

ZEBRA[®] ZQ500[™] Series

Battery Eliminator Cradle Kit

Installation Guide

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Product Improvements

Since continuous product improvement is a policy of Zebra Technologies Corporation, all specifications and signs are subject to change without notice.

FCC Compliance Statement

Class B digital device. Tested to comply with FCC standards.
WARNING: Exposure to Radio Frequency radiation with certain versions of the printer used with this product. To conform to FCC RF exposure requirements this device shall be used in accordance with the operating conditions and instructions listed in the printer’s User Guide. There are several radio options available with the printer used in conjunction with this product. Additional regulatory information is contained in the printer’s Users Guide in sections devoted to each radio option.

Changes or modifications to this unit not expressly approved by Zebra Technologies Corporation could void the user’s authority to operate this equipment.

Canadian Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
“IC:” before the equipment certification number signifies that the Industry Canada technical specifications were met.
It does not guarantee that the certified product will operate to the user’s satisfaction.

Agency Approvals and Regulatory Information

- FCC part 15 Class B
- Canadian STD ICES-003 Class B
- EN55022 Class B European Electromagnetic Radiation Standard
- EN55024 European Immunity Standard
- EN60950 Safety Standard
- RCM (Australia/New Zealand)
- VCCI (Japan)
- SII (Israel)
- CB
- C-TUV-US
- CE (EU/EFTA)

Liability Disclaimer

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Special Notices

The following notices emphasize certain information in the guide. Each serves a special purpose and is displayed in the format shown:


- 


Note: *Note is used to emphasize any significant information.*
- 

Caution: *Indicates information that, if not followed, can result in damage to software, hardware, or data.*
- 

Warning: *This warning symbol indicates an imminently hazardous situation which, if not avoided will result in death or serious injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents*


General Warnings and Cautions


- 


Caution: *Read the following installation instructions before you connect the system to its power source.*
- 


Note: *Zebra Technologies Corporation is not liable for personal injury or damage to any equipment caused by the improper installation of this equipment to any power source.*


Vehicle Installation Safety

- 

Caution: *Only trained and qualified personnel should be allowed to install, replace, or service this equipment.*
- 

Caution: *DO NOT USE THE PRINTER WHILE DRIVING, as this may result in property damage or personal injury. Zebra Technologies Corporation. does not promote the use of these products except when parked or stationary, and is not responsible for any loss resulting from the use or misuse of our products.*
- 

Caution: *Do not install the Battery Eliminator Cradle where it will be exposed to precipitation, extreme temperatures or excessive condensation.*
- 

Caution: *Do not install the Battery Eliminator Cradle in a location that will affect vehicle safety or drivability.*
- 

Caution • *Use only the approved power supply for the Battery Eliminator Cradle. Use of an alternative power supply will void the product warranty and may cause product damage.*

Caution: Never install or remove the equipment from the vehicle's electrical system while the vehicle is running. This may result in permanent damage to the equipment.

Warning: It is very important to ensure that you make the correct cable to power source connections, because electrical energy from a vehicle's power system can harm equipment and people.

Caution: Ensure that the Power Supply has proper cooling. Do not place any padding or cushioning material under the unit or next to the back of the unit.

Electrical Information

Power Supply Input: 12VDC to 48VDC

Caution: Since the Mobile Battery Eliminator consumes vehicle power even when the printer is turned off, it **MUST** be connected to a power source that is switched off when the vehicle is turned off.

Zebra Technologies Corporation is not liable for damage to any equipment caused by improper installation of this equipment to any power source.

The following instructions for the Mobile Battery Eliminator Kit include the equipment listed below:

- P1063406-028 : KIT, Acc Battery Eliminator Cradle, ZQ500 Series
- P1058934: DC to DC Power Adapter, 7.8V, 5A Output
- P1064241: DC to DC Power Adapter, Cigarette, 7.8V, 5A OUTPUT
- AT17147-1: RAM MOUNT RAM-101
- CA17359-1: PLATE, RAM, MNTG (Base Plate)

