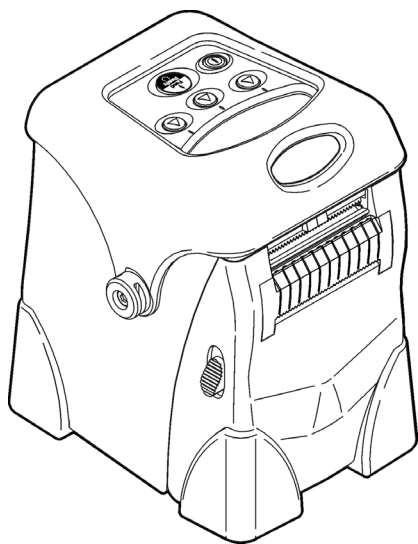


Operator's Handbook

Monarch®
Sierra Sport™ 2
9460™ Printer



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

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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.

RF Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference including interference that may cause undesired operation of the device.

CANADIAN D.O.C. WARNING

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

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

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Avery Dennison Printer Systems Division
170 Monarch Lane
Miamisburg, Ohio 45342

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GETTING STARTED

1

The Monarch® Sierra Sport2™ 9460™ printer is a portable, thermal-direct printer that prints on tags, labels, or receipt paper.

Introduction

This chapter includes information about

- ◆ documentation.
- ◆ printer utilities.
- ◆ unpacking the printer.
- ◆ installing the battery and battery information.
- ◆ connecting the communications cable.
- ◆ using the LCD screen and buttons.

Audience

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

Additional Documentation

The online version of the *Programmer's Manual*, the *RCL Programmer's Manual*, and the *System Administrator's Guide* are available on our Web site (www.paxar.com).

Note: Information in this document supercedes information in previous versions. Check our Web site for the latest documentation and release information.

Printer Utilities

The Monarch® MPCL™ Toolbox utilities are also available on our Web site (www.paxar.com) and are free to download. This group of development utilities helps you configure the printer, customize fonts, and download files.

Unpacking the Printer

After you unpack the printer, you may have (depending on your order):

- ◆ a 9460 printer
- ◆ one or more batteries
- ◆ an AC power adapter (supply) or none
- ◆ a hip/shoulder/hand strap or none
- ◆ a cable

Note: Look through all of the packaging material for items. Keep all packaging material in case you need to move or return the printer.

If any items are missing, contact Paxar at the number listed on the back of this manual for replacement items.

About the Printer's Power

There are two ways to power the printer:

- ◆ Using a battery. See "Installing the Battery" for more information.
- ◆ Using the optional AC power adapter. For more information about the AC power adapter, refer to the *9463™ Operating Instructions* included with the AC power adapter.

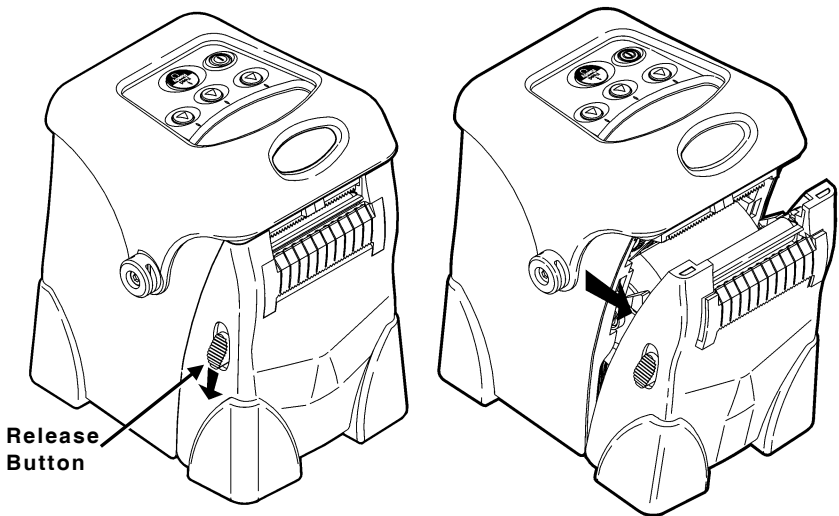
1-2 Getting Started

Installing the Battery

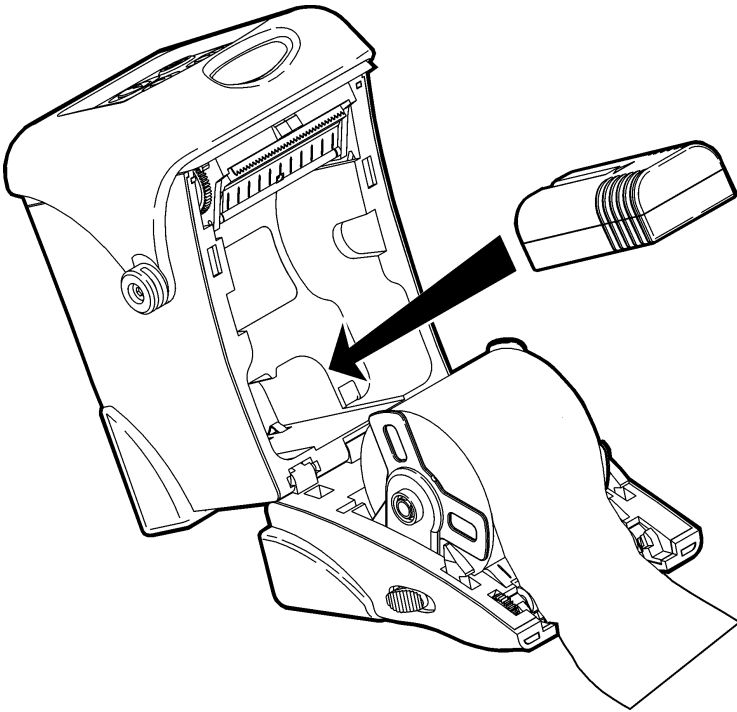
The battery can be installed with or without supplies loaded.

