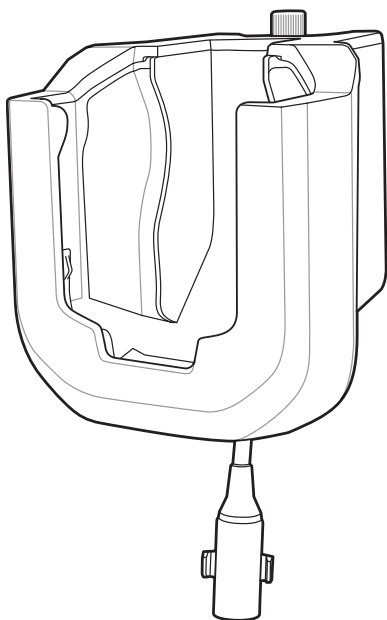


CRD-TC7X-CVCD1-01

VEHICLE CRADLE

INSTALLATION GUIDE



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Warranty

For the complete Zebra hardware product warranty statement, go to:
<http://www.zebra.com/warranty>.

Introduction

This guide describes how to install and use a CRD-TC7X-CVCD1-01 Vehicle Cradle with a TC75 touch computer.

Install the cradle into your vehicle. Once installed, the cradle:

- holds the TC75 securely in place
- provides power for operating the TC75
- re-charges the battery in the TC75.

The cradle is powered by the vehicle's 12V or 24V electrical system. The operating voltage range is 9V to 32V and supplies a maximum current of 3A.

Requirements

For mounting on a flat surface:

- four M3 screws (included)
- four wall anchors (not included).

For mounting onto a RAM Mount:[®]

- RAM Mount (sold separately)
- Four M4 screws, lock washers and flat washers (included)

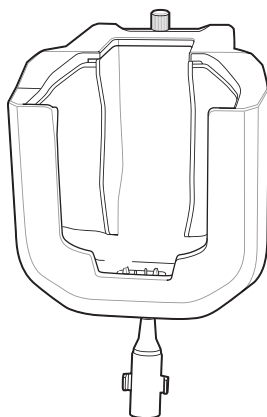
For CLA power connection:

- CLA (not included), p/n CHG-AUTO-CLA1-01

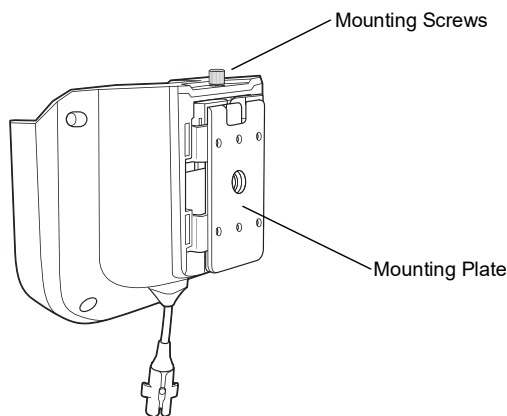
For hard-wired power connection:

- power input cable (not included), p/n CHG-AUTO-HWIRE1-01
- UL Listed in-line fuse rated 250V, 5A (not included), must be used if not connecting to vehicle's fuse panel
- in-line fuse holder (not included), must be used if not connecting to vehicle's fuse panel.

Parts



FRONT VIEW



REAR VIEW



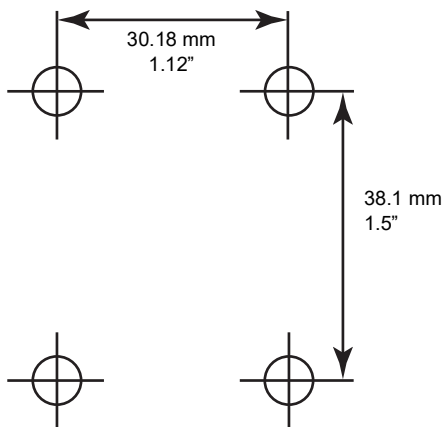
CAUTION ROAD SAFETY - Do not use the TC75 while driving. Park the vehicle first. Always ensure the TC75 is fully inserted into the cradle. Do not place it on the seat or where it can break loose in a collision or sudden stop. Lack of proper insertion may result in property damage or personal injury. Zebra is not responsible for any loss resulting from the use of the products while driving. Remember: Safety comes first.

