Operator's Handbook

Monarch® 9800™ Series Printers
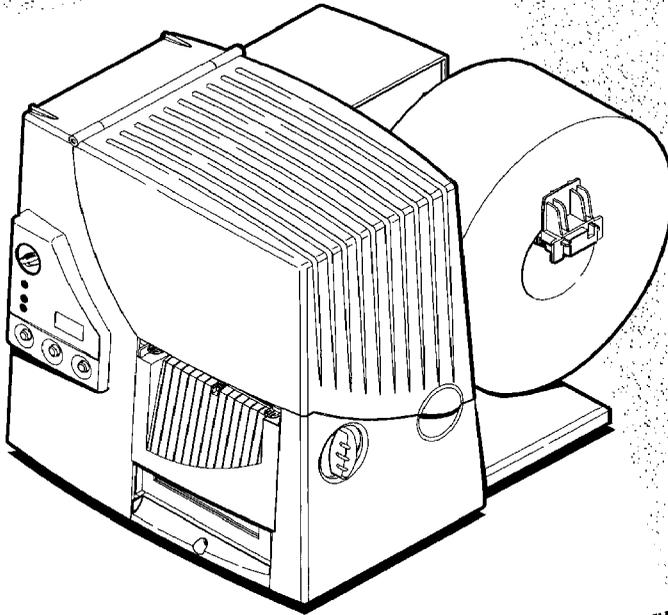
Monarch®

PAXAR

Ship From:
Dayton, Ohio

Ship From:
Dayton, Ohio

Ship Fro
Dayton,

Each product and program carries a respective written warranty, the only warranty on which the customer can rely. Monarch reserves the right to make changes in the product, the programs, and their availability at any time and without notice. Although Monarch has made every effort to provide complete and accurate information in this manual, Monarch shall not be liable for any omissions or inaccuracies. Any update will be incorporated in a later edition of this manual.

WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CANADIAN D.O.C. WARNING

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Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Réglement sur le brouillage radioélectrique édicte par le ministère des Communications du Canada.

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STATEMENT OF WARRANTY ON MONARCH MACHINES

Limited Warranty

THIS LIMITED WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES OR REPRESENTATIONS EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR BUYER'S PURPOSES. THERE IS NO WARRANTY WHICH EXTENDS BEYOND THE LIMITED WARRANTY.

The Monarch product covered by this limited warranty is warranted to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment to the original purchaser. The limited warranty on the printhead is one (1) million inches or 100,000 inches for High Energy Ribbon.

This limited warranty does not cover damage by accident, abuse or violence, or use by the original purchaser of other than the standard supplies furnished by or meeting the specification of Monarch, or the Monarch product is operated or maintained contrary to the instructions provided by Monarch. This warranty is void if the machine is altered or repaired by other than Monarch representatives.

This warranty does not include the furnishing of ribbons, ink rollers, tags, labels, or other supplies.

The Monarch product requiring warranty service may be shipped to the nearest authorized Monarch service facility with the transportation charges PREPAID. Monarch is NOT responsible for damage that occurs during shipment if the product is not shipped in the original Monarch packaging. The Monarch product will be repaired free of charge during the warranty period.

This warranty is valid only in the United States.

DECLARATION OF CONFORMITY
according to ISO/IEC Guide 22 and EN 45014

Manufacture's Name   :   Monarch Marking Systems, Inc.

Manufacture's Address   :   170 Monarch Lane, at I75 and SR725
Miamisburg, Ohio 45342
U.S.A.

Declares that the product :

Product Name :   Table Top Thermal Printer

Model Number :   M9820

Conforms to the following Product Specifications :

Safety :   EN60950 1988 / AM1: 1991 / AM2: 1991

EMC :   C.I.S.P.R. 22, EN 55022 Class B / 1985
FCC Part 15, Subpart B, Class A and Class B

EMI :   EN 50082-1 Generic Immunity Standard / Jan. 1992
IEC 801-2 ESD 8KV Contact, 8KV Air Discharge
IEC 801-3 Radiated Electromagnetic, 3V/m
IEC 801-4 Electrical Fast Transient / Burst
EN 60555-2 Line Harmonics

Ergonomics :   NA

Supplementary Information :

Miamisburg, Ohio	October 23, 1996	*John 77eltz*
Location	Date	Signature
		VP ENG 10/23/96

DECLARATION OF CONFORMITY
according to ISO/IEC Guide 22 and EN 45014

Manufacture's Name :   Monarch Marking Systems, Inc.

Manufacture's Address :   170 Monarch Lane, at I75 and SR725
Miamisburg, Ohio 45342
U.S.A.

Declares that the product :

Product Name :   Table Top Thermal Printer

Model Number :   M9830

Conforms to the following Product Specifications :

Safety :   EN60950:92 AM1 / AM2 / AM3

EMC :   C.I.S.P.R. 22, EN 55022 Class B / 1985
FCC Part 15, Subpart B, Class A and Class B

EMI :   EN 50082-1 Generic Immunity Standard / Jan. 1992
IEC 801-2 ESD 6KV Contact, 8KV Air Discharge
IEC 801-3 Radiated Electromagnetic, 3V/m
IEC 801-4 Electrical Fast Transient / Burst
EN 60555-2 Line Harmonics

Ergonomics :   NA

Supplementary Information :

Miamisburg, Ohio   February 24, 1997
Location   Date   Signature

GETTING STARTED

The Monarch® 9820™ printer and Monarch® 9830™ printer let you print text, graphics, and bar codes on thermal transfer (ribbon) and thermal direct labels. The 9820 printer prints labels continuously (in one strip) or on-demand (one label at a time). The 9830 printer has a peel bar that allows labels to be peeled as they are printed in the on-demand mode.

You can print on die cut, black mark, or non-indexed (continuous) supplies. Non-indexed supply does not have perforations or black marks and must be used in continuous mode. See Appendix B, "Setting DIP Switches," to select your supply type.

This chapter includes information about

◆ unpacking the printer.

◆ connecting the power cord.

◆ connecting the communications cable.

◆ using the printer's control panel.

Audience

The *Operator's Handbook* is for the person who prints and applies labels.

Ordering Programmer's Manuals

An online version of the *Packet Reference Manual* describes how to create a format and batch packets for printing labels, how to configure the printer online, how to diagnose printer error messages, and how to perform other advanced techniques. It is included with the MONARCH® quick-set software where you can print this manual or order a hard-copy version of the *Packet Reference Manual* (part number **TC9800PM**).

To install the software, see Chapter 2, "Using the Software."

Unpacking the Printer

After you unpack the printer, you should have:

◆ 9820 or 9830 printer

◆ Power cord

◆ Ribbon take-up core (may already be on take-up reel)

◆ *Operator's Handbook*

◆ MONARCH quick-set software.

Keep the box and packaging material in case
the printer ever needs repair.

Connecting the Power Cable

To connect the power cable:

1. Plug the power cable into the socket. Plug the other end of the cable into a grounded electrical outlet.

Power Cable goes here
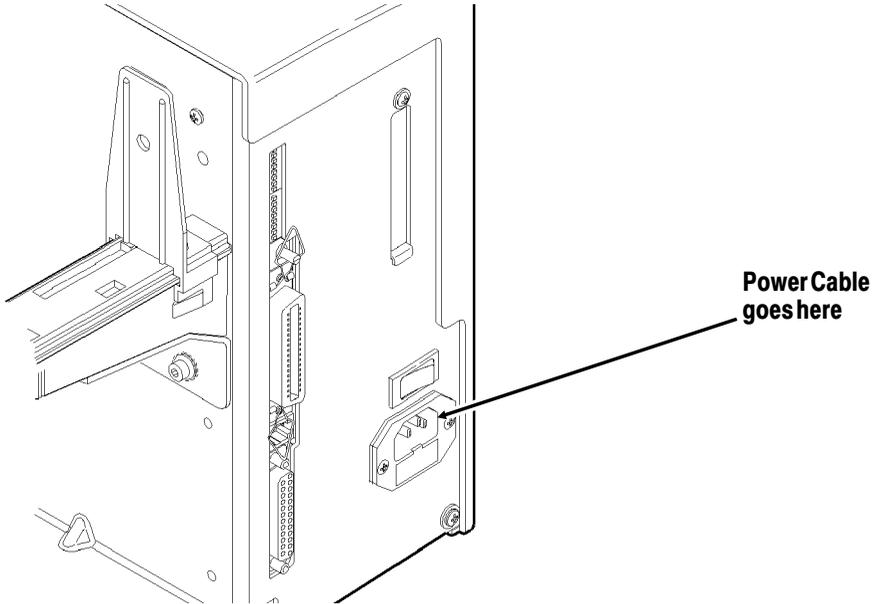
2. Turn on the printer. Press (I) to turn on and (O) to turn off the printer.

   For information about replacing the fuse, see Chapter 6, "Care and Maintenance."

Establishing Communications

Before the printer can accept print jobs from the host, you must:

◆ Connect the communication cable to the printer and to the host.

◆ Set the communication values on the printer to match those at the host. (Only required if you are using the serial port.)

Connecting the Communication Cable

Make sure the printer is off before connecting
the cable to the communication port.

Ask your System Administrator which method you will use to
communicate with the host:

◆ Serial Communication
   9 to 25 pin cable (Part #118364)
   25 to 25 pin cable (Part #118366)

◆ Parallel Communication
   IEEE-1284 or Centronics® mode cable (Part #118363) See
   Appendix B, "Setting DIP Switches" for more information.

Connect the communication cable into the appropriate port.
Secure the cable with the connecting screws (serial) or spring
clips (parallel).

Parallel Port
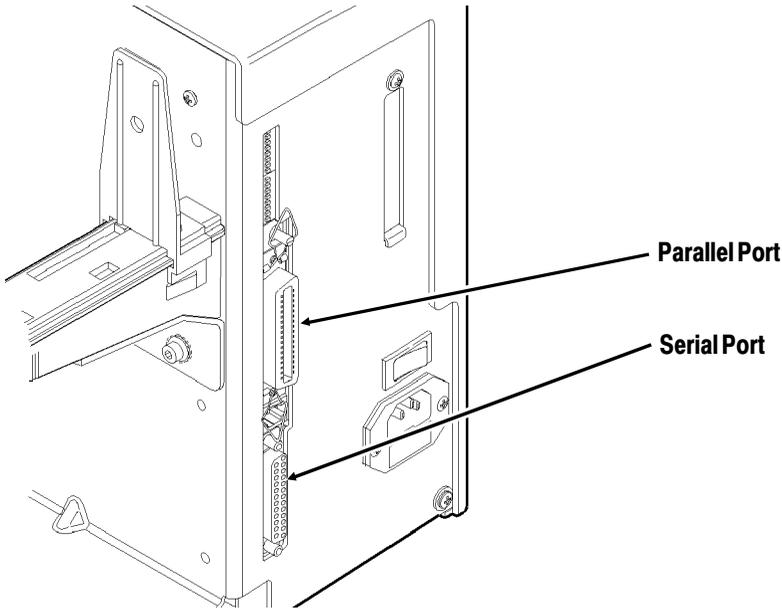
Serial Port

Default Serial Port Communication Values

If you are communicating with the host through the serial port,
make sure the printer's communication values match those at the
host. The factory default values are:

- Baud: 9600
- Word Length: 8 bit data frame
- Stop Bits: 1 stop bit
- Parity: none
- Flow Control: DTR

To change the printer's communication values, ask your System
Administrator or see Appendix B, "Setting DIP Switches."

Using the Control Panel

The control panel helps you check printer status, displays error codes, and allows you to perform some basic printer functions.
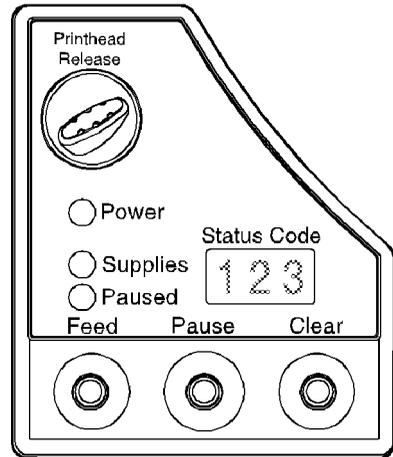
Printer Status Lights

Power: The printer shows a steady green light when it is on.

Supplies: The printer shows a blinking amber light when it is out of labels or ribbon, or when you have a supply jam.

Paused: The printer shows a steady amber light when paused.

The printer shows a blinking amber light when there is a data, communication, or data formatting error. See the status code box for the error code.

The printer also shows a blinking amber light when it's ready to print a label in the on-demand mode. See "On-Demand Mode Printing" for more information.

Button Functions

Feed:
- ◆ Prints a label in the on-demand mode.
- ◆ Feeds a blank label if there is no print job.
- ◆ Prints a label with error information that is useful to your System Administrator.

Pause: Pauses the current print job or resumes a paused print job.

Feed and Pause: Prints a test label when you press the buttons at the same time.

Feed and Clear: Allows you to adjust print positions from paused mode. See "Adjusting Print Positions" in Chapter 5 for more information.

Clear:
- ◆ Clears an error.
- ◆ Cancels the current print job.
- ◆ Cancels all queued print jobs if pressed for two seconds. Also clears the communication queue and cancels any packet being received.

To cancel a single or all queued print jobs, the printer must be in paused mode before **Clear** is pressed.

Status Code Box

The status code box displays a three-digit error code to identify any problem the printer may have. For a description of the problem, look up the error code in Chapter 7, "Troubleshooting."

If there is no error, the display will be blank.

USING THE SOFTWARE

2

This chapter describes how to

◆ install the MONARCH quick-set software

◆ use the software.

Four of the diskettes you received with your printer contain **MONARCH quick-set software**:

◆ Printer Configuration Utility (configures printers)

◆ Label Designer Utility (assists in designing formats)

◆ File Download Utility (downloads MPCL packets to printers)

◆ Font Utility (converts and downloads custom fonts)

◆ Windows drivers (allows you to print from a Windows application using your Monarch® printer)

Two more diskettes contain **Adobe™ Acrobat™ Reader**. The last diskette contains an online version of the *Packet Reference Manual*.

Label Designer allows you to design fixed or variable fields on formats. However, you cannot enter variable field data using the MONARCH quick-set software. You need a entry package, such as MONARCH® PLATFORM™.

To produce custom labels, you must create several Monarch Printer Control Language (MPCL) packets. These packets tell the printer where data should be positioned on the label, what data should print, and much more.

Installing the Software

MONARCH quick-set software works with Microsoft® Windows® 3.1 or greater. Printer Configuration and File Download are also available as DOS programs.

1. Start Windows.

2. Insert the *Printer Configuration and File Download* Disk 1 into your floppy drive.

3. From the Program Manager File menu, choose Run.

4. Type **A:\SETUP.EXE** and click ⎡ OK ⎤ .

   If your diskette is in a drive other than A:, change the command line accordingly.

5. Respond to additional prompts as necessary. When Setup is complete, a box displays *Setup Succeeded!* Click ⎡ OK ⎤ .

6. Repeat the above instructions for the *Label Designer* and *Font Utility* diskettes.

DOS Installation

1. Insert the *Printer Configuration and File Download Disk 1* into your floppy drive.

2. At the DOS prompt, type **A:\INSTALL.EXE** and press ⎡Enter ←⎤ . If your diskette is in a drive other than A:, change the command line accordingly.