Indicator and Parts Descriptions

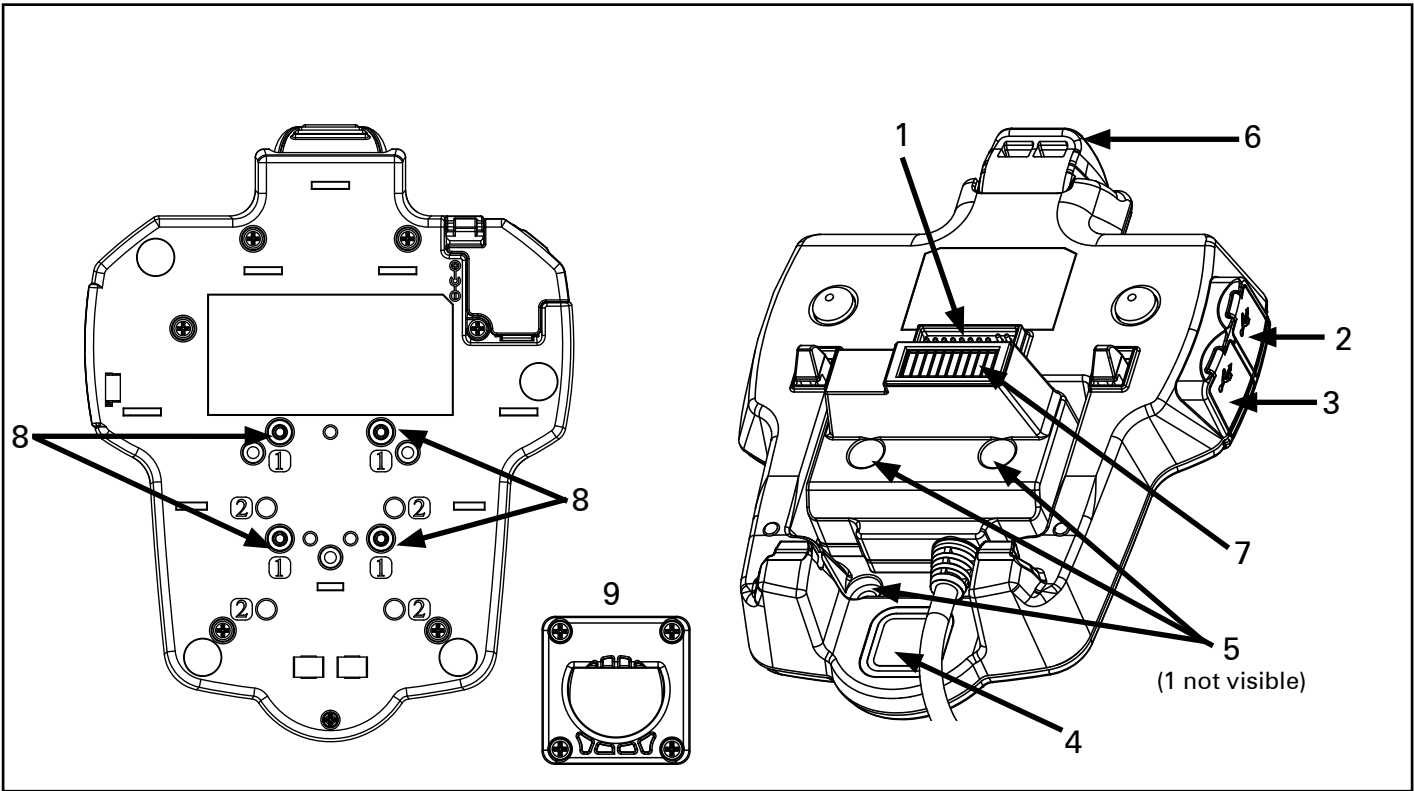


FIGURE 1: PARTS DESCRIPTIONS

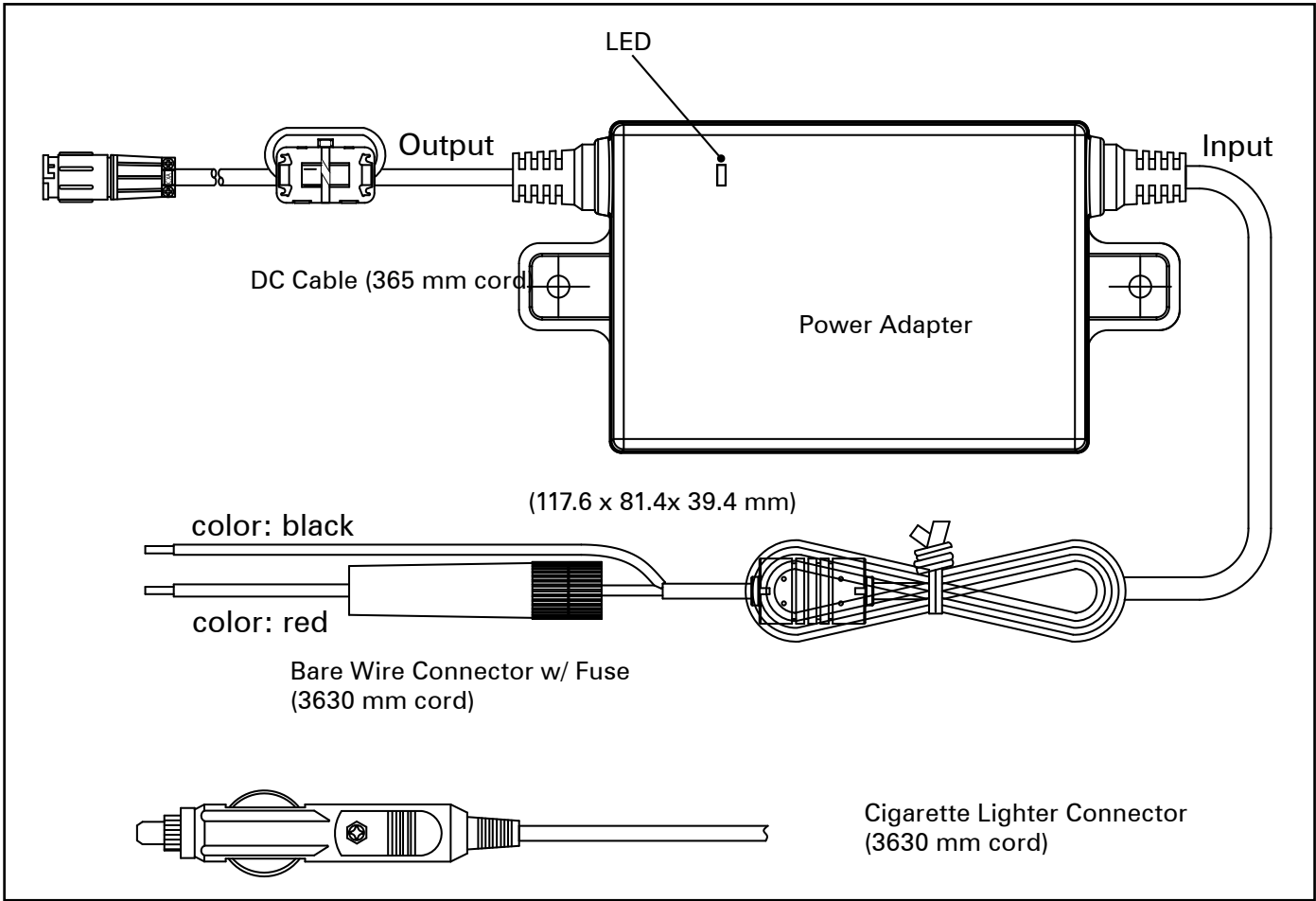
Descriptions

- 1. 12-pin docking port connector for printer
- 2. USB port Type A Host
- 3. USB port Micro B
- 4. Power Indicator
- 5. RAM mount fixing holes (4)
- 6. Printer release button
- 7. Printer connector
- 8. D-shape adaptor mounting holes (4)
- 9. D-shape adaptor (4 screws)

To ensure the most reliable printer performance possible, Zebra recommends the following installation techniques:

- It is very important that if a USB cable is connected to the printer while docked in the BE Cradle, the USB cable must be no more than four (4) feet long. If a longer USB cable is used, intermittent printer performance could be experienced. Please contact your Zebra sales representative to obtain the proper cable.
- If installing the permanent bare-wire installation version, follow good wiring practices and connect to a fused connection point on the vehicle electrical fuse block. (NOTE: The positive lead (red wire) contains the fuse holder.)

FIGURE 2: POWER SUPPLY VEHICLE CONNECTORS



- A green LED will light on the power supply (see Fig. 2) to indicate the power is on. A red LED will light to indicate an error condition is present. If the error condition occurs, unplug the printer's DC transfer pack from the power supply and turn off the vehicle power. Reconnect the DC transfer pack to the power supply, and if the red LED remains on, contact technical support.

