

**OIL-BURNING EQUIPMENT:
HIGH EFFICIENCY HOT-WATER BOILERS**

P/N# 240007138 Rev B [07/08]

NOTICE

- **READ AND SAVE THESE INSTRUCTIONS FOR REFERENCE.**
- **USE ONLY NUMBER 2 FUEL OIL.**



CAUTION

- **DO NOT USE GASOLINE, CRANKCASE DRAININGS, OR ANY OIL CONTAINING GASOLINE.**
- **NEVER BURN GARBAGE OR PAPER IN THE UNIT, AND NEVER LEAVE COMBUSTIBLE MATERIAL AROUND IT.**



WARNING

- **KEEP YOUR BOILER AND THE SPACE AROUND THE APPLIANCE CLEAR OF DEBRIS. DO NOT STACK ITEMS ON OR AROUND THE APPLIANCE WITHIN THE REQUIRED CLEARANCES TO COMBUSTIBLES.**
- **ENSURE THAT THE SUPPLY OF COMBUSTION AIR TO THE APPLIANCE IS NOT OBSTRUCTED OR CUT OFF. ENSURE THAT THE PROPER VENTILATION TO THE APPLIANCE AREA IS MAINTAINED.**

INSTRUCTIONS TO OBTAIN PROPER OPERATION OF THE BOILER

CAUTION

- ***DO NOT SET COMBUSTION VISUALLY.***
- ***DO NOT START THE BURNER UNLESS ALL CLEAN-OUT DOORS ARE SECURED IN PLACE.***
- ***DO NOT ATTEMPT TO START THE BURNER WHEN EXCESS OIL HAS ACCUMULATED, WHEN THE UNIT IS FULL OF VAPOR, OR WHEN THE COMBUSTION CHAMBER IS VERY HOT.***

Instruments are the only reliable method to determine proper combustion adjustments. An improperly adjusted burner causes soot and high fuel bills due to the incomplete combustion of the fuel oil. This in turn may require excessive boiler maintenance, service costs, and in some instances, house cleaning or redecorating. A competent service mechanic should be consulted to make the proper adjustments with a smoke tester, CO₂ indicator and draft gauge. Bacharach or Dwyer test kits include these instruments.

A 1/4" NPT plug is provided in the burner swing door to take draft readings in the combustion chamber. A 1/4" diameter hole will be required in the flue pipe between the boiler and barometric damper (if used) to take draft, CO₂, smoke and temperature readings. Adjust air shutter on oil burner to obtain a "trace" of smoke. Measure CO₂ at this point. Increase air adjustment to lower CO₂ approximately one (1) percent. Check to ensure zero (0) smoke and correct draft is obtained for the unit installed (reference the Boiler Installation Manual for correct draft settings). If the proper draft can not be maintained, changes and/or modifications may be required in the venting or the chimney.

SHUTTING DOWN THE BOILER FOR EXTENDED PERIODS OF TIME



CAUTION

ALWAYS KEEP THE OIL SUPPLY VALVE SHUT OFF IF THE BURNER IS SHUT DOWN FOR AN EXTENDED PERIOD OF TIME.

- Always turn off electrical power to the boiler via the field installed fused disconnect switch if the boiler is shut down for an extended period of time.
- When restarting the boiler from an extended shutdown, follow the Operating Instructions in the Installation Manual and Operating Instructions.

GENERAL MAINTENANCE DURING OPERATION

The following preventative maintenance should be performed by a qualified service technician annually prior to the heating season.

Preventative maintenance of an oil fired boiler reduces operating costs. The boiler and vent pipe should be inspected for accumulation of soot or scale deposits periodically but at least once every year before the start of each heating season. When soot is present on the section walls and flue ways, improper combustion will result, causing additional sooting and scaling until flue ways are completely closed.



WARNING

ALWAYS DISCONNECT POWER TO THE BOILER WITH THE EMERGENCY POWER ISOLATION SWITCH WHEN SERVICING THE BOILER. THE EMERGENCY POWER ISOLATION SWITCH IS FIELD INSTALLED AND SHOULD BE WITHIN 5 FEET OF THE BOILER.

OIL BURNER MAINTENANCE

1. **Oil Burner Motor** – Add two-three drops of non-detergent electric motor oil to each oil cup located at the front and rear of the motor if so equipped. Excessive oiling will shorten the life expectancy of the motor.
2. **Fuel Filter** – This should be replaced so as to prevent contaminated fuel from reaching the nozzle. A partially blocked fuel filter can cause premature failure of the fuel pump unit.
3. **Fuel Pump Unit** – Replace pump screen and clean pump unit to maintain reliable fuel delivery to the nozzle.
4. **Ignition Electrodes** – Clean and adjust as per manufacturer's recommendations, so as to maintain reliable ignition of the oil.
5. **Nozzle** – Replace annually as to maintain safe and reliable combustion efficiency.
6. **Fan and Blower Housing** – These must be kept clean, free of dirt, lint and oil so as to maintain the proper amount of air the fuel requires to burn.

BOILER CLEANING INSTRUCTIONS

Cleaning is to be performed by a qualified service technician.

1. Shut off all electrical power to the boiler/burner and shut off fuel supply.
2. For access to the combustion chamber remove the 4 bolts. If boiler is equipped with flexible fuel lines, swing door open.
3. Remove the vent connector.
4. Remove the baffles from the flue passages. There is a pair of baffles in each boiler. The baffles are installed in the 3rd pass (two inner flue ways.)
5. Clean the 3rd Pass – Insert a 2" dia. x 42" long wire or fiber bristle brush into each of the two 3rd passes. Using long strokes, push the brush all the way through the boiler until the brush has exited the smoke box opening. Pull the brush all the way forward until it has exited the front of the boiler. Continue this operation for the entire length of the flue way until clean. Repeat the operation for the other 3rd pass flue way.

BOILER CLEANING INSTRUCTIONS

6. Clean the 2nd Pass – Insert a 2” dia. x 42” long wire or fiber bristle brush into each of the two 2nd passes. Using long strokes, push the brush all the way through the boiler until the brush hits the back wall of the reversing chamber. Pull the brush all the way forward until it has exited the front of the boiler. Continue this operation for the entire length of the flue way until clean. Repeat the operation for the other 2nd pass flue way.
7. Vacuum the loose debris in the bottom of the combustion chamber and smoke box.
8. For more detailed instructions, see Installation, Operation & Maintenance manual.

HOMEOWNER AND OPERATOR INSTRUCTIONS

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CAUTION

***DO NOT TAMPER WITH THE UNIT OR CONTROLS
– CALL YOUR QUALIFIED SERVICE TECHNICIAN.***

Contact a qualified service technician before remodeling, for annual service/maintenance, before extended periods of shutdown, and before start-up.

Service Personnel Information

Name: _____

Address: _____

Telephone Number: _____