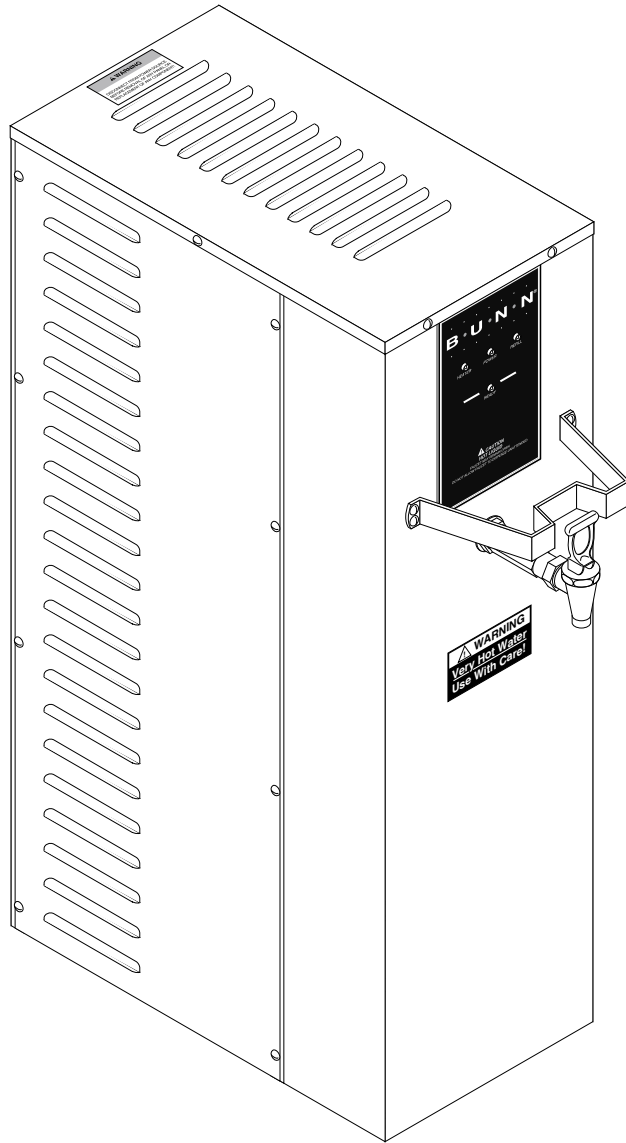


# BUNN®

# *H10X*



## OPERATING & SERVICE MANUAL

**BUNN-O-MATIC CORPORATION**

**POST OFFICE BOX 3227**

**SPRINGFIELD, ILLINOIS 62708-3227**

**PHONE: (217) 529-6601 FAX: (217) 529-6644**

## WARRANTY

Bunn-O-Matic Corp. ("Bunn") warrants the equipment manufactured by it to be commercially free from defects in material and workmanship existing at the time of manufacture and appearing within one year from the date of installation. In addition:

1.) Bunn warrants electronic circuit and/or control boards to be commercially free from defects in material and workmanship for two years from the date of installation.

2.) Bunn warrants the compressor on refrigeration equipment to be commercially free from defects in material and workmanship for two years from the date of installation.

3.) Bunn warrants that the grinding burrs on coffee grinding equipment will grind coffee to meet original factory screen sieve analysis for three years from date of installation or for 30,000 pounds of coffee, whichever comes first.

This warranty does not apply to any equipment, component or part that was not manufactured by Bunn or that, in Bunn's judgement, has been affected by misuse, neglect, alteration, improper installation or operation, improper maintenance or repair, damage or casualty.

**THE FOREGOING WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** The agents, dealers or employees of Bunn are not authorized to make modifications to this warranty or to make additional warranties that are binding on Bunn. Accordingly, statements by such individuals, whether oral or written, do not constitute warranties and should not be relied upon.

The Buyer shall give Bunn prompt notice of any claim to be made under this warranty by telephone at (217) 529-6601 or by writing to Post Office Box 3227, Springfield, Illinois, 62708-3227. If requested by Bunn, the Buyer shall ship the defective equipment prepaid to an authorized Bunn service location. If Bunn determines, in its sole discretion, that the equipment does not conform to the warranty, Bunn shall repair the equipment with no charge for parts during the warranty period and no charge for labor by a Bunn Authorized Service Representative during the warranty period. If Bunn determines that repair is not feasible, Bunn shall, at its sole option, replace the equipment or refund the purchase price for the equipment.

**THE BUYER'S REMEDY AGAINST BUNN FOR THE BREACH OF ANY OBLIGATION ARISING OUT OF THE SALE OF THIS EQUIPMENT, WHETHER DERIVED FROM WARRANTY OR OTHERWISE, SHALL BE LIMITED, AS SPECIFIED HEREIN, TO REPAIR OR, AT BUNN'S SOLE OPTION, REPLACEMENT OR REFUND.**

In no event shall Bunn be liable for any other damage or loss, including, but not limited to, lost profits, lost sales, loss of use of equipment, claims of Buyer's customers, cost of capital, cost of down time, cost of substitute equipment, facilities or services, or any other special, incidental or consequential damages.

## USER NOTICES

Carefully read and follow all notices on the equipment and in this manual. They were written for your protection. All notices are to be kept in good condition. Replace any unreadable or damaged labels.

<b>⚠ WARNING</b>
<ul style="list-style-type: none"><li>◆ Fill water tank before turning -on thermostat or connecting appliance to power source.</li><li>◆ Use only on a properly protected circuit capable of the rated load.</li><li>◆ Electrically ground the chassis.</li><li>◆ Follow national/local electrical codes.</li><li>◆ Do not use near combustibles.</li></ul>
FAILURE TO COMPLY RISKS EQUIPMENT DAMAGE, FIRE, OR SHOCK HAZARD
READ THE ENTIRE OPERATING MANUAL BEFORE BUYING OR USING THIS PRODUCT
THIS APPLIANCE IS HEATED WHENEVER CONNECTED TO A POWER SOURCE
00831.0000F 3/98 © 1988 BUNN-O-MATIC CORPORATION

#00831.0000

This equipment is to be installed to comply with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. (BOCA) and the Food Service Sanitation Manual of the Food and Drug Administration (FDA).
---

00656.0000

<b>⚠ WARNING</b>
Disconnect from power source before removal of any panel or replacement of any component!

