

USER'S INFORMATION MANUAL SERIES DV GAS FIRED HOT WATER HEATING BOILER

WARNING: 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.

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.

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.



Utica Boilers

2210 Dwyer Avenue, Utica NY 13504-4729

Phone: (315) 797-1310 • Fax: (866) 432-7329

e-mail: info@ecrinternational.com

web site: www.ecrinternational.com

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INSTRUCTIONS FOR OPERATION AND MAINTENANCE OF GAS FIRED HOT WATER HEATING BOILER

RETAIN FOR FUTURE REFERENCE

SAFETY SYMBOLS & WARNINGS

Following defined symbols are used throughout this manual to notify reader of potential hazards of varying risk levels.

Utica Boilers recommends all boiler maintenance be performed by a trained heating technician.

Before any procedures are attempted on this appliance, it is necessary to determine if ignition system is electric or standing pilot system. If you are uncertain, contact manufacturer before proceeding.

DANGER



Indicates a hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING



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

CAUTION



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

NOTICE

Indicates information which should be followed to ensure proper installation and operation.

LIGHTING INSTRUCTIONS

WARNING



Before lighting any type of pilot burner (standing or intermittent), make certain hot water boiler and system are full of water to minimum pressure of 12 lbs. per square inch in the system, and also make certain the system is vented of air. Refer to following appropriate lighting instruction.

LIGHTING PROCEDURE FOR BOILER WITH INTERMITTENT PILOT SYSTEM

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 appliance 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. Read *"What To Do If You Smell Gas"* on front page of this manual.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or 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 For Intermittent Pilot System

1. **STOP!** Read the safety information above.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.



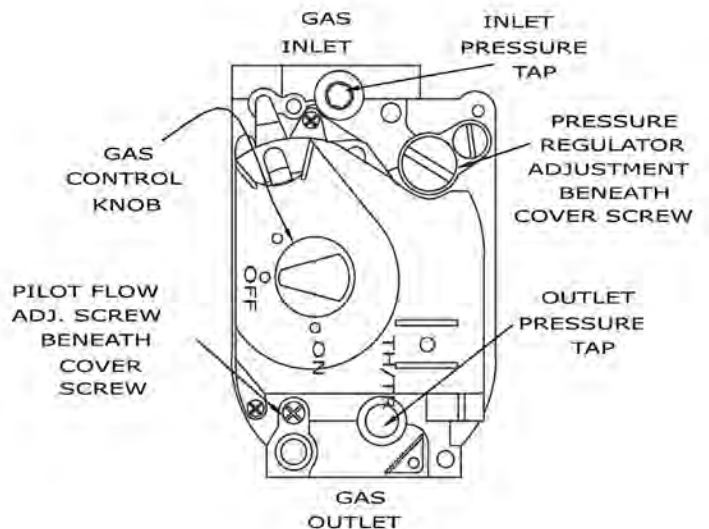

4. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light pilot by hand.
5. Remove jacket front panel.
6. Turn gas control knob clockwise  to "OFF." See Figure 1.
7. Wait (5) minutes to clear out any gas. If you then smell gas, **STOP!** Follow *"What To Do If You Smell Gas"* on front cover of this manual. If you don't smell gas, go on to the next step.
8. Turn gas control knob counterclockwise  to "ON."
9. Replace jacket front panel.
10. Turn on all electric power to the appliance.
11. Set thermostat to desired setting.
12. If the appliance will not operate, follow the instructions *"To Turn Off Gas To Appliance"* on page 4 and call a qualified service technician or your gas supplier.

Figure 1 - Intermittent Pilot



To Turn Off Gas To Appliance

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Push in gas control knob slightly and turn clockwise  to "OFF." DO NOT FORCE.
4. Replace jacket panel.

GENERAL INSTRUCTIONS

Before seasonal start-up, have qualified service agency check boiler for soot and scale in the flues, clean burners and check gas input rate to maintain high operating efficiency.

Put about one half teaspoon of SAE 20 or 30 non-detergent motor oil in each opening twice a year.



CAUTION

Do Not Over Oil!!



CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

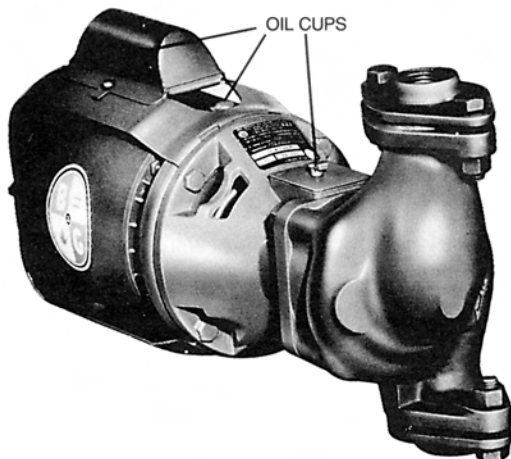
Verify proper operation after service.

Service agency or owner should make certain system is filled with water to minimum pressure and open air vents, if used, to expel any air that may have accumulated in the system. Check the entire piping system and, if any leaks appear, have them repaired.

