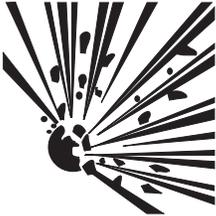


## 19.0) CLEANING AND ANNUAL MAINTENANCE

<b>⚠ WARNING</b>		
		<b>ELECTRIC SHOCK &amp; EXPLOSION HAZARD</b>  Disconnect electrical power and gas supply before servicing.  Failure to do so may result in death or serious injury.

This heater must be cleaned and serviced annually by a qualified contractor before the start of each heating season and at any time excessive accumulation of dust and dirt is observed. Maximum heating efficiency and clean combustion will be maintained by keeping the heater clean.

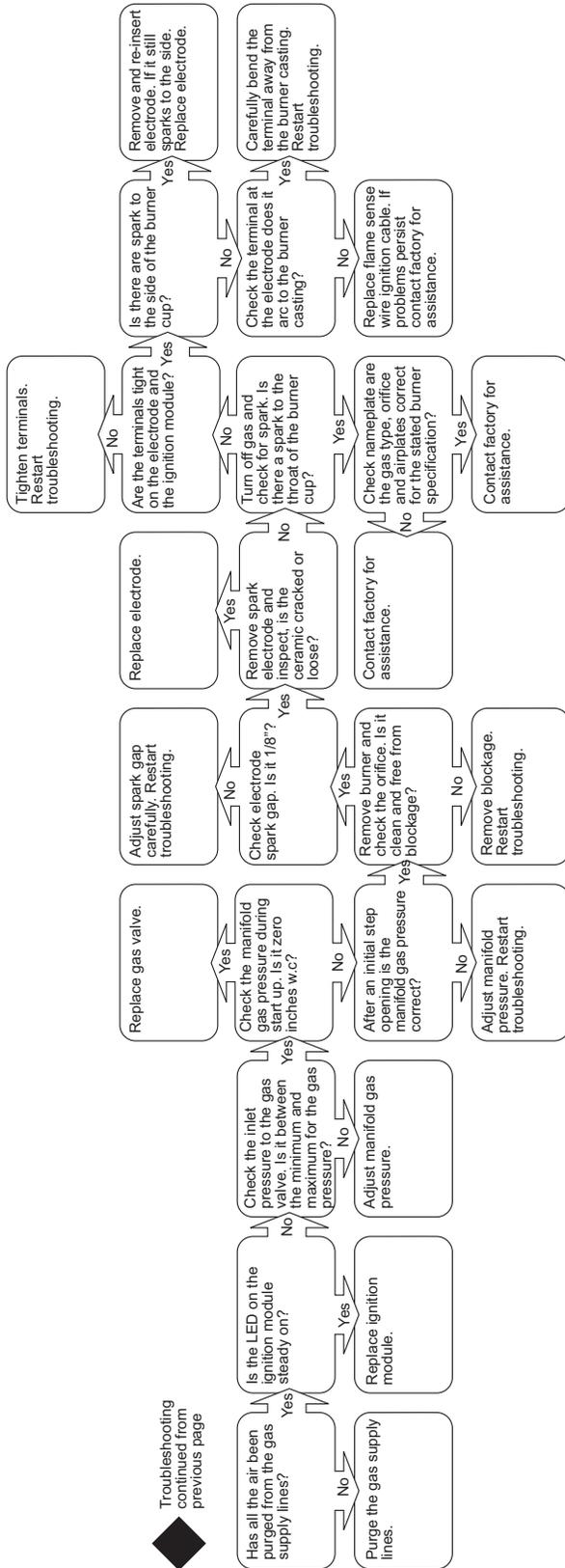
The contractor shall check the following during periodic maintenance.

- **Clearances to combustibles:** Check that clearances are being maintained. Make sure there are no flammable objects, liquids or vapors near the heater. See also Section 4.0).
- **Reflectors:** Reflectors should be kept clean, at a minimum blow off the reflectors. (Dirty reflectors will reduce heat output).
- **Heat exchanger tubes:** Inspect the heat exchanger tubes to make sure they are not cracked, sagging or showing signs of fatigue.
- **Combustion air intake:** Disconnect combustion air intake from the burner box and inspect internally using a flashlight to make sure no foreign material has collected in the tubes and that there is no obstruction around the air intake openings. Clean any foreign materials. Inspect any joints to make sure they are completely sealed. See also Section 15.0).
- **Venting System:** Disconnect vent pipe and inspect internally using a flashlight to make sure no foreign material has collected in the pipes. Check the external vent cap and make sure that there is no obstruction around the exhaust openings. Clean any foreign materials. Inspect any joints to make sure they are completely sealed. See also Section 14.0).
- **Gas lines:** Make sure that the gas lines are not leaking. Check the gas connection to the heater for any signs of damage, fatigue or corrosion. If there are any signs of damage to the gas connection or leaks found in the gas piping, immediately stop using the heater until the gas pipe and connections have been repaired or replaced. Check that the gas lines are not bearing the weight of the heater. See also Section 11.0).
- **Burner Box:** In order to extend the longevity of the heater, the heat exchanger tube and the burner must be level. Check that the burner box is level; use the turnbuckle on the burner suspension eyebolt to adjust the level of the burner. See also Section 8.0).
- **Burner sight glass:** Check that the burner sight glass is clean and that the glass is sealed against the housing door. If there any signs of distortion, the sight glass must be replaced. See Section 18.0) for sight glass location.
- **Blower wheel and housing:** Check that the blower wheel spins freely, blow out any dust or dirt with compressed air. See Section 18.0) for blower location.
- **Electrode condition:** Visually check that the electrode gap is maintained at 1/8" and that the tips of the flame sensor and spark electrode are free from deposits. Clean off any deposits. Check that the electrode ceramic is free from cracks. See Section 21.1).
- **Suspension system:** Check that the suspension system is holding the heater level. Make sure that the heater is hanging securely, look for any evidence where the heater may have been hit accidentally and tighten any loose hanging points. Check that S hooks are closed. Check that there is no evidence of wear on the chain at the connection to the heater and at the ceiling.
- **Tube Integrity Safety System:** Check that the tension of the tube integrity safety system is maintained at 11". Adjust tension if necessary. See Section 0.
- **Main Burner and Orifice:** Check the Main burner and orifice; remove any dirt or debris including spider webs. See Section 21.1).





# TROUBLESHOOTING GUIDE – SINGLE STAGE (CONTINUED)



# 20.1) TROUBLESHOOTING GUIDE – TWO STAGE (N7/L7)





# TROUBLESHOOTING GUIDE - TWO STAGE (CONTINUED)



Troubleshooting continued from previous page