



# BATTERY REPLACEMENT GUIDE

**Uninterruptible Power Supply Models:  
SG2K-1T, SG2K-2T**



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# IMPORTANT SAFETY INSTRUCTIONS

## SAVE THESE INSTRUCTIONS

This guide contains important instructions which must be followed during the maintenance of this UPS and its batteries. Please read all instructions before operating this equipment and save this guide for future reference.

### CAUTION

Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries. When replacing the UPS batteries, use the same number and type of batteries.

### CAUTION

High voltage exists within the unit, which could cause electrical shock. Always unplug this UPS and remove the UPS battery fuse (if present) prior to attempting battery replacement.

### CAUTION

This UPS contains its own energy source (batteries). The output receptacles may carry live voltage even when the UPS is not connected to an AC source.

This UPS contains sealed maintenance-free batteries (VRLA). When situated in a typical office environment, with the proper charging and limited cycling, the batteries can last many years. In home, office or computer room environments, the batteries should be replaced every three to five years. In critical applications replace the batteries every two years.

### CAUTION

When replacing the UPS batteries, use the same number and type of batteries. The batteries approved for the Falcon SG1K-1T & SG1K-2T models are as follows:

6 pieces of Yuasa/Energys NP7-12, 7Amp Hour, 12Vdc VRLA Type Battery

or

6 pieces of CSB GP 1272 F2, 7.2 Amp Hour, 12Vdc VRLA Type Battery

### CAUTION

**NEVER** dispose of batteries in a fire, as batteries will explode.

**NEVER** dispose of used batteries in the trash or landfill as it is a violation of federal and state laws. **The batteries must be recycled.**

For battery recycling information, please contact:

[www.energysinc.com/default.asp](http://www.energysinc.com/default.asp) or

[www.csb-battery.com/Top/english/recycle\\_state.htm](http://www.csb-battery.com/Top/english/recycle_state.htm)

for the name and address of the nearest battery recycling facility.

**CAUTION**

**Never** open or mutilate the battery or batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

**CAUTION**

A battery can present a risk of electrical shock and high short circuit current. **ALL BATTERY SERVICING OR REPLACEMENT MUST BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN.**

**ALL BATTERY SERVICING OR REPLACEMENT IS PERFORMED AT THE RISK OF THE PERSONS, ENTITIES OR COMPANIES PERFORMING THE BATTERY SERVICING OR REPLACEMENT OF FALCON ELECTRIC INC. PRODUCTS.**

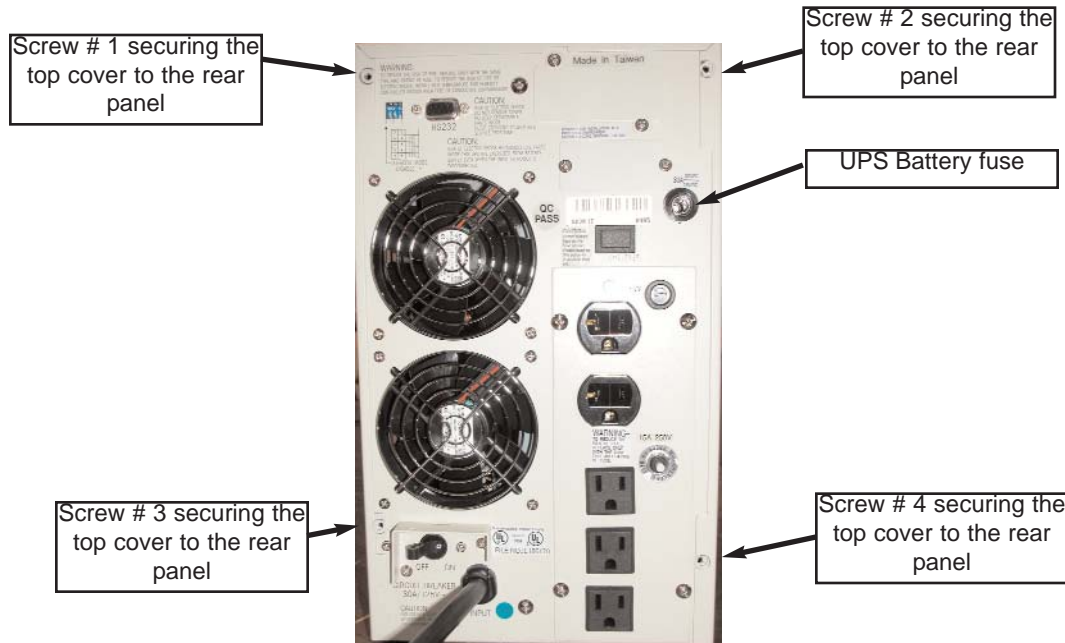
**THE FOLLOWING IS GIVEN AS A GUIDE ONLY. THE PERSON(S) PERFORMING THE BATTERY REPLACEMENT MUST HAVE PRIOR KNOWLEDGE AND EXPERIENCE IN UPS BATTERY REPLACEMENT, AND IN THE PROPER CARE, HANDLING AND RECYCLING OF SEALED LEAD ACID BATTERIES.**

