

Replacing the Batteries in the Fortress Rackmount LI 1020BR and 1420BR Models

This Fortress Technical Supplement (FTS) explains how to change the batteries in the Fortress® rackmount LI 1020BR and 1420BR(VA) models. A qualified service person familiar with the Fortress rackmount unit must replace these batteries. If you have any questions or problems during this procedure, call Powerware Global Services at 1-800-356-5737 (U.S. and Canada only), 1-608-565-2100, or call your local Powerware office.

Tools Needed – Use Insulated Tools:

Safety Equipment Required by Local Code(s)
Pen and Tape to Label Wires

#1 Phillips Screwdriver
5/16-inch Wrench or Nutdriver



CAUTION!

This procedure must be performed by qualified service personnel **ONLY!** Fortress UPS units are designed to provide power under a variety of operating conditions. Dangerous voltages may be present even if AC line or DC voltage is removed. **TEST BEFORE TOUCHING!**

Make sure that the Fortress unit is disconnected from AC power before you replace the battery.



This unit contains electrostatic-sensitive devices. If you do not follow proper ESD procedures, you may cause severe damage to the electrical circuitry.

Fortress UPS batteries are high current sources. Shorting battery terminals can cause severe arcing, equipment damage, and injury. A short circuit can cause a battery to explode.

Powerware recommends that you remove rings, watches, and other jewelry before servicing the Fortress UPS.

Contents Table

IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS.....	2
Section 100: Opening the Fortress Rackmount UPS.....	2
Section 200: Removing the Battery	3
Section 300: Replacing the Battery.....	4
Section 400: Returning the Fortress Rackmount UPS to Normal Operation	6

IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS

This publication contains important instructions that should be followed during battery replacement.

CAUTION!

The battery used in this UPS is capable of producing dangerous voltages and high currents. It may cause severe injury if terminals are shorted together or to ground (earth). Take extreme care to avoid electrical shock and burns from contacting battery terminals or shorting terminals during battery replacement.

Best Power's batteries come with a one-year warranty. Using batteries not supplied by Best Power invalidates any Best Power service agreement.

A qualified service person who is familiar with the Fortress rackmount unit should replace the battery. The technician must take these precautions:

1. Protective clothing and eye wear must be worn. Batteries contain caustic acids and toxic materials and can rupture or leak if mistreated. Remove rings and metal wristwatches or other jewelry. Don't carry metal objects in pockets where they can fall into the Fortress rackmount unit.
2. Tools must be insulated so that they do not short battery terminals. At no time can a tool be allowed to short a battery terminal to another battery terminal or to the Fortress rackmount unit's cabinet. Do not lay tools or metal parts on top of batteries.
3. When connecting cables, never allow a cable to short across a battery's terminals or to the Fortress rackmount unit's cabinet.
4. Align the cables on the battery terminals so that the connector does not contact any part of the Fortress rackmount unit's cabinet even if the battery is moved. Keep the cable away from any sharp metal edges.
5. Install the battery cables so they cannot be pinched by the Fortress rackmount unit's cabinet.

