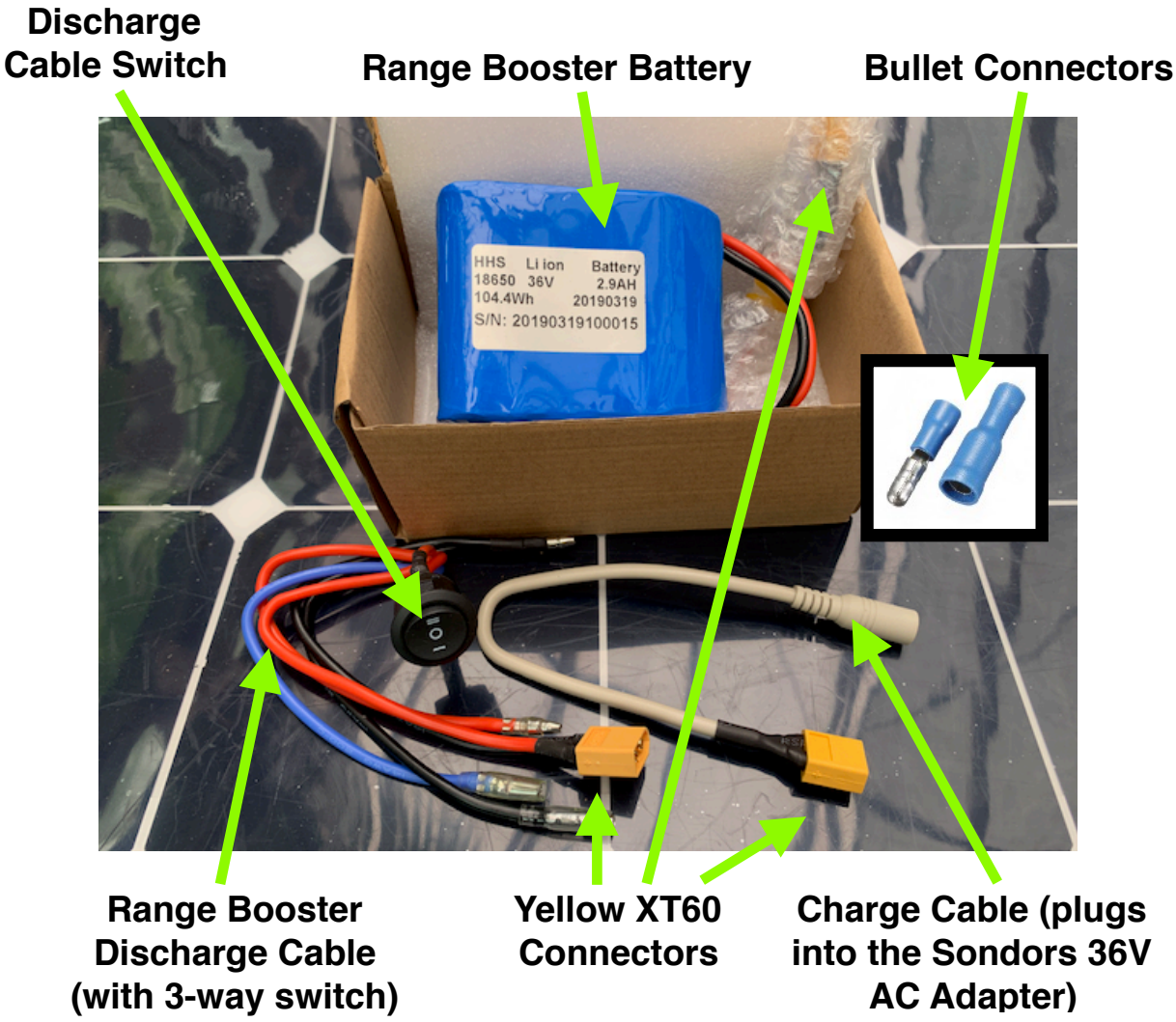
Installing the 36V Range Booster
Battery in a Sondors Thin eBike

Range Booster Battery Components



Installation Synopsis:

The 36V Range Booster Battery needs to be installed in parallel with the Sondors stock 36V cylindrical battery. To accomplish this, both the RED & BLACK wires are cut between the stock triangular battery and the motor controller (the aluminum box). Blue bullet connectors are crimped onto the cut wires so that the Range Booster Discharge Cable can be connected. Also, the main/reserve switch that selects either the Sondors main battery or the Booster Battery can be optionally mounted in the plastic triangular box.

