

Introduction

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## Introduction

Thank you for choosing the Zebra QLn™ Series Mobile Printers. These rugged printers will become a productive and efficient addition to your workplace thanks to their innovative design. Because it is made by Zebra Technologies you can be assured of world-class support for all of your bar code printers, software, and supplies.

This document provides an easy reference for operating and maintaining the QLn Series Mobile Printer.

Complete and current documentation for this printer is provided by the QLn Series User Guide available on the Internet at: [www.zebra.com/manuals](http://www.zebra.com/manuals).

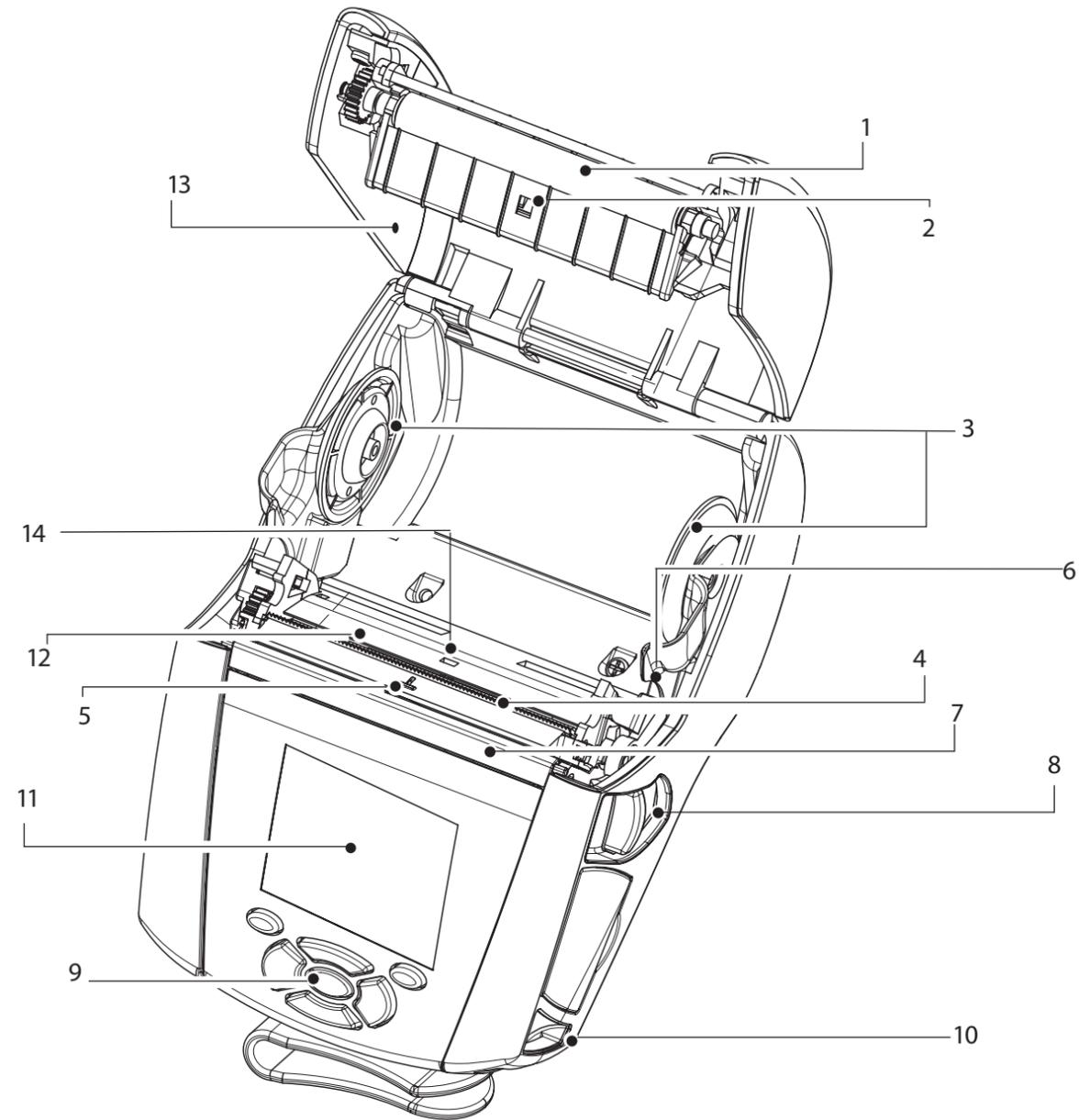


QLn420	QLn320	QLn220
Media width 2.0 in. to 4.4 in. (50,8 to 111,76 mm)	Media width: 1.0 in. to 3.125 in. (25,4 mm to 79,4 mm)	Media width: .63 in. to 2.18 in. (16 mm to 55,37 mm)
Printer Dimensions H: 7.35 in. (186,7 mm)* W: 6.50 in. (165,1 mm) D: 3.25 in. (82,5 mm) * with belt clip	Printer Dimensions H: 6.85 in. (173,659 mm)* W: 4.65 in. (117,856 mm) D: 3.15 in. (76,9 mm) * with belt clip	Printer Dimension H: 6.73 in. (170,9 mm)* W: 3.60 in. (91,4 mm) D: 2.75 in. (69,9 mm) * with belt clip



Always refer to the Important Safety Information data sheet shipped with each printer and the Technical Bulletin shipped with each battery pack. These documents detail procedures to ensure maximum reliability and safety while using this printer.

## QLn Series Overview (QLn320 Shown)



1. Platen Roller
2. Bar Sensor
3. Media Support Disks
4. Tear Bar
5. Label Present Sensor
6. Peeler Lever
7. Peeler Bail
8. Media Cover Button
9. Keypad
10. Strap Post
11. LCD Screen
12. Printhead
13. Media Cover
14. Gap Sensor



