead power cable from the AC/DC power supply connector J3 and then connect it to J2 on the printhead test board.



Figure 390 • Connect the Printhead Test Board Cables

1	Main logic board (MLB)	8	Printhead power cable
2	Data cable from J3 to MLB	9	J3 connector AC/DC power
			supply
3	Cable ties (2)	10	J1 to J3 cable
4	Ferrite block	11	AC/DC power supply
5	Control cable	12	SPI connector
6	J1 connector printhead test	13	J3 connector printhead test
	board		board
7	J2 connector printhead test		
	board		

- **4.** Remove the new J1 to J3 cable from the and connect it to J1 on the printhead test board and then to J3 on the AC/DC power supply.
- **5.** Remove the ferrite block from the kit. Turn it so that the rear is facing you and then slide a cable tie in one slot and out the other.
- **6.** Mount the ferrite block onto the control cable in the position shown using the cable tie you just inserted into the ferrite block.
- **7.** Remove the data cable from the kit and connect on end to J3 on the printhead test board and then to any one of the open SPI connectors, P30 to P34.

8. See Figure 391. Open the ferrite block, insert the data cable, and then close it around the data cable.





- **9.** Using a cable tie attach the data cable to the control cable to the left of the ferrite block.
- 10. Go to Reinstall the Electronics Cover on page 544.

Reconnect the Printhead Test Board

1. See Figure 392. Reconnect the data cable to J3 on the new printhead test board.



Figure 392 • Reconnect the Printhead Test Board

1	J3 to the data cable
2	Printhead power cable
3	J3 on the AC/DC power supply
4	Cable from J1 on the printead test board to J3
	on the AC/DC power supply
5	J2 to the printhead power cable
6	J1 to J3 on the AC/DC power supply
7	Data cable

- **2.** Reconnect the printhead power cable to J2 on the printhead test board.
- **3.** Reconnect the cable from J3 on the AC/DC power supply to J1 on the printhead test board.
- 4. Continue with *Reinstall the Electronics Cover*.

Reinstall the Electronics Cover

- **1.** See Figure 381 on page 533. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (**I**) the printer.

Set Head Test Count

- 1. Press SETUP/EXIT. Press PREVIOUS or NEXT/SAVE until HEAD TEST COUNT is displayed.
- 2. Press the left or right oval and enter your password; the factory default password is 1234. Use the left oval to move the cursor to the digit you want to change, and then use the right oval to change the value. After your password is set, press NEXT/SAVE to enter the password.
- **3.** Use the left and right ovals as before to change the head test count, and then press NEXT/ SAVE to enter your value.
- 4. Press SETUP/EXIT, then NEXT/SAVE to permanently save the head test count.

Twinax/Coax Option

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver 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.

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

2. See Figure 393. Remove the electronics cover by removing the three mounting screws securing it.



Figure 393 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **4.** Are your replacing a defective Twinax/Coax board?

lf	Then
No	a. See Figure 394. Remove and discard the two blank cover plate mounting screws and plate.
	b. Go to <i>Install the Twinax/Coax Board</i> on page 547
Yes	Continue with Remove the Defective Twinax/Coax Board.

Figure 394 • Remove the Rear Panel Blank Cover



1	Blank cover plate
2	Mounting screws (2)

Remove the Defective Twinax/Coax Board



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

Connect yourself to an antistatic device.

2. See Figure 395. Remove the two mounting screws.



Figure 395 • Remove the Twinax/Coax Board and Cable

- **3.** Pull the Twinax/Coax board slightly out of the printer and then disconnect the internal parallel cable from the MLB.
- **4.** Remove the twinax/Coax board from the printer.

Install the Twinax/Coax Board

- **1.** See Figure 395. Route the Twinax/Coax cable through the mounting hole and then connect it to P21 on the MLB.
- 2. Slide the Twinax/Coax board into the printer and then install the two mounting screws.
- 3. Continue with *Reinstall the Electronics Cover*.

Reinstall the Electronics Cover

- **1.** See Figure 393 on page 545. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord.
- **4.** Connect the communication cable from the kit and connect the printer to your communication network.
- **5.** Turn on (**I**) the printer.

Applicator Interface

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Antistatic Wriststrap and Mat

U 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 396. Remove the electronics cover by removing the three mounting screws securing it.



Figure 396 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

lf	Then
No	 a. See Figure 397. Remove and discard the option board slot cover by removing and discarding the two mounting screws. b. Go to <i>Install the Applicator Interface Board</i> on page 556.
Yes	Continue with <i>Remove the Old Applicator Interface Board</i> on page 552.

4. Are you replacing an existing applicator interface board?





Remove the Old Applicator Interface Board

1. Are you working on a 110Xi4?

lf	Th	nen
Yes	a.	See Figure 398. Disconnect the AC power input cable to the AC/DC power supply and then open the white beaded cable tie and remove the cables.
	b.	Cut the cable tie securing the applicator power cable to the AC/DC power supply shield.
	c.	See Figure 399 on page 553. Remove the AC/DC power supply shield by removing the two mounting screws and then lifting the shield out of the printer.
	d.	See Figure 400 on page 553. Disconnect the applicator board cable from J6, J7, or J8 on the AC/DC power supply.
	e.	See Figure 401 on page 554. Disconnect the applicator data cable from P31, P32, P33, or P34 on the main logic board (MLB).
No	a.	See Figure 402 on page 554. Disconnect the applicator cable from the output connector on the DC power supply, J5, J6, J7, J8, J9, or J10.
	b.	Open the white beaded cable tie and remove the applicator board power cable.
	c.	See Figure 401 on page 554. Disconnect the applicator data cable from P31, P32, P33, or P34 on the main logic board (MLB).

Figure 398 • Remove the AC Power Input Cable (110Xi4)



1	AC power input cable
2	White beaded cable tie
3	Cable tie



Figure 399 • Remove the AC/DC Power Supply Shield





1	AC/DC power supply
2	J6, J7, and J8
3	P31, P32, P33, and P34
4	Main logic board (MLB)



Figure 401 • Disconnect the Data Cable

Figure 402 • Remove the Applicator Cables (140Xi4, 170Xi4, and 220Xi4)



1	DC power supply
2	J5 through J10
3	White beaded cable tie
4	P31, P32, P33, and P34
5	Main logic board (MLB)

If you have a	Then
5V	See Figure 403. Remove the two mounting screws and then slide the applicator board out of the printer.
24-28V	Figure 404. Remove the two mounting screws and then slide the applicator board out of the printer.

2. Which model of applicator board are you removing.









Install the Applicator Interface Board

1. Which model of applicator board did you remove.

If you have a	Then
5V	a. See Figure 403. Remove the applicator board from the maintenance/option kit and then slide it into the mounting hole in the rear panel
	b. Install the two mounting screws.
	c. See Figure 405. Connect the applicator data cable to J4 on the applicator board.
	d. Connect the applicator power cable to J5 on the applicator board.
24-28V	a. See Figure 404. Remove the applicator board from the maintenance/option kit and then slide it into the mounting hole in the rear panel
	b. Install the two mounting screws.
	c. See Figure 405. Connect the applicator data cable to J1 on the applicator board.
	d. Connect the applicator power cable to J3 on the applicator board.



Figure 405 • Connect the Applicator Data and Power Cables

- **2.** See Figure 401 on page 554. Connect the other end of the applicator data cable to P31, P32, P33, or P34 on the main logic board (MLB).
- **3.** Are you working on a 110Xi4?

lf	Then	
No	a.	See Figure 402 on page 554. Connect the other end of the power cable to either of connectors J5 through J10 on the DC power supply.
	b.	Insert the applicator power cable into the white beaded cable and then close the cable tie.
Yes	a.	See Figure 400 on page 553. Connect the other end of the applicator power cable to J6, J7, or J8 on the AC/DC power supply.
	b.	See Figure 399 on page 553. Reinstall the AC/DC power supply shield and secure it with the two mounting screws removed previously. Ensure the shield flaps are tucked in between the power supply and the aluminum mounting plate and that the applicator power cable comes out through the access hole in the top of the AC/DC power supply shield.
	c.	Connect the AC power input cable and then reinstall the white plastic beaded cable tie with all cables that were removed and add the applicator board power cable.

Reinstall the Electronics Cover

- **1.** See Figure 396 on page 550. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- **4.** Turn on (**I**) the printer.

Applicator Port Pinouts

5V Board

See Figure 406 and Table 17 to identify the pins, signals, and functions for the 5V applicator board port.



Figure 406 • 5V Applicator Board Pinouts

 Table 17 • 5V Applicator Interface Connector Pin Configuration

Pin No.	Signal Name	Signal Type	Description
1	I/O SIGNAL GROUND (+5V Return)	I/O Signal Ground	Using jumper JP2, this pin can be configured as isolated or non-isolated from the printer signal ground. See Figure 407 on page 561 for location of jumpers.
2	+5V I/O (Fused at 1 A) Caution • Replace the fuse only with one of the same type and rating.	Power	Using jumper JP1, this pin can be configured as isolated or non-isolated from the Applicator Interface Circuit +5 V Supply. See Figure 407 on page 561 for location of jumpers.

Pin No.	Signal Name	Signal Type	Description
3	START PRINT	Input	 Pulse Mode—The label printing process begins on the HIGH to LOW transition of this signal if a format is ready. De-assert 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 de-asserted 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. De-assert 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	+28 V (Fused at 2 A) Replace the fuse only with one of the same type and rating.	Power	 The Interface Power Supply. Supplies power to external sensors as required. Note • If operating with 28V signals only, pin 7 may be used to supply power to pin 2, which creates a non-isolated mode of operation. (This is applicable for all printers except the 110Xi4.)
8	POWER GROUND (+28 V DC Return)	Ground	The Interface Power Ground. Note • If pin 7 is used to supply power to pin 2, use this pin to ground pin 1. (This is applicable for all printers except the 110Xi4.)
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

Table 17 • 5V Applicator Interface Connector Pin Configuration (Continued)

Pin No.	Signal Name	Signal Type	Description	
11	END PRINT	Output	 MODE 0—The applicator port is OFF. MODE 1—Asserted LOW only while the printer is moving the label forward; otherwise de-asserted HIGH. MODE 2—Asserted HIGH only while the printer is moving the label forward; otherwise de-asserted 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 while there is no media in the printer.	
13	RIBBON OUT	Output	Asserted LOW while there is no ribbon in the printer.	
14	DATA READY	Output	 Asserted LOW when sufficient data has been received to begin printing the next label. Deasserted HIGH whenever printing stops after the current label, due to either a pause condition or the absence of a label format. 	
15 (Non- RFID)	SPARE	Output	To be determined.	
15 (RFID)	VOID	Output	 Asserted LOW when the RFID transponder over the antenna is "voided." De-asserted HIGH when the end print signal is asserted 	

Table 17 • 5V Applicator Interface Connector Pin Configuration (Continued)



Figure 407 • Isolated and Non-isolated Applicator Operation

24-28V Applicator Board

Which model of Xi4 printer are you working on?

If you have a	Then
110Xi4	Always use Isolated Mode of operation. There is no usable voltage on Pin 7 with respect to Pin 8.
140Xi4 170Xi4 220Xi4	Can use either Isolated or Non-Isolated Modes.

See Figure 408 and Table 18 to identify the pins, signals, and functions for the 24-28V applicator board port.



Figure 408 • 24-28V Applicator Board Pinouts

Table 18 • 24-28V Applicator Interface Connector Pin Configuration

Pin No.	Signal Name	Signal Type	Description
1	I/O SIGNAL GROUND (+24-28V Return)	I/O Signal Ground	No jumpers to configure. Important • Customer must provide this external ground. (This ground can come from pin 8 when operating at 28V for all printers except the 110Xi4.)
2	+24-28V I/O (Fused at 2 A) Replace the fuse only with one of the same type and rating.	Power	No jumpers to configure. This +24-28V power source also supplies voltage for output signal pull-up resistors. Important • Customer must provide this external power (This power can come from pin 7 when operating at 28V for all printers except the 110Xi4.)
3	START PRINT	Input	 Pulse Mode—The label printing process begins on the HIGH to LOW transition of this signal if a format is ready. De-assert 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 de-asserted HIGH, the printer completes the label that is printing then stops and waits for this input to be reasserted LOW.

Pin No.	Signal Name	Signal Type	Description	
4	FEED	Input	When the printer is idle or has been paused, assert this input LOW to trigger repeated feeding of blank labels. De-assert 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	+28 V (Fused at 500mA) Caution • Replace the fuse only with one of the same type and rating.	Power	 The Interface Power Supply. Supplies power to external sensors as required. Note • If operating with 28V signals only, pin 7 may be used to supply power to pin 2, which creates a non-isolated mode of operation. (This is applicable for all printers except the 110Xi4.) 	
8	POWER GROUND (+28 V DC Return)	Ground	 The Interface Power Ground. Note • If pin 7 is used to supply power to pin 2, use this pin to ground pin 1. (This is applicable for all printers except the 110Xi4.) 	
9	RIBBON LOW	Output	Asserts LOW if the Supplies Warning feature is enabled and the amount of remaining 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 	

Table 18 • 24-28V Applicator Interface Connector Pin Configuration (Continued)

Pin No.	Signal Name	Signal Type	Description	
11	END PRINT	Output	 MODE 0—The applicator port is OFF. MODE 1—Asserted LOW only while the printer is moving the label forward; otherwise de-asserted HIGH. MODE 2—Asserted HIGH only while the printer is moving the label forward; otherwise de-asserted 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 while there is no media in the printer.	
13	RIBBON OUT	Output	Asserted LOW while there is no ribbon in the printer.	
14	DATA READY	Output	 Asserted LOW when sufficient data has been received to begin printing the next label. Deasserted HIGH whenever printing stops after the current label, due to either a pause condition or the absence of a label format. 	
15 (Non- RFID)	SPARE	Output	To be determined.	
15 (RFID)	VOID	Output	 Asserted LOW when the RFID transponder over the antenna is "voided." De-asserted HIGH when the end print signal is asserted. 	

Table 18 • 24-28V Applicator Interface Connector Pin Configuration (Continued)

Input/Output Specifications



Table 19 • Input User Specifications

Applicator Board	Resistor at V_I/O	Maximum Current	Minimum Current
24-28V	4.7K Ohm	6mA at 28V	2mA
5V	220 Ohm	18mA at 5V	2mA





Table 20 • Output User Specifications

Output Current				
a. Limited by 10K ohm pull-up resistor. b. Not actively driven high.				
I _{ol}	a. 7mA maximum.b. Not intended to sink high current loads.			

Wired Ethernet

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

Antistatic Wriststrap and Mat

Metric Nutdriver Set

- □ 47362* Zebra Preventive Maintenance
- Kit
- * In place of the Preventive Maintenance Kit, you may use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and deionized water (maximum 10%).



Important • Do not use needle nose pliers in place of the nutdriver, as you can damage the Ethernet board. Always use recommended tools.

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.

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

2. See Figure 411. Remove the electronics cover by removing the three mounting screws securing it.



Figure 411 • Remove the Electronics Cover

3. Lift up on the rear corner of the electronics cover, and then lift the electronics cover off the printer.

Rear corner

3

4. Are you replacing an existing wired Ethernet board?

lf	Then
No	Go to Install the Wired Ethernet Board on page 569.
Yes	Continue with Remove the Wired Ethernet Board.

Remove the Wired Ethernet Board



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

Connect yourself to an antistatic device.

2. See Figure 412. Remove the three nuts securing the wired Ethernet board to the main logic board (MLB).



Figure 412 • Remove the Wired Ethernet Board

1	Main logic board (MLB)
2	Wired Ethernet board
3	Mounting nuts (3)

- **3.** Remove the wired Ethernet board.
- **4.** Go to step 4 on page 572.

Install the Wired Ethernet Board



1. See Figure 413. Remove and discard the rear panel Ethernet access cover and screw.



Figure 413 • Remove the Blank Cover and Screw

1	Wired Ethernet access cover
2	Wired Ethernet access hole
3	Mounting screw

2. See Figure 414. Clean the J4 pads using the Zebra Preventive Maintenance Kit part number 47362.





3. See Figure 415. Install the three mounting standoffs supplied in the kit into the three threaded mounting holes on the main logic board (MLB).



Figure 415 • Install the Mounting Standoffs

1	Main logic board (MLB)	
2	Wired Ethernet board	
3	Mounting nuts (3)	
4	Mounting standoffs (3)	

- **4.** See Figure 416 on page 572. Install the wired Ethernet board.
 - **a.** Insert the Ethernet connector into the back panel.
 - **b.** Rotate the board down onto the three mounting studs.
 - c. Secure the board with the three nuts supplied in the kit.





1	Wired Ethernet board	
2	Main logic board (MLB)	
3	Mounting nuts (3)	
4	Back plate	

Reinstall the Electronics Cover

- **1.** See Figure 411 on page 567. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (**I**) the printer.
- **6.** See your ZebraNet® 10/100 Internal PrintServer User Guide to set up your Ethernet board.

Wireless Plus PCMCIA Option/Maintenance Kit

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

□ Antistatic Wriststrap and Mat

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 417. Remove the electronics cover by removing the three mounting screws securing it.



Figure 417 • Remove the Electronics Cover

3. Lift up on the rear corner of the electronics cover, and then lift the electronics cover off the printer.

Rear corner

3

Remove the Existing PCMCIA Option Board Assembly



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

- **1.** See Figure 418. Remove the screw securing the plastic cover located at the rear of the printer.
- **2.** Remove the RF card from the card slot by pressing the eject button.



Figure 418 • RF Card

1	RF card cover mounting screw
2	RF card cover
3	RF card
4	Notch
5	Card eject button
Remove the PCMCIA Standoffs



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

1. Are you replacing an existing PCMCIA board?

lf	Then
No, installing a new print server	Continue with Install the Wireless PCMCIA Board.
Yes, replacing an existing print	a. Remove the four mounting screws securing the PCMCIA board.
server	b. Unsnap the two connectors from P23 and P24 on the MLB.c. Remove and discard the old PCMCIA board.

Install the Wireless PCMCIA Board

1. Are you replacing an existing PCMCIA board?

lf	Then
No, installing a new print server	From the rear panel, remove and discard the screw and the blank option cover plate.
Yes, replacing an existing print server	Continue with step 4.

2. See Figure 419. Screw the three short standoffs into the three holes along the top of the MLB.



Figure 419 • Install New Spacers

3. Screw the long octagonal standoff into the threaded post on the main frame.

4. See Figure 420. Align the two connectors on the wireless PCMCIA board with P23 and P24 on the MLB and then push them together.





1	Wireless PCMCIA board
2	Long standoff mounting screw
3	Short standoffs mounting screws (3)

- **5.** Insert the top screw through the mounting hole in the top of the wireless PCMCIA board and into the long standoff.
- **6.** Insert the three screws through the wireless PCMCIA board and into the three short standoffs.
- Reinstall the RF card through into the card slot in wireless PCMCIA board. The eject button will protrude from the rear panel.
- **8.** Install the screw to secure the plastic cover over the rear opening, the RF card, and the eject button.

Reinstall the Electronics Cover

- **1.** See Figure 417 on page 575. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

4. Reconnect the AC power cord and data cables.

Resume Operation

1. Turn on (**I**) the printer.

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

- **2.** Look at the front panel. If the wireless PCMCIA board was installed correctly, the wireless link status indicator displays an underscore "_" on the LCD, providing a real-time display of the printer's network status.
- **3.** Refer to the *Wireless Print Server User Guide* to configure the Wireless Print Server for operation.



Compact Flash Adapter

Zebra now supports the Symbol[®] LA-4137-1020-WW Compact Flash Wireless Radio Card. The Compact Flash Wireless Card (CF card) and adapter are a replacement for discontinued Wireless cards and are inserted into the Wireless Print Server socket. When using this new Symbol CF card, you must use this compact flash adapter.