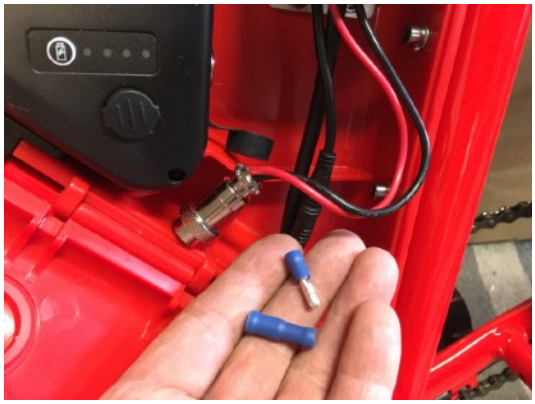
Tools Needed:

- 4mm Allen hex wrench
- Wire crimper/stripper/cutter

Good
Combination crimper/ stripper/cutter

Best
Crimper for insulated terminal connectors

(click link to view on Amazon)

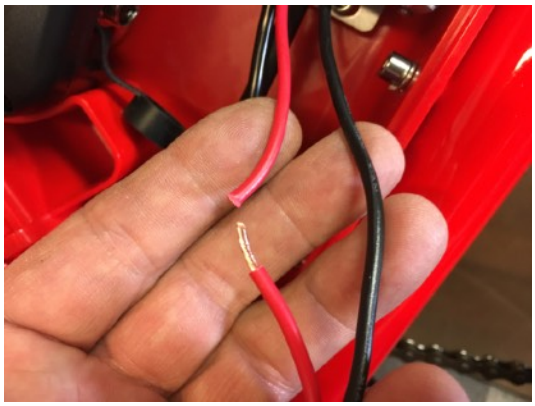


Installation Instuctions
(use the Discharge Cable)

Install ONLY in a 36V Sondors eBike with the original Motor Controller (the rectangular aluminum box next to the black triangular battery)!

0. Read the Lithium Battery Safety Instructions at the end of this document

1. Turn OFF the Sondors battery through the port on the right side of the triangular battery enclosure.



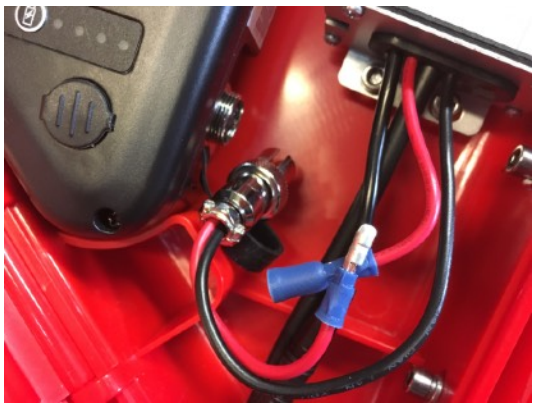
2. Unscrew the chrome battery connector from the Sondors battery (triangular black plastic box).

3. Cut the RED wire halfway between the chrome battery connector and the motor controller (the rectangular aluminum box).

4. Strip 1/4” of insulation from <u>both ends</u> of the RED wires where it was cut.

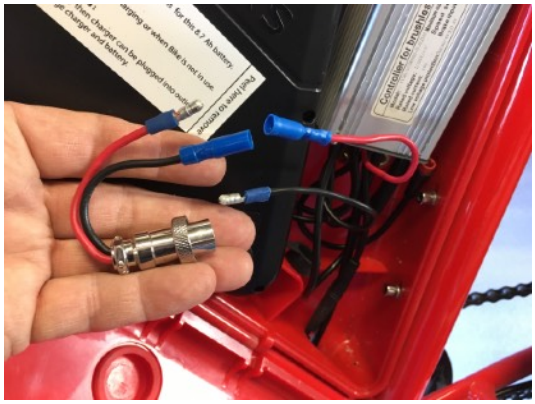
4. Starting with the RED wire <u>coming from the 36V Sondors battery chrome battery connector</u>, stick the bare wire *all the way* into the blue MALE bullet connector (the connector only half covered in blue insulation) so the wire insulation is part way into the connector.

