

15.0 ANNUAL MAINTENANCE AND INSPECTION

This unit must be inspected at the beginning of every heating season by a Qualified Technician.

Annual Inspection Checklist

- ☐ 1. Lighting is smooth and consistent, and the combustion fan is noise & vibration free.
- ☐ 2. The condensate freely flows from the unit, and is cleaned of sediment.
- ☐ 3. Relief Valve and air vents are not weeping.
- ☐ 4. Low water cut off is flushed (if applicable)
- ☐ 5. Examine all venting for evidence of leaks. Ensure vent screens are cleaned and clear of debris.
- ☐ 6. Check the burner plate for signs of leaking.
- ☐ 7. The combustion chamber must be inspected and cleaned.
- ☐ 8. Listen for water flow noises indicating a drop in boiler water flow rate.
The hydronic system may need to be flushed to eliminate hard water scale
(Use Fernox DS-40 Descaler, NTI PN: 83450; see Table 10-1).

Combustion Chamber Cleaning Procedure

Units operating with LP Gas or in an industrial environment will have to be cleaned a minimum of once per year. Other applications will require the combustion chamber to be cleaned after the first year of operation, with subsequent cleanings scheduled based on the condition of the combustion chamber at the time. Unless a step is identified as model specific, the following combustion chamber cleaning procedure is the same for all models.

IMPORTANT

Crystalline Silica - Read carefully the warnings and handling instructions pertaining to Refractory Ceramic Fibers before commencing any service work in the combustion chamber. Take all necessary precautions and use recommended personal protective equipment as required.

Cleaning Checklist

- ☐ 1. Initiate a post-purge cycle to clear any gas from the combustion chamber, then turn gas valve off.
- ☐ 2. **Danger Explosion Hazard (Lx300-800):** To disconnect the fuel-air metallic tubing between the blower and the high-vent pressure switch, loosen the compression fitting at the high-vent pressure switch with a 1/2" wrench. At the blower end, support the brass fitting body with a 1/2" wrench to keep it from rotating while loosening the compression fitting nut with a 9/16" wrench. Remove tubing assembly from blower.
- ☐ 3. Access the combustion chamber by removing the aluminum burner door assembly of the boiler.
- ☐ 4. Remove (or cover) the insulation disc located in the back of the combustion chamber to avoid damaging it during the cleaning process. The disc is held in place with a 2.5mm "Allen-head" screw.
- ☐ 5. Use a vacuum with a high efficiency filter to remove any loose debris or dust.
- ☐ 6. Wet the inside of the combustion chamber with water. Use a garden hose with a trigger nozzle to direct pressurized water through the gaps between the heat exchanger tubes. The water should pass in-between the heat exchanger tubes and exit via the condensate drain. This process may require the use of some dry rags or plastic to protect electrical components from being damaged by dripping or spraying water.
- ☐ 7. Use a nylon or other non-metallic brush to loosen the incrustations and any other contaminants that have remained stuck on and in-between the tubes.
- ☐ 8. Repeat steps 6 and 7 until the heat exchanger is clean and water from the condensate drain runs clear.
- ☐ 9. Re-install the insulation disc to the back of the combustion chamber (see Table 16-1, Item 31 for part #).
- ☐ 10. Inspect the insulation disc located on the back-side of the burner door. Replace if damaged (see Table 16-1, Item 33 for part # by applicable model).
- ☐ 11. Re-install the burner door, gas-supply and Air-inlet pipe, check for gas leaks.
- ☐ 12. **Lx300-800:** Reconnect the fuel-air metallic tubing between the blower and the high-vent pressure switch. Ensure the brass fitting body at the blower remains stationary and does not rotate during reconnection.
- ☐ 13. Perform the Operational Check List detailed in Section 14.0.

⚠ DANGER

Explosion Hazard (Lx300-800) - The fuel-air metallic tubing connecting the blower and the high-vent pressure switch contains a mixture of fuel and air. Refer to **Combustion Chamber Cleaning Procedure** for instructions on connecting and disconnecting the metallic tubing. Failure to follow these instructions will result in serious injury or death.

⚠ WARNING

Replace any gaskets or insulation discs that show any signs of damage and do not re-use. Failure to follow these instructions may result in fire, property damage or death.