Note • All other supported Wireless cards do not require this adapter.

The following firmware is required for the Xi4. V53.17.x or later

Installation Instructions



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

1. See Figure 421. Insert the card and adapter into the printer.



Figure 421 • Wireless Compact Flash Card and Adapter Placement

- **2.** Using the cover shield mounting screw, install the clear plastic PCMCIA cover (included with your printer or the kit) over the card slot.
- **3.** To configure the wireless card, follow the setup instructions in the ZebraNet[®] Wireless Print Server User Guide.

ZebraNet® Internal Wireless Plus Print Server

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- Antistatic Wriststrap and Mat
- □ Standard Open-End Wrench Set

Remove the Electronics Cover



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



Caution • A qualified service technician must perform this installation.



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

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

2. See Figure 422. Remove the electronics cover by removing the three mounting screws securing it.



Figure 422 • Remove the Electronics Cover

3. Lift up on the rear corner of the electronics cover, and then lift the electronics cover off the printer.

Rear corner

3

Remove the Existing Print Server Board



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

1. Which print server (also called an option) board are you removing?

lf you have a(n)…	Th	en
Wireless Plus	a.	See Figure 423. Check the rear panel for the RF card cover. Remove the mounting screw and the cover.
	b.	Eject the wireless card.
	c.	Continue with step 2.
Internal Wireless Plus	a.	From the back of the printer, unscrew the RF antenna.
	b.	Remove the nut and washer from the RF connector.
	c.	Remove the top mounting screw securing the Internal
		Wireless Plus cover.
	d.	Remove the cover and set aside.
	e.	Continue with step 2.

Figure 423 • RF Card and Cover



1	RF card cover mounting screw
2	RF card cover (plastic)
3	Wireless option card
4	Notch
5	Card eject button

2. Remove the four screws securing the print server board to the main frame and MLB of the printer.

- **3.** Unsnap the two connectors from P23 and P24 on the MLB.
- **4.** Remove and discard the old print server board.

Install the New Internal Wireless Plus

1. Are you replacing an existing print server board?

lf	Then
Yes, replacing an existing print server	Continue with step 3.
No, installing a new print server	a. From the rear panel, remove and discard the screw and the blank option cover plate.
	b. Install the long standoff in the threaded post on the main frame.
	c. See Figure 424. Screw the three short standoffs into the three holes along the top of the MLB.
	d. Continue with step 3.

2. See Figure 424. Align the two connectors on the Internal Wireless Plus board with P23 and P24 on the MLB, and then push them together.

Ensure that the Internal Wireless Plus board is seated into the MLB connectors correctly.



Figure 424 • Install New Spacers

- 3. Insert one screw into the top mounting hole in the print server board and the long standoff.
- **4.** Insert three screws into the three mounting holes in the print server board and the short standoffs.

Install the Cover and External Antenna

- **1.** From the back of the printer, remove the sticker located alongside of the option card slot.
- **2.** Using isopropyl alcohol, remove all of the sticker's glue.
- 3. Insert the bottom edge of the cover in the small slot below the option card slot.

- **4.** See Figure 425. Fasten the top of the cover into place using one of the screws provided in the kit.
- **5.** From the back of the printer, place the lock washer and nut on the RF connector and hand tighten.



Figure 425 • Closeup of Antenna Installation

- **6.** Using an open-end wrench, tighten the brass nut by turning it clockwise one quarter of a turn.
- **7.** To install the external antenna, screw the antenna onto the RF connector extending out from the back plate of the printer.

Reinstall the Electronics Cover

- **1.** See Figure 422 on page 583. Reinstall the electronics cover by lowering the cover so the lip goes into the channel on the top of the printer.
- 2. Secure the cover by reinstalling the three screws on the bottom cover.
- **3.** Reconnect the data cables and the AC power cord.

5

6

Nut

RF antenna

Resume Printer Operation

- **1.** Refer to the *Wireless User Guide* to configure the Internal Wireless Plus Print Server for operation.
- **2.** Turn on (**I**) the printer.

After You Complete the Installation

Firmware

After you have completed this installation, you must download firmware version V53.17.x (or later) from: www.zebra.com/firmware.

Attach Labels

1. See Figure 426. Examine the labels included with the kit.

There may be several labels included with your kit.



Figure 426 • Sample Label

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

3. See Figure 427. If present, remove the old plastic label with part number 39545-xxx affixed to the back of your printer.

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



Figure 427 • Label Location

- **4.** See Figure 426. Remove the backing from the new label (part number 39545-xxx included in this kit) for your specific printer.
- 5. See Figure 427. Affix the new printer label in the area to the left of the model plate.
- 6. Discard any additional labels included in the kit.
- **7.** The installation is complete.

Compliance Information

FCC Compliance Statement

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

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

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

FCC Radiation Exposure Statement

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

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

Canadian DOC Compliance Statement

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

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

SEH PS102-Z IPv6 Internal Print Server

Tools Required



- **Tools** You need these tools to complete this procedure:
- Phillips Screwdriver Set
- □ Antistatic Wriststrap and Mat
- □ Standard Hex Key (Allen Wrench) Set

Remove Electronics Cover



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

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

2. See Figure 428. Remove the electronics cover by removing the three mounting screws securing it.



Figure 428 • Remove the Electronics Cover

1	Electronics cover
2	Mounting screws (3)
3	Rear corner

- **3.** Lift up on the rear corner of the electronics cover and then lift the electronics cover off the printer.
- 4. Is there an SEH PS102-Z Internal Print Server already installed on the printer?

Remove the Cover Plate



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



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

Connect yourself to an antistatic device.



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

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

3. See Figure 429. On the back of the printer, remove the two cover plate mounting screws and the cover plate (shaded).

Discard the cover plate and the screws.

Note • The parallel port on the back of the printer is not operational when the internal SEH PS102-Z is installed. The hardware for the SEH PS102-Z mounting bracket covers the parallel port.



Figure 429 • Cover Plate

4. Continue with Install the SEH PS102-Z Internal Print Server on page 595.



Remove the Existing Communication Hardware

- **1.** See Figure 430. Remove and discard the two screws securing the bracket for the internal print server to the back of the printer.
- 2. See Figure 430. Disconnect the ribbon cable from the main logic board (MLB).
- **3.** Remove the old internal print server through the parallel port slot on the back of the printer.

 1
 SEH PS102-Z Internal Print Server board

 2
 Bracket

 3
 Mounting screws (2)

Figure 430 • Remove/Install the SEH PS102-Z Internal Print Server

4. Continue with Install the SEH PS102-Z Internal Print Server on page 595.

Ribbon cable connector (attaches to MLB)

Ribbon cable

4

5

Install the SEH PS102-Z Internal Print Server

- **1.** See Figure 431. If necessary, attach the long end (distance from the cable tie to the connector) to the SEH PS102-Z board.
- **2.** From the back of the printer, partially insert the ribbon cable and the connector through the mounting slot.

Figure 431 • SEH PS102-Z Internal Print Server

1	Ribbon cable connector
2	Mounting screws (2)
3	Status button
4	Status LED
5	Network Activity LED
6	Link LED
7	Ethernet connector
8	SEH PS102-Z mounting bracket
9	Ribbon cable

- **3.** Plug the connector into the keyed interface data cable connector (P21) on the main logic board.
- **4.** Confirm that all small cable connectors are tight.
- **5.** Pull the SEH PS102-Z completely though the mounting slot.
- **6.** Secure the SEH PS102-Z board and bracket in place using the mounting screws provided in this kit.

Reinstall the Electronics Cover

- **1.** See Figure 428 on page 591. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and all data cables.
- **4.** Turn on (**I**) the printer.
- **5.** The installation is complete.

After You Complete the Installation

Firmware

- **1.** After you have completed this installation, you must download firmware version V53.17.x (or newer) from: www.zebra.com/firmware.
- **2.** To confirm the upgrade was successful, verify the version of firmware on the control panel's LCD.

Outer Casting Components

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Electronics Cover

This kit includes the parts and documentation necessary to install the Electronics Cover maintenance kit on the Xi4TM printers. Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

Remove the Old 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.

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

2. See Figure 432. Remove the electronics cover by removing the three mounting screws securing it.



Figure 432 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Install the New Electronics Cover

- **1.** See Figure 432. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (I) the printer.

Media Door

These instructions are for the installation of the Media Door on Xi4TM printers. Read these instructions thoroughly before attempting to install this assembly.

Tools Required



Tools • You need these tools to complete this procedure:

□ Allen Wrench Ball-end

Safety Glasses

Remove the Old Media Door

Which model are you working on?

If have a	Then
110Xi4	Continue with 110Xi4, 140Xi4, and 170Xi4.
140Xi4	
170Xi4	
220Xi4	Go to 220Xi4 on page 602.

110Xi4, 140Xi4, and 170Xi4

1. See Figure 433. Raise the existing media door.





2.	. Remove and discard the for	ur mounting screws.

Mounting screws (4)

Note • Be sure to hold the door firmly when removing the last screws.

3. Remove the old door.

2

220Xi4

1. See Figure 434. Raise the existing media door.

2. Caution • Wear protective eye wear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

Remove the e-ring securing the damper arm to the media door.



Figure 434 • Remove and Install the Media Door (220Xi4)

1	E-ring
2	Pivot pin
3	Damper arm
4	Flat washers (2)

- **3.** Remove the two washers and pivot pin from the media door and arm.
- 4. See Figure 433 on page 601. Remove and discard the four mounting screws.

Note • Be sure to hold the door firmly when removing the last screws.

5. Remove the old door.

Install the New Media Door

- **1.** See Figure 433. Align the holes in the door hinges with the mounting holes in the printer.
- **2.** Install the four new mounting screws.
- **3.** Choose the proper nameplate from the kit and feed it into the door panel opening.

Figure 435 • Install the Nameplate (110Xi4 shown)



1	Nameplate
2	Door panel opening
3	Mounting screw(s) (1 for 110Xi4 and 140Xi4 or 2 for 170Xi4 and 220Xi4)

- **4.** Push the nameplate to the media door and then install the mounting screw(s).
- **5.** Are you working on a 220Xi4?

lf	Then	
No	Continue with step 6.	
Yes	a. See Figure 434 on page 602. Reinstall the damper arm to the media door using the pivot pin, flat washers, and e-ring removed previously.	
	b. Continue with step 6.	

- **6.** Reconnect the AC power cord.
- **7.** Turn on (**I**) the printer.

Media Door Window

This kit includes the parts and documentation necessary to install the Media Door Window maintenance kit in the $Xi4^{TM}$ printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

□ Flat-blade Screwdriver Set

Remove the Old Media Door Window

1. Open the media door.



Figure 436 • Remove the Old Media Door Window

1	Standard media door window
2	Bifold media door window

2. See Figure 437. Remove the window by pressing on the seven snap tabs until it is free on three sides.



Figure 437 • Remove the Old Window

1	Window
2	Snap Tabs (7)
3	Stationary Tabs (3)

3. See Figure 438. Lift the window out of the door.

Figure 438 • Lift the Window Out



Install the New Media Door Window

1. See Figure 439. Set the three stationary tabs onto the door.



Figure 439 • Install the New Window

- **2.** See Figure 437 on page 605. Push the new window into the door opening, ensuring that all seven snap tabs snap into place.
- **3.** Close the media door.

Media Door Damper Assembly

This kit includes the parts and documentation necessary to install the Media Door Damper maintenance kit in the following printers:

• 220Хі4^{тм}

Read these instructions thoroughly before attempting to install this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- □ Flat-blade Screwdriver Set
- □ SAE Nutdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ Safety Glasses

□ Needle Nose Pliers

Remove the Old Media Door Damper Assembly

- **1.** Turn off (**O**) the printer and disconnect the AC power cord and data cables.
- 2. Open the media door and ensure that it rests on the top of the printer.
- **3.** Remove the media low sensor from the mounting bracket by removing the two screws securing it. Let the sensor hang there for now.



4. **Caution** • 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.

See Figure 440. Remove and discard the e-ring and washer from the pivot pin on the media door.

5. Remove the pivot pin and washer to release the arm of the damper from the media door.



Figure 440 • Removing the Media Cover Damper

1	Media door
2	E-ring
3	Washer
4	Pivot pin
5	Damper mounting screws (4)
6	Media low sensor mounting bracket
7	Media low sensor
8	Mounting screws (2)
9	Damper mounting bracket

- **6.** Remove the two media low sensor mounting screws. The media low sensor will fall out of the mounting bracket.
- **7.** Remove the four screws securing the damper assembly and media low bracket to the damper mounting bracket.
- **8.** See Figure 441. Remove and discard the three screws and washers securing the damper mounting bracket to the main frame.
- **9.** Guide the media low sensor through the damper mounting bracket and then remove an discard the damper mounting bracket.



Figure 441 • Remove the Damper Mounting Bracket

1	Damper mounting bracket
2	Lock washers (3)
3	Mounting screws (3)
4	Media low sensor

Install the New Damper Assembly

- 1. See Figure 441. Orient the new mounting bracket as shown.
- 2. Secure the mounting bracket to the main frame with the three screws and lock washers.
- **3.** Guide the media low sensor through the mounting bracket as shown.
- **4.** See Figure 440 on page 608. Slide the new damper into the damper mounting bracket, ensuring that the cable for the media low sensor is not pinched between the damper and bracket as shown in Figure 442.
- 5. Install, but do not tighten, the two rear damper mounting screws.
- **6.** See Figure 442. Slide the new media low sensor mounting bracket into the damper mounting bracket, ensuring that the cable for the media low sensor is not pinched between the two brackets and then install the two front damper mounting screws.



Figure 442 • Route the Media Low Sensor Cable

1	Media low sensor mounting bracket
2	Damper assembly
3	Damper assembly mounting bracket
4	Rear damper assembly mounting screws (2)
5	Cable guide
6	Media low sensor cable
7	Front damper assembly mounting screws (2)

- 7. Tighten the four damper assembly mounting screws.
- **8.** See Figure 441 on page 609. Reinstall the media low sensor into the media low sensor mounting bracket using the two screws removed previously.

- **9.** See Figure 440 on page 608. Attach the damper arm to the cover with the pivot pin, washers, and E-ring.
- **10.** Close the media cover and check the operation of the damper.
- **11.** Reconnect the AC power cord and data cables.
- **12.** Turn on (**I**) the printer.

TrimPanel and Nameplate

This kit includes the parts and documentation necessary to install the Lower Trim Panel and Nameplate in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

 Small SAE Socket Set

Remove the Old Lower Trim Panel



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

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

- **2.** Open the media cover.
- **3.** See Figure 443. Remove the front plate by loosening the two knurled mounting nuts and then sliding it up and out of the printer.



Figure 443 • Remove the Front Plate
4. See Figure 444. Loosen the screws securing the lower trim panel to the printer by turning them approximately 1½ turns each.





5. See Figure 445. Remove and discard the lower trim panel by lowering it until the screw heads align with the larger hole in the base and then slide it out.



Figure 445 • Remove the Lower Trim Panel

1	Lower trim panel
2	Large holes (2 or 3)
3	Openings in base (2)
4	Ribs (2)

Install the New Lower Trim Panel

1. See Figure 445. Install the new mounting screws into the new lower trim panel by turning them approximately 1¹/₂ turns each.





- **2.** Align the large mounting holes in the base with the mounting screws and then slide the lower trim panel into the printer.
- **3. Caution** Over tightening the mounting screws will cause damage to the lower trim panel.

Lift up on the lower trim panel until the ribs are in the holes in the base and then tighten the mounting screws.

- **4.** See Figure 443 on page 612. Reinstall the front plate by sliding it into the printer and then behind the mounting screws.
- **5.** Tighten the two knurled mounting nuts.

Remove the Nameplate



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

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

- **2.** Open the media cover.
- **3.** See Figure 447. Remove the mounting screw(s) securing the old nameplate to the media door and then slide it out of the door panel opening.



Figure 447 • Remove and Install the Nameplate

1	Nameplate
2	Door panel opening
3	Mounting screw (1 for 110Xi4 and 140Xi4 or 2 for 170Xi4 and 220Xi4)

- **4.** Slide the new nameplate into the door panel opening and then install the mounting screw(s).
- **5.** Reinstall the AC power cord.
- **6.** Turn on (**I**) the printer.

Tear Front Plate

1.

This kit includes the parts and documentation necessary to install the Tear Front Plate in the Xi4[™] printers. Read these instructions thoroughly before installing this kit.

Remove the Old Tear Front Plate



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

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

2. See Figure 448. Remove the old tear front plate by removing and discarding the two knurled nuts securing it.

Figure 448 • Remove and Install the Tear Printer Front Plate



3. Lift the tear front plate out of the printer.

Install the New Tear Front Plate

- **1.** See Figure 448. Slide the new tear front plate into the printer until it rests on the mounting studs.
- **2.** Install the new knurled nuts.
- 3. Reconnect the AC power cord and turn on (I) the printer.

Side Plate

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ Flat-blade Screwdriver Set
- □ SAE Nutdriver 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.

Turn off (\mathbf{O}) the printer and disconnect the AC power cord and all data cables.

2. See Figure 449. Remove the electronics cover by removing the three mounting screws securing it.



Figure 449 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

Remove the Old Side Plate

1. See Figure 450. Open the head and then remove the head open lever and wave washer by removing the head open lever mounting screw and then sliding the lever and washer off the toggle bar.





1	Toggle bar lever mounting screw
2	Toggle bar
3	Wave washer
4	Toggle bar lever



2.

Caution • 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. Do you have a rewind platen roller installed?

lf	Then	
Yes	a. Remove the rewind platen roller support bracket by removing the c-clip and then sliding the bearing out of the rewind platen roller support bracket.	
	b. Remove the two mounting screws and washers.	
	c. Continue with step 4.	
No	Continue with step 4.	





1	Rewind platen roller support bracket
2	Mounting washers (2)
3	Mounting screws (2)
4	C-clip
5	Bearing
6	Upper platen roller c-clip
7	Upper platen washer
8	Upper platen bearing

4. Remove the c-clip from the upper platen roller and then slide the washer and bearing off the upper platen roller.

5. See Figure 452. Remove all of the hex key mount screws.



Figure 452 • Remove the Hex Key Mounting Screws

	•
1	Dancer mounting lock washer
2	Dancer mounting screw
3	Hex key mounting screws (4)

6. Is there a cutter option installed?

lf	Then
Yes	See Figure 453. Remove the two cutter option mounting screws.
No	Go to step 7.

Figure 453 • Remove the Cutter Option Mounting Screws



7. See Figure 454 or Figure 455. Remove and discard the hex head mounting screws.





Figure 455 • Remove the Hex Head Mounting Screws (110Xi4 and 170Xi4)



8. See Figure 456. Remove the side plate by sliding it out of the printer.



Figure 456 • Remove the Side Plate

9. See Figure 457. Remove the access hole cover(s).





1	140Xi4 and 220Xi4 side plate
	110Xi4 and 170Xi4 side plate
2	Wear plate
3	Cam
4	Flat washer
5	Lock washer
6	Cam mounting screw
7	Flat washer
8	Wear plate mounting screw
9	Access hole cover(s)

10. Remove the wear plate by removing the cam mounting screw, washers, and cam and then remove the wear plate mounting screw and washer.

Install the New Side Plate

1. See Figure 458. Align the new side plate with the toggle bar and then the upper platen roller shaft and side plate mounting holes.



Figure 458 • Align the Side Plate

- **2.** Side the toggle bar into the new side plate ensuring that the bearing is seated into the mounting hole.
- **3.** Ensure that the upper platen roller shaft is through the side plate mounting hole.

