

Futura Spas

GFCI Troubleshooting Guide

2 Pump spas equipped with in.ye controls



GFCI/RCD trips

Warning: There are different models of GFCI/RCD breakers on the market. Refer to the manufactures instructions for details on the GFCI/RCD characteristics. Illustrations are given as examples only.

A GFCI or Ground Fault Circuit Interrupter is designed to stop electrical flow going to the spa in the event of an electrical short circuit. It accomplishes this by looking for a voltage differential between the hot and neutral lines. A voltage difference as small as 4 milliamps will cause a trip. Troubleshooting a GFCI trip is done in two steps. The first step is to confirm the GFCI is hooked up and functioning properly. The second step is to disconnect electrical components from the spa and reinstall them one at a time to identify which component is faulty. This guide will walk you through both of these steps.

Step 1

Verify the GFCI is installed properly. In a brand new installation this is commonly the issue. Consult the installation instructions that came with the GFCI paying special attention the the neutral load wire. The neutral load wire is the white wire that runs between the spa and the GFCI breaker. This wire must be attached to the GFCI breaker, not to the neutral bus bar. See figure 1.

Verify the GFCI is operating correctly. GFCI breakers often fail themselves. For safety reasons when a GFCI breaker fails you will not be able to reset it. There are only 2 ways a homeowner can test a GFCI is operating properly. The first is to swap the GFCI out for new GFCI. The second is to hook a different item up to the GFCI and see if it resets. Disconnecting the spa from the GFCI and seeing if the breaker resets is not a viable test.

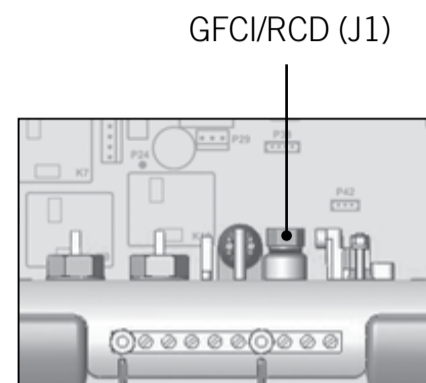


Figure 1

Step 2

After confirming the problem is not with the GFCI itself, go through the following procedures.

The spa is equipped with a GFCI tripper circuit. This is a safety feature that is designed to cut power to the spa if the water ever got over 119 degrees Fahrenheit. Remove the GFCI tripper circuit located behind the temperature probe at location J1 on the circuit board. See Figure 2. Reset the GFCI and see if it trips. If the GFCI resets, look for an HL error on the topside control. If there is an HL error, follow the troubleshooting steps in the HL error troubleshooting guide. If there is no HL error, reinstall the J1 tripper circuit. If the GFCI trips and the jumper (J1) is not installed the problem is not in the GFCI tripper circuit. If the GFCI only trips when jumper J1 is installed replace the spa pack.



in.ye and in.yt

Figure 2

Next disconnect both pumps and the ozonator from the spa. To do this unscrew the three screws holding down the strain relief bar on the right and side of the spa pack. Unplug the three black wire. You will need to use a flat head screwdriver to release the tabs on the connectors. See figure 3. Try resetting the breaker. If the breaker resets, plug these components back in one at a time and see which one is causing the trip. Replace bad component.

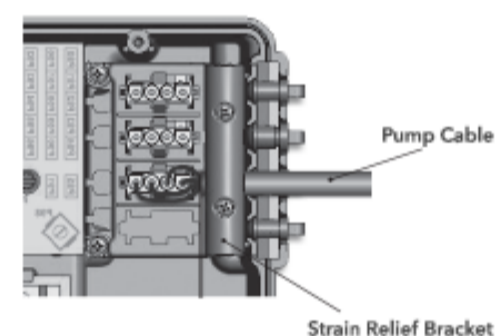


Figure 3

If breaker still trips after unplugging both pumps and ozonator, disconnect heater from circuit board by unscrewing the three wires on the bottom left of the spa pack. See figure 4. Try resetting the breaker. If breaker holds, replace heater. If breaker still trips, replace spa pack.

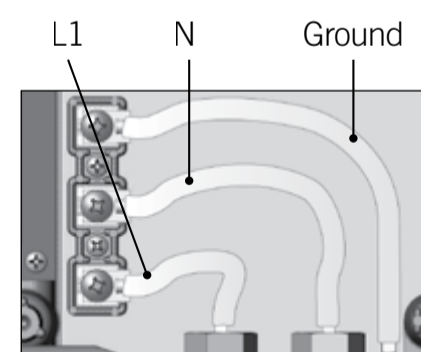


Figure 4