Section 100: Opening the Fortress Rackmount UPS



Figure 1

101. Shut down the Fortress rackmount unit by turning the On/Off (I/O) switch off. (See Figure 1.)

102. Unplug the UPS from its AC source.

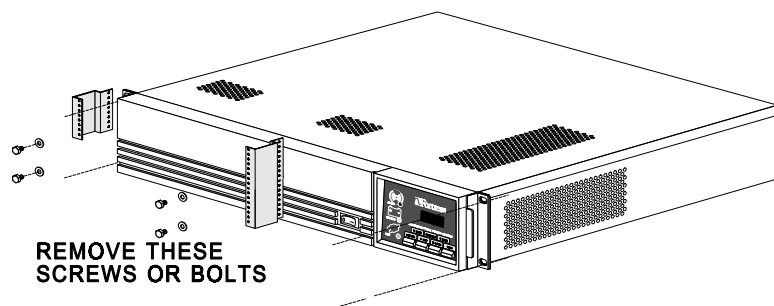


Figure 2

103. Remove the screws (or bolts) holding the rackmount unit to the rack. (See Figure 2.)

104. Slide the unit out from the rack.

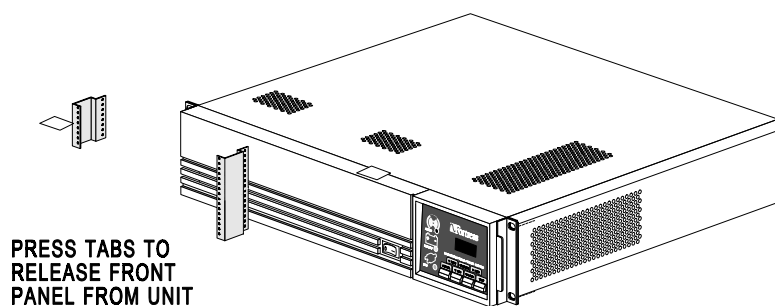


Figure 3

105. Remove the front panel with the On/Off (I/O) switch from the UPS. (See Figure 3.)

105. Remove the front support brackets from the UPS. Slide them to the left, then pull them out. (See Figure 4.)

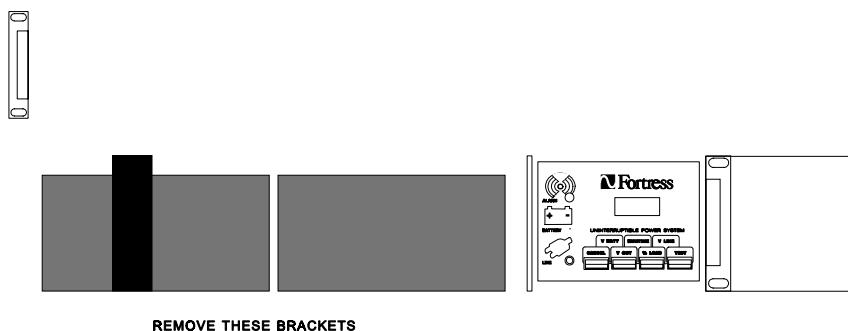


Figure 4

Section 200: Removing the Battery

201. Pull the batteries from the UPS. (See Figure 5.)

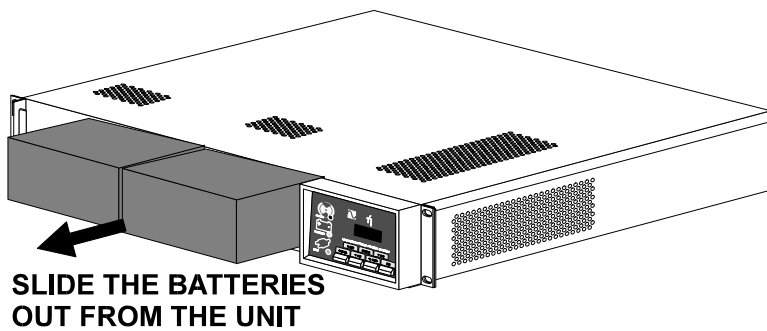


Figure 5

202. With the 5/16-inch wrench or nutdriver, disconnect the wires from the batteries. (See Figure 6.)

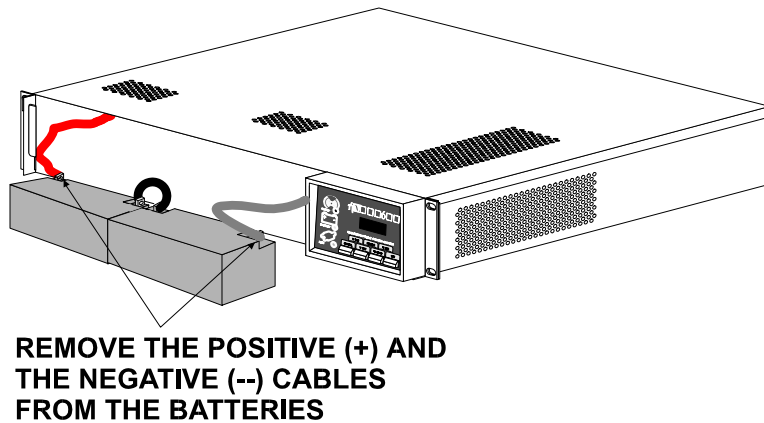


Figure 6

203. Remove the batteries from the unit. With the 5/16-inch wrench or nutdriver, remove and save the battery cable connecting the two (2) batteries in series. (See Figure 7.)

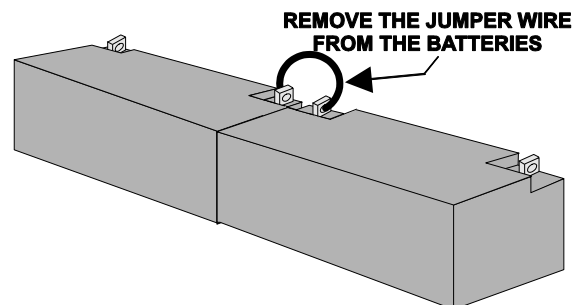


Figure 7

Section 300: Replacing the Battery

301. Attach the wires from the UPS to the terminals in this sequence:

- a. Connect the red wire to the positive (+) on the left hand battery. (See Figure 8.)