4. Which model of Xi4 printer are you working on?

If you have a	Then
140Xi4 220Xi4	a. See Figure 459. Align the mounting holes and then install the number one hex head mounting screw first then the number two.b. Install the other four in any order.
110Xi4 170Xi4	See Figure 459. Align the mounting holes and the cover plate and then install the hex head mounting screws as indicated by the numbers in the graphic.

Figure 459 • Install the Hex Head Screws



- **5.** See Figure 452 on page 622. Align the top ribbon roller and shaft and then install the hex key mounting screw.
- **6.** Align the lower ribbon guide with the mounting hole and then install the hex key mounting screw.
- **7.** Align the dancer shaft with the mounting hole and then install the long hex key mounting screw and lock washer.
- **8.** Align the media guide with the mounting hole and then install the hex key mounting screw.
- **9.** Align the tear bar with the mounting hole and then install the hex key mounting screw.
- **10.** Is there a cutter option installed?

lf	Then
Yes	a. See Figure 453 on page 622. Reinstall the two cutter option mounting screws.b. Continue with step 11.
No	Continue with step 11.

11. See Figure 457 on page 624. Install the access hole cover(s).

12. Which model of Xi4 printer are you working on?

If you have a	Then
110Xi4	a. See Figure 455 on page 623. Install the cover plate.
170Xi4	b. Continue with step 13.
140Xi4	Continue with step 13.
220Xi4	

- **13.** See Figure 450 on page 620. Slide the wave washer and handle onto the toggle bar and then reinstall the handle mounting screw.
- **14.** Hold the upper platen roller from the electronics side while sliding the upper platen roller bearing, flange facing out, onto the upper platen roller shaft and then into the new side plate.



15. Caution • 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.

Slide the flat washer onto the upper platen roller shaft and then reinstall the C-clip.

16. See Figure 460. Slide the wear plate onto the print mechanism shaft and then start the mounting screw and flat washer.



Figure 460 • Reinstall the Wear Plate

1	Wear plate
2	Print mechanism shaft
3	Cam
4	Flat washer
5	Lock washer
6	Long mounting screw
7	Mounting screw
8	Flat washer

- **17.** Slide the lock washer, flat washer, and cam onto the long mounting screw and then install the screw into the new side plate ensuring the cam is inserted into elongated hole in the wear plate.
- **18.** Is the rewind option installed?

lf	Then
No	Continue with Reinstall the Electronics Cover on page 629.
Yes	 a. Install the rewind platen roller support bracket. b. Hold the rewind platen roller from the electronics side while sliding the rewind platen roller bearing, flange facing out, onto the rewind platen roller shaft and then into the rewind platen roller support bracket.
Ø	 Caution • 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. c. Reinstall the C-clip.
	d. Continue with <i>Reinstall the Electronics Cover</i> .

Reinstall the Electronics Cover

- **1.** See Figure 449 on page 619. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Open the media door and then reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- 5. Did you reinstall a rewind platen roller support bracket.

lf	Then
Yes	Continue with Adjust the Rewind Platen Roller.
No	Go to Adjust the Printhead on page 630.

Adjust the Rewind Platen Roller

- **1.** Press and hold PAUSE while turning on (I) the printer and check for proper tracking of the media onto the rewind spindle.
- **2.** See Figure 461. Loosen the two screws securing the roller adjust plate to the print mechanism.





1	Rewind platen roller support bracket
2	Mounting screws (2)
3	Rewind platen roller

3. Move the roller adjust plate in the appropriate direction to compensate for the tracking and tighten the screws.



Note • Moving the roller adjust plate toward the front of the printer moves the liner material away from the roller adjust plate. Moving the roller adjust plate toward the rear of the printer moves the liner material toward the roller adjust plate.

4. Repeat step 2 and step 3 until the required results are achieved.

Adjust the Printhead

Five interrelated adjustments lead to optimum print quality with increased printhead life:

- Printhead Parallelism
- Wear Plate (Balance) Position
- Printhead Position
- Printhead Pressure
- Strip Plate Position



Note • To achieve optimum results with print quality adjustments, install full-width media and ribbon. Verify the media and ribbon are properly matched, and that darkness and print speed configurations are correct for the application before performing any mechanical adjustments.

Prior to Performing Printhead Adjustments





Position the toggles as follows:

1.See Figure 462.

110/140/170/220Xi4: Position each toggle over the width of the media.

2.Adjust the toggle spring while the head is closed and locked by turning the lower knurled nut until the distance from the top of the toggle foot to the bottom of the lower knurled nut equals 1.18 in. (30 mm).

3.Perform the Pause Self Test by pressing and holding PAUSE while turning on (I) the printer.

Printhead Parallelism



Important • Excessive toggle pressure will increase printhead wear and decrease printhead life. Increase printhead life by combining minimum toggle pressure and optimum printhead position over the platen roller.

The order in which the adjustments are performed depends on the print quality of the labels printed during the Pause Self Test.

Complete the first two printhead adjustments (Parallelism and Wear Plate) prior to locating the optimum print position. As with the other adjustments, parallelism and wear plate adjustments are interrelated. Adjusting one may have an effect on the position of the other.

This adjustment is performed in conjunction with the wear plate position, printhead position, and printhead pressure adjustments.

Adjusting the printhead parallelism squares the printhead to the platen roller.

Test the Printhead Parallelism

See Figure 463. Prior to starting this test, ensure the installed media is square with the tear-off bar and that the toggle is set to 30 mm.

- **1.** Perform the Pause Self Test by pressing and holding PAUSE while turning on (I) the printer.
- 2. When the printer begins printing labels, refer to *Set the Darkness* on page 635.
- **3.** The uppermost line on the test label should be parallel to the top edge of the label.
- 4. Are the print lines parallel to the top of the label?

lf	Then
No	Continue to Adjust the Printhead Parallelism.
Yes	Go to Adjust the Wear Plate on page 632.

Adjust the Printhead Parallelism

- **1.** Ensure that the printhead is seated properly.
- 2. Perform a Pause Self Test by pressing and holding PAUSE while turning on (I) the printer.
- **3.** See Figure 463. Loosen the four screws at the top rear of the print mechanism.
- **4.** Adjust the parallel location of the uppermost lines by turning one of the two screws located at the back of the print mechanism. Only small adjustments are required.
- **5.** To move the printhead forward, turn the adjustment screw clockwise as viewed from the rear of the printer.
- **6.** To move the printhead backward, turn the adjustment screw counter-clockwise as viewed from the rear of the printer.

- **7.** Adjust each side as necessary to align the uppermost line of the test label parallel with the top edge of the label.
- 8. Run additional Pause Self Test labels to check for proper parallelism.
- **9.** Tighten the four top screws, and then run additional Pause Self Test labels to verify proper positioning.

Figure 463 • Printhead Parallelism Adjustment

Note • Loosen these screws before adjusting the printhead.



1	loggle knurled adjusting nut
2	Parallelism adjustment screws (2)
3	Cam
4	Wear plate screws (2)

Adjust the Wear Plate

Adjusting the wear plate position produces even pressure across the full width of the printhead and platen roller.

- **1.** Ensure that the printhead is seated properly.
- **2.** See Figure 463. Loosen the two screws on the front of the strip plate.
- **3.** Perform a Pause Self Test by pressing and holding PAUSE while turning on (I) the printer.
- **4.** After printing a few labels, press PAUSE and reduce the darkness value until the test labels are a charcoal gray color (see *Set the Darkness* on page 635).
- 5. Print additional Pause Self Test labels and observe the print quality.
- **6.** If printing is evenly dark, the wear plate position is good. If lighter or no printing is observed on one side of the label, continue with this adjustment.

- 7. Loosen the two screws securing the wear plate.
- 8. Continue to print pause test labels while adjusting the wear plate eccentric.
- 9. Adjust the wear plate eccentric by turning it by hand, a wrench, or a pair of utility pliers.
- **10.** Adjust the wear plate eccentric clockwise to increase pressure on the main frame side of the label, or adjust it counter-clockwise to increase pressure on the outboard side of the printer.
- **11.** When even print quality is achieved, hold the wear plate in position and retighten the two wear plate screws.
- **12.** Print Pause Self Test labels to verify parallelism is correct.
- **13.** Is parallelism out of tolerance?

lf	Then
No	Align the strip plate. Go to Align the Strip Plate on page 636.
Yes	Go to Adjust the Printhead Parallelism on page 631.

Adjust the Printhead Position

This adjustment is performed in conjunction with the printhead parallelism, wear plate position, and printhead pressure adjustments.

Adjusting the printhead position aligns the printhead for optimum print quality.

- **1.** See Figure 463 on page 632. The thermal elements of the printhead should be aligned just behind the crest of the platen roller.
- **2.** Perform the Pause Self Test by pressing and holding PAUSE while turning on (I) the printer.
- **3.** Set the darkness to achieve as close to optimum print quality as possible (see *Set the Darkness* on page 635).
- 4. Loosen the four screws at the top rear of the print mechanism.

Caution • To prevent printhead damage, loosen the four top screws before turning the two adjustment screws.

5. Adjust the printhead position for optimum print quality by equally turning the two screws located at the back of the print mechanism.



Note • Adjustments are made in very small increments.

Due to spring pressure, there may be a dead spot in the actual printhead movement when switching adjustments from one direction to the other.

6. Turn both screws 1/8 turn clockwise and observe the changes in print quality. Turn both screws 1/8 turn counter-clockwise and observe the changes in print quality.

- **7.** Press PAUSE and check the test labels for streaks, flouring, and other print quality problems.
- 8. Adjust the screws while observing print quality.
- **9.** Since printhead parallelism, wear plate position, and printhead positions are interrelated, look at the test labels for changes in these settings and adjust if necessary.
- **10.** Press PAUSE to pause the Pause Self Test.

Adjust the Printhead Pressure

Printhead pressure is the fourth of the five interrelated adjustments. Using lower printhead pressure and darkness settings can extend printhead life. If printing is too light on one side, or if thick media is used, printhead pressure may require adjustment.

See Figure 464. Locate the pressure toggles. The Xi4 printers have two toggles. These toggles are typically positioned at the 1/4 and 3/4 positions across the width of the media. If the media is sufficiently narrow that both toggles will not fit within its edges, the inside toggle should be centered above the media.



Figure 464 • Adjust the Printhead Pressure

- **1.** To check print quality, perform a Pause Self Test by pressing and holding PAUSE while turning on (I) the printer.
- **2.** To increase printhead pressure, loosen the upper knurled nut on the toggle and adjust the lower toggle adjusting nut downwards.
- **3.** To decrease printhead pressure, loosen the upper knurled nut and adjust the lower toggle adjusting nut upwards.
- 4. Adjust printhead pressure for optimum print quality.

- **5.** To lock the toggle pressure, tighten the upper knurled nut against the lower toggle adjusting nut.
- **6.** Though different media and ribbon combinations may require different toggle settings, a suggested initial distance between the top of the toggle foot to the bottom of the lower knurled nut equals 1.18 in. (30 mm).
- 7. Continue with *Set the Darkness*.

Set the Darkness

Darkness settings depend on a variety of factors, including ribbon type, labels, and the condition of the printhead. You may adjust the darkness for consistent high quality printing.

- If printing is too light, or if there are voids in printed areas, you should increase the darkness.
- If printing is too dark, or if there is spreading or bleeding of printed areas, you should decrease the darkness.
- Darkness settings also may be changed by the driver or software settings.

The Feed Self Test can also be used to determine the best darkness setting. Because the darkness setting takes effect immediately, you can see the results on labels that are currently printing.

Note • Turning off (**O**) the printer is not required for the new setting to take effect.

Set the darkness to the lowest setting that provides good print quality. If the darkness is set too high, the ink may smear, or the ribbon may burn through.

Begin printing a batch of labels, using the Pause Self Test labels. Adjust the darkness setting to obtain the desired print quality. the Darkness does not need saved until the correct darkness is found. The darkness settings can be adjusted while the Pause Self Test is running.

- Decreasing the value in the display causes a lighter (less black) image.
- Increasing the value causes a darker (blacker) image.
- **1.** Press SETUP/EXIT to enter the Configuration Mode.
- **2. DARKNESS** is displayed. Press the left oval to decrease the value or right oval to increase the value.
- 3. Press SETUP/EXIT; then NEXT/SAVE to permanently save the darkness setting.
- 4. Turn off (O) the printer, perform the Feed Self Test, and check print quality.

Align the Strip Plate

The strip plate adjustment is a very important part of the printhead adjustment procedure, and can be adjusted for proper tracking and separation of the ribbon from the media.

See Adjust the Printhead Pressure on page 634.

- **1.** Perform a Pause Self Test by pressing and holding PAUSE while turning on (I) the printer.
- 2. Press PAUSE and observe the ribbon for possible problems such as wrinkling.
- 3. Loosen the two screws securing the strip plate to the front of the printhead assembly.
- **4.** While running the Pause Self Test, lower the strip plate until the ribbon is flat, smooth and tracks properly when fed to the ribbon take-up spindle.
- 5. See the printer's Maintenance Manual for spindle adjustment procedures.
- **6.** Tighten the strip plate screws and print a minimum of 25 labels while checking for ribbon wrinkle, tracking, and media/ribbon separation problems. If ribbon problems persist, check the torque settings of the ribbon supply spindle and adjust tension if required.

Access Hole Covers and Media Low Bracket

This kit includes the parts and documentation necessary to install the Access Hole Covers and Ribbon Low Brackets maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set

□ Flatblade Screwdriver Set

- □ SAE Nutdriver Set
- □ Antistatic Wriststrap and Pad

Install Cutter Module Hole Cover Plate

1. See Figure 465. Slide the cover plate into the slot in the main frame, align the mounting holes, and then install the two mounting screws.



Figure 465 • Install the Cutter Module Hole Cover Plate

1	Cutter hole cover plate
2	Mounting screws (2)
3	Slot in main frame

Install the Take-Label Sensor Expansion Covers

1. See Figure 466. Push the take-label covers into the two mounting holes and then install the two screws.



Figure 466 • Install the Take-Label Covers

1	Mounting holes (2)
2	Expansion nuts (2)
3	Screws (2)

Install the Lower Platen Plug



1. See Figure 467. Push the plug into the lower platen roller hole.

Figure 467 • Install the Lower Platen Plug

Install the Compliance Roller Hole Plug

1. See Figure 468. Push the plug into the compliance roller hole.



Figure 468 • Install the Compliance Roller Hole Plug

Install the Rewind Spindle Hole Plug

1. See Figure 469. Align the rewind spindle metal plug with the hole and push it into the hole.

Figure 469 • Install the Rewind Spindle Hole Plug



2. To tighten the metal plug remove the electronics cover and then using a screwdriver bend several of the tabs toward the main frame.

Install the 220Xi4 Rewind Spindle Hole Cover Plate

- **1.** Go to *Remove the Electronics Cover* and remove the electronics cover.
- 2. See Figure 470. On the electronics side align the rewind spindle cover plate with the hole.

Figure 470 • Align the Rewind Spindle Hole Cover Plate



- **3.** From the media side install and tighten the three mounting screws.
- 4. Go to *Reinstall the Electronics Cover* on page 646.

Install the Cutter Motor Cover Plate

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.

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

2. See Figure 471. Remove the electronics cover by removing the three mounting screws securing it.





	2	Moun	Mounting screws (3)													
•																

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **4.** Are you working on a 110*Xi*4?

lf	Then
No	Continue with <i>Remove the DC Power Supply</i> on page 643.
Yes	Go to Remove the AC/DC Power Supply on page 644.

Remove the DC Power Supply

1.



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

Connect yourself to an antistatic device.

2. See Figure 472. Remove the two mounting nuts and the one mounting screw and then move the power supply enough to gain access to the cutter motor hole.



Figure 472 • Remove the DC Power Supply

3. Continue to Align the Cutter Motor Hole Cover Plate on page 646.

1.

Remove the AC/DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 473. Disconnect the AC connector to the power supply by squeezing the tab and then pulling the connector out of the power supply.



Figure 473 • Disconnect the AC Connector to the Power Supply

3. See Figure 474. Remove the two mounting screws and then remove the shield.



Figure 474 • Remove the AC/DC Power Supply Shield

4. See Figure 475. Remove the two mounting nuts and then the two mounting screws.





1	Mounting nuts (2)
2	AC/DC power supply
3	Mounting screws (2)

5. Move the AC/DC power supply enough to gain access to the cutter motor hole.

Align the Cutter Motor Hole Cover Plate

1. See Figure 476. Align the cutter motor hole cover plate with the two mounting holes and then install and tighten the two mounting screws from the media side.



Figure 476 • Install the Cutter Motor Hole Cover Plate

1	Mounting screws (2)
2	Mounting holes (2)
3	Cutter motor hole cover plate

2. Which model Xi4 are you working on?

If you have a…	Then
110Xi4	a. See Figure 475 on page 645. Reinstall the AC/DC power supply.
	b. See Figure 474 on page 645. Reinstall the AC/DC power supply shield.
	c. Continue with <i>Reinstall the Electronics Cover</i> .
All others	a. See Figure 472 on page 643 and reinstall the DC power supply.
	b. Continue with <i>Reinstall the Electronics Cover</i> .

Reinstall the Electronics Cover

- **1.** See Figure 471 on page 642. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- 3. Reconnect the AC power cord and data cables and turn on (I) the printer.

Install the Media Low Brackets

Remove the Old Media Low Mounting Bracket

1. Which model of Xi4 are you working on?

If you have a…	Then
110Xi4 140Xi4	a. See Figure 477. Remove the two screws securing the media low sensor in the old bracket.
170X14	b. Remove and discard the three media low sensor mounting bracket mounting screws.
220Xi4	a. See Figure 478 on page 648. Remove the two screws securing the media low sensor in the old bracket.
	b. Remove the two mounting screws securing the damper and the media low bracket and the slide the media low bracket out of the printer.





1	Media low sensor
2	Media low sensor mounting bracket
3	Media low sensor mounting screws (2)
4	Media low sensor mounting bracket mounting screws (3)



Figure 478 • Remove the Media Low Sensor (220Xi4)

1	Media low sensor
2	Media low sensor mounting bracket
3	Media low sensor mounting screws (2)
4	Damper
5	Damper mounting bracket
6	Damper/Media low mounting screws (2)

Install the New Media Low Mounting Bracket

1. Which model of Xi4 are you working on?

If you have a	Then
110Xi4 140Xi4 170Xi4	 a. See Figure 477 on page 647. Align the new media low mounting bracket with the mounting hole in the printer and install the three mounting screws. b. Install the media low sensor into the media sensor mounting bracket using the two screws previously removed.
220Xi4	 a. See Figure 479 on page 649. Slide the new media low sensor mounting bracket into the damper mounting bracket, ensuring that the cable for the media low sensor is not pinched between the two brackets and then install the two damper/media low bracket mounting screws. b. See Figure 478. Reinstall the media low sensor into the media low sensor mounting bracket using the two screws removed previously.


Figure 479 • Route the Media Low Sensor Cable

1	Media low sensor mounting bracket
2	Damper assembly
3	Damper assembly mounting bracket
4	Rear damper assembly mounting screws (2)
5	Cable guide
6	Media low sensor cable
7	Front damper assembly mounting screws (2)

Slot and Wireless Covers

This kit includes the parts and documentation necessary to install the Slot and Wireless Covers on the $Xi4^{TM}$ printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

□ Phillips Screwdriver Set

Install the Slot Covers



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

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

2. See Figure 480. Install the slot covers by aligning the mounting holes in the back cover with the holes in the slot covers and then install the mounting screw(s).