10044.0000

<b>⚠ WARNING</b>
<b><u>Very Hot Water</u></b>
<b><u>Use With Care!</u></b>

12593.0000

<b>NOTICE</b>
ALL COMPONENTS ARE 200 TO 240 VOLT A.C.
Replace only with components listed in the accompanying literature rated for the same voltage

12537.0000

## ELECTRICAL REQUIREMENTS

**CAUTION** - The dispenser must be disconnected from the power source until specified in *Initial Set-Up*.

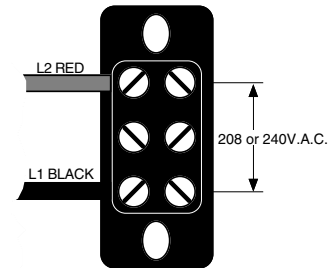
This dispenser requires 2-wire, grounded service rated 208 or 240 volts ac, 40 amp, single phase.

(Refer to the dispenser's dataplate for exact voltage requirement.)

### Electrical Hook-Up

**CAUTION** – Improper electrical installation will damage electronic components.

1. An electrician must provide electrical service as specified.
2. Using a voltmeter, check the voltage and color coding of each conductor at the electrical source.
3. Remove the side panel.
4. Install the proper electrical wiring to the terminal block.
5. Connect the dispenser to the power source and verify the voltage at the terminal block before proceeding. Reinstall the side panel.
6. If plumbing is to be hooked-up later be sure the dispenser is disconnected from the power source. If Plumbing has been hooked-up, the dispenser is ready for *Initial Set-Up*.



## PLUMBING REQUIREMENTS

This dispenser must be connected to a **COLD WATER** system with operating pressure between 20 and 90 psi (138 and 620 kPa) from a ½" or larger supply line. A shut-off valve should be installed in the line before the dispenser. Install a regulator in the line when pressure is greater than 90 psi (620 kPa) to reduce it to 50 psi (345 kPa). The water inlet fitting is ¼" flare.

**NOTE** - Bunn-O-Matic recommends ¼" copper tubing for installations of less than 25 feet and 3/8" for more than 25 feet from the ½" water supply line. At least 18 inches of an FDA approved flexible beverage tubing, such as reinforced braided polyethylene or silicone, before the dispenser will facilitate movement to clean the countertop. It can be purchased direct from Bunn-O-Matic (P.N. 00326-0000). Bunn-O-Matic does not recommend the use of a saddle valve to install the dispenser. The size and shape of the hole made in the supply line by this type of device may restrict water flow.

**This equipment must be installed to comply with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. (BOCA) and the Food Service Sanitation Manual of the Food and Drug Administration (FDA).**

### Plumbing Hook-Up

1. Flush the water line and securely attach it to the flare fitting at the rear of the dispenser.
2. Turn on the water supply.

## INITIAL SET-UP

**CAUTION** - The dispenser must be disconnected from the power source throughout the initial set-up, except when specified in the instructions.

1. Connect the dispenser to the power source and turn on the water supply.
2. The “HEATER” LED will glow for approximately five seconds. During this time, the electronic circuitry will check for a full tank of water.
3. If the tank is not full of water, the refill circuit will energize, indicated by the “REFILL” LED glowing. Water will automatically flow into the tank to the proper level and then shut off.
4. When the tank is full of water, the heater circuit will energize, indicated by the “HEATER” LED glowing intermittently until the proper temperature is achieved. A completely cold tank will take approximately twenty minutes for the water to heat.
5. The “READY” LED will glow when the proper water temperature is achieved.

**NOTE** - Stop dispensing if the “READY” LED is off. Dispense only when the “READY” LED glows.

## DRAINING THE DISPENSER

**CAUTION** - The dispenser must be disconnected from the power source throughout these steps.

1. Disconnect the dispenser from the power source.
2. Shut-off and disconnect the incoming water supply
3. Remove the small screws from the sides and front of the top panel.
4. Gently remove one of the grommets from the tank lid.
5. Insert a tube to the bottom of the tank and syphon ALL of the water out.

**NOTE** - The dispenser must be refilled using the INITIAL SET-UP steps before reconnecting to the power source.

## CLEANING

The use of a damp cloth rinsed in any mild, non-abrasive, liquid detergent is recommended for cleaning all surfaces on Bunn-O-Matic equipment.

## TROUBLESHOOTING

A troubleshooting guide is provided to suggest probable causes and remedies for the most likely problems encountered. If the problem remains after exhausting the troubleshooting steps, contact the Bunn-O-Matic Technical Service Department.

- Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel.
- All electronic components have 200-240 volt ac and low voltage dc potential on their terminals. Shorting of terminals or the application of external voltages may result in board failure.
- Intermittent operation of electronic circuit boards is unlikely. Board failure will normally be permanent. If an intermittent condition is encountered, the cause will likely be a switch contact or a loose connection at a terminal or crimp.
- Solenoid removal requires interrupting the water supply to the valve. Damage may result if solenoids are energized for more than ten minutes without a supply of water.
- The use of two wrenches is recommended whenever plumbing fittings are tightened or loosened. This will help to avoid twists and kinks in the tubing.
- Make certain that all plumbing connections are sealed and electrical connections tight and isolated.
- This dispenser is heated at all times. Keep away from combustibles.

### WARNING

- Exercise extreme caution when servicing electrical equipment.
- Disconnect the dispenser from the power source when servicing, except when electrical tests are specified.
- Follow recommended service procedures.
- Replace all protective shields or safety notices.

### PROBLEM

### PROBABLE CAUSE

### REMEDY

Equipment will not operate.

1. No power or incorrect voltage

(A) Check the terminal block for the correct voltage. It should be 200 to 240 volts ac across the red and black terminals for 200 to 240 volt models.

(B) Check circuit breakers or fuses.

2. Overflow protection switch

Refer to *Service* - Overflow protection switch for testing procedures. See page 16.

## TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Automatic refill will not operate after drawing hot water.	1. No water	Check plumbing and shut-off valves.
	2. Water strainer/flow control	(A) Direction of flow arrow must be pointing towards dispenser.  (B) Remove the strainer/flow control and check for obstructions. Clear or replace.
	3. Overflow protection switch	Refer to <i>Service</i> - Overflow protection switch for testing procedures. See page 16.
	4. Liquid level system	Refer to <i>Service</i> - Electronic controls for testing procedures. See page 11.
	5. Solenoid valve	Refer to <i>Service</i> - Solenoid valve for testing procedures. See page 17.
Water flows into the tank continuously. (Dispenser disconnected from power source).	1. Solenoid valve	Refer to <i>Service</i> - Solenoid valve for testing procedures. See page 17.
Water flows into the tank continuously (Dispenser connected to power source).	1. Liquid level system	Refer to <i>Service</i> - Electronic controls for testing procedures. See page 11.
Water is cold.	1. Overflow protection switch	Refer to <i>Service</i> - Overflow protection switch for testing procedures. See page 16.
	2. Limit thermostat	Refer to <i>Service</i> - Limit thermostat for testing procedures. See page 15.

