

**Service & Maintenance Instructions****Section 4****4.1 SERVICE & MAINTENANCE INSTRUCTIONS****WARNING**

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

WARNING

If any part of this boiler has been under water, inspect the boiler and replace any part of the control system and any gas control which has been under water.

This boiler has been designed to provide years of trouble-free performance in normal installations. The owner or user should conduct a general external examination covering all items on the "User Checklist" at the beginning of each heating season and in mid-heating. In addition, the owner or user will have the boiler inspected by qualified service technician or gas supplier's service person at least **once every year** at the beginning of the heating season for continued safe operation. Note that some operating conditions may require more frequent inspections.

The qualified service technician or gas supplier's service person should follow the "Service Checklist". The "Service Checklist" must only be used by a qualified service technician or gas supplier's service person.

Verify proper operation after servicing.

4.2 CLEANING PROCEDURE

1. Shutdown the boiler as described in the lighting instructions in *Section 1.6*.
2. Inspect flue gas passages and burners for the presence of soot, rust or scale.
3. If necessary, use a wire brush and vacuum to clean and remove any blockages. Plugged burner ports must be cleared.
4. Replace any parts which have severely corroded.
5. Reassemble parts removed during cleaning as they were before, ensuring air tightness of flue gas passages.
6. Corrosion can be caused by low return water temperature or a contaminated air supply. Sooting can be caused by improper burner adjustment. Check and adjust as necessary.
7. Return boiler to operation following lighting instructions in *Section 1*.



4.3 SERVICE CHECKLIST

	<i>Reference Section</i>
<input type="checkbox"/> Do not store anything against the boiler or allow dirt or debris to accumulate in the area immediately surrounding the boiler. The flow of supply and exhaust air must not be obstructed.	2.5
<input type="checkbox"/> Check air openings are not restricted and complies with applicable code(s). Adequate supply air is necessary for combustion, flue gas dilution and ventilation.	2.2, 2.5, 2.6, 2.7
<input type="checkbox"/> When the boiler has operated for several minutes, check for spillage at draft hood, venting ducts, and other areas susceptible to spillage.	3.7
<input type="checkbox"/> Check externally the draft hood and vent system for soot, rust scale or corrosion. Check for dislodged venting or possible leaks in venting ducts.	
<input type="checkbox"/> Remove the draft hood from the boiler and inspect the flueways for the presence of soot or rust scale. Inspect the draft hood and smoke pipe connecting the draft hood to the flue for rust or corrosion before replacing the draft hood. The presence of soot, rust scale or corrosion indicates misadjustment.	4.2
<input type="checkbox"/> Inspect and, if necessary, clean the pilot burner and main burner. Check burners to see that they are not cracked or dislodged.	3.3, 4.2
<input type="checkbox"/> Visually check the pilot and main burner flames. A yellow flame caused by improper adjustment is always accompanied by formation of soot which, if allowed to continue, will partially restrict free passage of products of combustion to the flue.	3.3
<input type="checkbox"/> Check that gas piping is secured. Smell for gas leaks around boiler and gas piping connections. Gas leaks can also be checked for using a soap solution; do not use an open flame to check for leaks. Note: Propane is heavier than air and pools in a low area in the event of a leak.	3.9
<input type="checkbox"/> Inspect boiler for signs of leaks or corrosion. Inspect for leaks in the water piping and at water piping connections.	
<input type="checkbox"/> Circulating pumps used with hot water heating systems should be inspected for water leaks.	
<input type="checkbox"/> Check for weeping at pressure relief valve outlet during normal operation.	2.13
<input type="checkbox"/> Listen for unusual audible sounds in the boiler. Any audible sounds in the boiler system may be indications of scaling or lack of sufficient water flow and the system should be checked without delay. Scaling is due to improper maintenance. It is not the fault of the boiler. Scale damage is not covered by warranty.	2.12, 4.4
<input type="checkbox"/> Check the temperature and pressure gauge and expansion tank pressure is within an acceptable range for the heating system.	
<input type="checkbox"/> Keep boiler area clear and free from combustible materials, gasoline and other flammable vapors and liquids. Combustible materials, gasoline and other flammable vapors and liquids should not be stored in the area of the boiler.	
<input type="checkbox"/> Checks should be made on ignition system, operation controls and safety shut-off valves for gas tightness.	2.4, 3.9
<input type="checkbox"/> If applicable, inspect low water cutoff for proper operation.	
<input type="checkbox"/> Check for proper operation of the blocked vent and flame roll-out safety switches.	
<input type="checkbox"/> The emergency shut-off devices are identified and the owner is aware of their location and method of operation.	



4.4 CAUTION: WATER REPLENISHMENT

Avoid unnecessary replenishment of system water. It can allow oxygen to enter the system and cause serious corrosion problems. As well, an excessive amount of minerals may be deposited in the heat exchanger. Do not draw water from the heating system for cleaning, flushing, etc.

Any audible sounds in the boiler system may be indications of scaling or lack of sufficient water flow and the system should be checked without delay. Scaling is due to improper maintenance. It is not the fault of the boiler. Scale damage is not covered by warranty.

4.5 REFRACTORY HANDLING PROCEDURE

WARNING

The mineral block and fiberglass wool used in this product are RCFs (Refractory Ceramic Fibers). RCFs pose a possible cancer hazard by inhalation and can cause respiratory, skin and eye irritation.

After mineral block has been fired, it will produce increased levels of nuisance dust and poses increased carcinogenic risk.

Follow the precautionary measures below before attempting service or access.

PRECAUTIONARY MEASURES:

- Avoid breathing fibers and contact with skin and eyes.
- Use a National Institute for Occupational Safety and Health (NIOSH) approved dust/mist respirator.
- Wear long-sleeved, loose fitting clothing, gloves and eye protection.
- Wash work clothes separately from other clothing. Rinse washer thoroughly.
- Operations such as sawing, blowing, tear out and spraying may generate airborne fiber concentration requiring additional protection.
- Use a vacuum with a HEPA filter for clean up.
- Dispose of all RCF scrap and dust in a closed airtight plastic bag.

FIRST AID MEASURES:

- Eye contact – Flush eyes with water to remove dust for at least 15 minutes. If irritation persists, seek immediate medical attention.
- Skin contact – Wash affected area gently with soap and warm water after handling.
- Difficulty breathing – Move to an area of clean fresh air. Seek immediate medical attention if difficulties persist.
- Ingestion – Do not induce vomiting. Drink plenty of water. Seek immediate medical attention.