

# Homeowner Instructions

## OIL-BURNING EQUIPMENT HIGH EFFICIENCY HOT-WATER BOILERS

### **WARNING**

Fire, explosion, asphyxiation and electrical shock hazard. Improper maintenance and service could result in death or serious injury. Read this manual and understand all requirements, including use of qualified agency where directed.

### **WARNING**

Maintenance and Service must be completed by qualified agency.  
Modification, substitution or elimination of factory equipped, supplied or specified components may result in personal injury or loss of life.  
TO THE OWNER - Installation and service of this boiler must be performed by a qualified installer.  
TO THE INSTALLER - Leave all instructions with boiler for future reference.

### **NOTICE**

1. Read and save these instructions for reference.
2. Use only #2 fuel oil. Do not use gasoline, crankcase drainings, or any oil containing gasoline.
3. Never burn garbage or paper in the unit, and never leave combustible material around the boiler. Do not stack items on or around the appliance within the required clearance to combustibles.
4. Ensure the supply of combustion air to the appliance is not obstructed or cut off. Ensure the proper ventilation to the appliance area is maintained.
5. Do not tamper with unit or controls call your service agent.

**Information and specifications outlined in this manual in effect at the time of printing of this manual. ECR International reserves the right to discontinue, change specifications or system design at any time without notice and without incurring any obligation, whatsoever.**



**ECR** international

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**⚠ WARNING**

Fire, Explosion, Asphyxiation, Electrical shock hazard! Flooding will result in damages such as electrical problems, corrosion, inoperative parts, mold and other unforeseen issues which can occur over time. Any equipment determined by a professional as damaged by a flood, defined as excess of water or other liquid, shall be replaced. Failure to follow these directions will result in a Hazardous Situation.

**⚠ WARNING**

- Do not set combustion visually.
- Do not start burner unless all clean-out doors are secured in place.
- Do not attempt to start burner when excess oil has accumulated, when unit is full of vapor, or when combustion chamber is very hot.

**⚠ WARNING**

This product contains Fibrous glass. Fibrous glass is a synthetic fiber made from tiny particles of glass. Fibrous glass has been classified as a possible human carcinogen. When disturbed as a result of servicing or repair, fibrous glass becomes airborne and, if inhaled, may be hazardous to your health. It can harm the eyes, skin, and the lungs. Airborne fibers from these materials have been listed by the State of California as a possible cause of cancer through inhalation. Adhere to the following precautions and procedures. Avoid breathing dust and contact with skin and eyes. Use NIOSH certified dust respirator (e.g., N95). Other types of respirators may be needed depending on the job site conditions. Current NIOSH recommendations can be found on the NIOSH website <https://www.cdc.gov/niosh/>. Approved respirators, manufacturers, and phone numbers are also listed on this website. Wear appropriate personal protective clothing to prevent skin contact, as well as gloves and eye protection. Wash skin daily at end of each work shift, and prior to eating, drinking, smoking, etc. Workers whose clothing may have been contaminated should change into uncontaminated clothing before leaving the work premises. Wash potentially contaminated clothes separately from other clothing. Rinse clothes washer thoroughly. Follow all Local, State and Federal guidelines for disposal.

NIOSH stated First Aid. Eye: Irrigate immediately. Breathing: Fresh air.

**Boiler Start-Up Information**

- Have a qualified service technician perform the startup procedures. Refer to boiler Installation, Operation & Maintenance Manual for full details.
- Instruments are the only reliable method to determine proper combustion adjustments. An improperly adjusted burner causes soot and high fuel bills due to incomplete combustion of fuel oil. This may require excessive boiler maintenance, service costs, and in some instances, house cleaning or redecorating.
- ¼" NPT plug is provided in burner swing door to take draft readings in combustion chamber.
- Chimney vent only, does not apply to direct vent boilers. ¼" diameter hole is required in the flue pipe between boiler and barometric damper (if used) to take draft, CO<sub>2</sub>, smoke and temperature readings.
- Adjust air shutter on oil burner to obtain "trace" of smoke. Measure CO<sub>2</sub> at this point. Increase air adjustment to lower CO<sub>2</sub> by one-half (1/2) percent to one (1) percent.
- Verify zero (0) smoke and correct draft is obtained for installed unit. Reference boiler Installation, Operation & Maintenance Manual for correct draft settings. If proper draft can not be maintained, changes and/or modifications may be required in venting or chimney.

