



COMPONENT TROUBLESHOOTING GUIDE



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PRESSURE SWITCH (FLO SWITCH) ADJUSTMENT BALBOA CONTROLS

The electronic control systems on most Jacuzzi Whirlpool Bath Spas manufactured after 11/94, utilize a pressure switch to determine flow "FLO" status of the water. This pressure switch condition is tested through-out the operation of the spa system. The check is to insure the pressure switch is Closed after the voltage has been supplied to the pump motor, and Open when the voltage is removed. If the switch reading by the control system is different than expected, an error message will appear on the Digital Control Panel and the unit will stop operation. Sometimes this is a result of lessened water flow due to a dirty front load filter, while sometimes this is due to a switch being out of adjustment. The following is a method of adjusting the pressure or "Flo" switch.

- 1.) Locate the Pressure Switch on the back side of the stainless steel Heater Housing. The gray cable from the switch is connected to J3 (Platinum or Primer/Select) or J9 (Duplex).
- 2.) Unplug the pressure switch from the circuit board and with a paperclip or pin knife, push out the two pins from the connector. Clip the leads from an OHM-METER onto these two pins.
- 3.) With the system "OFF" and no voltage to the Pump/Motor the reading of the OHM-METER should be on "OPEN". If the meter shows the switch as being "CLOSED" adjust the spoked wheel on the pressure switch *counter-clockwise* until an "OPEN" condition is read on the OHM-METER.
- 4.) Start the Spa operation in a "Filter" mode and check the OHM-METER reading for a "CLOSED" switch reading. If the reading shows the switch to be in an "OPEN", turn the spoked wheel on the pressure switch *clockwise* until the meter reads "CLOSED" plus a little further to allow for a dirty filter.
- 5.) Repeat Step #3. The OHM-METER should read "OPEN" with no power to pump/motor. NOTE: Be sure all these adjustments are done in the low "Filter" mode and not the high-speed "Jet" operation. The pump/motor connection can be disconnected by unplugging the side motor connector while testing steps #3 and #4.



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MODEL	FUNCTION CHECK
ELECTRICAL COMPONENTS	COMPONENT TESTING

PART NO.	DESCRIPTION	TEST SPECIFICATIONS
1865000	Relay, 30 AMP, DPST (Quanta, Avanza, Cambio)	Coil: 12 VDC with 72 ohms resistance. Switch: check continuity across top with relay down.
1872000	Full Wave Rectifier (6 AMP)	4 Diodes: Check for continuity through each diode. Reverse meter probes on each diode to assure continuity is in one direction only.
1888000	Reed Switch Panel (Quanta)	Check for continuity through each reed switch with control knobs in "ON" position. Turn control knobs to "OFF" and assure each reed switch loses continuity. Adjust reeds by sliding each cylinder back and forth in rectangular holder.
2021000	Relay, 15 AMP, SPDT (Plastic Enclosed)	Coil: 12 VDC with 96 ohms resistance. Switch: Power (12 VDC) to coil should drop relay providing continuity from common terminal to N.O.
2158000	Relay, 5 AMP, SPDT (Plastic enclosed 6th relay)	Coil: 12 VDC with 21 ohms resistance. Switch: Power (12 VDC) to coil should drop relay providing continuity from common (#7) to N.O. (#5).
2209000	Heating Element (Dual) 1.5 KW @ 115 VAC 12 KW @ 230 VAC (Quanta, Avanza, Cambio)	Dual Element: 10 ohms resistance through each element. 115 VAC draws 11.5 AMPS (one element) 230 VAC draws 46 AMPS (23 per element)

*NOTE: See "Electrical Section" for the motor information.