Mounting the Cradle to a Flat Surface

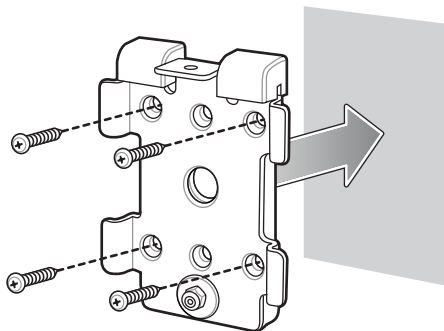


CAUTION Only mount the Vehicle Cradle in a vertical position. Never mount the vehicle cradle on the side or upside down or on a wall that can be subject to impact or collision of greater than 10Gs, in accordance with SAE J1455 Section 4.10.3.5.

1. Select a mounting location for the cradle. It should be flat, and must provide adequate support for the cradle.
2. Prepare the mounting surface, using the mounting template below, with wall anchors that support the weight of the cradle and device. The anchors should accept four M3 screws,



3. Loosen the screw securing the mounting plate to the cradle.
4. Slide the mounting plate down and then remove the mounting plate from the cradle.
5. Position the mounting plate on the mounting surface.

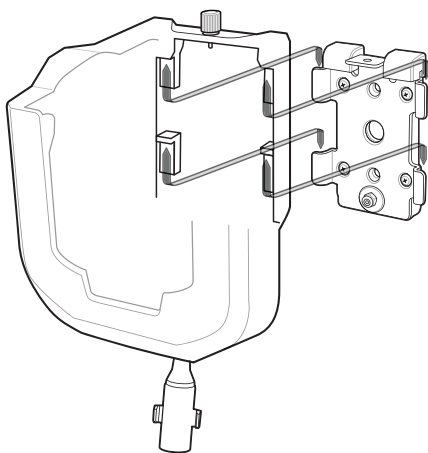


6. Fasten the mounting plate using four M3 screws (provided).

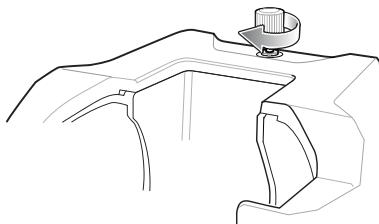


CAUTION Do not install a Vehicle Cradle on or near an air bag cover plate or within an aerobic zone. Also, do not install it in a location that affects vehicle safety or driveability.

7. Align the cradle with the mounting plate.
8. Slide the cradle down.



9. Tighten the screw to secure the cradle to the mounting plate.



Mounting the Cradle to a RAM Mount

To mount the cradle onto a RAM Mount:

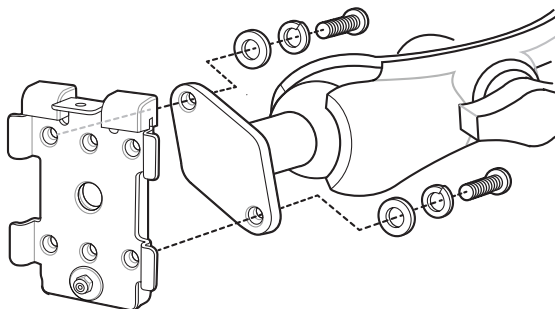


CAUTION Only mount the Vehicle Cradle in a vertical position. Never mount the vehicle cradle on the side or upside down or on a wall that can be subject to impact or collision of greater than 10Gs, in accordance with SAE J1455 Section 4.10.3.5.

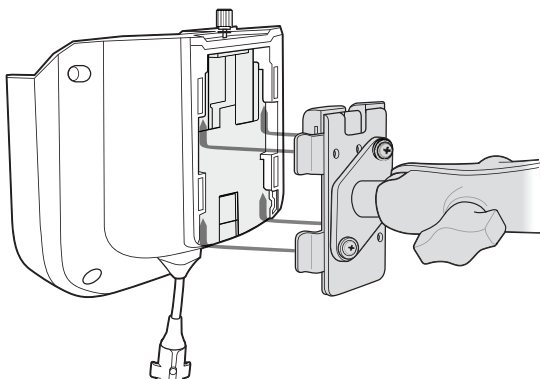
1. Follow the instructions that are provided with the RAM Mount for RAM Mount mounting instructions.
2. Loosen the screw securing the mounting plate to the cradle.
3. Slide the mounting plate down and then remove the mounting plate from the cradle.
4. Align the mounting plate with the RAM Mount ball base.
5. Secure the mounting plate to the ball base using M4 screws, lock washers and flat washers (provided)..



CAUTION Do not install a Vehicle Cradle on or near an air bag cover plate or within an aerobic zone. Also, do not install it in a location that affects vehicle safety or driveability.



6. Secure the RAM Mount to the vehicle depending upon the type of RAM Mount. See instructions provided with RAM Mount.
7. Align the cradle with the mounting plate.
8. Slide the cradle down.

