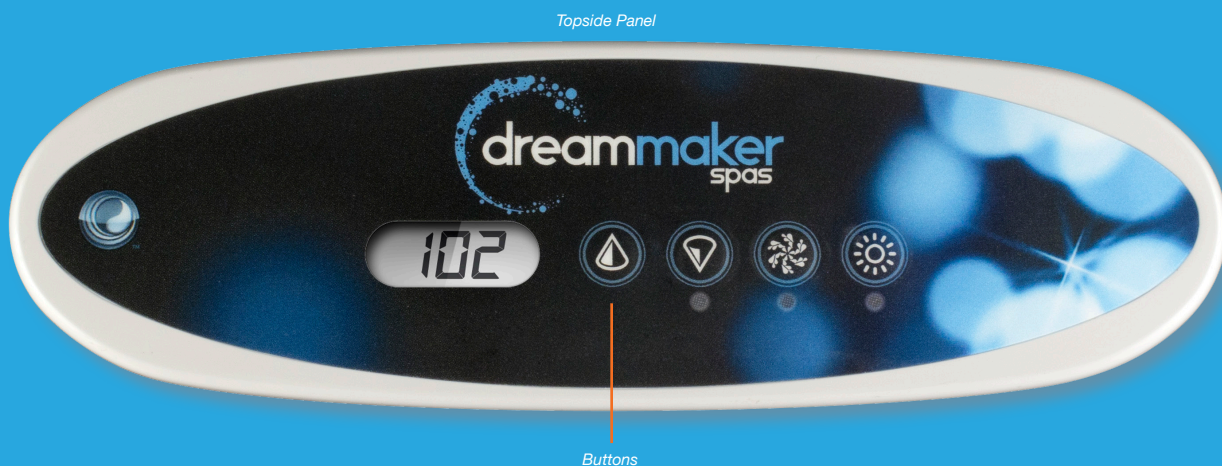


REPORTED PROBLEM:

The topside panel has unresponsive buttons.



SYSTEM VOLTAGE:

- 240V

PROBABLE CAUSES:

- Damaged topside panel.
- Faulty connection between the topside panel and system pack circuit board.
- Faulty service voltage.

TROUBLE SHOOTING STRATEGY:

- Verify DIP switches are set to factory default settings.
- Check connection between the topside panel and system pack circuit board.
- Verify voltage at the system pack terminal block.
- Put the system in Priming Mode and test the panel buttons.
The system is in Priming Mode when the topside panel displays "Pr."

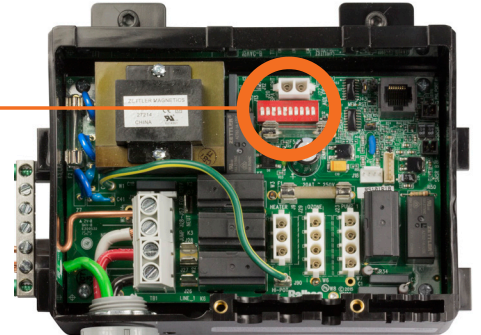
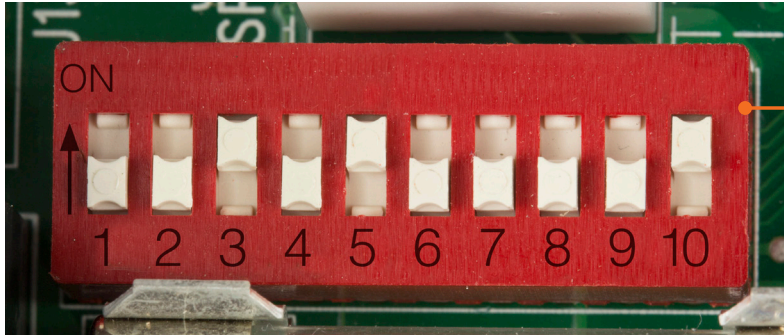
IMPORTANT TROUBLESHOOTING CONCEPTS:

- The wire diagram shows factory default DIP switch settings. Before you start troubleshooting, make sure the DIP switches on the circuit board match factory default settings. Why is this important? When the system is in factory default mode, the spa technician will know how the system should behave, which makes troubleshooting easier.
- DO NOT change DIP switch settings when the system is powered ON. The only exception is DIP switch #1.
- After you change DIP switch settings (except for switch #1), you need to reset persistent memory for the changes to take effect. If persistent memory is not reset, the system may malfunction.