Note: Make sure the battery is charged before using it.

1. Turn **off** the printer if you are changing batteries.
2. Open the supply door by pushing down on the release buttons located on both sides of the printer. The supply door should swing open.

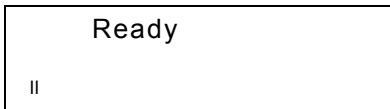


3. Insert the connector end of the battery into the printer.



4. Close the supply door until the release buttons click into place.
5. Turn **on** the printer by pressing and holding **Ⓢ** until the LCD screen comes on (about two seconds).

The display flashes printer version information, battery charging status, and then you will see:



Battery and Safety Information

- ◆ You must charge a battery before using it. For optimal battery life, charge the battery *within three months of receipt*.

WARNING

Use only Monarch chargers (Monarch® 9462™ Single Station Charger or the Monarch® 9465™ Four Station Charger) designed for lithium-ion batteries when charging.

The battery might explode if placed
on a different charger.

- ◆ Take the battery out of the printer when storing the printer for a month or longer.
- ◆ The optimal battery storage temperature is 50°F - 73°F (10°C - 23°C). For more information about storage temperatures, see Appendix A, “Specifications.” The battery may lose its charge capacity permanently if stored at temperatures less than 32°F (0°C) or greater than 104°F (40°C). For longest life, the battery should be stored in a cool, dry place.
- ◆ The recommended temperature for charging is 68°F - 77°F (20°C - 25°C)
- ◆ Charging time is approximately 1 to 3 hours.
- ◆ Recycling Information - Do not throw in trash. Recycle to your local regulations. The Rechargeable Battery Recycling Corporation (RBRC®) is a non-profit organization created to promote recycling of rechargeable batteries. For more information about how to recycle batteries in your area, visit www.rbrc.org. Batteries can also be returned postage-paid to: ERC; 200 Monarch Lane Door #39; Miamisburg, OH 45342.

CAUTION

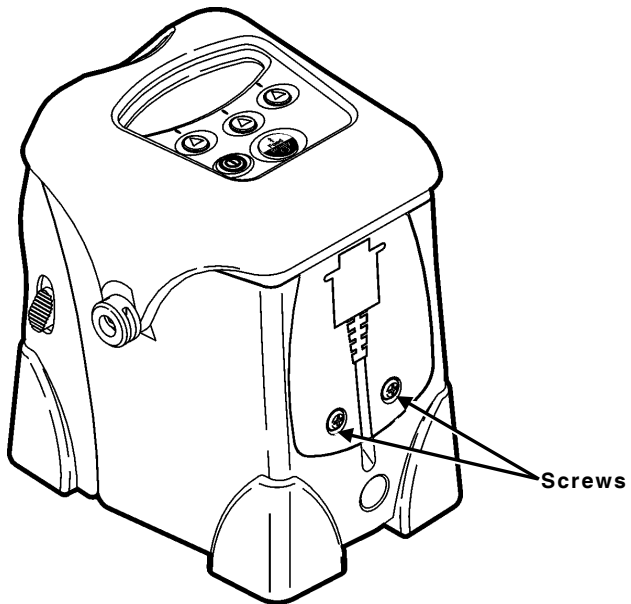
Do Not disassemble, short-circuit, heat above 80°C, or incinerate the battery. It may explode.

- ◆ The battery should be charged immediately for either long-term storage or after the battery has been exhausted from a printing session. Frequent charging will actually prolong battery life and has no negative effects such as memory issues.
- ◆ Do not let the battery get battery wet or come into contact with metal objects.
- ◆ Do not use a battery with a cracked case.
- ◆ It is normal for battery capacity to decrease up to 20% over the first 300 cycles of use.
- ◆ The printer uses battery power even when the printer is not printing. Remove the printer's battery and place on a charger when the printer is not in use.
- ◆ Many factors affect your battery's performance, including the quantity of labels printed, intervals of batches printed, percentage of black per label, and power management.

Connecting the Communications Cable

9-pin and 25-pin serial communication cables are available. For best results, use only Monarch® cables. See Appendix B, "Accessories" for part number information.