**LIMITATION OF LIABILITY:**

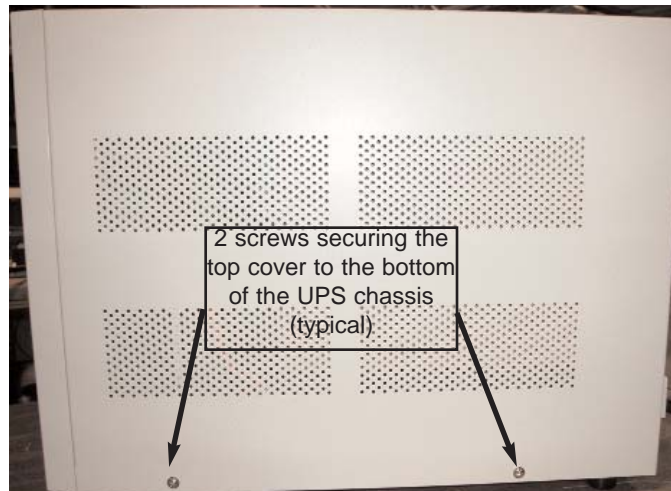
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## Battery Replacement Guideline

1. Per the picture below detailing the SG2K-1T rear panel, remove the battery fuse.
2. Per the picture below remove the four screws securing the UPS top cover to the rear panel.

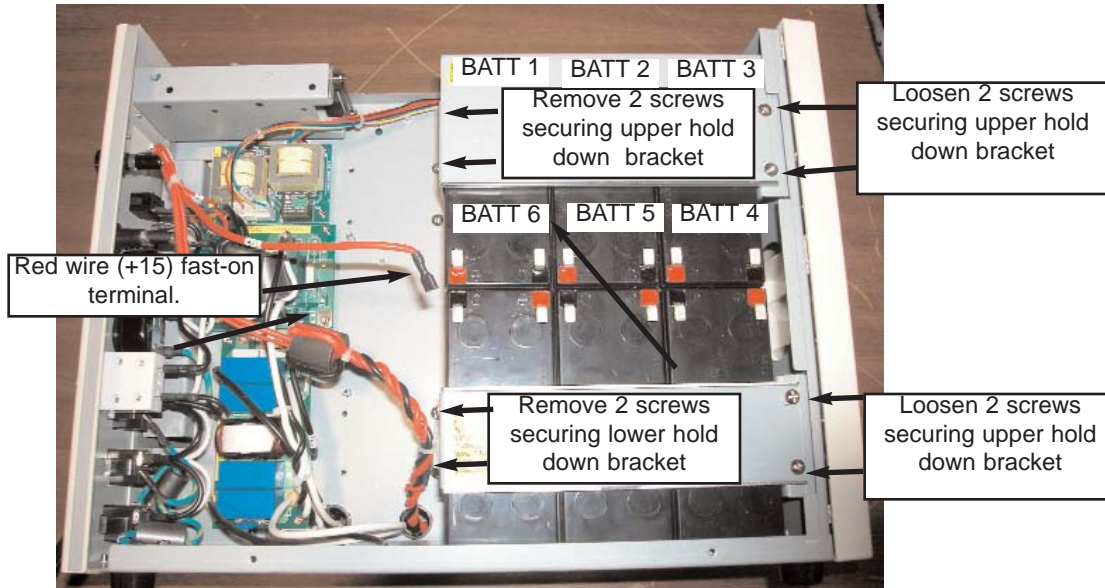


3. Per the picture below, turn the UPS so the right side of the UPS is facing you.
4. Remove the two screws securing the UPS top cover to the side of the UPS chassis.