**CAUTION** - Do not eliminate or bypass limit thermostat. Use only B.O.M. replacement part #23717.0001.

## TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Water is cold (cont.)	3. Tank heater	Refer to <i>Service</i> - Tank heater for testing procedures. See page 19.
	4. Temperature control	Refer to <i>Service</i> - Electronic controls for testing procedures. See page 12.
	5. Dry plug protection	Check connections to Interlock board and sheath of tank temperature probe.
Water boils continuously.	1. Temperature control	Refer to <i>Service</i> - Electronic controls for testing procedures. See page 12.
	2. Lime build-up	Inspect the tank assembly for excess lime deposits. Delime as required.
<b>CAUTION</b> - Tanks and tank components should be delimed regularly depending on local water conditions. Excessive mineral build-up on stainless steel surfaces can initiate corrosive reactions resulting in serious leaks.		
Dispenser is making unusual noises.	1. Solenoid valve	The nut on top of the solenoid valve must be tight or it will vibrate during operation.
	2. Plumbing lines	Plumbing lines should not be resting on the counter top.
	3. Water supply	(A) the dispenser must be connected to a cold water line.  (B) Water pressure to the dispenser must not be higher than 90 psi. Install a regulator if necessary to lower the working pressure to approximately 50 psi.
Ready indicator will not light. (when temperature is within 4° of its selected setting.)	1. Temperature control	Refer to <i>Service</i> - Electronic controls for testing procedures. See page 12.
	2. Ready Indicator LED	Replace the indicator LED.

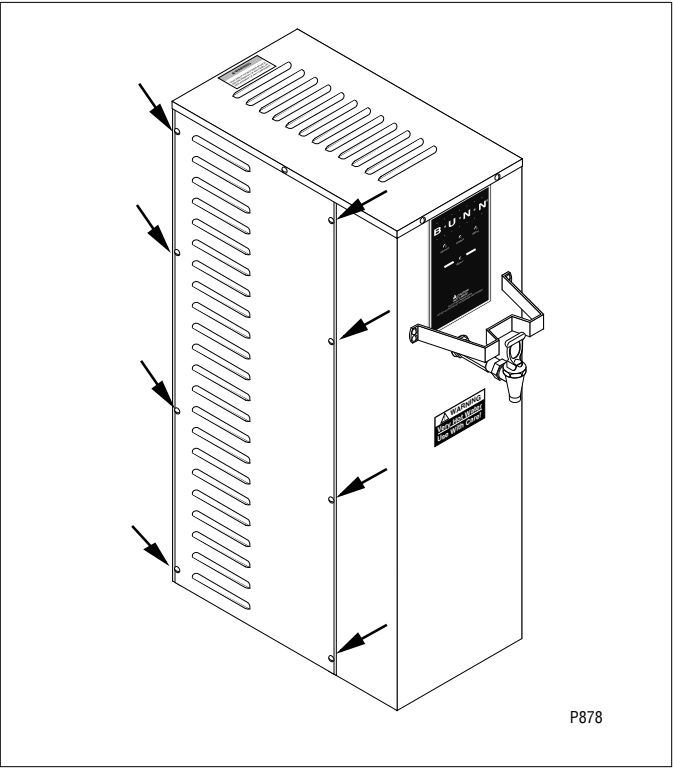


SERVICE

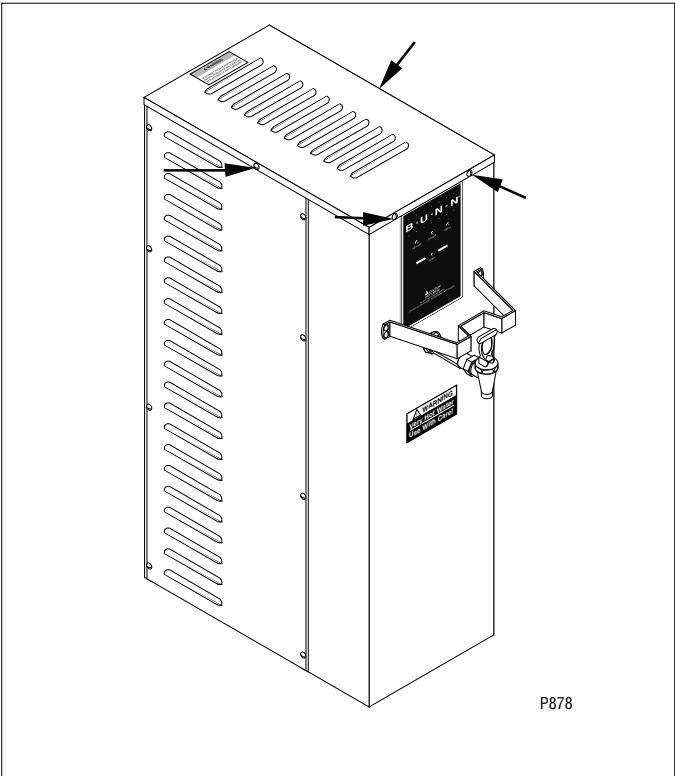
This section provides procedures for testing and replacing various major components used in this dispenser should service become necessary. Refer to Troubleshooting for assistance in determining the cause of any problem.

Component Access

**WARNING** - Disconnect the dispenser from the power source before the removal of any panel or the replacement of any component.



The check valve, electronic control assembly, overflow protection switch, solenoid valve, overflow tube temperature sensor, triac assembly and terminal block are located on the side of the dispenser. Access is gained by removing the side panel. The panel is attached with eight 8-32 slotted-head screws.



The limit thermostat, liquid level probe, tank heater, and temperature sensor are located at the top of the dispenser. Access is gained by removing the top lid, attached with four 4-40 slotted-head screws.

