

Getting Started Guide

P/N 063257-005

EasyCoder™ 3240 Printer

 **intermec**

A **UNOVA** Company

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About This Guide

Use this guide to get your printer up and running for the first time. This getting started guide walks you through taking the printer out of the box, connecting it to your system, and verifying that you have communications with your system. Use this table to locate the information you need to get started.

For Information On	Refer To
Preparing the printer for connection	Chapter 1. This chapter explains how to unpack the printer, understand the printer front panel, plug in the printer, load media, load ribbon, and print a test label.
Connecting the printer	Chapter 2. This chapter explains how to connect the printer to your system, configure the serial port, and verify that you have established communications.
Optimizing print quality	Chapter 3. This chapter explains how to troubleshoot basic print quality problems and perform procedures to maintain print quality.

Related Intermec Manuals and Materials

The manuals and material listed below provide additional information about printing labels with your 3240 printer. Please visit our Web site at www.intermec.com for a list of available manuals or to access many of our current manuals in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

User's Manual	Intermec Part No.
<i>3240 Bar Code Label Printer User's Manual</i>	063015
General Reference	
<i>Data Communications Reference Manual</i>	044737
<i>The Bar Code Book</i> by Roger C. Palmer	051241
<i>IPL Programming Reference Manual</i>	066396
Compact Disk	
<i>Printer Companion CD</i>	1-020036

Warranty Information

To receive a copy of the standard warranty provision for this product, contact your local Intermec sales organization. In the U.S. call (800) 755-5505, and in Canada call (800) 688-7043. Otherwise, refer to the Worldwide Sales & Service list that comes with this guide for the address and telephone number of your Intermec sales organization.

Safety Summary

Your safety is extremely important. Read and follow all warnings and cautions in this guide before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

Do Not Repair or Adjust Alone Do not repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety.

First Aid Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.

Resuscitation Begin resuscitation immediately if someone is injured and stops breathing. Any delay could result in death. To work on or near high voltage, you should be familiar with approved industrial first aid methods.

Energized Equipment Never work on energized equipment unless authorized by a responsible authority. Energized electrical equipment is dangerous. Electrical shock from energized equipment can cause death. If you must perform authorized emergency work on energized equipment, be sure that you comply strictly with approved safety regulations.

Cautions

The cautions in this guide use the following format.

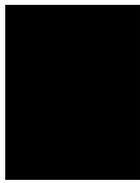


Caution

A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

Conseil

Une précaution vous alerte d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour empêcher l'endommagement ou la destruction de l'équipement, ou l'altération ou la perte de données.



Terms and Conventions

The following special terms and conventions occur throughout this guide.

Terms

“Printer” or “3240” refer to the 3240 bar code label printer.

“Media” is the label or tag stock on which the printer prints labels.

“Host” refers to a personal computer or other computer that communicates with the printer.

Conventions

The following conventions are used throughout this guide for operating procedures and descriptions of the printer.

- Feed/Pause refers to the Feed/Pause button on the printer front panel.
- Downloaded commands appear in the order that you send them to the printer with the following conventions:

Convention	Description
Ctrl	Bold text represents a key on your keyboard. For example, Ctrl represents the Control key.
Ctrl-Z	When two keys are joined with a dash, press them simultaneously. For example, if you see the command Ctrl-Z , press the two keys at the same time.
E3 ; F3	Type all characters that appear in the Courier font by pressing an individual key on the keyboard.

1

Preparing the Printer for Connection

The 3240 printer offers many configuration and programming choices, yet it is easy to operate and understand. Intermec designed the 3240 to produce high-quality labels in harsh environments with minimal supervision and maintenance.

This chapter provides procedures for

- *unpacking the printer.*
- *reporting damage or defects.*
- *understanding the printer front panel.*
- *plugging in the printer.*
- *opening the printer.*
- *loading media for printing.*
- *loading media for self-strip printing.*
- *loading thermal transfer ribbon.*
- *testing printer operation.*

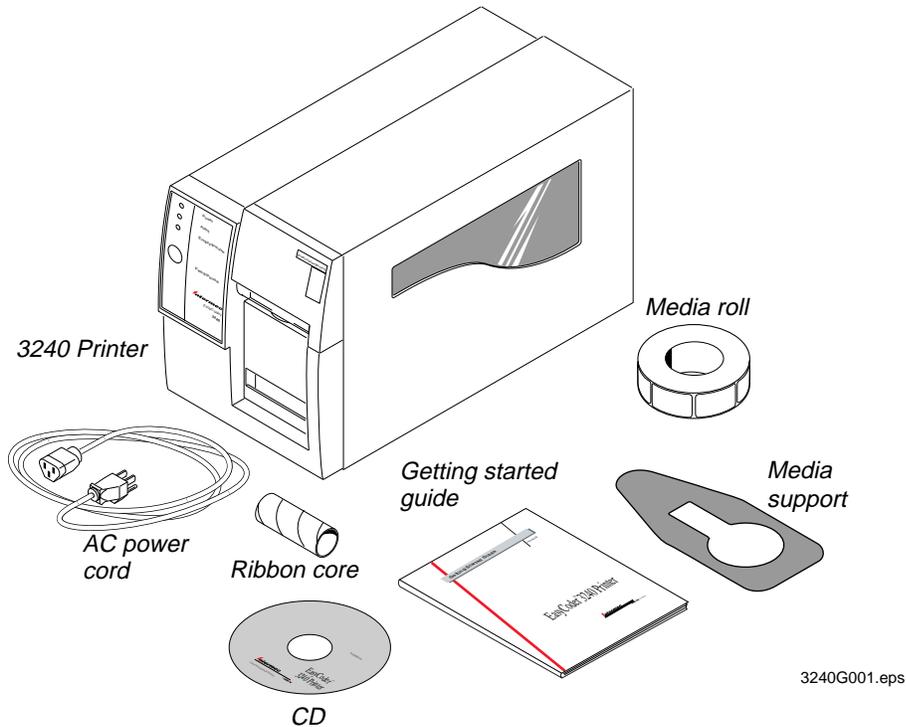
Unpacking the 3240 Printer

Remove the accessories, packing material, and the printer from the shipping container. Set the printer on a clean, stable, flat surface and remove the packing material. Make sure that you have enough room to open the printer cover. Save the shipping container and packing materials in case you need to move or ship your printer.

Verify the contents of the shipping container against the list below and the figure on the following page.

- 3240 printer
- AC power cord
- Ribbon core
- *EasyCoder™ 3240 Printer Getting Started Guide*
- *Printer Companion CD*
- Media roll
- Media support

Contents of the 3240 Shipping Container



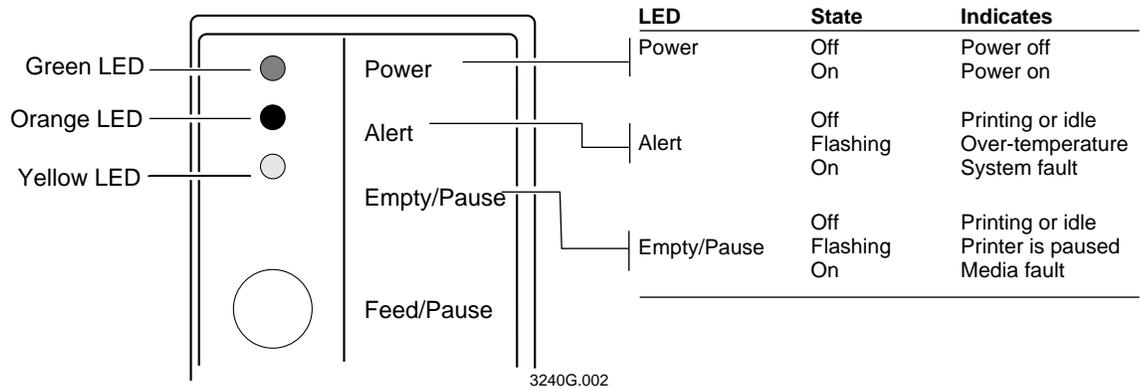
Reporting Damage or Defects

Intermec thoroughly tests and inspects every 3240 printer before shipping it from the factory. If you receive any items that are damaged, please take the following steps to correct the problem:

- Take photographs if necessary.
- Contact the transport carrier.

Understanding the Printer Front Panel

The front of the 3240 printer contains one button (Feed/Pause) and three light emitting diodes (LEDs) that the printer uses to provide information during printer operation. The three LED indicators operate as follows:



The Feed/Pause button performs the following functions depending on the mode of the printer:

Print Mode	Function
If the printer is idle:	Press and release the Feed/Pause button to feed out one label or a minimum specified amount of media. Press and hold the Feed/Pause button to continuously feed media until you release the button. Press the Feed/Pause button twice to take the printer offline.
If the printer is printing:	Press and release the Feed/Pause button to make the printer pause. Press and release the Feed/Pause button again for the printer to resume printing. Press and hold the Feed/Pause button to cancel the print job.
When the printer is first powered on:	Press and hold the Feed/Pause button to print the hardware configuration label. Refer to "Testing Printer Operation" later in this chapter.

