

USER'S INFORMATION MANUAL

SERIES 8HE

Gas - Fired Boiler

DANGER

- If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
 - Do not try to light any appliance.
 - Do not touch any electrical switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

BOILER NOT FOR INSTALLATION ON COMBUSTIBLE FLOORS UNLESS FLOOR SHIELD OR NATIONAL BUILDING CODE APPROVED MATERIALS ARE INSTALLED BETWEEN BOILER AND FLOOR.



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The following terms are used throughout this manual to bring attention to the presence of hazards of various risk levels.

 **WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in death, serious injury or substantial property damage.

 **CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury or property damage.

 **WARNING**

Important Product Safety Information: Refractory Ceramic Fiber Product.

- **Some boiler components such as combustion chamber insulation use materials that contain refractory ceramic fibers (RCF). RCF has been classified as a possible human carcinogen. When exposed to elevated temperatures, RCF may change into crystalline silica, a known carcinogen. When disturbed as a result of servicing or repair, these substances become airborne and, if inhaled, may be hazardous to your health.**
- **Do not handle RCF parts or attempt any service or repair work involving RCF.**
- **Service agency must use precautionary measures as stated in boiler Installation, Operation, and Service manual.**

Basic Operation

CAUTION

- Should overheating occur or the gas supply fail to shut off, do not turn off or disconnect the electrical supply to the pump. Instead, shut off the gas supply at a location external to the appliance.
- Do not use this boiler if any part has been under water. Immediately call a qualified service technician to inspect the boiler and to replace any part of the control system and any gas control which has been under water.

A. General This boiler is equipped with controls for proper operation. All controls must be in proper working order. Contact a qualified service agency to provide annual maintenance as specified in the Installation, Operating and Service Instructions.

WARNING

Service on this boiler should be undertaken only by trained and skilled personnel from a qualified service agency.

1. Limit See Figure 1. A device which automatically interrupts boiler operation when the water temperature exceeds the set point. Maximum allowable boiler water temperature is 220°F. Maximum switch differential is 30°F.
2. Blocked Vent Switch See Figure 1. A device which automatically interrupts boiler operation when excessive vent system blockage occurs. If the control was activated to interrupt boiler operation, do not attempt to place boiler in operation. Contact a qualified service agency.

WARNING

Do not reset Block Vent Switch unless a qualified service agency has determined and corrected the cause of any blockage in the vent system or chimney.

3. Flame Rollout Switch See Figure 1. A device which automatically interrupts boiler operation when flames or excessive heat are present in the vestibule. The control is a single use device. If the control was activated to interrupt boiler operation, do not attempt to place boiler in operation. Contact a qualified service agency.

4. 24-Volt Intermittent Ignition System (EI). See Figure 1. The Electronic Ignition System consists of:

- a. an ignition module to initiate, monitor and stop burner operation.
- b. a combination gas valve to regulate gas flow to burners.
- c. a pilot burner to provide the ignition source for main burners.

B. Instructions to place boiler in operation and to turn off boiler are shown on the Operating Instruction label posted on the inside of the front removable door. See Figure 2 for front door removal instructions. Operating Instructions are also shown in Figure 3.