5. Turn the UPS so the left side of the UPS is facing you.
6. Remove the two screws securing the UPS top cover to the side of the UPS chassis.
7. Carefully slide the top cover off toward the rear panel direction. Take care to ensure the top cover does not short on any of the internal UPS electronics when removing.

7. Remove the four screws securing the left side of the upper and lower battery hold-down brackets to the lower chassis.
8. Gently lift the battery hold down bracket and rotate it off of the batteries. Use care not to pull the remaining wiring connected to the battery hold down bracket.



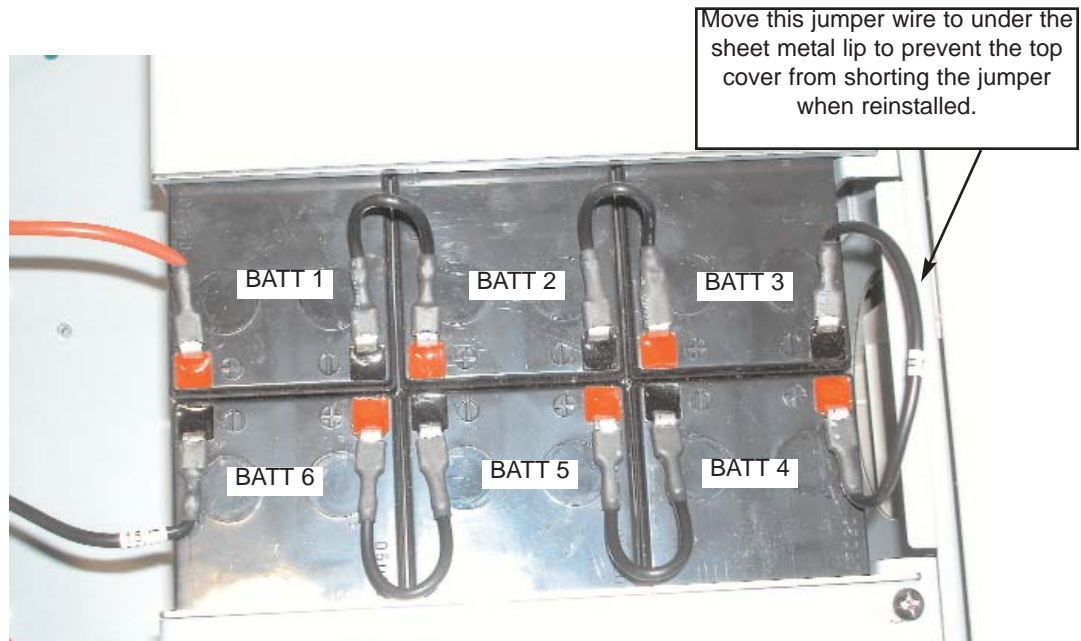
9. Remove the red wire (+15), battery fast-on terminal from the + (red) side of BATT1 as shown.
10. Remove the black wire (-15), battery fast-on terminal from the - (black) side of BATT6 as shown.
11. Remove the black jumper from BATT1 - (black) and BATT2 + (red).
12. Remove the black jumper from BATT2 - (black) and BATT3 + (red).
13. Remove the black jumper from BATT3 - (black) and BATT4 + (red).
14. Remove the black jumper from BATT4 - (black) and BATT5 + (red).
15. Remove the black jumper from BATT5 - (black) and BATT6 + (red).
16. Note the position of the six batteries and remove them from the chassis. See the battery connection diagram below.