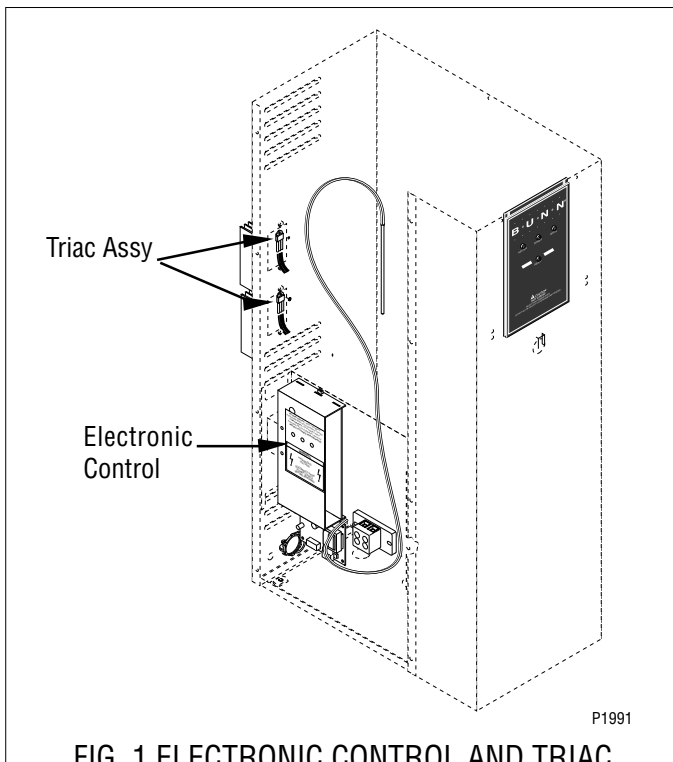
**WARNING** - Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel. Disconnect the dispenser from the power source when servicing, except when electrical tests are required and the test procedure specifically states to connect the dispenser to the power source.

Electronic Controls .....	10-14
Limit Thermostat .....	15
Safety Overflow Switch .....	16
Solenoid Valve .....	17
Tank Heater .....	19
Electrical Schematic .....	20

## SERVICE (cont.)

### Electronic Control Assembly Troubleshooting: Check these items first

- Is circuit board popped out of bracket?
- Is circuit board wet due to misaligned overflow tube?
- Is water in overflow cup activating float switch?
- Is overflow cup not making good contact with tank?
- Is dispenser being operated with panels removed?



#### Location:

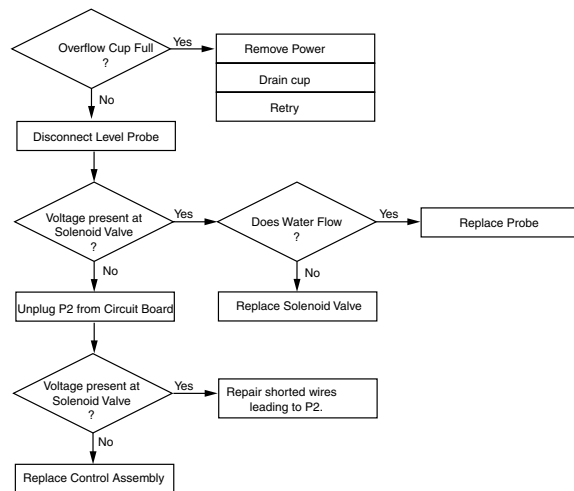
The electronic control assembly is located inside the side of the dispenser. Access will also be needed to the temperature sensor, overflow tube temperature sensor, and liquid level probe located on the tank lid and to the triac assembly located on the inside of the rear wall.

#### General:

This system controls the liquid level and water temperature of the dispenser. These two functions act independently of each other and should be tested separately.

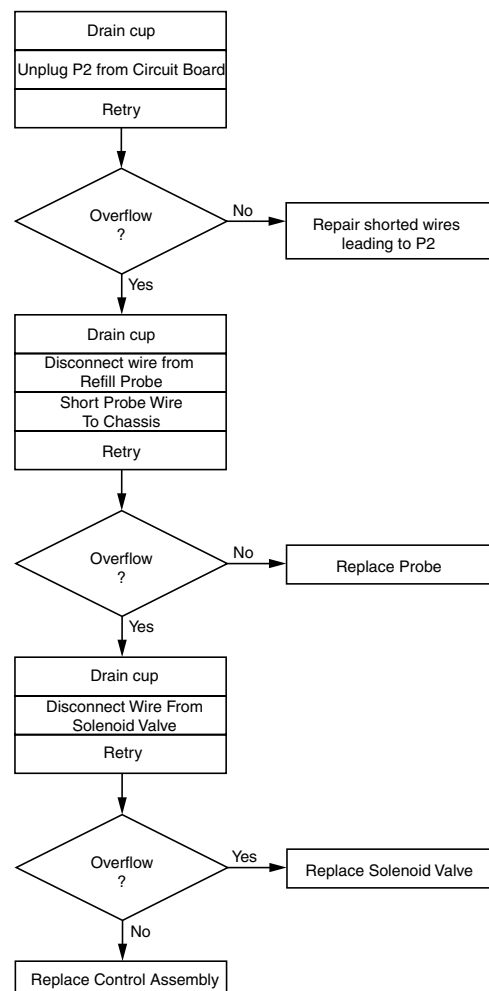
#### H10X LIQUID LEVEL CONTROL

##### PROBLEM: Does Not Refill



#### H10X LIQUID LEVEL CONTROL

##### PROBLEM: Overflows



## SERVICE (cont.)

### Electronic Controls (cont.)

#### Liquid Level Control Test Procedure

1. Disconnect the dispenser from the power source.
2. Check the voltage across terminals 3 & 4 of the electronic control assembly with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models.
3. Disconnect the dispenser from the power source. If voltage was present as described, proceed to #4. If voltage was not present as described, refer to the Wiring Diagrams and check the dispenser wiring harness.
4. Remove the pink wire from terminal 5 of the electronic control assembly.
5. Check the voltage across terminals 1 & 4 of the electronic control assembly with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models after a delay of approximately 5 seconds.
6. Disconnect the dispenser from the power source.

If voltage was present as described, the liquid level control of the system is operating properly, proceed to #7.

If voltage was not present as described, replace the electronic control assembly and the temperature sensor in the tank lid.

**NOTE** - Each electronic control assembly is calibrated to a temperature sensor. Both components **MUST** be replaced as a set.

7. Reconnect the pink wire to terminal 5 of the electronic control assembly.
8. Loosen the compression fitting, remove the probe from the tank lid, and inspect it for mineral deposits. Replace it if necessary. Keep the exposed ends of the probe away from any metal surface of the dispenser.