1. Open the hinged cable door by loosening the two screws and lifting up on the door.

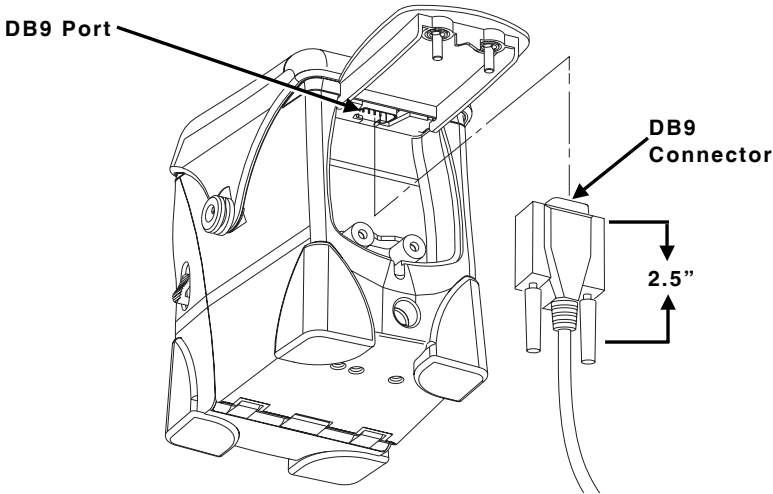


CAUTION

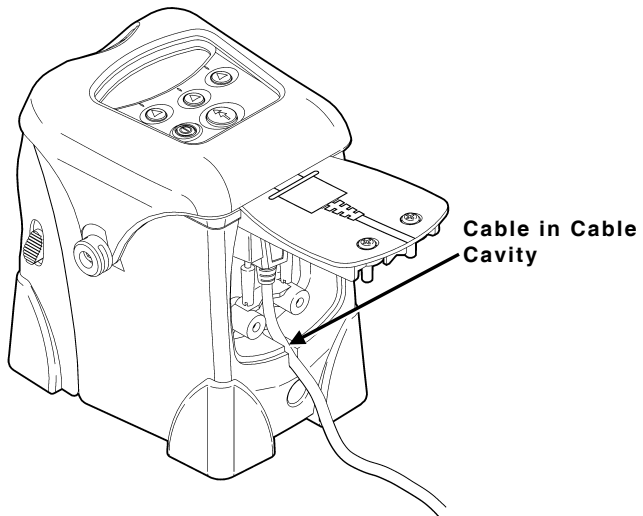
Do not use sharp objects around the printhead or touch the printhead with your fingers.

Both may damage the printhead and require a service charge.

2. Plug the DB9 connector into the DB9 port.



3. Place the cable in the cable cavity.



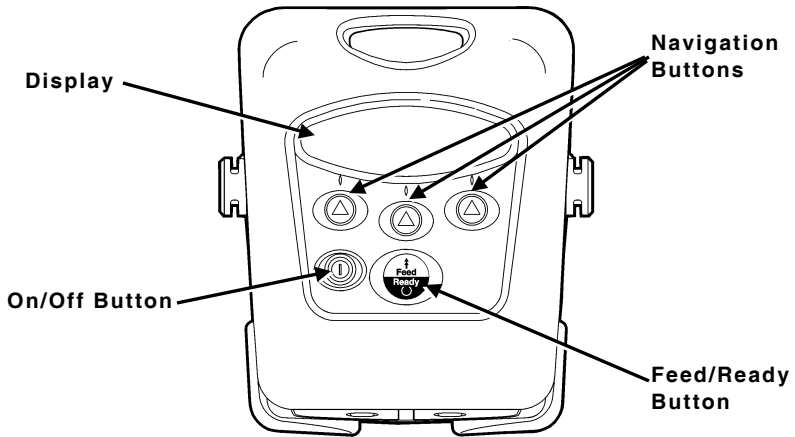
4. Close the hinged cable door and tighten the screws.

To connect the optional AC power adapter, refer to the *9463 Operating Instructions* included with it.

1-8 Getting Started

Using the Display and Buttons

- ① Turns the printer **on** and **off**.
- ⬆ Advances the supply or returns the display to the next higher menu.
- ⬆ Three buttons for selecting options on the display.

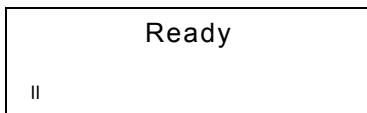


Printing

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

1. Turn **on** the printer by pressing and holding ① until the display appears.

The display flashes printer version information, battery charging status, and then you will see:



2. Download a format and a batch.

For information on creating packets and downloading print jobs refer to the online version of the *Programmer's Manual* available on our Web site.

The printer prints either a strip of supplies or one at a time (on-demand mode).

3. Remove the printed supplies.


LOADING SUPPLIES

2

This chapter describes how to load supply for

- ◆ non-peel mode (prints on continuous strip of supply).
- ◆ peel mode (prints and separates the label from the liner).

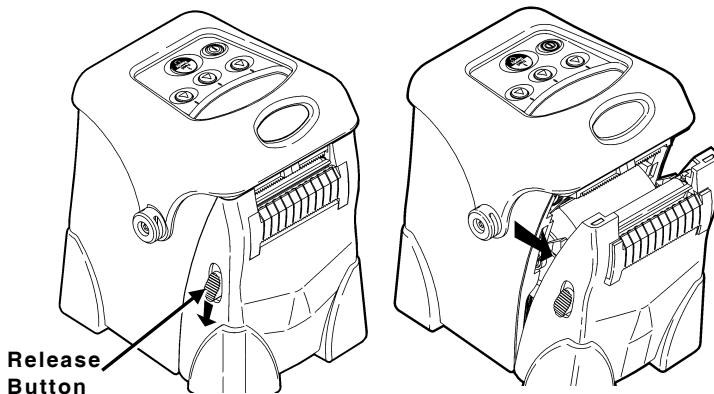
Loading tips:

- ◆ Whenever you open and close the supply door, press  to calibrate the supply under the printhead.
- ◆ The printer may be **on** or **off** when loading supplies.