Many circulators have oil opening for shaft bearing. This should be oiled at same time for quiet operation. Follow manufacturer's instructions for oiling shaft bearing.

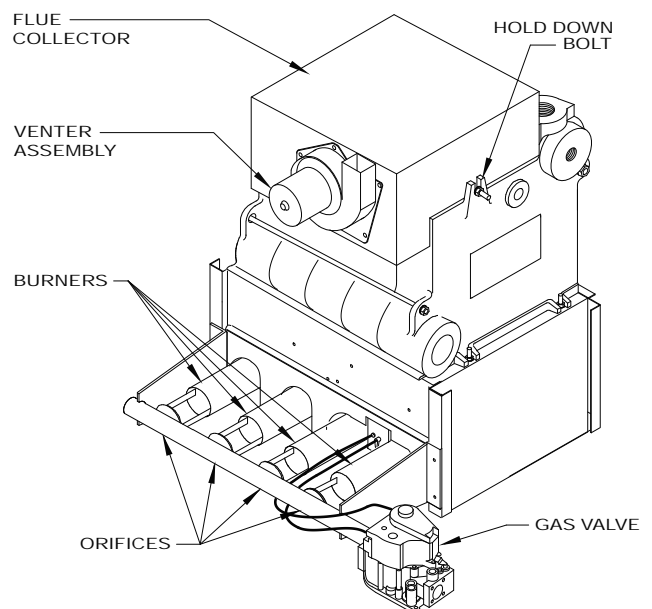
Venting system should be inspected at start of each heating season. Check vent pipe from boiler to chimney for signs of deterioration by rust or sagging joints. Repair if necessary. Remove vent pipe at base of chimney or flue and using a mirror, check for obstruction and make certain vent is in good working order.

Figure 2 - Circulator



Many circulators like the one pictured in Figure 2 (above) require periodic servicing. Motor usually has openings at each end to lubricate bearings.

Figure 3 - Boiler Flue Gas Passageways



GENERAL INSTRUCTIONS

Before seasonal start up it is advisable to have qualified service agency check boiler for soot and scale in the flues, clean burners and check gas input rate to maintain high operating efficiency. Service agency should make certain system is filled with water to minimum pressure and open air vents - if used - to expel any air that may have accumulated in system. Entire piping system should also be checked and if any leaks appear, they should be repaired immediately.



Venting system should also be inspected at start of each heating season. Vent pipe from boiler should be checked for signs of deterioration or sagging joints. Repair if necessary.

Following procedure should be followed to clean and check flue gas passageways:

1. Remove burners from combustion chamber by raising burners up from manifold orifices and pulling toward front of boiler, (See Figure 4)
2. Disconnect vent pipe from vent adapter.
3. Remove jacket front panel. (See Figure 5)
4. Check venter assembly suction pressure.
 - Connect slope manometer between venter and pressure switch with tee and additional tubing and connectors.
 - Turn boiler on and read suction pressure on manometer. Reading should be negative (-) $.55 \pm .05$ inches of water column or higher for DV50 thru 150 and negative (-) $.65 \pm .05$ inches of water column or higher for DV200. If this reading is not attainable, contact qualified service agency.
5. Remove flue collector and venter assembly from boiler castings by loosening hold-down bolts located on each side of flue collector. (See Figure 3)
6. Visually inspect venter assembly for any unusual wear or dirt build up.
7. If venter has oil cups lubricate venter motor once a month during heating season with few drops of non-detergent motor oil (SAE 20 or 30). Do not over oil.
8. Place sheet of heavy paper or similar material in bottom of combustion chamber and brush down flue passageways. Soot and scale will collect on paper and is easily removed with paper.

Visual check of main burner and pilot flames should be made at start of heating season and again in mid-season.

Main burner flame should have well defined inner blue mantel with lighter blue outer mantel. (See Figure 6) If flame does not appear this way, check burner throats and burner orifices for lint or dust obstructions.

Pilot flame should envelop $3/8$ to $1/2$ inch of tip of ignition electrode (See Figure 7). To adjust pilot flame, remove pilot adjustment cover screw on gas valve and turn inner screw clockwise  to decrease or counterclockwise  to increase pilot flame. See Figure 1. Be sure to replace cover screw after adjustment to prevent possible gas leakage.

Burners and pilot should be checked for signs of corrosion, rust or scale build-up, and cleaned with nylon bristle brush.

Area around boiler must be kept clear and free of combustible materials, gasoline and other flammable vapors and liquids.

Free flow of combustion and ventilating air to boiler and boiler room must not be restricted or blocked.

In event flow of combustion products through flueways or boiler venting system becomes blocked, flame roll-out safety switch will shut off main burner gas. See Figure 5. If this condition occurs, do not attempt to place boiler in operation. Contact qualified service agency.

It is suggested that qualified service agency be employed to make annual inspection of boiler and heating system. They are experienced in making inspection outlined above and in event repairs or corrections are necessary, they can make proper changes for safe operation of boiler.