Figure 480 • Install the Slot Covers

1	Rear panel
2	Screws (6)
3	Blank option slot cover
4	Blank ethernet cover
5	Blank Wireless cover

Install the RFID Covers

Wireless Card Cover

1. See Figure 481. Align the tab with the slot and then install the mounting screw.



Figure 481 • Install Wireless Covers

Wireless Shipping Debris Slot Cover

5

1. See Figure 481. Align the tab with the slot and then install the mounting screw.

Wireless shipping debris slot cover

Complete the Installation

- **1.** Reconnect the AC power cord and data cables
- **2.** Turn on (I) the printer.

Options



Contents

Cutter Option	654
Cutter Module	680
Cutter Brackets	688
Cutter Linkage	698
Cutter Static Brush	715
Cutter Catch Tray	719
Rewind Option	724
Repacking Instructions	749

Cutter Option

This kit includes the parts and documentation necessary to install the Cutter Option in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Flat-blade Screwdriver Set
- □ SAE Open-end Wrench Set
- Grease-cutting Cleaner
- Antistatic Wriststrap and Mat

Remove the Electronics Cover

- □ Safety Glasses
- □ SAE Hex Key (Allen wrench) Set
- □ Fine-Toothed File
- □ Jumper Cable with Alligator Clips



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.

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

2. See Figure 482. Remove the electronics cover by removing the three mounting screws securing it.





3)
)

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Power Supply

1. Which model of the Xi4 are you working on?

If you have	Then
110Xi4	Continue with <i>Remove the AC/DC Power Supply</i> .
All others	Go to Remove the DC Power Supply on page 660.

Remove the AC/DC Power Supply

1. See Figure 483. Remove the AC power connector from the AC/DC power supply.



Figure 483 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 484. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 484 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 485. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 485 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J 7	DC output

6. See Figure 486. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 486 • Remove the AC/DC Power Supply

7. See Figure 487. Lift the AC/DC power supply assembly out of the printer.

Figure 487 • Remove the AC/DC Power Supply



8. Go to *Install the Cutter Motor* on page 662.

Remove the DC Power Supply

1.



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

Connect yourself to an antistatic device.

2. See Figure 488. Remove all cables from the DC power supply.



6 5	
1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

Figure 488 • Remove all Cables

3. See Figure 489. Remove the mounting screw and then remove the two mounting nuts.



Figure 489 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- **5.** Continue with *Install the Cutter Motor*.

Install the Cutter Motor

1. See Figure 490. From the media side remove two access cover plate mounting screws.

Figure 490 • Remove the Access Hole Cover Plate

Media Side

Electronics Side



110Xi4,140Xi4 and 170Xi4

1	Cutter motor access hole
2	Mounting screws (2)
3	Access hole cover plate

2. From the electronics side remove the access hole cover plate.

3. See Figure 491. Position the cutter motor near the mounting hole on the media side. Pass the cutter motor leads through the slit in the rubber grommet.



Figure 491 • Install the Cutter Motor

Electronics Side

Media Side

220Xi4



1	Access hole
2	Grommet slot
3	Grommet
4	Cutter motor
5	Mounting screws (2)

- **4.** See. Insert the grommet into the slot located in the lower right area of the motor mounting hole and slide it into the small slot.
 - **a.** The electrical connector must be positioned on the electronics side of the printer.
 - **b.** Rotate the grommet so the cut is facing away from the motor.
- **5.** Install the motor by aligning the screw holes in the motor with the holes in the main frame, and install the two mounting screws.

Install the Cutter Module

1. Remove the cutter module access hole cover plate by removing the two screws securing it.

Figure 492 • Remove the Cutter Module Access Cover Plate

110Xi4, 140Xi4, and 170Xi4

220Xi4



1	Access hole cover plate
2	Mounting screws (2)



4

Lower cutter bracket

2. Caution • The cutter blade is sharp. Do not touch or rub the blade with your fingers.

See Figure 493. Locate the pre-assembled cutter mechanism. The upper cutter bracket at the right rear corner of the cutter is placed in a horizontal position for shipping. Loosen the mounting screw, rotate the bracket to a vertical position, and snug the screw but do not tighten.



Figure 493 • Prepare the Cutter Module

3. Loosen the two screws securing the lower cutter bracket to the cutter assembly.

- 4. See Figure 494. Slide the cutter module into the opening of the main frame.
- **5.** Align the slots in the lower cutter bracket with the threaded holes in the main frame and loosely attach the bracket.

Note • The cutter mechanism should be positioned as far forward as possible while staying parallel to the tear-off bar. This should prevent interference of the rear cutter blade with the tear-off bar.



Figure 494 • Install the Cutter Module

1	Cutter module
2	Upper cutter bracket
3	Mounting screws (4)
4	Lower cutter bracket
5	Slots (2)

6. See Figure 495. Open the printhead and observe the position of the tear-off bar (in front of the platen roller) and the rear cutter blade. Position the cutter mechanism so that the rear cutter blade is parallel with the outer edge of the tear-off bar across the entire width of the media path. Tighten all mounting screws.



Figure 495 • Cutter Mechanical Assembly Positioning

1	Rotary cutter blade
2	Clearance 2.5 mm (0.100 in.)
3	Rear cutter blade
4	Adjustment screws (4)
	For position of cutter module and squareness to media.
5	Clearance 75 mm (0.030 in.) between rear cutter blade and tear-off
	bar.
6	Tear-off bar
7	Media guide
8	Upper cutter bracket mounting screw



Note • While tightening the upper cutter bracket mounting screw, be careful not to change the position of the media guide. If the media guide moves out of position, set its height so that the lower edge is flush with the rear opening in the cutter mechanism.

The lower cutter blade is held in position by two springs. If these springs touch the tear bar or other printer parts, the lower cutter blade will not float properly and will cause excessive wear and premature failure of the cutter blades.

7. Check the clearance between the back of the cutter mechanism and the tear bar by inserting a screwdriver from the front of the cutter mechanism. Press the top of the lower cutter blade toward the printer. The blade should move a minimum of 0.75 mm. (0.030 in). If necessary, loosen the four screws on the bottom of the cutter module and reposition.

Install the Cutter Circuit Board and Optical Sensor

- **1.** See Figure 497. Route the cutter motor leads between the two right-hand standoffs and out behind the bottom of the circuit board.
- **2.** Align the cutter circuit board with the four standoffs on the main frame and then install the four mounting screws.



Figure 496 • Install the Cutter Circuit Board

1	Mounting standoffs (4)
2	Cutter circuit board
3	Mounting screws (4)
4	Route cutter motor cable here.
5	Cutter data cable
6	Cutter circuit board power cable
7	Cutter sensor cable

3. See Figure 497. Connect the power cable to J2 on the cutter circuit board.



Figure 497 • Cutter Option Circuit Board Connectors

1	DC power supply connector J2
2	Capacitor C1
3	Cutter motor connector J4
4	Test point TP1
5	Cutter optical sensor connector J3
6	Main logic board connector J1

4. Connect the data cable to J1 on the cutter circuit board.

5. Which model of Xi4 are you working on?

If you have a	Then
110Xi4	a. See Figure 498. Open the ferrite and close it around the cutter data cable as shown.
	b. With the ferrite block to the left, install a cable tie through the hole in the lower right of the MLB and then around the cutter data cable.
	c. With the ferrite block to the right, install a cable tie around the control panel cable and then around the cutter cable.
140Xi4 170Xi4	a. See Figure 499 on page 671. Insert a cable tie through the two holes in the rear of the ferrite block.
220Xi4	b. Wrap the cable tie around the power cable going to the DC power supply and tighten the cable tie.
	c. Open the ferrite, insert the cutter data cable, and then close the ferrite block around the cutter data cable as shown.





1	Main logic board (MLB)
2	Control panel cable
3	Cable tie
4	Cutter data cable
5	Ferrite block
6	Hole in MLB



Figure 499 • Install the Ferrite on the Data Cable (140Xi4, 170Xi4, and 220Xi4)

1	Main logic board (MLB)
2	Ferrite block
3	Power cable to the DC power supply
4	Cutter data cable
5	DC power supply
6	Cable tie
7	Rear of ferrite block
8	Holes in rear of ferrite block

6. See Figure 500. Wind the motor leads around the ferrite ring as shown.



Figure 500 • Cutter Motor Leads

- **7.** Pass the cutter board power cable along the bottom of the printer frame toward the main logic board. This will be connected to the power supply later.
- **8.** See Figure 497 on page 669. Connect the cutter motor leads to J4 on the cutter circuit board with the black lead to the left. To minimize interference between components, wedge the top of the ferrite core under the cutter board relay.

9. See Figure 501. Install the cutter sensor assembly on the sensor mounting post. The sensor part of the assembly should be mounted toward the main frame.



Figure 501 • Install the Cutter Sensor

1	Sensor clamp
2	Mounting nut
3	Sensor assembly
4	Sensor mounting post

- **10.** Place the sensor clamp over the sensor and start the nut on the post. Do not tighten the nut at this time.
- **11.** Route the sensor cable under the clamp and toward the rear of the printer, and lightly tighten the nut to hold the wires in position. Ensure that no wires are pinched.
- **12.** See Figure 497 on page 669. Connect the cutter sensor cable into J3 on the cutter circuit board.
- **13.** Check the installation and ensure that no wiring touches any moving parts.

Install the Drive Link Assembly







1	Drive link assembly
2	Drive link mounting post
3	Drive link mounting hole
4	Mounting screw
5	Upper drive arm mounting post
6	Cutter motor shaft

2. From the electronics side, align the post with the mounting hole in the main frame and then from the media side, secure the assembly with the mounting screw.



3.

Caution • 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.

See Figure 503. Slide the top of the top of the cutter drive link assembly onto the upper drive link mounting post and then secure it with the e-ring.



Figure 503 • Connect the Drive Link to the Cutter System

1	Upper drive arm mounting post
2	E-ring
3	Lower drive arm
4	Cutter sensor
5	Cutter flag

4. Slide the lower drive arm onto the cutter motor shaft ensuring that the cutter flag is in the center of the cutter sensor and then tighten it to the shaft.

Align Lower Drive Arm Mechanical



Note • To perform the lower drive arm mechanical alignment, some cables must be connected between the power supply and cutter board, but access to the cutter board is still required. The power supply assembly must not be installed inside the printer. The power supply assembly must be carefully positioned so the cables are connected, allowing access to the cutter board. Connect only the cables listed.

1. See Figure 504. Connect the data ribbon cable from J1 on the cutter board to any available P31–P35 connector on the main logic board.



Figure 504 • Connect to the Main Logic Board (MLB)

2. Which model of Xi4 are you working on?

If you have a	Then
110Xi4	 a. See Figure 485 on page 658. Connect the cable from P25 on the main logic board to J1 on the power supply. b. Connect the power cable from J2 on the cutter board to J5 on the power supply. c. Connect the AC input cable to J4 on the power supply.
140Xi4, 170Xi4, or 220Xi4	 a. See Figure 488 on page 660. Connect the cable from P25 on the main logic board to J11 on the power supply. b. Connect the power cable from J2 on the cutter board to J5 on the power supply. c. Connect the AC input cable to J1 on the power supply.



Note • Do not connect any other cables or connectors at this time.

3. Reconnect the AC power cord and turn on (I) the printer. If the cutter motor starts, wait for it to stop.



Note • The cutter motor must be rotated until the two flat surfaces on the cutter motor shaft are aligned with the set screws in the lower drive arm, while the lower drive arm is in a vertical position (sensor flag down).

- **4.** See Figure 497 on page 669. Attach a test clip at one end of a jumper cable to the lead on the right end of capacitor C1 (+5 VDC source) on the cutter board.
- **5.** Briefly touch the test clip at the other end of the jumper cable to test point TP1 on the cutter board to jog the cutter motor to the desired position.
- **6.** Activate the cutter motor, and make certain the sensor flag travels through the slot in the optical sensor without touching it.
- **7.** Turn off (**O**) the printer.

Reinstall the Power Supply

1. Which model of Xi4 are you working on?

If you have a	Then
110Xi4	a. See Figure 484 on page 657. Install the AC/DC power supply and tighten the mounting screw and nuts. Ensure all wires are positioned away from any moving mechanical parts and are not pinched or cut.
	b. Figure 485 on page 658. Connect the remaining cables and connectors to the AC/DC power supply.
140Xi4, 170Xi4, or 220Xi4	a. See Figure 487 on page 659 and Figure 486 on page 659. Install the DC power supply and tighten the mounting screw and nuts. Ensure all wires are positioned away from any moving mechanical parts and are not pinched or cut.
	b. See Figure 488 on page 660. Connect the remaining cables and connectors to the DC power supply.

Configure the Printer

- 1. Refer to the *User Guide* to configure the printer to the cutter mode. Save as **PERMANENT** and then turn off (**O**) the printer.
- 2. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

3. Press and hold PAUSE while turning on (I) the printer.

4. Did the media feed and cut through the label properly?

lf	Then	
No	Continue with Align the Upper Drive Arm.	
Yes	Go to Reinstall the Electronics Cover on page 679.	

Align the Upper Drive Arm



Note • The upper drive arm is part of the cutter mechanical assembly and has been aligned at the factory. If for some reason the position is altered, the following procedure may be used to realign the upper drive arm. The printer must be programmed to operate in the cutter mode prior to performing the following procedure. If it is not already programmed for cutter mode, refer to the *User Guide* for assistance.



1. Caution • The cutter blade is sharp. Do not touch or rub the blade with your fingers.

Loosen the screw that clamps the upper drive arm to the rotary cutter blade shaft. The drive arm may be snug on the shaft.

- **2.** Apply power to the printer. The lower drive arm of the drive link assembly should rotate once and stop when the sensor flag activates the optical sensor.
- **3.** See Figure 495 on page 667. After the drive link assembly stops, hold the upper drive arm in position and adjust the rotary cutter blade so the gap between its cutting edge on the left end and the cutting edge of the rear cutter blade is approximately 2.5 mm (0.100 in.).



Note • If the gap between the cutting edges is too large, the cutter may not cut properly across the entire media width. If the gap is too small, the media may catch on the rotary cutter blade edge and cause a jam. Overtightening the screw can damage the drive arm and can strip out the threads.

- **4.** Position the upper drive arm out from the cutter frame so its flat surface is flush with the end of the rotary cutter blade shaft.
- **5.** Tighten the screw with a 5/32 in. hex key socket on a torque wrench until the slot closes or until a torque of 100 in.-lbs. (11.3 N•m) is reached.
- **6.** Test the cutter alignment by feeding maximum-width label stock through the printer and ensuring the label is cut completely.
- 7. If necessary, repeat steps 4, 5, and 6 until the labels cut completely.
- **8.** With a felt-tip pen, draw a line across the outer face of the upper drive arm and the end of the cutter blade shaft. Should cutter operation problems ever occur, this witness mark will show at a glance if the alignment of the clamp and the cutter blade shaft has changed.

Reinstall the Electronics Cover

- **1.** See Figure 482 on page 655. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- **2.** Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Cutter Module

This kit includes the parts and documentation necessary to install the Cutter Module maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ SAE Hex Key (Allen wrench) Set
- □ Flat Blade Screwdriver Set
- Torque Wrench calibrated in inchpounds
- Site flex key (intel weekel) set
 75 mm (0.030 in.) Feeler Gauge

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.

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

2. See Figure 505. Remove the electronics cover by removing the three mounting screws securing it.



Figure 505 • Remove the Electronics Cover

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove the media and ribbon.

Remove the Old Cutter Module

1. See Figure 506. Loosen the upper cutter and then insert a flat blade screwdriver into the slot in the upper cutter arm and spread it open.



Figure 506 • Loosen the Upper Cutter Arm

1	Upper cutter arm
2	Screw
3	Upper arm slot
4	Flat blade screwdriver



2. Caution • The cutter blade is sharp. Do not touch or rub the blade with your fingers.

See Figure 507. Remove the four screws securing the cutter module.



Figure 507 • Remove the Cutter Module

1	Cutter module assembly
2	Mounting screws (4)

3. See Figure 508. Remove the cutter module upper and lower mounting brackets.



Figure 508 • Remove the Cutter Module Mounting Brackets

1	Cutter module
2	Upper cutter guide
3	Mounting screw (2)
4	Washer
5	Upper mounting bracket
6	Lower mounting bracket
7	Washers (2)
8	Mounting screws (2)

Install the New Cutter Module

- **1.** See Figure 508 on page 684. Install the upper cutter guide and upper cutter bracket using the screws and washer previously removed.
- 2. Loosely install the lower cutter bracket using the screws and washers previously removed.



3. Caution • The cutter blade is sharp. Do not touch or rub the blade with your fingers.

See Figure 509. Slide the cutter module into the opening of the main frame.

4. Align the slots in the lower cutter bracket with the threaded holes in the main frame and loosely attach the bracket.



Note • The cutter mechanism should be positioned as far forward as possible while staying parallel to the tear-off bar. This should prevent interference of the rear cutter blade with the tear-off bar.




1	Cutter module
2	Upper cutter bracket
3	Mounting screws (4)
4	Lower cutter bracket
5	Slots (2)

5. See Figure 510. Open the printhead and observe the position of the tear-off bar (in front of the platen roller) and the rear cutter blade. Position the cutter mechanism so that the rear cutter blade is parallel with the outer edge of the tear-off bar across the entire width of the media path. Tighten all mounting screws.



Figure 510 • Cutter Mechanical Assembly Positioning

1	Rotary cutter blade	
2	Clearance 2.5 mm (0.100 in.)	
3	Rear cutter blade	
4	Adjustment screws (4)	
	For position of cutter module and squareness to media.	
5	Clearance 75 mm (0.030 in.) between rear cutter blade and tear-off	
	bar.	
6	Tear-off bar	
7	Media guide	
8	Upper cutter bracket mounting screw	



Note • While tightening the upper cutter bracket mounting screw, be careful not to change the position of the media guide. If the media guide moves out of position, set its height so that the lower edge is flush with the rear opening in the cutter mechanism.

The lower cutter blade is held in position by two springs. If these springs touch the tear bar or other printer parts, the lower cutter blade will not float properly and will cause excessive wear and premature failure of the cutter blades.

- 6. Check the clearance between the back of the cutter mechanism and the tear bar by inserting a screwdriver from the front of the cutter mechanism. Press the top of the lower cutter blade toward the printer. The blade should move a minimum of 0.75 mm. (0.030 in). If necessary, loosen the four screws on the bottom of the cutter module and reposition.
- 7. Slide the upper cutter arm onto the cutter module shaft and then tighten.

Align the Upper Drive Arm

- **1.** Loosen the screw that clamps the upper drive arm to the rotary cutter blade shaft. The drive arm may be snug on the shaft.
- **2.** Apply power to the printer. The lower drive arm of the drive link assembly should rotate once and stop when the sensor flag activates the optical sensor.
- **3.** See Figure 510 on page 686. After the drive link assembly stops, hold the upper drive arm in position and adjust the rotary cutter blade so the gap between its cutting edge on the left end and the cutting edge of the rear cutter blade is approximately 2.5 mm (0.100 in.).

Note • If the gap between the cutting edges is too large, the cutter may not cut properly across the entire media width. If the gap is too small, the media may catch on the rotary cutter blade edge and cause a jam.

Overtightening the screw can damage the drive arm and can strip out the threads.

- **4.** Position the upper drive arm out from the cutter frame so its flat surface is flush with the end of the rotary cutter blade shaft.
- **5.** Tighten the screw with a 5/32 in. hex key socket on a torque wrench until the slot closes or until a torque of 100 in.-lbs. (11.3 N•m) is reached.
- **6.** Test the cutter alignment by feeding maximum-width label stock through the printer and ensuring the label is cut completely.
- **7.** If necessary, repeat steps 4, 5, and 6 until the labels cut completely.
- **8.** With a felt-tip pen, draw a line across the outer face of the upper drive arm and the end of the cutter blade shaft. Should cutter operation problems ever occur, this witness mark will show at a glance if the alignment of the clamp and the cutter blade shaft has changed.