15. Power Button
16. Feed Button
17. LED Charge Indicator

Introduction

Battery Install & Charging

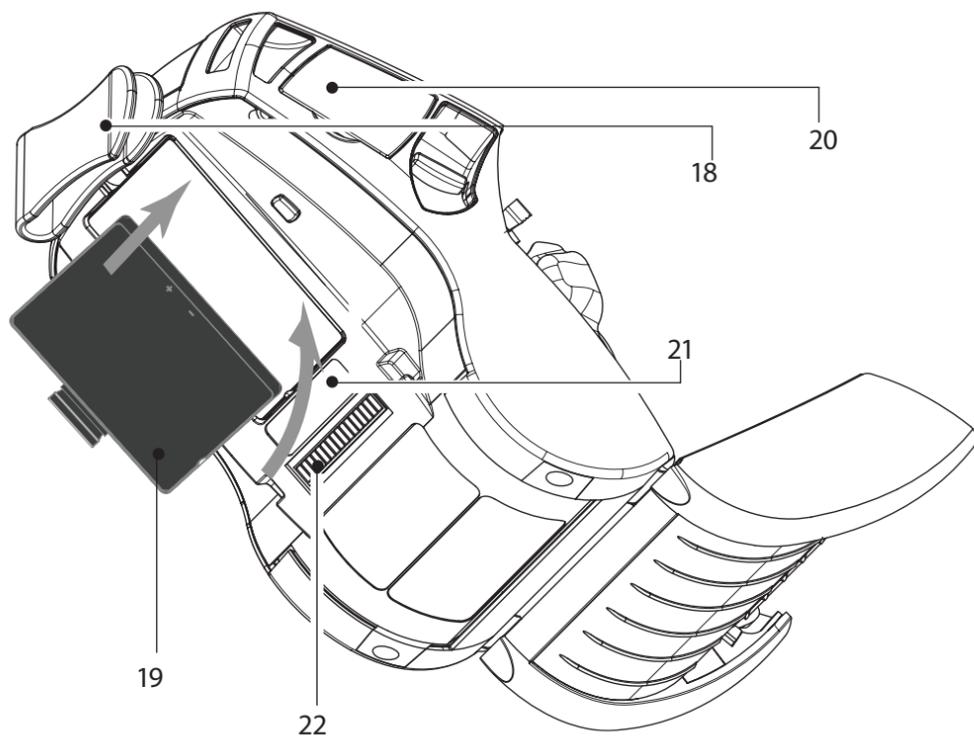
Media Loading

Connect Printer/  
Printer Controls

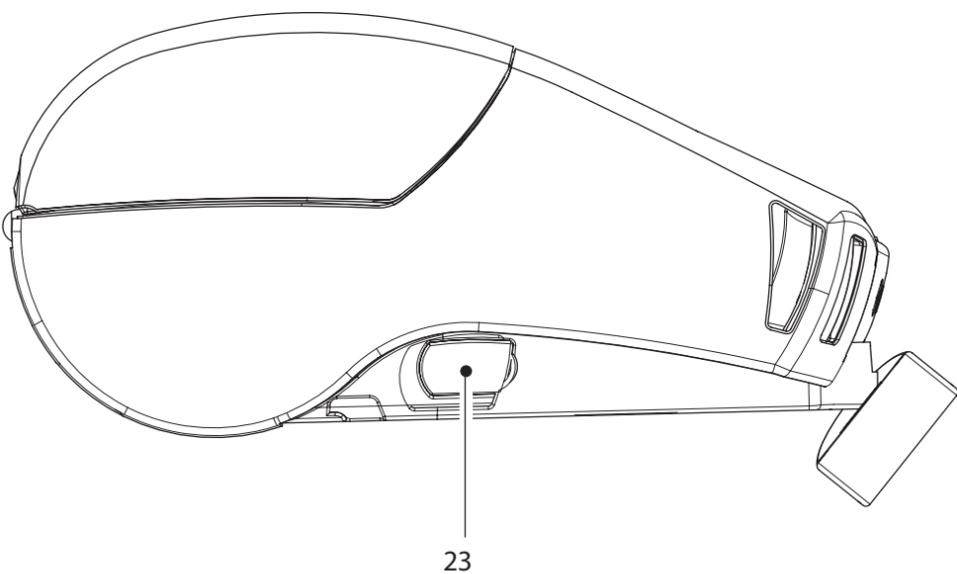
Cleaning and  
Troubleshooting

Accessories and  
Contact Info

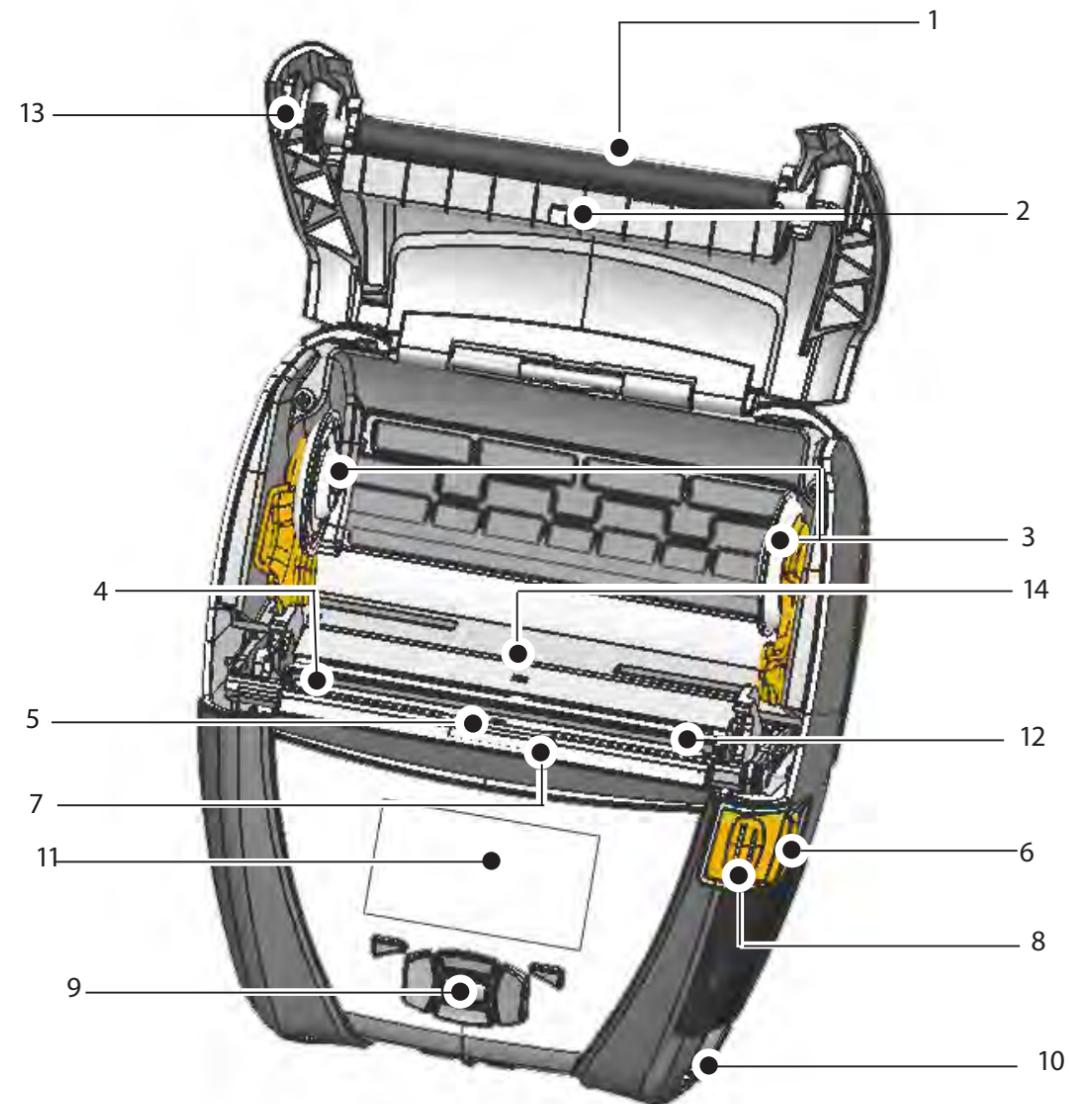
### QLn Series Overview continued



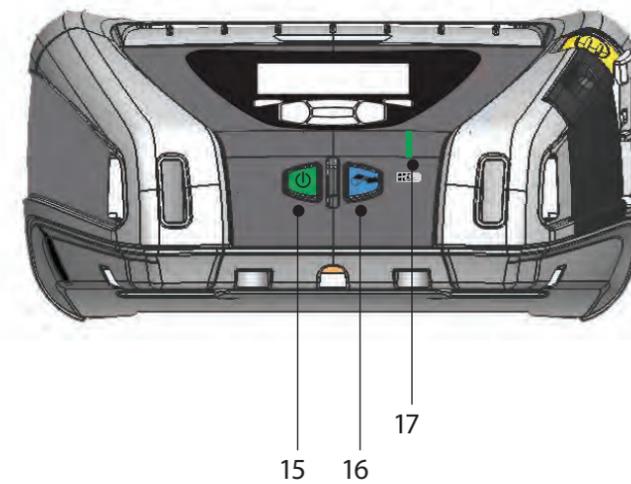
- 18. Belt Clip
- 19. Battery
- 20. USB/RS232 Comm Ports
- 21. MAC Address Label
- 22. Docking Contacts
- 23. DC Input



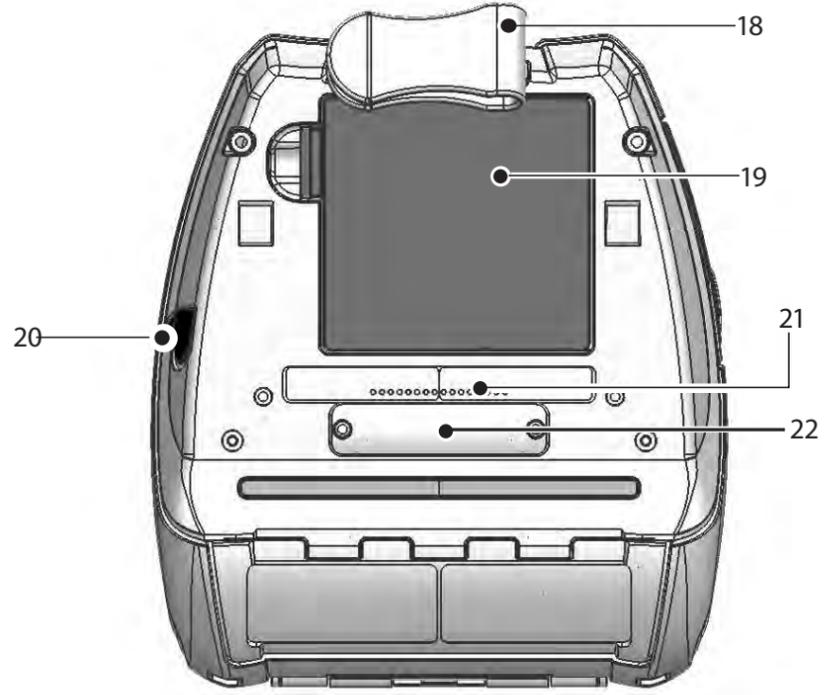
### QLn Series Overview (QLn420 Shown)



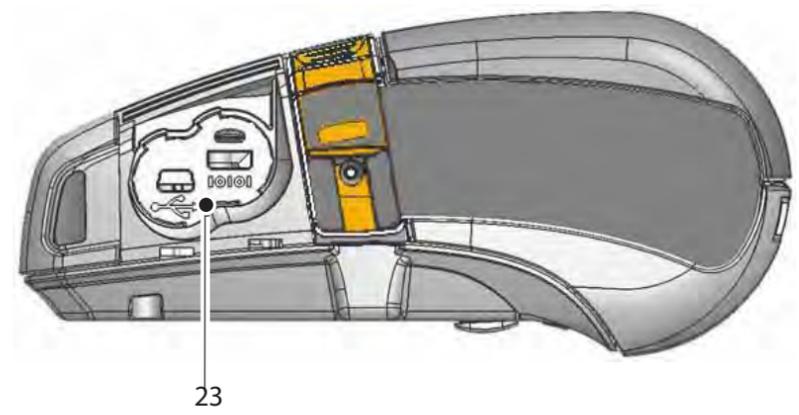
- 1 Platen Roller
- 2 Bar Sensor
- 3 Media Support Disks
- 4 Tear Bar
- 5 Label Presence Sensor
- 6 Peeler Lever
- 7 Peeler Bail
- 8 Media Cover Button
- 9 Key Pad
- 10 Strap Post
- 11 Status Screen
- 12 Printhead
- 13 Media Cover
- 14 Gap Sensor



- 15 Power Button
- 16 Feed Button
- 17 LED Charge Indicator

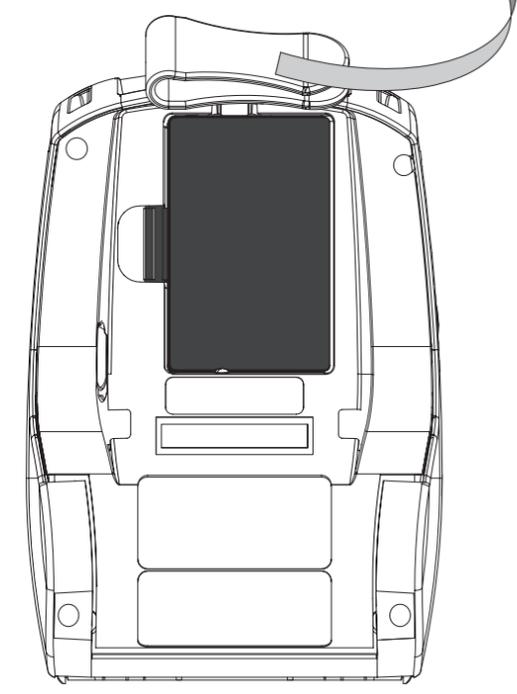


- 18. Belt Clip
- 19. Battery
- 20. DC Input
- 21. MAC Address Label
- 22. Docking Contacts/Cover
- 23. USB/RS232 Comm Ports

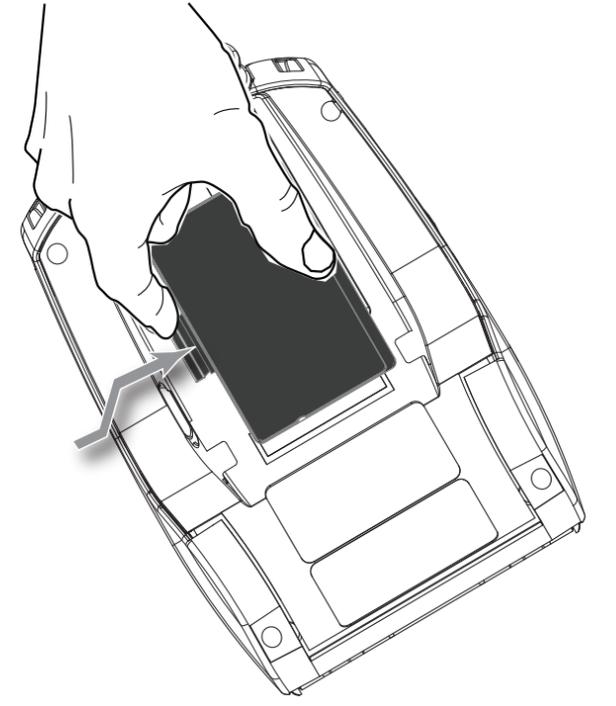


## Removing the Battery (QLn220 Shown)

Rotate the Belt Clip out of the way of the Battery

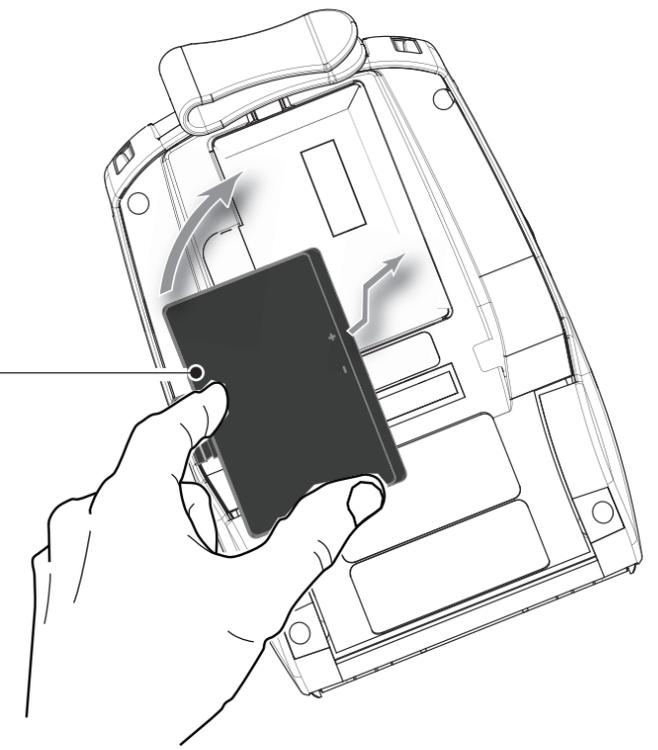


Squeeze clip on battery pack and remove.