Introduction

The ZQ500 Battery Eliminator Cradle (BE Cradle) allows the user to operate and dock a ZQ510 or ZQ520 printer in a vehicle, on a desk, on a wall, or any flat surface without the use of a battery. The cradle provides battery charging power while still maintaining all of the printer's functionality.

- The BE Cradle has 3 input connections:
- A DC power supply input connects to the power adapter (not included).
 - A standard USB connector.
 - A micro USB connector connects with an input device (i.e. PC, tablet, smartphone, etc.).

The following instructions detail the installation and use of the BE Cradle. Following these instructions closely will ensure safe, reliable performance of the printer when docked on the cradle. The user should always refer to the ZQ500 Series Printer Users Guide (P1064404-001) for complete information on using the printer.

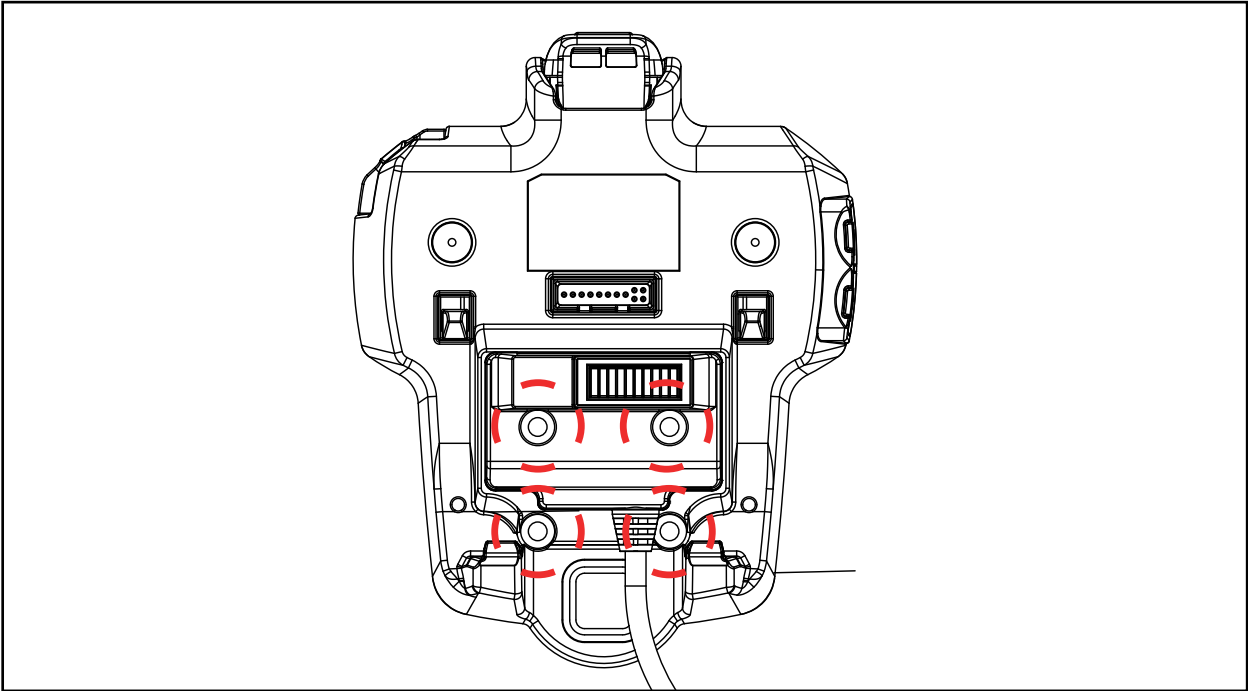
Required for Installation

When attaching the BE Cradle on the desktop, use the four (4) through holes circled below along with the following tools and parts:

- An electric drill with a 1/4" (6 mm) drill bit
- Common hand tools
- Wood screws (4)

Note • Use of appropriate hardware to secure the cradle to the desktop or wall is the responsibility of the installer. Hardware used to secure the cradle on the desktop is not supplied in the installation kits.