STEP 1

Verify DIP switches have factory default settings. If the DIP switches do not have factory default settings, go to step 5. DO NOT change DIP switch settings when the system is powered ON. The only exception is DIP switch #1.

Factory default DIP switch settings



Wire Diagram

OFF POSITION	DIP SWITCH #	ON POSITION
TEST MODE OFF*	◀ 1	TEST MODE ON*
N/A	◀ 2	N/A
DUPLEX PANEL	3 ▶	MINI PANEL
N/A MUST BE OFF	◀ 4	N/A MUST BE OFF
SEE PUMP TABLE	5 ▶	SEE PUMP TABLE
60HZ OPERATION	◀ 6	50HZ OPERATION
STD, ECON, SLEEP ALLOWED	◀ 7	STANDARD MODE ONLY
DEGREES FAHRENHEIT	◀ 8	DEGREES CELSIUS
SEE PUMP TABLE	◀ 9	SEE PUMP TABLE
HIGH AMP - HEAT W/P1 HI	10 ▶	LOW AMP - NO HEAT W/P1 HI

*SWITCH 1 IS NORMALLY OFF ALL UNUSED SWITCHES SHOULD BE OFF

IF HEATER IS 240V

HI/LOW
J11

SET DIP SWITCH 10 TO OFF WITH 240V HEATER.

BONDING GROUND (INSTALLED)

ADD LINE 2 FOR 240V HEATER

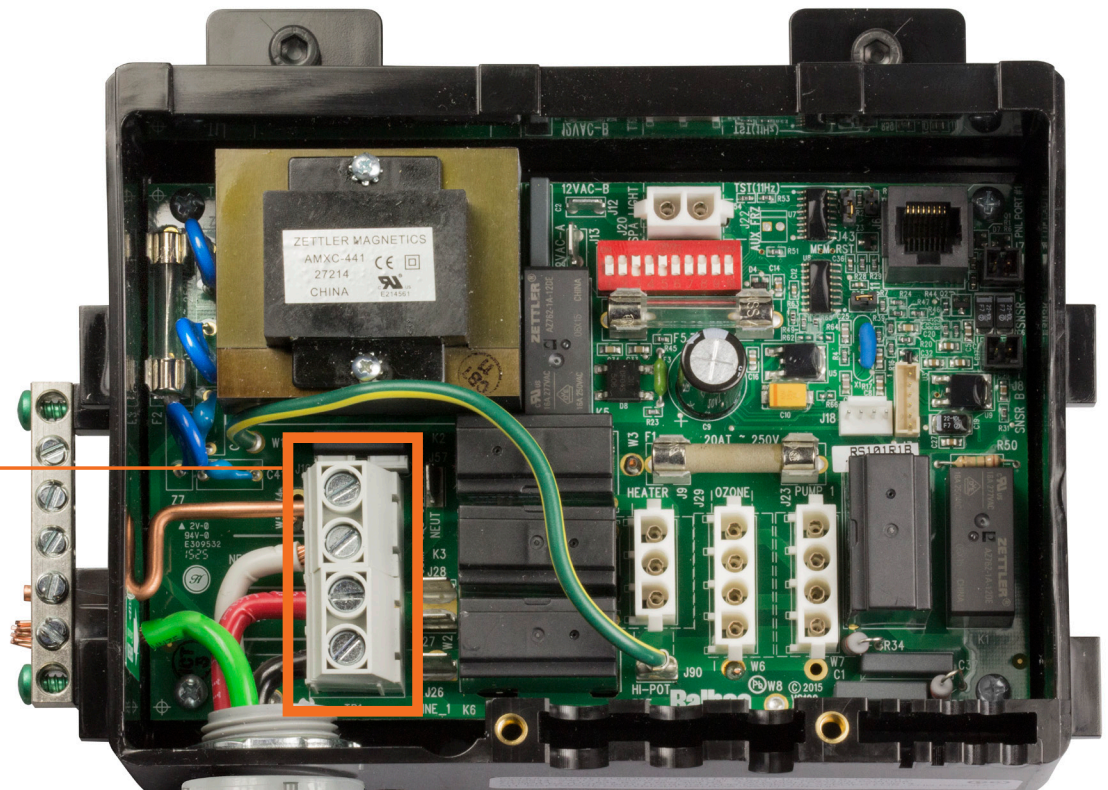
STEP 2

Use a voltmeter to verify voltage at the terminal block.