2290000	Switch, Door Interlock, SPDT	Continuity from common to N.C. (with switch lever up) Continuity from common to N.O. (with switch lever down)
2801000	Switch, Door Interlock, DPDT	Same as 2290000

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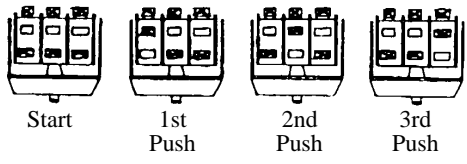


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PART NO.	DESCRIPTION	TEST SPECIFICATIONS
2802000	Relay, 30 AMP, DPDT	Same specifications and testing as 1865000.
2807000	Reed Switch Panel (Cambio)	Same as 1888000
2809000	Transformer 115V to 14V (Cambio)	With 115 VAC to primary, check for 14 VAC across yellow wires.
2872000	Diode Assembly	Check for continuity through diode, reverse meter probes and assure no continuity in opposite direction.
2909000	Heating Element (Dual)	Same as 2209000 10ohms
3463000	Transformer 230V to 14V (Quanta, Avanza)	With 230 VAC to primary, check for 14 VAC across yellow wires.
4779000	Water Level Switch	Check for continuity with switch closed Assure no continuity with switch open. Inspect float for holes.
5209000	Relay (Solenoid) DPDT	Coil: 115 VAC with 800 ohms resistance. Switch: On each of the two snap switches, test for continuity from common to N.C. terminal. Then depress plunger and check for continuity from common to N.O. terminal.
5246000	Magic Touch Module	Same as 6493000
5251000	Heater, 1.5 KW, 115 VAC	10 ohms resistance through element AMP draw = 11.5 AMPS Test for continuity through high limit and adjustable thermostat. High Limit Trip = 122° F
5254000	Switch, Door Interlock, DPST	Check for continuity through switch when button is depressed.

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MODEL	FUNCTION CHECK	
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PART NO.	DESCRIPTION	TEST SPECIFICATIONS
5260000	Air Switch, 4 Function 	Each of the three micro switches on the switch have a common (the top, recessed) N.O. (middle), and N.C. (bottom) terminals. Using the diagrams at left, sequence switch to the starting position. Verify continuity is only where the "X"s show it should be. Test each switch through at least two complete cycles.
5934000	Toggle Switch DPDT	Three position switch. Center spades are the commons. With switch to the left there should be continuity between the middle and right spades. Switch to the right should give continuity to the left spades.
6493000	Magic Touch Module	Connect 115 VAC "HOT" to "COM" terminal and the neutral wire to either neutral terminal on back of module. Connect a jumper wire between the silver terminal on the module face and the open neutral terminal on the module back. Touch the brass tab with your finger. Verify 115 VAC is now at the N.O. terminal. If not, turn the module adjustment screw clockwise and recheck. If you reach the full clockwise point of the adjustment screw and touching the brass tab will not activate the module, it is defective.
6504000	Relay, 30 AMP DPST	Coil: 115 VAC with 290 ohms resistance. Switch: Check continuity across top with relay down.
6521000	Heater, 1.5 KW @ 115 VAC Heater, 6.0 KW @ 230 VAC	10 ohms resistance through element. High limit trip @ 122°F, check continuity. 1.5 KW draws 11.5 AMPS 6.0 KW Draws 23 AMPS
6824000	Air Switch, 20 AMP, SPDT	Check for continuity from "common" (top, recessed terminal) to one of the other two terminals. Activate switch and check to the remaining terminal.

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PART NO.	DESCRIPTION	TEST SPECIFICATIONS
6914000	Air switch, 20 AMP, DPDT	Check for continuity from both "common" (top, recessed terminals) to both middle terminals at the same time. Activate switch and check for continuity from "common" to both bottom terminals.
8745000	Relay (Solenoid) DPDT (marked with green dot)	Coil: 110 VDC with 2630 ohms resistance. Switch: On each of the two micro switches, test for continuity from common to N.C. terminal. Then depress plunger and check for continuity between common and N.O. terminal.
8752000	Full Wave Rectifier (10 Amp)	4 Diodes: Check for continuity through each diode. Reverse meter probes on each diode to assure continuity is in one direction only.
8901000	Relay, 30 AMP, DPST (marked with green dot)	Coil: 110 VDC with 6050 ohms resistance. Switch: Check for continuity across top with relay down.

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**PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.
USE INSTALLATION INSTRUCTIONS SUPPLIED WITH PRODUCT.**

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