Loading for Non-Peel Mode

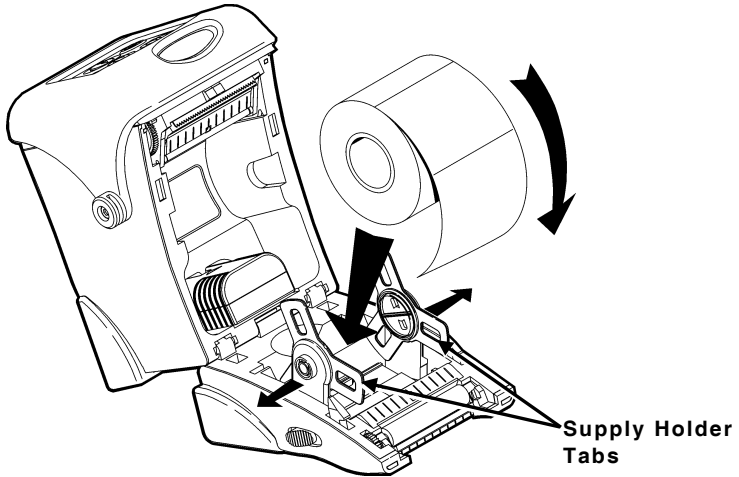
Use these instructions to load labels, tags, receipt paper, and linerless labels (supply without a liner). To print linerless labels, the printer needs to be setup with the linerless platen roller.

1. Open the supply door by pushing down on the release buttons on both sides of the printer. The supply door should swing open.



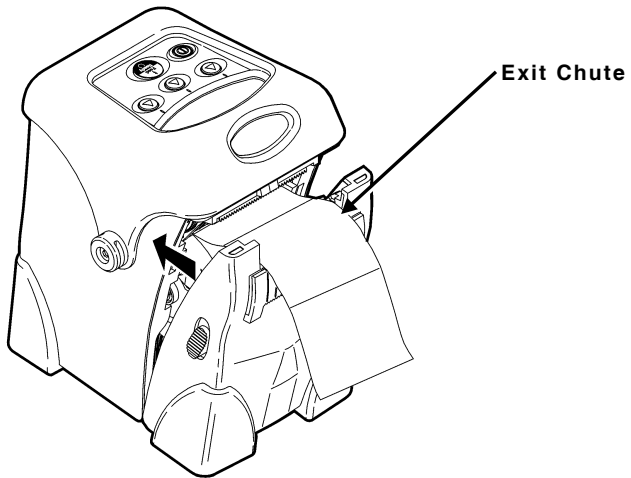
Loading Supplies 2-1

2. Remove the tape from a new roll of supply.
3. Push apart the supply holder tabs to widen the supply holders. Insert a roll of supplies.




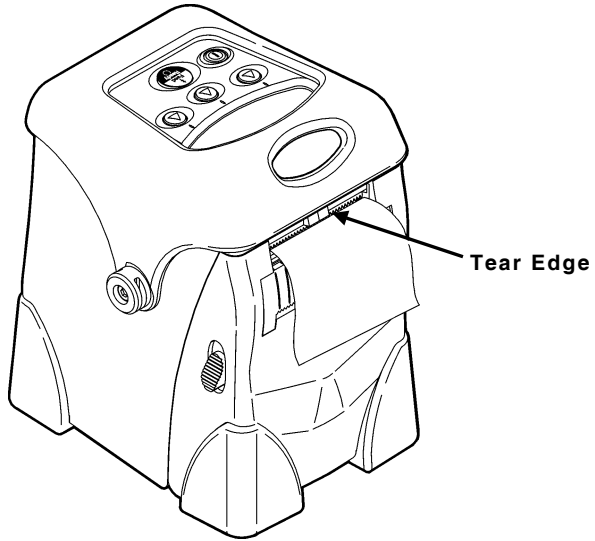
Note: The supply should unwind as shown, with the loose end of the supply feeding through the exit chute.

4. Pull out enough supply to lay across the exit chute and raise the supply door back to the upright position.



2-2 Loading Supplies

5. Close the supply door until the release buttons click into place.
6. Press  to calibrate the supply under the printhead. If you receive a supply error, see Chapter 4, "Troubleshooting" for more information.



Tearing the Supplies

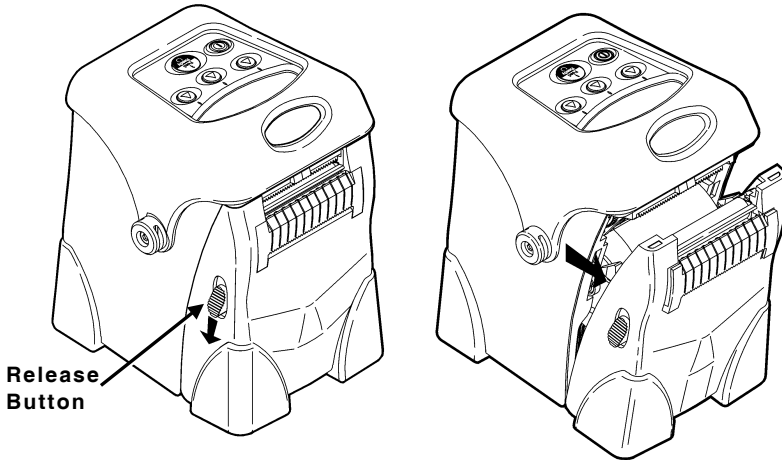
Tear the supply from the right or left using the tear edge as a guide.

