Advanced Heating and Hot Water Systems

272 Duchaine Blvd. · New Bedford, MA 02745 · 508-763-8071· Fax: 508-763-3769

LOW WATER CUT-OFF RELAY INSTRUCTIONS

FOR ELITE AND MOD CON BOILERS AND PIONEER/VERSA-FLAME APPLIANCES (Part # 7350P-601, 7450P-225)

STOP! Follow these instructions or warranty will be void!

INSTALLATION MUST COMPLY WITH:

1. National Electrical Code.
2. Local, state, provincial, and national codes, laws, regulations and ordinances.

INCLUDED IN KIT

The kit includes the following:

QUANTITY	DESCRIPTION
2	SELF TAPPING SCREWS
1	INSTALLATION INSTRUCTIONS (LP-336)
1	UL-353 LOW WATER CUT-OFF RELAY BOX WITH WIRES
1	LOW WATER CUT-OFF PROBE (ELITE KITS ONLY)

Table 1

⚠ DANGER

This installation shall be done by a qualified service agency in accordance with these instructions, all applicable codes, and requirements of the authority having jurisdiction. Failure to follow these instructions will result in substantial property damage, severe personal injury, or death.

TOOLS REQUIRED (NOT INCLUDED)

- Drill with small Phillips Head bit
- Small Flat Head Screwdriver
- Needle Nose Pliers

TABLE OF CONTENTS

MOD CON INSTALLATION INSTRUCTIONS

1. Turn off all electrical power to the boiler. See Figure 1.

⚠ DANGER

DO NOT proceed with installation if the boiler remains powered. Failure to follow this warning will result in property damage, serious personal injury, or death due to electrical shock.

⚠ WARNING

Wait until boiler has had sufficient time to cool before proceeding with the installation. Failure to follow this warning could result in property damage. serious personal injury, or death.

2. Use the (2) supplied self-tapping screws to mount the Low Water Cut-Off Relay to the left side of the boiler, near both the Low Water Cut-Off probe, which is on the outlet nipple of the boiler, and the knockout holes in the boiler cabinet. See Figure 2.

3. Pass both 3-wire connectors through the same knockout hole in the boiler cabinet where the other wires currently pass. See Figure 3.

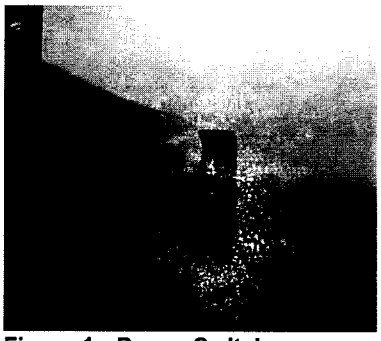

Figure 1– Power Switch

Figure 2 – Attaching the Relay

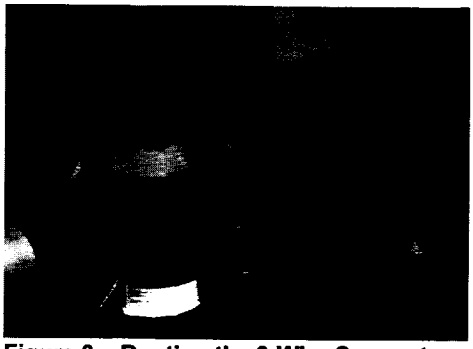

Figure 3 – Routing the 3-Wire Connector

4. Inside the boiler, locate the female 3-wire connector in the boiler that has a brown, red, and white wire. This connector will have either a jumper plug or a cable going to a gas pressure switch. Remove the jumper plug or gas pressure switch from the connector. See Figure 4.

5. Plug the male 3-wire connector from the Low Water Cut-Off relay into the female 3-wire connector with brown, red, and white wires. See Figure 5.

6. Plug the jumper plug or gas pressure switch cable unplugged in Step 4 into the female plug from the Low Water Cut-Off Relay.

7. On the outside of the boiler, remove the red wire from the Low Water Cut-Off Switch on the boiler and connect it to the red wire with the male connector from the Low Water Cut-Off Relay.

8. Connect the red wire with the female connector from the Low Water Cut-Off Relay to the Low Water Cut-Off Switch. See Figure 6.