9. Check the voltage across the terminals 1 & 4 of the electronic control assembly with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models after a delay of approximately 5 seconds.
10. Touch the screw head end of the probe to the dispenser housing. The indication must be 0.
11. Move the probe away from the dispenser housing. The indication must again be 200 to 240 volts ac for 200 to 240 volt models after a delay of approximately 5 seconds.
12. Disconnect the dispenser from the power source.

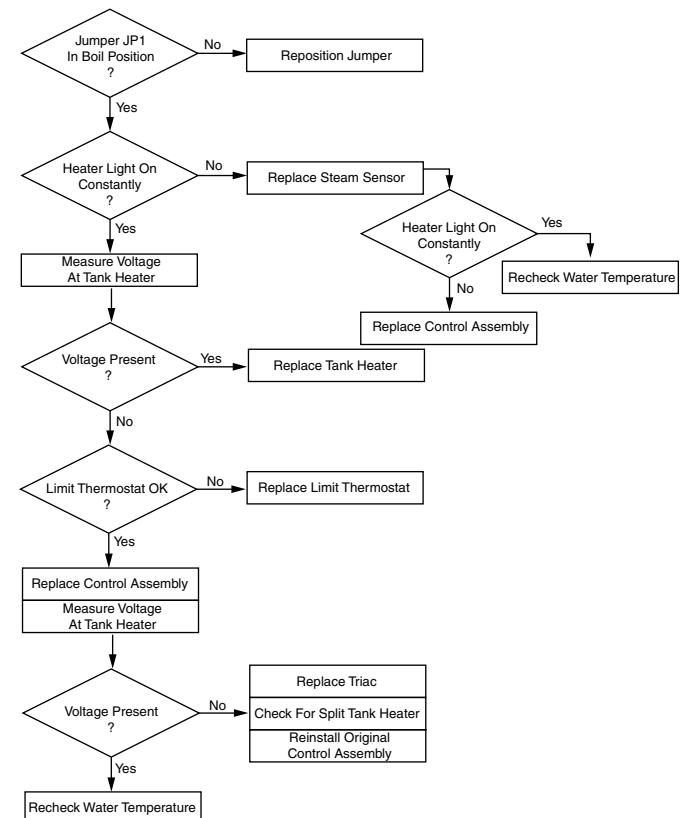
If voltage was present as described, reinstall the probe, the sensing function of the system is operating properly.

If voltage was not present as described, check the pink probe wire and the green ground wire for continuity and/or replace the probe.

#### Temperature control Flow Charts

##### H10X THERMOSTAT

##### PROBLEM: Water Not Hot Enough



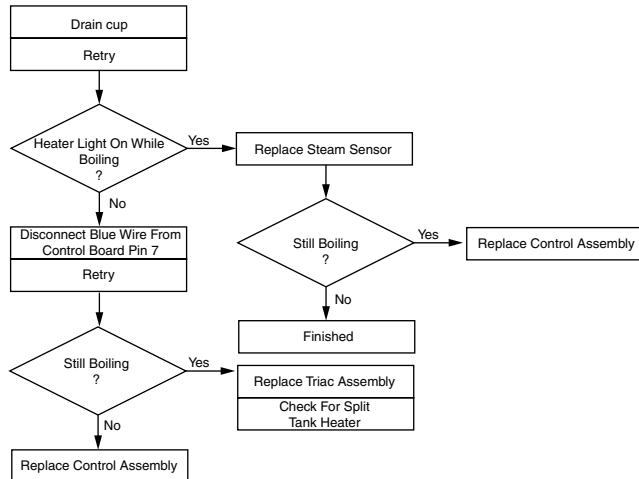
## SERVICE (cont.)

### Electronic Controls (cont.)

#### Temperature Control Flow Charts (cont.)

##### H10X THERMOSTAT

**PROBLEM: Boils Excessively - Fills Cup**



If the indicator was on or blinking, the temperature sensor is operating properly, proceed to #7.

If the indicator was off, check the sensor connection on the electronic control circuit board and/or replace the temperature sensor and the electronic control assembly.

**NOTE** - Each temperature sensor is calibrated to an electronic control assembly. Both components **MUST** be replaced as a set.

7. Check the voltage across the tank heater terminals with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models while the red indicator on the circuit board is on or blinking.

8. Disconnect the dispenser from the power source.

If voltage was present as described, the temperature control of the system is operating properly.

If voltage was not present as described, contact Bunn-O-Matic to order an electronic control assembly temperature sensor, and triac assembly for evaluation and proceed to #9.

9. Replace the electronic control assembly and temperature sensor.

**NOTE** - Each electronic control assembly is calibrated to a temperature sensor. Both components **MUST** be replaced as a set.

10. Check the voltage across the tank heater terminals with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models while the red indicator on the circuit board is on or blinking.

#### Temperature Control Test Procedure

1. Disconnect the dispenser from the power source.
2. Check the voltage across terminals 3 & 4 of the electronic control circuit board with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models.
3. Disconnect the dispenser from the power source.

If voltage was present as described, proceed to #4.

If voltage was not present as described, refer to the Wiring Diagram and check the dispenser wiring harness.

4. Connect the dispenser to the power source .
5. Observe the red indicator on the electronic control circuit board.
6. Disconnect the dispenser from the power source.

## SERVICE (cont.)

### Electronic Controls (cont.)

11. Disconnect the dispenser from the power source.

If voltage was present as described, return the new triac assembly to Bunn-O-Matic for credit. The temperature control of the system is operating properly. If voltage was not present as described, reinstall your existing electronic control assembly and temperature sensor, and proceed to #12

12. Replace the triac assembly.
13. Check the voltage across the tank heater terminals with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models while the red indicator on the circuit board is on or blinking.
14. Disconnect the dispenser from the power source.

If voltage was present as described, the temperature control of the system is operating properly. Return the new electronic control assembly and temperature sensor to Bunn-O-matic for credit.

### Electronic Control Removal and Replacement

**NOTE** - Each electronic control assembly is calibrated to a temperature sensor probe. Both components **MUST** be replaced as a set.

1. Remove all wires from the electronic control assembly terminals.
2. Remove the two 8-32 screws holding the electronic control assembly to the component bracket.
3. Disconnect the temperature sensor, overflow tube temperature sensor, and indicator wires from the left side of the electronic control assembly board.
4. Remove the temperature sensor from the grommet in the tank lid.