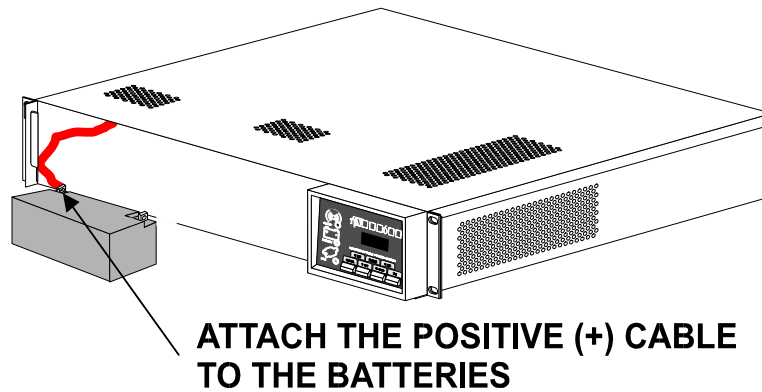


Figure 8

- b. Connect the battery wire from the old string to connect the new string. This wire should go from the negative (-) terminal on the right battery to the positive (+) terminal on the left

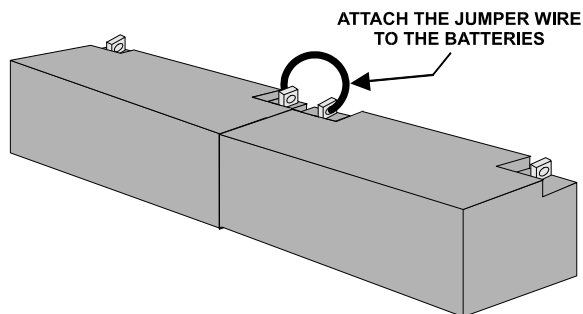


Figure 9

battery. (See Figure 9.)

- c. Connect the gray and black wires to the negative (-) terminal on the right hand battery. (See Figure 10.)

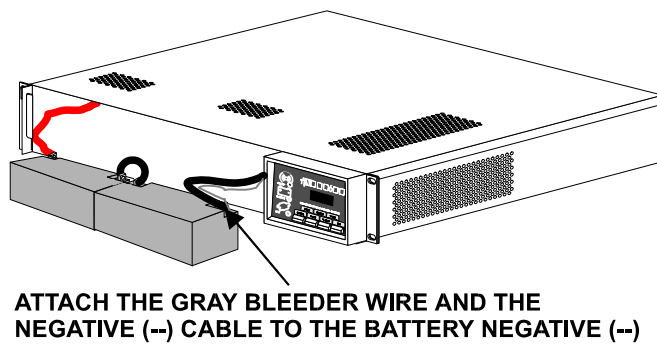
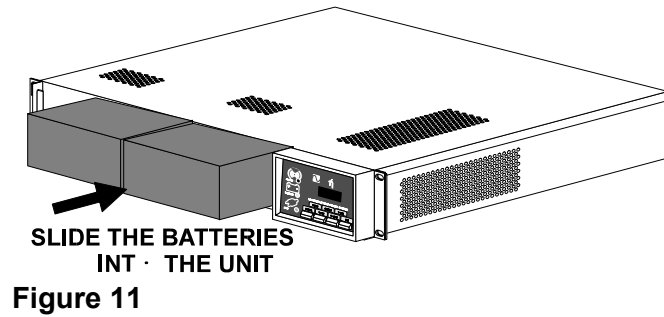


Figure 10

302. Set the batteries in the UPS with the terminals facing towards the back of the UPS. (See Figure

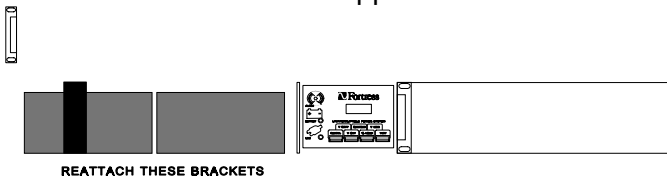
11.)



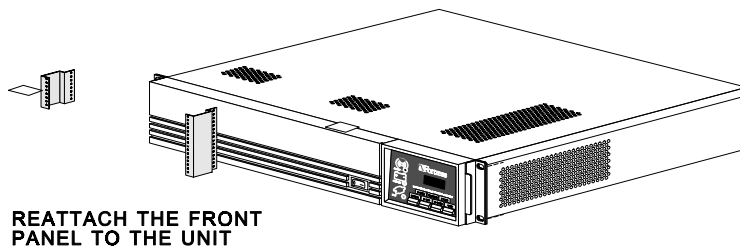
303. Slide the batteries all the way into the UPS.

Section 400: Returning the Fortress Rackmount UPS to Normal Operation

401. Put the front support brackets back into the UPS. (See Figure 12.)



402. Reattach the On/Off (I/O) switch panel to the UPS. (See Figure 13.)



403. Slide the unit back into the rack. Attach the UPS with the screws (or bolts) you removed earlier.

404. Turn the On/Off (I/O) switch on. Reconnect all load equipment and return the UPS to normal operation.