Plugging In the Printer

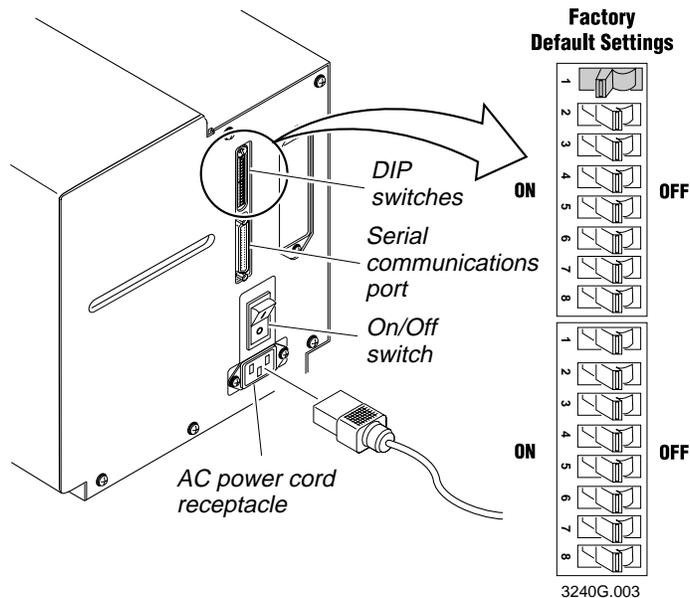
The back of the 3240 printer contains the AC power cord receptacle, the serial communications port, the On/Off (|/O) switch, and two banks of DIP switches.

To plug in the printer

1. Turn the On/Off switch to the off (O) position.
2. Make sure you set the DIP switches to their factory default settings.

Top Bank Set switch 1 on. Set switches 2 through 8 off.

Bottom Bank Set switches 1 through 8 off.



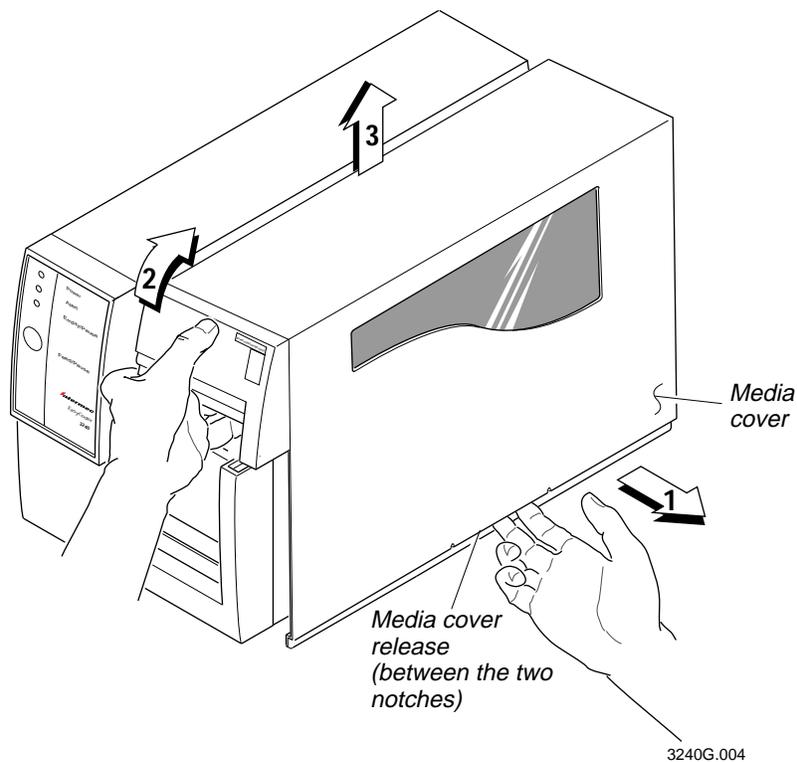
3. Plug the AC power cord into the receptacle at the rear of the printer.
4. Plug the other end of the power cord into a grounded wall outlet or surge protector.
5. Turn the On/Off switch to the on (|) position. When you power on the printer, the green LED lights, the yellow LED flashes, and the platen roller advances. The yellow LED then stays on until you load media.

Opening the Printer

You need to open the printer every time you load media or perform maintenance procedures.

To open the printer

1. Place the fingers of your right hand between the two notches on the lower edge of the media cover (the media cover release) and pull the bottom of the media cover away from the base of the printer.
2. Grasp the front of the media cover with your left hand and lift the front of the media cover upward to release it from the top of the printer frame.
3. Lift the media cover away from the top of the printer.



Loading Media for Printing

This procedure explains how to load a roll of media. For the purposes of this getting started guide, you may want to use the small roll of media that comes with the printer.

Note: Attached to the media roll is a label with a three-digit sensitivity number printed on it. Make sure you save this label. You need this information to set the correct media sensitivity number. See “Setting the Media Sensitivity Number” in Chapter 3 for more information.

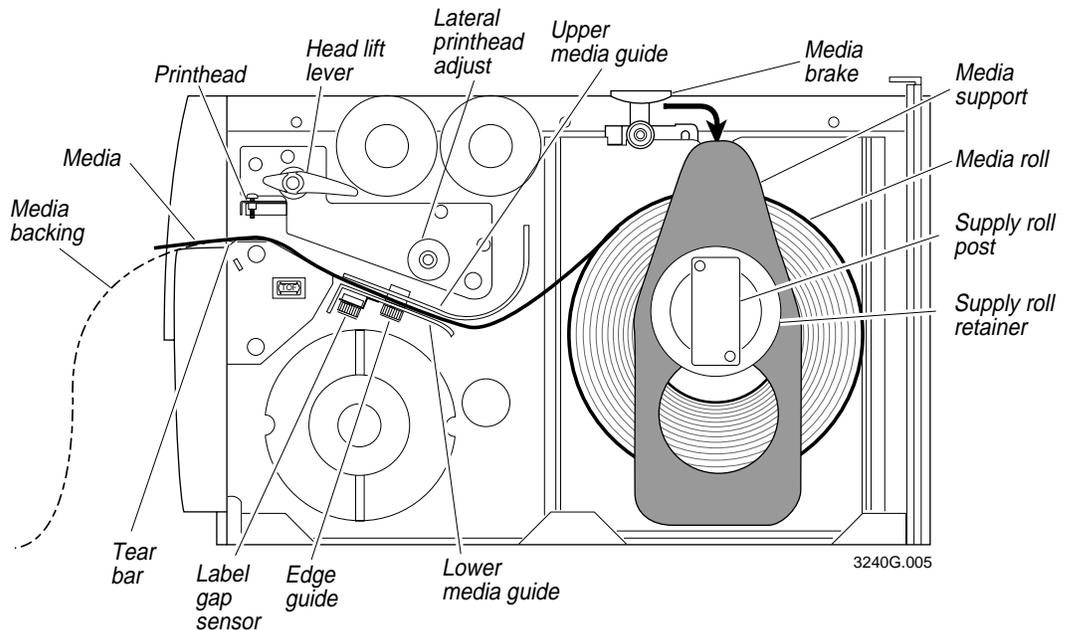
To load media

1. Open the printer.
2. Raise the printhead by rotating the head lift lever clockwise to release it.
3. Turn the supply roll retainer counterclockwise to release it and slide it to the outer end of the supply roll post. Turn the supply roll retainer clockwise to lock it in place.
4. Lift the media brake up and slide it towards the front of the printer until it reaches its resting position.
5. Place the media roll on the supply roll post and position it firmly against the printer.
6. Lift up on the media brake, slide it toward the back of the printer, and lower it onto the media roll.
7. Turn the supply roll retainer counterclockwise and slide it up to the edge of the media roll. Turn the supply roll retainer clockwise to secure.

Note: If you are using a narrow media roll (less than 1 inch), insert the media support between the media roll and the supply roll retainer before you secure it in place.

8. Unscrew the edge guide and slide it all the way to the outer edge of the lower media guide. Screw the edge guide in place.
9. Pull down on the lower media guide to allow access to the media path.
10. Unroll several inches of media and insert it between the two media guides and out the front of the printer. Release the lower media guide.
11. If you are using thermal transfer media, you need to load ribbon. For help, see “Loading Thermal Transfer Ribbon,” later in this chapter.
12. Rotate the head lift lever counterclockwise until it locks in place to lower the printhead.

Loading Media



13. Press the Feed/Pause button until the printer feeds out approximately 6 inches of media.
14. Unscrew the edge guide and slide it inward until it just touches the edge of the media. Screw it in place.

Note: Adjust the label gap sensor if you are using narrow media (less than 1 inch wide). For help, see “Accurately Detecting the Start of a Label” in Chapter 3.

15. If you are loading continuous media or mark label stock, use PrintSet™, your third-party software or the printer command set to tell the printer what kind of media you are using.
16. Replace the media cover. Your printer is now ready to print labels.

Note: If you are using narrow media (1 inch or less), it is important that you adjust the bias adjust screw to achieve the highest print quality possible. For help, see “Correcting Uneven Print Quality” in Chapter 3.

Loading Media for Self-Strip Printing

Use self-strip printing in applications where you want to apply labels to a surface immediately. After printing a label, the printer prints out the label with the backing removed. The rewinder hub collects the backing after passing over the self-strip assist roller. The rewinder hub can hold the backing from an entire roll of media.

Note: Attached to the media roll is a small label with a three-digit sensitivity number printed on it. Make sure you save this label. You need this information to set the correct media sensitivity number. Refer to “Setting the Media Sensitivity Number” in Chapter 3 for more information.

Note: If you lift the printhead while printing with self-strip, you may not receive the best performance from the Precision Print technology. If you must lift the printhead, remove accumulated liner from the takeup hub before resuming print.