## Installing the Battery

QLn Series Smart Battery



## Charging the Battery

There are five (5) ways to charge the QLn Series battery, two of which being with the battery outside the printer (Quad Charger and Smart Charger-2), and three inside the printer (AC Power Adapter, Single Bay Ethernet Cradle, and Four Bay Ethernet Cradle). All five options are detailed in the following sections.

### UCLI72-4 Quad Charger (All QLn Series Printers)

The UCLI72-4 Quad Charger charges up to four QLn Series battery packs simultaneously. Batteries must be removed from the printer to be charged in the Quad Charger.

The indicators under the battery will allow you to monitor the charging process per the table below:



Amber	Green	Battery Status
On	Off	Charging
On	Flashing	80% charged (O.K. to use)
Off	On	Completely Charged
Flashing	Off	Fault

## Smart Charger-2 (SC2) Single Battery Charger (All QLn Series Printers)



- Plug the SC2 charger into the AC outlet.
- Insert the smart battery pack in the SC2 charger.
- The LED on the front of the charger will indicate the battery pack's charge status. Green indicates fully charged, Yellow indicates charging, and Amber indicates a fault.

 When the SC2 is plugged in but no battery is present, the Charge Status LED indicator will be green.

- A second LED will indicate the health of the battery pack: Green=GOOD, Yellow=CAPACITY DIMINISHED, Yellow Flashing=PAST USEFUL LIFE, and Amber=UNUSABLE-REPLACE BATTERY. If the LED is off, there is either no battery or power present.

Consult the QLn Series User Guide available at [www.zebra.com/manuals](http://www.zebra.com/manuals) for complete information on using the SC2 Single Charger.

 The charge state of the QLn Series battery is reflected by the LED Charge Indicator located on the front of printer (as illustrated in the Printer Controls section on Page 11).

 **Caution** • Do not incinerate, disassemble, short circuit, or expose to temperatures higher than 60°C (140°F).

## AC Power Adapter (included in kit p/n P1031365-024) (All QLn Series Printers)



- Open the protective cover on the QLn Series printer to expose the DC input charger jack.
- Connect the appropriate AC power cord for your geography to the adapter and then plug the power cord into an AC receptacle.
- Plug the barrel plug from the AC adapter into the charger jack on the printer.
- The printer will power up and begin charging. The printer can be left on or turned off at this point. Charging will continue in either state, the status of which will be monitored by the LED charge indicator on the front of the printer.



Batteries are shipped uncharged. Remove protective shrink-wrap and labels from new battery packs and allow them to charge completely prior to initial use.



While it's possible to charge the battery when using the printer, charge times will increase under this condition.



The QLn220 and 320 extended capacity battery is not compatible with the QLn-EC and EC4 Ethernet cradles.

## Ethernet Cradle (Single Bay & Four Bay for QLn220 and 320 Only)

### Single Bay (QLn-EC)



LED Function	LED Status	Indication
Power	Solid Green	Power On
Ethernet	Blinking Green	Ethernet Activity

### Four Bay (QLn-EC4)



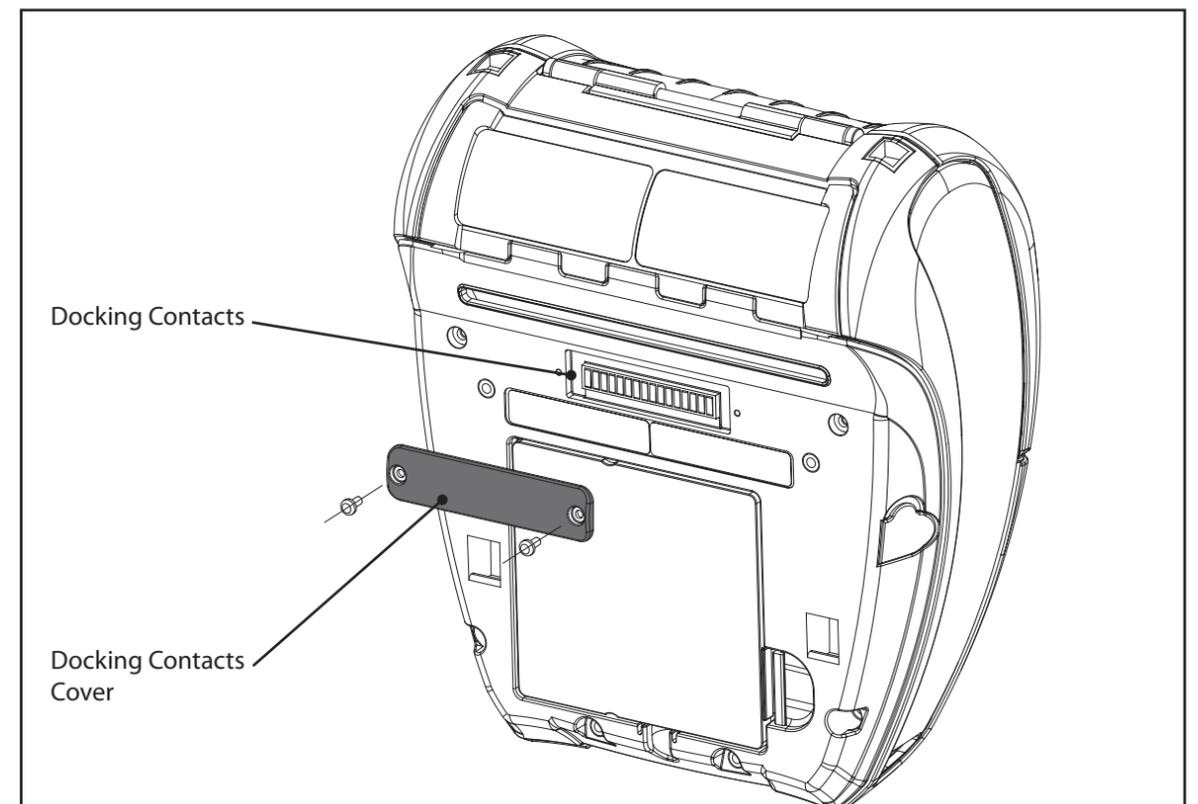
## Single Bay (QLn420-EC for QLn420 Only)



### Docking Contact Access

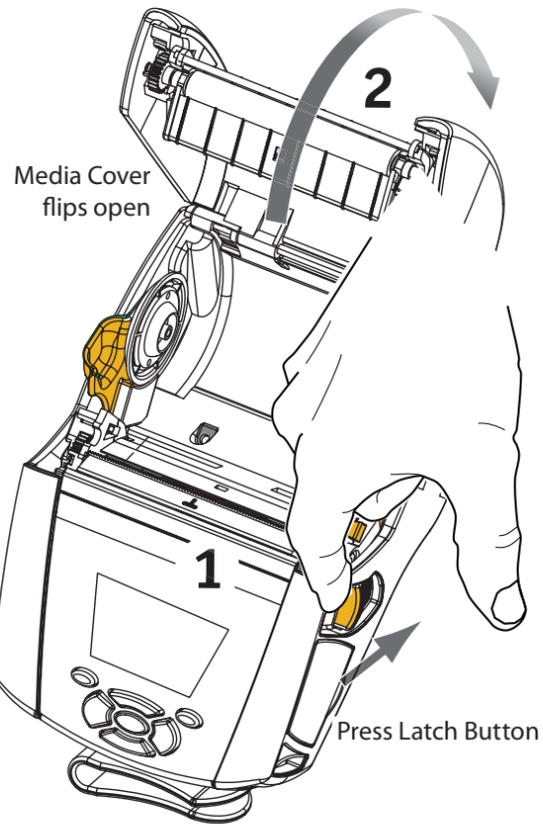
In order to dock a QLn Series printer on one of the above cradle accessories, you must first access the docking contacts located on the bottom of the printer. On the QLn220 and 320 printers, you must remove the “Docking Cradle Access” sticker (as shown) to expose the docking contacts.

Similarly, you must remove the plastic docking contacts cover from the bottom of the QLn420 (as shown) to access the docking contacts.

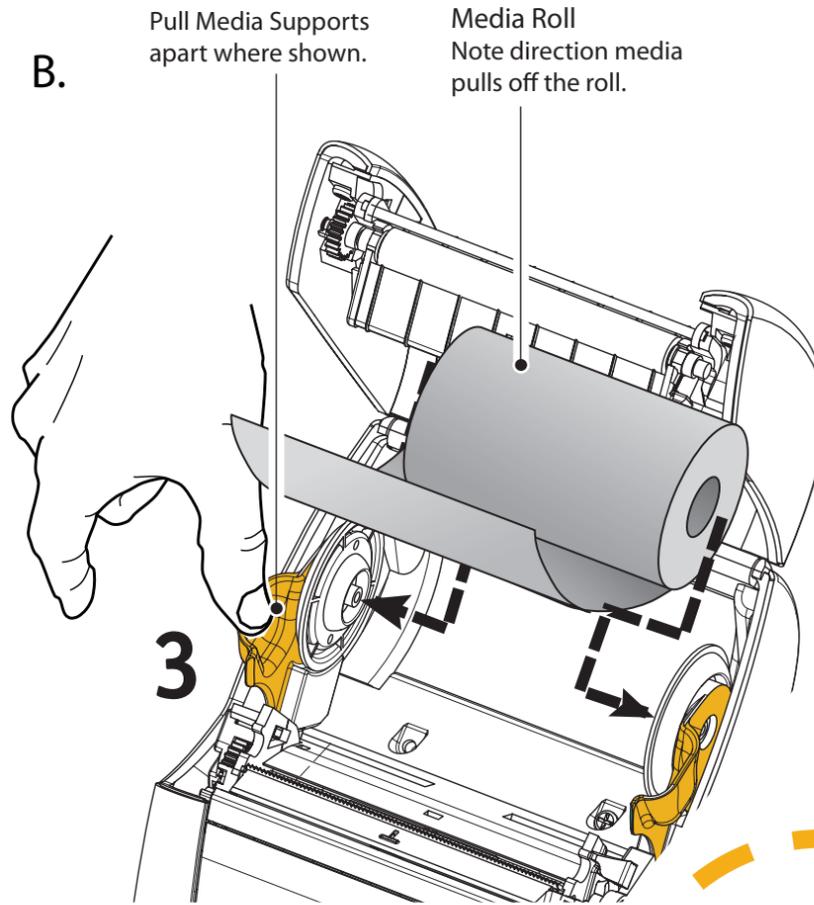


## Loading the Media (QLn320/220)

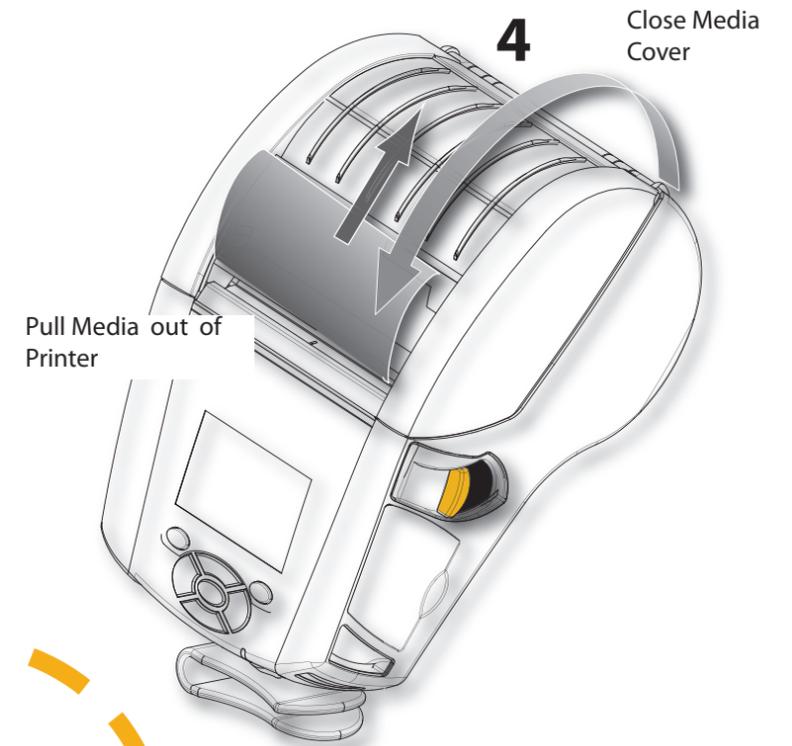
A.