5. Use a Crimper to squish the blue connector onto the wire. CRIMP REALLY HARD! Use the blue or red position on the crimper. Tug on the bullet connector to test your crimp job when done. If it tugs free then start over with a new blue connector.



6. Crimp onto the bare end of the RED wire coming from the controller using the FEMALE bullet connector (the connector completely covered in blue insulation). Tug on the bullet connector to test your crimp job when done. The connectors should look like the photo on the left.

7. Now cut the BLACK wire and repeat crimping on blue bullet connectors onto the BLACK wire except <u>reverse the gender positions.</u>

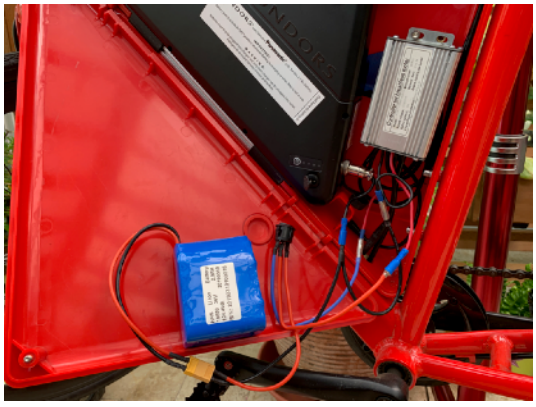


8. The BLACK wire coming from the controller will have a MALE blue connector, and the BLACK wire from the chrome battery connector will have a FEMALE blue connector, which is the *opposite* of the RED wire. Now the wires should look like the photo at left.

9. Re-connect the chrome battery connector to the Sondors triangular battery and prepare to connect the Range Booster Discharge Cable to the new bullet connectors.

10. Connect the bullet connectors of the BLACK wires of the Discharge Cable to the bullet connectors of the BLACK wires coming from chrome battery connector and the motor controller.

11. Now connect the FEMALE bullet connector of the BLUE wire of Discharge Cable to the MALE connector of the RED wire going to the chrome battery connector, and connect the last MALE bullet connector on the RED wire of the Discharge Cable to the FEMALE bullet connector of the RED wire going to the motor controller.



12. Using a 4mm hex wrench remove the 4 screws holding the motor controller to the battery box. Slide the motor controller down so the lower screw-down tabs tuck under the chrome battery connector to make room for the Booster Battery. You won't need the screws with the Booster Battery in place

14. Connect the Yellow XT60 connectors of the Booster Battery and the Discharge Cable. Your battery compartment should look similar to the photo at left (enlargement on page 6).

13. Install the Range Booster Battery as shown in the photo at left. It will be a very tight fit. Select the Main battery using position II of the Discharge Cable switch. Tuck in the loose wires and close the battery compartment.

When your Main triangular battery runs low simply open the battery compartment and switch over to the Reserve Range Booster!

Never switch batteries when the bike motor is running. Always come to a stop when making the switch.

Charging Instuctions

1. Turn OFF the Sondors battery through the port on the right side of the triangular battery enclosure.

2. Unplug the Yellow XT60 Connector on the Booster Battery going to the red & black Power Discharge Cable.

Optional: Remove the Booster Battery from the Sondors eBike.