**Restarting after Ignition Failure (Lockout)**

*Beckett Oil Burners:*

- Soft lockout is indicated by flashing red status light on oil burner primary control. The reset button may be pressed and released to reset the control. If there is a call for heat the burner will restart.
- If control continues to lockout without a satisfied call for heat, or fails motor relay check, control enters Hard Lockout.
- Hard Lockout is indicated by red status light illuminating continuously. Contact qualified service technician to reset a hard lockout.

*Riello Oil Burners:*

- Lockout is indicated by red reset button illuminating on oil burner primary control. Press and release red reset button ONCE to reset the control. If there is call for heat burner will start.
- Burner goes into lockout second time, or fails to operate after reset button is pushed, contact qualified service technician to service boiler.

*Carlin Oil Burners:*

- If lockout occurs, the oil burner primary control screen turns on, fault icon flashes and fault message is displayed on the screen.

- To reset from lockout, push in and hold the red reset button for 1 second, then release. If there is a call for heat, the burner will restart.
- NOTE: Recycling power to the control will not reset it from lockout condition.
- If control locks out 3 times during a single call for heat, Latch-Up will be displayed on the screen.
- Contact a qualified service technician to reset a latch-up.

### General Maintenance During Operation

- Have a qualified service technician perform preventive maintenance prior to heating season.
- Preventive maintenance of oil fired boiler reduces operating costs.
- Boiler and vent pipe should be inspected for accumulation of soot or scale deposits periodically but a least once every year before start of the heating season. When soot is present on the section walls of the flue ways, improper combustion will result, causing additional sooting and scaling until flue ways are completely closed.
- Boiler installer should have provided an emergency power isolation switch located within 5 feet of the boiler.

### **WARNING**

Electrical shock hazard. Disconnect power to boiler with emergency power isolation switch when servicing boiler. Failure to do so could result in death or serious injury.

### Oil Burner Maintenance

Have a qualified service technician perform oil burner maintenance.

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

### Boiler Cleaning Instructions

- Have a qualified service technician perform cleaning.
- Shut off all electrical power to boiler/burner and shut off fuel supply.
- Remove 4 bolts for access to combustion chamber. If boiler is equipped with flexible fuel lines, swing door open.
- Remove vent connector.
- Remove baffles for cleaning. 4,5,6 section boilers are factory equipped with pair of baffles installed in third pass (two inner flueways).
- Clean 3rd pass - insert 2" diameter x 42" long wire or fiber bristle brush into each of the two 3rd passes. Using long strokes, push brush all the way through the boiler until brush has exited the smoke box opening. Pull the brush all the way forward until it exits the front of the boiler. Continue this operation for the entire length of flue way until clean. Repeat operation in other 3rd pass flue way.
- Clean 2nd pass - insert 2" diameter x 42" long wire or fiber bristle brush into each of the two 2nd passes. Using long strokes, push brush all the way through the boiler until brush hits back wall of reversing chamber. Pull the brush all the way forward until it exits the front of the boiler. Continue this operation for the entire length of flue way until clean. Repeat operation in other 2nd pass flue way.
- Vacuum loose debris in bottom of combustion chamber and smoke box.
- See Installation, Operation & Maintenance Manual for more information.

### Shutting Down The Boiler for Extended Periods of Time

#### **NOTICE**

Keep oil supply valve shut Off if burner is shut down for extended period of time.

- Turn off electrical power to boiler using field installed fused disconnect switch if boiler is shut down for extended period.
- When restarting boiler from extended shut-down, follow Operating Instructions in the Installation, Operation & Maintenance Manual.

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

Date of Installation: \_\_\_\_\_

Boiler Model #: \_\_\_\_\_

Installed By: \_\_\_\_\_



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