3. Respond to additional prompts as necessary. When Setup is complete, a box displays *Setup Succeeded!* Press ⎡Enter ←⎤ .
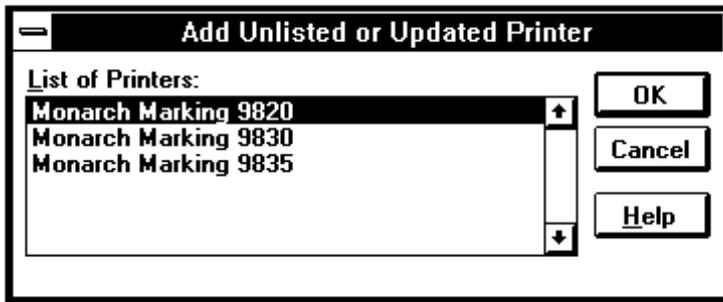
Installing the Windows Driver

A Windows Driver is available for these printers. The Windows Driver works with Windows 3.1, Windows 95, and Windows for Workgroups 3.11.

1. From the Windows Control Panel, select Printers.
   If installing for Windows 95, choose the Printers Folder instead of the Control Panel.

2. Insert the *Windows Driver* diskette into your floppy drive.

3. Click [Add] and then click [Install] .

4. Type **A:** and click [OK] .

   If your diskette is in a drive other than A:, change the command line accordingly. You will see

```
┌──────────────────────────────────────────────┐
│ ▬        Add Unlisted or Updated Printer       │
├──────────────────────────────────────────────┤
│ List of Printers:                              │
│ ┌──────────────────────────────┬─┐  ┌───────┐ │
│ │ Monarch Marking 9820         │▲│  │  OK   │ │
│ │ Monarch Marking 9830         │ │  └───────┘ │
│ │ Monarch Marking 9835         │ │  ┌───────┐ │
│ │                              │ │  │Cancel │ │
│ │                              │ │  └───────┘ │
│ │                              │ │  ┌───────┐ │
│ │                              │▼│  │ Help  │ │
│ └──────────────────────────────┴─┘  └───────┘ │
└──────────────────────────────────────────────┘
```

5. Select the printer. Click [OK] .

   Make sure the printer is connected to the
   correct port.

6. Click **Setup** if you need to change the printer's setup. You will see the Monarch Printer Setup box.
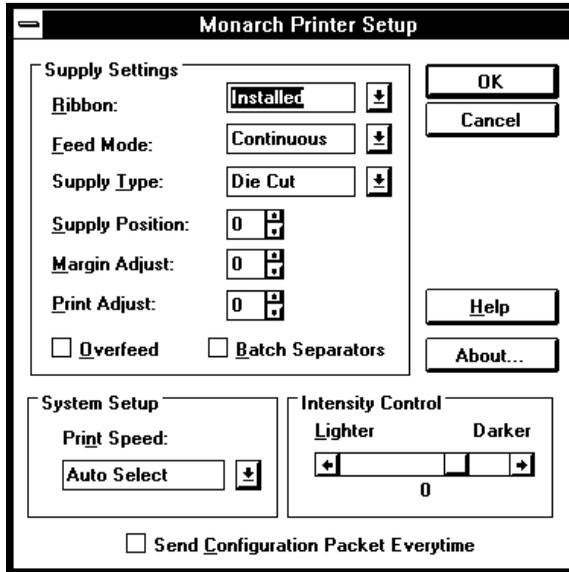
You can change any of the following setup options: Ribbon, Feed mode, Supply Type, Supply/Print/Margin positions, Print Speed, and Print Contrast. You can also enable Overfeed or Batch Separators.

7. Click ⬜OK⬜ when you are finished with the setup options. The printer driver is now ready to use.

Online help is available by clicking **Help** from the Monarch Printer Setup box.

Installing Adobe Acrobat Reader

If you want to refer to the *Packet Reference Manual*, you must install Adobe Acrobat Reader and the online version of the manual.

1. Start Windows.

2. Insert the *Adobe Acrobat Reader - Disk 1* diskette into your floppy drive.

3. From the Program Manager File menu, choose Run.

4. Type **A:\DISK1\SETUP.EXE** and click OK .

   If your diskette is in a drive other than A:, change the command line accordingly.

5. Respond to additional prompts as necessary. When Setup prompts you to enter the next diskette, insert the *Adobe Acrobat Reader - Disk 2* diskette into your floppy drive. Click OK .

6. When Setup is complete, a box displays *Installation is complete.* Click OK .

Installing the Online Documentation File

After you install Acrobat Reader, you must install the documentation file to be read.

1. Start Windows.

2. Insert the *Online Documentation* diskette into your floppy drive.

3. From the Program Manager File menu, choose Run.

4. Type **A:\SETUP.EXE** and click OK .

   If your diskette is in a drive other than A:, change the command line accordingly.

5. Click ⌑OK⌑ to accept **C:\QUICKSET**. If you changed the default directory when you installed the quick-set software, change this directory accordingly. Setup begins copying the file.

6. When Setup is complete, a box displays *Setup Succeeded!* Click ⌑OK⌑ .

To use the online manual:

1. Start Windows.

2. Double-click the Packet Reference Manual Icon from the MONARCH quick-set program group.

Acrobat Reader begins and you see the cover of the *Packet Reference Manual*. For help on using Acrobat Reader, press F1 or select Help from the menu bar.

Using The Software

The following steps walk you through configuring your printer, creating a format, converting a font, creating the data, and then downloading the packets.

Packet refers to a file that contains information for the printer, formatted in a way that the printer can understand. Packets must begin with { and end with }. Everything in between these brackets must follow proper MPCLII structure. Specific MPCLII requirements are addressed in the online version of the *Packet Reference Manual* that is provided with your printer. The Monarch quick-set software also helps you develop your packets by automating some of the packet creation process.

After you create a packet, you must download the packet to the printer. Your printer comes with **MONARCH quick-set File Download**, which mimics a DOS COPY command to the appropriate printer port. As you download a packet, one or more of the File Download status panels becomes active on the computer screen.

Monarch quick-set Printer Configuration has a
built-in download function and does not
require use of File Download.

Before you download any format or batch packets, configure your printer.

Configuring the Printer

The printer must be connected and configured before any communication can take place. **MONARCH quick-set Printer Configuration** is provided with your printer to help you develop a configuration packet. This software sets your PC port to match the printer's communication values, and then creates and downloads a configuration packet based on your screen selections, such as supply type or currency symbol. The values are saved to a file with an extension of .PCF.

If you don't use Printer Configuration to configure the printer, set the port values using a MODE command (serial port only), create a configuration packet using Notepad, and then use a COPY command to download the configuration packet.

You can also configure the printer using the Windows Driver. See "Installing the Windows Driver" for more information.

1. Connect the printer to your PC. If you don't have a cable, contact your service representative to order one.

2. Double-click the Printer Configuration icon from the MONARCH quick-set program group.

3. In the Communications Port box, select the port that is connected to the printer.

4. From the Printer menu, select Query Printer Values to load the printer's current configuration on the screen.

5. Make any necessary changes to the configuration screen. If you aren't sure what settings to use, try the default settings that were loaded from the query.

6. From the Printer menu, select Send To Printer to download the new configuration.

7. From the File menu, select Save As…

8. Type **SAMPLE.PCF** and click ⌐ OK ⌐ to save this configuration.

9. From the File menu, select Exit to Printer Configuration.

Using the DOS Version

A DOS version of Printer Configuration and File Download are available.

1. From the DOS prompt, change directories to **C:\quickset\local** or to the directory where you installed quick-set.

2. Type **config** and press ⌐Enter ←⌐ .

The DOS version of Printer Configuration begins. Use ⌐Tab ⇄⌐ or the "hot keys" to move around the screen.

Designing the Format

You must design a format to tell the printer how the label should look. A format packet is one of the more difficult packets to create, because it determines the appearance of a label. For this reason, **MONARCH quick-set Label Designer** is provided with your printer. This software calculates field coordinates as you design a simulated label on your computer screen, and saves the information to a Label Designer file. You must then convert the information by saving it as an MPCL format packet (.FAB extension). As with the other packets you create, the format packet can be downloaded using File Download. For help in using Label Designer, refer to the online help available on the Label Designer menu bar.

1. Double-click the Label Designer icon from the MONARCH quick-set program group.

2. From the File menu, select New...

3. Type **SAMPLE.FMT** and click ⬚ OK ⬚ .

4. Double click on your printer number (in the Available box) and click ⬚ OK ⬚ .

5. Click in the Length box and enter 6.0.

6. Click in the Width box and enter 4.0.

7. Click ⬚ OK ⬚ .

8. From the Edit menu, select Add and then Text...

9. Select Fixed in the Field Type box and then click ⬚ Options ⬚ .

10. Type **ITEM NO:** and click ⬚ OK ⬚ .

11. Type **2** in the Magnification Height and Width boxes and click ⬚ OK ⬚ .

12. Click and drag the field somewhere near the top of the tag. Be careful not to position it off the edge of the label.

13. From the Edit menu, select Add and then Text...

14. Click ⬚ Options ⬚ .
    Data will be entered later using a batch packet.

15. Type **5** in the Maximum box and click ⬚ OK ⬚ .

16. Type **2** in the Magnification Height and Width boxes and click ⬚ OK ⬚ .

17. Click and drag the field next to the other field you created.

18. From the Edit menu, select Add and then Bar Code...

19. Select Code128Num in the Bar Code Type box and click ⬚ OK ⬚ .
    Data will be entered later using a batch packet.

20. Click and drag the field somewhere near the bottom of the label.

21. If you want to save the batch information with your format, select Save MPCL Batch from the Options menu. (If you do not want the batch information saved with the format, make sure the Save MPCL Batch is not checked.)

22. From the File menu, select Save As MPCL...

23. You will be prompted to save the base file (SAMPLE.FMT) for future editing. Click ⬜ OK ⬜ .

24. Type **SAMPLE.FAB** and click ⬜ OK ⬜ . You can use File Download to send the .FAB file to the printer.

25. From the File menu, select Exit...

Converting a Font

Your printer comes with several standard fonts. You can convert and download custom fonts to your printer using the **MONARCH quick-set Font Utility**. The font packet also includes a font identifier that must later be referenced by the format. If you use Label Designer to create the format, any fonts that you download appear in the Font Style list box.

Refer to the online version of the *Packet Reference Manual* for information on referencing a font identifier.

1. Double-click the Font Utility icon from the MONARCH quick-set program group.

2. From the File menu, select Convert Font File.... You will see the Character Selection box.

3. Click Font Type and select from HP Laserjet, HPCL4, or TrueType. Click ⬜ OK ⬜ when you are finished.

4. Click Font... and select the font, style, and point size you want to convert for TrueType fonts. For HP fonts, select the **.sfp** file and click ⬜ OK ⬜ when you are finished.

5. Select from a Predefined Character Set or use a custom character set by highlighting characters with the mouse. Select characters by clicking the left mouse button. Deselect characters by clicking the right mouse button. Selecting only the characters you need reduces the size of the font packet.

Make a note of the Font ID, because it is the number you need to use in your format.

6. Click Convert...

7. Enter a name for the font file with a **.pcl** extension. Click ⬚ OK ⬚ . The font file is converted.

8. Click Download... Choose the font file to download and click ⬚ OK ⬚ . Make sure the printer is connected and ready to receive data. The font file is downloaded and ready to use.

Providing Data

The printer must receive a batch packet to initiate printing of a label. If your format has any variable data (a field defined as Field Type = Entry in Label Designer), you must supply the data within the batch packet.

With Label Designer, you can either append a dummy batch packet to the end of the .FAB file or only save the format file. You can edit the dummy batch packet to contain actual data to print. If you only saved the format file, you can create your own batch packet.

1. Double-click the Notepad icon from the Accessories program group.

2. From the File menu, select Open... and select **C:\QUICKSET\FAB\SAMPLE.FAB**. A dummy batch packet exists at the end of this file.

3. Modify the batch packet to look like the sample below.

```
{B,1,N,1 ¦
 1,"12345" ¦
 2,"1234567890" ¦ }
```

4. From the File menu, select Save and then Exit to close Notepad.

If you print the same data on the label every time, you can define the fields of your format to contain fixed data. This is a very quick way to print and the batch packet is simple. The batch packet identifies which format to use, but contains no actual data. Here is a batch packet that prints one label made up entirely of fixed data:

{B,1,N,1 ¦ }

If your data varies with the application or product, you can define the fields of your format to expect entered data. In this case, a batch must identify which format to use and must contain the data to print. Here is a batch packet that prints one label that has two entry fields:

{B,1,N,1 ¦
1,"BARKER & BATES" ¦
2,"120 EMERSON LANE" ¦ }

Refer to the online version of the *Packet Reference Manual* that is provided with your printer for information on creating a batch packet (usually contained in the .FAB). You can use File Download to download the batch packet to your printer.

Downloading Packets

Packets don't take effect until they are downloaded to the printer. The batch packet initiates printing of the label when it is downloaded. That's why it's important to attach the batch packet to the END of the .FAB file, or download it last if it's a separate packet.

1. Double-click the File Download icon from the MONARCH quick-set program group.

2. Select a communications port from the Communications Port box. If you aren't sure which port to use, try the default setting that first appears.

3. From the File menu, select Send…

4. Type **C:\QUICKSET\FAB\SAMPLE.FAB** in the Filename box and click ⌐OK⌐ . A label similar to this should print.

ITEM NO: 12345

The batch packet should always be the last packet the printer receives. If you create a batch packet that is separate from the format packet, be sure to send the batch packet AFTER the format packet.

5. From the File menu, select Exit to close File Download.

1. From the DOS prompt, change directories to
   C:\quickset\local or to the directory where you installed
   quick-set.

2. Type **dload** and press Enter↵ .

The DOS version of Printer Configuration begins. Use Tab ⇆ to
move around the screen.

Can I Print Logos and Other Pictures?

You can include logos and other graphics on your label. If your
graphic is an 8-bit monochrome bitmap (.BMP extension), you can
use Label Designer to place the graphic in your format. You can
also download graphics packet to the printer (contact Monarch for
details on acquiring graphics packets). The graphic ID must then
be referenced within the format packet. Refer to the online
version of the *Packet Reference Manual* for information on
referencing a graphic identifier.

Is Additional Software Available?

Additional software can also be purchased to further simplify the
development process. For example, MONARCH® PLATFORM™
Software works with multiple Monarch printers and is made up of
the following software:

Format Editor   Creates a format file that Entry Services uses.

Entry Services   Prompts for variable data.

Spooler   Configures the printer port, converts format
                and data into packets, and downloads
                packets to the printer.

LOADING SUPPLIES

3

This chapter describes how to load:

◆ a roll of supply
◆ fan-fold supply
◆ a roll of supply for peel mode.

There are three types of supplies:

Thermal Direct   specially treated thermal supplies that do not use a ribbon for printing.

Thermal Transfer   standard supplies that require a ribbon for printing.

High Energy   scratch, chemical, and temperature resistant supplies that require a ribbon able to withstand high temperatures. See "Using a High Energy Ribbon" in Chapter 4 for more information.

If you are using thermal direct supplies, do not load a ribbon.

High energy supplies are only available
for the 9830 printer.

If you switch from black mark to die cut supplies, make sure the DIP switches are set correctly. The System Administrator can also send the supply setup packet or use the Printer Configuration software (provided with the printer) to change the supply type. Refer to the online version of the *Packet Reference Manual* for more information about sending the supply setup packet.

Loading Labels

Make sure the printer is configured for the correct supply type. To load fan-fold labels, see "Loading Fan-Fold Labels."