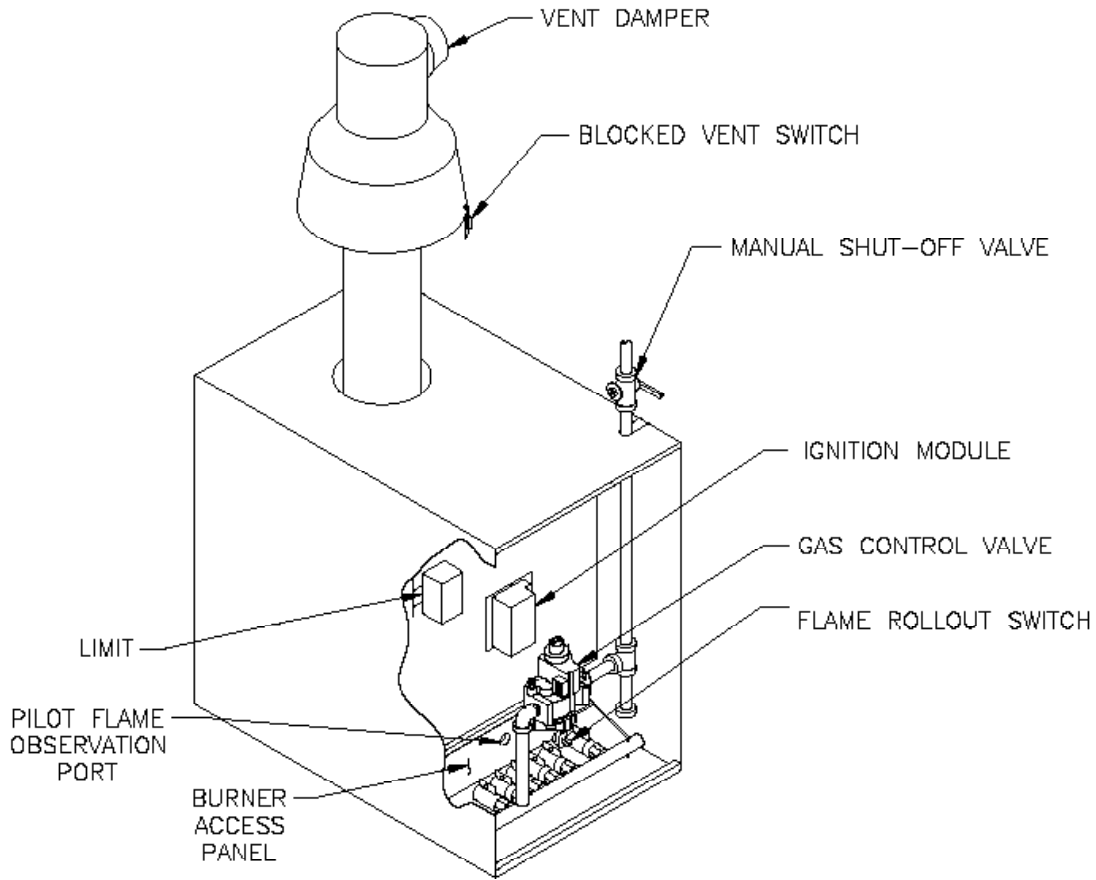


Figure 1: Control Locations

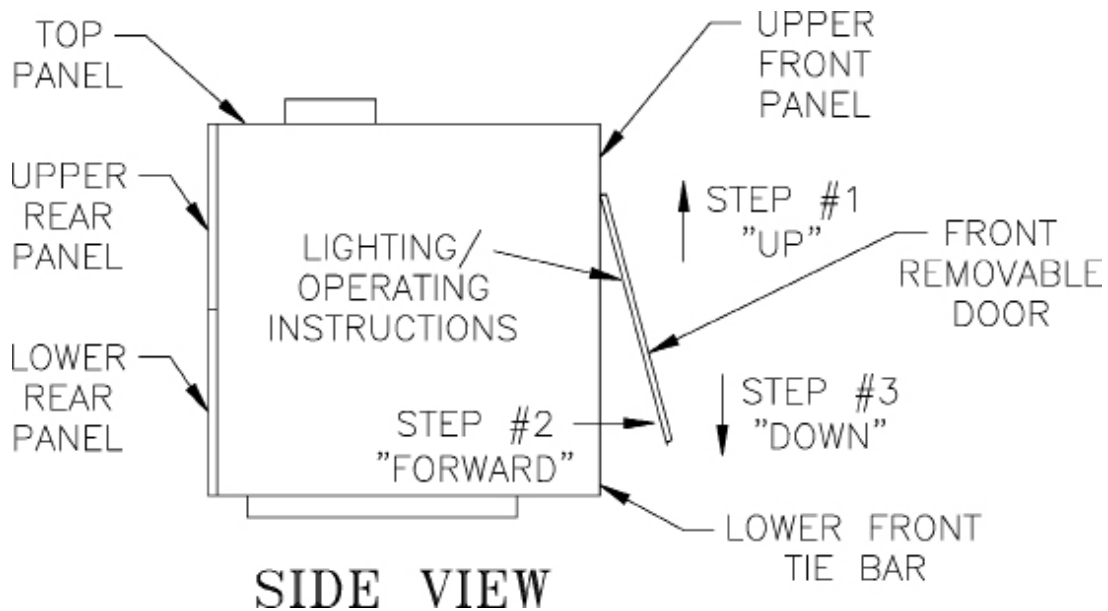


Figure 2: Jacket Front Door Removal

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

A. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.

B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS:

Do not try to light any appliance.

Do not touch any electric switch; do not use any phone in your building.

Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

• If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to turn the gas control knob. Never use tools. If the knob will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.