Reinstall the Electronics Cover

- **1.** See Figure 505 on page 681. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord and data cables.
- **5.** Turn on (I) the printer.

Cutter Brackets

This kit includes the parts and documentation necessary to install the Cutter Brackets maintenance kit on the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- Phillips Screwdriver Set
- □ Antistatic Wriststrap and Pad

- □ SAE Nutdriver Set
- Safety Glasses

□ SAE Hex Key (Allen wrench) 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.

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

2. See Figure 511. Remove the electronics cover by removing the three mounting screws securing it.



Figure 511 • Remove the Electronics Cover

3. Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.

Remove the Cutter Module

1.



Caution • 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.

See Figure 512. Remove the cutter module upper linkage by removing the e-ring and then sliding it off the upper drive arm.



Figure 512 • Remove the Cutter Linkage

2. See Figure 513. Remove the four cutter module mounting screws and then slide the cutter module out of the printer.



Figure 513 • Remove the Cutter Module

1	Mounting screws (4)	
2	Cutter module	



3. Caution • The cutter blade is sharp. Do not touch or rub the blade with your fingers.

See Figure 514. Remove and discard the lower cutter bracket by removing the two mounting screws and washers.





4. See Figure 515. Remove and discard the cutter support bracket and static brush assembly by removing the four mounting screws and then sliding it off the cutter module.



Figure 515 • Remove the Cutter Support Bracket and Static Brush

1	Cutter module	
2	Cutter support bracket	
3	Mounting screws (4)	
4	Cutter static brush	

5. See Figure 516. Remove and discard the two mounting screws, one flat washer, upper cutter bracket, and cutter guide.





1	Cutter module
2	Cutter guide
3	Mounting screws (2)
4	Flat washer
5	Upper cutter bracket

Install the Cutter Brackets

- **1.** See Figure 516. Align the cutter guide with the two mounting holes and then start installing the screw on the right, but do not tighten.
- **2.** Slide the flat washer onto the other mounting screw and then insert it through the remaining hole in the cutter guide and into the cutter module.
- **3.** Loosely tighten the mounting screws.
- **4.** Slide the new upper cutter bracket between the flat washer and the cutter guide, holding it at a right angle to the top of the cutter module, and then tighten the mounting screw.
- **5.** Tighten the first mounting screw installed.

6. See Figure 517. Align the new cutter static brush on the inside of the new cutter support bracket, with the two holes positioned as shown.





1	Cutter support bracket
2	Cutter static brush
3	Mounting nuts (2)
4	Mounting screws (2)

- **7.** Insert one of the mounting screws through the cutter support bracket mounting holes, through the corresponding mounting hole in the static brush, and then attach the mounting nut.
- **8.** Repeat step 7 for the remaining mounting screw and nut.
- **9.** Tighten the two screws.
- **10.** See Figure 515 on page 692. Slide the cutter support bracket and static brush onto the cutter module and then install the four mounting screws.
- **11.** Slide the two flat washers for the lower bracket onto mounting screws.
- **12.** See Figure 514 on page 691. Align the cutter lower bracket with the mounting holes in the cutter module and then loosely install the two mounting screws and washers.

Reinstall the Cutter Module

- **1.** See Figure 518. Slide the cutter module into the opening of the main frame.
- **2.** Align the slots in the lower cutter bracket with the threaded holes in the main frame and loosely attach the bracket.
- **3.** Loosely install the two mounting screws for the upper cutter bracket.

Note • The cutter mechanism should be positioned as far forward as possible while staying parallel to the tear-off bar. This should prevent interference of the rear cutter blade with the tear-off bar.



Figure 518 • Install the Cutter Module

1	Cutter module
2	Upper cutter bracket
3	Mounting screws (4)
4	Lower cutter bracket
5	Slots (2)

4. See Figure 519. Open the printhead and observe the position of the tear-off bar (in front of the platen roller) and the rear cutter blade. Position the cutter mechanism so that the rear cutter blade is parallel with the outer edge of the tear-off bar across the entire width of the media path. Tighten all mounting screws.



Figure 519 • Cutter Mechanical Assembly Positioning

1	Rotary cutter blade	
2	Clearance 2.5 mm (0.100 in.)	
3	Rear cutter blade	
4	Adjustment screws (4)	
	For position of cutter module and squareness to media.	
5	Clearance 75 mm (0.030 in.) between rear cutter blade and tear-off	
	bar.	
6	Tear-off bar	
7	Media guide	
8	Upper cutter bracket mounting screw	



Note • While tightening the upper cutter bracket mounting screw, be careful not to change the position of the media guide. If the media guide moves out of position, set its height so that the lower edge is flush with the rear opening in the cutter mechanism.

The lower cutter blade is held in position by two springs. If these springs touch the tear bar or other printer parts, the lower cutter blade will not float properly and will cause excessive wear and premature failure of the cutter blades.

5. Check the clearance between the back of the cutter mechanism and the tear bar by inserting a screwdriver from the front of the cutter mechanism. Press the top of the lower cutter blade toward the printer. The blade should move a minimum of 0.75 mm. (0.030 in). If necessary, loosen the four screws on the bottom of the cutter module and reposition.

Reinstall the Upper Linkage

1. See Figure 512 on page 690. Slide the top of cutter drive link assembly onto the upper drive link mounting post and then secure it with the e-ring.

Configure the Printer

- 1. Refer to the *User Guide* to configure the printer to the cutter mode. Save as **PERMANENT** and then turn off (**O**) the printer.
- Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **3.** Press and hold PAUSE while turning on (I) the printer.
- 4. Did the media feed and cut through the label properly?

lf	Then	
No	Go to step 4 on page 696 and repeat the procedure.	
Yes	Continue with Reinstall the Electronics Cover.	

Reinstall the Electronics Cover

- **1.** See Figure 511 on page 689. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Cutter Linkage

This kit includes the parts and documentation necessary to install the Cutter Linkage maintenance kit in the Xi4TM printers.

Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

- □ Antistatic Wriststrap and Pad
- Phillips Screwdriver Set
- □ Flat-blade Screwdriver Set
- □ SAE Open-end Wrench Set
- Grease Cutting Cleaner

Remove the Electronics Cover

- □ Safety Glasses
- □ SAE Hex Key (Allen wrench) Set
- □ Fine-Toothed File
- □ Jumper Cable with Alligator Clips



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.

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

2. See Figure 520. Remove the electronics cover by removing the three mounting screws securing it.





 1	Electronics cover
 2	Mounting screws (3)

- **3.** Lift up on the rear of the electronics cover and then lift the electronics cover off the printer.
- **4.** Which model Xi4 are you working on?

If you have a…	Then
110Xi4	Go to <i>Remove the AC/DC Power Supply</i> on page 702.
140Xi4, 170Xi4, or 220Xi4	Continue with <i>Remove the DC Power Supply</i> .

Remove the DC Power Supply



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

Connect yourself to an antistatic device.

2. See Figure 521. Make note of all cables connected to the DC power supply and then remove them..





1	J11 data cable from main logic board	
2	J5—J10 DC output to options	
3	J4 stepper motor	
4	J1 AC input from AC power supply	
5	J2 printhead power	
6	J3 printhead power	

3. See Figure 522. Remove the mounting screw and then remove the two mounting nuts.



Figure 522 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Go to Install the Cutter Linkage Maintenance Kit on page 706.

Remove the AC/DC Power Supply

1. See Figure 523. Remove the AC power connector from the AC/DC power supply.



Figure 523 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 524. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 524 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 525. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 525 • Remove All Cables

J1	Control connector to P26 on the Main Logic
	Board
J2	Stepper motor
J 3	Head voltage
J4	AC power input
J5	DC output
J 6	DC output
J 7	DC output

6. See Figure 526. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 526 • Remove the AC/DC Power Supply

7. See Figure 527. Lift the AC/DC power supply assembly out of the printer.

Figure 527 • Remove the AC/DC Power Supply



8. Continue with Install the Cutter Linkage Maintenance Kit.

Install the Cutter Linkage Maintenance Kit

1. See Figure 528. From the media side remove the pivot post mounting screw.



Figure 528 • Remove the Pivot Post Mounting Screw



2.

Caution • 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.

See Figure 529. Remove the e-ring securing drive linkage to the upper drive arm.



Figure 529 • Remove the Upper Linkage

- **3.** See Figure 530. To make simplify the removal of the lower drive arm, remove the cutter sensor mounting nut.
- **4.** Remove the lower drive arm by loosening the two set screws and then carefully, ensuring that the flag does not damage the cutter sensor, slide it off the cutter motor shaft.



Figure 530 • Remove the Lower Linkage

1	Lower drive arm
2	Cutter sensor mounting nut
3	Pivot post
4	Lower drive arm setscrews (2)

5. See Figure 531. Carefully slide the drive linkage out of the printer.





1	Upper drive arm
2	Drive linkage
3	Pivot post
4	Lower drive arm
5	Cutter sensor
6	Cutter motor shaft

6. See Figure 532. Remove the upper drive arm by loosening the screw securing it and then sliding it off the rotary cutter shaft.

Note • If the upper drive is difficult to remove, insert the blade of a small flat blade screwdriver into the slot in the drive arm. While holding the drive arm, slightly twist the screwdriver and then slide the arm off the rotary cutter shaft.

Figure 532 • Remove the Upper Drive Arm

1	Rotary cutter shaft
2	Screw
3	Upper drive arm

7. See Figure 533. Use a fine-toothed file to remove any burrs from the rotary cutter blade shaft.



Note • Any burrs on the cutter blade shaft may adversely affect the performance of the new drive arm and prevent it from fitting properly.

Figure 533 • Assembly Drawing



8. Clean the rotary cutter blade shaft and the inside diameter of the new upper drive arm. Use a household grease cutting cleaner to remove any grease and oil.

Important • To achieve the best performance from this part, the single most important concern is to have the connection between the drive arm and the cutter shaft as clean and free of grease, oil and dirt as possible. A small amount of grease will lessen the holding strength of the drive arm much more than further tightening of the screw can compensate for.

9. Install the mounting screw into the new upper drive arm.

Cutter module

6

10. See Figure 534. Place the new upper drive arm over the end of the cutter shaft until the shaft is flush with the outside face of the new drive arm.



Note • If the drive arm is too tight (too small) to slide over the shaft, insert the blade of a small flat blade screwdriver into the slot in the drive arm while holding the drive arm against the cutter shaft. A very slight twist of the screwdriver should be enough to allow the drive arm to slide onto the cutter shaft.





Figure 534 • Cutter Mechanical Position

1	E-ring
2	Long drive link
3	Upper drive arm
4	Rotary cutter shaft
5	Witness mark
6	Cutter assembly

- **11.** Snug the mounting screw at this time.
- **12.** See Figure 531 on page 708. Align the new drive linkage with the cutter motor shaft, rotary cutter shaft, and pivot post mounting hole and then slide the new drive linkage into the printer.
- 13. See Figure 528 on page 706. Install the new pivot post mounting screw.
- **14.** See Figure 530 on page 707. Tighten the two set screws on the lower drive arm and then reinstall the cutter sensor mounting nut.



15. Caution • 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.

Install the new e-ring onto the upper drive mounting post to secure the drive linkage.

16. Which model of Xi4 are you working on?

If you have a…	Then
110Xi4	a. See Figure 525 on page 704. Connect the power cable from J2 on the cutter board to J5 on the power supply.b. Connect the AC input cable to J4 on the power supply.
140Xi4, 170Xi4, or 220Xi4	a. See Figure 521 on page 700. Connect the power cable from J2 on the cutter board to J5 on the power supply.b. Connect the AC input cable to J1 on the power supply.



- Note Do not connect any other cables or connectors at this time.
- **17.** Reconnect the AC power cord and turn on (I) the printer. If the cutter motor starts, wait for it to stop.

Note • The cutter motor must be rotated until the two flat surfaces on the cutter motor shaft are aligned with the set screws in the lower drive arm, while the lower drive arm is in a vertical position (sensor flag down).

18. See Figure 535. Attach a test clip at one end of a jumper cable to the lead on the right end of capacitor C1 (+5 VDC source) on the cutter board.



Figure 535 • Cutter Option Circuit Board Connectors

1	DC power supply connector J2
2	Capacitor C1
3	Cutter motor connector J4
4	Test point TP1
5	Cutter optical sensor connector J3
6	Main logic board connector J1

- **19.** Briefly touch the test clip at the other end of the jumper cable to test point TP1 on the cutter board to jog the cutter motor to the desired position.
- **20.** Activate the cutter motor, and make certain the sensor flag travels through the slot in the optical sensor without touching it.



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

Turn off (**O**) the printer.



22.

Caution • The cutter blade is sharp. Do not touch or rub the blade with your fingers.

See Figure 536. Only after the preceding step, adjust the rotary cutter blade so that the gap between its cutting edge on the left end and the cutting edge of the rear cutter blade is approximately 2.5 mm (0.100 in.) as gauged by eye. (The upper drive arm should be held in position while the rotary cutter blade position is adjusted).

Figure 536 • Position the Cutter Blade



Relative position of the rotary cutter blade when the drive link assembly is stopped by the optical sensor, when the power is on in the cutter.

1	Rotary cutter blade
2	2.5 mm (0.10 in.)
3	Rear cutter blade
4	Minimum clearance of (0.030 in.)between rear cutter blade and tear bar.
5	Tear bar
6	Media guide
7	Upper cutter bracket mounting screw



Note • If the gap between the cutting edges is too large, the cutter may not cut properly across the entire media width. If the gap is too small, the media may catch on the rotary cutter blade edge and cause a jam.

23. Tighten the mounting screw with a hex key socket on a torque wrench until torque of 11.3 **N•m** (100 lbf. in.) is reached.



Note • Overtightening the screw can damage the drive arm and can strip out the threads.

- **24.** Turn on (**I**) the printer and test the cutter alignment by feeding maximum width label stock through the printer and insuring that complete cutting of the label occurs.
- **25.** If necessary, repeat steps , 23, and 24 to get complete cutting of the labels.
- **26.** See Figure 16 on page 712. With a felt tip pen, draw a line across the outer face of the new drive arm and the end of the cutter shaft. Should cutter operation problems ever occur, this witness mark will show at a glance if the alignment of the upper cutter arm and the cutter blade shaft has changed.
- **27.** Turn off (**O**) the printer and disconnect the AC power cord.
- **28.** Which model of Xi4 are you working on?

If you have a	Then
110Xi4	a. See Figure 527 on page 705. Reinstall the AC/DC power supply
	b. See Figure 526 on page 705. Reinstall the two mounting nuts and screws
	c. See Figure 525 on page 704. Reconnect all cables to the AC/DC power supply.
	d. See Figure 524 on page 703. Reinstall the AC/DC power supply shield and secure it with the two screws removed previously.
	e. Reinstall the white beaded cable tie into the left corner of the shield and then insert the AC input cable into it.
	f. Continue with <i>Reinstall the Electronics Cover</i> .
140Xi4, 170Xi4, or 220Xi4	a. See Figure 522 on page 701. Reinstall the DC power supply and secure it with the two mounting nuts and the one mounting screw removed previously.
	b. See Figure 521 on page 700. Reconnect all cables to the DC power supply.
	c. Continue with <i>Reinstall the Electronics Cover</i> .

Reinstall the Electronics Cover

- **1.** See Figure 520 on page 699. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cables.
- **4.** Turn on (**I**) the printer.

Cutter Static Brush

This kit includes the parts and documentation necessary to install the Cutter Static Brush in the $Xi4^{TM}$ printers. Read these instructions thoroughly before installing this kit.

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

Remove the Old Cutter Static Brush



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

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

Open the media door and remove the media and ribbon

3. See Figure 537. Remove and discard the two static brush mounting screws.



Figure 537 • Remove the Mounting Screws

1	Cutter module
2	Cutter static brush
3	Cutter static brush mounting screws (2)

4. See Figure 538. Remove and discard the cutter static brush by sliding it up and out of the cutter module.



Figure 538 • Remove the Cutter Static Brush

Install the New Cutter Static Brush

1. See Figure 539. Slide the new cutter static brush into the cutter module as shown.

Figure 539 • Install the New Cutter Static Brush



- **2.** See Figure 537 on page 716. Install the two new screws from the kit.
- 3. Caution When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

- **4.** Reconnect the AC power cord.
- **5.** Turn on (**I**) the printer.

Cutter Catch Tray

This kit includes parts and documentation necessary to install the cutter catch tray on the $Xi4^{TM}$ printers.

Tools Required



Tools • You need these tools to complete this procedure:

Phillips Screwdriver Set

□ Adjustable Wrench

Install the Catch Tray

- **1.** Turn off (**O**) the printer and remove the AC power cord and all data cables.
- Caution While performing any tasks near an open printhead, remove all rings, watches, hanging necklaces, identification badges, or other metallic objects that could touch the printhead.

Open the media door and remove media and ribbon.

3. See Figure 540. With the media door open, locate the two knurled nuts securing the front cover plate against the inside wall of the printer's lower front cover. Remove these two knurled nuts and the front cover plate.



Figure 540 • Install the Cutter Plate Assembly

1	Cutter
2	Media
3	Side plate
4	Cutter plate
5	Knurled nuts (2)
4. See Figure 541. Install the cutter catch tray assembly onto the mounting studs. Reinstall the knurled nuts.

Note • The mounting tabs on the stationary and adjustable width guides must fit inside the cutter mechanism, and should rest on the angled surface of the cutter support bracket.

Figure 541 • Install the Cutter Tray



1	Cutter tray
2	Mounting studs (2)
3	Knurled nuts (2)

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

Reinstall the media and ribbon.

- **7.** Reinstall the AC power cord and data cables.
- **8.** Turn on (**I**) the printer.
- **9.** Feed and cut one label and place it in the catch tray.

Adjust the Catch Tray

See Figure 542. The catch tray can be disassembled and reassembled to accommodate various label lengths and widths. The specific label length and width will determine which adjustment is required.





1	Cutter support bracket
2	Cutter
3	Mounting tabs
4	Width guides
5	Catch tray
6	Label stop guides

1. Does the catch tray length need adjustment?

If the	Then
tray is too long	Position the two label stop guides where needed to hold the labels.
label is longer than tray	Remove the eight remaining knurled brass nuts, extend the lower cutter tray as needed, and then reassemble the catch tray.
label residual curl	See <i>Adjust the Catch Tray</i> on page 722. Attach the anti-curl shaft assembly.
labels are different lengths	Adjust the catch tray for the longest label. When shorter labels are printed, install the label stop guides.

2. Adjust the positions of the left and right width guides so they are close to, but not touching the labels.



Note • During reassembly of the catch tray, be sure the mounting tabs on the stationary and adjustable width guides fit inside the cutter mechanism and rest on the angled surface of the cutter support bracket. The width guides should also rest on the surface of the front cover bracket as shown in Figure 540 on page 720.

3. Feed and cut several labels to insure proper stacking operation of the label catch tray.

Install the Anti-Curl Shaft Assembly

See Figure 543. The shaft assembly consists of a pivot shaft mounted horizontally on the catch tray assembly and an anti-curl tube used as a weight to hold down the labels and remove any residual curl.



Figure 543 • Anti-Curl Shaft Assembly

- **1.** Remove the nut from the threaded end of the pivot shaft.
- **2.** See Figure 542 on page 722. Insert the opposite end of the pivot shaft in the opening at the top of the stationary guide.
- **3.** Insert the threaded end of the pivot shaft into the adjustable guide.
- 4. Reinstall the nut onto the threaded end of the pivot shaft and tighten.
- **5.** Position the anti-curl tube so it rests on the center of the labels. Disassemble and reassemble the catch tray as necessary to ensure the lower end of the anti-curl tube rests on the labels as they are cut and stacked.