Note: Do not pull straight up on the supply. You may lose registration.

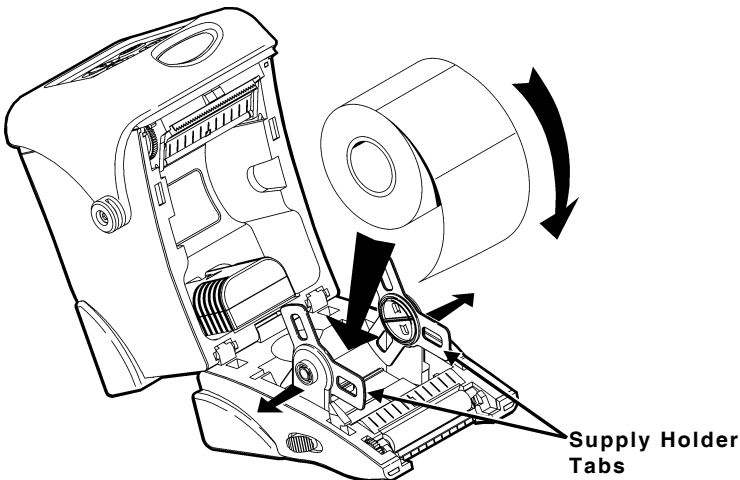
Loading for Peel Mode

You need label supply with a liner to use these instructions.

1. Open the supply door by pushing down on the release buttons located on both sides of the printer. The supply door should swing open.



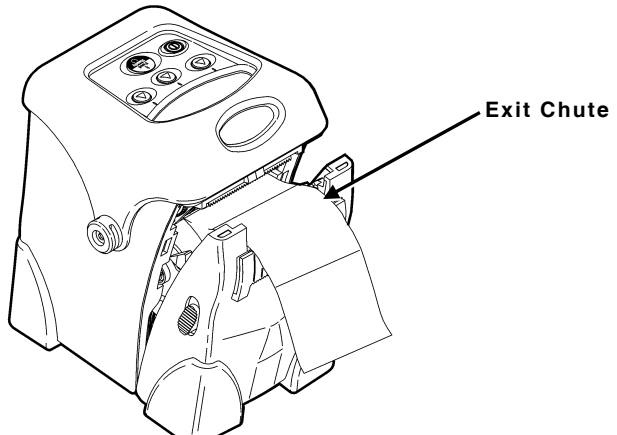
2. Remove the tape from a new roll of supply.
3. Push the supply holder tabs apart to widen the supply holders. Insert a roll of supplies.



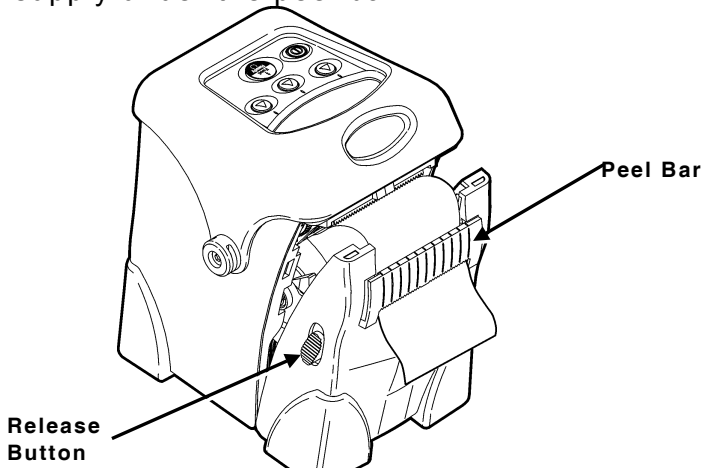
2-4 Loading Supplies

Note: The supply should unwind as shown with the loose end of the supply feeding through the exit chute.

4. Pull out enough supply to lay across the exit chute and raise the supply door back to the upright position.

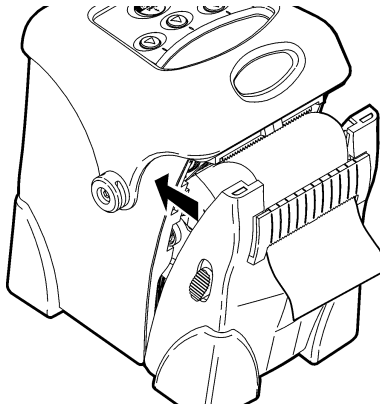


5. Remove a couple of labels from the liner. Feed the supply under the peel bar.




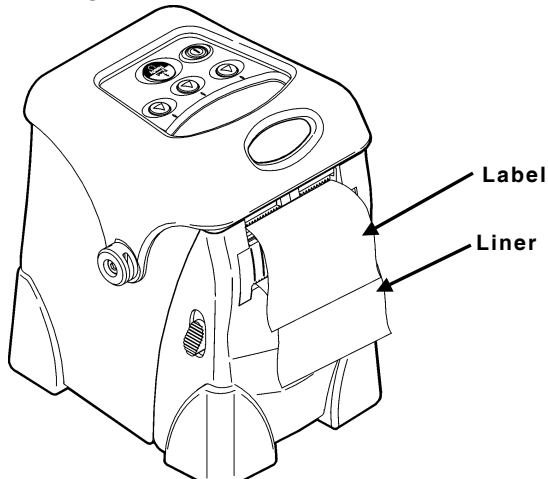
Note: The peel bar should be open. If not, push up on the release buttons located on both sides of the printer.