To load a roll of labels:

1. Open the cover.
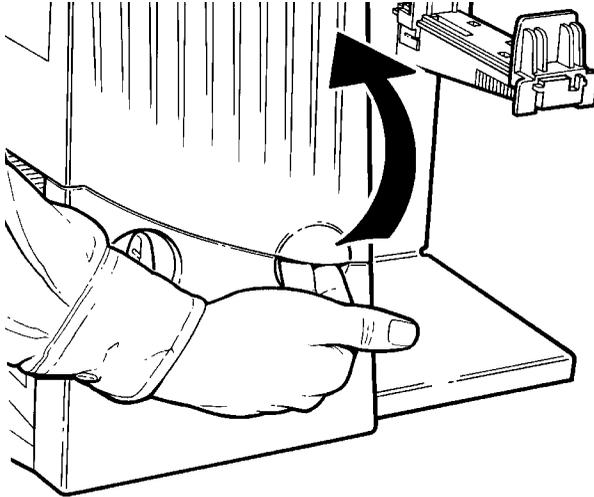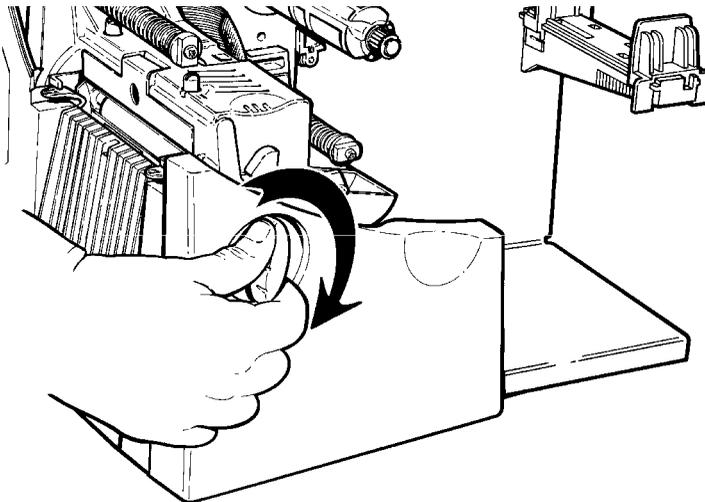
2. Unlock the printhead by turning the retaining latch.

3. Lift printhead assembly using the printhead tab until the assembly locks into place.

Printhead Tab

Deflector Tab

4. Place the roll of supply on the supply holder. Make sure the supply unrolls from the top as shown.
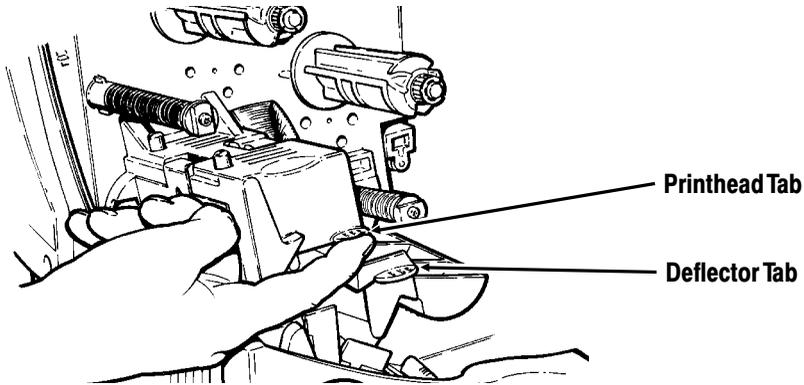
Supply Holder Guides
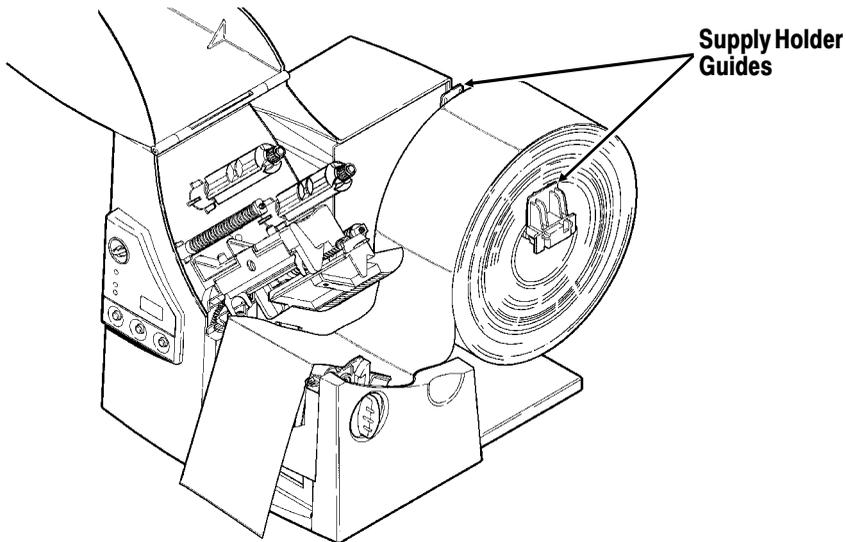
Do not pick up the printer
by the supply holder.

5. Adjust the supply holder guides so the sides barely touch the roll. Make sure the supply roll turns freely.

6. Push down on the supply lever to unlock the supply guides.

7. Lay the label strip across the supply guide so that a few inches extend past the front of the printer. Tuck the supply under the nibs.
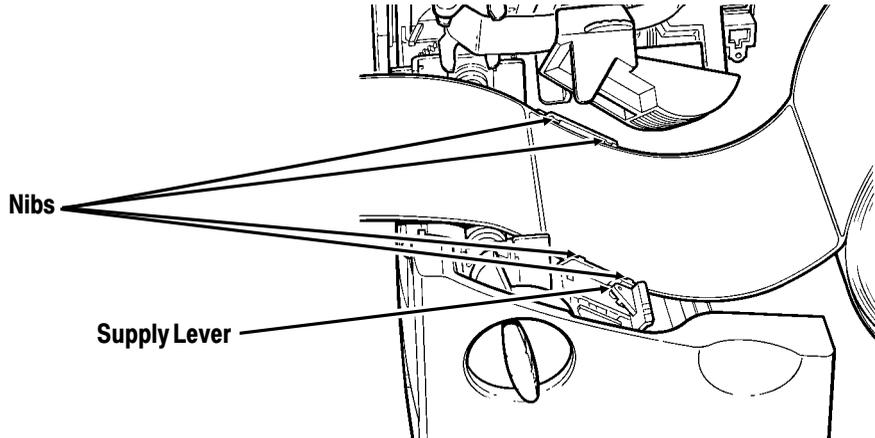
Make sure a few inches of supply are past the
front end of the printer.

8. Adjust the supply guides so they touch the supply. Push up on the supply lever to lock the supply guides into place.

9. Hold the printhead assembly by the printhead tab while pressing down on the printhead release.
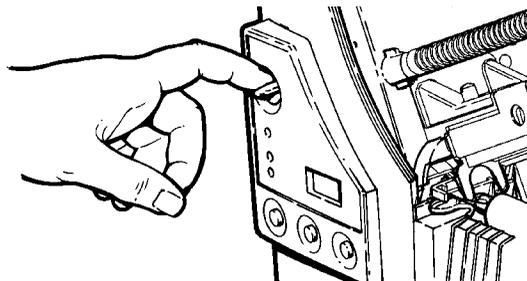
10. Close the printhead by pressing down on the thumb well until you hear it click into place.

Thumb Well
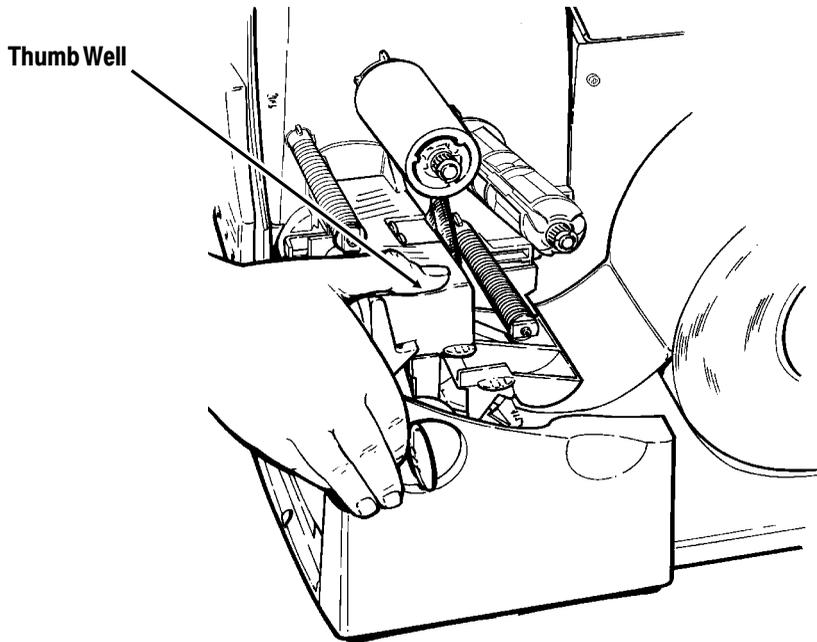
11. Close the cover.

12. Press **Feed** to position the supply under the printhead.

> You may need to adjust the wide/narrow knobs depending on the width of your supply. See Chapter 6, "Care and Maintenance," for more information.

Loading Fan-Fold Labels

Make sure the printer is configured for the correct supply type.

To load fan-fold labels:

1. Open the cover.
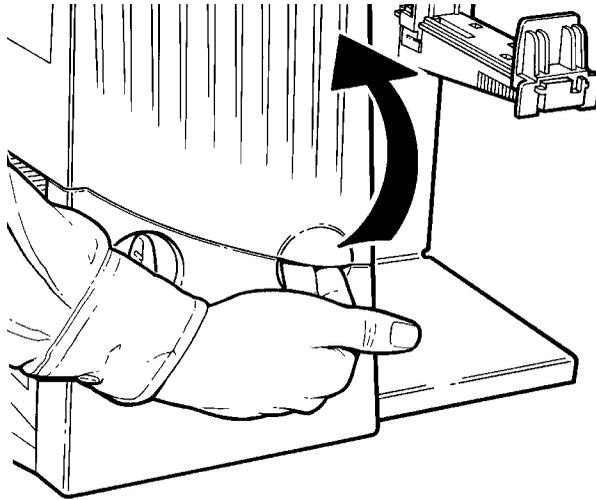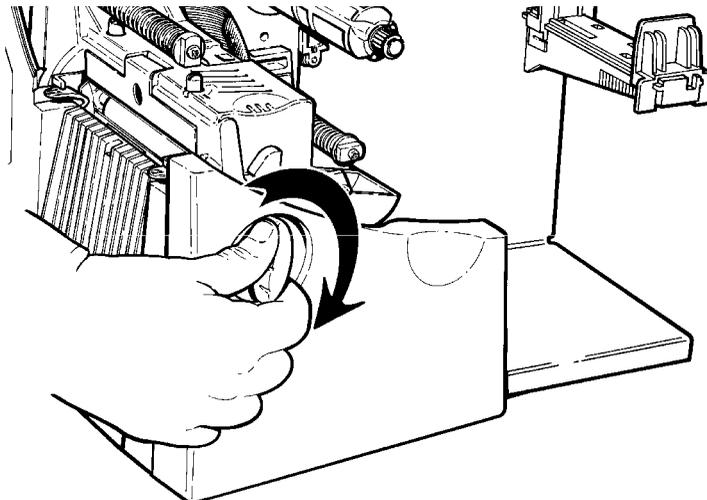
2. Unlock the printhead by turning the retaining latch.

3. Lift printhead assembly using the printhead tab until the assembly locks into place.

Printhead Tab

Deflector Tab
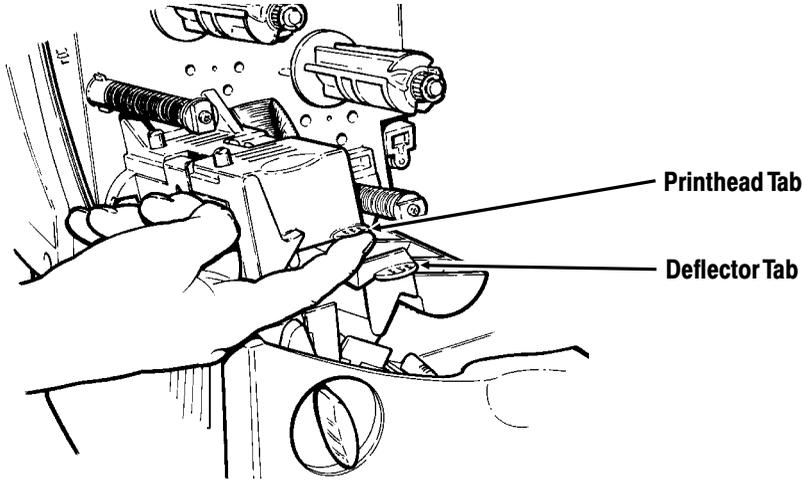
4. Place the supply stack behind the printer, label side facing up. (The supply may be kept in the box.)

5. Push down on the supply lever to unlock the supply guides.

6. Lay the label strip over the supply holder and across the supply guide so that a few inches extend past the front of the printer. Tuck the supply under the nibs on the supply guide.
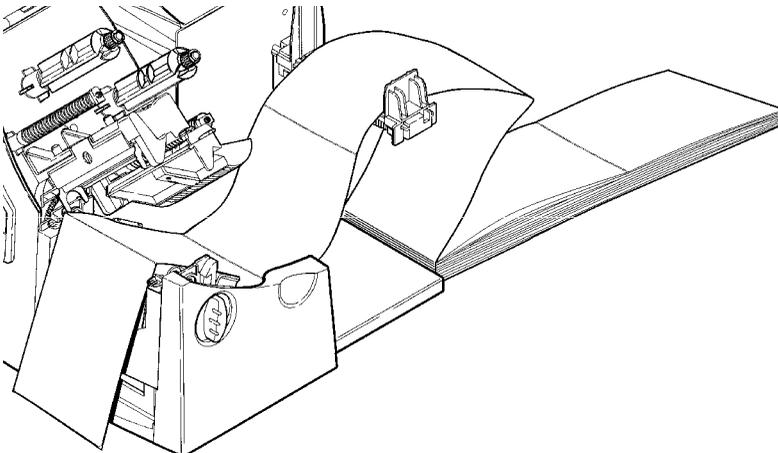
7. Adjust the supply guides so they touch the supply. Push up on the supply lever to lock the supply guides into place.
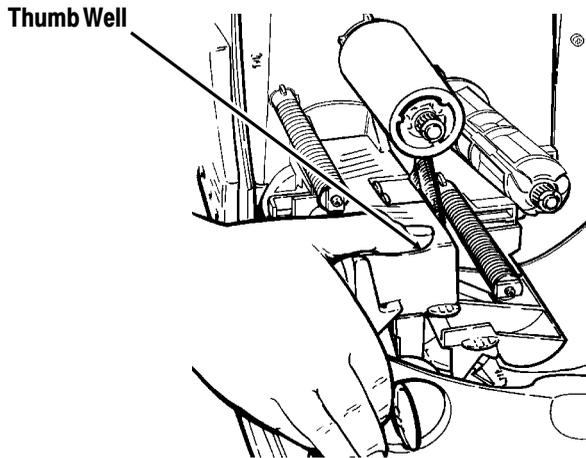
Nibs

Supply Lever
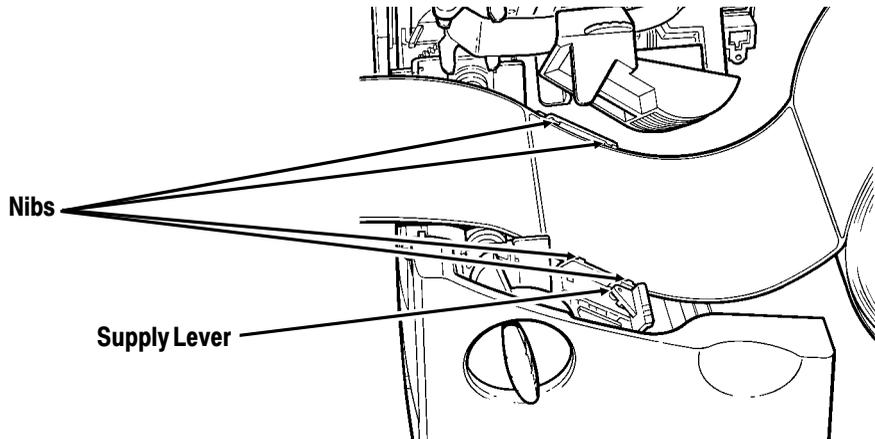
Make sure a few inches of supply are past the front end of the printer.