Rewind Option

Tools Required



Tools • You need these tools to complete this procedure:

- □ Phillips Screwdriver Set
- □ SAE Nutdriver Set
- □ SAE Hex Key (Allen wrench) Set
- Utility Knife
- Utility Pliers
- □ Safety Glasses

- □ Metric/Inch Ruler
- Delyester Strip, Zebra Part Number
- □ Metric/Inch Spring Scale
- Antistatic Mat and Wriststrap

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.

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

2. See Figure 544. Remove the electronics cover by removing the three mounting screws securing it.



Figure 544 • Remove the Electronics Cover

3.	Lift up	on the	e rear	of the	electro	onics	cover	and	then	lift th	e e	lectroni	ics cove	er off th	ie
	printer.														

Remove the Power Supply

2

1. Which model of the Xi4 are you working on?

Mounting screws (3)

If you have	Then
110Xi4	Continue with <i>Remove the AC/DC Power Supply</i> .
All others	Go to Remove the DC Power Supply on page 730.

Remove the AC/DC Power Supply

1. See Figure 545. Remove the AC power connector from the AC/DC power supply.



Figure 545 • Disconnect the AC Power Input Cable

2. Open and remove the white plastic beaded cable tie going through the left corner of the AC/DC shield and around the AC power input cable. Save this tie for reinstallation.



Caution • Certain components located under the insulation shield can store a residual charge for as long as ten minutes after power has been removed. Use extreme care when removing the power supply. Handle the board only by the outer edges.

3. See Figure 546. Remove the two mounting screws securing the AC/DC power supply shield. Pull the shield flaps out from behind the AC/DC power supply and remove the shield.



Figure 546 • Remove the AC/DC Power Supply Shield

1	AC/DC power supply shield
2	Shield mounting screws (2)



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

Connect yourself to an antistatic device.

5. See Figure 547. Make note of all cables connected to the AC/DC power supply and then remove them.



Figure 547 • Remove All Cables

J1	Control connector to P26 on the Main Logic			
	Board			
J2	Stepper motor			
J 3	Head voltage			
J4	AC power input			
J5	DC output			
J 6	DC output			
J7	DC output			

6. See Figure 548. Remove the mounting two screws and nuts securing the AC/DC power supply assembly.



Figure 548 • Remove the AC/DC Power Supply

7. See Figure 549. Lift the AC/DC power supply assembly out of the printer.

Figure 549 • Remove the AC/DC Power Supply



8. Go to *Install the Idler Pulley* on page 732.

Remove the DC Power Supply

1.



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

Connect yourself to an antistatic device.

2. See Figure 550. Make note of all cables connected to the DC power supply and then remove them..



Figure 550 • Remove all Cables

1	J11 data cable from main logic board
2	J5—J10 DC output to options
3	J4 stepper motor
4	J1 AC input from AC power supply
5	J2 printhead power
6	J3 printhead power

3. See Figure 551. Remove the mounting screw and then remove the two mounting nuts.



Figure 551 • Remove the DC Power Supply

- **4.** Lift the DC power supply out of the printer.
- 5. Continue with *Install the Idler Pulley*.

Install the Idler Pulley

1. See Figure 552. Remove the plastic plug in the lower access hole near the bottom of the side plate.



Figure 552 • Remove the Plastic Plug

2. See Figure 553. Place a flat washer onto mounting screw. Place the mounting screw and washer through the lower access hole and idler pulley mounting hole in the main frame. On the electronics side, install the idler shaft onto the mounting screw.



Figure 553 • Install the Idler Pulley Shaft

1	Flat washer
2	Mounting screw
3	Idler shaft
4	Idler pulley

- **3.** Position the idler shaft in the middle of the mounting hole and tighten. Apply a small amount of grease to the idler shaft, ensuring no grease is on other components.
- 4. Slide the idler pulley, flat side facing out, onto the idler shaft.

Install the Media Rewind Spindle

1. Remove and discard the cover plate and screws of the media rewind spindle mounting hole in the lower center portion of the main frame.



Figure 554 • Remove the Front and Cover Plates

1	Front cover
2	Front cover thumbscrews
3	Rewind platen mounting hole cover
4	Rewind spindle mounting hole cover

2. Install the bearing housing assembly using three screws and three flat washers. Do not tighten the screws at this time.



Figure 555 • Install the Rewind Bearing Housing

1	Rewind bearing housing
2	Mounting holes (3)
3	Access hole
4	Flat washers (3)
5	Mounting screws (3)



3.

Caution • 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.

See Figure 556. From the media side, slide the shaft of the media rewind spindle through the bearing housing assembly.



Figure 556 • Install the Rewind Spindle



4.

Caution • Wear protective eye wear when installing or removing E-rings, C-clips, snap rings, springs, and mounting buttons. These are under tension and could fly off.

Place the wave washer, flat washer, and pulley, counter-sunk side facing out, onto the media rewind spindle shaft, then the spacer, and secure with the E-ring.

Install the Rewind Platen Roller

1. See Figure 557. Install the rewind platen support bracket to the side plate using two washers and two screws. Do not tighten the screws at this time.



Figure 557 • Install the Rewind Platen Roller Support Bracket

2. From the media side, insert the long end of the platen roller shaft into the access hole.

3. See Figure 558. While holding the rewind platen roller, slide a flange bearing, flange facing out, onto the platen roller shaft and then into the support bracket.



Figure 558 • Install the Rewind Platen Roller, Media Side

1	Rewind platen roller access hole
2	Rewind platen roller shaft
3	Rewind platen roller support bracket
4	Flange bearing
5	C-clip

4. **Caution** • 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.

Slide the short end of the platen roller shaft through the flange bearing and the install the E-ring to secure it.

5. Tighten the mounting screws securing the platen support bracket. The bracket may need adjustment later.

6. From the electronics side slide the flange bearing, flange facing out, onto the rewind platen roller shaft and then into the mounting hole.



Figure 559 • Install the Rewind Platen Pulley

1	Rewind platen roller shaft
2	Flange bearing
3	Spacer
4	Rewind platen roller pulley

- 7. Slide the spacer and the platen roller pulley onto the rewind platen shaft.
- **8.** Align the two pulley set screws with the flat surfaces of the rewind platen shaft and tighten.

The pulley should be positioned with approximately 5 mm (0.20 in.) between the E-ring and the platen support bracket on the media side.





Install and Adjust the Rewind Drive Belt

1. See Figure 563. Remove the main drive belt by walking it off the ribbon take-up. Pull out on the drive belt while turning the ribbon take-up pulley.



Figure 561 • Remove the Main Drive Belt

1	Main drive belt
2	Ribbon take-up

Install the Rewind Drive Belt

1. See Figure 562. Route the media rewind belt around the inner most stepper motor pulley, media rewind pulley, rewind platen pulley, and idler pulley.



Figure 562 • Install the Rewind Drive Belt

- **2.** See Figure 553 on page 732 and Figure 562. Grasp the idler pulley and shaft assembly while loosening the mounting screw. Slide the assembly toward the rear of the printer until the belt tension is tight, and then retighten the idler pulley mounting screw.
- **3.** See Figure 561 on page 739. Reinstall the main drive belt on the outer most pulley of the stepper motor and around the platen roller pulley.
- **4.** Walk the main drive belt onto the ribbon take-up pulley by pushing it onto the pulley while turning the pulley.

Adjust the Belt Tensions

1. See Figure 563. Check the belt tension by hooking a spring scale at the midpoint of the lower section of the belt and pull down. The belt should deflect 6.35 mm (0.25 in.) with a tension of 2000 grams (4.5 in. lbs).



1	Take-up pulley mounting screw access holes (3)
2	Ribbon take-up pulley
3	Main drive belt
4	Stepper motor pulley

- **2.** Access the three ribbon take-up mounting screws through the three holes in the ribbon take-up pulley. Loosen but do not remove the three ribbon take-up mounting screws.
- **3.** Slide the media rewind assembly toward the rear of the printer until the belt tension is correct. Tighten the rewind spindle mounting screws.

4. See Figure 564. Check the belt tension by hooking a spring scale at the midpoint of the lower section of the belt and pull up. The belt should deflect 6.35 mm (0.25 in.) with a tension of 2000 grams (4.5 in. lbs).





1	Rewind drive belt
2	Stepper motor pulley
3	Idler pulley
4	Rewind platen pulley
5	Rewind spindle mounting screw access holes (3)
6	Rewind spindle pulley

- **5.** Grasp the idler pulley and shaft assembly while loosening the mounting screw. Slide the assembly toward the rear of the printer until the belt tension is correct, and then retighten the mounting screw.
- **6.** When adjustment is completed, reinstall the plastic plug in the lower access hole in the print mechanism side plate.

Install the Take-Label Sensors



Important • Do not install the take-label sensors on cutter units. The take-label sensors are required in the peel-off mode of operation.

1. See Figure 565. Remove the upper and lower take-label cover plates by removing the screws and pushing cover plate out of the mounting holes.



Figure 565 • Install the Take-Label Sensors

1	Cover plate mounting screws (2)
2	Upper take-label mounting hole
3	Lower take-label mounting hole
4	Upper take-label sensor
5	Lower take-label sensor

2. Feed the upper sensor cable through the upper mounting hole.

3. Position the sensor with the window facing down, and secure with the mounting screw.

- **4.** Feed the lower sensor cable through the lower mounting hole.
- 5. Position the sensor with the window facing up, and secure it with the mounting screw.

6. See Figure 566. Connect the upper sensor cable to J2 on the control panel and then connect the lower sensor cable to J3 on the control panel.



Figure 566 • Connect the Take Label Sensor Cables

Reinstall the Electronics Cover

- **1.** See Figure 544 on page 725. Reinstall the electronics cover by aligning the cover so that it slips over the main frame.
- 2. Reinstall the mounting screws to secure the electronics cover.
- **3.** Reconnect the AC power cord and data cable.
- 4. **Caution** When you are loading media or ribbon, remove all jewelry that could come into contact with the printhead or other printer parts.

Reinstall the media and ribbon.

Configure the Printer

See the *User Guide* to configure the printer to the Rewind Mode. Rewind Mode rewinds a printed roll of continuous media or a printed roll with liner and labels.

To use this option to dispense individual labels and rewind the media backing only, see the *User Guide* to set the printer to the Peel-Off Mode.

The rewind option kit usually requires some adjustments to prevent printing problems such as ribbon wrinkle, non-centered labels, and tearing media. Print a number of test labels to check for problems. Use the following procedures to correct any problems.

Adjust the Tracking

If the media walks from side to side or tears or wrinkles against the backing plate of the media rewind spindle, it may be necessary to adjust the position of the rewind spindle assembly.

 See Figure 567. If the media cannot be made to track correctly after making this adjustment, check the distance from the backing plate to the main frame. The factory set dimension is 14 mm (0.550 in.) ±0.5 mm (0.020 in.).



Figure 567 • Adjust Rewind Spindle Position

2. Loosen the two set screws in the collar located inside the rewind spindle assembly near the backing plate. The set screws are accessible through a single hole in the rewind spindle assembly. Reposition the backing plate as required and retighten the set screws in the collar.

Adjust Tension

Media that is rewound too tightly can cause mis-registration of labels, tearing, or poor print quality due to smudging. Media rewound too loosely can jam up the printer before completing a roll or make it impossible to separate labels from liner in Peel-Off Mode.

See Figure 568 to adjust the tension.

1. Loosen the set screw in the adjusting nut at the end of the rewind spindle assembly.

Figure 568 • Adjust the Spindle Tension



- **2.** Insert a hex key through the access hole at the rear of the rewind spindle assembly into one of the set screws in the collar to prevent the rewind spindle shaft from turning while adjusting the tension.
- **3.** Position the adjusting nut with fingers or pliers as required.
 - in for more tension
 - out for less tension

- **4.** Measure the spindle tension using a spring scale gauge. Place a media core on the spindle and attach a 51 mm (2 in.) wide by 7.6 m (30 in.) long strip of polyester film to the core with adhesive tape. Wind the film in the direction shown in Figure 568.
- **5.** Insert the spring scale tip through the reinforced hole in the end of the strip and pull slowly and evenly, 2 in. (51 mm) per second, in the direction shown. Make this measurement several times to ensure an accurate reading. This tension should be approximately 1400–1500 grams (1.22–1.3 in. lb.).
- **6.** Readjust tension as required and recheck the tension setting. Retighten the adjusting nut set screw.
- 7. Recheck the tension after running a full roll of labels.

Note • Depending on your application, it may be necessary to deviate slightly from the recommended tension setting shown above.

Adjust the Lower Roller

The lower roller alignment has much the same effect on media tracking as the rewind spindle does in Rewind Mode.

1. See Figure 569. Loosen the mounting screws securing the platen support bracket to the side plate.



1Mounting screws (2)2Platen support bracket3Bearing (2)4Lower platen roller

Figure 569 • Adjust Platen Support Bracket

- **2.** Adjust the bracket as required and tighten the mounting screws.
 - Moving the bracket toward the rear of the printer forces the media to wind closer to the large backing plate on the rewind spindle.
 - Moving the bracket toward the front of the machine moves the media away from the backing plate.
- 3. Perform this adjustment until the required results are achieved.

Adjust Tension

For liner and label combinations that are particularly difficult, it may be necessary to increase the rewind tension in Peel-Off Mode. Follow the same procedure used for the Rewind Mode.

Repacking Instructions



Important • Before repacking, call 1.847.913.2259 for a Repair Order number (RO).

- **1.** Open the media door and set the proper insert into the door and against the window.
- **2.** Slide the printer into the plastic bag on its side, electronics side down.
- **3.** Gather the bag, and tape it shut.
- **4.** Slide the two lift-out straps over the printer, as shown.

Note • BR=Bottom Right, BL=Bottom Left, TR=Top Right, TL=Top Left, F=Front.

5. Place the top left (TL) and bottom left (BL) inserts onto the printer, as shown. The front of each insert is marked with a stamped "F".





- **6.** Place the printer into the carton.
- **7.** If the printer has a bifold door, place the bifold door insert inside the carton, as shown.
- **8.** Place the top right (TR) and bottom right (BR) inserts into the carton on top of the printer as shown.
- **9.** Close the flaps, and seal the box with postal quality shipping tape.
- **10.** Label and send insured to:

Zebra Technologies 333 Corporate Woods Parkway Vernon Hills, Illinois 60061-3109

RO #XXXXXX

Note • Write the RO number on the mailing label and in large letters and numbers on top of the box.





4 Maintenance Parts



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Outer Casing Components

This section contains the part number for the outer casings and related trim.

Contents

Outer Casing Components Overview.	 754
Media door	 756
Electronics Cover, Trim, and Name Plates	 758



Figure A • Outer Casing Components Overview

Item	Part Number	Description	Qty
1	P1006034	Xi4 Electronics Cover Maintenance Cover, see Table C on page 759	1
2	P1006036	110Xi4 Standard Media Door Maintenance Kit, see Table B on page 757	1
	P1006037	140Xi4 Standard Media Door Maintenance Kit, see Table B on page 757	1
	P1006038	170Xi4 Standard Media Door Maintenance Kit, see Table B on page 757	1
	P1006039	220Xi4 Standard Media Door Maintenance Kit, see Table B on page 757	1
3	P1006041	110Xi4 Bifold Media Door Maintenance Kit, see Table B on page 757	1
	P1006042	140Xi4 Bifold Media Door Maintenance Kit, see Table B on page 757	1
	P1006044	170Xi4 Bifold Media Door Maintenance Kit, see Table B on page 757	1
	P1006045	220Xi4 Bifold Media Door Maintenance Kit, see Table B on page 757	1
4	P1007546	Xi4 Control Panel Covers Maintenance Kit	3
5	P1006033	Xi4 Control Panel Maintenance Kit	1
6	P1006046	110Xi4 Lower Trim Plate and Nameplate Maintenance Kit, see Table C on page 759	1
	P1006047	140Xi4 Lower Trim Plate and Nameplate Maintenance Kit, see Table C on page 759	1
	P1006048	170Xi4 Lower Trim Plate and Nameplate Maintenance Kit, see Table C on page 759	1
	P1006050	220Xi4 Lower Trim Plate and Nameplate Maintenance Kit, see Table C on page 759	1
7	P1006051	110Xi4 Tear Front Plate	1
	P1006052	140Xi4 Tear Front Plate	1
	P1006053	170Xi4 Tear Front Plate	1
	P1006055	220Xi4 Tear Front Plate	1
8	HW01815	Knurled nut, 6-32 (sold in quantize of 25)	2
Bold = Part available for purchase Light italic = Part not available for individual purchase, listed and shown for reference only			

Table A • Outer Casing Components Overview

Boxes = Parts contained in kits listed above



Figure B • Media door
Item	Part Number	Description	Qty
1	P1006036	110Xi4 Standard Media Door Maintenance Kit	1
	P1006037	140Xi4 Standard Media Door Maintenance Kit	1
	P1006038	170Xi4 Standard Media Door Maintenance Kit	1
	P1006039	220Xi4 Standard Media Door Maintenance Kit	1
2	P1006041	110Xi4 Bi-fold Media Door Maintenance Kit	1
	P1006042	140Xi4 Bi-fold Media Door Maintenance Kit	1
	P1006044	170Xi4 Bi-fold Media Door Maintenance Kit	1
	P1006045	220Xi4 Bi-fold Media Door Maintenance Kit	1
3	HW30407-008	Mounting Screw, $6-32 \times 0.5$ (sold in quantities of 25)	4
4	N/A	Name Plate, See Table C on page 759.	1
5	P1006035	Xi4 Standard Media Door Window Maintenance Kit	1
6	P1006522	Xi4 Bifold Media Door Window Maintenance Kit	1
Bold = 1	Part available for purch	lase	

Table B • Media Door

Light italic = Part not available for individual purchase, listed and shown for reference only



Figure C • Electronics Cover, Trim, and Name Plates

Item	Part Number	Description	Qty
1	P1006034	Xi4 Electronics Cover Maintenance Kit	1
2	HW32413-006	Screw, $6-32 \times 0.37$ inch (sold in quantities of 25)	3
3	P1006046	110Xi4 Trim panel and Name plate Maintenance Kit	1
4	P1006567	Screw, $6-32 \times 0.50$, 110Xi4 and 140Xi4 (sold in quantities of 25)	3
		Screw, $6-32 \times 0.50$, 170Xi4 and 220Xi4 (sold in quantities of 25)	4
5	P1006047	140Xi4 Trim panel and Name plate Maintenance Kit	1
6	P1006048	170Xi4 Trim panel and Name plate Maintenance Kit	1
7	P1006050	220Xi4 Trim panel and Name plate Maintenance Kit	1
Bold =	Part available for purch	hase	
Light ite	alic = Part not availab	le for individual purchase, listed and shown for reference only	

Table C • Electronics Cover, Trim, and Name Plates

J.

This section contains the part numbers for the media path components.