FIGURE 3: MOUNTING HOLES

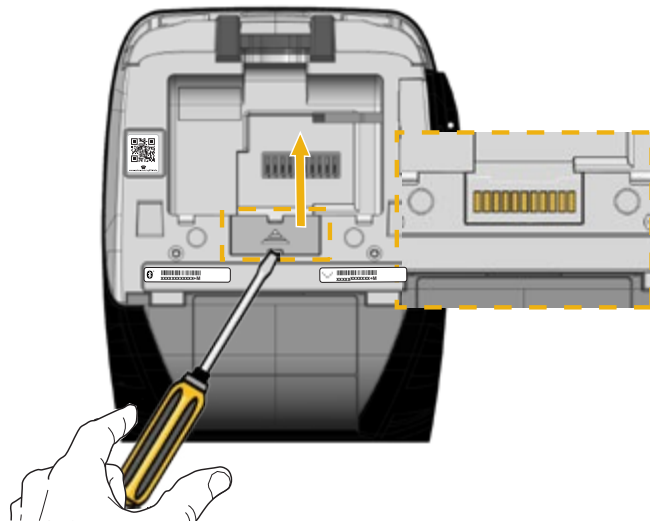


Note • It is important to leave a free zone around the printer to allow the loading of media.

Using the Printer on the BE Cradle

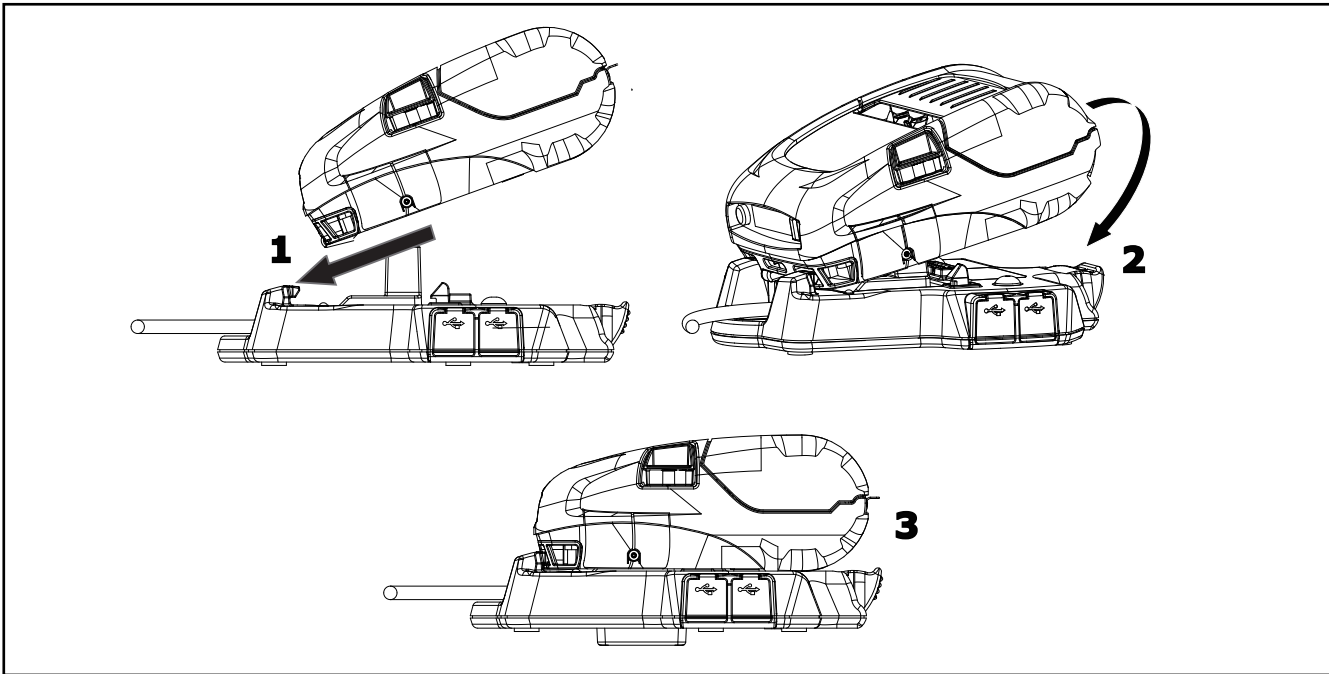
Prepare the printer for docking onto the Battery Eliminator Cradle by doing the following:


- Remove the battery from the printer.
- Use a coin or small screwdriver to remove the plastic Docking Contacts Cover on the bottom of the printer (as shown).