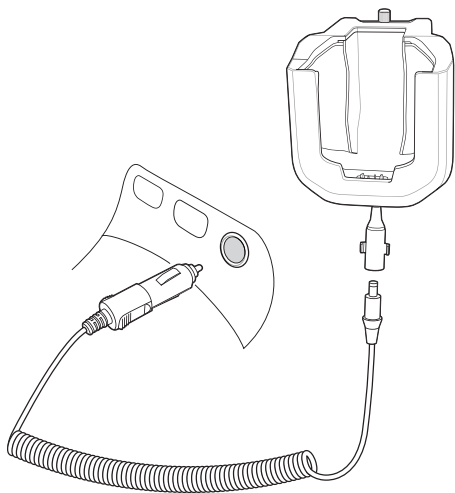


9. Tighten the screw to secure the cradle to the mounting plate.
10. Adjust RAM Mount according to RAM Mount instructions.

CLA Power Connection

To connect the CLA to the cradle:

1. Connect the CLA power plug into the Input Power jack on the vehicle cradle.
2. Plug the CLA into a power outlet (cigarette lighter receptacle).



Hard-Wired Power Connection

Please read all of these instructions before beginning.



WARNING! A properly trained technician must perform the power connection. Improper connection can damage your vehicle, cradle or mobile computer. Refer to the vehicle's Owner's Manual for instructions for removing power.

To connect the cradle to power:



CAUTION When setting up connection for this cradle, only use the power input cable provided with this cradle.

1. Locate the vehicle power source.



NOTE The ideal location for connecting the vehicle cradle power input cable would be an accessory output in your vehicle's fuse panel. The vehicle cradle should be added to a circuit with a maximum load capacity for the cradle and the original circuit. Refer to the vehicle's *Owner's Manual* for identification of the circuit. If a fused output is not available, the vehicle cradle must be installed with the provided in-line fuse holder and UL Listed 5A fuse. The fuse protects the vehicle from an electrical short on the power line to the cradle.

To use the cradle to charge the TC75, when the vehicle's ignition is off, connect the cradle to unswitched power.

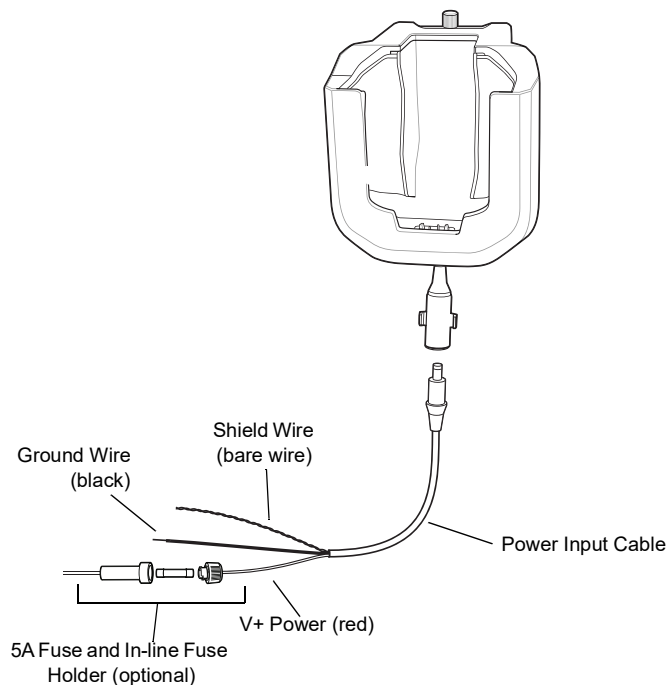
2. Route the power input cable from the cradle's power port to the connection point for the vehicle's power source.



NOTE The means of routing and securing the power input cable from the cradle through to the vehicle power source is extremely important. Hazards associated with improper wiring can be severe. To avoid unintentional contact between the wire and any sharp edges, provide the cable with proper bushings and clamping where it passes through openings. If the wire is subjected to sharp surfaces and excess engine vibration, the wiring harness insulation can wear away, causing a short between the bare wire and chassis. This can start a fire. To avoid any mishaps, all wiring should be routed away from moving parts, high temperature areas and any contaminants.

3. When using the supplied in-line fuse holder (which must be used if not connecting to vehicle's fuse panel):
 - a. Ensure the fuse holder contains a 5A UL Listed slow-blow fuse.

- b. Splice the fuse holder to the end of the red V+ wire, as shown below. Make the distance from the fuse to the power connection point as short as possible.



4. Prepare the cable termination.

- a. Red wire: connect to a +12/24 V vehicle power source.

- b. Black wire and Shield wire: connect to vehicle ground wire or chassis ground.