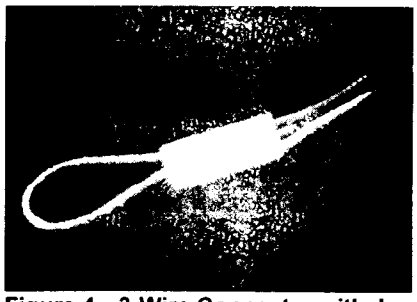

Figure 4 - 3-Wire Connector with Jumper

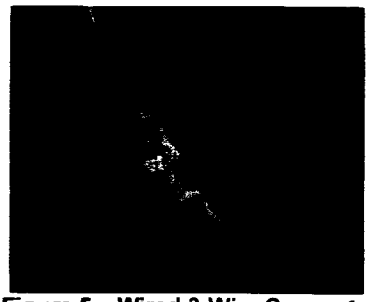

Figure 5 – Wired 3-Wire Connector

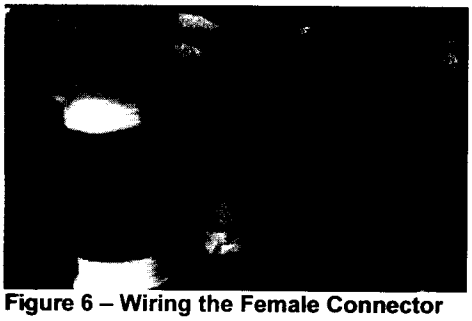

Figure 6 – Wiring the Female Connector

Restore power to the boiler and test Low Water Cut-Off operation:

1. The boiler should be full of water. purged of air according to the instructions in the Installation Manual, and powered on before moving to the following steps.

2. Use the boiler control to access installer parameter #20 and change the default value to LOW WATER CUTOFF. When done, create a demand for heat and observe boiler function to verify the installation is working properly.

3. Press the RESET button on the Low Water Cut-Off Relay. The LED on the relay should turn green if the boiler is full of water. The boiler may display a lockout code. If so. press RESET on the boiler display panel to clear the code.

4. Press the TEST button on the Low Water Cut-Off Relay. The LED on the relay should turn red and the boiler display should read F01. Press the RESET button on the boiler display panel. The boiler should reset, then again display F01.

5. Press the RESET button on the Low Water Cut-Off Relay. The LED on the relay should turn green. Press the RESET button on the display again. The F01 code should clear and not return.

ELITE INSTALLATION INSTRUCTIONS

1. Turn off all electrical power to the boiler. See Figure 7.

⚠ DANGER

DO NOT proceed with installation if the boiler remains powered. Failure to follow this warning will result in property damage, serious personal injury, or death due to electrical shock.

⚠ WARNING

Wait until boiler has had sufficient time to cool before proceeding with the installation. Failure to follow this warning could result in property damage, serious personal injury, or death.

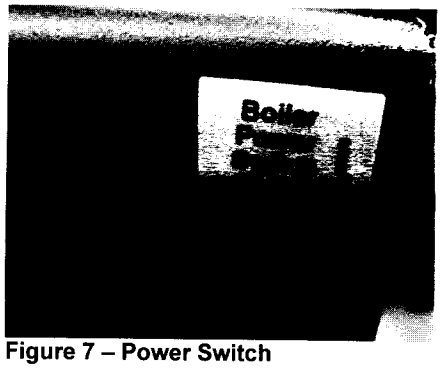

Figure 7 – Power Switch

Figure 8 – Removing the Brass Plug

2. Remove water pressure from the system by opening the drain valve. Verify that the pressure gauge reads zero before removing the brass plug from the outlet combination fitting. See Figure 8.