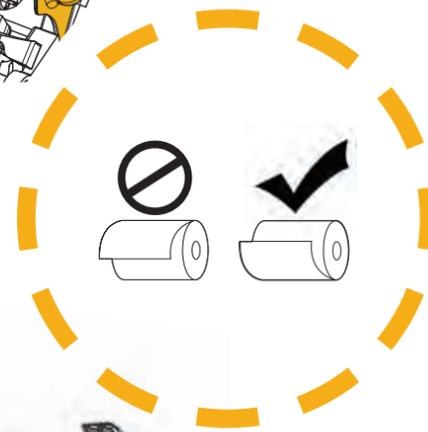
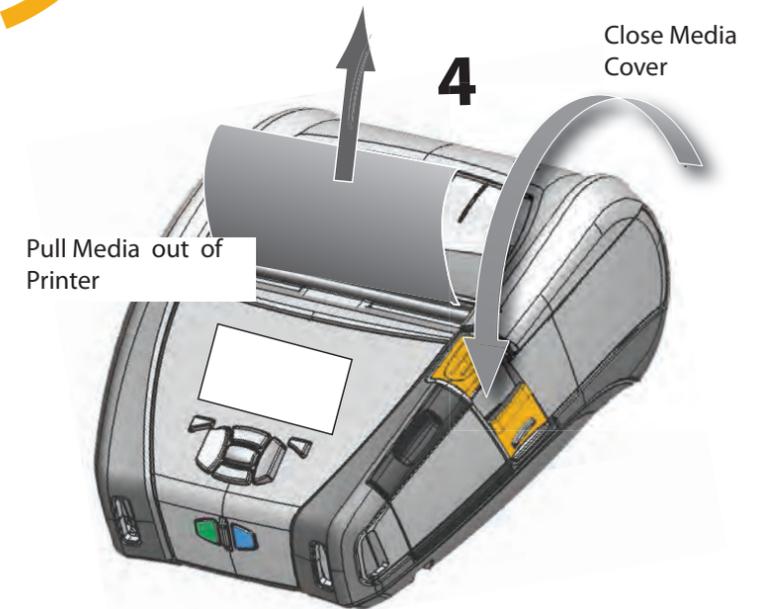
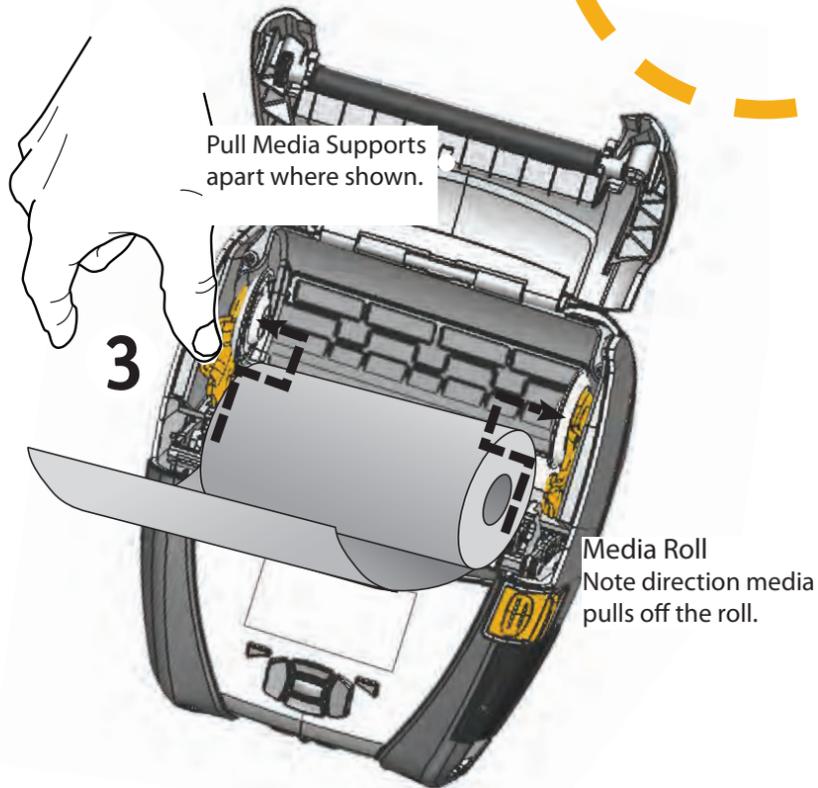
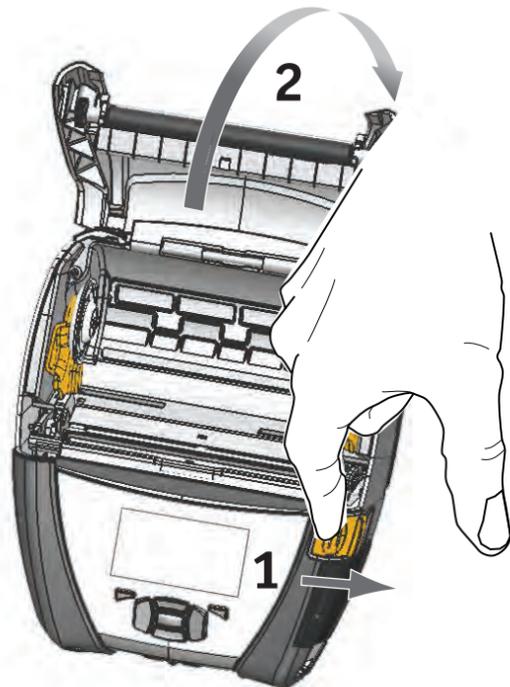
B.



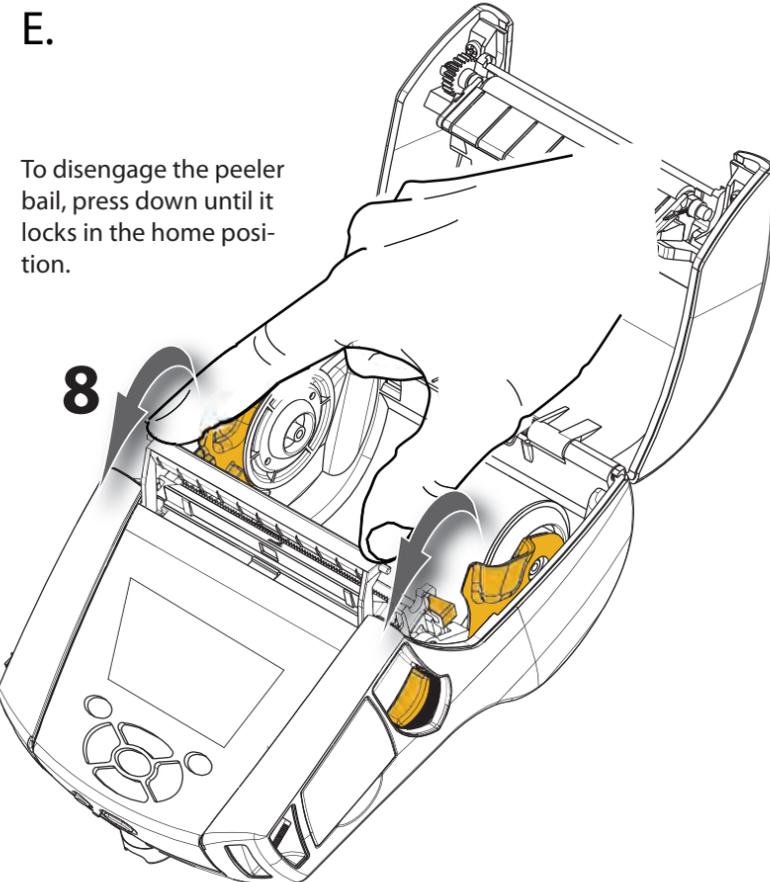
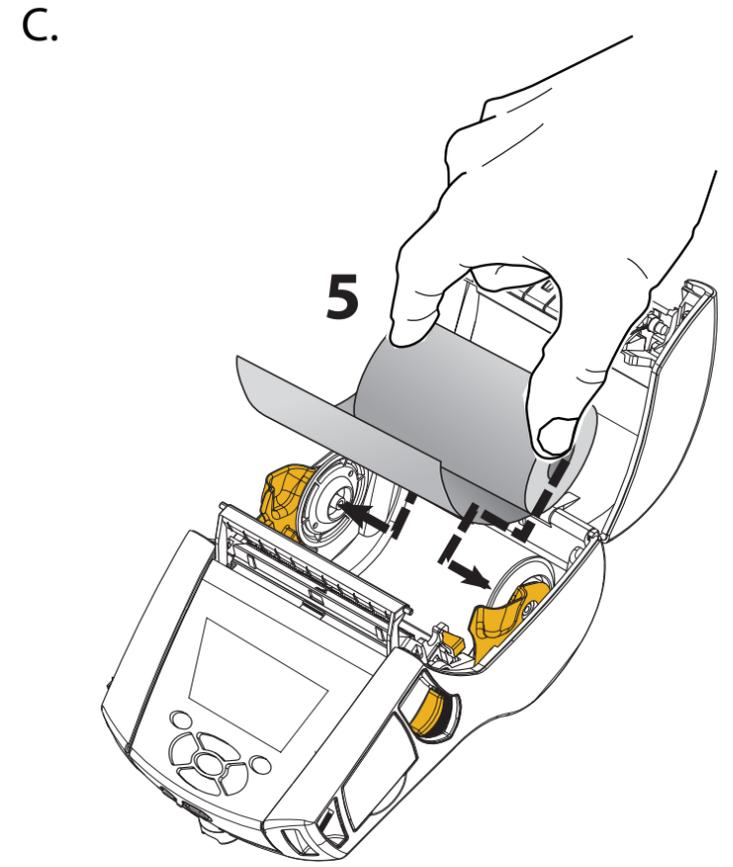
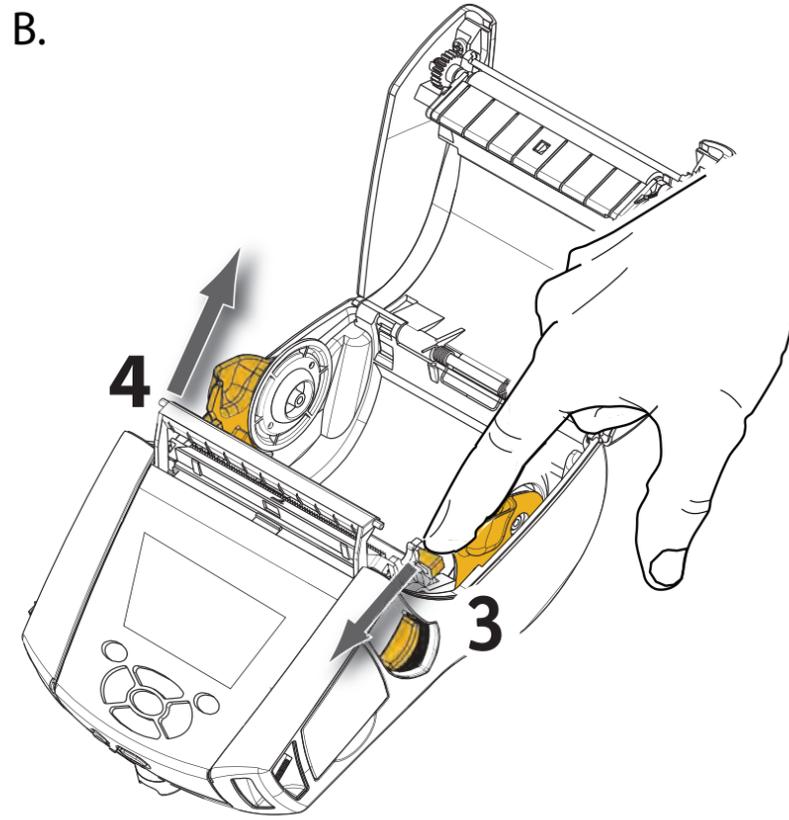
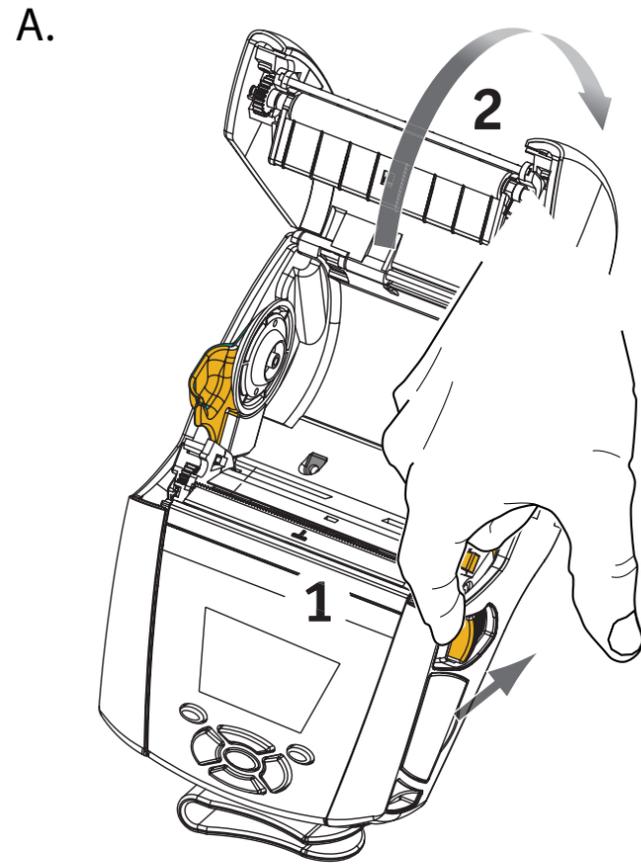
C.