Set the volt meter to AC voltage for steps 2 and 3. "AC" stands for alternating current.



Terminal Block



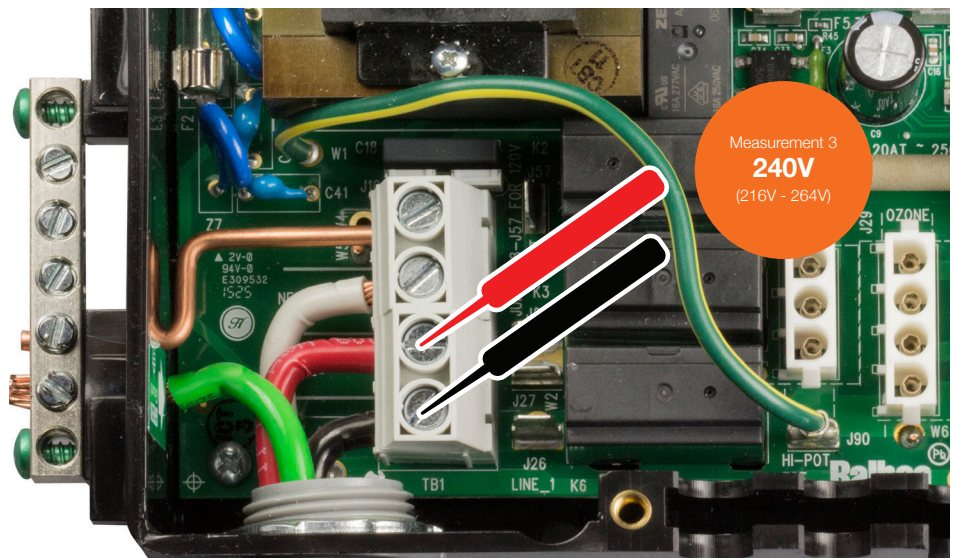
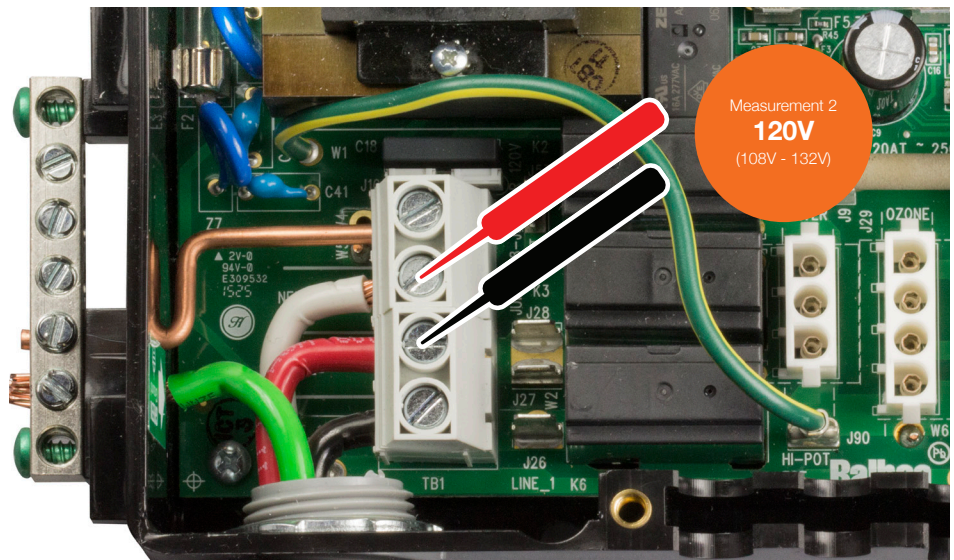
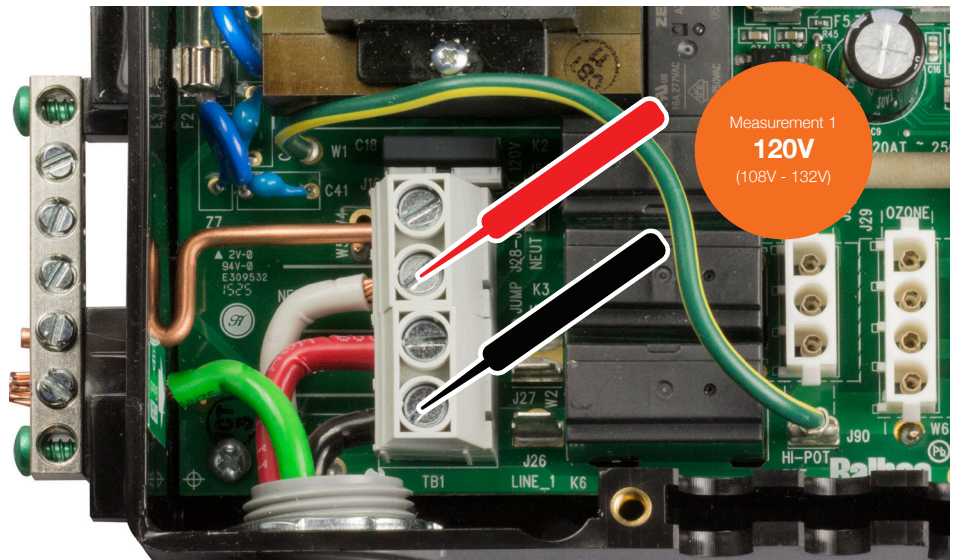
STEP 2