8. Hold the printhead assembly by the printhead tab while pressing down on the printhead release.
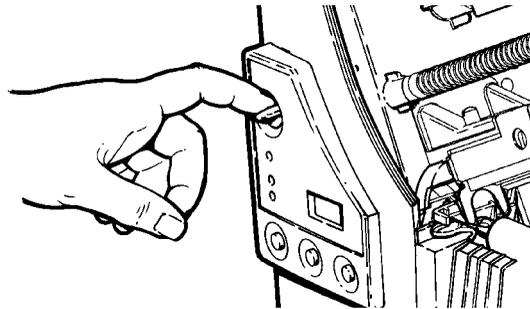
9. Close the printhead by pressing down on the thumb well until you hear it click into place.

Thumb Well

10. Close the cover.

11. Press **Feed** to position the supply under the printhead.

You may need to adjust the wide/narrow knobs depending on the width of your supply. See Chapter 6, "Care and Maintenance," for more information.

Loading Labels for Peel Mode (9830 only)

In peel mode, the printer separates the backing paper from the label. The next label is not printed until the completed one is removed from the printer. Make sure the printer is configured for on-demand mode and the correct supply type. The minimum feed length for peel mode is 1.5 inches. You must use non-perforated supplies for peel mode.

Hold the leading edge of peeled labels when printing on stock longer than six inches.
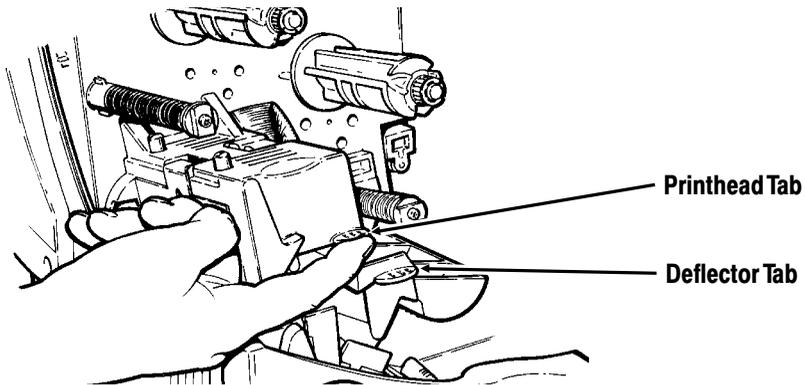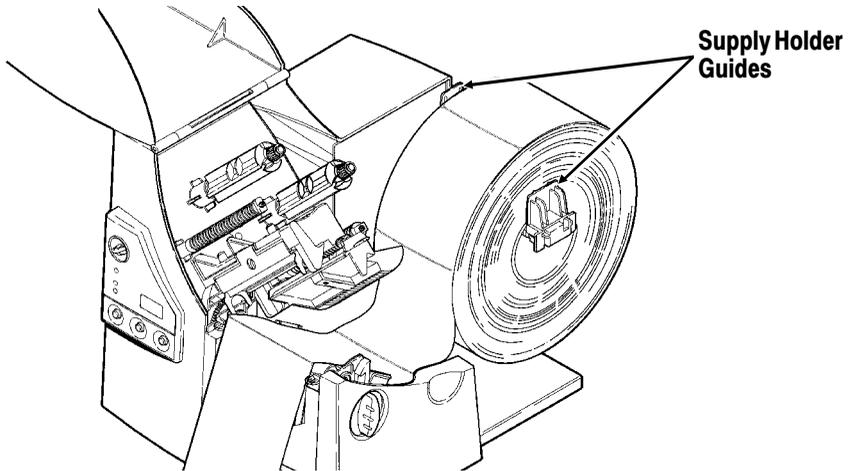
1. Open the cover.
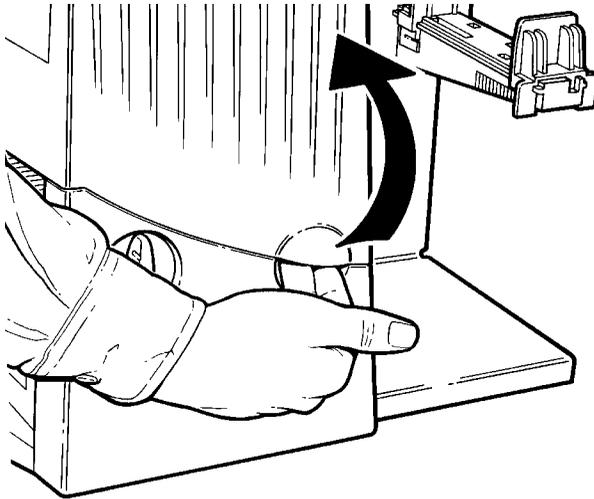
2. Unlock the printhead by turning the retaining latch.
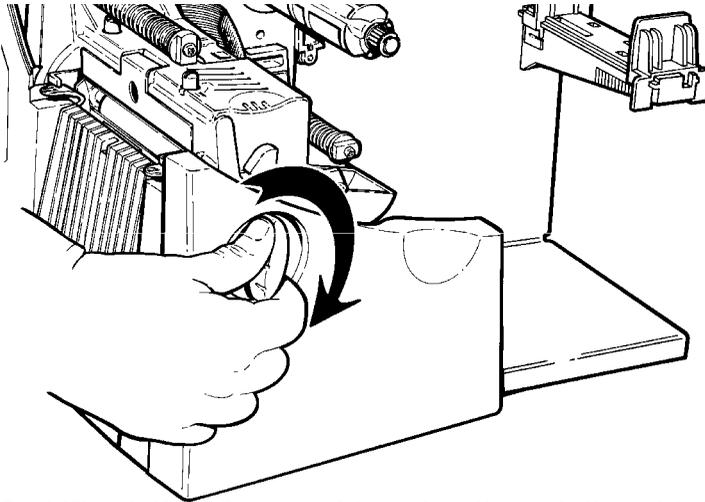
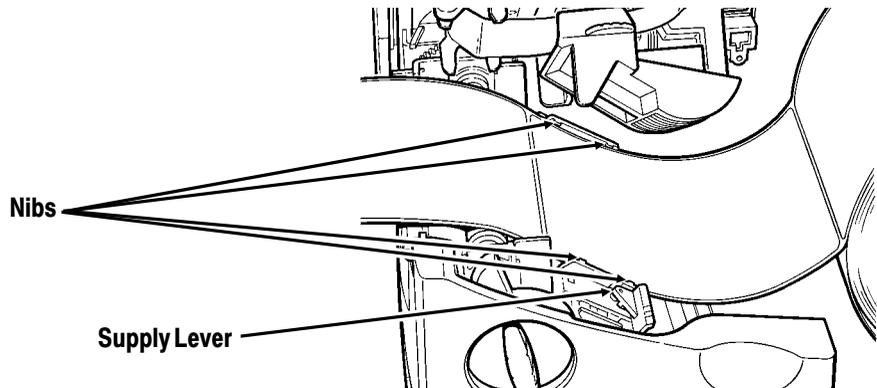**3.** Lift printhead assembly using the printhead tab until the assembly locks into place.

Printhead Tab

Deflector Tab

4. Place the roll of supply on the supply holder. Make sure the supply unrolls from the top as shown.


Supply Holder Guides

Do not pick up the printer by the supply holder.

5. Adjust the supply holder guides so the sides touch the roll. Make sure the supply roll turns freely.

6. Push down on the supply lever to unlock the supply guides.

7. Lay the label strip across the supply guide so that at least 10 inches extend past the front of the printer. Tuck the supply under the nibs.

**Nibs**

Supply Lever

8. Adjust the supply guides so they touch the supply. Push up on the supply lever to lock the supply guides into place.

9. Hold the printhead assembly by the printhead tab while pressing down on the printhead release.
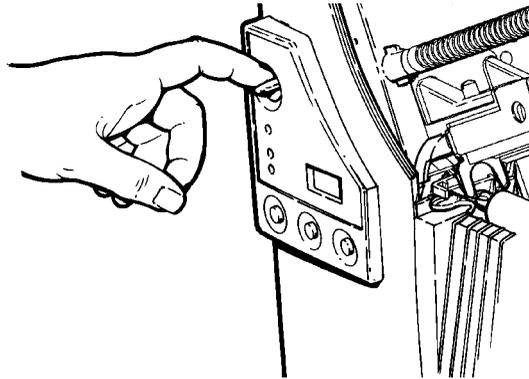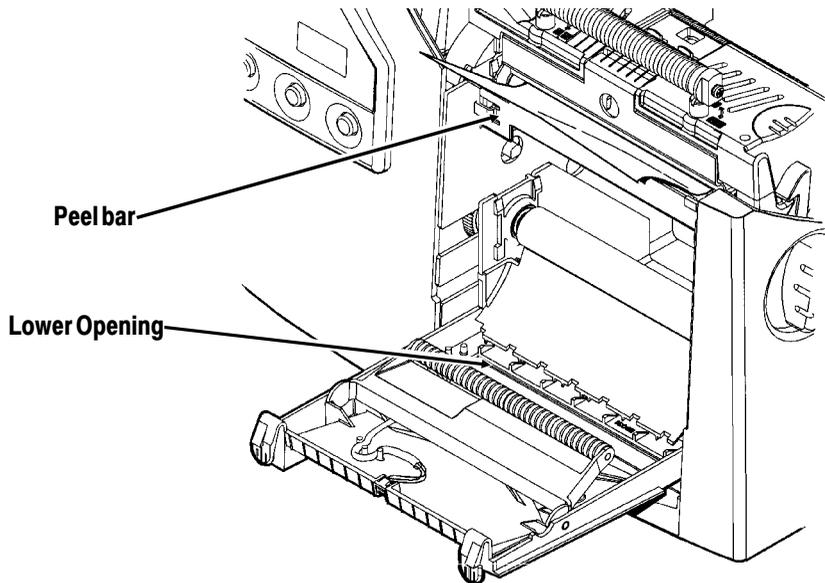
10. Close the printhead by pressing down on the thumb well until you hear it click into place.

Thumb Well
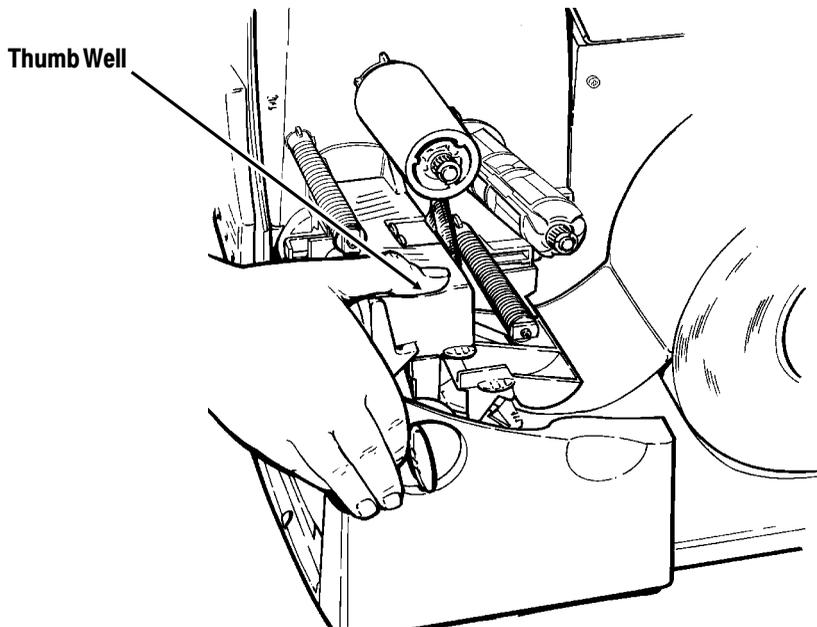
11. Remove the labels from the first 10 inches of the backing paper.

12. Press down on the exit cover tabs to open the exit cover on the front of the printer.
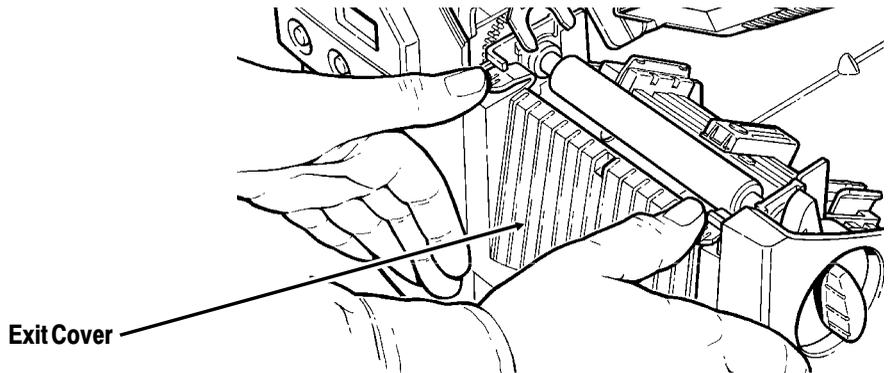
Exit Cover

13. Feed the backing paper over the peel bar.

Peel bar

Lower Opening

14. Feed the backing paper through the lower opening of the exit cover. Pull down on the backing paper to remove any slack. Close the exit cover.

Tear Edge
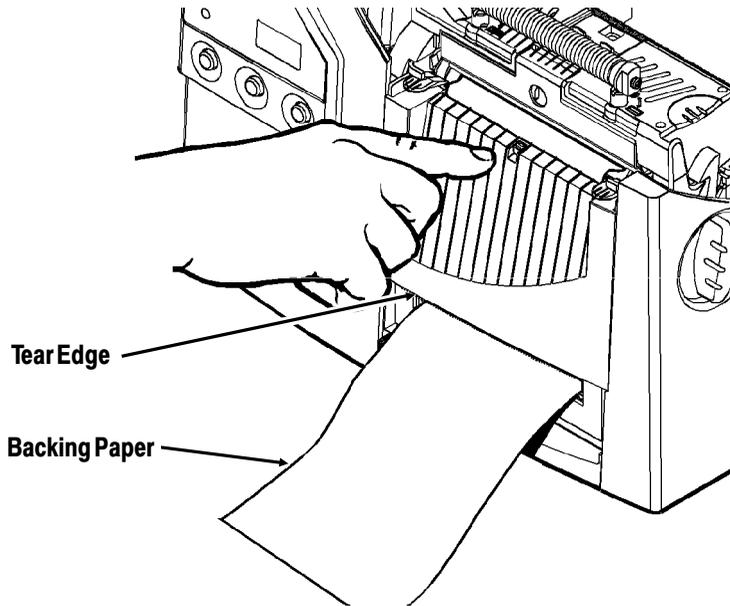
Backing Paper

When removing the backing paper, pull up across the saw-toothed tear edge. Make sure the backing paper tears at the edge.