3. Plug in the Booster Battery Yellow XT60 Connector into the coax Charge Cable.

4. Plug the Sondors 42V (36V) Booster Battery AC Adapter into the coax Charge Cable.

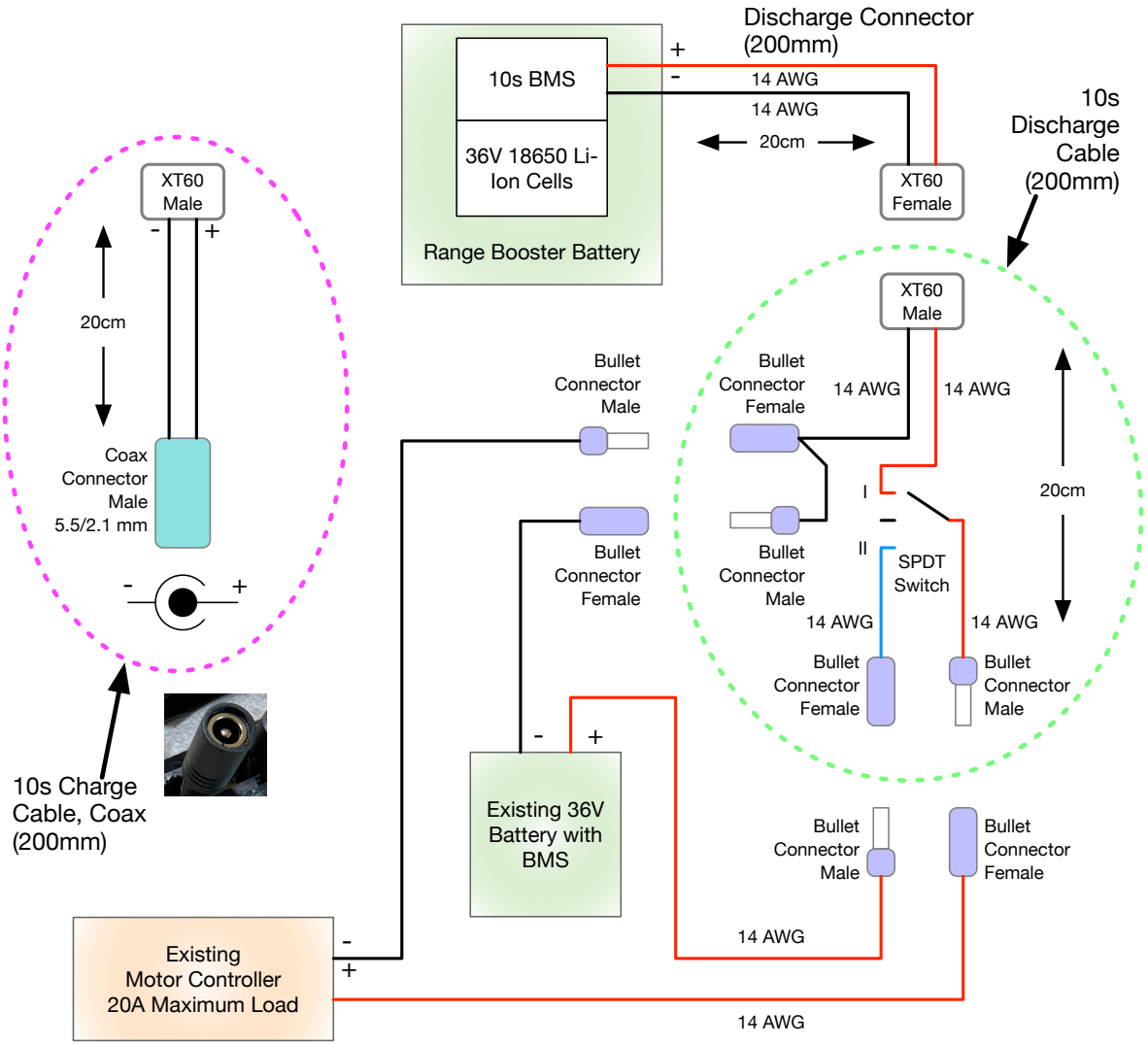
When the LED light on the AC Adapter turns from RED to GREEN the Booster Battery is fully charged.