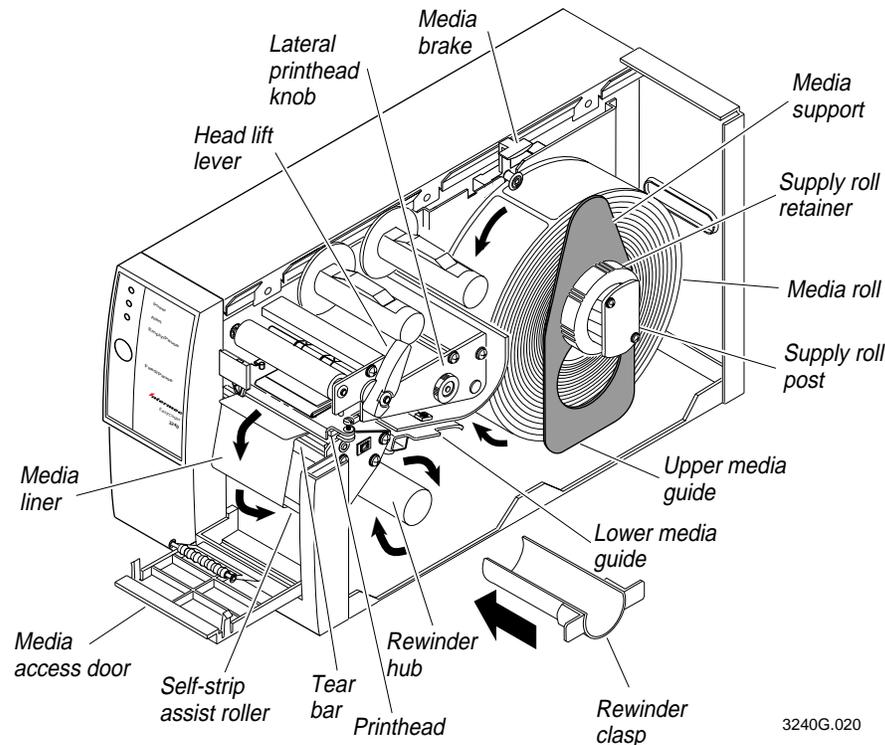
To load self-strip media

1. Open the printer.
2. Raise the printhead by rotating the head lift lever clockwise to release it.
3. Turn the supply roll retainer counterclockwise to release it and slide it to the outer end of the supply roll post. Turn the supply roll retainer clockwise to lock it in place.
4. Lift the media brake up and slide it towards the front of the printer until it reaches its resting position.
5. Place the media roll on the supply roll post and position it firmly against the printer.
6. Lift up on the media brake, slide it toward the back of the printer, and lower it onto the media roll.
7. Turn the supply roll retainer counterclockwise and slide it up to the edge of the media roll. Turn the supply roll retainer clockwise to secure.

Note: If you are using a narrow roll of media (less than 1 inch), insert the media support between the roll of media and the supply roll retainer before you secure it in place.

8. Unscrew the edge guide and slide it to the outer edge of the lower media guide. Screw the edge guide in place.
9. Pull down on the lower media guide to access the media path.
10. Unroll several inches of media and insert it between the two media guides and out the front of the printer. Release the lower media guide.

Loading Media for Self-Strip Printing



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11. Pull out 10 to 12 inches of media and remove the exposed labels from the media liner.
12. Open the media access door and thread the media liner under the self-strip assist roller and over the rewinder hub in a clockwise direction.
13. Remove the rewinder clasp from the rewinder hub and wind approximately 2 inches of media liner over the rewinder hub.
14. Secure the media by snapping the rewinder clasp onto the rewinder hub. Turn the rewinder hub clockwise to remove all slack from the media liner between the tear bar and the rewinder hub.
15. Close the media access door.
16. Use PrintSet, your third-party software or the printer command set to enable self-strip printing and the label taken sensor.

Note: See “Adjusting the Printer for Self-Strip Printing” in Chapter 3 for information on how to position the label taken sensor.

17. Rotate the head lift lever counterclockwise until it locks.
18. Press Feed/Pause to advance approximately 6 inches of media through the printer. Remove the stripped labels from the front of the printer.

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19. Unscrew the edge guide and slide it inward until it just touches the edge of the media. Screw the edge guide in place.

Note: Adjust the label gap sensor if you are using narrow media (less than 1 inch wide). See “Accurately Detecting the Start of a Label” in Chapter 3.

20. Replace the printer cover. The printer is now ready to print labels.

Loading Thermal Transfer Ribbon

If you plan to use thermal transfer media, you must install a thermal transfer ribbon (TTR) to print labels in thermal transfer mode.

Note: Save the plastic bag that your ribbon comes in. Attached to the ribbon bag is a sticker with a three-digit sensitivity number printed on it. You need this information to set the correct media sensitivity number. See “Setting the Media Sensitivity Number” in Chapter 3 for more information.

To load thermal transfer ribbon

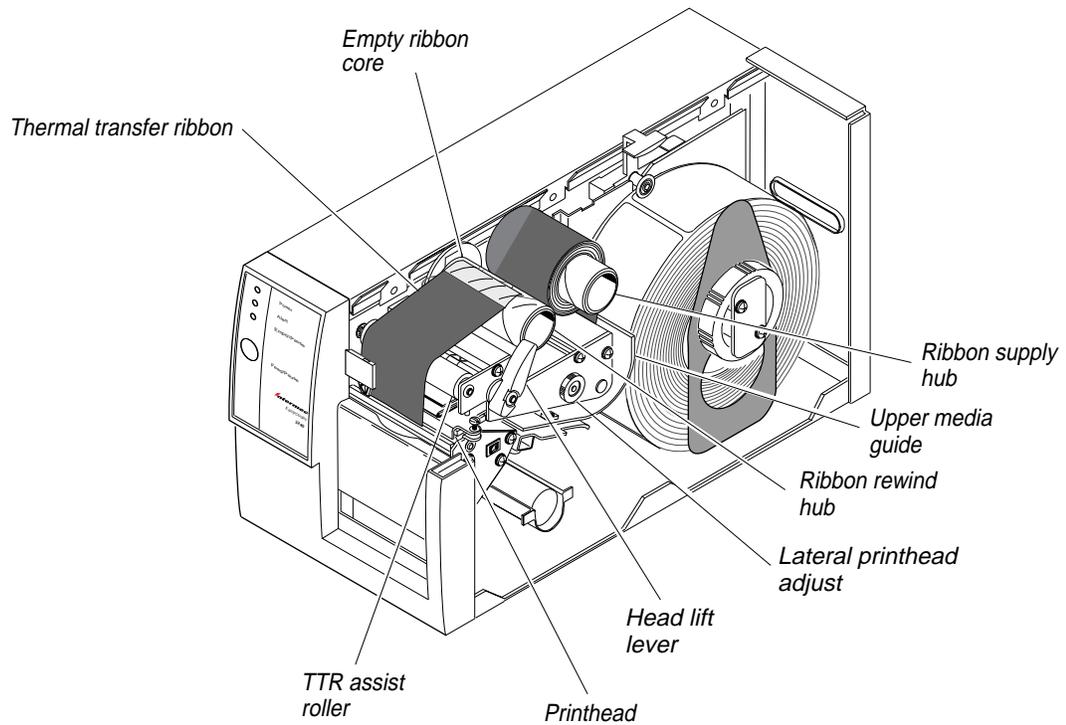
1. Make sure the printhead is in the raised position. If not, turn the head lift lever clockwise until it releases the printhead.
2. Place the empty ribbon core that comes with the printer on the ribbon rewind hub.
3. Detach the leader from the new thermal transfer ribbon roll and unwind the end of the ribbon approximately 8 inches. The edge of the ribbon has a leader (with an adhesive strip on the leader edge) to guide the ribbon through the printhead mechanism.
4. Slide the roll of thermal transfer ribbon onto the ribbon supply hub with the ribbon roll winding clockwise.
5. Route the ribbon leader through the printer mechanism as shown in the illustration.

Note: Make sure that the ribbon goes over the label gap sensor PCB located on the top of the upper media guide. If the ribbon becomes caught on the PCB, it can cause the ribbon to wrinkle.

Note: Make sure the ribbon runs above the upper media guide. The ribbon must come in contact with the printhead.

6. Attach the leader from the new thermal transfer ribbon roll to the empty ribbon core using the adhesive strip on the leader edge.
7. Turn the ribbon rewind hub clockwise until the ribbon runs smoothly through the printhead mechanism.

Loading Thermal Transfer Ribbon



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8. Engage the printhead by rotating the head lift lever counterclockwise until it locks.
9. To enable thermal transfer printing, set DIP switch 8 on the bottom bank of switches to the on position. For help, see “Configuring the Serial Port” in Chapter 2.
10. Press the Feed/Pause button to advance the ribbon through the printer.
11. Close the printer. The printer is now ready to print labels.

Note: When replacing the thermal transfer ribbon roll in the future, use the empty ribbon supply core as the new empty ribbon core.

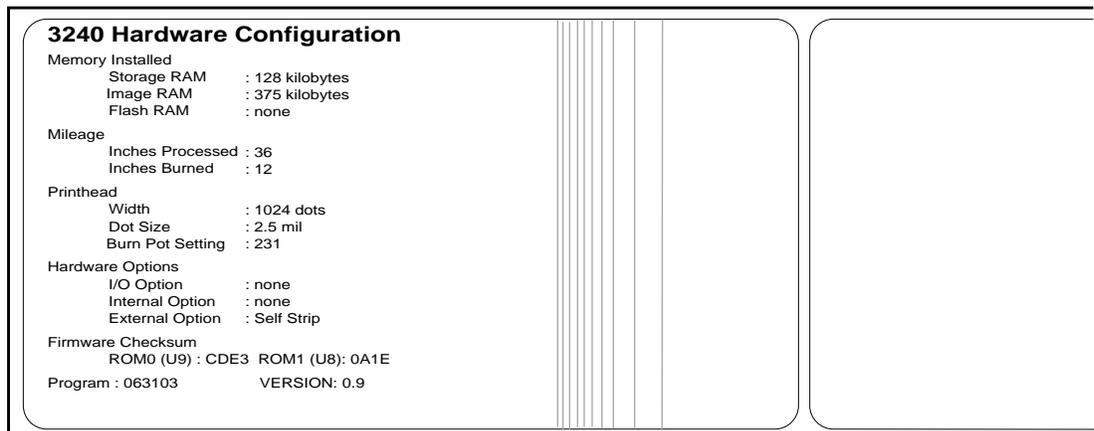
Testing Printer Operation

You can print the hardware configuration test label to test the printer and make sure it is operating correctly. The hardware configuration test label lists your printer's configuration. Use this label for reference when connecting the 3240 printer to your system.