6. Close the supply door until the release buttons click into place.



Note: The peel bar closes when the supply door clicks into place.

7. Lightly tug on the liner to remove the slack.
8. Press  once or twice to advance the labels and to calibrate the supply under the printhead. If you receive a supply error, see Chapter 4, "Troubleshooting" for more information.



The liner separates from the label.

2-6 Loading Supplies

CARE & MAINTENANCE

3

This chapter explains how to

- ◆ clean the printhead, platen roller, and the supply sensors.
- ◆ clear label jams.

CAUTION

Do not use sharp objects to clean the printhead or touch the printhead with your fingers. Both may damage the printhead and require a service charge.

Cleaning

Your printing rate and frequency determines how often you must clean the printer.

You may need to clean the printhead and platen roller

- ◆ after using seven to ten (7-10) rolls of supplies.
- ◆ in extreme temperatures, humid conditions or a dirty environment.
- ◆ when you see voids in the print.
- ◆ after a label jam.



You may have to clean the supply sensors more often if you receive supply error messages frequently.

Use any of the following items to clean the printhead:

- ◆ A soft cloth moistened with isopropyl alcohol.

CAUTION

Use isopropyl alcohol on the interior areas only, never on the exterior.

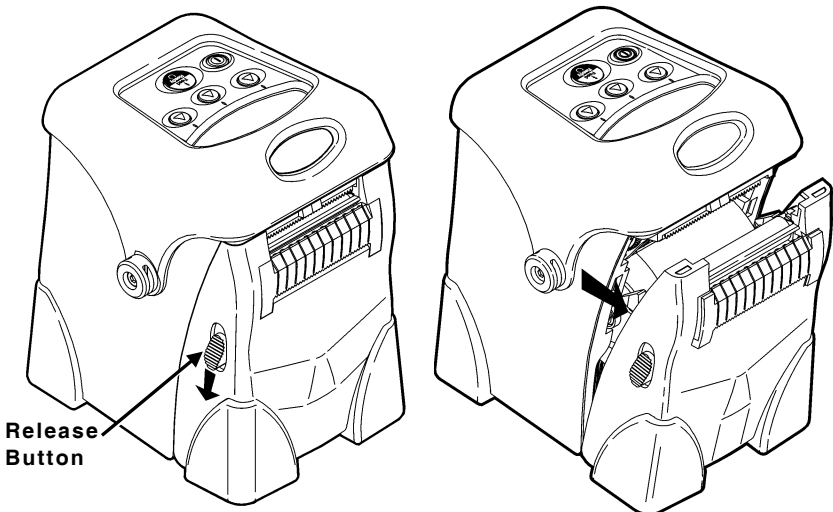
- ◆ A Monarch Cleaning Pen (part number 114226).

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

1. Turn **off** the printer by pressing and holding ① until the display is blank.

Note: Do not use sharp objects to remove adhesive or label particles from the printhead area.

2. Push down on the release buttons on both sides of the printer to open the supply door. The supply door should swing open.



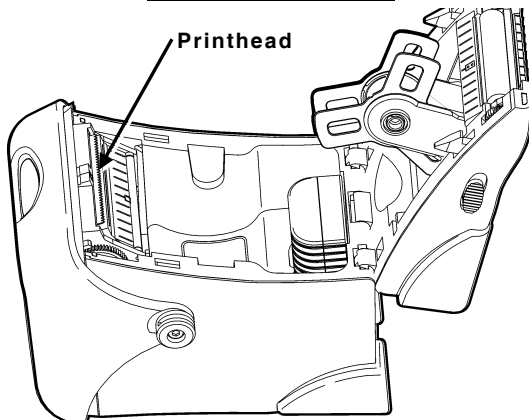
3. Lay the printer on its back.

3-2 Care & Maintenance

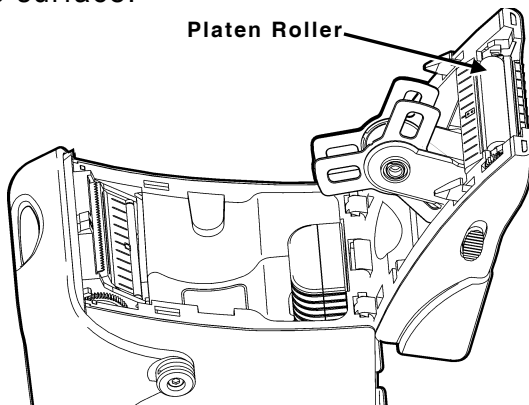
4. Clean the printhead with a clean soft cloth moistened with isopropyl alcohol, a cleaning pen, or a small brush.

CAUTION

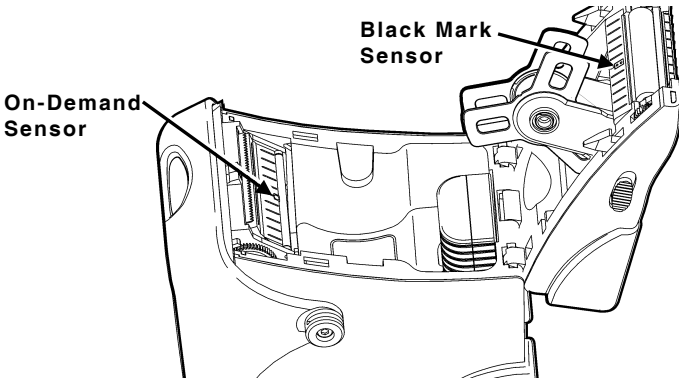
The printhead is sensitive to static electricity, which can damage the printhead or reduce its life. Ground yourself by touching some metal before cleaning the printhead.