5. Install the new temperature sensor into the grommet on the tank lid. Route the wires to the location of the new electronic control assembly.
6. Attach the temperature sensor, overflow tube temperature sensor, and indicator wires to the electronic control assembly.
7. Fasten the new electronic control assembly to its bracket.
8. Reconnect the wires.
9. Review the initial set-up procedures.

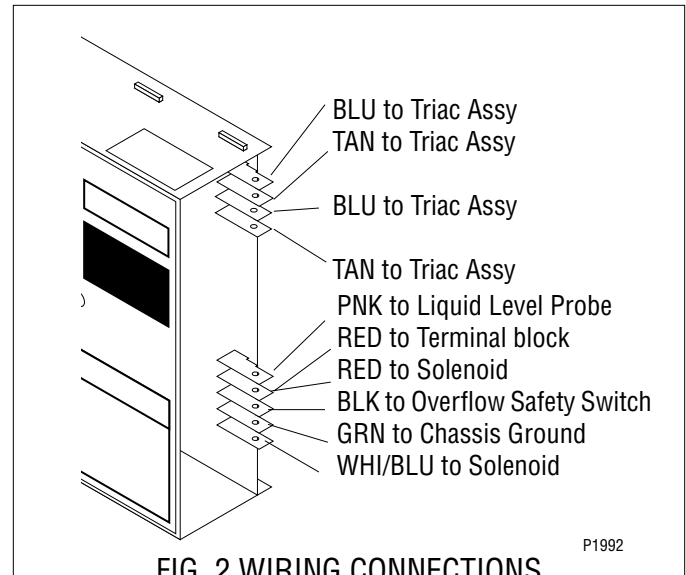


FIG. 2 WIRING CONNECTIONS

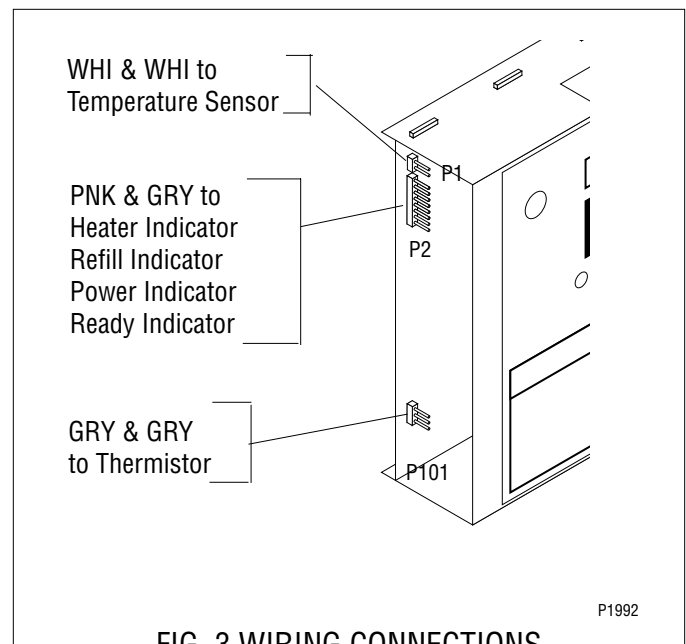


FIG. 3 WIRING CONNECTIONS

## SERVICE (cont.)

### Electronic Controls (cont.)

#### Triac Assembly Removal and Replacement

**NOTE** - Each triac installation requires the use of an approved silicone heat sink compound. Bunn-O-Matic recommends the use of Dow Corning 340 compound or equivalent. It can be purchased direct from Bunn-O-Matic (P.N. M2522.1000)

1. Remove the existing triac assembly held in place with a 10-32 hex keps nut.
2. Apply a small amount of the silicone heat sink compound to the copper heat sink.
3. Securely fasten the new triac assembly to the rear panel in the same relative position as the one removed. Bunn-O-matic recommends tightening the nut to a torque setting of approximately 18 inch-pounds.
4. Disconnect the other ends of the old triac assembly wires.
5. Connect the TAN and BLU wires with spade terminals of the new assembly to the electronic control assembly, FIG. 2.
6. Connect the BLU wire with the ring terminal to the tank heater, FIG. 12.
7. Connect the WHI/VIO wire of the new assembly to the RED terminal at the terminal block.

## SERVICE (cont.)

### Limit Thermostat

#### Limit Thermostat

##### Location:

The limit thermostats are located on the tank lid. To test the limit thermostats, access will also be needed to the terminal block located on the side of the dispenser.

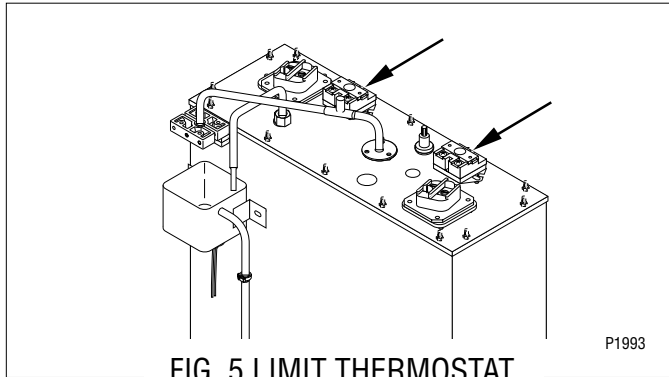


FIG. 5 LIMIT THERMOSTAT

##### Test Procedure:

1. Disconnect the dispenser from the power source.
2. There are two black wires on the limit thermostat terminals. One comes from the terminal block. The other goes directly to the tank heater terminal. Remove the black wire at the limit thermostat coming from the terminal block.
3. Check the voltage across the black wire removed from the limit thermostat and the red wire of the terminal block with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models.
4. Disconnect the dispenser from the power source.

If voltage was present as described, reconnect the black wire and proceed to #5.

If voltage was not present as described, refer to the Wiring Diagrams and check the dispenser wiring harness.

5. Check for continuity across the terminals of the limit thermostat.

If continuity is not present as described, the circuit is broken. Press the reset button of the limit thermostat and recheck for continuity.

If continuity is not present as described, replace the limit thermostat.

##### Removal and Replacement:

1. Remove both wires from the limit thermostat terminals.
2. Remove the two #10-32 nuts attaching the limit thermostat to the top of the tank.
3. Install the new limit thermostat and secure into place with two #10-32 nuts.
4. Refer to FIG. 6 when reconnecting the wires.