15. Close the cover.

16. Press **Feed** to position the supply under the printhead.

You may need to adjust the wide/narrow knobs depending on the width of your supply. See Chapter 6, "Care and Maintenance," for more information.

Using the Optional Tear Bar
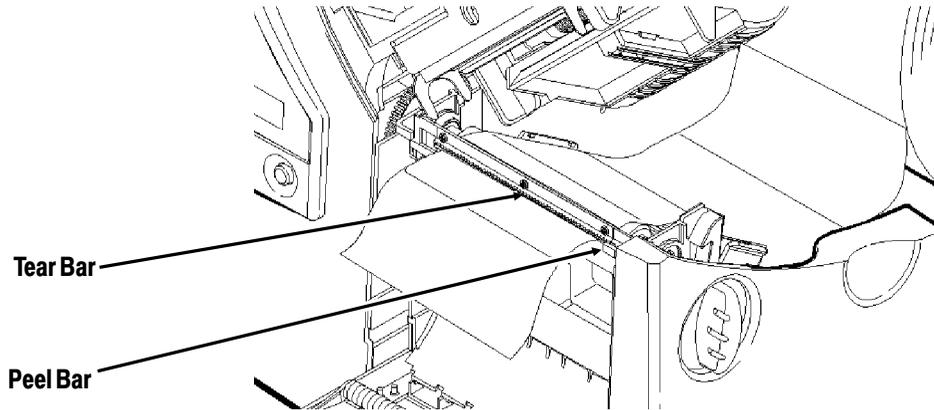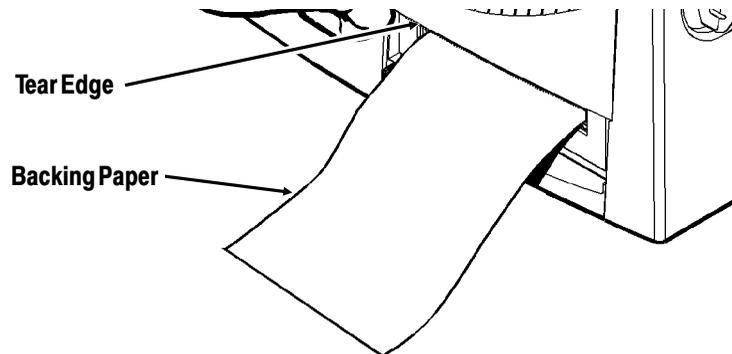
Tear labels against the tear bar.   Note the following change to loading labels if you've purchased the optional tear bar:

Slide the supply between the tear bar and peel bar.

Tear Bar

Peel Bar

Do not tear both label and backing paper at the same time.

◆   Tear labels against the tear bar.
◆   Tear backing paper against the tear edge.

Tear Edge

Backing Paper

LOADING RIBBON

This chapter describes how to load a ribbon roll.

There are different ribbon requirements for the three types of supplies:

Thermal Direct Supplies   do not use a ribbon for printing.

Thermal Transfer Supplies   require a ribbon for printing.

High Energy Supplies   require a ribbon able to withstand high temperatures.

High energy supplies are only available for the 9830 printer.

If you are using thermal direct supplies, do not load a ribbon. If you are using high energy supply, be sure to use a high energy ribbon. See "Using a High Energy Ribbon" for more information. If you want to use a high energy ribbon, you must send the supply setup packet every time the printer is turned on.

Loading Ribbon

Make sure the printer is configured to use a ribbon.

To load ribbon:

1. Open the cover.
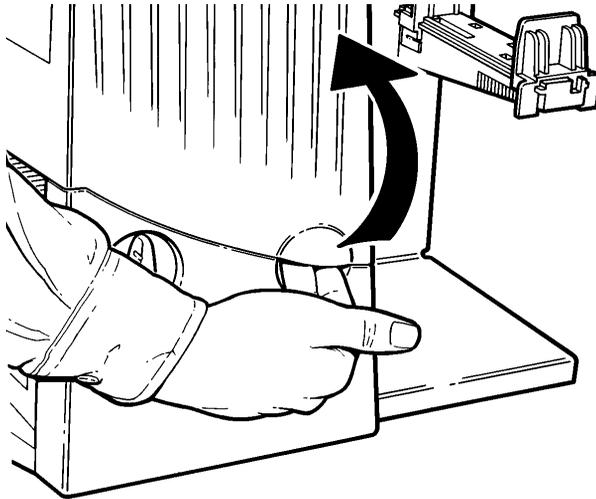
2. Unlock the printhead by turning the retaining latch.
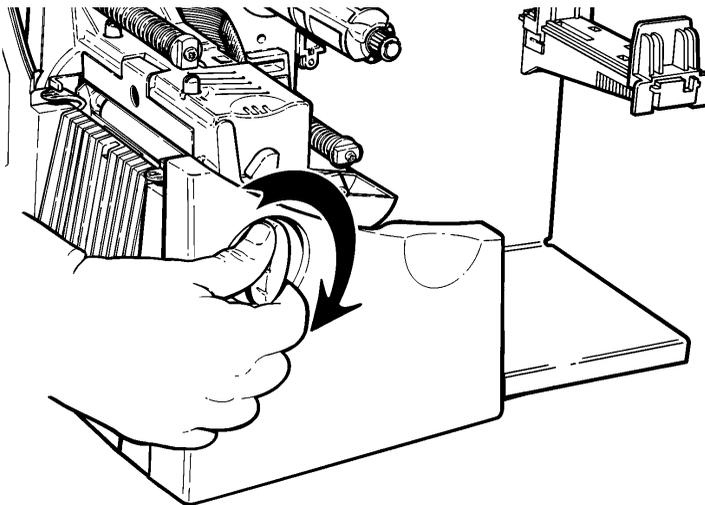
3. Lift printhead assembly using the printhead tab until the assembly locks into place.

Printhead Tab
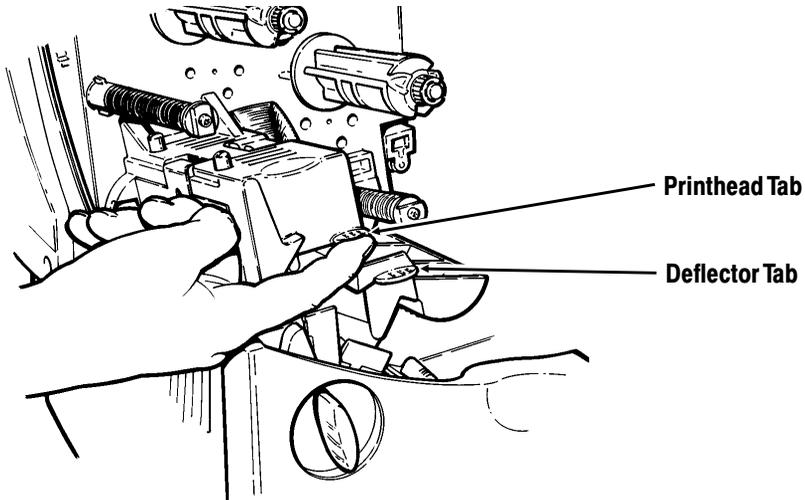
Deflector Tab

4. Push the deflector tab down.

Deflector Tab
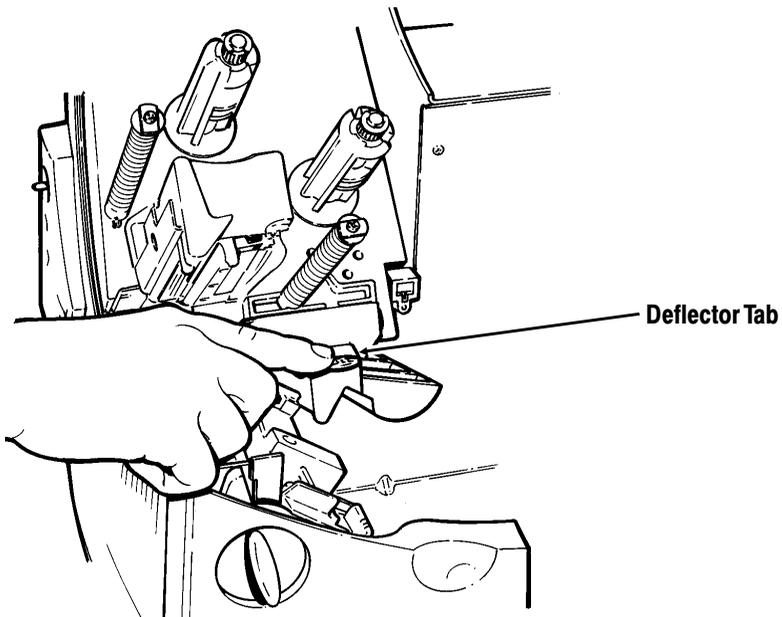
5. Slide the extra ribbon core on the take-up reel. Use your empty ribbon core as the take-up core. The take-up core only fits on the take-up reel one way. (An extra take-up core is available by ordering part number 117961. See "Accessories" in Appendix A for more information.)

6. Remove the new ribbon from the package as shown. Do not wrinkle or crush the new ribbon.
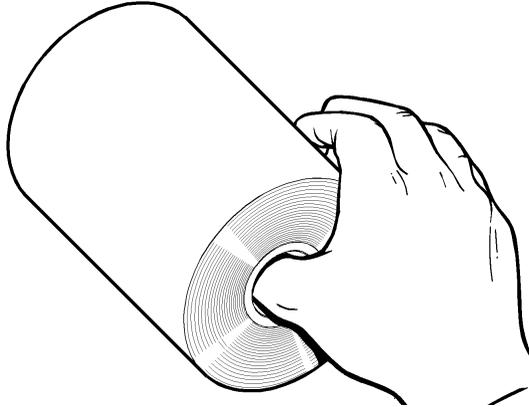
7. Slide the ribbon onto the back reel as far as it will go. The ribbon roll only fits on the reel one way. Carefully unwind a few inches of ribbon from the bottom of the roll.

Take-up Reel

Back Reel
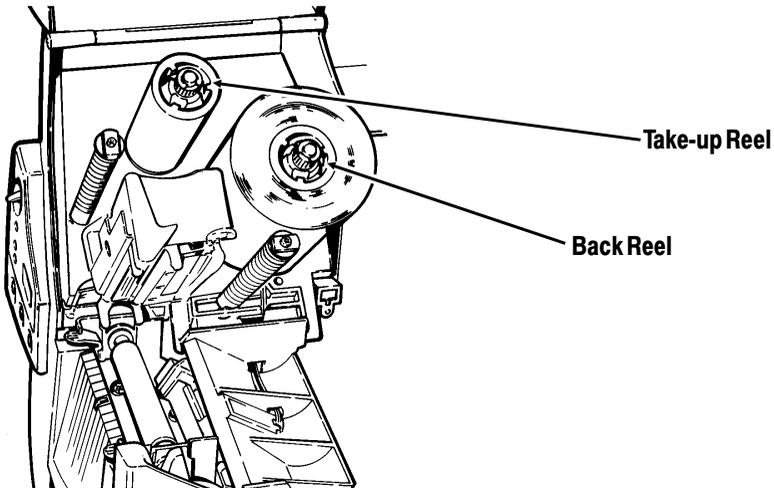
8. Carefully feed the ribbon under both ribbon rollers and printhead as shown.

Ribbon Roller
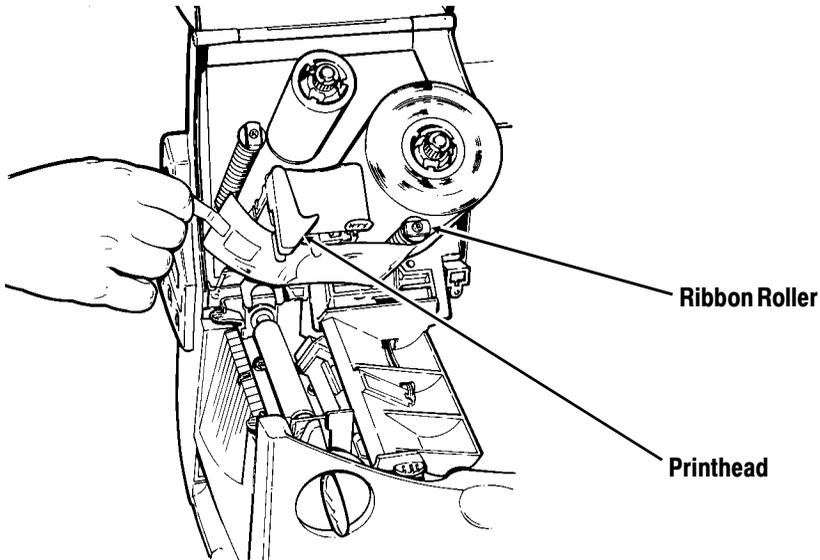
Printhead

9. Tape the ribbon to the take-up core. ***Do not tape the ribbon to the take-up reel.***

Take-up Core
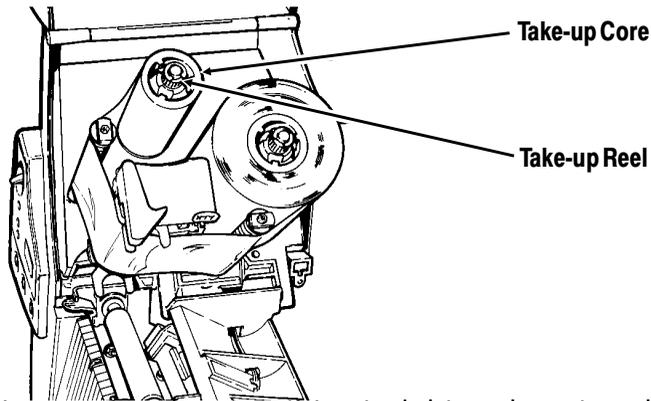
Take-up Reel

10. Align the ribbon and make sure it is straight and centered throughout the path.

11. Rotate the take-up core until the MONARCH leader is past the printhead.

12. Remove any slack in the ribbon by turning the take-up reel clockwise.

13. Hold the printhead assembly by the printhead tab while pressing down on the printhead release.
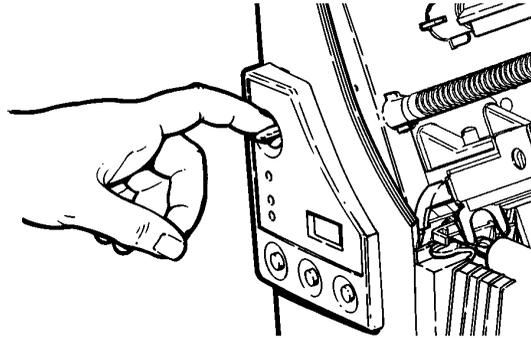
14. Close the printhead by pressing down on the thumb well until you hear it click into place. Close the cover.