5. Clean the platen roller with a clean soft cloth moistened with isopropyl alcohol or a cleaning pen.
6. Turn the platen roller with your finger to clean the entire surface.



7. Clean the on-demand and black mark sensor with a clean soft cloth or cotton swab moistened with isopropyl alcohol or a cleaning pen.



8. Reload the supply.
9. Close the supply door until the release buttons click into place.
10. Turn **on** the printer by pressing and holding ① until the display appears.

Clearing Label Jams

When you are printing and jam occurs, a supply error message appears. To clear the jam:

1. Turn **off** the printer by pressing and holding ① until the display is blank.
2. Push down on the release buttons on both sides of the printer to open the supply door. The supply door should swing open.
3. If necessary, remove the roll of supplies.
4. Remove the jammed supplies and reload the supply.
5. Close the supply door.
6. Turn **on** the printer by pressing and holding ① until the display appears.

3-4 Care & Maintenance

TROUBLESHOOTING

4

This chapter lists some of the common printer problems and their possible solutions. If these solutions do not work, call Service.

Problem	Solution
Printer will not feed.	Make sure the battery is fully charged.
	Make sure the supply cover is completely closed.
	Make sure the supply is loaded properly.
	Run the printer diagnostic tests. Refer to the <i>System Administrator's Guide</i> for more information.
Printer will not print.	Make sure the battery is fully charged.
	Make sure the supply cover is completely closed.
	Clean the printhead.
	Run the printhead diagnostics tests. Refer to the <i>System Administrator's Guide</i> for more information.
Print has voids or is too light.	Make sure the battery is fully charged.
	Make sure the supply cover is completely closed.
	Make sure the supply is loaded properly.
	Clean the printhead.
	Run the printhead diagnostics tests. Refer to the <i>System Administrator's Guide</i> for more information.
Printer turns off while printing and/or the display goes blank.	Recharge the battery.
	Resend the format.
	The maximum black to white print ratio for each label/tag is 30%. Check your format for unnecessary thick horizontal lines.







Problem	Solution
Supply does not calibrate properly.	Check the on-demand, black mark, die cut, or non-indexed sensors. Refer to the <i>System Administrator's Guide</i> for more information. You may need a new sensor.

Common Errors

The following is a list of common printer errors you may receive. If you receive a message not listed here, see your System Administrator or call the Service at the number listed on the back of this manual.

Error	Description
025 Invalid Length	String length is outside the range 0 to 2710 .
101 Invalid/Missing	The format referenced by batch is not in memory.
409 Memory Full	The printer memory is full. Delete unnecessary formats or graphics from memory.
410 Parity	Parity mismatch. Check your parity settings at the printer and at the host.
411 Framing	Framing error (baud rate mismatch). Check your baud rate settings at the printer and at the host.
413 Overrun	Online receive queue is full. Check for a flow control problem.
611 Error Loading	Font, bar code, or density in the batch does not fit the format.
612 Invalid Data	The data in this line of the batch is missing or does not match the format.
613 Invalid Data	Reference point off supply.

4-2 Troubleshooting

Error	Description
614 Invalid Data	Portion of field off supply or there may be an invalid character in the packet.
703 Check Supply	The printer sensed a calibration of different-sized black marks. Make sure the correct supply is loaded.
704 Check Supply	Printer has not sensed a supply mark within the specified number of inches or is out of supplies. Check the supply tracking, supply marks, black mark sensor position, and supply roll for binding. Press  under x to clear the error. Change supply.
750 Hot Head	Printhead is overheated. Press  under x to clear the error. Turn off the printer to let the printhead cool. If error persists, call Service.
751 Check Supply	Printer did not sense a black mark when expected. For errors 751-753, Check the supply tracking, supply marks, black mark sensor position, and supply roll for binding. Press  under x to clear the error and try to continue printing the batch. Change supply.
752 Check Supply	Printer sensed a mark in the wrong place. Press  under x to clear the error.
753 Check Supply	Printer sensed a mark that is too long. Press  under x to clear the error.
756 Load Supplies	Load supplies. Press  under x to clear the error.

Error	Description
757 Load Supplies	Load supplies (supply length mismatch), because the calibrated supply length differs by plus or minus .25 inches from the format. Press ▲ under x to clear the error.
758 Check Supply	Either the supply is not seen or the on-demand sensor is broken. Press ▲ under x to clear the error. Check for a label jam, clear the supply path, or reload supplies. This error may occur if you remove a label too quickly in on-demand mode. The printer does not recalibrate after this error.
762 Low Battery	Recharge the battery. Press ▲ under x to clear the error.
763 Remove Label	Waiting to dispense label. Press ▲ under x to clear the error.
765 Check Printhead	The printhead has less than four bad dots. The printer can shift bar code fields to avoid bad dots. Press ▲ under x to clear the error and continue printing.
768 Check Printhead	Printhead has more than 10 bad dots or is not connected. Connect the printhead. Press ▲ under x to clear the error.
791 Error Pending	The printer has an error pending. Turn off the printer. Wait 15 seconds and turn it back on. Resend the packets.