Voltage measurements that vary plus or minus 10% are accurate. For example, if a 240V component is measured between 216V - 264V, the reading is accurate.

Measurements 1 and 2 should be 120V, and measurement 3 should be 240V.

If measurements 1-3 are accurate, go to step 3.

If measurements 1-3 are not accurate, there may be problems with the GFCI or electrical service. Go to step 4.



STEP 3

Verify the fuse (F2) is good by measuring voltage between the terminal block and the fuse. Set the volt meter to AC voltage. Measure voltage on both sides of the fuse.

Measurement 1

This determines if voltage is flowing from the terminal block to the fuse.

Side 2

Fuse (F2)

Side 1

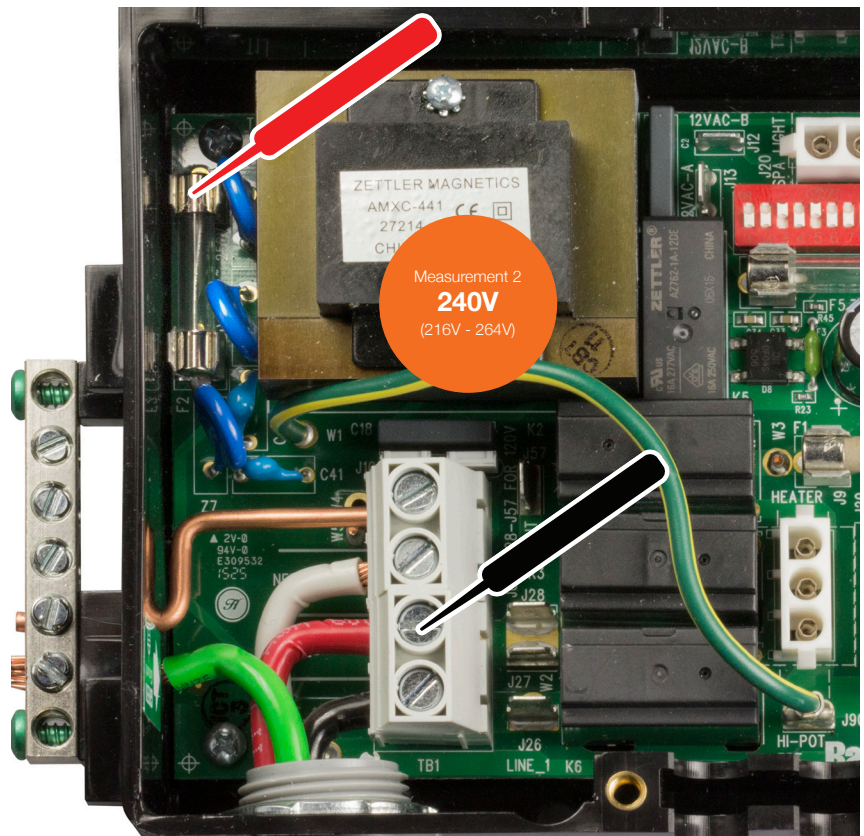
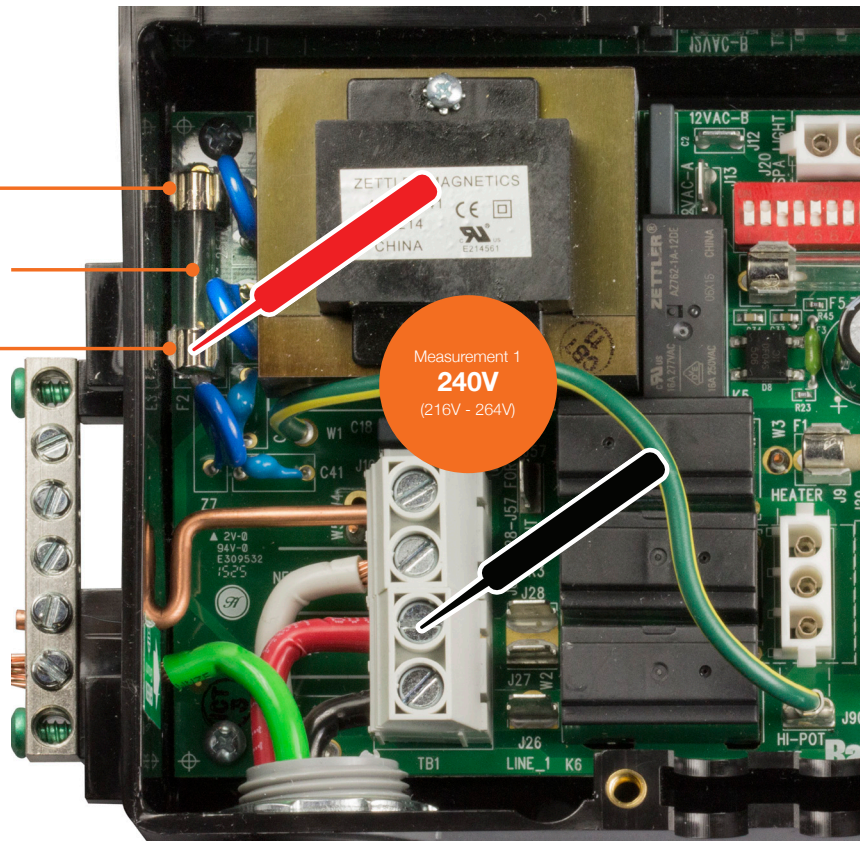
Measurement 1
240V
(216V - 264V)

Measurement 2

This determines if the fuse is good.

If measurement 2 is approximately zero volts, the fuse is bad. Replace it.

If measurement 2 is 240V, replace the system pack.



STEP 4

Verify voltage at the GFCI.

Measurement 1 is 240V.
LOAD HOT (BLK) to LOAD HOT (RED).

Measurement 2 is 120V.
LOAD HOT (RED) to LOAD NEUTRAL (WHT).

A - Remove faceplate from GFCI enclosure.



Faceplate removed.