Thumb Well
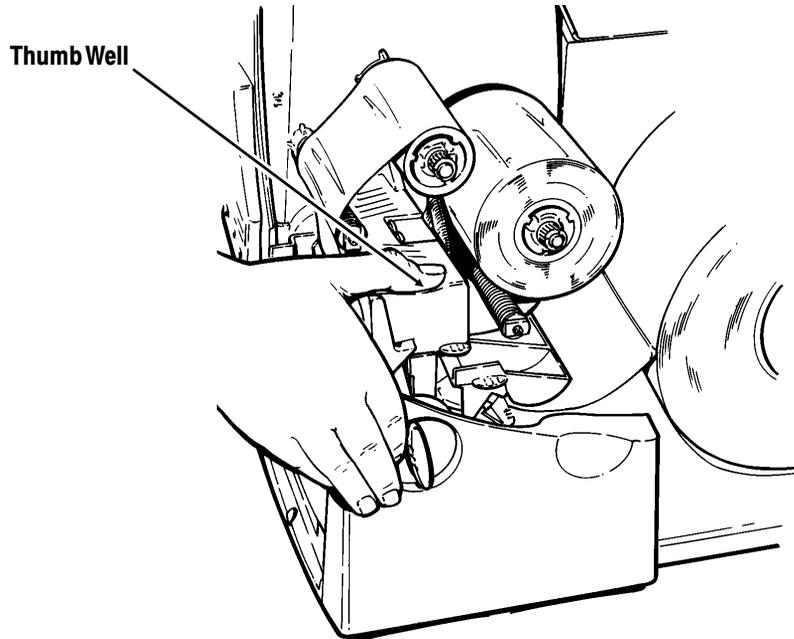
Using a High Energy Ribbon

High energy ribbon is an option for the 9830 printer. It enables you to print on high energy (TUFF-MARK®) supplies.

When you select high energy ribbon for the printer setting, you are setting the printer to a higher printing temperature. Select this setting only after you have loaded a high energy ribbon and supply or it may damage your printhead. To select a high energy ribbon, send the supply setup packet everytime you turn on the printer or use the **Printer Configuration** software (provided with the printer).

The high energy setting is lost when you turn off the printer.

High Energy Ribbon Limitations

When using the high energy ribbon option:

◆ Use a print speed of 2.5IPS (inches per second).

◆ Printhead warranty is reduced to 100,000 inches.

◆ Serial bar codes cannot be printed.

◆ Do not use peel mode.

◆ No more than 20% of the supply should have print (black coverage).

CAUTION
The high energy ribbon may break or stick to the supply when more than 20% of the supply contains print.

◆ Only white high energy supply should be used for bar code printing.

◆ Reverse fonts cannot be used.

◆ A non-printing area of at least .1 inch (2.54 mm) must exist on the left and right edge of the ribbon.

◆ Do not print horizontal lines or bars.

◆ Graphics are limited.

PRINTING

This chapter explains how to

◆ use on-demand mode printing.

◆ print an error label.

◆ print batch separators.

◆ adjust the print positions.

Printing

The host sends online packets containing print jobs to the printer.

To print:

1. Turn on the printer.

2. Download a format and a batch. (See Chapter 2, "Using the Software," or the online version of the *Packet Reference Manual* for information on downloading print jobs.)

   The printer prints a strip of labels.

3. Remove the printed labels.

On-Demand Mode Printing

When the 9820 printer is operating in the on-demand mode, you must press **Feed** to print a label. The Paused light blinks when the label is ready to print.

When the 9830 printer is operating in the on-demand mode, the next label prints when the previous label is removed from the printer or when **Feed** is pressed. The Paused light blinks until all the labels in the batch are printed. You must use on-demand printing with peel mode. If you are using peel mode, remove the excess backing paper by pulling up across the saw-toothed tear edge. Make sure the backing paper tears at the edge.

Hold the leading edge of peeled labels when printing on stock longer than six inches. The minimum feed length for peel mode is 1.5 inches. You must use non-perforated supplies for peel mode.

Printing an Error Label

If the printer displays a data error (errors 0-499), press **Feed** to print an error label and continue printing. See your System Administrator about the error label.

```
MONARCH MARKING
MODEL: M9835  S/W: Version 3.0

FORMAT NAME  :  40200
BATCH NAME   :
PACKET TYPE  :  F
FIELD TYPE   :  C
LINE #       :  8
ERROR #      :  18
```
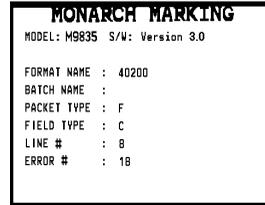
Clearing Batches

All batches are cleared when the printer is turned on. You can also clear all or a single batch by pressing **Clear** after the printer is paused. See "Using the Control Panel" in Chapter 1 for more information.

Using Batch Separators

A batch separator is a striped label that prints in between batches. For non-indexed (continuous) supply, the batch separator is always six inches long. The name of the batch is shown on the batch separator.

To use batch separators, refer to the online version of the *Packet Reference Manual* provided with your printer.

BCH090001
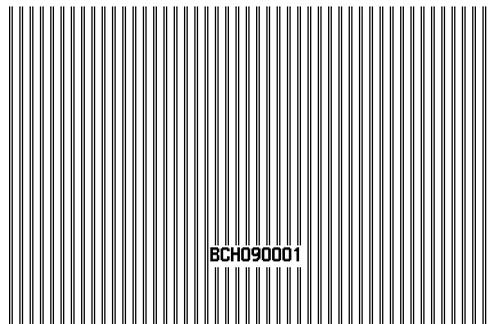
Adjusting Print Positions

You can adjust the supply, print, or margin positions on the printer by using the control panel buttons. Make sure a batch is not waiting to print before you adjust the positions.

To change the supply, print, or margin positions:

1. Press **Pause**.

2. Press **Feed** and **Clear** (at the same time) once to select the supply position, twice to select the print position, and three times to select the margin position. These buttons act as toggle switches between the three (supply, print, and margin) position adjustments.

    _____

    When you select the position to change, the current setting is displayed.

    _____

3. Press **Feed** to decrease the current position by one dot or press **Feed** for two seconds to decrease the value by 10 dots. OR
    Press **Clear** to increase the current position by one dot or press **Clear** for two seconds to increase the value by 10 dots.

    _____

    If the position has a negative value, the supplies light is on.
    After you adjust the position (and release the buttons), the setting is displayed.

    _____

4. Press **Pause** when you are done making adjustments.

Resend the format so these changes take effect. You cannot change the settings if the printer is paused while printing a batch. Change the settings after the batch is done printing.

Review the following definitions for the different print position adjustments.

Supply Position   Adjusts the machine to print at the vertical 0,0 point on the supply. Increase the supply position to move print up, decrease to move print down on the label. The range is -300 to 300 dots.

The supply position adjustment should only be made on inital printer setup. For format adjustments, change the print position.

Print Position   Adjusts where data prints vertically on the supply. Increase the print position to move print up, decrease to move print down. The range is -99 to 99 dots.

Margin Position   Adjusts where data prints horizontally on the supply. Increase the margin position to move print to the right, decrease to move print to the left. The range is -99 to 99 dots.

CARE AND MAINTENANCE 6

This chapter tells you how to

◆ clear label jams
◆ clean the printhead and platen roller
◆ replace a printhead
◆ replace a fuse
◆ adjust print contrast.

CAUTION

Do not use sharp objects to clean the printhead. This
may damage the printer and void your warranty.

Clearing Label Jams

When you are printing and a jam occurs, the **Supplies** light on the printer's front panel blinks. To clear the jam:

1. Turn off the printer.

2. Open the cover and printhead assembly.

3. If necessary, remove the label roll and ribbon.

4. Remove the jammed labels and reload the label roll.

5. Close the printhead assembly and turn on the printer.

6. Press **Feed** to position the supply under the printhead.

Cleaning

The rate and frequency at which you print determines how often you must clean the printer.

You may need to clean the printhead and platen roller:

◆ if there is any adhesive build-up in the supply path

◆ after printing approximately six rolls of supply, after using two ribbons, or whenever you load new supplies

◆ daily if your printer is in an excessively dirty, hot, or humid environment

◆ when you see voids in the print as shown.

You may have to clean the supply sensor more often if you frequently receive supply error codes.

To clean the printhead, supply sensor, and platen roller:

1. Turn off the printer.

2. Open the cover and printhead assembly.

3. Remove the label roll and ribbon (when cleaning the printhead).

4. Press down on the exit cover tabs to open the exit cover on the front of the printer.

Exit Cover
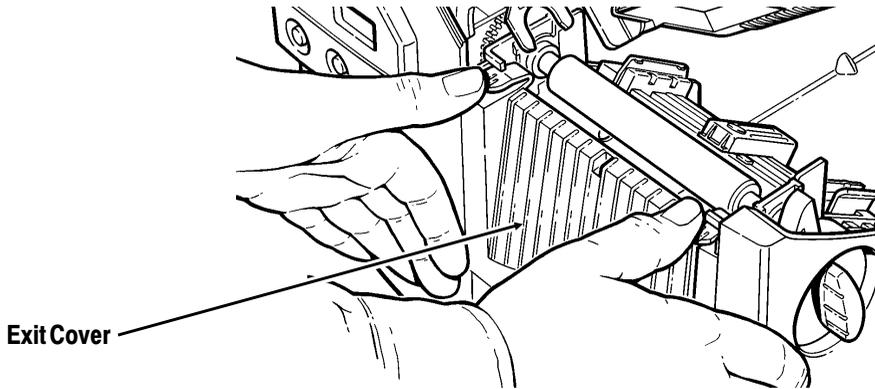
5. Moisten a cotton swab with isopropyl alcohol. Turn the platen roller with your finger and run the cotton swab across it. Make sure the platen roller is clean all the way around.
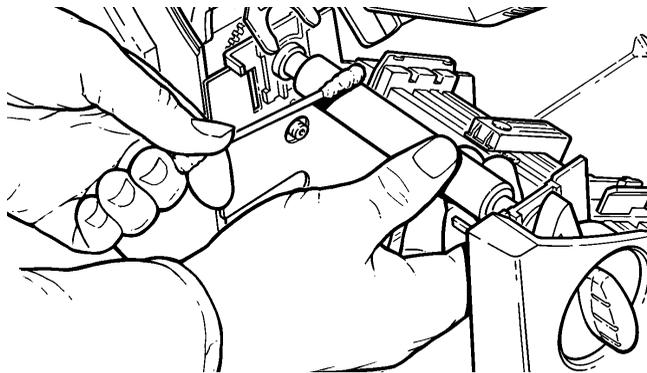
6. Rub the cotton swab across the peel bar and remove any build-up. The peel bar is only available on the 9830 printer.

7. Moisten another cotton swab with isopropyl alcohol. Rub the cotton swab across the printhead and remove any build-up.
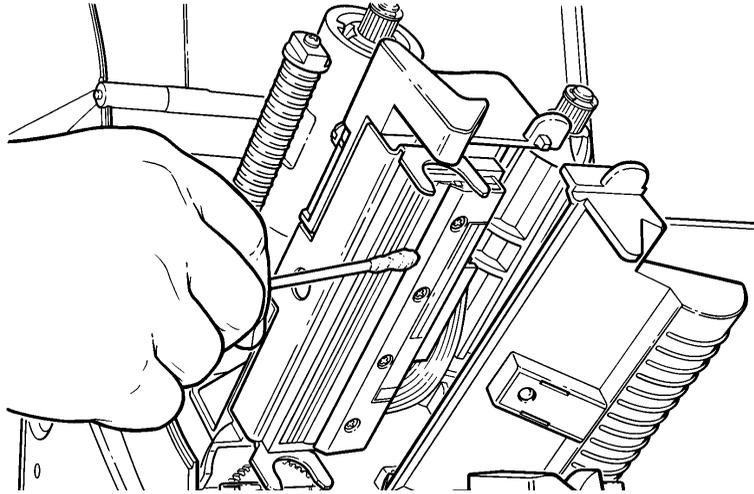
8. Rub the cotton swab across the supply sensor and remove any build-up.

Supply Sensor
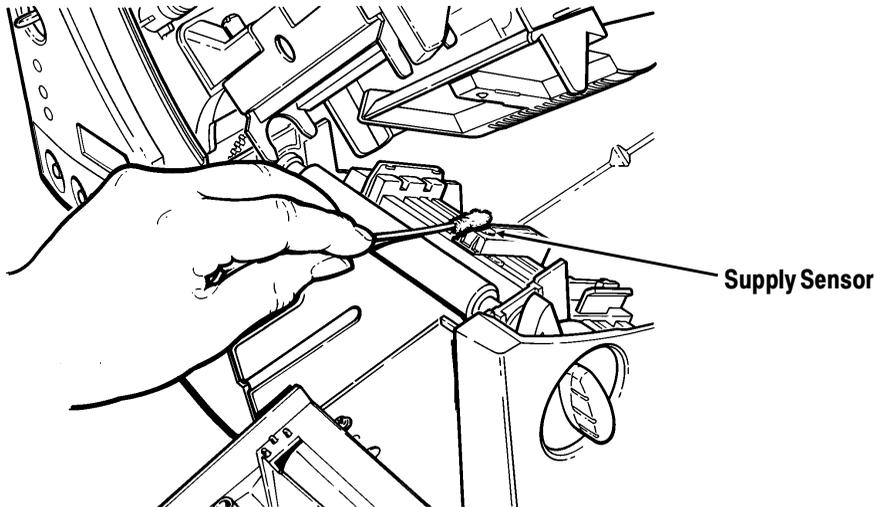
9. Clean the build-up in the supply path.

10. Let the printer dry and reload your supplies.

11. Close the exit cover by pushing firmly on it as shown. Both latches will click into place.
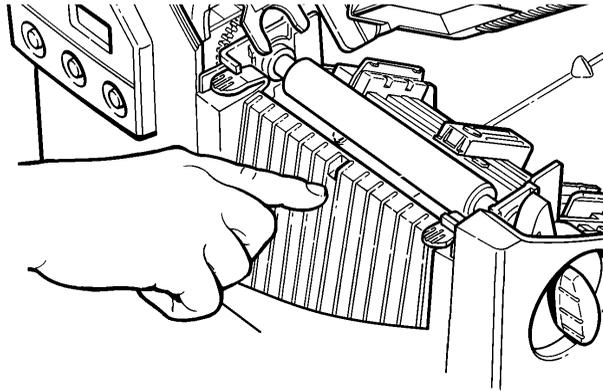
12. Close the cover and printhead assembly.

13. Turn on the printer.

14. Press **Feed** to position the supply under the printhead.

Resend your format, batch, and
check digit packets.

Replacing the Printhead

You may have to replace the printhead if it is damaged or worn-out. For example, you may see 616 (bad dot or dots) or 765 (printhead failure) error codes. See Appendix A, "Specifications and Accessories," for the printhead part number.

CAUTION

The printhead is sensitive to static electricity, which can damage the printhead or reduce its life. Ground yourself by touching some metal, such as the printer's metal base, before touching the printhead. Clean the printhead to remove any salt or oil left from handling prior to operation.

To replace the printhead:

1. Turn off the printer.

2. Open the cover.

3. Unlock the printhead by turning the retaining latch.
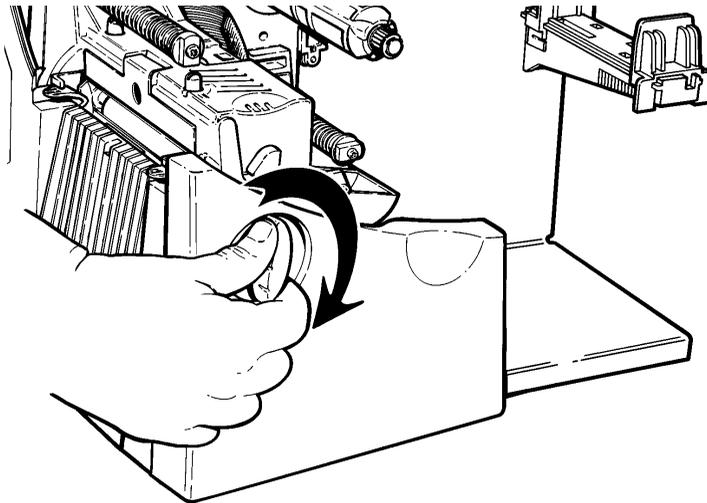
4. Press forward and down on the two latches on top of the printhead assembly as shown. The printhead will drop down.
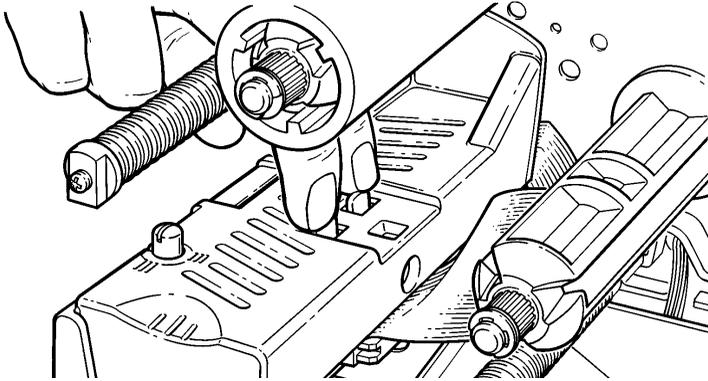
5. Lift the printhead assembly using the printhead tab and push back until the printhead assembly clicks into place.