Note: For the entire hardware configuration label to print out, you must use media that is at least 2.6 inches wide.

To print the hardware configuration test label

1. Turn the On/Off switch to the off position.
2. Press and hold the Feed/Pause button while turning the printer power on. The Alert and Empty/Pause LEDs blink during the printer self-test.
3. Release the Feed/Pause button when the media starts moving. The printer feeds out one or two blank labels (to verify the label length) and then prints the hardware configuration test label.
4. Turn the printer power off and then on to enter Print mode.



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2

Connecting the Printer

You can connect the 3240 printer to almost any system available and establish communications. Use this chapter for

- *connecting the printer to your system.*
- *verifying communications between the printer and your system.*
- *configuring the serial port.*
- *customizing the printer for your applications.*

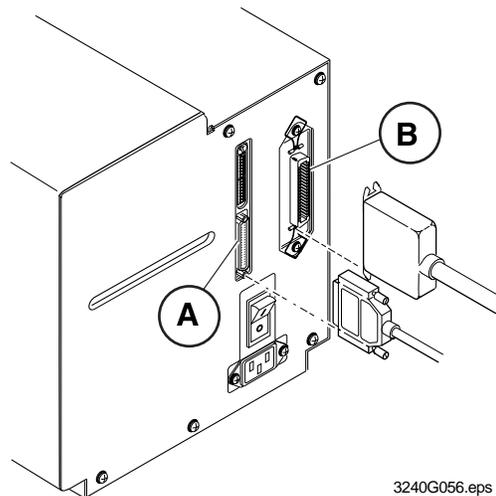
Connecting the Printer to Your System

You can connect your 3240 printer to a PC, a local area network, an AS/400 (or other midrange computer), or a mainframe. This section provides the information necessary for connecting to any of these systems.

Connecting the 3240 to a PC

You can connect the 3240 to either a serial port or parallel port (if you have the parallel option installed in your printer) on your PC. You must provide the correct cables for connecting the printer.

Serial and Parallel Connector Location



A Connect to a serial port.

B Connect to a parallel port.

Connecting the Printer to a PC Serial Port

To connect the 3240 to your PC serial port, you need a shielded EIA RS-232, RS-422, or RS-485 electrical interface with a 25-pin D-style subminiature connector. It must have pins on the printer end and an appropriate serial port connector on the other end.

Use the following table to determine the correct Intermec cable for your application. See your printer user's manual for cable schematics for these cables.

For Connecting To	Use Intermec Cable Part Number
IBM PC AT	048693 (25-pin printer to 9-pin serial port straight-through)
IBM PC XT	048668 (25-pin printer to 25-pin serial port null modem)

Contact your Intermec representative for ordering assistance if you do not have the appropriate cable.

To connect your printer to a PC serial port

1. Turn the On/Off switch to the off position.
2. Plug the 25-pin connector into the serial communications port on the back of the 3240 printer.
3. Plug the other end of the cable into a serial COM port on the PC.
4. If necessary, change the PC serial port configuration to match your printer. The default configuration settings for the 3240 printer are:
 - 9600 baud
 - even parity
 - 7 bit word length
 - XON/XOFF no status response protocol
 - device address A
 - direct thermal media

See "Configuring the Serial Port" later in this chapter for more information.

Connecting the Printer to a PC Parallel Port

If you are using a parallel port to communicate with the printer, you need:

- a Centronics parallel interface installed in the printer.
- a parallel cable to run between the printer and the PC.

If you did not have the parallel interface installed at the factory, an Intermec technician can install the field-installable option (Intermec Part No. 056830) in the optional I/O board port of your printer.

You can purchase a parallel cable from Intermec (Part No. 051211) or from your local computer store.

To connect your printer to a PC parallel port

1. Turn the On/Off switch to the off position.
2. Plug the Centronics cable connector into the interface adapter port on the back of the 3240 printer.
3. Plug the other end of the cable into a parallel port on the PC.

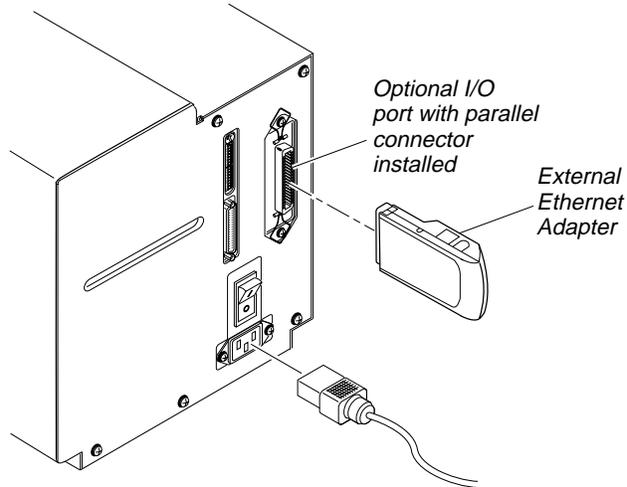
Connecting the 3240 to an Ethernet Network

With the Intermec Ethernet Adapter installed, you can connect the 3240 printer into mixed network environments. The adapter is compatible with all major systems including: NetWare, UNIX, Windows, and Macintosh. Additionally, mainframe systems that use TCP/IP are supported.

To connect the 3240 to an Ethernet network, you must have:

- an Ethernet Adapter interface installed in your printer.
- an Ethernet network cable.

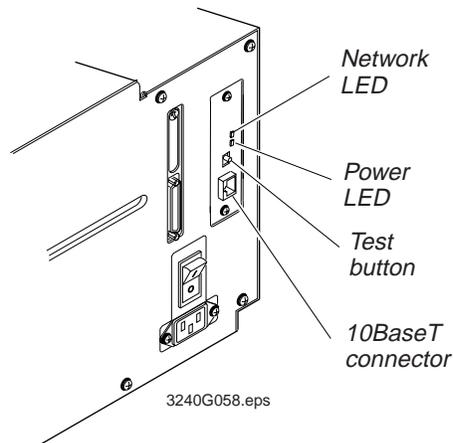
Parallel Port Connector and External Ethernet Adapter



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If you did not have the parallel interface installed at the factory, an Intermec technician can install the field-installable option (Intermec Part No. 068789) in the optional I/O board port of your printer.

Internal Ethernet Connector



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See your *Intermec Ethernet Adapter Installation Guide* (Part No. 068748) for more information. You may also want to purchase a copy of the *Intermec Ethernet Adapter User's Manual* (Part No. 068749) or download a copy from our Internet site at www.intermec.com at no charge.

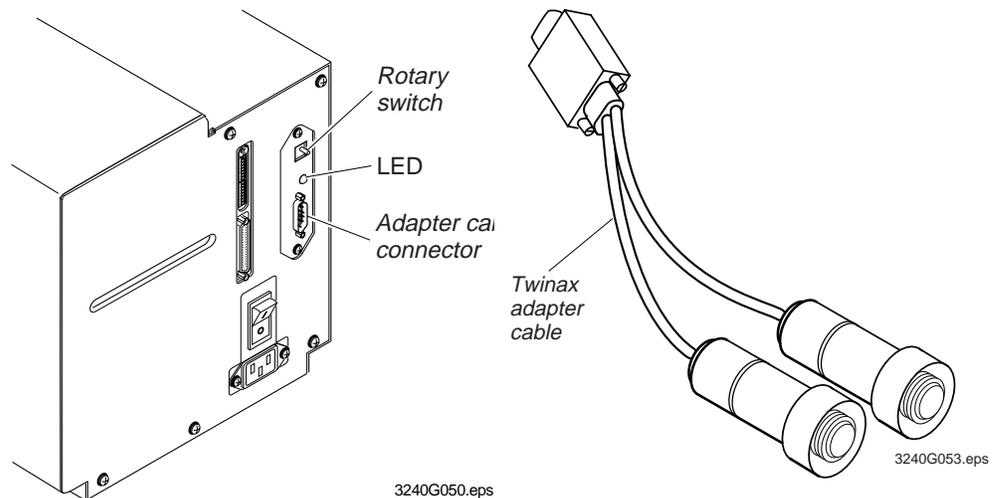
Connecting the 3240 to an AS/400

To connect a 3240 printer directly to an AS/400 or midrange computer, you need:

- a twinax adapter card.
- a twinaxial cable equivalent to IBM part number 7362267 or 7362062. The maximum cable length for the twinax interface is 5000 feet (1525 meters).

If you did not have the twinax adapter card installed at the factory, an Intermec technician can install the field-installable option (Intermec Part No. 067879) in the optional I/O board port of your printer.

Twinax Connector and Cable



For help on cabling and communications, see the *External Coax/Twinax Interface Card User's Manual* (Part No. 068453) that comes with the twinax adapter card.