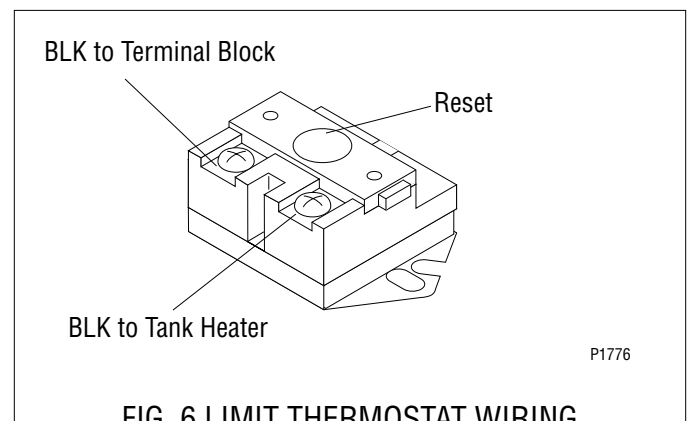


FIG. 6 LIMIT THERMOSTAT WIRING

## SERVICE (cont.)

### Overflow Protection Switch

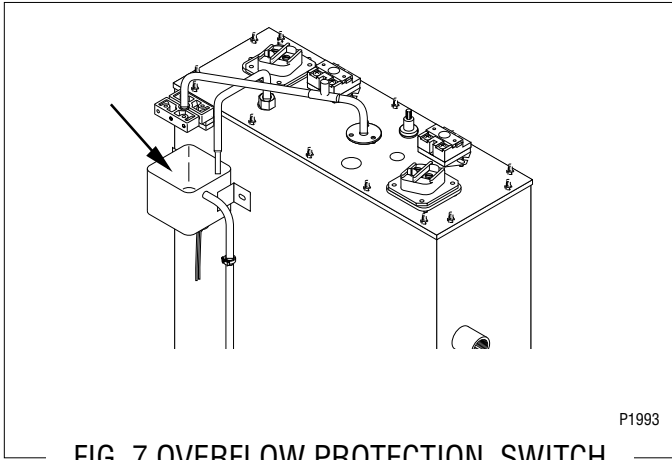


FIG. 7 OVERFLOW PROTECTION SWITCH

#### Location:

The overflow protection switch is located within the side of the dispenser inside the copper overflow cup. For testing or removal of the overflow protection switch, access may also be needed by removing the two screws attaching the electronic control assembly to its mounting bracket.

#### Test Procedure:

1. Once voltage is verified at the power source, check for continuity across the overflow protection switch red wires only until the plastic float is raised and check that continuity returns when the plastic float is again lowered.

If continuity is present as described, reconnect each of the red wires to the black wires, the overflow protection switch is operating properly.

If continuity is not present as described, replace the overflow protection switch.

#### Removal and Replacement:

1. Disconnect the black wires from the overflow protection switch.
2. Remove the nut beneath the copper overflow cup.
3. Remove the entire switch assembly from the cup.
4. Place the new switch assembly into the cup, wires first. Make sure that a gasket is in place around the threaded switch stem.

**NOTE** - The magnets must be at the top of the float and there must be NO stainless steel washers installed for the overflow protection switch to operate properly.

5. Install the nut beneath the copper overflow cup. Be sure not to overtighten.
6. Reconnect the wires, FIG. 8.

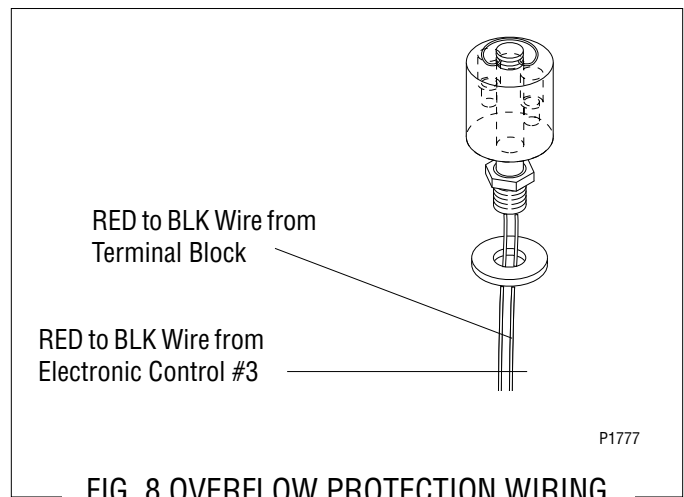


FIG. 8 OVERFLOW PROTECTION WIRING



## SERVICE (cont.)

### Solenoid Valve

#### Location:

The solenoid valve is located within the side of the dispenser on the right side near the bottom.

To test the solenoid valve, access will also be needed to the electronic control assembly.

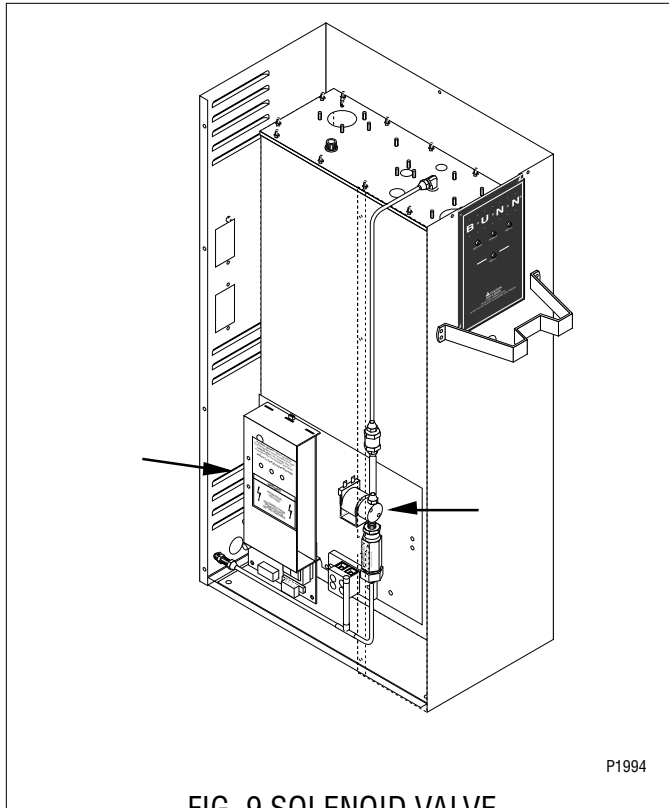


FIG. 9 SOLENOID VALVE

#### Test Procedure:

1. Disconnect the dispenser from the power source and turn off the water supply to the dispenser.
2. Remove the pink wire from terminal 5 of the electronic control assembly.
3. Check the voltage across the solenoid valve coil terminals with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models after a delay of approximately 5 seconds.
4. Disconnect the dispenser from the power source.