6. Carefully unplug the cable from the printhead as shown.

CAUTION

The printhead is sensitive to static electricity, which can damage the printhead or reduce its life. Ground yourself by touching some metal, such as the printer's metal base, before touching the printhead.
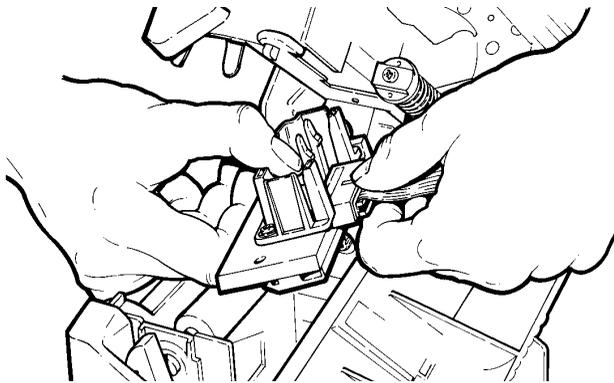
7. Carefully plug the cable into the new printhead.

8. Align the new printhead with the tabs.

9. Snap the printhead into place.

**Do not
touch here** —
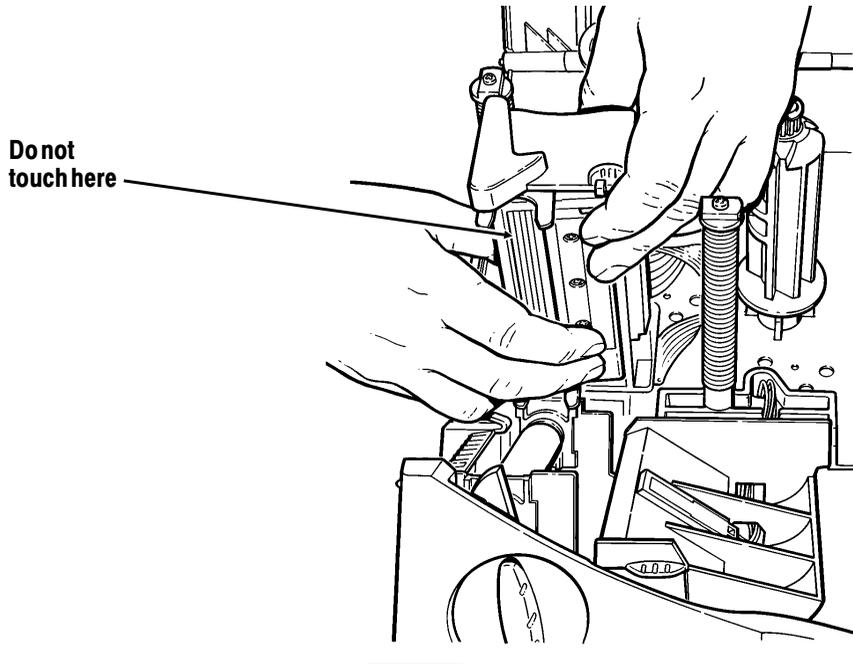
Make sure the printhead cable does not
touch the ribbon roll.

10. Clean the new printhead with a cotton swab dipped in
isopropyl alcohol to remove any salt or oil left from handling.

11. Let the printhead dry and reload your supplies.

12. Close the printhead assembly and the cover.

13. Turn on the printer.

14. Press **Feed** to position the supply under the printhead.

Adjusting the Wide/Narrow Knobs

You may need to adjust the two wide/narrow knobs according to the width of your supply. For supply that is more than two inches, adjust the knobs to the wide setting. For supply that is two inches or less, adjust the knobs to the narrow setting.

You must adjust both of the knobs to
the same position.

For wide supplies, push down and turn the wide/narrow knobs clockwise with a screwdriver.

For narrow supplies, turn the wide/narrow knobs counter-clockwise with a screwdriver until it pops back up.
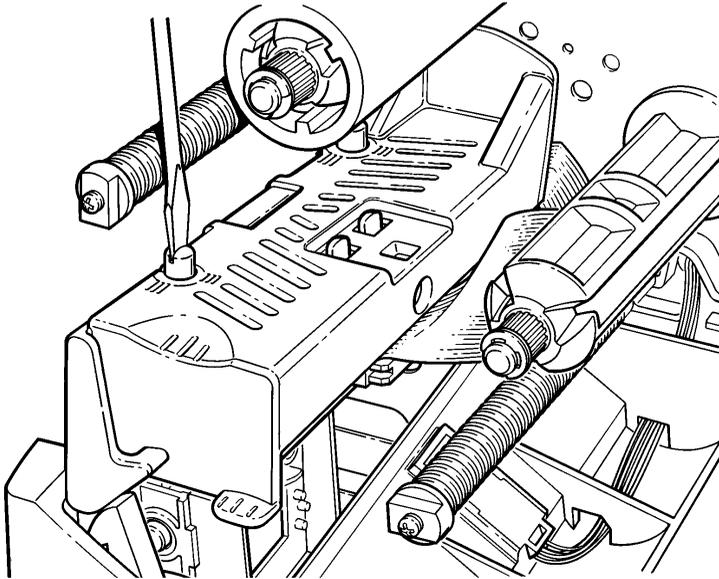
The adjustment is shown in the wide position.

Adjusting the Print Contrast

You may need to adjust the print contrast if the printing is too light or too dark. Having the correct print contrast is important because it affects how well your bar codes scan and how long your printhead lasts.

We recommend you check the bar code print
quality with a bar code verifier.

Using a thin screwdriver, turn contrast knob clockwise for darker print; turn counter-clockwise for lighter print.

Contrast Knob
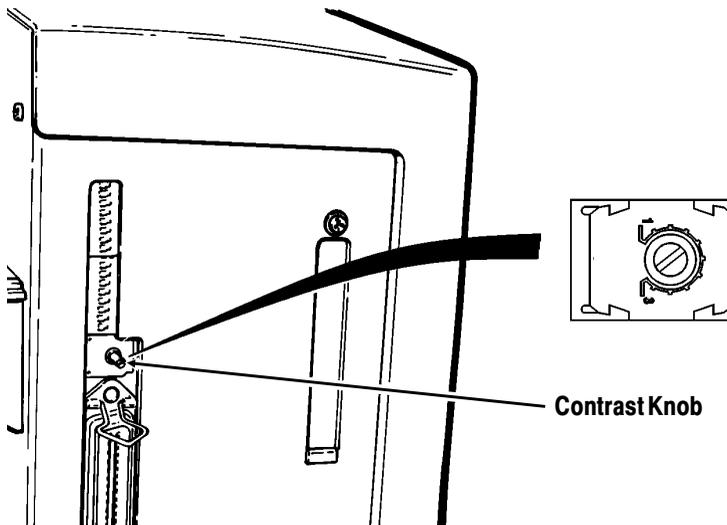
You only have to turn the contrast
adjuster slightly.

Your System Administrator can adjust the print contrast by sending the print control packet. See the online version of the *Packet Reference Manual* for more information. The **Printer Configuration** software (provided with the printer) can also be used to adjust the print contrast.

Replacing the Fuse

The printer is shipped with a 115 volt or a 230 volt fuse.

To replace the fuse:

1. Disconnect the printer from the power source.
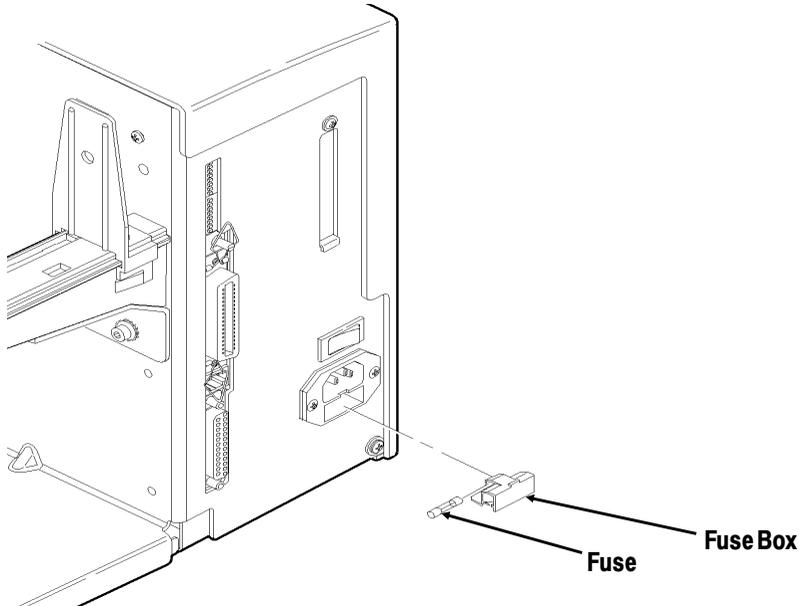
Fuse Box

Fuse

2. Use a screwdriver to pry open the fuse box in the back of the printer.

3. Remove the old fuse and insert a new one as shown.

4. Slide the fuse box back into the printer.

TROUBLESHOOTING

7

This chapter provides

◆ information about printing a test label.

◆ solutions to minor printing problems.

◆ explanations of error messages you may receive while using the printer.

Printing a Test Label

To print test labels:

> Press **Feed** and **Pause** simultaneously. Hold for one second
> and release. Labels similar to these print:

```
MONARCH MARKING
MODEL: M9820 S/W:VERSION 1.0.0.0.0
A,1,0,0,0,0 B,0,0,1,0,0
C,0,0,0,20,0,0
D,0,1,2
E,{,,,",,,},~,--,-- DA/DD
F,3,1,0,0,1
G,0,146,134
M,0,R,0  M,F,R,320
M,1,R,1560  M,R,R,80
M,T,R,20  M,V,R,500
```

```
MONARCH MARKING
MODEL: M9820 S/W:VERSION 1.0.0.0.0
    TOTAL INCHES:   0000000
    CURRENT INCHES: 0000000
    VOLTAGE:          36,96
    CONTRAST POT:        20
    PH RESISTANCE:     0846
    BAD DOTS:           000
    TOTAL MEMORY:     248 K
    OPTIONS:            000
    DIPSW  0000000000000000
```

The first label shows the printer's configuration by packet (A-G).
See the online version of the *Packet Reference Manual* (included
on diskette) for more information.

The second label shows the model number, software version,
stock count, voltage, print contrast, printhead resistance, number
of bad dots, installed options, and DIP switch settings. The test
label for the 9830 printer also shows an inch count for the high
energy ribbon.

If test labels do not print, press **Feed** and try again. If that does
not solve the problem, call Technical Support.

Troubleshooting

This section helps you correct some problems that may occur.

Problem	Action
Error message appears during startup.	Turn off the printer, wait fifteen seconds and then turn on the printer. Call Technical Support if the error message reappears.
Does not print.	Check supply. Check ribbon. Send a corrected format and batch packet.
Does not feed.	Set wide/narrow knobs correctly.
Partially printed data.	Clean the printhead. Send a corrected format packet.
Printing shadows or smears.	Clean the printhead. Change supply. Check ribbon.
Light printing.	Change supply. Adjust the print contrast. Check wide/narrow knobs. Check ribbon.
Heavy printing.	Clean the printhead. Change supply. Adjust the print contrast. Check wide/narrow knobs. Check ribbon.
Voids in printing.	Clean the printhead. Change supply type. Check ribbon.
Serial bar codes do not scan.	Use a print speed of 2.5 IPS. Adjust the print contrast.
Backing paper is wrapped around platen or peel roller.	Carefully remove the backing paper. Make sure the backing paper tears at the saw-toothed tear edge when using backfeed and peel mode.

If you cannot fix a problem, call Technical Support.

Error Messages

You may receive the following types of error messages:

◆ Data Errors
◆ Communication Errors

Some errors numbered 400-438 and 500-574 are internal software errors. Errors numbered 900-999 are hard printer failures. If you cannot clear an error, turn off the printer, wait several seconds and then turn on the printer. Call Technical Support if you receive any error message not listed in this chapter.

Data Errors

Errors 001 to 405 and 429 to 435 are data errors. This type of error indicates that incorrect data was sent to the printer, and the printer is ignoring it. Your System Administrator should correct the packet and send it back to the printer.

Error	Description/Action
001	Format ID number must be **1** to **999**.
002	Name must be **1** to **8** characters inside quotes.
003	Action must be **A** (add) or **C** (clear).
004	Supply length is invalid.
005	Supply width is invalid.
006	Storage device must be **R** (volatile RAM).
007	Unit of measure must be **E** (English), **M** (Metric), or **G** (Dots).
010	Field ID number is outside the range **0** to **999**.
011	Field length exceeds **2710**.

012	Row field position is greater than the maximum stock dimension.
013	Column field position is greater than the maximum stock dimension.
014	Font selector is invalid.
015	Character rotation must be **0** (0 degree), **1** (90 degree), **2** (180 degree), or **3** (270 degree).
016	Field rotation must be **0** (0 degree), **1** (90 degree), **2** (180 degree), or **3** (270 degree).
017	Field restriction must be **V** (variable) or **F** (fixed).
018	Code page selection defined in the field must be **0** (Internal), **1** (ANSI), **2** (DOS 437), or **3** (DOS 850).
020	Vertical magnification must be **1** to **7**.
021	Horizontal magnification must be **1** to **7**.
022	Color must be **B**, **D**, **O**, **R**, or **W**.
023	Intercharacter gap must be **0** to **99** dots.
024	Field justification must be **B** (balanced), **C** (centered), **E** (end), **L** (left), or **R** (right).
025	Data length is too long.
030	Bar code height must be at least **20** (English), **51** (Metric), **40** (Dots), or is not within the supply dimensions.
031	Human readable option must be **0**, **1**, **5**, **6**, **7**, or **8**.
032	Bar code type is invalid.
033	Bar code density is invalid.
040	Line thickness must be **0** to **99** dots.

041	Line direction must be **0**, **90**, **180**, or **270**.
042	The line segment or box end row is defined outside of printable area.
043	The line segment or box end column is defined outside of printable area.
044	Dot pattern for line or box must be "".
045	Line length is defined beyond the maximum length.
046	Line type must be **S** (segment) or **V** (vector).
051	Imaging mode in the graphic header must be **0**.
101	Format referenced by batch not in memory.
102	Print quantity is outside the range **0** to **32000**.
104	Batch mode must be **N** (new) or **U** (update).
105	Batch separator must be **0** (Off) or **1** (On) in the batch control field.
106	Print multiple is outside the range **1** to **999**.
107	Cut multiple is outside the range **0** to **999**.
108	Multiple part supply is outside the range **1** to **5**.
109	Reserved for knife usage.
200	Option number must be **1**, **4**, **30**, **31**, **42**, **50**, **60**, or **61**.
201	Copy length is outside the range **0** to **2710**.
202	Copy start position must be **1** to **2710**.
203	Destination start position must be **1** to **2710**.
204	Source field must be **0** to **999**.