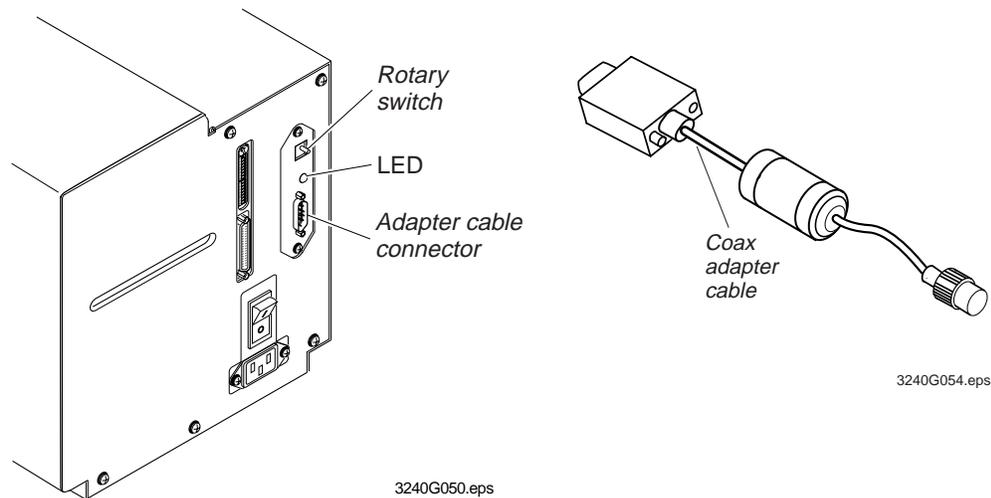
Note: If you are using a midrange computer other than the AS/400, refer to your system documentation for information on cabling and setting up communications.

Connecting the 3240 to a Mainframe

To connect a 3240 printer directly to an IBM mainframe, you need:

- a coax adapter card.
- a coaxial cable equivalent to IBM part number 2577672 or 1833108.

Coax Connector and Cable



The maximum cable length allowed is 4920 feet (1500 meters). See the IBM specification *Installation and Assembly of Coaxial Cable and Accessories*, part number GA27-2805-4, for further information.

If you did not have the coax adapter card installed at the factory, you can install the field-installable option (Intermec Part No. 067880) in the optional I/O board port of your printer.

For help on cabling and communications, see the *External Coax/Twinax Interface Card User's Manual* (Part No. 068453) that comes with the twinax adapter card.

Verifying Printer Communications With Your System

Once you have the printer connected to your system, you need to verify that the printer communicates with your system. The easiest way to test communications is to set the printer to Data Line Print mode, which is a part of the Test and Service mode, and send down a character string from your system.

If you have just printed a configuration test label, you are in Data Line Print mode. Start with Step 4.

To verify communications with your system

1. Turn the On/Off switch to the off position.
2. Press and hold the Feed/Pause button while powering on the printer. The printer prints out the hardware configuration test label.
3. Release the Feed/Pause button after the hardware configuration label is printed. You are now in Data Line Print mode.
4. Send down some characters from your system.

At this point the printer does not attempt to interpret any printer commands. It simply prints each character with its hexadecimal equivalent underneath.

5. To return to Print mode, turn the printer power off and then on again.

If this procedure does not work, check to make sure that the DIP switches are set to the default configuration and that the printer cable is securely plugged into the correct port of your system.

Configuring the Serial Port

The serial port settings of the 3240 printer should match those of your PC or network controlling device. If the default settings do not match your configuration needs, use the DIP Switch Settings table and the Serial Port Settings table to change them.

Note: Ignore Multi-Drop switches if you are not using a Multi-Drop network.

DIP Switch Settings

		Top Bank Switch Number								Bottom Bank Switch Number							
		OFF								OFF							
		ON								ON							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Baud Rate Selection																	
19,200		0	0	0													
9,600*		1	0	0													
4,800		0	1	0													
2,400		1	1	0													
1,200		0	0	1													
reserved		1	0	1													
reserved		0	1	1													
reserved		1	1	1													
Parity Selection																	
Even*								0	0								
Odd								1	0								
None								0	1								
None								1	1								
Number of Data Bits																	
7 Bit									0								
8 Bit									1								
Reserved																	
									0	0							
Multi-Drop Address Selection																	
*A		0	0	0	0	0	0	0	0								
B		1	0	0	0	0	0	0	0								
C		0	1	0	0	0	0	0	0								
D		1	1	0	0	0	0	0	0								
E		0	0	1	0	0	0	0	0								
F		1	0	1	0	0	0	0	0								
G		0	1	1	0	0	0	0	0								
H		1	1	1	0	0	0	0	0								
I		0	0	0	1	0	0	0	0								
J		1	0	0	1	0	0	0	0								
K		0	1	0	1	0	0	0	0								
L		1	1	0	1	0	0	0	0								
M		0	0	1	1	0	0	0	0								
N		1	0	1	1	0	0	0	0								
O		0	1	1	1	0	0	0	0								
P		1	1	1	1	0	0	0	0								
Q		0	0	0	0	0	0	1	1								
R		1	0	0	0	1	0	1	1								
S		0	1	0	0	1	0	1	1								
T		1	1	0	0	1	0	1	1								
U		0	0	1	0	1	0	1	1								
V		1	0	1	0	1	0	1	1								
W		0	1	1	0	1	0	1	1								
X		1	1	1	0	1	0	1	1								
Y		0	0	0	1	1	0	1	1								
Z		1	0	0	1	1	0	1	1								
0		0	1	0	1	0	1	1	1								
1		1	1	0	1	1	1	1	1								
2		0	0	1	1	1	1	1	1								
3		1	0	1	1	1	1	1	1								
4		0	1	1	1	1	1	1	1								
5		1	1	1	1	1	1	1	1								
Protocol Selection																	
XON/XOFF*									0								
Intermec Protocols									1								
XON/XOFF Selection																	
No Status Response*									0								
With Status Response									1								
DT/ITR																	
Direct Thermal*									0								
Thermal Transfer									1								

Default settings are noted with an *

Default settings are noted with an *

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Serial Port Settings

The default settings are shown in ***bold italic*** text.

Parameter	Settings
Baud Rate	1200, 2400, 4800, <i>9600</i> , 19200
Parity	<i>Even</i> , Odd, None
Word Length Selection	<i>7 bit word</i> , 8 bit word
Protocol	Intermec, <i>XON/XOFF no status response</i> , XON/XOFF with status response
Device Address	A to Z, 0 to 5
Media Type	<i>Direct thermal</i> , thermal transfer

To configure the printer serial port

1. Use the DIP Switch Settings table (previous page) and the Serial Port Settings table (above) to determine which parameters you need to change and the correct DIP switch settings.
2. Use a small straight-slot screwdriver to set the appropriate DIP switches on or off.

For example, if you want to change the media type to thermal transfer, set DIP switch 8 on the bottom bank of switches to the on position.

3. Turn the printer power off and then on for the configuration changes to take effect.

Customizing the Printer for Your Application

Several configuration settings are available to improve print quality and performance. You can use the configuration settings to control parameters such as print darkness and the media sensitivity number. Many of the configuration settings customize the printer for self-strip applications and the type of media you are using. Use PrintSet, your third-party software, or the Intermec Printer Language (IPL) command set to customize the configuration settings. Refer to the *IPL Programming Reference Manual* for more information on all of the configuration settings.

Using the InterDriver and ActiveX Barcode Control

You can now easily create bar code labels from virtually any Windows application. Simply use the InterDriver as you would any other printer driver.

With the InterDriver you can:

- Change printer configuration.
- Adjust memory.
- Use pre-defined labels or create your own customer sizes.
- Perform test prints.
- Communicate with your printer with serial, parallel, or Ethernet connections.

With the ActiveX Barcode Control you can:

- Drop bar codes into any Windows Application.
- Easily configure the bar code to your needs.
- Update the data manually or automatically from a database.
- Generate serialized bar codes.
- Create custom applications using Visual basic and Visual C++.

For help on both the InterDriver and the ActiveX Barcode Control, refer to the online help portion of the application software.

Using the PrintSet Software

Use the PrintSet application software to easily configure your printer from your PC. You can upload the current configuration settings, modify them, and then download them to the 3240 printer. PrintSet also lets you:

- download graphics and fonts.
- print test labels.
- allocate memory.
- download configuration files.

For help using PrintSet, refer to the online help portion of the application software. PrintSet can be installed from the *Printer Companion CD* included with this manual or it can be downloaded from our Internet site at www.intermec.com.

Using Third-Party Software

You can use third-party software to set many of the printer parameters. Use the printer command set or the configuration DIP switches to set the parameters that your software cannot set (for example, the number of image bands and media sensitivity number).

Use your third-party software to create label formats and convert graphics into a user-definable character (UDC) format that the 3240 printer can interpret.

Using the Printer Command Set

You can also create labels by downloading formats (designs) and data created with the printer command set. The commands in the printer command set can perform any function or activate any feature of the 3240 printer except for those features and functions that you set with the DIP switches. See the *IPL Programming Reference Manual* for a complete list of printer commands and their descriptions.

3

Optimizing Print Quality

Use the procedures and adjustments in this chapter to optimize and maintain print quality. Optimize and maintain print quality by

- *troubleshooting the printer.*
- *using Precision Print technology to print high registration labels.*
- *setting the media sensitivity number.*
- *cleaning the printhead.*
- *adjusting the label taken sensor for self-strip printing.*

Troubleshooting the Printer

Use the troubleshooting table to determine what may be causing your print quality problem before you proceed. Then use the next sections to optimize and maintain your printer.

If the print quality problem persists after performing the procedures in this chapter, see your *3240 Bar Code Label Printer User's Manual* for more troubleshooting information, or contact your Intermec Customer Service Representative at 1-800-755-5505.

If your labels are not printing properly, check the following table to locate the symptom and correct the problem.