If voltage was present as described, proceed to #5.  
If voltage was not present as described, refer to the Wiring Diagrams and check the dispenser wiring harness.

5. Remove both wires from the solenoid valve coil terminals.
6. Check for continuity across the solenoid valve coil terminals.

If continuity is present as described, reconnect the wires and proceed to #7.

If continuity is not present as described, replace the solenoid valve coil.

7. Check the solenoid valve for coil action. Connect the dispenser to the power source. Listen carefully in the vicinity of the solenoid valve for a “clicking” sound after approximately 5 seconds, as the coil magnet attracts the plunger.
8. Disconnect the dispenser from the power source.
9. Reconnect the pink wire to terminal 5 of the electronic control assembly.

If the sound was heard as described and water will not pass through the solenoid valve, there may be a blockage in the water line before or after the solenoid valve or the solenoid valve may require inspection for wear and removal of waterborne particles.

If the sound was not heard as described, replace the solenoid valve.

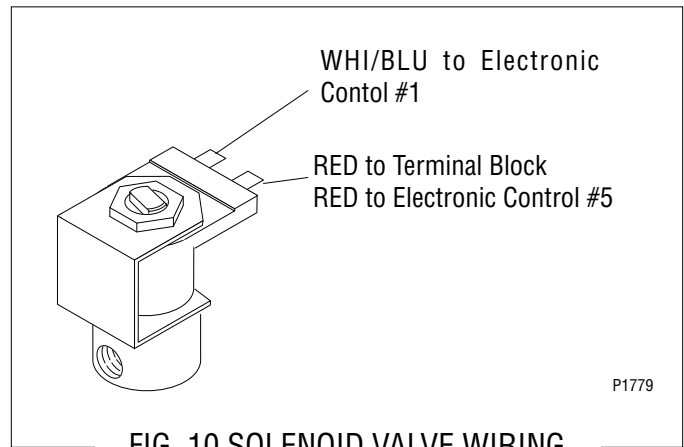
#### Removal and Replacement:

1. Remove all wires from the solenoid valve coil.
2. Turn off the water supply to the dispenser.
3. Disconnect the water lines to and from the solenoid valve.
4. Remove the two 8-32 slotted-head screws holding the solenoid valve and mounting bracket to the component bracket.

## SERVICE (cont.)

### Solenoid Valve (cont.)

5. Lift out the solenoid valve.
6. Remove the two 10-32 slotted-head screws holding the solenoid valve to its mounting bracket.
7. Securely install the new solenoid valve to its mounting bracket. The direction of flow arrow must be pointing towards the tank lid.
8. Attach the solenoid valve and mounting bracket to the component bracket.
9. Securely fasten the water lines to and from the solenoid valve.
10. Reconnect the wires, FIG. 10.



## SERVICE (cont.)

### Tank Heater

#### Location:

The tank heater is located in the tank lid.

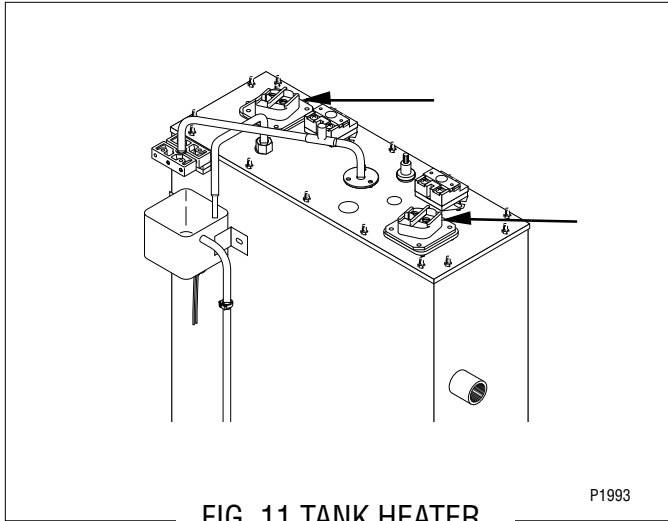


FIG. 11 TANK HEATER

#### Test Procedure:

1. Disconnect the dispenser from the power source.
2. Check the voltage across the terminals of the tank heater with a voltmeter. Connect the dispenser to the power source. The indication must be 200 to 240 volts ac for 200 to 240 volt models.
3. Disconnect the dispenser from the power source.

If voltage is present as described, proceed to #4.  
If voltage is not present as described, replace the tank heater.

4. Remove the tank heater from the tank lid and inspect it for cracks in the sheath.

If continuity is present as described, reinstall the tank heater. The tank heater is operating properly.  
If continuity is not present as described, replace the tank heater.

#### Removal and Replacement:

1. Remove the wires to the tank heater.
2. Remove the 8-32 nuts from the tank heater flange.
3. Remove the tank heater.
4. Inspect the tank heater gasket and replace if necessary.
5. Securely install the new tank heater. Be certain of a watertight seal.
6. Reconnect the wires, FIG. 12.

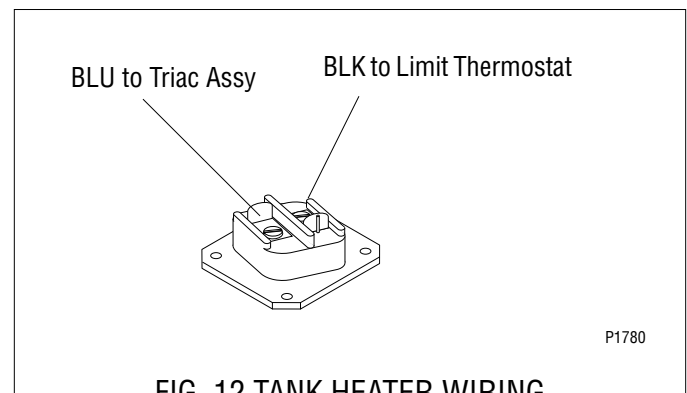


FIG. 12 TANK HEATER WIRING

WIRING DIAGRAM

SCHEMATIC WIRING DIAGRAM H10XA

