

SERVICE BULLETIN

MODEL NO'S. JR-1, JR-2, JR-3, & JR-4

PAGE: 1 OF 4 DATE: JULY 15, 2009

BULLETIN NO. 2009-01

SUBJECT: Troubleshooting Residential Steam Generators With a Volt Metre, from Serial # A-14900

Visual Inspection

Ensure the steam generator is a Relax-A-Mist, and that the unit is installed in the correct position with the copper steam line(s) coming out of the top (please refer to your installation instructions and diagrams). Check that unit has the correct power and water supplied to it, and that both are turned on. There should be no steam traps in the steam line(s) and the steam nozzles must be installed with the "tear drop" shaped reservoir on the top and the steam slot pointing down. If there are any manual drains attached to the steam generator, ensure that they are in the "closed" position.



The following tests are to be performed with the steam generator's power supply ON.



CAUTION: Bare metal parts may be energized and cause an electric shock. Avoid touching metal wire connectors.

If the visual inspection has been completed and the unit is found to be installed correctly, proceed to step 1 after locating and removing the electrical box cover plate on the steam generator (4 screws). The following tests will require the use of a volt metre and should only be performed by a qualified technician. We recommend using a digital volt metre as the displayed reading is more accurate than the analog metres.

CAUTION: do not cross connect the meter probes while taking a reading.

1. Testing the Power Supply Timer Switch OFF

Procedure: JR1&2 - Test the power supply between the red wire (top right) and black wire (bottom right) of the contactor for 240VAC (test between phases).

Result → Yes 240VAC, go to step 2 No 240VAC

→ Check power supply.

→ Check thermo. disc.

<u>Procedure</u>: **JR3&4** - Test the power supply between **L1** and **L2** on the terminal blocks for 240VAC (test between phases).

Result → Yes 240VAC, go to next procedure

No 240VAC → Check power supply.

Procedure: Test contactor at bottom, left black wire and left red wire, for 240VAC.

Result → Yes 240VAC, go to step 2.

No 240VAC → Check power supply.

→ Check thermo. disc.

2. Testing the 3AMP Fuses JR1&2 - JR3&4 Timer Switch OFF

Procedure: Test between the 3AMP fuses (black & red) for 240VAC at both ends of each fuse (test between phases).

Result → Yes 240VAC, go to step 3.

No 240VAC → Check fuse.

3. Testing the Voltage to the Printed Circuit Board (PCB) JR1&2 JR3&4 Timer Switch OFF

Procedure: Locate and pull back the 5 pin connector (black, black orange, red, red) approximately 1/8 of an inch to check voltage from the silver strips inside the connector plug as follows:

a) Test between the black wire (position 1) and the red wire (position 5) for 240VAC.

Result → Yes 240VAC, go to step 3-b.

No 240VAC → Remove 5 pin connector from the PCB and check the wire's

connection to the connector.

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3. Testing the Voltage to the Printed Circuit Board (PCB) cont... Timer Switch OFF

b) Test between all 5 wires and the grounding lug (green wire) for 120VAC.

Result → Yes 120VAC, go to step 3-c.

No 120VAC → Check wire's connection to the connector.

CAUTION: do not cross connect the meter probes while taking a reading.

- c) Test between orange wire (position 3) and red wire (position 4 or 5) for:
 - i. 0-VAC with the timer/switch control to the unit turned OFF.
 - ii. 240-VAC with the timer/switch control to the unit turned ON and the 2 pin connector (blue wire) from the PCB removed.
- * NOTE: There is a 15 second window in which test "3-C ii" must be performed, before the PCB safety shuts off the 240VAC power supply to the water valve. Turn on the timer switch or insert the red tester. To energize the water valve, remove the 2 pin connector (blue wire) from the PCB. Once the connector is removed (with the timer control on), the green LED on the PCB will illuminate; then begin the test.
- **Result** → **i.** Yes **0-VAC**, (water valve not energized), go to next step. Yes 240VAC → Check **PCB**.

See note and repeat step 3-c* with the timer/switch control turned **ON**.

Result → **ii.** Yes 240VAC, go to step 4. No 240VAC → Check **PCB.**

4. Testing the Voltage to the Timer/Control Switch Circuit Timer Switch OFF

<u>Procedure:</u> Locate and pull back the 4 pin connector approximately 1/8 of an inch to check the voltage from the silver strips on the side of the connector plug and test for:

i. 24VAC between the white wire (position 1) and green wire (position 2).