Print Quality Problems

Symptom	Possible Causes	Solution
Blotches on labels.	Printhead is dirty.	Clean the printhead. See “Cleaning the Printhead” later in this chapter.
	Poor quality label or ribbon stock.	Replace stock with Intermec Media Products label and/or ribbon stock. See “Setting the Media Sensitivity Number” later in this chapter to set the correct media sensitivity numbers for Intermec media and ribbon stock.
	Incorrect media sensitivity setting.	Change sensitivity setting to match the type of media you are using. See “Setting the Media Sensitivity Number” later in this chapter.
Printing is too light or too dark.	Incorrect media sensitivity setting.	Change sensitivity setting to match the type of media you are using. See “Setting the Media Sensitivity Number” later in this chapter.
	Printhead is dirty.	Clean the printhead. Refer to “Cleaning the Printhead” later in this chapter.
Printing on label is out of alignment.	Printer is misfeeding media.	Make sure that you installed the media correctly along the entire media path. See “Loading Media for Printing” in Chapter 1.
Print quality is poor.	Incorrect media sensitivity setting.	Change the sensitivity setting to match the type of media you are using. See “Setting the Media Sensitivity Number” later in this chapter.
	Printhead is dirty.	Clean the printhead. See “Cleaning the Printhead” in this chapter.
	Uneven print contrast (density).	Adjust the bias adjust screw. See “Correcting Uneven Print Quality” later in this chapter.
	You are using incorrect label or ribbon stock to print labels.	Use only Intermec label and ribbon stock to ensure superior print quality and product performance. See “Setting the Media Sensitivity Number” later in this chapter to set the correct media sensitivity numbers for Intermec media and ribbon stock.
	Ribbon wrinkling.	Check to make sure that you installed the ribbon correctly. See “Loading Thermal Transfer Ribbon” in Chapter 1. Adjust the bias adjust screw. See “Correcting Uneven Print Quality” later in this chapter.

Print Quality Problems (continued)

Symptom	Possible Causes	Solution
Print quality is poor.	Direct thermal/thermal transfer switch set in the wrong position.	Set the DIP switch for the type of media you are using. See “Configuring the Serial Port” in Chapter 2.
The printer skips a label or sends an intermittent error.	The label gap sensor is not in the correct position.	Properly position the label gap sensor. See “Accurately Detecting the Start of a Label” later in this chapter.
	Excessive use of the TOF switch.	Lift the printhead to reset the top of form position. See “Fine-Tuning the Top of Form Position” later in this chapter.
The printer is not waiting until you remove a label to print again.	The printer is not sensing that there is a label at the strip bar.	Properly position the label taken sensor. See “Adjusting the Printer for Self-Strip Printing” later in this chapter.
The ribbon is moving towards the outer edge of the media path.	You have incorrectly set the bias adjust screw.	Adjust the bias adjust screw. See “Correcting Uneven Print Quality” later in this chapter.
	The ribbon and media are not the same width.	Make sure that your ribbon and media are the same width. Intermec recommends that the width of the ribbon and media be the same to achieve the best performance from your printer.
Top of form shifts in self-strip mode after you lift the printhead.	The tension has changed on the liner.	Remove the accumulated liner from the rewinder hub. See “Loading Media for Self-Strip Printing” in Chapter 1.
		If some top of form shift remains, use the TOF switch to correct it. See “Fine-Tuning the Top of Form Position” later in this chapter.
Top of form shifts in batch mode after you lift the printhead.	You interrupted the precision print technology.	Use the TOF switch to correct the shift. See “Fine-Tuning the Top of Form Position” later in this chapter.
Label image is not printing in the middle of the label.	Lateral movement of the media through the media path or variations in a roll of media.	Adjust the lateral position of the printhead with the lateral printhead knob. See “Correcting the Lateral Position of the Label Image” later in this chapter.

Print Quality Problems (continued)

Symptom	Possible Causes	Solution
Labels stop stripping while in self-strip mode.	There is too much liner accumulated on the rewinder hub.	Remove the accumulated liner from the rewinder hub. See “Loading Media for Self-strip Printing” in Chapter 1.

Printing High Registration Labels

The 3240 printer uses Precision Print technology to perform high registration printing, which means the printer can control the placement and quality of the label image it prints. Precision Print technology tracks the media through the media path and automatically makes adjustments to keep the label image printing in the same horizontal position from the leading edge of each label. You can also manually adjust the printer to perform these tasks:

- Correct the lateral position of the label image.
- Accurately detect the start of a label.
- Correct uneven print quality.
- Fine-tune the top of form position.

Correcting the Lateral Position of the Label Image

If your label image is no longer printing in the middle of your label, you may need to adjust the lateral position of the printhead. Use the lateral printhead knob to compensate for lateral movement of media in the media path or variations in a roll of media. You can move the printhead 0.10 inch in either direction.

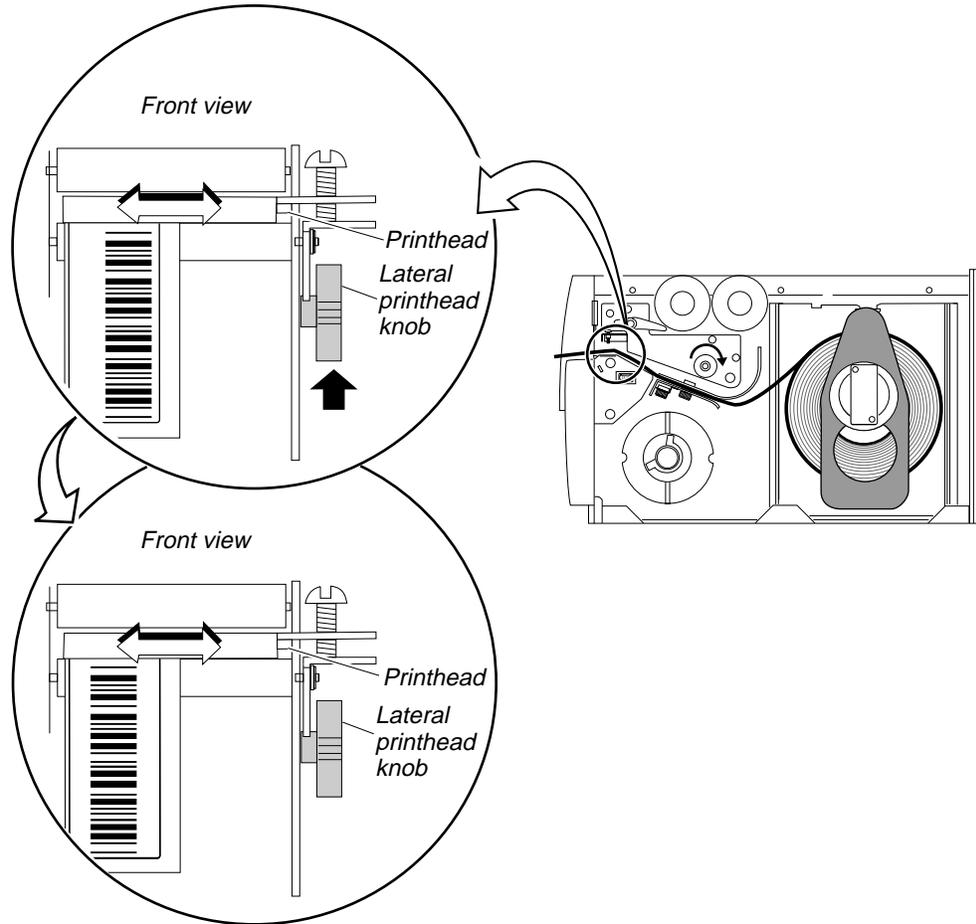
***Note:** Do not raise the printhead or turn off the printer before adjusting the lateral position of the printhead.*

To adjust the lateral position of the label image

1. Remove the media cover.
2. Gradually turn the lateral printhead knob while printing and observe how the image is moving on the label.
 - Turn the knob clockwise to move the printhead toward the inner edge of the media path.
 - Turn the knob counterclockwise to move the printhead toward the outer edge of the media path.

3. Adjust the lateral printhead knob until the image prints exactly where you want it to on the label.

Adjusting the Lateral Position of the Label Image



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In the first part of this illustration, the label image starts out printing too close to the outer edge of the label. By turning the lateral printhead knob clockwise, the label image moves closer to the inner edge of the label. The label image then appears exactly where you want it to, in the center of the label, in the last part of the illustration.

4. Replace the media cover.

Accurately Detecting the Start of a Label

If you experience problems such as the printer skipping labels or the printer stopping and the yellow LED flashing, you may need to adjust the label gap sensor. You are most likely to experience any of these problems if you are using very narrow label stock and the label gap sensor is not in the correct position. You can adjust the label gap sensor from 0 to 1.0 inch from the inboard edge of the printer.

Note: Intermec positions the label gap sensor 0.5 inch from the inboard edge of the printer at the factory. You should be able to leave it in this position for most labels wider than 1.0 inch.