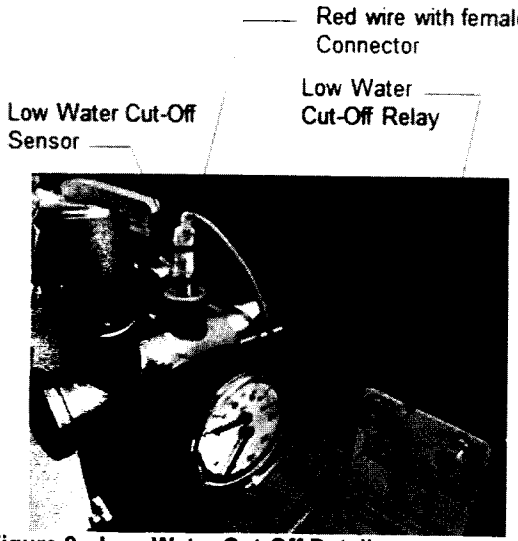

Figure 9– Low Water Cut-Off Detail

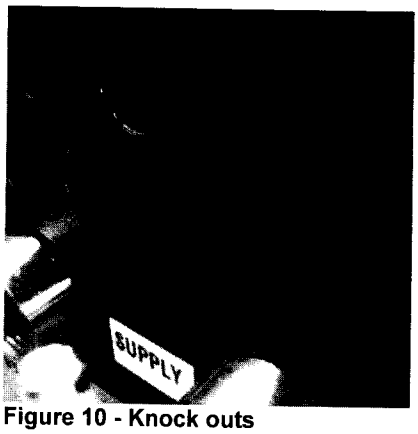

Figure 10 - Knock outs

3. Apply a small amount of pipe dope to the Low Water Cut-Off Sensor and insert it into the combination outlet fitting on the boiler. Attach the Low Water Cut-Off Relay to the boiler cabinet with the two self-tapping screws. Connect the red wire with the female connector from the Relay to the Sensor. See Figure 9.

4. Select a knock out location on the boiler to run the Low Water Cut-Off Wiring to the boiler control. See Figure 10.

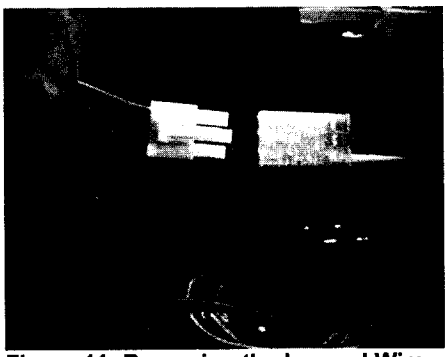

Figure 11- Removing the Looped Wire

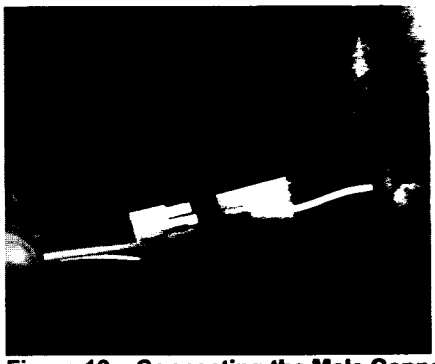

Figure 12 – Connecting the Male Connector

5. Remove the connector with the looped wire from the female connector with the brown, red, and white wire as shown in Figure 11.

6. Connect the male connector with the brown, red, and white wire from the Low Water Cut-Off Relay in place of the removed looped wire. See Figure 12.

7. Connect the looped wire connector to the unused connector on the Low Water Cut-Off Relay.

Restore power to the boiler and test Low Water Cut-Off operation:
1. Refill and purge the boiler according to the Start-Up Instructions in the Installation Manual. The boiler should be full of water and the power on before moving on to the following steps.

2. Use the boiler control to access installer parameter #20 and change the default value to LOW WATER CUTOFF. When done, create a demand for heat and observe boiler function to verify the installation is working properly.

3. Press the RESET button on the Low Water Cut-Off Relay. The LED on the relay should turn green if the boiler is full of water. The boiler may display a lockout code. If so, press RESET on the boiler display panel to clear the code.

4. Press the TEST button on the Low Water Cut-Off Relay. The LED on the Low Water Cut-Off Relay should turn red and the boiler display should read F01. Press the RESET button on the boiler display panel. The boiler should reset, then again display F01.

5. Press the RESET button on the Low Water Cut-Off Relay. The LED on the relay should turn green if water is in the boiler. Press the RESET button on the display again. The F01 code should clear and not return.

PIONEER / VERSA-FLAME INSTALLATION INSTRUCTIONS

1. Turn off all electrical power to the appliance. See Figure 7.

⚠ DANGER

DO NOT proceed with installation if the appliance remains powered. Failure to follow this warning will result in property damage, serious personal injury, or death due to electrical shock.

⚠ WARNING

Wait until appliance has had sufficient time to cool before proceeding with the installation. Failure to follow this warning could result in property damage, serious personal injury, or death.

2. Remove the grommet from the left hand side of the appliance to expose the Low Water Cut-Off Sensor. A flat head screwdriver may ease removal of the grommet.