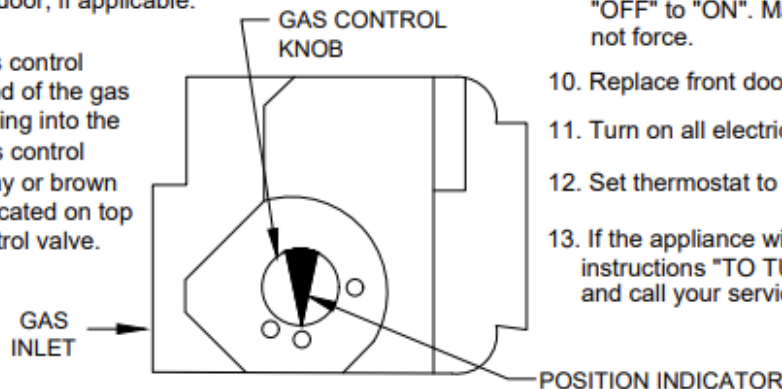
2. Set the thermostat to lowest setting.


3. Turn off all electric power to the appliance.

4. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.


5. Remove front door, if applicable.

6. Locate the gas control valve at the end of the gas supply pipe going into the boiler. The gas control knob is the gray or brown plastic knob located on top of the gas control valve.



7. Rotate gas control knob clockwise  from "ON" position to "OFF". Make sure knob rests against stop.

8. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above on this label. If you do not smell gas, go to the next step.

9. Rotate gas control knob counterclockwise  from "OFF" to "ON". Make sure knob rests against stop. Do not force.

10. Replace front door, if applicable.

11. Turn on all electric power to the appliance.

12. Set thermostat to desired setting.


13. If the appliance will not operate, follow the instructions "TO TURN OFF GAS TO APPLIANCE" and call your service technician or gas supplier.

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to the lowest setting.

2. Turn off all electric power to the appliance if service is to be performed.

3. Remove front door, if applicable.

4. Rotate gas control knob clockwise  from "ON" position to "OFF". Make sure knob rests against stop.

5. Replace front door, if applicable.

Figure 3: Operating Instructions, EI Intermittent Ignition System

Maintenance

⚠ WARNING

- Service on this boiler should be undertaken only by trained and skilled personnel from a qualified service agency. Inspections should be performed at intervals specified in Installation, Operating and Service Instructions and this manual. Maintain manuals in a legible condition.
- Keep boiler area clear and free of combustible materials, gasoline and other flammable vapors and liquids.
- Do not place any obstructions in boiler room that will hinder flow of combustion and ventilation air.

A. General Housekeeping (Continuous).

1. Keep boiler area clear and free of combustible materials and obstructions to the free flow of combustion and ventilation air to the boiler.
2. Do not store or use gasoline or other flammable vapors, liquids or other sources of hydrocarbons in the vicinity of the boiler or any other appliance.
3. Do not store or use halogen-containing products (bleaches, cleaners, chemicals, fabric softeners, refrigerants, etc.) in the vicinity of the boiler.

B. Inspect Vent System (Monthly). See Figure 4.

4. Follow instructions TO TURN OFF GAS TO APPLIANCE (see Figure 3) and contact a qualified service agency if any of the following conditions are found:

1. Collapsed vent pipe
2. Disconnected or loose joints
3. Sags in horizontal runs
4. Corrosion or other deterioration
5. Broken or loose supports
6. Blocked vent switch not attached to draft hood.

C. Inspect Pilot and Main Burner Flame (Monthly).

1. Adjust thermostat to lowest setting.
2. Remove front removable panel. See Figure 2.
3. Adjust thermostat to highest setting.
4. Check pilot burner flame through observation port. See Figure 5 for pilot burner illustration. The center flame should be steady, medium hard blue enveloping 3/8 to 1/2 inch of thermocouple. If flames are yellow and lazy, follow instructions TO TURN OFF GAS TO APPLIANCE (see Figure 3) and contact qualified service agency.
5. Check main burner flames through observation port. See Figure 6. Flame should have clearly defined inner cones with no yellow tipping. Orange-yellow streaks caused by dust should not be confused with true yellow tipping. If yellow flames are observed, follow instructions TO TURN OFF GAS TO APPLIANCE (see Figure 3) and contact qualified service agency.
6. Adjust thermostat to normal setting.

D. Schedule Inspection by Qualified Service Agency (Annual or at Beginning of Heating Season).

For continued safe operation a qualified service agency must provide a more detailed inspection of burners, heat exchanger and vent system, and provide maintenance as specified in Installation, Operating and Service Instructions.