- If necessary, clean any residue from the docking contacts using a Zebra cleaning pen or a cotton swab with 70% Isopropyl alcohol.
- Angle the front of the printer toward the two (2) guide prongs on the front of the cradle as shown in Step 1 below.
- Gently slide the printer onto the cradle mating the Battery Connector and Docking Connector on the cradle with the corresponding connectors on the printer (Step 2).
- Press the printer down and onto the cradle until the latches lock it firmly in place (Step 3).

FIGURE 4: DOCKING THE PRINTER ON THE BE CRADLE



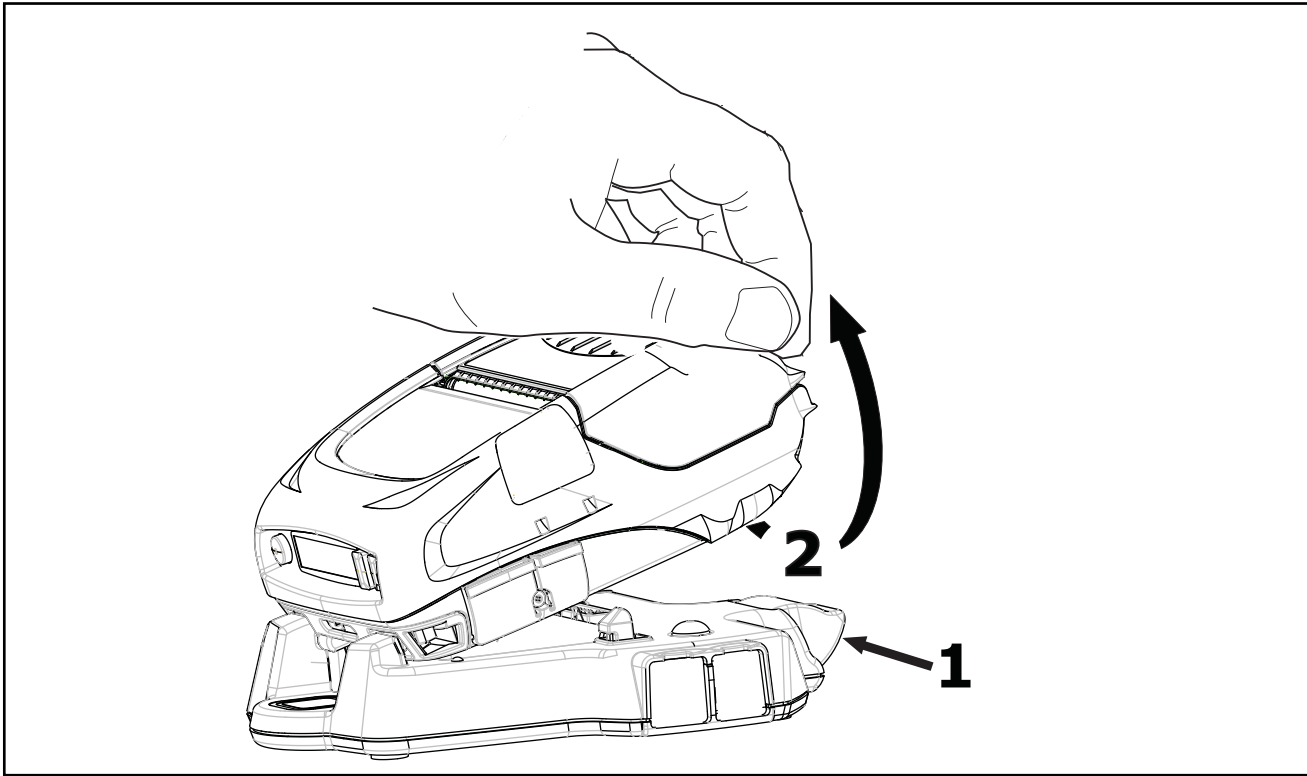
- Verify that the charge LED indicator  on the front of the printer and power indicator LED (Fig. 1) on the cradle's panel are lit.
- The printer will turn on automatically when docked if the cradle is powered on.

