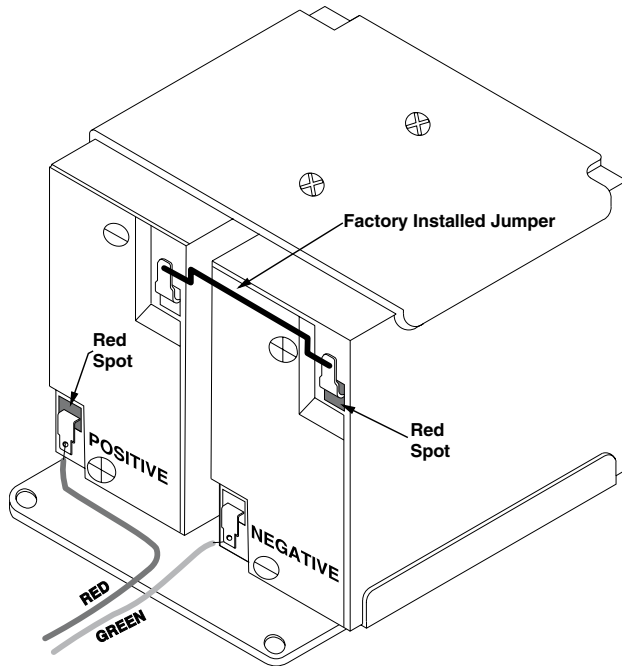




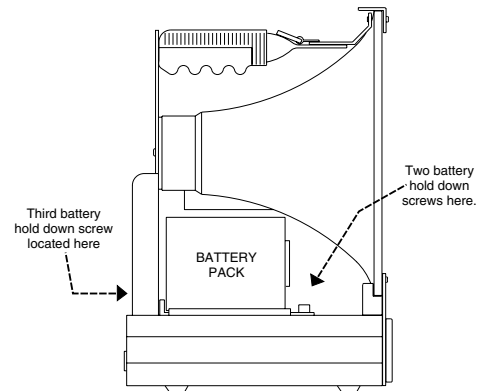
Long Ranger Battery Replacement



Caution

These battery packs are capable of very high currents if shorted. These high currents can cause serious burns to clothing and skin. Always have a qualified technician replace the battery pack.

Note: Do not use crimp-on connectors. Do not bend the battery terminals, as they may break off.



Replacing the individual batteries:

Caution - If the battery pack is connected backwards, even momentarily, damage to the Long Ranger may result. This kind of damage is not covered under warranty and repairs are costly.

1. Be sure the Long Ranger power is turned off!
2. Remove the old pack from the Long Ranger housing.
 - a. Remove the three phillips head screws that hold the pack to the Long Ranger housing.
 - b. Carefully remove the old pack from the Long Ranger housing. Be careful here, the battery pack assembly weighs about eight pounds! Place the pack to the side of the Long Ranger. Be careful you do not pull the wires.
 - c. Unsolder and remove the green (-) wire from the old pack.

Note - For safety reasons, always remove the green wire from the battery pack first.
 - d. Unsolder and remove the red (+) wire from the old pack.
3. Replace the individual batteries.
 - a. Unsolder and remove the black jumper wire from the top battery terminals. Save this jumper, you will need it later.
 - b. Loosen the two phillips head screws at the top of the pack and slide the batteries out the front of the assembly.
 - c. Slide the new batteries into the metal assembly. Be sure the new batteries are placed as shown above.
 - d. Tighten the two phillips head screws securely.
4. Install the battery pack with the new batteries.
 - a. Prepare the red and green wires by removing any excess solder or re-stripping and tinning if necessary.
 - b. Insert the end of the red (+) wire into the positive tab hole of the new pack and solder the wire to the tab.

Note - For safety reasons, always install the red wire to the battery pack first.
 - c. Insert the green (-) wire into the negative tab hole of the new pack and solder the new wire to the tab.
 - d. Place the new pack into position on the Long Ranger housing and fasten with the three screws you removed. Tighten securely.
 - e. Check all connections. Be sure you have wired the new battery correctly! (See the illustration above.)
 - f. If necessary, dress any excess wire between the two batteries.
5. Once you are sure the new battery has been wired correctly, plug in the charger and allow the new battery to charge fully.

e. Install the jumper you removed earlier onto the top battery terminals. Solder the terminals. (See the illustration above.)