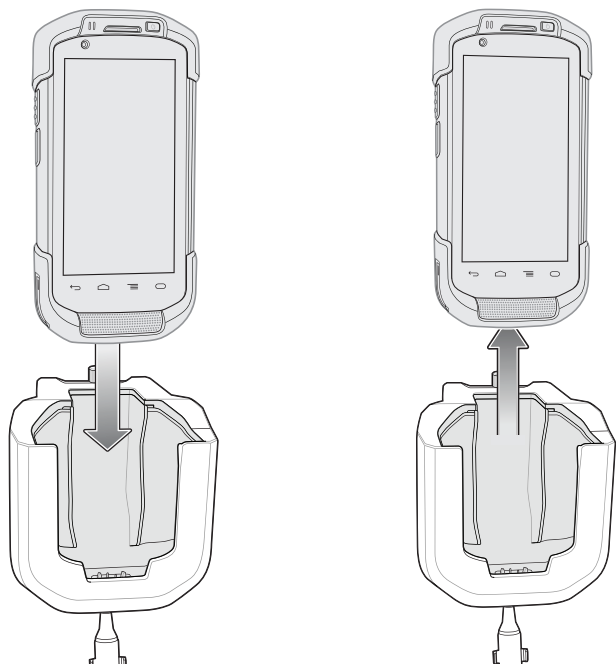


NOTE How the cable terminates depends on the vehicle. If the vehicle has a power output connector, then you must attach a mating connector to the end of the power cable. You may be able to connect to a fuse panel with a simple blade terminal or commercially available connector. Consult the vehicle *Owner's Manual* for information on how to access the power supply in the vehicle.

5. Connect the power input cable into the power port on the cradle.

To see if the cradle has power, insert the TC75. The Charging LED on the TC75 slowly blinks amber to indicate charging and turns solid green when the battery is completely charged. See *LED Indicators on page 14* for other indications.

TC75 Insertion and Removal



To ensure the TC75 was inserted correctly, listen for the audible click that signifies that the TC75 locking mechanism was enabled and the TC75 was locked into place.



CAUTION Ensure that the TC75 is fully inserted into the cradle. Lack of proper insertion may result in property damage or personal injury. Zebra Technologies Corporation is not responsible for any loss resulting from the use of the products while driving.

To remove the TC75 from the cradle, grasp the TC75 and lift out of the cradle.

TC75 Battery Charging

Ensure the cradle is connected to a power source. See *CLA Power Connection* on page 8 or *Hard-Wired Power Connection* on page 9.

Insert the TC75 into the cradle. The TC75 starts to charge through the cradle as soon as it is inserted. This does not deplete the vehicle battery significantly. The battery charges in approximately four hours. See *LED Indicators on page 14* for all charging indications.

Charging Note

The Vehicle Cradle operating temperature is -40 °C to +85 °C. When in the cradle, the TC75 will only charge when its temperature is between 0 °C to +40 °C.

LED Indicators

LED	Indication
TC75 Battery Charging (LED is on TC75)	
Off	TC75 is not in cradle, TC75 is not placed correctly, or cradle is not powered.
Fast Blinking Red (twice a second)	Error in charging (not within battery charging temperature or charging for too long without completion). Check placement of TC75.
Slow Blinking Amber (once every two seconds)	TC75 is charging.
Solid Green	Charging is complete.

Care and Cleaning

Avoid getting oils, grease or gasoline on the cradle, and do not let debris gather in the bottom of the cradle slot. When necessary, clean the cradle with a mild cleaner. If you are not sure whether or not to use a particular cleaner, contact Zebra for advice.

Troubleshooting

Symptom	Possible Cause	Action
TC75 charging LED does not light up.	Cradle is not receiving power.	Ensure the Power Input cable is securely connected to the cradle's Power Port.
TC75 battery is not charging.	TC75 was removed from the cradle too soon.	Replace the TC75 in the cradle; you may have removed it before it was recharged. If a TC75 battery is fully depleted, it can take six hours to fully recharge the battery.
	Battery is faulty.	Replace the battery.
	TC75 was not placed correctly in the cradle.	Remove the TC75 from the cradle, and re-insert correctly. If the battery still does not charge, contact Customer Support. The TC75 battery charging LED slowly blinks amber when the TC75 is correctly inserted and charging.
	Ambient temperature is too high or too low.	Ambient temperature within the vehicle may be too high or too low. Charging will begin when temperature within the vehicle is within the TC75 charging temperature range (0 °C to 40 °C).

Service Information

If you have a problem using the equipment, contact your facility's Technical or Systems Support. If there is a problem with the equipment, they will contact the Zebra Support at: <http://www.zebra.com/support>.

For the latest version of this guide go to: <http://www.zebra.com/support>.



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