Figure 4 - Burners, Burner Orifices

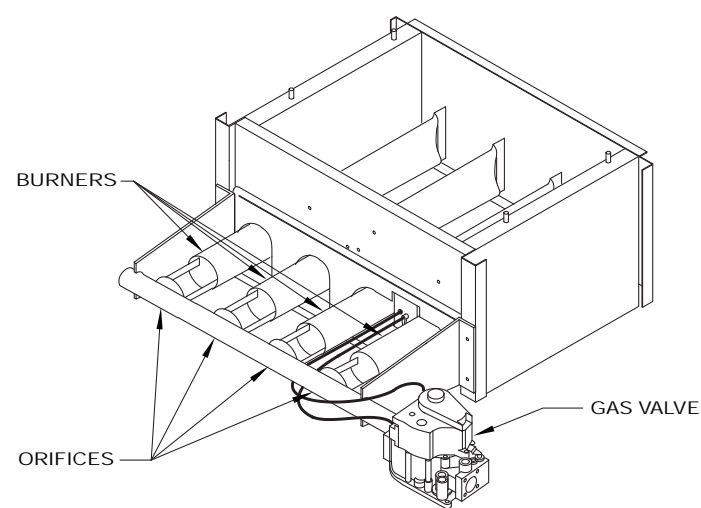


Figure 5 - Boiler Front with Safety Switch

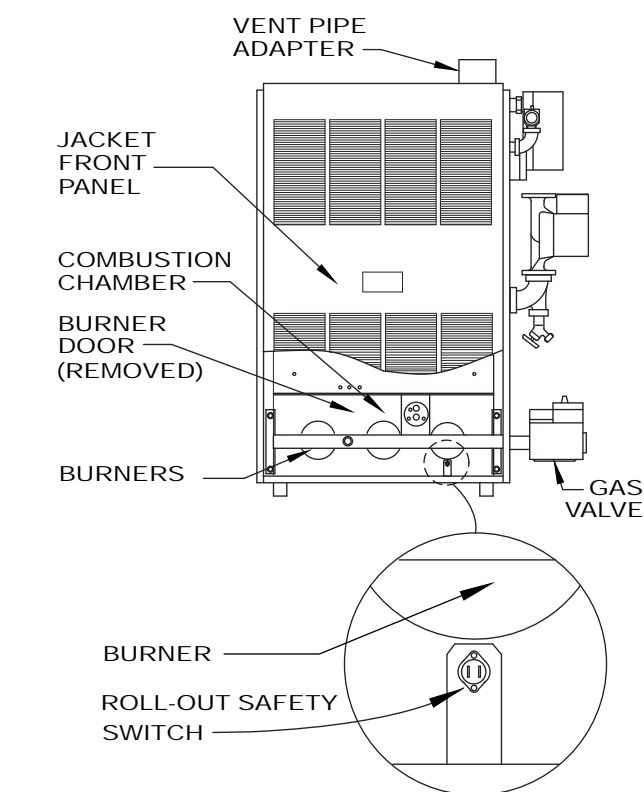


Figure 6 - Burner Flame

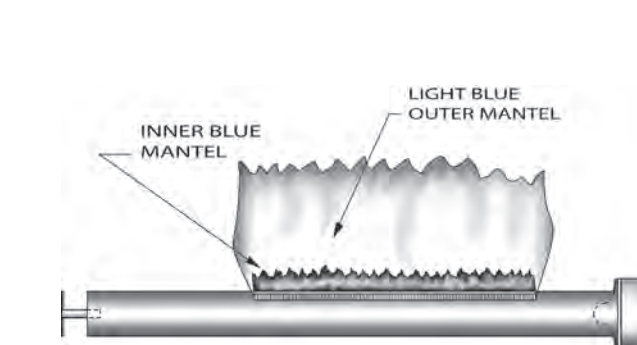
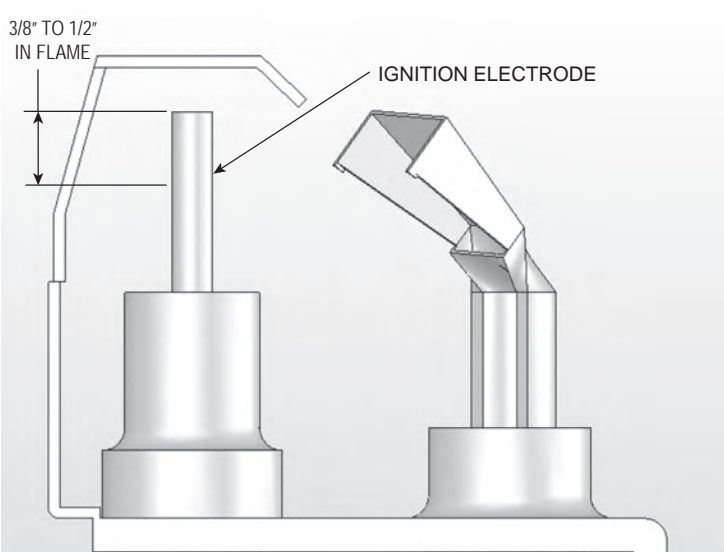


Figure 7 - Burners Pilot Flame



NOTES

NOTES

Date of Installation: _____

Boiler Model #: _____

Installed By: _____



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