If you see a System Error Vector ## on the display, call Service for instructions. If you need to return the printer to Paxar, use the original packaging (box and packing material).

4-4 Troubleshooting

SPECIFICATIONS



This appendix includes information about printer specifications and cable pin-outs.

Printer Specifications

Height:	5.8" (147 mm)
Width:	3.6" (91 mm)
Depth:	4.8" (122 mm)
Weight without Battery or Supplies:	1.61 lb. (.73 kg)
Weight with Battery:	1.84 lb. (.84 kg)
Shipping Weight (no supplies):	3.1 lbs. (1.4 kg) depends on options shipped with printer
Display:	Graphical LCD with backlight
Printhead:	1.89" (48 mm) 203 dpi (8 dots per mm)
Memory:	512K RAM 1 MB (expandable to 2MB) Flash
Power:	7.4V Lithium Ion battery
Battery Life:	5000" (127 m) of 25% black supplies

Operating Limits (Printer):	40° to 104°F (5° to 40° C) Storage 40° to 140° F (5° to 60° C)
Storage Limits (Battery):	-4° to 95°F (-20° to 35° C) within one year
	-4° to 104°F (-20° to 40° C) within six months
	-4° to 113°F (-20° to 45° C) within one month
	-4° to 122°F (-20° to 50° C) within one week
Relative Humidity (Battery):	45% to 85%
Printing Method:	Thermal Direct
Recommended Duty Cycle:	33% Duty Cycle (5 minutes out of 15 minutes time intervals). On-demand or intermittent printing has no restrictions.

Supply Specifications

Supply Types:	Labels (standard or linerless), tags or receipt paper
Supply Widths:	0.5" (13 mm) minimum 2.0" (51 mm) maximum
	Tag/Receipt Paper Width - 0.5" (13 mm) to 2.05" (52 mm)
Supply Lengths:	0.375" (9.5 mm) minimum 12.0" (305 mm) maximum
Max. Print Area:	1.89" (48 mm) x 12" (305 mm)

Cable Pin-outs

ANSI/EIA-232-D

Contact #	Circuit	Description
6	CC	DSR (Data Set Ready)
1	-	Reserved - Do not connect.
4	CD	DTR (Data Terminal Ready)
5	AB	Signal Ground
2	BB	Received Data (RXD)
3	BA	Transmitted Data (TXD)
8	CB	Clear to Send (CTS)
7	CA	Request to Send (RTS)
9	-	No connect

A-4 Specifications

ACCESSORIES

B

This appendix lists the accessories that work with your printer and briefly describes them.

Use these part numbers when ordering an item. Call Paxar at the number listed on the back of this manual to order parts or supplies.

Accessory Items	Part Number
Single Station Battery Charger	M09462
Four Station Battery Charger	M09465
Spare Battery	12009502
AC Power Supply	M09463
Communication Cable - DB9 to 9-pin	12665914
Communication Cable - DB9 to 25-pin	12029315
Standard Platen Roller	119951
Linerless Platen Roller	119952
Hip Strap	120417
Shoulder Strap	119998
Hand Strap	120277
Clip	120296
Cleaning Pen	11997208
<i>Operator's Handbook</i>	TC9460OH
<i>Programmer's Manual</i>	TC9460PM
<i>System Administrator's Guide</i>	TC9460SA

Single Station Battery Charger

The Monarch® 9462™ Single Station Battery Charger is designed for the Monarch® 9460™ portable printer. It can charge one battery at a time. For more information about the battery, see Chapter 1, "Getting Started." For more information about the Single Station Battery Charger, refer to *9462 Operating Instructions* included with the charger.

Four Station Battery Charger

The Monarch® 9465™ Four Station Battery Charger is designed for the Monarch® 9460™ portable printer. It can charge the individual batteries or the printer with a battery installed. Full charging of a battery takes between 1.5 hours and 3 hours. For more information about the Four Station Charger, refer to the *9465 Operating Instructions* included with the charger.

AC Power Adapter

The Monarch® 9463™ AC Power Adapter is designed for the Monarch® 9460™ portable printer. For more information about the AC power adapter, refer to *9463 Operating Instructions* included with the AC power adapter.

Carrying Accessories

The following carrying accessories are available: Hip Strap and Clip, Shoulder Strap, and Hand Strap. Refer to your *Operating Instructions* provided with each strap for more information.

B-2 Accessories

PRINTER OPTIONS

C

This appendix lists the options that may be installed in your printer.

- ◆ Linerless
- ◆ Bluetooth®

Linerless

The printer is configured to use supplies without the backing paper. A linerless platen roller needs to be installed. If it is not installed, refer to the *Operating Instructions* (TC9460ACPROI) included with the platen roller.

Bluetooth

Bluetooth wireless technology provides a low power consuming method to communicate between devices. It has a maximum range of 30 feet (10m). Our Bluetooth device connects to your printer's serial port and conforms to V2.0 of the Bluetooth specification. The printer defaults to receiving unencrypted data for the Bluetooth device. See the *System Administrator's Guide* for more information about Bluetooth.

C-2 Printer Options

Visit **www.paxar.com** for sales, service, supplies, information, and telephone numbers for our locations throughout the world.

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