Contents

Media and Ribbon Path Overview	. 762
Hangers and Spindles	. 764
Media Supply Spindle Options	. 766
Dancer, Media Guide, and Ribbon Rollers	. 768

Media and Ribbon Path

Figure D • Media and Ribbon Path Overview



Item	Part Number	Description	Qty
1	G41150M	110Xi4 Ribbon Take-up Spindle Maintenance Kit, see Table E on page 765	1
	G48250	140Xi4 Ribbon Take-up Spindle Maintenance Kit, see Table E on page 765	1
	G46350	170Xi4 Ribbon Take-up Spindle Maintenance Kit, see Table E on page 765	1
	G22250	220Xi4 Ribbon Take-up Spindle Maintenance Kit, see Table E on page 765	1
2	G41155M	110Xi4 Rewind Spindle Maintenance Kit, Table E on page 765	1
	G48155M	140Xi4 Rewind Spindle Maintenance Kit, Table E on page 765	1
	G46249M	170Xi4 Rewind Spindle Maintenance Kit, Table E on page 765	1
	G22155M	220Xi4 Rewind Spindle Maintenance Kit, Table E on page 765	1
3	P1006058	110Xi4 Ribbon Supply Spindle Maintenance Kit, see Table E on page 765	1
	P1006059	140Xi4 Ribbon Supply Spindle Maintenance Kit, see Table E on page 765	1
	P1006061	170Xi4 Ribbon Supply Spindle Maintenance Kit, see Table E on page 765	1
	P1006062	220Xi4 Ribbon Supply Spindle Maintenance Kit, see Table E on page 765	1
4	P1006064	110Xi4 Media Hanger Maintenance Kit, see Table E on page 765	1
5	G48153-4M	140Xi4 Media Hanger Maintenance Kit, see Table E on page 765	1
	G46153M	170Xi4 Media Hanger Maintenance Kit, see Table E on page 765	1
	G22153M	220Xi4 Media Hanger Maintenance Kit, see Table E on page 765	1
6	G41254M	110Xi4 40 mm Media Supply Spindle Option/Maintenance Kit, see Table F	1
	G48044M	140Xi4 40 mm Media Supply Spindle Option/Maintenance Kit, see Table F on page 767	1
	G46044M	170Xi4 40 mm Media Supply Spindle Option/Maintenance Kit, see Table F on page 767	1
7	G41253M	110Xi4 3 inch Media Supply Spindle Option/Maintenance Kit, see Table F on page 767	1
	G48253M	140Xi4 3 inch Media Supply Spindle Option/Maintenance Kit, see Table F on page 767	1
	G46253M	170Xi4 3 inch Media Supply Spindle Option/Maintenance Kit, see Table F on page 767	1
	G22253M	220Xi4 3 inch Media Supply Spindle Option/Maintenance Kit, see Table F on page 767	1

Table D • Media and Ribbon Path Overview





ltem	Part Number	Description	Qty
1	P1006064	110Xi4 Media Hanger Maintenance Kit	1
2	G481523-4M	140Xi4 Media Hanger Maintenance Kit	1
	G46153M	170Xi4 Media Hanger Maintenance Kit	1
	G22153M	220Xi4 Media Hanger Maintenance Kit	1
3	G41150M	110Xi4 Ribbon Take-up Maintenance Kit	1
	G48250	140Xi4 Ribbon Take-up Maintenance Kit	1
	G46350	170Xi4 Ribbon Take-up Maintenance Kit	1
	G22250	220Xi4 Ribbon Take-up Maintenance Kit	1
4	P1006058	110Xi4 Ribbon Supply Spindle Maintenance Kit	1
	P1006059	140Xi4 Ribbon Supply Spindle Maintenance Kit	1
	P1006061	170Xi4 Ribbon Supply Spindle Maintenance Kit	1
	P1006062	220Xi4 Ribbon Supply Spindle Maintenance Kit	1
5	P1006063	Xi4 Series Ribbon Supply Spindle Hardware Maintenance Kit	1
6	G41155M	110Xi4 Rewind Spindle Maintenance Kit	1
	G48155M	140Xi4 Rewind Spindle Maintenance Kit	1
	G46249M	170Xi4 Rewind Spindle Maintenance Kit	1
	G22155M	220Xi4 Rewind Spindle Maintenance Kit	1

Table E • Hangers and Spindles



Item	Part Number	Description	Qty
6	G41254M	110Xi4 40 mm Media Supply Spindle Option/Maintenance Kit	1
	G48044M	140Xi4 40 mm Media Supply Spindle Option/Maintenance Kit	1
	G46044M	170Xi4 40 mm Media Supply Spindle Option/Maintenance Kit	1
7	G41253M	110Xi4 3 inch Media Supply Spindle Option/Maintenance Kit	1
	G48253M	140Xi4 3 inch Media Supply Spindle Option/Maintenance Kit	1
	G46253M	170Xi4 3 inch Media Supply Spindle Option/Maintenance Kit	1
	G22253M	220Xi4 3 inch Media Supply Spindle Option/Maintenance Kit	1
Bold = 1	Bold = Part available for purchase		

Table F • Media Supply Spindle Options

Light italic = Part not available for individual purchase, listed and shown for reference only



Figure G • Dancer, Media Guide, and Ribbon Rollers

Item	Part Number	Description	Qty
1	41691M	110Xi4 Dancer Assembly Maintenance Kit	1
	46691-2M	140Xi4 Dancer Assembly Maintenance Kit	1
	46691-3M	170Xi4 Dancer Assembly Maintenance Kit	1
	22391M	220Xi4 Dancer Assembly Maintenance Kit	1
2	HW30392-006	Screw, $6-32 \times 0.37$ (sold in quantities of 25)	2
3	HW06268	Lock Washer, #6 (sold in quantities of 25)	2
4	P1006106	110Xi4 Media Guide Maintenance Kit	1
	P1006107	140Xi4 Media Guide Maintenance Kit	1
	P1006108	170Xi4 Media Guide Maintenance Kit	1
	P1006109	220Xi4 Media Guide Maintenance Kit	1
5	HW30392-004	Screw, $6-32 \times 0.25$ (sold in quantities of 50)	2
6	P1006099	110Xi4 Ribbon Rollers Maintenance Kit	1
	P1006101	140Xi4 Ribbon Rollers Maintenance Kit	1
7	P1006103	170Xi4 Ribbon Rollers Maintenance Kit	1
	P1006104	220Xi4 Ribbon Rollers Maintenance Kit	1
8	HW30392-004	Screw, $6-32 \times 0.25$ inch (sold in quantities of 50) 110Xi4	3
		140Xi4, 170Xi4 and 220Xi4	5
9	HW30266	Head Lift Spring Stop, except 220Xi4	1
		(sold in quantities of 10)	
10	HW46127	Flat Washer, $0.312 \times 0.153 \times 0.030$ (170Xi4 and 220Xi4 only) (sold in quantities of 25)	2
Bold = 1 Light itd	Part available for purch alic = Part not available	hase le for individual purchase, listed and shown for reference only	

Table G • Dancer, Media Guide, and Ribbon Rollers



Print Mechanism



This section contains the part number for the print mechanism and related components.

Contents

Print Mechanism Overview
Print Mechanism and Printhead Cables
Pivot Bar, Platen, and Peel/Tear Bar 776





ltem	Part Number	Description	Qty
1	P1006111	110Xi4 Media Guide Plate Maintenance Kit	1
	P1006112	140Xi4 Media Guide Plate Maintenance Kit	1
	P1006113	170Xi4 Media Guide Plate Maintenance Kit	1
	P1006114	220Xi4 Media Guide Plate Maintenance Kit	1
2	P1006140	Xi4 Printhead Cable Maintenance Kit, see Table I on page 775	1
3	P1006146	110Xi4 Print Mechanism Hardware Maintenance Kit, see Table I on page 775	1
	P1006151	140Xi4 Print Mechanism Hardware Maintenance Kit, see Table I on page 775	1
	P1006152	170Xi4 Print Mechanism Hardware Maintenance Kit, see Table I on page 775	1
	P1006154	220Xi4 Print Mechanism Hardware Maintenance Kit, see Table I on page 775	1
4	P1004230	110Xi4 203 dpi Printhead Maintenance Kit	1
	P1004232	110Xi4 300 dpi Printhead Maintenance Kit	1
	P1004233	110Xi4 600 dpi Printhead Maintenance Kit	1
	P1004234	140Xi4 203 dpi Printhead Maintenance Kit	1
	P1004236	170Xi4 203 dpi Printhead Maintenance Kit	1
	P1004237	170Xi4 300 dpi Printhead Maintenance Kit	1
	P1004238	220Xi4 203 dpi Printhead Maintenance Kit	1
	P1004239	220Xi4 300 dpi Printhead Maintenance Kit	1
5	G41022M	110Xi4 Pivot Bar and Toggles Maintenance Kit, see Table J on page 777	1
	G48202M	140Xi4 Pivot Bar and Toggles Maintenance Kit, see Table J on page 777	1
	38202M	170Xi4 Pivot Bar and Toggles Maintenance Kit, see Table J on page 777	1
	G22222M	220Xi4 Pivot Bar and Toggles Maintenance Kit, see Table J on page 777	1
6	P1006115	110Xi4 Peel Tear Bar Maintenance Kit, Table J on page 777	1
	P1006116	140Xi4 Peel Tear Bar Maintenance Kit, Table J on page 777	1
	P1006117	170Xi4 Peel Tear Bar Maintenance Kit, Table J on page 777	1
	P1006118	220Xi4 Peel Tear Bar Maintenance Kit, Table J on page 777	1
7	G41011M	110Xi4 230/300 dpi Platen Roller Maintenance Kit, see Table J on page 777	1
	P1004592	110Xi4 600 dpi Platen Roller Maintenance Kit, see Table J on page 777	1
	G40038M	140Xi4 Platen Roller Maintenance Kit, see Table J on page 777	1

Table H • Print Mechanism Overview

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G46278M

G22101M

P1006119

170Xi4 Platen Roller Maintenance Kit, see Table J on page 777

220Xi4 Platen Roller Maintenance Kit, see Table J on page 777

Xi4 Sensor Brackets and Hole Covers Maintenance Kit,

see Table Z on page 813

1

1

1



Figure I • Print Mechanism and Printhead Cables

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Item	Part Number	Description	Qty
1	P1006146	110Xi4 Print Mechanism Hardware Maintenance Kit	1
	P1006151	140Xi4 Print Mechanism Hardware Maintenance Kit	1
	P1006152	170Xi4 Print Mechanism Hardware Maintenance Kit	1
	P1006154	220Xi4 Print Mechanism Hardware Maintenance Kit	1
2	P1006095	110Xi4 Ribbon Strip Plate and Static Brush Maintenance Kit	1
	P1006096	140Xi4 Ribbon Strip Plate and Static Brush Maintenance Kit	1
	P1006097	170Xi4 Ribbon Strip Plate and Static Brush Maintenance Kit	1
	P1006098	220Xi4 Ribbon Strip Plate and Static Brush Maintenance Kit	1
3	HW30392-004	Screw, $6-32 \times 0.2500$ (sold in quantities of 50)	2
4	HW46882-003	Screw, $4-40 \times 0.1875$ (sold in quantities of 100)	2
5	HW06250	E-Ring, 0.312 (sold in quantities of 25)	1
6	N/A	220Xi4 Torsion Spring	1
	HW40027	110Xi4, 140Xi4, and 170Xi4 Torsion Spring (sold in quantities of 25)	1
7	HW32373	C-Ring, 0.312 (sold in quantities of 25)	1
8	HW30239	Crescent Washer, $0.414 \times 0.323 \times 0.062$ (sold in quantities of 25)	1
9	HW30956	Flat Washer, $0.207 \times 0.146 \times 0.030$ (sold in quantities of 10)	2
10	HW30392-004	Screw, $6-32 \times 0.25$ (sold in quantities of 50)	1
11	HW06268	Lock Washer, #6 (sold in quantities of 25)	1
12	HW30392-008	Screw, $6-32 \times 0.37$ (sold in quantities of 25)	1
13	P1006140	Xi4 Printhead Cable Maintenance Kit	1
Bold = I	Part available for purch	hase	
Light ita	ulic = Part not availab	le for individual purchase, listed and shown for reference only	

Table I • Print Mechanism



Figure J • Pivot Bar, Platen, and Peel/Tear Bar

Item	Part Number	Description	Qty
1	G41022M	110Xi4 Pivot Bar Maintenance Kit	1
	G48202M	140Xi4 Pivot Bar Maintenance Kit	1
	38202M	170Xi4 Pivot Bar Maintenance Kit	1
	G22222M	220Xi4 Pivot Bar Maintenance Kit	1
2	G46352M	Sensor Flag	1
3	35099M	All, except 220Xi4 Toggle Assembly Maintenance Kit (one toggle per kit)	1
	22099M	220Xi4 Toggle Assembly Maintenance Kit (one toggle per kit)	1
4	HW07229	Washer, Curved $0.344 \times 0.172 \times 0.006$ (sold in quantities of 25)	1
5	HW30391-006	Screw, $4-40 \times 0.37$ in. (sold in quantities of 25)	1
6	G41011M	110Xi4 200/300 dpi Platen Roller Maintenance Kit	1
	P1004592	110Xi4 600 dpi Platen Roller Maintenance Kit	1
	G40038M	140Xi4 Platen Roller Maintenance Kit	1
	G46278M	170Xi4 Platen Roller Maintenance Kit	1
	G22101M	220Xi4 Platen Roller Maintenance Kit	1
7	P1006115	110Xi4 Peel/Tear Bar Maintenance Kit	1
	P1006116	140Xi4 Peel/Tear Bar Maintenance Kit	1
	P1006117	170Xi4 Peel/Tear Bar Maintenance Kit	1
	P1006118	220Xi4 Peel/Tear Bar Maintenance Kit	1
8	HW30392-004	Screw, $6-32 \times 0.25$ inch (sold in quantities of 50)	2
Bold = Part available for purchase			
Light ite	alic = Part not availab	le for individual purchase, listed and shown for reference only	
Boxes =	Parts contained in kits	s listed above	

Table J • Pivot Bar, Platen, and Peel/Tear Bar

Notes •	 	 	

Electronics



This section contains the part numbers for the printed circuit boards and sensors.

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Figure K • 110Xi4 Specific Electronics Overview



ltem	Part Number	Description	Qty			
1	P1006158	110Xi4 Printhead Test Board Option/Maintenance Kit, see Table L	1			
		on page 785				
2	P1007556	110Xi4 AC/DC Power Supply Maintenance Kit, see Table L on page 783	1			
3	P1007559	110Xi4 Power Entry Maintenance Kit, see Table L on page 783	1			
N/S	23812	110Xi4 AC/DC Power Supply Shield	1			
N/S = N	N/S = Not shown					
Bold = Part available for purchase						
Light ita	Light italic = Part not available for individual purchase, listed and shown for reference only					

Notes •	 	
·····	 	



Figure L • 110Xi4 Specific Electronics

ltem	Part Number	Description	Qty
1	P1007556	110Xi4 AC/DC Power Supply Maintenance Kit	1
2	HW32413-012	Screw, $6-32 \times 0.75$ (sold in quantities of 25)	1
3	HW33809	Nut, 6-32 (sold in quantities of 25)	2
4	HW32413-006	Shield Screw, $6-32 \times 0.37$ (sold in quantities of 25)	2
5	P1007559	110Xi4 Power Entry Maintenance Kit	1
6	HW30406-006	Screw, $4-40 \times 0.375$ (sold in quantities of 25)	2
7	HW33809	Nut, 6-32 (sold in quantities of 25)	1
8	HW45946	External Lock Washer #6 (sold in quantities of 100)	1
9	P1006158	110Xi4 Printhead Test Board Option/Maintenance Kit	1
10	HW32413-006	Screw, $6-32 \times 0.37$ (sold in quantities of 25)	3
11	HW06020	Cable Ties, (sold in quantities of 20)	4

Table L • AC/DC Power Supply and Power Entry, 110Xi4





Table M • 140Xi4, 170Xi4, and 220Xi4 Specific Electronics Overview

ltem	Part Number	Description	Qty
1	P1007560	140Xi4, 170Xi4, and 220Xi4 Power Entry Maintenance Kit, see Table N on page 785	1
2	P1007557	140Xi4, 170Xi4, and 220Xi4 AC Power Supply Maintenance Kit, see Table N on page 785	1
3	P1007558	140Xi4, 170Xi4, and 220Xi4 DC Power Supply Maintenance Kit, see Table N on page 785	1



Figure N • 140Xi4, 170Xi4, and 220Xi4 Specific Electronics

Table N • 140Xi4, 170Xi4, and 220Xi4 Specific Electronics

ltem	Part Number	Description	Qty
1	P1007557	Xi4 AC Power Supply Maintenance Kit	1
2	HW49313	Spacer (sold in quantities of 25)	2
3	HW43968	Screw, $M3 \times 0.5 \times 6$ (sold in quantities of 25)	1
4	P1007560	140Xi4, 170Xi4, and 220Xi4 Power Entry Maintenance Kit	1
5	HW30406-006	Screw, $4-40 \times 0.375$ (sold in quantities of 25)	2
6	HW33809	Nut, 6-32 (sold in quantities of 25)	1
7	HW45946	External Lock Washer #6 (sold in quantities of 100)	1
8	P1007558	Xi4 DC Power Supply Maintenance Kit	1
9	HW32413-006	Screw, $6-32 \times 0.37$ (sold in quantities of 25)	1
10	HW33809	Flange Nut, 6-32	2



Figure O • Xi4 Series Common Electronics Overview

Item	Part Number	Description	Qty
1	P1007561	Xi4 5V Applicator Interface Option/Maintenance Kit	1
	P1011156	Xi4 24-28V Applicator Interface Option/Maintenance Kit	1
2	P1008550	Xi4 Internal Wireless Plus Option/Maintenance Kit	1
	P1009634	Xi4 PCMCIA Wireless Plus Option/Maintenance Kit	1
3	P1004273	Xi4 8MB Main Logic Board Maintenance Kit	1
	P1004274	Xi4 64MB Main Logic Board Maintenance Kit	1
4	P1007562	Xi4 Twinax Option/Maintenance Kit	1
	P1007563	Xi4 Coax Option/Maintenance Kit	1
	P1007564	Xi4 Internal Print Server IPv6 Option/Maintenance Kit	1
5	79823	Wired Ethernet Option/Maintenance IPv4 Kit	1
6	P1006160	Cutter Control Board Maintenance kit	1
7	P1006156	Xi4 Electronics Cables Maintenance Kit	1

Table O • Common Electronics Overview

Figure P • Main Logic Board



Table P • Main Logic Board

ltem	Part Number	Description	Qty
1	P1004273	Xi4 8MB Main Logic Board Maintenance Kit	1
	P1004274	Xi4 64MB Main Logic Board Maintenance Kit	1
2	HW45945	Split Washer, #4 (sold in quantities of 100)	2
3	HW32406	Standoff, $4-40 \times 0.50$ (sold in quantities of 25)	2
4	HW78802	Screw, $4-40 \times 0.03$ (sold in quantities of 25)	2
5	HW43968	Screw, M3 \times 0.5 \times 6 (sold in quantities of 25)	2
6	P1006160	Cutter Control Board Maintenance Kit	1

Not	es•	 	

Figure Q • Optional Electronics



Item	Part Number	Description	Qty	
1	P1007561	Xi4 5V Applicator Interface Option/Maintenance Kit	1	
	P1011156	Xi4 24-28V Applicator Interface Option/Maintenance Kit	1	
2	HW43968	Screw, $M3 \times 0.5 \times 6$ (sold in quantities of 25)	2-5	
3	HW06020	Cable Ties, (sold in quantities of 20)	2-4	
4	P1008550	Xi4 Internal Wireless Plus	1	
5	P1009634	Xi4 PCMCIA Wireless Plus Option/Maintenance Kit	1	
6	P1007562	Xi4 Twinax Option Kit	1	
7	P1007563	Xi4 Coax Option Kit	1	
8	P1007564	Xi4 Internal Print Server IPv6	1	
9	79823	Wired Ethernet Option/ Maintenance IPv4 Kit	1	
10	HW10460	Nut, $M3 \times 2.4 \times 5.5$ (sold in quantities of 25)	3	
11	HW79656	Standoff, $M3 \times 0.5 \times 10$ (sold in quantities of 12)	3	
Bold = Part available for purchase				
Light italic = Part not available for individual purchase, listed and shown for reference only				
Boxes = Parts contained in kits listed above				