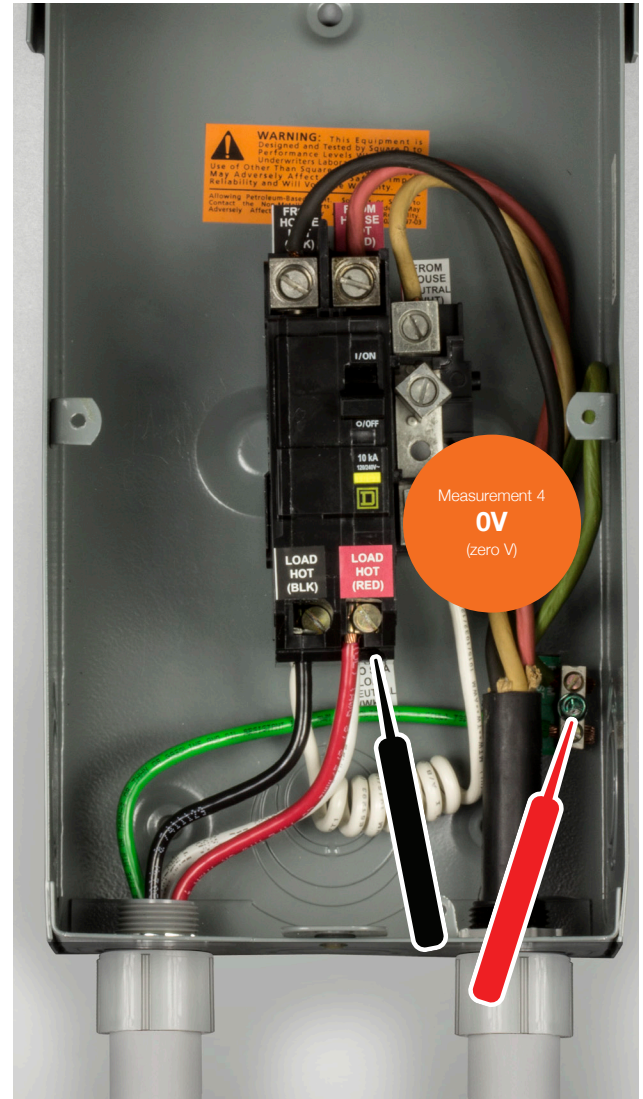


STEP 4

Measurement 3 is 120V.
LOAD HOT (BLK) to LOAD NEUTRAL (WHT).



Measurement 4 is 0V.
LOAD NEUTRAL (WHT) to GROUND (GREEN).



If measurements 1 - 4 are inaccurate,
the service voltage is faulty.
Call an electrician.

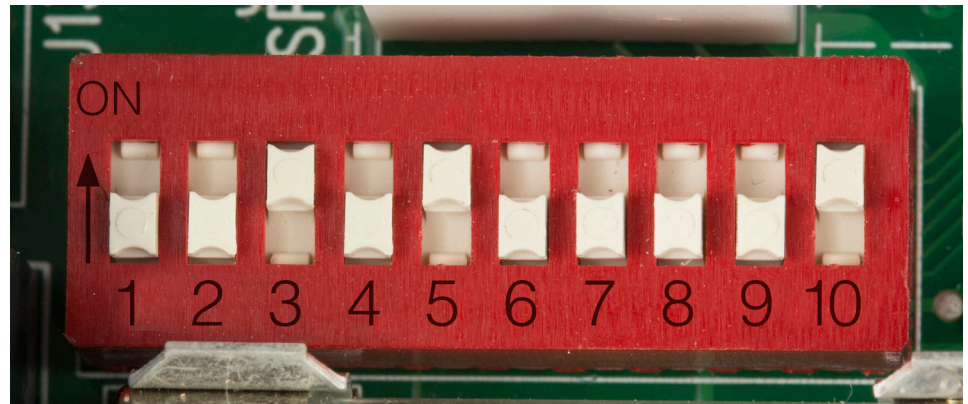
STEP 5

Follow these steps to apply factory default DIPswitch settings.

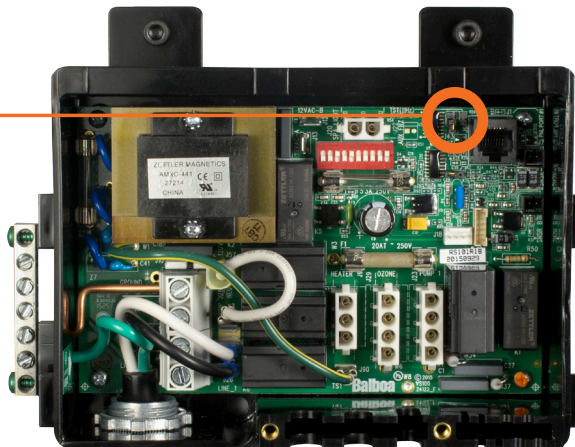
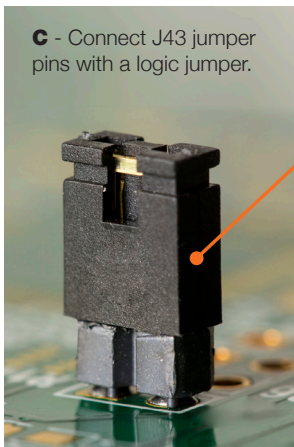
A - Power OFF the system at the GFCI.