205	Copy type must be **1** (Copy after rules) or **2** (Copy before rules).
206	Increment/Decrement selection must be **I** (increment) or **D** (decrement).
207	Incrementing start position must be **0** to **2710**.
208	Incrementing end position must be **0** to **2710**.
209	The incrementing amount must be **0** to **999**.
210	Security value for a PDF417 bar code must be **0** to **8**.
211	Narrow element value is less than **1** or greater than **99**.
212	Wide element value is less than **1** or greater than **99**.
213	Dimension must be **1** to **30** for a column or **3** to **90** for a row.
214	Truncation code must be **S** (standard) or **T** (truncated bar code).
215	Aspect code must be **C** (columns) or **R** (rows).
216	Option definition must be **S** (set) or **T** (template).
217	Input device must be **D** (Default), **H** (Host), **K** (Keyboard), **N** (None), or **S** (Scanner).
218	Pad direction must be **L** (from left) or **R** (from right).
219	Pad character is outside the range **0** to **255**.
220	Check digit selection must be **G** to generate check digit.
221	Primary or secondary price format is outside the range **1** to **15**.
222	Data type restriction is outside the range of **1** to **6**.
223	Option is not valid for the field.

224	Bar code Intercharacter gap must be **0** to **99** in printer dots.
251	Power up mode must be **0** (online) or **1** (offline).
252	Language selection must be **0** (English).
253	Batch separator code must be **0** (off) or **1** (on) in the system setup packet.
254	Slash zero selection must be **0** (standard zero) or **1** (slash zero).
255	Supply type must be **0** (black mark) or **1** (die cut).
256	Ribbon selection must be **0** (direct) or **1** (transfer).
257	Feed mode must be **0** (continuous) or **1** (on-demand).
258	Supply position is outside the range.
259	Contrast adjustment must be **-390** to **156** dots.
260	Print adjustment must be **-99** to **99** dots.
261	Margin adjustment must be **-99** to **99** dots.
262	Speed adjustment is invalid.
263	Primary monetary symbol is invalid.
264	Secondary symbol selection must be **0** (none) or **1** (print secondary sign).
265	Monetary decimal places must be **0** to **3**.
266	Character string length in Packet **E** must be **5** (MPCL control characters) or **7** (ENQ/IMD command character).
267	Baud rate selection must be **0** (1200), **1** (2400), **2** (4800), **3** (9600), **4** (19.2), or **5** (38.4).
268	Word length selection must be **0** (7 bits) or **1** (8 bits).

269 Stop bits selection must be **0** (1 bit) or **1** (2 bits).

270 Parity selection must be **0** (none), **1** (odd), or **2** (even).

271 Flow control selection must be **0** (none), **1** (DTR/DSR), **2** (CTS/RTS), or **3** (XON/XOFF).

272 Internal code page selection must be **0** (Internal), **1** (ANSI), **2** (DOS 437), or **3** (DOS 850).

273 Cut adjustment must be **-300** to **300** dots.

282 RS232 Trailer string is too long. Use a maximum of **3** characters.

283 ENQ Trailer string is too long. Use a maximum of **3** characters.

284 The buffer type must be **T** (transmit), **R** (receive), **I** (image), **F** (format, batch data, and graphics), **D** (downloadable fonts), or **V** (vector/scalable fonts).

285 The storage device type must be **N** (non-volatile RAM) or **R** (volatile RAM).

286 The buffer size is invalid.

287 The printhead width is invalid.

290 Action must be **0** (disable) or **1** (enable) for Backfeed Control.

291 Dispense position must be **50** to **200** dots and/or the backfeed distance is greater than the dispense position.

292 Backfeed distance must be **10** to **200** dots.

310 Check digit scheme number must be **1** to **10**.

311 Modulus must be **2** to **11**.

314 Check digit algorithm must be **D** (sum of digits) or **P** (sum of products).

325	Duplicating direction must be **0** or **1**.
327	Amount of row adjustment must be **0** to **999**.
328	Duplicate count must be **0** to **999**.
340	Bitmap line encoding must be **H** (Hex) or **R** (Run length).
350	Font selector must be **1** to **9999**.
351	Font data length must be **68** to **16384**.
352	Insufficient font memory is available for the downloaded font.
380	Job request is outside the range **0** to **4**.
400	Invalid character following **{**.
401	Internal software failure. Call Technical Support.
402	Field separator is not in the expected location.
403	Field separator was not found.
404	The number or string that is currently being processed is too long.
405	Too many fields exist in the format.

Communication Failures

Errors 409 to 413 usually indicate a communication failure. These errors happen when the host and the printer cannot communicate. Ask your System Administrator for help.

Error	Description/Action
409	Printer memory is full.
410	Parity mismatch.
411	Framing error (baud rate mismatch).

412   Flow control mismatch.

413   Receive buffer is full. Check flow control settings.

414   Internal keyboard buffer is full or you need a new keypad.

427   Format name must be **1** to **8** characters inside quotes or a printer-assigned name ("").

428   Batch name is invalid or graphic not found.

429   A field number appears more than once in a format.

430   The format uses a graphic file that cannot be found.

433   The batch references a field number that does not exist in the format.

497   Error occurred during the parallel port loop back test.

499   Error occurred during the serial port loop back test.

Data Formatting Errors

Errors 571 to 618 are data formatting errors. This type of error happens when a field prints incorrectly. Your System Administrator can correct the format, batch, or graphic packet and send the print job again. For errors 571 to 614, the printer will still print, but the data may be incomplete, missing, or wrong.

Error   Description/Action

571   UPC or EAN bar code data length in the batch doesn't fit the format.

572   Batch data doesn't fit the format, the field contains blanks, or data mismatch.

573   Batch data in price field doesn't fit the format or the field contains blanks.

574   Batch data in check digit scheme doesn't fit the format, or, the field contains blanks.

575   The graphic included in your format could not be found.

600   Imaging error because the batch was refused.

601   An error occurred while the batch was imaging.

602   The batch was not found during imaging.

611   Font, bar code, or density in the batch doesn't fit the format.

612   Batch data is missing or doesn't match the format.

613   Reference point off tag.

614   Portion of field off tag.

615   Bar code width is greater than 16 inches, or keywords on PDF 417 bar code exceed **928**.

616   A bad dot falls on a bar code and the dot cannot be shifted. Call Customer Service to order a new printhead or printhead kit.

618   Magnification must be **1** to **7**.

Machine Faults

Errors 700 to 765 happen when there is a problem with the printer.

Error   Description/Action

700   An error is pending, and the printer cannot continue with the batch.

701   Printer received a command that it cannot execute while it is running.

702   Check your printer's SETUP settings.

703	The printer sensed a calibration of different-sized black marks.
704	Printer didn't detect a sense mark within the maximum feed length or is out of supplies. Check or load supplies.
705	Invalid batch received.
750	Printhead is overheated. Turn off the printer and let it cool.
751	Printer didn't detect a sense mark when expected.
752	Printer detected a sense mark in the wrong place.
753	Printer detected a sense mark that is too long.
754	Out of ribbon or ribbon jam. Check or load ribbon. Remove any slack in the ribbon by turning the take-up reel clockwise.
755	Printhead is open. Close the printhead.
756	Out of supplies. Load supplies.
757	Reload supplies (supply length mismatch).
758	The supply was not seen or the on-demand sensor is not working correctly. Check for a supply jam. Clear the supply path or reload supplies. This error may occur if you remove a label too quickly in the on-demand mode. The printer does not recalibrate after this error.
759	Knife is not moving. Call Technical Support.
760	Knife jam. Remove any jammed tags from the knife. Call Technical Support.

761   Stacker is full or jammed. Empty the stacker or clear
           the jam before continuing. The printer does not
           recalibrate after this error.

762   Low battery. Recharge the battery.

763   Waiting to dispense label. Press **Feed**.

764   Verifier failure. Press **Clear** to clear the error and
           continue printing. A blank label feeds and the last label
           reprints.

765   Printhead failure. Call Customer Service to order a new
           printhead or printhead kit.

768   Printhead has more than 10 bad dots or is not
           connected. Make sure the printhead is connected. If
           necessary, call Customer Service to order a new
           printhead or printhead kit.

770   The print motor is not ready. Call Technical Support.

771   The format specified by the application was not found.
           Reload your application and format and try again.

790   The printer is busy. Wait until the printer is idle (not
           receiving data or no batch waiting to print) before you
           send any packets. This error may occur when you try
           to print a test label if the printer is busy.

791   The printer has an error pending. Turn off the printer.
           Wait 15 seconds and turn it back on. Resend the
           packets.

792   The printer is not initialized. Call Technical Support.

793   The printer job queue is full. Turn off the printer. Wait
           15 seconds and turn it back on. Resend the packets.

Errors numbered 900-999 are hard printer failures. Call Service if
you receive these messages.

SPECIFICATIONS & ACCESSORIES

Printer

Height:	12.5 inches (318 mm)
Width:	12 inches (305 mm)
Depth:	13 inches (330 mm)
Weight:	25 lb. (11 kg) for 9820 printer 29 lb. (13 kg) for 9830 printer
Shipping Weight:	29 lb. (13 kg) for 9820 printer 33 lb. (15 kg) for 9830 printer
Power:	115 Vac, 60Hz, 100 Vac, 50/60 Hz, 230 Vac, 50Hz
Operating Limits:	For Thermal Transfer (ribbon) 40° to 95° F (4° to 35° C) For Thermal Direct 40° to 104° F (4° to 40° C)
Printhead:	Thermal at 4 inches (102 mm) wide 203 dpi (8.0 dots per mm)
Printing Method:	Thermal Transfer (ribbon) or Thermal Direct
Supply Types:	Thermal Transfer or Direct
Supply Widths:	1.2 inches (31 mm) minimum 4.25 inches (108 mm) maximum
Supply Lengths:	1 inch (25 mm) minimum 12.0 inches (305 mm) maximum for 9820 printer 16.0 inches (406 mm) maximum for 9830 printer

Ribbon Specification

Ribbon Storage: Do not leave ribbon in direct sunlight, high temperatures, or high humidity.
For high temperature or high humidity environments, contact Monarch for supply recommendations.

Print Speed:
- 2.5 IPS (64 mm) for all serial bar codes
- 2.5 IPS (64 mm), 4.0 IPS (102 mm), or 6.0 IPS (152 mm) for other operations.

We recommend a print speed of 2.5 IPS for labels less than two inches long using backfeed or on-demand mode printing.

Ribbon Type: Standard or High Energy (only available on 9830 printer)

Ribbon Widths: 1.3 inches (33 mm)
1.6 inches (41 mm)
2.16 inches (55 mm)
3.15 inches (80 mm)
4.13 inches (105 mm)

Ribbon Length: 23,600 inches (600 meters)

Accessories

- International Fonts
- Internal TwinAx/CoAx Protocol Converter Part # 117532
- LAN Print Server   RJ-45 Connector (10BaseT) Part # 11753101
  BNC Connector (10Base2) Part # 11753102
- Printhead Assembly Kit Part # 117971
- Ribbon Take-up Core Part # 117961-20, -30, or -40 (available in two, three, or four inches)
- High Energy Ribbon (9830 printer only)
- Tear Bar

SETTING DIP SWITCHES

To change the DIP switch settings, move the switches to the
desired position and then turn on the printer.

Upper Dip
Switches

Lower Dip
Switches
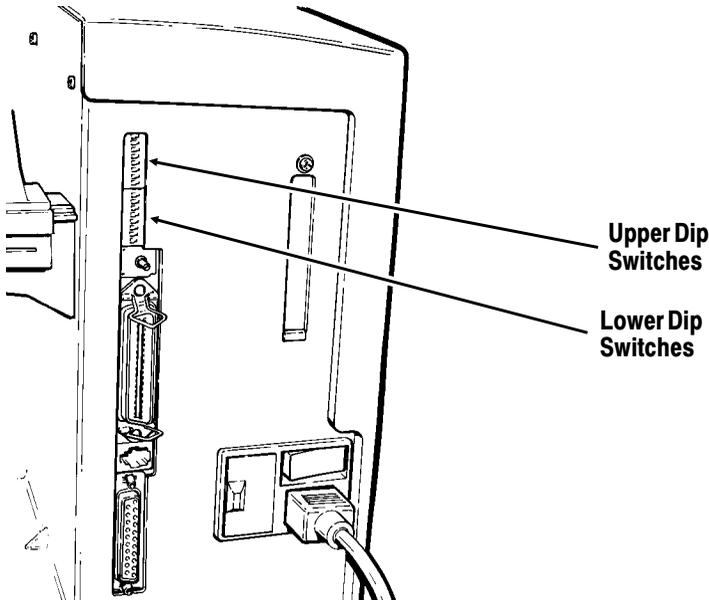
If you select Software Controlled, the parameters in Packet F will
override the communication settings. Software Controlled uses
the **last sent** Packet F settings or the defaults. Turning on the
printer activates the DIP switch settings. Make sure the DIP
switch settings match the printer's setup for ribbon or supply type.

DIP Switches

Upper DIP Switches

	1	2	3	4	5	6	7	8
Baud Rate								
38400	ON	ON	OFF					
19200	ON	OFF	ON					
9600	ON	OFF	OFF					
4800	OFF	ON	ON					
2400	OFF	ON	OFF					
1200	OFF	OFF	ON					
Software Control	OFF	OFF	OFF					
Data Bits								
7 Data Bits				ON				
8 Data Bits				OFF				
Stop Bits								
2 Stop Bits					ON			
1 Stop Bit					OFF			
Parity								
Even						ON	OFF	
Odd						OFF	ON	
None						OFF	OFF	
Parallel Port								
Centronics Mode								OFF
IEEE-1284								ON

Lower DIP Switches

	1	2	3	4	5	6	7	8
Flow Control								
XON/XOFF	ON	OFF						
RTS/CTS*	OFF	ON						
DTR	OFF	OFF						
Diagnostics								
Normal			OFF					
Diagnostics Mode			ON					
Verifier								
No Verifier				OFF				
Verifier Installed				ON				
Supply Type								
Continuous					ON	OFF		
Die Cut					OFF	OFF		
Black Mark					OFF	ON		
Ribbon								
Transfer							OFF	
Direct							ON	
Feed Mode								
Disable On-Demand								OFF
Enable On-Demand								ON

* Requires a special cable.

G L O S S A R Y

The following terms will help you use this manual.

continuous mode   Mode in which the printer prints all the labels in the batch without stopping.

download (send)   Transmission of data from the host to your printer.

format   Supply layout or design, which the *System Administrator* downloads as a format packet to your printer.

host   Any mainframe, minicomputer, data collect terminal, or personal computer sending data to the printer.

LCD   Display on the printer used to indicate printer conditions and problems.

MONARCH leader   Wrap around a new roll of ribbon with Monarch printed on it.

on-demand mode   Mode in which the printer stops after each label to allow you to remove it.

print job   Actual data printed on a label or tag. The host may download the print job together with the format, or as a separate packet. The print job is also called a "batch."

online   Direct communication between a computer and the printer.

Supply Sensor   Senses whether supply is loaded or needs to be loaded in the printer. Located in the supply path.

Supplies   Labels used for printing.

System Administrator   Person responsible for creating and downloading packets.