## Loading the Media (QLn420)

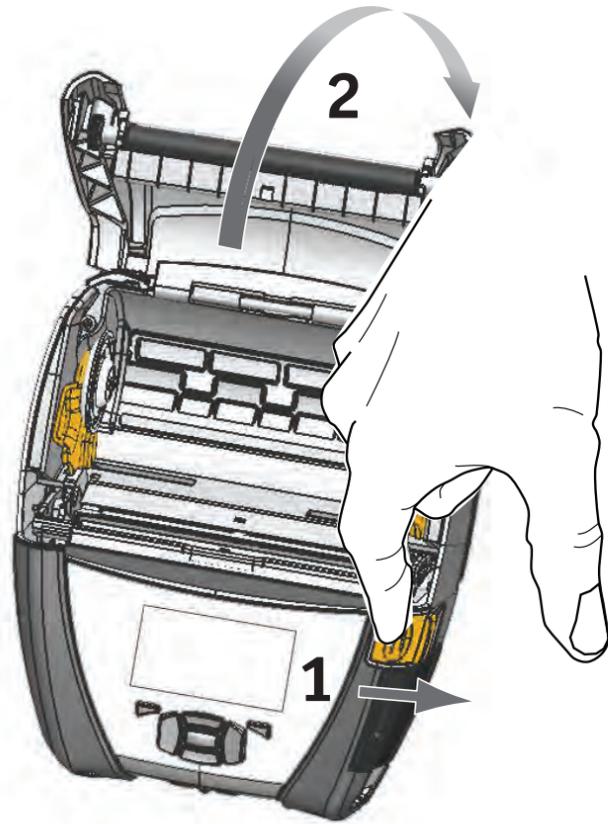


## Loading the Media in QLn320/220 (Peeler Activated)

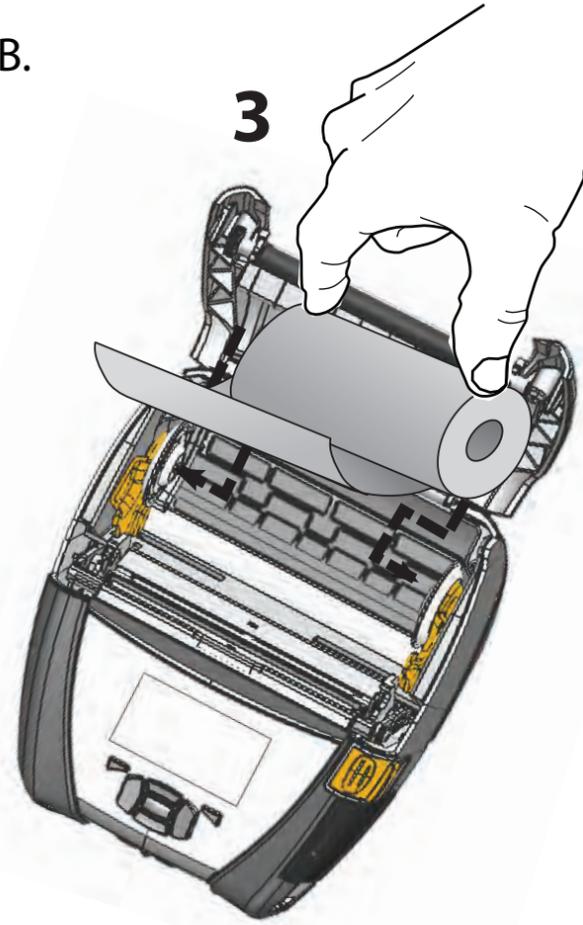


## Loading the Media in QLn420 (Peeler Activated)

A.



B.



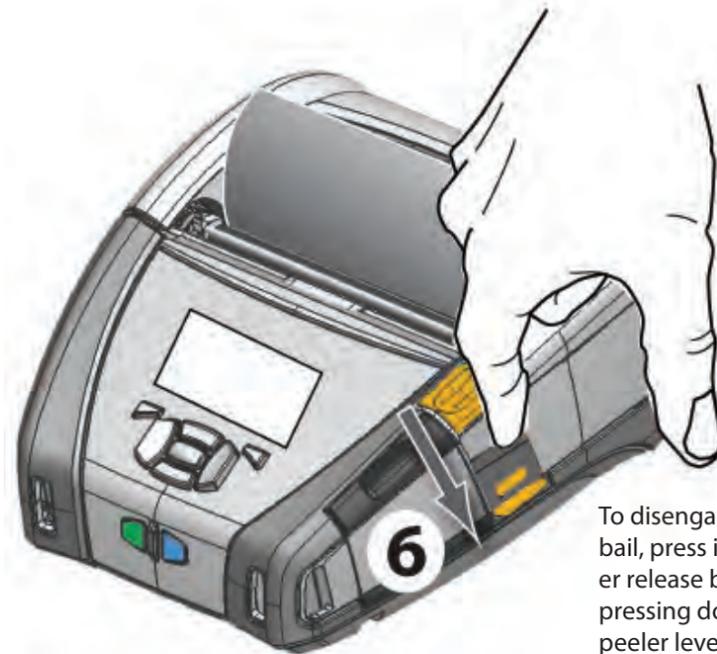
C.



Close the media cover after loading media..

To engage the peeler bail, slide the peeler lever up until it locks into position.

D.



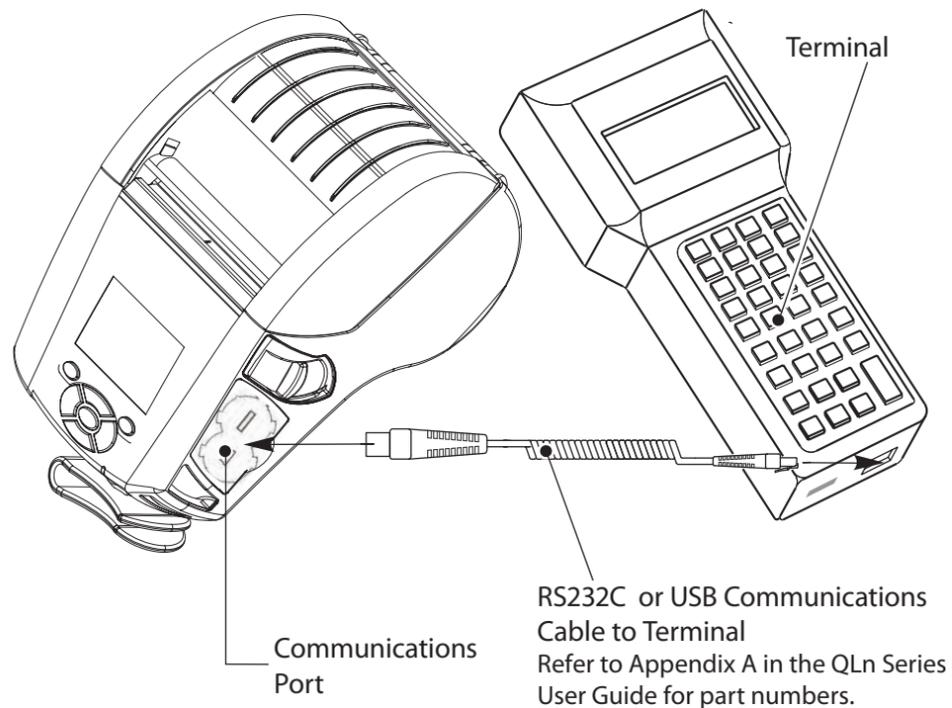
To disengage the peeler bail, press in on the peeler release button while pressing down on the peeler lever until it locks in the home position.