Result → Yes 24VAC, go to step 5. No 24VAC → Check PCB fuses.

ii. a) 12VDC between the black wire (position 3) and the ground lug.

Result → Yes 12VDC, go to next step. No 12VDC → Check **PCB**.

ii. b) 12VDC between the red wire (position 4) and the ground lug with the timer/switch control turned **ON**.

Result → Yes 12VDC, go to next step. No 12VDC → Check Timer Control.

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The following tests are to be performed with the steam generator's power supply OFF.



5. Testing the Water Valve & Contactor Coil POWER SUPPLY OFF

Procedure: Locate and pull off the 5 pin connector plug (black, black orange, red, red wires) from the PCB to check the coil readings from the silver strips on the side of the connector and test for ohms with your metre to confirm the following readings:

NOTE: Meter set at 20K

a) Test between the water valve, orange wire (position 3), and the red wire (position 4) to get a reading of 2.8 to 3.5k ohms.

No 2.8 to 3.5k ohms → Check water valve. **Result** \rightarrow Yes 2.8 to 3.5k ohms, go to step 5-b.

b) Test between the contactor coil, black wire (position 2), and the red wire (position 5) to get a reading of 0.875 to 1.5 ohms.

Result \rightarrow Yes 0.875 to 1.5 ohms, go to step 6. No 0.875 to 1.5 ohms→ Check contactor coil.

NOTE: The contactor coil reading may also be taken at each contactor by disconnecting the 18awg red and black wires from the coil, and then performing the test.

6. Testing the Heating Elements **POWER SUPPLY OFF**

NOTE: Meter set at 200ohms.

Procedure: JR1&2 - Test between the black 12awg wire (bottom left) and the red 12awg wire (top left) on the contactor.

> JR3&4 - Test between the black 12awg wire (left) on contactor 1 and the red 12awg wire (right) on the top of contactor 2.

> JR3&4 - Test between the black 12awg wire (right) on contactor 1 and the red 12awg wire (left) on the top of contactor 2.

3000W 240V Element = 19.20 ohms 4500W 240V Element = 12.80 ohms 3000W 208V Element = 14.42 ohms 4500W 208V Element = 9.61 ohms

Result → Yes correct reading, go to step 7. No, incorrect reading. → Check **element.**

POWER SUPPLY OFF 7. Testing the Timer/Control Switch Circuit

Procedure: Locate and pull off the 4 pin connector plug and test for continuity between the red wire (position 4) and the black wire (position 3).

NOTE: Meter set at continuity.

Result → Yes continuity, repeat steps 1 through 7 No continuity → Check **control** and **25ft wire** or call 1-800-Y-U-STEAM for assistance.

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WARRANTY POLICY

For a period of one year from the date of installation, or 18 months from the date of manufacture, whichever comes first, all parts and assemblies are warranted as to workmanship and materials used in their manufacture. There is no cosmetic warranty on installed parts or controls.

Any RELAX-A-MIST™ steam generator containing defective parts, if returned prepaid to an authorized service depot within the on year or 18 month time limit, will be repaired free of charge, F.O.B. the authorized service depot making such repairs.

The Company will not be responsible for any breakdown, damage, or losses, direct or indirect, arising in contract or in tort from any cause whatsoever, including corrosion and/or electrolysis, improper voltage supply, careless handling, or a build-up of minerals on the parts or assemblies for any reason or from any source; nor for transportation and/or other charges incurred in the replacement or repair of defective parts; and there are no warranties or conditions expressed or implied or otherwise applicable, to the company's products except as expressly stated herein.

WARRANTY IS VOID IF RESIDENTIAL STEAM GENERATORS ARE USED IN A COMMERCIAL INSTALLATION.

AUTHORIZED SERVICE DEPOTS

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TEL 604-437-4717 or 1-800-Y-U-STEAM (1-800-987-8326) FAX 604-437-5776	TEL 403-253-7533 FAX 403-253-7583	TEL 780-465-4434 FAX 780-465-4595
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ALBERTA

For assistance please call Relax-A-Mist at 1-800-Y-U-STEAM (1-800-987-8326) or send an email to steamman@relax-a-mist.com.

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