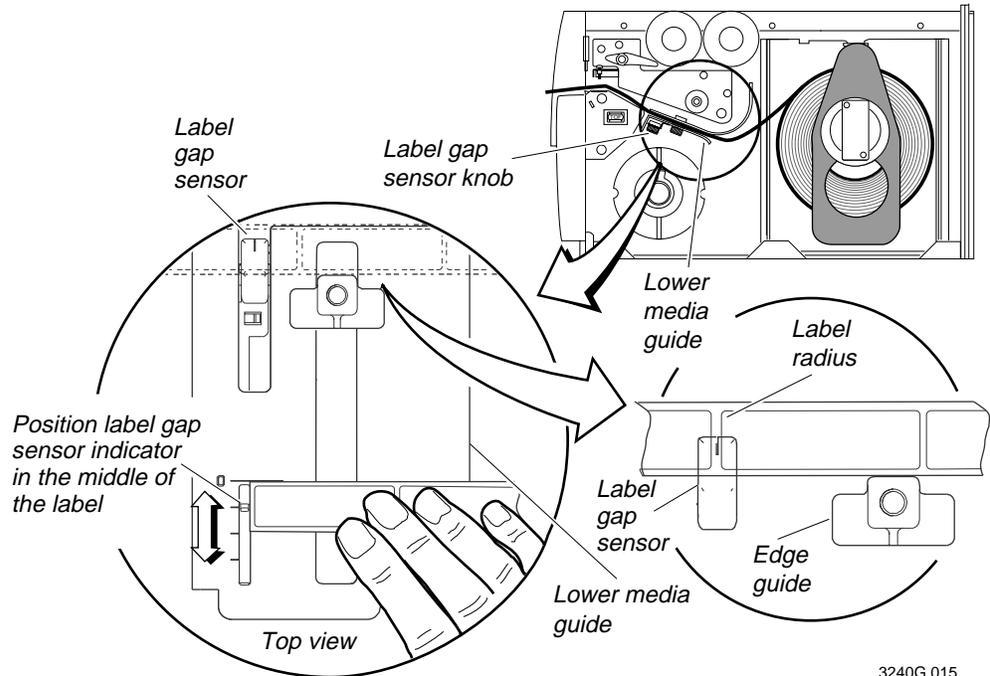
To adjust the label gap sensor

1. Remove the media cover.
2. Turn the label gap sensor knob counterclockwise and slide the sensor all of the way to the inboard edge of the lower media guide.
3. Tear off one of the labels from your roll of media and line it up with the 0 (zero) on the lower media guide.
4. Slide the label gap sensor knob to the position where the label gap sensor indicator (the tab on the label gap sensor that is visible from the top of the lower media guide) is in the middle of the label.

Here are some guidelines for you to follow:

- If your labels are less than 1.0 inch wide, position the label gap sensor in the middle of the label.
 - If your labels are greater than 1.0 inch wide, position the label gap sensor over the straight edge of the label that comes out the front of the printer.
 - If your labels are round, position the label gap sensor over the middle of the radius edge.
5. Turn the label gap sensor knob clockwise to secure it in the new position.

Adjusting the Label Gap Sensor



6. Try printing a label to see if the printer is detecting the top of form (front edge of the label).
7. If the printer is still not detecting the top of form, slide the label gap sensor a little further toward the outer edge of the lower media guide.
8. Replace the media cover.

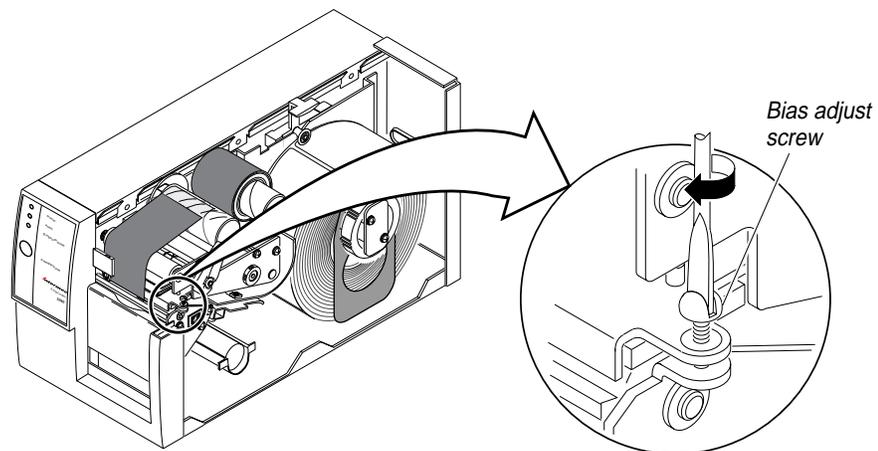
Correcting Uneven Print Quality

You may experience problems in print quality (ribbon wrinkling or light print on one side of your label) if the printhead is not making even contact with the label stock. This condition can happen with any size label stock, but it is most common when using narrow label stock (1.0 inch or less). You need a straight-slot screwdriver to turn the bias adjust screw.

Note: To achieve the best print quality, adjust the bias adjust screw each time you use media of a different width.

To adjust the bias adjust screw

1. Remove the media cover and locate the bias adjust screw.

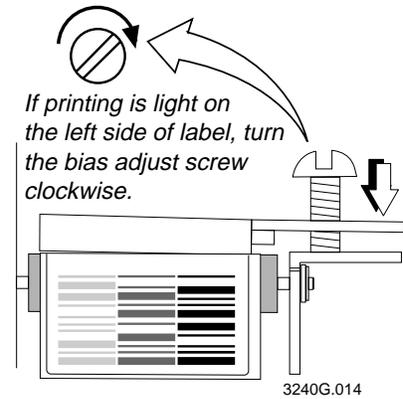
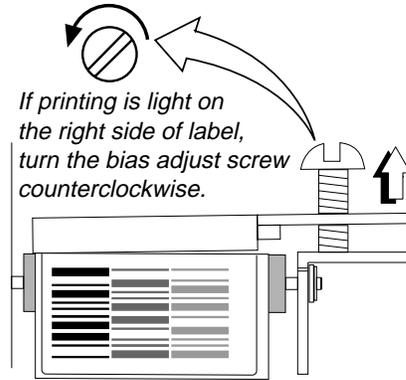


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EasyCoder 3240 Printer Getting Started Guide

2. To compensate for uneven print quality, turn the bias adjust screw as shown.

Note: When you adjust the bias adjust screw, the printhead rests evenly on the drive roller and results in even print quality.



3. Replace the media cover.

Note: You must properly adjust the bias adjust screw to prevent premature printhead failure and excessive platen wear.

Fine-Tuning the Top of Form Position

If your label format prints too close to the front or back edge of the label, you can fine-tune the position with the top of form (TOF) switch. The TOF switch controls the position of the format forward or backward along the length of the label.

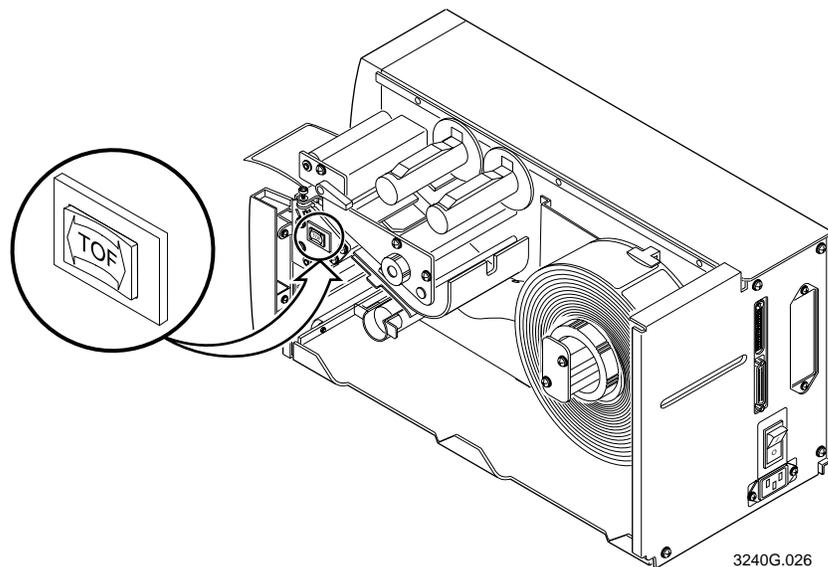
This feature is especially important if you are printing small labels in self-strip mode because you can easily adjust for slight shifts in the label format without stopping the printer or sending down software commands.

Only use the TOF switch to fine-tune your label format position. This is important because the printer returns to your initial TOF setting when you:

- cycle printer power.
- lift the printhead.

Use the TOF switch to fine-tune the format position after you design the label. Do not use the TOF switch to design your label format. Use PrintSet or the Top of Form, Set software command <SI>F to control the initial TOF setting. For help on using this command, see the PrintSet help or the *IPL Programming Reference Manual*.

The TOF switch is a small rocker switch located on the lower outboard plate of the printer.



To move a label format backward with the TOF switch

Note: You will see the new format position on the second label you print after pressing the TOF switch.

You notice that your format is printing toward the front part of the label.

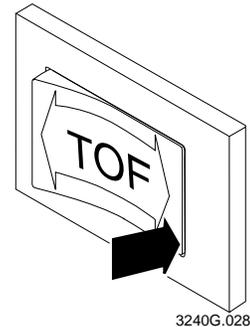
← Label direction from printer



1. Remove the media cover.

Note: Do not raise the printhead while adjusting the TOF position.

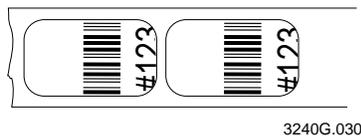
2. Press on the back part of the TOF switch. Each time you press the TOF switch, you move the label format backward .005 inch (.127 mm).
3. Press the TOF switch repeatedly until your format moves backward to the correct position on the label.



To move a label format forward with the TOF switch

You notice that your format is printing toward the back part of the label.

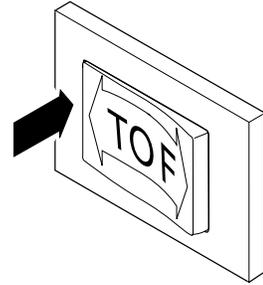
← Label direction from printer



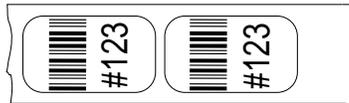
1. Remove the media cover.

Note: Do not raise the printhead while adjusting the TOF position.