## Connecting the Printer

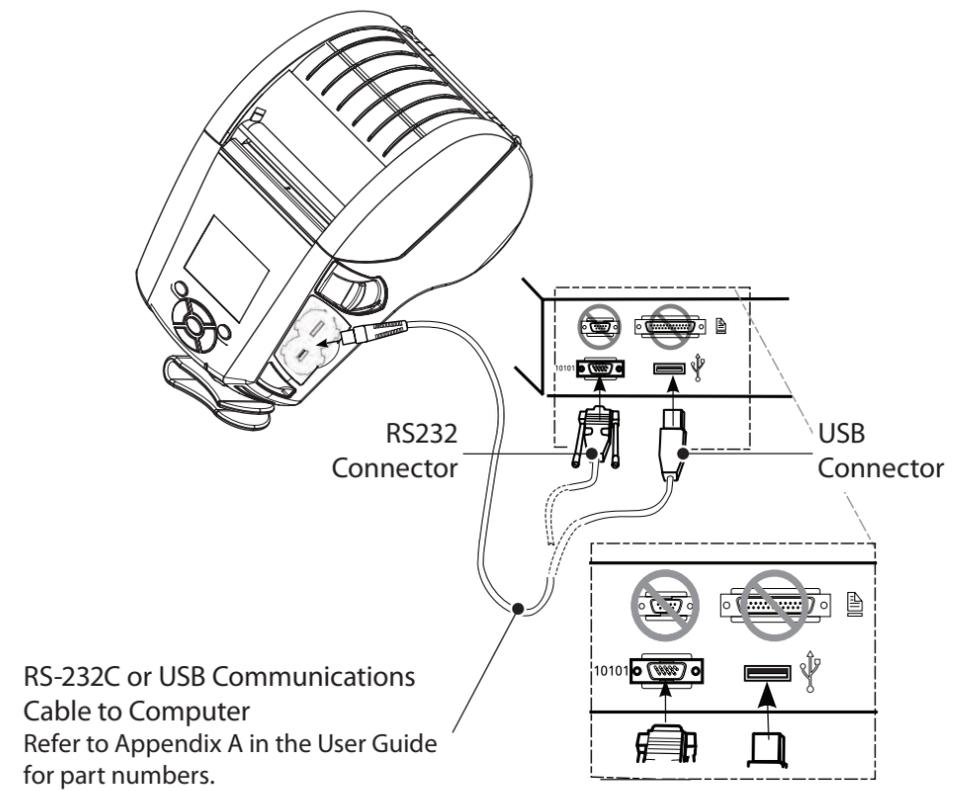
### Connect The Printer With a Cable

You can connect your printer to a terminal or a PC using either RS232C or USB protocols. USB drivers are included in the Zebra Designer Driver which is available on the QLn Series product CD or can be downloaded from the Zebra Web site at [www.zebra.com/software](http://www.zebra.com/software).

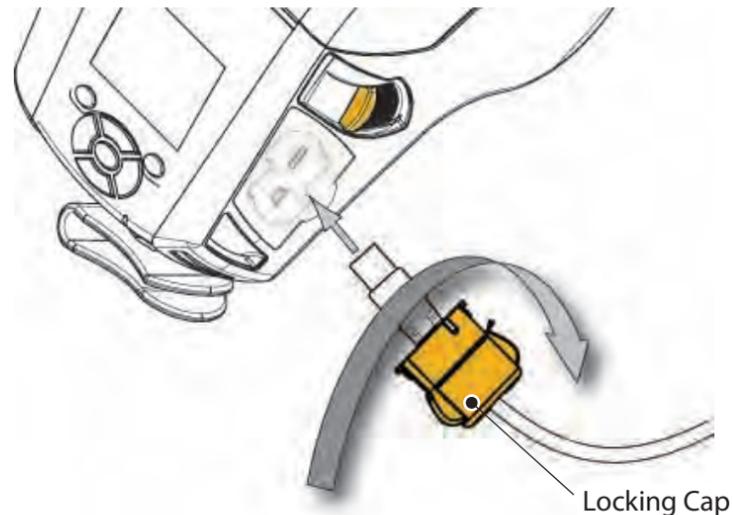
Cable Communications with a Terminal.



Cable Communications with a PC



To provide strain relief for the communication cables, twist the locking cap in a clockwise direction to secure. Only one cable can be used at a time in this orientation.



## Printer Controls (QLn320/220)



**Power Button**  
Press to turn unit on. There will be a 10 second boot up time.  
Press again to turn unit off

**Feed Button**  
Press to advance a blank label or a software determined length of journal media.

**LED Charge Indicator**  
Solid Yellow: Charging  
Solid Green: Fully charged  
Off: No DC Power Applied  
Off: With DC Power Applied: Charge Fault

**Printer Status Bar**  
Indicates the status of several printer functions.\*\*

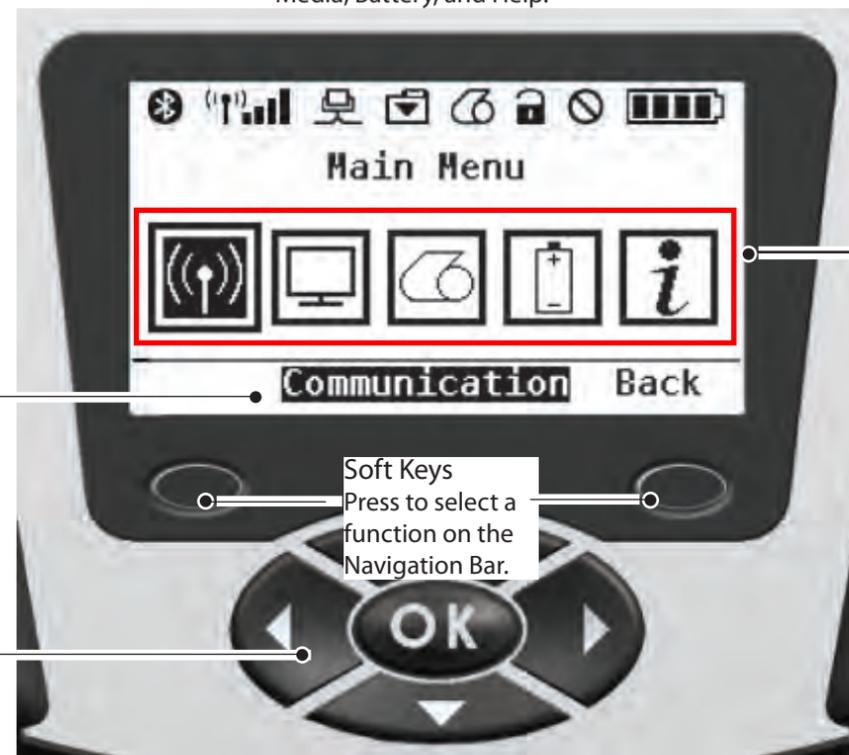


**Status Screen**  
Default screen the printer will display when the user is not navigating the main menu screen.

**Navigation Bar**  
Displays user-selectable options.

**Four Way Navigation Buttons**  
Scroll through menu choices on Status Screen  
Press "OK" to enter.

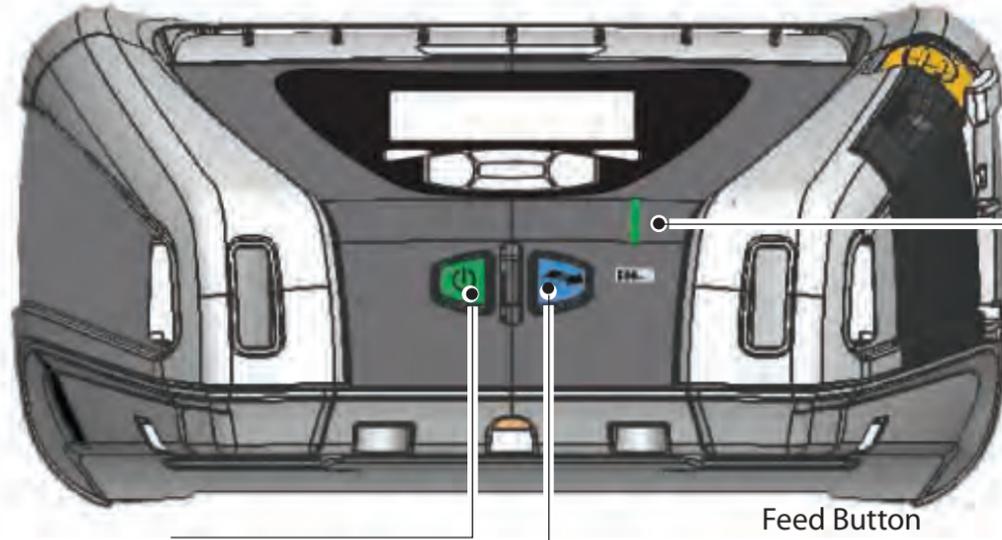
**Main Menu Screen**  
Displays graphical options including Communication, Display, Media, Battery, and Help.



**Soft Keys**  
Press to select a function on the Navigation Bar.

\*\* Not every icon will be displayed on the Status Bar at one time, only those applicable to the printer's configuration.

## Printer Controls (QLn420)



**LED Charge Indicator**  
 Solid Yellow: Charging  
 Solid Green: Fully charged  
 Off: No DC Power Applied  
 Off: With DC Power Applied: Charge Fault

**Power Button**  
 Press to turn unit on. There will be a 10 second boot up time.  
 Press again to turn unit off

**Feed Button**  
 Press to advance a blank label or a software determined length of journal media.

**Printer Status Bar**  
 Indicates the status of several printer functions.\*\*

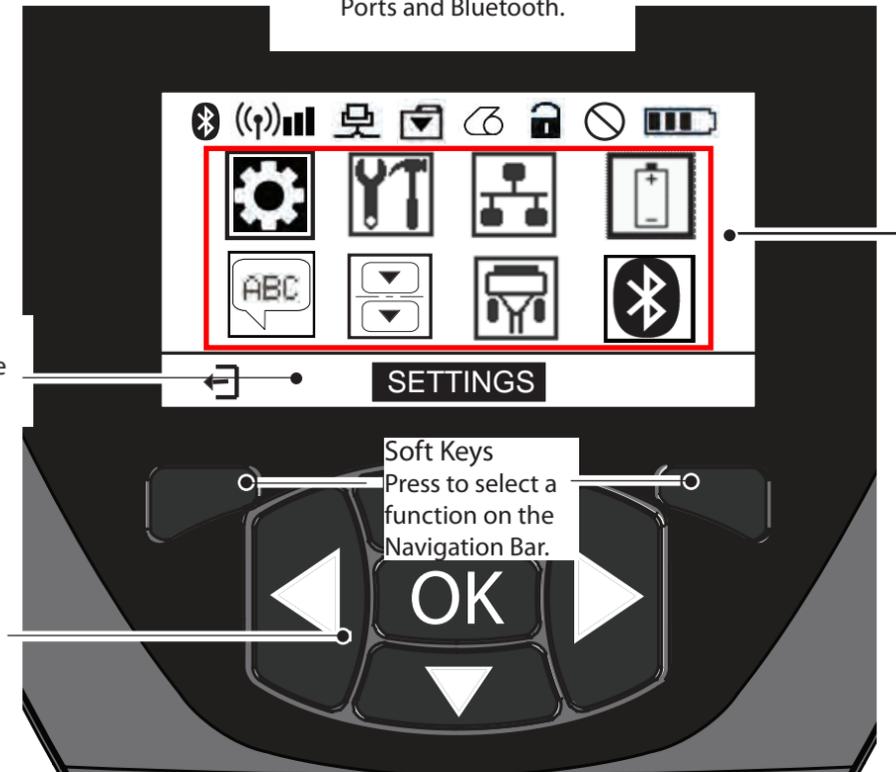


**Status Screen**  
 Default screen the printer will display when the user is not navigating the main menu screen.

**Navigation Bar**  
 Displays user-selectable options.

**Four Way Navigation Buttons**  
 Scroll through menu choices on Status Screen  
 Press "OK" to enter.

**Main Menu Screen**  
 Displays graphical options including Settings, Tools, Network, Battery, Languages, Sensors, Ports and Bluetooth.