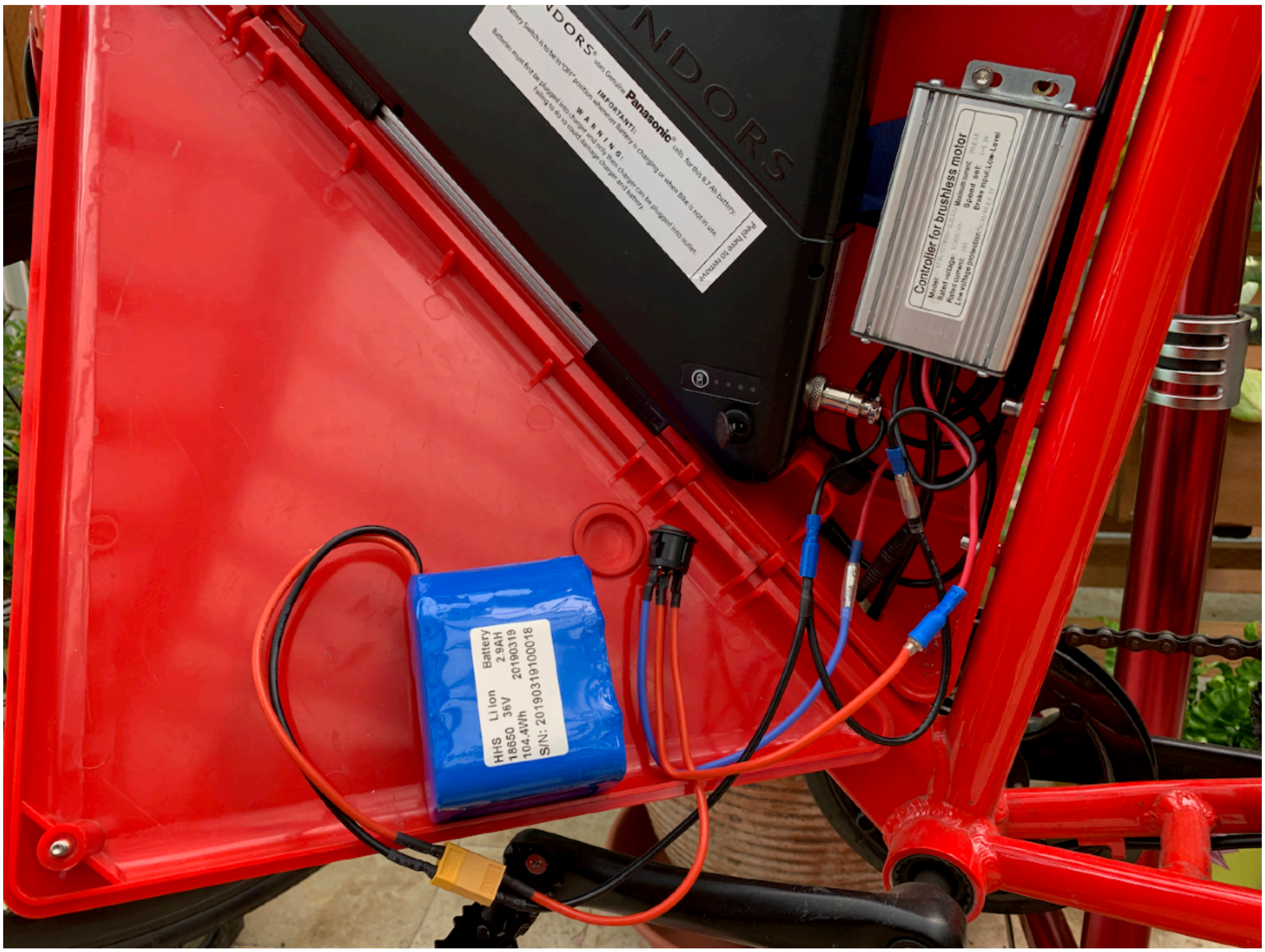
Reverse the steps above to reconnect the Booster Battery to the red & black Power Discharge Cable.

Installing the 36V Range Booster Battery in a Sondors Thin eBike

4 June 2019

36V Range Booster Battery




HHS Li Ion Battery
18650 36V 2.9AH
104.4Wh 20190319
S/N: 201903191000018
Controller for brushless motor

LITHIUM BATTERY SAFETY INSTRUCTIONS

You must read these safety instructions and warnings before using or charging your batteries. If you do not agree with these conditions, you must return the battery immediately to the seller before use.