Printer Removal

Remove the printer from the BE Cradle by following the steps below:

1. Push the Eject Button (Step 1) on the back of the cradle in the direction shown below.
2. Pivot the printer up and out of the cradle (Step 2).

FIGURE 5: UN-DOCKING THE PRINTER



Operational Notes

The media compartment and operator controls can be reached while the printer is secured to the cradle.

If you need to take out the printer, follow the removal procedure detailed above in the Printer Installation and Removal section.

If using a printer that has a Bluetooth or 802.11 radio, that radio can be used while the printer is docked.

The USB ports on the printer can be used while the printer is docked.

The DC input barrel jack connection on the printer can NOT be used while the printer is in the cradle.

Cradle Indicators

Charging status will be displayed on the charge LED on the front of the printer.

A fault condition could be caused by the battery’s internal temperature exceeding its specified limits (too hot or too cold), or could be caused by an internal short in the battery. Allow the battery to return to specified charging temperature range and try to recharge. If the fault condition persists, discontinue use of the battery.

Note • If the charge LED on the printer is not illuminated, the printer is not seated properly in the cradle. Eject and re-dock the printer and observe if the charging LED is illuminated.

USB Connectors

- The cradle has two (2) USB ports:
- A standard USB connector.
 - A micro USB connector connects with an input device (i.e. PC, tablet, smartphone, etc.).



Note • Under normal circumstances, the micro USB port does not require the user to install a separate driver. If a screen pops up with a dialog box prompting the user to install the driver, please link directly to the CD’s .INF files.

Installing the Mounting Arm

Description

An optional mounting arm (AT17147-1) is offered for use with the BE Cradle which allows a more versatile method of positioning the ZQ500 Series printers while docked in the cradle. It consists of an arm with a ball and socket joint at either end, which in turn are terminated with a mounting flange. One flange is secured to the Cradle by the four mounting holes provided on the bottom plate, and the other is secured to the desired mounting surface. A clamp on the arm locks the Cradle in the desired position.

Installation

- **Caution:** Mount the Printer and BE Cradle where it will not hit the operator in case of an accident.
- **Warning:** Do not connect the input power cable to the BE Cradle until the Cradle and Mounting Arm installation has been completed.

For ease of installation, the Arm can be disassembled by loosening the clamp enough to remove the two ball and socket flanged ends. These end flanges can then be easily secured to the BE Cradle and the desired mounting surface. Then the arm can be slipped over the two ends and the clamp tightened to secure the Cradle in position.

When installing the mounting arm, remember that the arm provides a considerable range of movement for the BE Cradle and Printer. Extra clearance should be provided for this movement if it is desired in the installation.

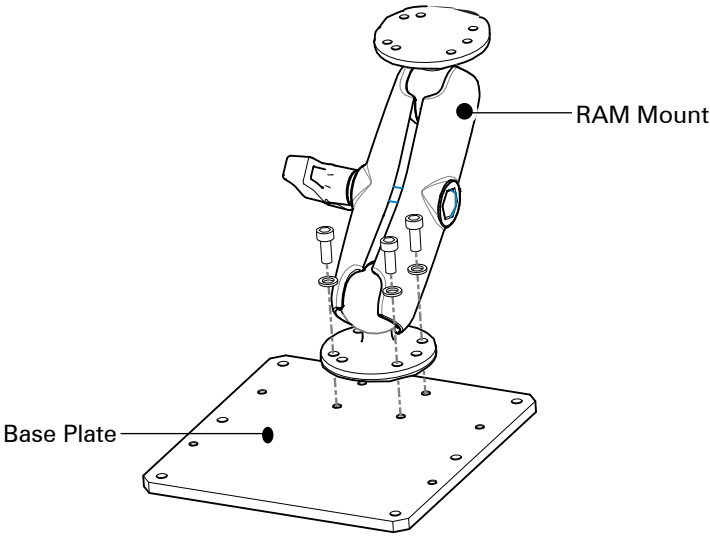
Mounting Hardware

Mounting hardware is supplied with the Mounting Arm Kit. The #10-32 or #10-24 screws should be used to secure one end of the arm to the bottom of the Vehicle Cradle. The #10-24 x 3/4” screws and associated hardware may be used to secure the other end of the arm to the desired mounting surface.