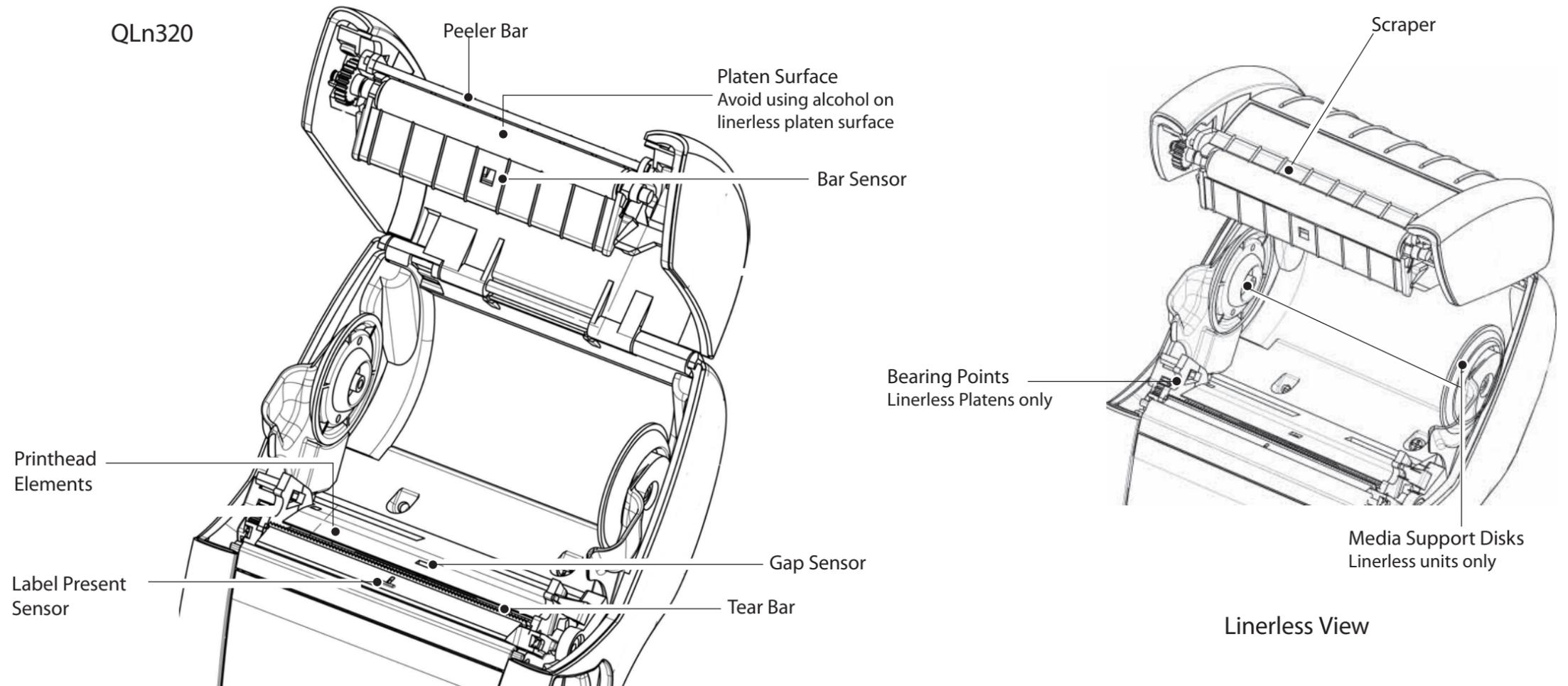
**Soft Keys**  
 Press to select a function on the Navigation Bar.

\*\* Not every icon will be displayed on the Status Bar at one time, only those applicable to the printer's configuration.

## Cleaning the Printers



Caution • To avoid possible personal injury or damage to the printer never insert sharp or pointed objects into the printer mechanism.

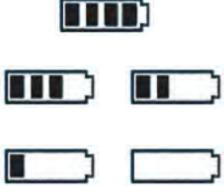
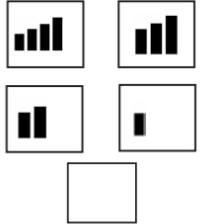


Area	Cleaning Method	Interval
Printhead	Use a Zebra cleaning pen to clean the print elements from end to end (the print elements are located in the thin gray line on the printhead).	After every five rolls of media (or more often, if needed). When using linerless type media, cleaning is required after every roll of media.
Platen Surface	Rotate the platen roller and clean it thoroughly with the cleaning pen or 70% Isopropyl alcohol..	After every five rolls of media (or more often, if needed) Linerless media requires more frequent cleaning, i.e. after every roll.
Linerless Platen Surface	Units with linerless platens: Rotate platen & clean bearing points only. Avoid use of alcohol on the surface of linerless platens!	
Peeler bar	Clean thoroughly with the cleaning pen.	As needed
Scraper (Linerless units only)	Clean thoroughly with the cleaning pen.	After every five rolls of media (or more often, if needed)
Tear bar	Clean thoroughly with the cleaning pen.	As needed
Exterior	Wipe with water-dampened cloth or 70% Isopropyl alcohol wipe.	
Interior	Brush/air blow. Ensure the Bar Sensor, Gap Sensor and Label Present Sensor windows are free of dust.	
Interior of units with Linerless Platens	Clean inside surfaces of Media Supports & Media Support Disks with the supplied cleaning pen or 70% isopropyl alcohol on a cotton swab.	After every five rolls of media (or more often, if needed)

## Troubleshooting

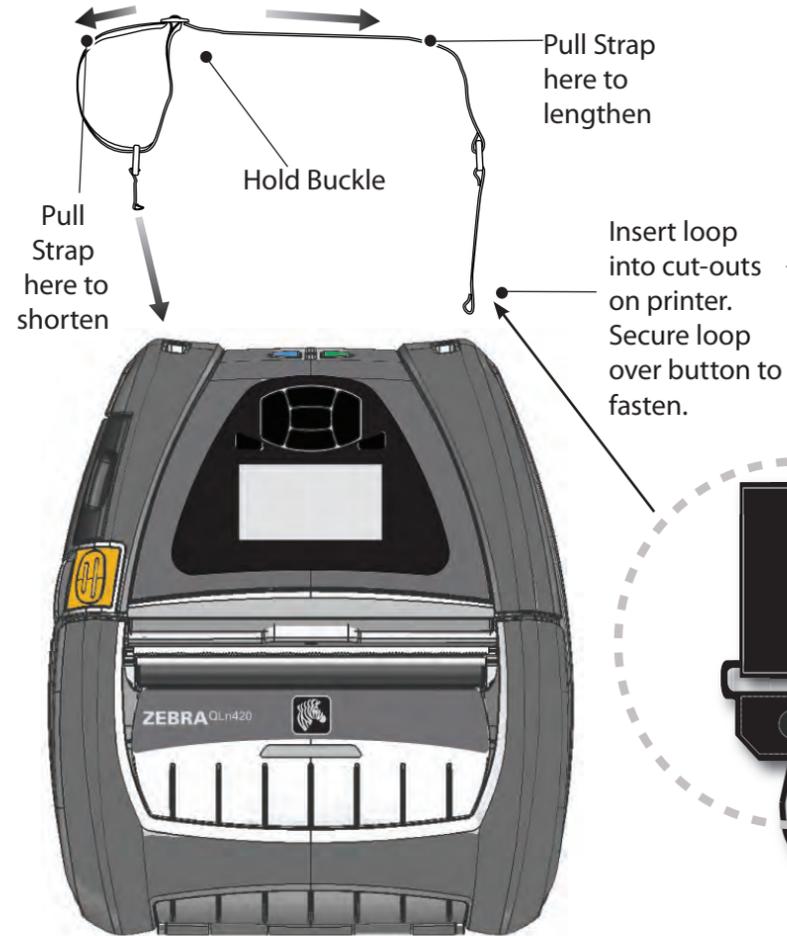
### LCD Control Panel

The top of the display shows icons indicating the status of various printer functions. Check the indicator status and refer to the referenced Troubleshooting table below.

Icon	Status	Indication
	On	Bluetooth Link established
	Not Present	Bluetooth Link inactive
	Blinking	Connecting and Transmitting Labels
	Antenna Blinking	Looking for AP
	Antenna Blinking 1 Parenthesis Solid	Associated/Attempting WLAN Authentication
	Antenna and 2 Parentheses Solid	Associated and Authenticated
	Antenna and 2 Parentheses Blinking	Receiving Data
	Not Present	No Radio Present
	4 Bars	>80% Charged
	3 Bars	60%-80% Charged
	2 Bars	40%-60% Charged
	1 Bar	20%-40% Charged
	0 Bars	Low Battery
	4 Bars Blinking w/ Lightning Bolt	Charging at >80% Capacity
	3 Bars Blinking w/ Lightning Bolt	Charging at 60-80% Capacity
	2 Bars Blinking w/ Lightning Bolt	Charging at 40-60% Capacity
	1 Bar Blinking w/ Lightning Bolt	Charging at 20-40% Capacity
	0 Bars w/ Lightning Bolt	Charging at <20% Capacity
	Blinking	Media Cover Open
	Blinking	Retrieving printer data
	Solid	Connected & Not Receiving Label Data
	Not Present	No Ethernet Connection
	Blinking	Data processing in progress
	Steady	No data being processed
	Blinking	Out of Media
	Steady	Media present
	Blinking	Error exists (excluding Media Out and Head Latch Open)
	Not Present	No error exists
	4 Bars	802.11 signal strength > 75%
	3 Bars	802.11 signal strength <= 75%
	2 Bars	802.11 signal strength <= 50% but >25%
	1 Bar	802.11 signal strength <= 25%
	0 Bars	No signal strength