Lithium Polymer and Li-ion batteries are volatile. Failure to read and follow the below instructions may result in fire, personal injury and damage to property if charged or used improperly. By purchasing Booster Batteries, Inc Lithium Polymer and Li-ion batteries, the buyer assumes all risks associated with lithium batteries.

Li-Ion and Polymer battery & packs may explode and cause fire if misused. All persons performing the installation of Booster Batteries for their intended use must be experienced professionals and assume all responsibility for proper installation, as well as have the capability to provide services in the event of an emergency.

1. When charging Battery Pack, put the battery in a fire proof container. Don't leave battery pack and charger on wood or carpet, or leave it unattended.

2. Keep Li-Ion & Polymer battery packs away from children.

3. Never make wrong polarity connection when charging and discharging battery packs. Always double check polarity of battery's connector to ensure proper polarity. Always check first with a Volt-Ohm multimeter.

4. Lithium batteries have a cycle life, replace old batteries with new ones when they reach the end of their service life or when two years old, whichever occurs first.

5. Testing battery condition is your own responsibility. Test the lithium battery received before using to ensure battery can be operated properly and safely. Refer to the UL safety test standard for lithium batteries and packs. For more information, contact Underwriters Laboratories directly.

General Guidelines and Warnings

1. Use specific Lithium Polymer/Li-ion charger only. Do not use a NiMH or a NiCd charger- Failure to do so may a cause fire which may result in personal injury and/or property damage.

2. Never charge batteries unattended. When charging lithium batteries you should always remain in constant observation to monitor the charging process and react to potential problems that may occur.

3. It is your responsibility solely to ensure that the charger you are using to charge the batteries works properly. Always monitor charging process to assure batteries are being charged properly. Failure to do so may result in fire.

4. If at any time you witness a battery starting to balloon, swell up, smoke or hot, discontinue charging process immediately, disconnect the battery and observe it in a safe place for approximately 15 minutes.This may cause the battery to leak, and the reaction with air may cause the chemicals to ignite, resulting in fire.

5. Since delayed chemical reaction can occur, it is best to observe the battery as a safety precaution in a safe area outside of any building or vehicle and away from any combustible material.

6. Wire lead shorts can cause fire! If you accidentally short the wires, the battery must be placed in a safe area for observation for approximately 15 minutes. Additionally, if a short occurs and contact is made with metal (such as rings on your hand), severe injuries may occur due to the electrical conductibility of metal.

7. A battery can still ignite even after 10 minutes.

8. In the event of a strong jolt to the battery, such as from a vehicle crash, you must remove battery for observation and place in a safe open area away from any combustible material for approximately 15 minutes. Never drop the batteries.

8. If for any reason you need to cut the terminal wires take care to cut each wire separately to ensure the wires to not touch each, otherwise or a short may occur and potentially cause a fire.

9. Never store or charge battery pack inside inside a closed space during extreme temperatures, since extreme temperature could ignite a fire.

Charging Process

1. Never charge batteries unattended.

2. Put battery in the fireproof container and charge in an isolated area, away from other flammable materials. Always have fire extinguisher for emergency use.

3. Let battery cool down to ambient temperature before charging.

4. Do not charge battery packs in series. Charge each battery pack individually. Failure to do so may result in incorrect battery recognition and charging functions. Overcharging may occur which can result in fire.

Storage & Transportation

1. Store battery at room temperature between 40 and 80 degrees F for best results.

2. Do not expose battery pack to direct sunlight (heat) for extended periods.

3. When transporting or temporarily storing in a vehicle, temperature range should be greater than 20 degrees F but no more than 150 degrees F.

Storing battery at temperatures greater than 170 degrees F for extended periods of time (more than 2 hours) may cause damage to battery and a possible fire.

Battery Life

Batteries that lose 20% of their capacity must be removed from service and disposed of properly. Discharge the battery to 3V/Cell, making sure output wires are insulated, then wrap battery in a bag for disposal.

Product Warranty

Product warranty is limited to original defects in material and workmanship. Warranty does not cover collateral damage. Misuse, abuse, incorrect charging and other inappropriate use of this product are not covered under warranty.