### CAUTION

**WHEN REMOVING AND INSTALLING THE NEW BATTERIES, EXTREME CARE MUST BE USED NOT TO SHORT METAL CHASSIS PARTS ACROSS THE BATTERY TERMINALS AND NOT TO SHORT THE BATTERIES TO EACH OTHER OR PERSONAL INJURY MAY RESULT.**

17. Reinstall six new batteries in the same placement as the six just removed.

## Battery Connection Diagram



18. Verify the UPS chassis orientation has not moved since reinstalling the batteries.
19. Reconnect the Red (+15) wire to the + (red) terminal on BATT 1 as shown.
20. Reconnect one end of the 1st Black jumper wire to the - (black) terminal of BATT 1 and reconnect the second end of the 1st jumper to the + (red) terminal of BATT 2 as shown.
21. Reconnect one end of the 2nd Black jumper wire to the - (black) terminal of BATT 2 and reconnect the second end of the 2nd jumper to the + (red) terminal of BATT 3 as shown above.
22. Reconnect one end of the 3rd Black jumper wire to the - (black) terminal of BATT 3 and reconnect the second end of the 3rd jumper to the + (red) terminal of BATT 4 as shown above. CAUTION: Move this jumper wire to under the sheet metal lip to prevent the top cover from shorting the jumper when reinstalled.
23. Reconnect one end of the 4th Black jumper wire to the - (black) terminal of BATT 4 and reconnect the second end of the 4th jumper to the + (red) terminal of BATT 5 as shown above.
24. Reconnect one end of the 5th Black jumper wire to the - (black) terminal of BATT 5 and reconnect the second end of the 5th jumper to the + (red) terminal of BATT 6 as shown above.
25. Using a DC Volt Meter touch the red lead of the meter on the + (red) BATT1 terminal and touch the black meter lead to the - (black) BATT 6 terminal. The meter should read +72-81Vdc if the batteries are connected correctly. If the voltage reading is 0Vdc, less than 65Vdc. check all battery wiring connections This voltage must read +72-81Vdc before performing the next step.



26. Reinstall the battery fuse and cap.
27. Next temporarily connect one end of a 100 ohm, 10 watt resistor to the - (black) terminal of BATT 6. Next, touch the metal fast-on terminal connected to the black (-15) the other end of the resistor for 30 seconds. Next, remove the resistor and reconnect the Black 15- wire to the - (black) terminal of BATT 1 as shown on the previous page. This is necessary to precharge the UPS electronics.
29. Recheck all battery connections to make sure the fast-on terminals are all the way on the battery terminals and that they are tight.
30. Dress the battery wiring between and around the batteries so that the wires will not be pinched between the battery hold down bracket when reinstalled. Also check to make sure that no wiring can be pinched or shorted to the battery terminals.
32. Carefully reinstall the battery hold down brackets back up over the batteries, carefully sliding the right side of the brackets under the hold down screws.
33. Reinstall the four screws securing the left side of the two battery hold down brackets and tighten.
34. Tighten the four screws securing the right side of the two battery hold down brackets.
35. Perform a last visual inspection. Check all wiring and connections. Make sure no wiring will be pinched or shorted when the UPS top cover is reinstalled.
36. Set the UPS in an upright position.
37. Position the top cover so the open side slides over the rear of the UPS and continue to slide it forward until the front of the top cover is flush with the UPS front plastic bezel. Verify no wiring has been pinched. Use care not to short the top cover to the internal UPS electronics.
38. Reinstall the four rear panel screws removed in step 2 and tighten.
39. Reinstall the two screws on the right side of the UPS top cover.
40. Reinstall the two screws on the right side of the UPS top cover.

### **Testing the UPS**

1. Depress the "on" button located on the UPS front panel. The UPS should cold start and operate normally in battery mode.
2. Depress the "on" button again and the UPS should shutdown after several seconds.
3. Connect the UPS to an utility power source.
4. Turn on the UPS power switch located on the rear panel. The UPS should power up and function normally as defined in the Owner's Manual.
5. Leave the UPS turned on for 24 hours to allow the batteries to fully charge.