B - Apply factory default setting to the DIP switches.



C - Connect J43 jumper pins with a logic jumper.

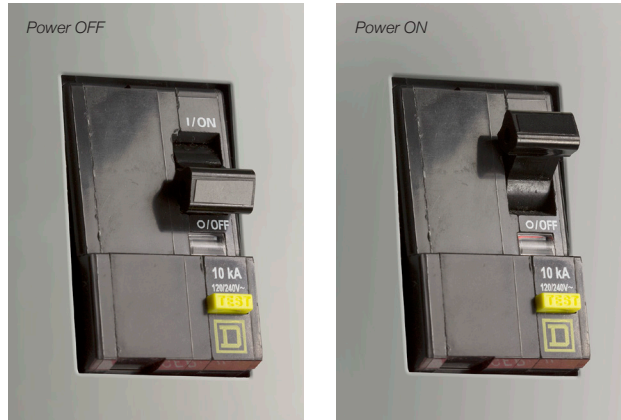


D - Power ON the system at the GFCI, and wait until "Pr" appears on the topside panel. "Pr" stands for priming mode.



STEP 6

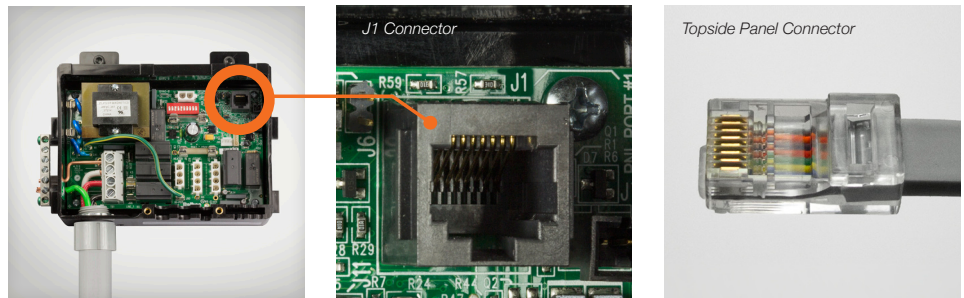
A - Once the system is powered up, it should go into Priming Mode ("Pr") automatically.



B - When "Pr" appears on the topside panel display, the system is in Priming Mode. Push the Jets and/or Light buttons to verify operation. Next, press the temperature buttons to verify operation. If the buttons do not work properly, replace the topside panel. If the buttons work properly, there may be an intermittent problem. Go to step C.

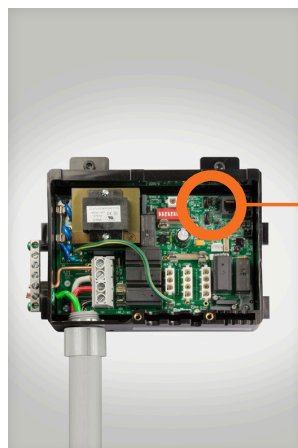


C - Power OFF the system at the GFCI, and disconnect the topside panel from the system circuit board at J1. Make sure the connectors are free of dust, corrosion, residue, etc. Reconnect the panel, and power ON the system. If the panel buttons do not function properly, replace the topside panel.

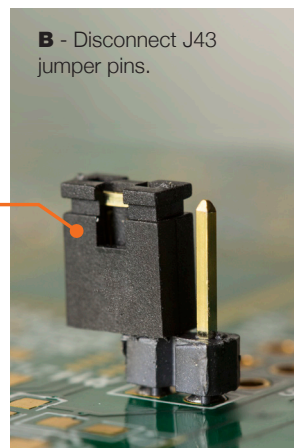


STEP 7

A - Power OFF the system at the GFCI.



B - Disconnect J43 jumper pins.



C - Power ON the system at the GFCI.