## Accessories

### Adjustable Shoulder Strap



### Hand Strap

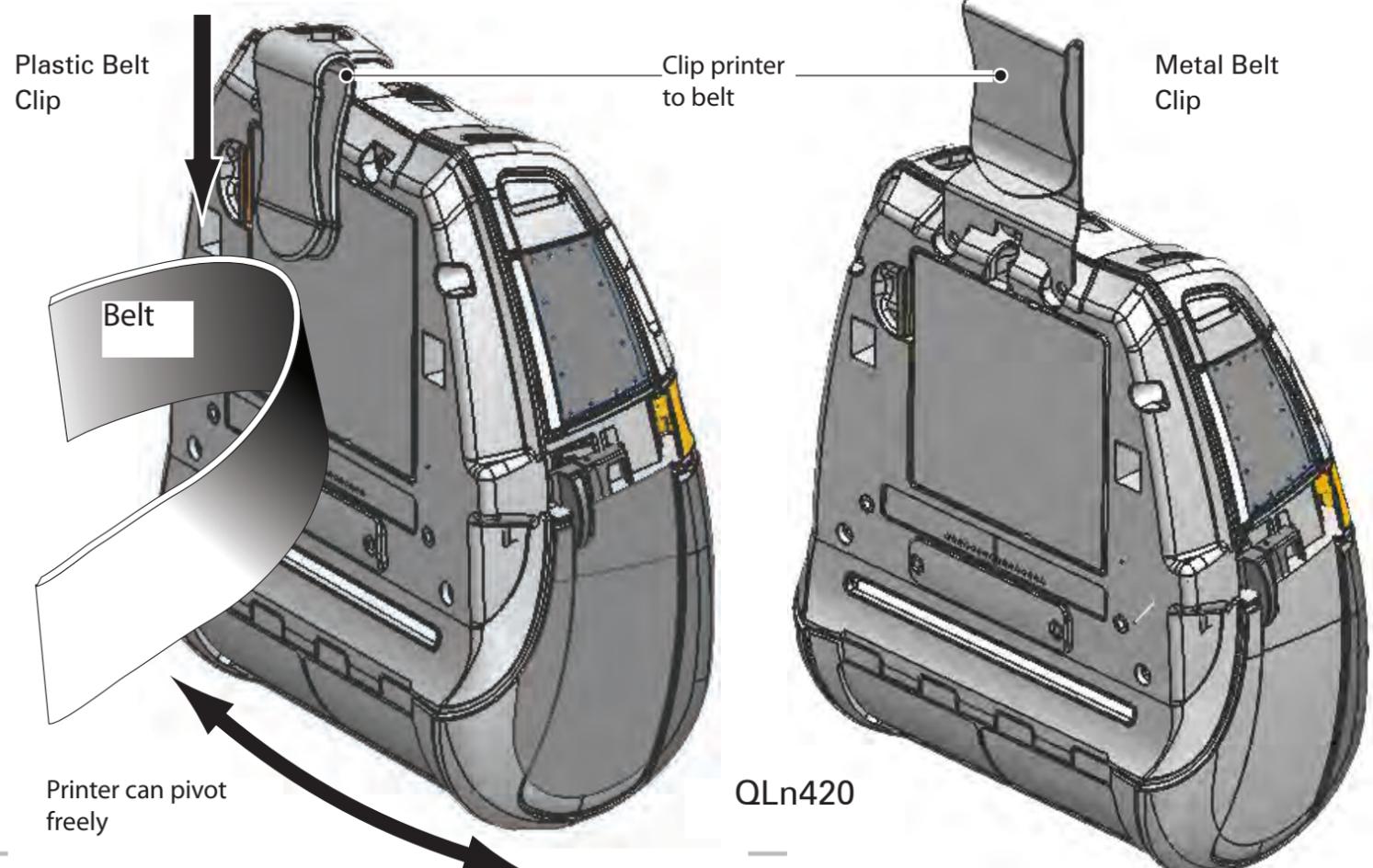


### Belt Clip (standard on most printers)

To use: Hook the clip over your belt, and ensure that the clip is securely attached to the belt. The plastic belt clip will pivot in all directions to allow you to move freely while wearing the printer.



Note: QLn220 & 320 printers with the extended capacity battery do not come equipped with a belt clip.

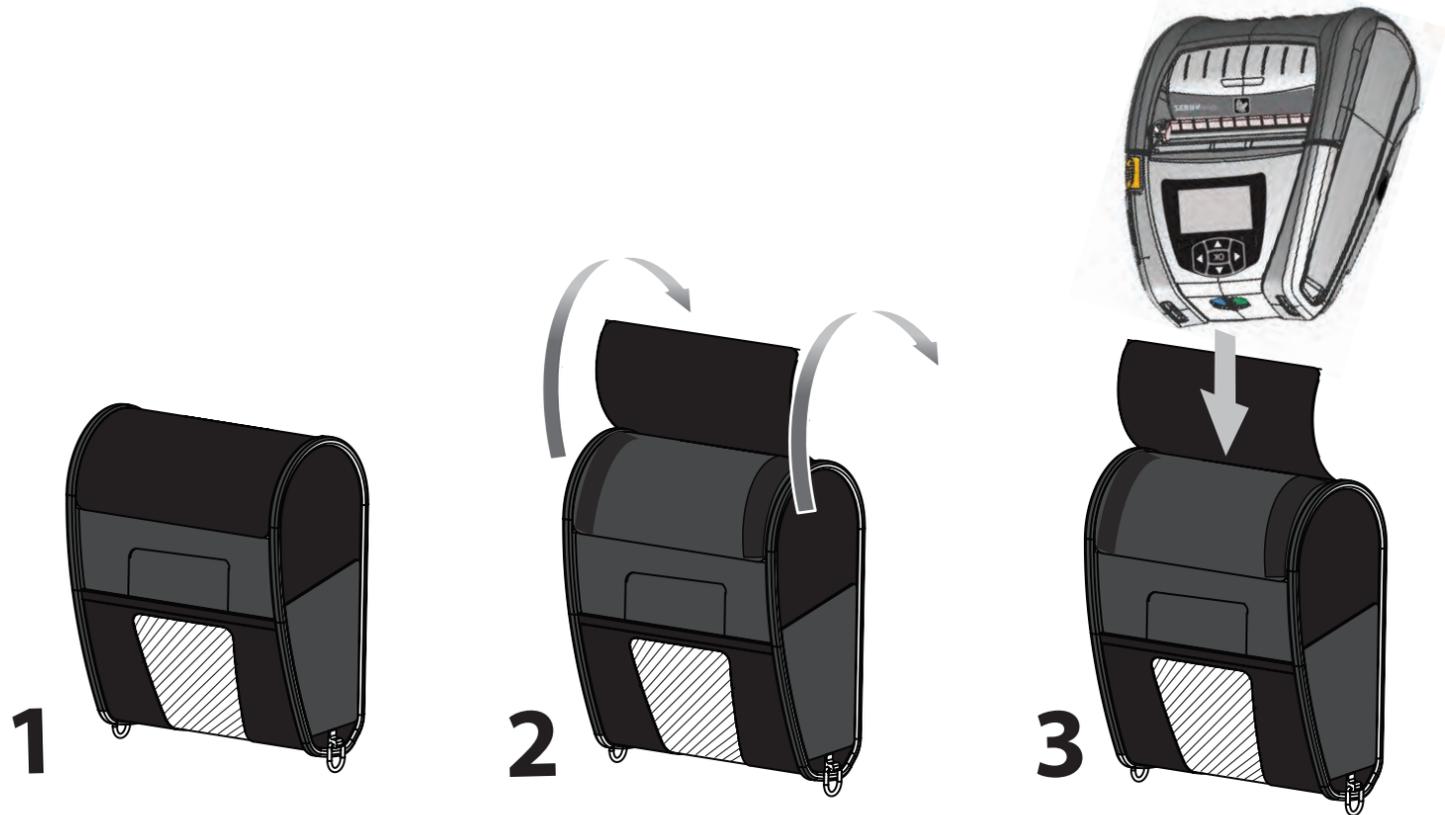


## Accessories (cont.)

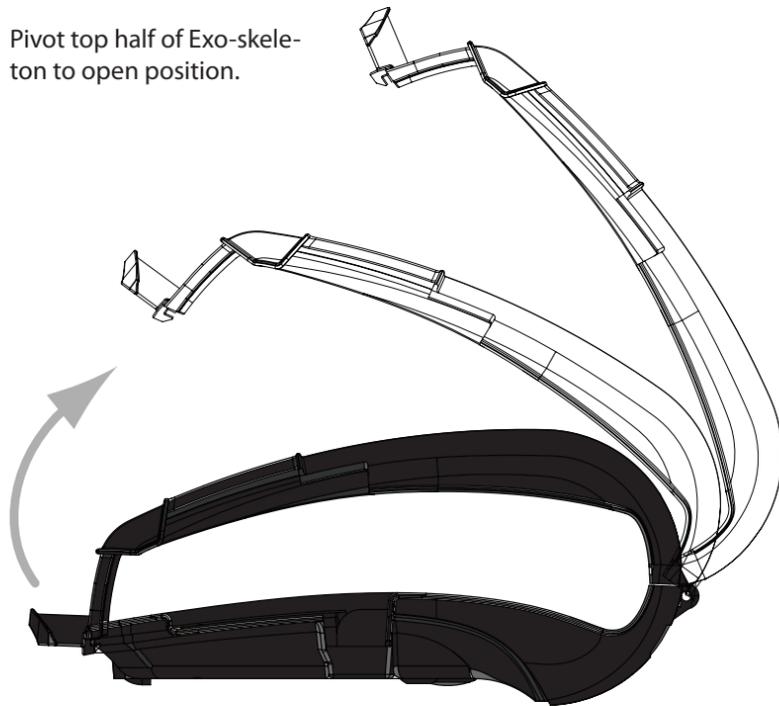
### Soft Case

All QLn Series printers have soft case options that also allow you to carry the printer from your belt. (The QLn420 soft case is shown in the accompanying graphic.)

 Note: The QLn220 & 320 soft case is not compatible with printers equipped with the extended capacity battery option.

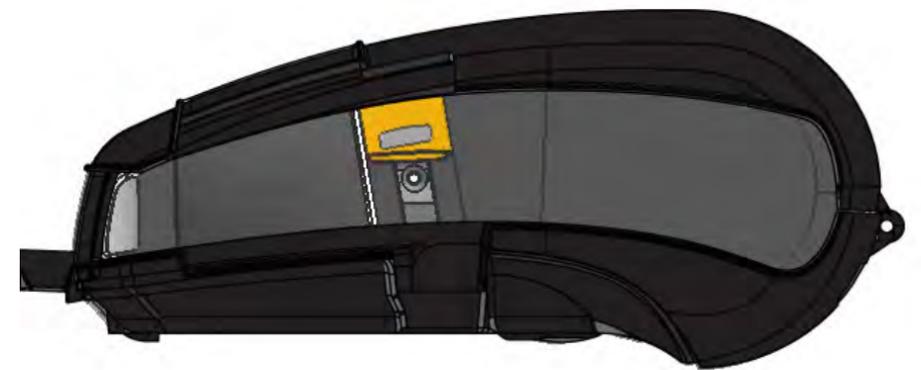


Pivot top half of Exo-skeleton to open position.



### Hard Case

The QLn420 printer has a hard case option that also allows you to carry the printer from your belt with a metal belt clip. The belt clip is mounted to the hard case and printer with two screws. If no belt clip is used, two shorter screws are used to hold the printer to the hard case.



Insert the QLn420 printer into the lower half of the Exo-skeleton. Close the top half and snap shut to secure.

## Product Support

For product support, and the latest versions of all customer documentation, contact Zebra Technologies at: [www.zebra.com](http://www.zebra.com)  
Refer to Appendix D in the QLn320 User Guide for more detailed contact information

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