2. Press on the front part of the TOF switch. Each time you press the TOF switch, you move the label format forward .005 inch (.127 mm).
3. Press the TOF switch repeatedly until your format moves forward to the correct position on the label:



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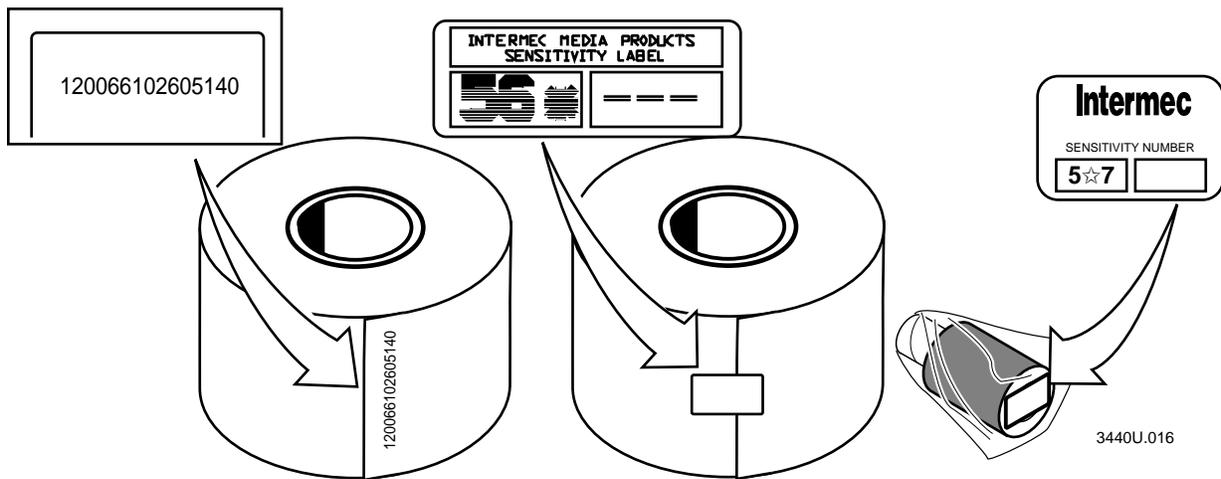
3240G.032

Setting the Media Sensitivity Number

Media sensitivity is important because you use it to optimize print quality and print speed. The three-digit sensitivity number specifies the amount of heat required by the printhead to image a label. The amount of heat that each roll of media or ribbon requires is unique due to different chemistries and manufacturing processes.

Intermec has developed heating schedules (the amount of heat required to image a label) to produce the highest possible print quality for Intermec media and ribbon combinations on Intermec printers. Look for the three digit media sensitivity number on

- the side of the media roll. Use the last three digits (140 in the example) of the 15 digit number stamped on the roll for the media sensitivity number.
- a small label attached to the roll of media.
- a small label attached to the plastic bag of your ribbon roll.



Use this three-digit number to optimize print quality and print speed on the 3240 printer. You can achieve the best print quality on the 3240 printer by using only Intermec ribbon and media products. The default sensitivity setting for thermal transfer media is 567. For direct thermal media, the default sensitivity setting is 420. Use the packaging that you saved, when loading media and ribbon, to determine the correct sensitivity number.

Use the PrintSet software, your third-party software, or the Intermec Printer Language (IPL) command set to change the media sensitivity number. For help setting the media sensitivity number using PrintSet, see the example in the next section.

Setting the Media Sensitivity Number for Intermec Media and Ribbon

The sensitivity number on each roll of thermal transfer media or ribbon has an asterisk (*) in place of one of the digits. To optimize the sensitivity number for thermal transfer media, you combine the digits as in this example.

Media or Ribbon	Sensitivity Rating	Description
Thermal Transfer Media	56*	The asterisk reserves the third digit to identify the ribbon's sensitivity number.
Thermal Transfer Ribbon	5*7	The asterisk reserves the second digit to identify the media's sensitivity number.

	567	Optimum Sensitivity Rating

To set the sensitivity rating for direct thermal media, use the three-digit sensitivity rating located on the roll of media or listed in the Direct Thermal Media Sensitivity Settings table on the following page.

To change the media sensitivity number with PrintSet

1. Start the PrintSet applications.
2. Click the Paper type button:



3. In the Print Quality Setup dialog box, enter your three-digit number in the Media Sensitivity Number field.
4. Click OK.

Setting the Media Sensitivity Number for Other Media and Ribbon

If you are not using Intermec media and ribbon, or you misplaced your packaging with the three-digit sensitivity number label on it, you can set the approximate sensitivity setting. The approximate sensitivity numbers are the first entry (in bold text) for each series in the media sensitivity settings tables on the next two pages. Enter the three-digit approximate sensitivity setting (for example, 800) to achieve acceptable print quality.

If you are unsure of what media sensitivity number to set, start with the highest setting that provides the lowest amount of energy (800 for thermal transfer and 700 for direct thermal), and work your way down until you achieve the best print quality.

Use the following tables to find the correct sensitivity rating for your direct thermal media or thermal transfer media and ribbon combination.

Direct Thermal Media Sensitivity Settings

Approximate Sensitivity Ratings	Sensitivity Setting	Direct Thermal Media
700 Series High Sensitivity	720	Duratherm Lightning Plus
400 Series Medium Sensitivity	480	Duratherm Lightning IR-2
	460	European IR
	450	Duratherm Lightning-1
	440	European Thermal
	420	Duratherm Lightning-2
100 Series Low Sensitivity	170	European Tag
	170	European Reinforced
	160	Duratherm II Tag
	140	European Top
	130	Duratherm II

Thermal Transfer Media and Ribbon Sensitivity Settings

Approximate Sensitivity Ratings	Sensitivity Setting	Thermal Transfer Media/Ribbon
800 Series High Sensitivity (Paper)	864	European Uncoated/Standard
600 Series Medium Sensitivity (Plastic)	687	Duratran TTR Polyester/Premium
	633	European Polyethylene/Premium
	627	Duratran Kimdura/Premium
500 Series Medium Sensitivity (Paper)	567	Duratran II/Premium
	527	Duratran II Tag-5 mil/Premium
	527	Duratran II Tag-7 mil/Premium
	513	European Board Tag/Premium
	513	European Coated/Premium
	513	European Polyethylene/Premium
300 Series Low Sensitivity (Plastic)	369	Super Premium Kimdura/Super Premium 2
	369	Super Premium Polyester/Super Premium 2
	366	Super Premium Kimdura/Super Premium 1
	366	Super Premium Polyester/Super Premium 1
200 Series Low Sensitivity (Plastic)	222	Polyimide Film (Kapton) /Super Premium 3
	226	Glossy Polyimide (Kapton)/Super Premium 1
	236	Matte Polyimide (Kapton)/Super Premium 1
	238	Matte Polyimide (Kapton)/Super Premium 4

Cleaning the Printhead

In order for the printhead to provide good print quality, it must maintain close contact with the media. Therefore, cleaning media debris from the printhead is very important. Clean after every roll (6,000 inches or 152 m) of media or when necessary.



Caution

Do not use sharp objects such as knives or screwdrivers to scrape the printhead clean. Cleaning with sharp objects will damage the printhead. Clean with only a cotton swab, or a clean, lint-free cloth or tissue damp with isopropyl alcohol.

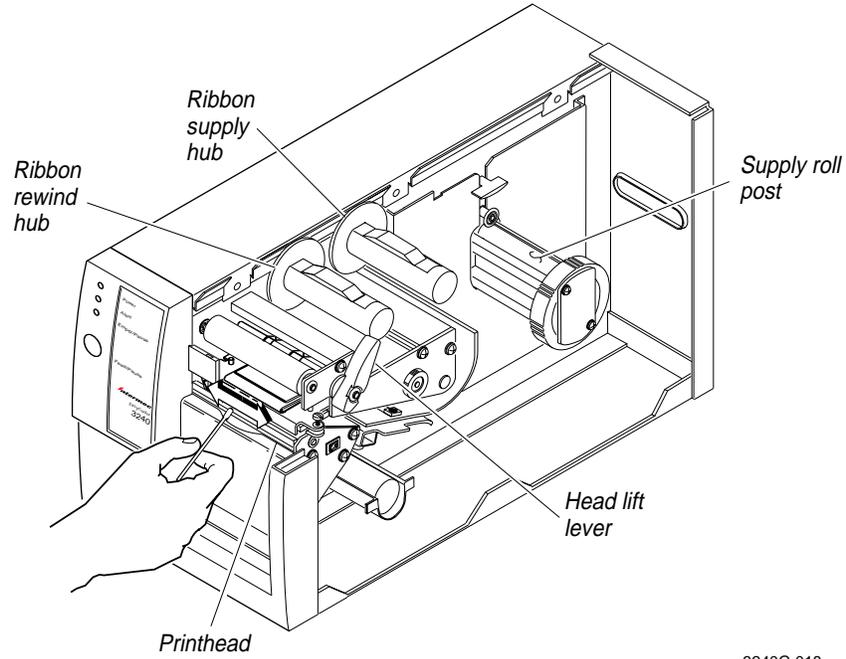
Conseil

N'utilisez pas d'objets pointus tels que couteaux ou tournevis pour nettoyer la tête d'imprimante. Nettoyer avec des objets pointus endommagera la tête d'imprimante. Nettoyez-la seulement avec de la ouate ou avec un linge propre et libre de peluches, humecté avec de l'alcool d'isopropyl.

To clean the printhead

1. Turn the ON/OFF switch to the off position.
2. Remove the media cover.
3. Disengage the printhead by rotating the head lift lever clockwise until the printhead releases. The printhead raises so you can clean it.
4. Remove the media from the supply roll post and remove the ribbon from the ribbon supply and rewind hubs.
5. Use a cotton swab moistened with alcohol to remove any dirt, adhesive, or debris from the print surface on the bottom of the printhead.
6. Wait 5 to 10 seconds for the print surface to dry.
7. Replace the media and ribbon.
8. Engage the printhead by rotating the head lift lever counterclockwise until it locks in place.
9. Replace the media cover. Turn the ON/OFF switch to the on position.

Cleaning the Printhead



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