Table Q • Optional Electronics




Item	Part Number	Description	Qty
1	P1006139	Ribbon Low Sensors Maintenance Kit, see Table S on page 795	1
2	P1006135	Xi4 Reflective Sensor Assembly Maintenance Kit, see Table S on page 795	1
3	P1006137	Xi4 Head Open Sensor Assembly Maintenance Kit, see Table S on page 795	1
4	P1006138	Xi4 Media Low Sensors Maintenance Kit, see Table S on page 795	1
5	P1006134	Ribbon Out Sensor Maintenance Kit, see Table S on page 795	1
6	P1006029110Xi4 Media Sensor Assembly Maintenance Kit, see Table S on page 795		1
	P1006030	140Xi4 Media Sensor Assembly Maintenance Kit, see Table S on page 795	1
	P1006031	170Xi4 Media Sensor Assembly Maintenance Kit, see Table S on page 795	1
	P1006032	220Xi4 Media Sensor Assembly Maintenance Kit, see Table S on page 795	1
7	P1006136	Xi4 Take-Label Sensor Maintenance Kit, see Table S on page 795	1
8	G46618M	Cutter Sensor Maintenance Kit, see Table S on page 795	1
Bold = 1	Part available for purcl	iase	

Table R • Sensors Overview

Light italic = Part not available for individual purchase, listed and shown for reference only

Boxes = Parts contained in kits listed above



Figure S • Sensors

Table	S	• Se	nsors
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ltem	Part Number	Description	Qty
1	P1006029	110Xi4 Media Sensor Assembly Maintenance Kit	1
	P1006030	140Xi4 Media Sensor Assembly Maintenance Kit	1
	P1006031	170Xi4 Media Sensor Assembly Maintenance Kit	1
	P1006032	220Xi4 Media Sensor Assembly Maintenance Kit	1
2	HW30392-004	Screw, $6-32 \times 0.25$ inch	1
3	HW30266	Stop Head Lift Spring (sold in quantities of 10)	1
4	HW48411	Knurled Screw, $6-32 \times 0.25$ inch (sold in quantities of 10)	2
5	P1006138	Xi4 Media Low Sensor Maintenance Kit	1
6	HW20291-004	Screw, $4-40 \times 0.25$ inch (sold in quantities of 25)	2
7	P1006135	Xi4 Reflective Sensor Assembly Maintenance Kit	1
8	HW30392-004	Screw, $6-32 \times 0.25$ inch (sold in quantities of 50)	2
9	HWQ06020	Cable Tie, 0.09×3.62 (sold in quantities of 20)	1 or 3
10	P1006134	Ribbon Out Sensor Maintenance Kit	1
11	HW30494	Neoprene Washer, $0.32 \times 0.119 \times 0.062$ (sold in quantities of 25)	2
12	HW32332	Screw, $4-40 \times 0.25$ (sold in quantities of 25)	1
13	P1006137	Xi4 Head Open Sensor Assembly Maintenance Kit	1
14	HW40194	Curved Washer, $0.344 \times 0.172 \times 0.006$ (sold in quantities of 25)	1
15	HW46352	Flag (sold in quantities of 50)	1
16	HW33809	Nut, 6-32 (sold in quantities of 25)	1
17	P1006139	Ribbon Low Sensors Maintenance Kit	1
18	HW43968	Screw, $M3 \times 0.5 \times 6$ (sold in quantities of 25)	2
19	P1006136	Xi4 Take-Label Sensor Maintenance Kit	1
20	HW45937	Screw, M4 \times 10 (sold in quantities of 25)	2
Bold = I	Part available for purch	iase	
Light ita	ulic = Part not availab	le for individual purchase, listed and shown for reference only	

Boxes = Parts contained in kits listed above





Drive System

This section contains the drive systems part numbers .

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Figure T • Drive Systems Overview

Item	Part Number	Description	Qty
1	P1006069	Xi4 Main Drive System Maintenance Kit	1
2	P1006066	110Xi4 (203/300 dpi), 140Xi4 (203dpi), and 170Xi4 (203/300 dpi), and 220Xi4 (203 dpi) Main Drive Belt	1
	P1006067	110Xi4 600 dpi Main Drive Belt	1
3	P1006066	220Xi4 (203 dpi) Main Drive Belt	1
	P1006068	220Xi4 300 dpi Main Drive Belt	1
4	G46198M	110Xi4 (203 dpi), 140Xi4 (203 dpi), and 170Xi4 (203 dpi) Drive Motor	1
	G46199M	110Xi4 (300 dpi) and 170Xi4 (300 dpi) Dirve Motor	1
	G33084M 110Xi4 (600 dpi) Drive Motor		1
5	G31197M	220Xi4 (203 dpi) Drive Motor	1
	G31199M	220Xi4 (300 dpi) Drive Motor	1
6	P1006072	110Xi4 (203/300 dpi), 140Xi4 (203dpi), and 170Xi4 (203/300 dpi) Rewind Drive Belt	1
	P1006073	110Xi4 (600 dpi) Reind Drive Belt	1
7	P1006072	220Xi4 (203/300 dpi) Rewind Drive Belt	1
8	P1006071	Xi4 Rewind Drive System Maintenance Kit	1

Table T • Drive Systems Overview



Table U • Drive Systems

ltem	Part Number	Description	
1	P1006069	Main Drive System Maintenance Kit	1
2	P1006066	P1006066 110Xi4 (203/300 dpi), 140Xi4 (203dpi), and 170Xi4 (203/300 dpi), and 220Xi4 (203 dpi) Main Drive Belt	
3	P1006067	110Xi4 600 dpi Main Drive Belt	1
4	P1006068	220Xi4 300 dpi Main Drive Belt	1
5	HW40193	Washer, $0.406 \times 0.172 \times 0.048$ (sold in quantities of 25)	1
6	HW30392-008	Screw, $6-32 \times 0.50$ (sold in quantities of 25)	1
7	HW30115	Wave Washer, $0.74 \times 0.52 \times 0.08$ (sold in quantities of 25)	1
8	HW33804	Flat Washer, $0.76 \times 0.51 \times 0.03$ (sold in quantities of 25)	1
9	HW33811	E-ring, 0.5×0.042 , (sold in quantities of 25)	1
10	P1006071	Xi4 Rewind Drive System Maintenance Kit	1
11	P1006072	110Xi4, 140Xi4, 170Xi4, 220Xi4 203/300 Rewind Drive Belt Maintenance Kit	1
12	P1006073	110Xi4 600 dpi Rewind Drive Belt Maintenance Kit	1
Bold = I	Part available for purch	nase	
Light ita	ulic = Part not availab	le for individual purchase, listed and shown for reference only	

Boxes = Parts contained in kits listed above

This section contains the patr numbers of the media handling options and related components.

Media Handling Options

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Media Handling Options Overview	802
Cutter Option	804
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Item	Part Number	Description	Qty
1	P1006075	110Xi4 Cutter Upgrade, see Table W on page 805	1
	P1006077	140Xi4 Cutter Upgrade, see Table W on page 805	1
	P1006078	170Xi4 Cutter Upgrade, see Table W on page 805	1
	P1006079	220Xi4 Cutter Upgrade, see Table W on page 805	1
2	P1008479	110Xi4 Rewind Option Kit, 203 and 300 dpi, see Table Y on page 809	1
	P1008480	110Xi4 Rewind Option Kit, 600 dpi, see Table Y on page 809	1
	P1008481	140Xi4 Rewind Option Kit, see Table Y on page 809	1
	P1008482	170Xi4 Rewind Option Kit, see Table Y on page 809	1
	P1008483	220Xi4 Rewind Option Kit, see Table Y on page 809	1
Bold =	Part available for purc	hase	
Light it	alic = Part not availab	ole for individual purchase, listed and shown for reference only	
Boxes =	= Parts contained in kit	s listed above	

Table V • Media Handling Options Overview

8/12/2009

Figure W • Cutter Option



Item	Part Number	Description	Qty
1	P1006075	110Xi4 Cutter Upgrade	1
	P1006077	140Xi4 Cutter Upgrade	1
	P1006078	170Xi4 Cutter Upgrade	1
	P1006079	220Xi4 Cutter Upgrade	1
2	P1006081	Cutter Linkage Maintenance Kit	1
3	G46618M	Cutter Sensor	1
4	P1006082	110Xi4 Cutter Module Maintenance Kit	1
	P1006083	140Xi4 Cutter Module Maintenance Kit	1
	P1006084	170Xi4 Cutter Module Maintenance Kit	1
	P1006085	220Xi4 Cutter Module Maintenance Kit	1
5	P1006091	110Xi4 Upper Mounting Bracket, see Table X on page 807	1
	P1006092	140Xi4 Upper Mounting Bracket, see Table X on page 807	1
	P1006093	170Xi4 Upper Mounting Bracket, see Table X on page 807	1
	P1006094	220Xi4 Upper Mounting Bracket, see Table X on page 807	1
6	G30374M	Cutter Motor	1
7	P1006256	Xi4 Electronic Cables Maintenance Kit	1
8	G41387M	110Xi4 Cutter Catch Tray Option Kit	1
	G48459	140Xi4 Cutter Catch Tray Option Kit	1
	G46459	170Xi4 Cutter Catch Tray Option Kit	1
	G22459	220Xi4 Cutter Catch Tray Option Kit	1
9	P1006160	Cutter Control Board	1
Bold = 1 Light ite	Part available for purch alic = Part not availab	nase le for individual purchase, listed and shown for reference only s listed above	

Table W • Cutter Option





Item	Part Number	Description	Qty
1	P1006091	110Xi4 Cutter Brackets Maintenance Kit	1
	P1006092	140Xi4 Cutter Brackets Maintenance Kit	1
	P1006093	170Xi4 Cutter Brackets Maintenance Kit	1
	P1006094	220Xi4 Cutter Brackets Maintenance Kit	1
2	P1006086	110Xi4 Cutter Static Brush Maintenance Kit	1
	P1006088	140Xi4 Cutter Static Brush Maintenance Kit	1
	P1006089	170Xi4 Cutter Static Brush Maintenance Kit	1
	P1006090	220Xi4 Cutter Static Brush Maintenance Kit	1
3	HW33823	Nut, 4-40 (sold in quantities of 25)	2
4	HW32332	Screw, $4-40 \times 0.25$ inch (sold in quantities of 25)	2
5	HWQ10011	Screw, $M4 \times 0.7 \times 10$ (sold in quantities of 100)	2
6	HW33805	Flat Washer (sold in quantities of 25)	1
7	HW40193	Flat Washer (sold in quantities of 25)	2
8	HW30392-004	Screw, $6-32 \times 0.25$ inch (sold in quantities of 50)	2
9	HW33826	Screw, M4 \times 0.7 \times 4 (sold in quantities of 25)	4
Bold = 1	Part available for purch	nase	
Light ite	alic = Part not availab	le for individual purchase, listed and shown for reference only	
Boxes =	= Parts contained in kits	s listed above	

Table X • Cutter Static Brush and Brackets



Figure Y • Media Rewind Option

Item	Part Number	Description	Qty	
1	P1008479	110Xi4 Rewind Option Kit, 203 and 300 dpi	1	
	P1008480	110Xi4 Rewind Option Kit, 600 dpi	1	
	P1008481	140Xi4 Rewind Option Kit	1	
	P1008482	170Xi4 Rewind Option Kit	1	
	P1008483 220Xi4 Rewind Option Kit		1	
2	P1006071	Xi4 Rewind Drive System Maintenance Kit, see Table U on page 800	1	
3	P1006072	203/300 dpi Rewind Drive Belt Maintenance Kit, see Table U on page 800	1	
	P1006073	110Xi4 600 dpi Rewind Drive Belt Maintenance Kit, see Table U on page 800	1	
4	P1006105	Xi4 Rewind Platen Adjustment Bracket Maintenance Kit	1	
5	G41155M	110Xi4 Rewind Spindle Maintenance Kit	1	
	G48155M	140Xi4 Rewind Spindle Maintenance Kit	1	
	G46249M	170Xi4 Rewind Spindle Maintenance Kit	1	
	G22155M220Xi4 Rewind Spindle Maintenance Kit			
6	G41011M	110Xi4 200/300 dpi Rewind Platen Roller Maintenance Kit	1	
	P1004592	110Xi4 600 dpi Rewind Platen Roller Maintenance Kit	1	
	G40038M	140Xi4 Rewind Platen Roller Maintenance Kit	1	
	G46278M	170Xi4 Rewind Platen Roller Maintenance Kit	1	
	G22101M	220Xi4 Rewind Platen Roller Maintenance Kit	1	
7	G41383M	110Xi4 Rewind Plate Maintenance Kit	1	
	G48383M	140Xi4 Rewind Plate Maintenance Kit, non-cutter version	1	
	G46383M	170Xi4 Rewind Plate Maintenance Kit, non-cutter version	1	
	G22383M	220Xi4 Rewind Plate Maintenance Kit, non-cutter version	1	

Table Y • Media Rewind Option

Light italic = Part not available for individual purchase, listed and shown for reference only

Boxes = Parts contained in kits listed above

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Miscellaneous



This section contains the part numbers of miscellaneous components.

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Slot Covers	814





Item	Part Number	Description	Qty		
1	P1006119	Xi4 Sensor Brackets and Hole Covers maintenance Kit	1		
2	N/A	110Xi4, 140Xi4, and 170Xi4 Cutter Module Access Hole Cover	1		
3	N/A	220Xi4 Cutter Module Access Hole Cover	1		
4	HW30392-004	Screw, $6-32 \times 0.25$ inch (sold in quantities of 25)	2		
5	N/A	Expansion nut	2		
 HW30392-004 Screw, 6-32 × 0.25 inch (sold in quantities of 25) N/A Expansion nut HW32413-006 Screw, 6-32 × 0.37 inch (sold in quantities of 25) N/A Rubber Grommet, 1.25 × 0.62 × 0.105 inch N/A Hole Plug for lower platen roller hole (all models) and the compliance roller hole (110Xi4 and 140Xi4). N/A Hole plug for access holes in the side plate. N/A 110Xi4, 140Xi4, and 170Xi4 Metal Hole Plug for the rewind hole. N/A 220Xi4 Rewind Hole Cover Plate HW30393-010 Screw, 6-32 × 0.62 for 220Xi4 rewind hole cover plate. 					
ItemPart NumberDescription1P1006119Xi4 Sensor Brackets and Hole Covers maintenance Kit2 N/A 110Xi4, 140Xi4, and 170Xi4 Cutter Module Access Hole Cover3 N/A 220Xi4 Cutter Module Access Hole Cover4HW30392-004Screw, $6\cdot32 \times 0.25$ inch (sold in quantities of 25)5 N/A Expansion nut6HW32413-006Screw, $6\cdot32 \times 0.37$ inch (sold in quantities of 25)7 N/A Rubber Grommet, $1.25 \times 0.62 \times 0.105$ inch8 N/A Hole Plug for lower platen roller hole (all models) and the compliance roller hole (110Xi4 and 140Xi4).9 N/A Hole plug for access holes in the side plate.10 N/A 110Xi4, 140Xi4, and 170Xi4 Metal Hole Plug for the rewind hole.11 N/A 220Xi4 Rewind Hole Cover Plate12HW30393-010Screw, $6\cdot32 \times 0.62$ for 220Xi4 rewind hole cover plate. (sold in quantities of 25)13 N/A Rubber grommet for lower media sensor.14 N/A Cutter Motor Hole Cover Plate15HW47476Screw, $8\cdot32 \times 0.37$ for cutter motor hole cover plate. (sold in quantities of 25)16 N/A 220Xi4 Media Low Sensor Bracket17 N/A 110Xi4, 140Xi4, and 170Xi4 Media Low Sensor Bracket18HW30393-006Screw, $8\cdot32 \times 0.37$ (sold in quantities of 25)			2		
4HW30392-004Screw, $6-32 \times 0.25$ inch (sold in quantities of 25)25N/AExpansion nut26HW32413-006Screw, $6-32 \times 0.37$ inch (sold in quantities of 25)27N/ARubber Grommet, $1.25 \times 0.62 \times 0.105$ inch28N/AHole Plug for lower platen roller hole (all models) and the compliance roller hole (110Xi4 and 140Xi4).29N/AHole plug for access holes in the side plate.210N/A110Xi4, 140Xi4, and 170Xi4 Metal Hole Plug for the rewind hole.1111N/A220Xi4 Rewind Hole Cover Plate1212HW30393-010Screw, $6-32 \times 0.62$ for 220Xi4 rewind hole cover plate. (sold in quantities of 25)213N/ARubber grommet for lower media sensor.214N/ACutter Motor Hole Cover Plate12					
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10	N/A	110Xi4, 140Xi4, and 170Xi4 Metal Hole Plug for the rewind hole.	1		
11	N/A	220Xi4 Rewind Hole Cover Plate	1		
1 P1006119 X14 Sensor Brackets and Hole Covers maintenance Kit 2 N/A 110Xi4, 140Xi4, and 170Xi4 Cutter Module Access Hole Cover 3 N/A 220Xi4 Cutter Module Access Hole Cover 4 HW30392-004 Screw, 6-32 × 0.25 inch (sold in quantities of 25) 5 N/A Expansion nut 6 HW32413-006 Screw, 6-32 × 0.37 inch (sold in quantities of 25) 7 N/A Rubber Grommet, 1.25 × 0.62 × 0.105 inch 8 N/A Hole Plug for lower platen roller hole (all models) and the compliance roller hole (110Xi4 and 140Xi4). 9 N/A Hole plug for access holes in the side plate. 10 N/A 110Xi4, 140Xi4, and 170Xi4 Metal Hole Plug for the rewind hole. 11 N/A 220Xi4 Rewind Hole Cover Plate 12 HW30393-010 Screw, 6-32 × 0.62 for 220Xi4 rewind hole cover plate. (sold in quantities of 25) 13 N/A Rubber grommet for lower media sensor. 14 N/A Cutter Motor Hole Cover Plate 15 HW47476 Screw, 8-32 × 0.37 for cutter motor hole cover plate. (sold in quantities of 25) 16 N/A 220Xi4 Media Low Sensor Bracket 17 N/A 11		3			
13	N/A	Rubber grommet for lower media sensor.	2		
14	N/A	Cutter Motor Hole Cover Plate	1		
15	HW47476	Screw, $8-32 \times 0.37$ for cutter motor hole cover plate. (sold in quantities of 25)	2		
16	N/A	220Xi4 Media Low Sensor Bracket	1		
17	N/A	110Xi4, 140Xi4, and 170Xi4 Media Low Sensor Bracket	1		
18	HW30393-006	Screw, $8-32 \times 0.37$ (sold in quantities of 25)	6		
Bold = I	Part available for purch	hase	<u>.</u>		
Light itc	ulic = Part not availab	le for individual purchase, listed and shown for reference only			
Boxes =	Parts contained in kits	s listed above			

Table Z • Sensor Brackets and Hole Covers



Table AA • Slot Covers

Item	Part Number	Description	Qty
1	P1006120	Xi4 Slot Covers Maintenance Kit	1
2	N/A	Blank Wireless Cover	1
3	N/A	Blank Ethernet Cover	1
4	N/A	Blank Option Board Cover	2
5	N/A	Wireless Shipping Debris Slot Cover	1
6	N/A	Wireless Card Cover	1
7	HW43968	Screw, M3 \times 0.5 \times 6 (sold in quantities of 25)	8
Bold = 1	Part available for purch	nase	
Light itc	alic = Part not availab	le for individual purchase, listed and shown for reference only	
Boxes =	Parts contained in kits	s listed above	

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