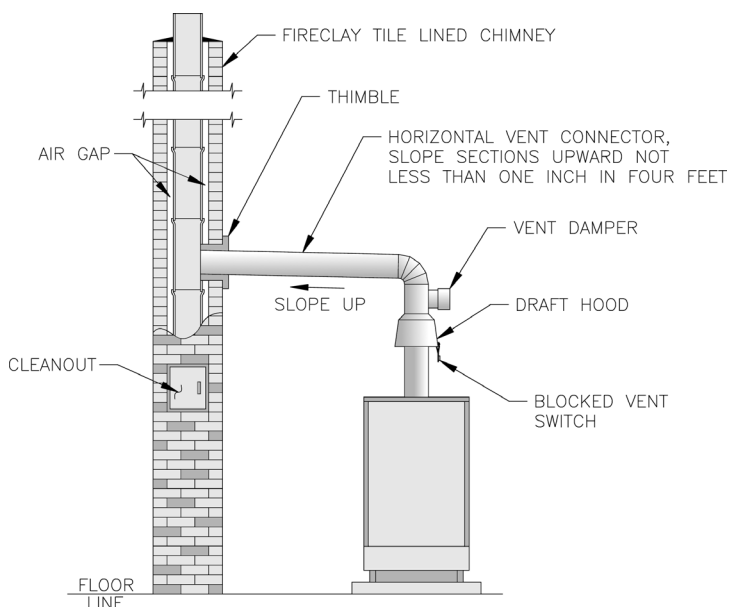


Figure 4: Typical Vent System Installations

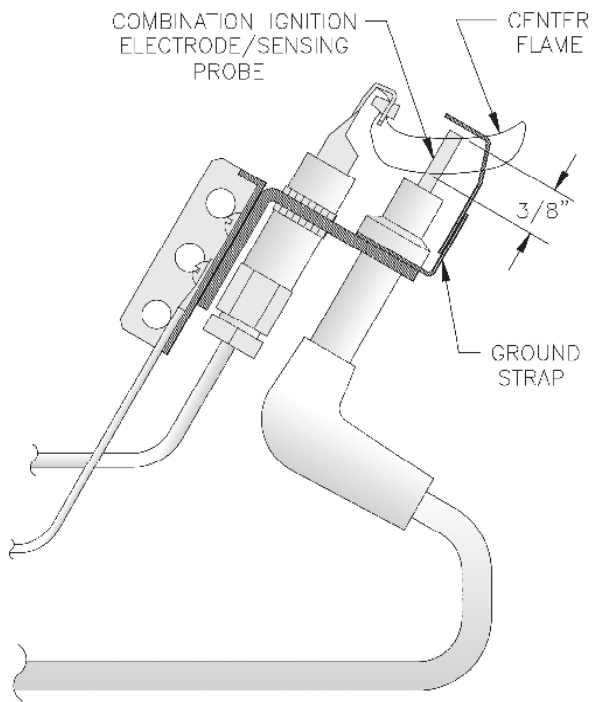


Figure 5: Honeywell Q3481B Pilot Flame

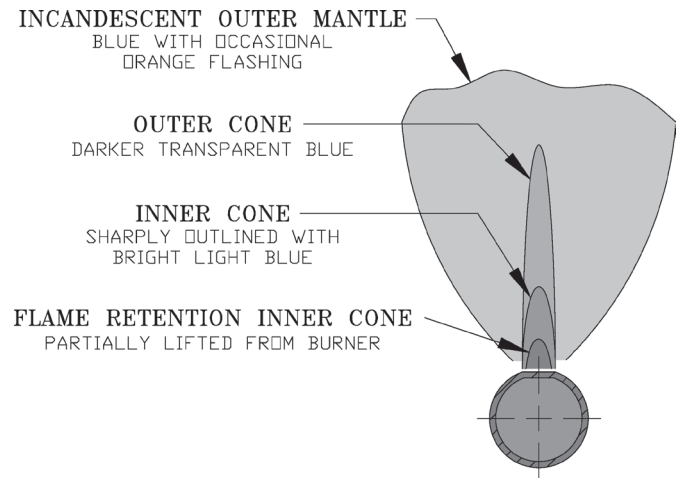


Figure 6: Main Burner Flame

All Series 8HE repair parts may be obtained through your local Burnham Commercial wholesale distributor. Should you require assistance in locating a Burnham distributor in your area, or have questions regarding the availability of Burnham products or repair parts, please contact Burnham Customer Service at 888-791-3790 or Fax (717) 293-5803.