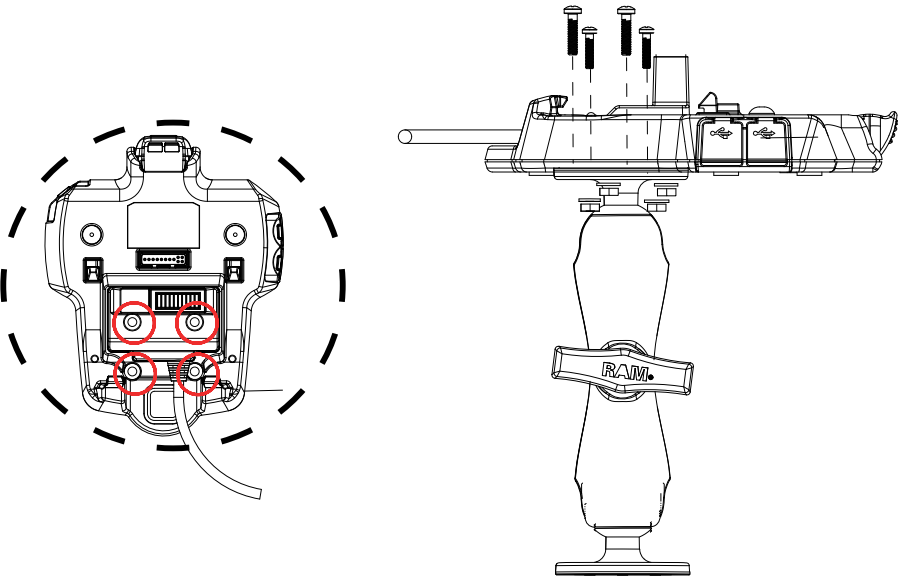
RAM Mount Installation

When attaching the BE Cradle and printer to the RAM mount using the RAM Mount (p/n AT17147-1), be sure to properly route the DC Transfer Pack connector and secure the printer to the mouting plate.

1. If you are using a RAM Mount with a Base Plate (CA17359-1), assemble the RAM Mount to the Base Plate using four (4) #10-32 x 1/2 (TH-SL1707) long socket head cap screws and four (4) #10 lock washers (TH-WB0810).



2. Secure the Power Adapter to the Base Plate with two (2) #10-32 x 1/2 screws and two (2) #10 lock washers. Be sure to secure the DC cable to the plate with the wire clip
3. Secure the BE Cradle to the top mounting flange on the RAM Mount with the four (4) #10-32 or #10-24 screws supplied with the Mounting Arm. Insert the screws through the mounting holes (circled) from the top of the BE Cradle as shown below.



Appendix A: Technical Specifications

- 4. Dock the printer on the BE Cradle as previously shown.
- 5. Connect the mating cable from the DC transfer pack to the DC cable from the Power Adapter (circled).




- Physical
- Height: 36.9 mm (1.45 in.)
 - Length: 183.5 mm (7.22 in.)
 - Width: 145.5 mm (5.72 in.)
 - Weight (cradle only): 0.253 kg (0.55 lb.)
- Environmental
- Operating Temp: -20°C (-4°F) to 55°C (131°F)
 - Storage Temp: -30°C (-22°F) to 66°C (150.8°F)
 - Humidity: 10% to 90% non-condensing
 - Drop: 3 ft. (0.9 m) to concrete (with printer)
 - Drop: 4 ft (1.2 m) to concrete (without printer)
 - Vibration: Per Mil-Std-810



Caution: Since the BE Cradle consumes vehicle power even when the printer is turned off, it **MUST** be connected to a power source that is switched off when the vehicle is turned off. Zebra Technologies Corporation is not liable for damage to any equipment caused by improper installation of this equipment to any power source.



Note: When the vehicle’s power is turned on, the  icon will appear on the printer’s LCD to indicate the the presence of a battery eliminator.

Technical Support

U.S. Only

Zebra maintains a help line for questions involving installation and use of the Battery Eliminator Cradle Kit. Please have as much information as possible regarding your particular application ready when you call to enable the technical support personnel to help you. The number in the U.S. is (800)-423-0442 and is open Monday through Friday from 8:00 am to 4:30 P.M. E.S.T.

All Others

For technical support, please contact your local Zebra sales representative listed below:

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