3. Remove the red wire with the female connector from the sensor.

4. Attach the red wire with female connector from the Low Water Cut-Off Relay to the sensor. See Figure 13.

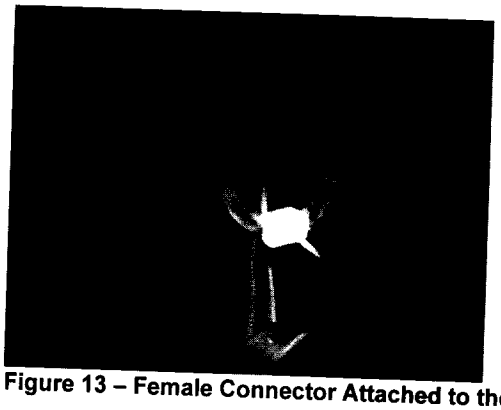

Figure 13 – Female Connector Attached to the Sensor

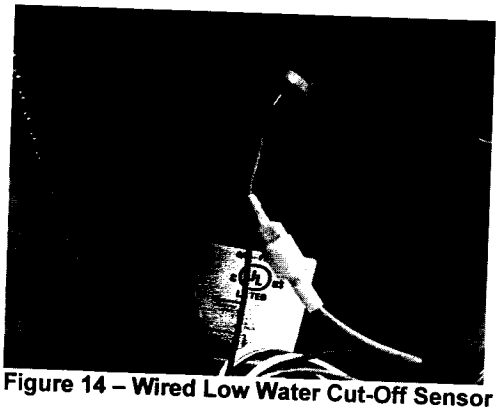

Figure 14 – Wired Low Water Cut-Off Sensor

5. Attach the female connector removed from the sensor to the red wire with the male connector from the Low Water Cut-Off Relay. See Figure 14.

6. Use the (2) self-tapping screws to attach the Low Water Cut-Off Relay to the appliance. Ensure the relay is installed in a location close to the grommet and knockout holes on the appliance cabinet. See Figure 15.

Figure 15 – Relay Installed, Grommet Replaced

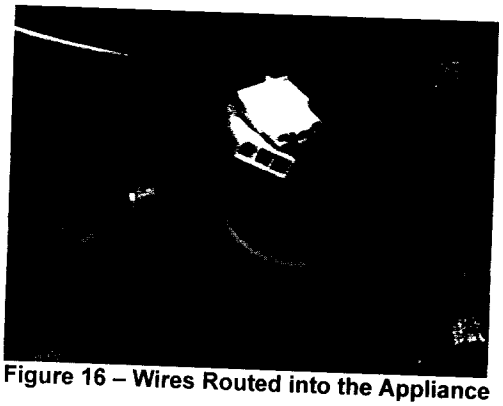

Figure 16 – Wires Routed into the Appliance

7. Replace the grommet.

8. Select a knock out location on the boiler to run the Low Water Cut-Off Wiring to the boiler control.

9. Remove the connector with the looped wire from the female connector with the brown, red, and white wire as shown in Figure 11.

10. Connect the male connector with the brown, red, and white wire from the Low Water Cut-Off Relay in place of the removed looped wire. See Figure 12.

11. Connect the looped wire connector to the unused connector on the Low Water Cut-Off Relay.

Restore power to the appliance and test Low Water Cut-Off operation:

1. The appliance should be full of water and the power on before moving on to the following steps.

2. Use the appliance control to access installer parameter #20 and change the default value to LOW WATER CUTOFF. When done, create a demand for heat and observe appliance function to verify the installation is working properly.

3. Press the RESET button on the Low Water Cut-Off Relay. The LED on the relay

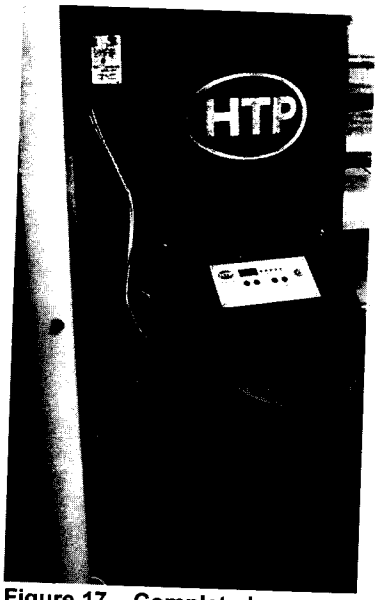

Figure 17 – Completed Assembly

should turn green if the appliance is full of water. The appliance may display a lockout code. If so, press RESET on the appliance display panel to clear the code.

4. Press the TEST button on the Low Water Cut-Off Relay. The LED on the Low Water Cut-Off Relay should turn red and the appliance display should read F01. Press the RESET button on the appliance display panel. The appliance should reset, then again display F01.

5. Press the RESET button on the Low Water Cut-Off Relay. The LED on the relay should turn green if water is in the appliance. Press the RESET button on the display again. The F01 code should clear and not return.