

## Limit Control

The limit control switch is factory set and not field adjustable.

## Louver Vane Adjustment

Rotate louver vanes to direct airflow upward, downward, straight, or any combination of these directions. When unit is installed in an inverted position, louvers may be positioned in the same manner.

## Combustion Air Pressure Switch

This pressure switch checks for proper combustion air inducer operation before allowing an ignition trial. The switch is factory set and no field adjustment is necessary.

## Flame Rollout Switch

The flame rollout switch(es) are located on the burner box top, behind the ignition control board. This normally closed switch opens on a temperature rise. Check for adequate combustion air before manually resetting switch.

## Service

# CAUTION

**Turn off gas and electrical power to unit before performing any maintenance or service operations on this unit. Remember to follow lighting instructions when putting unit back into operation after service or maintenance.**

### BURNERS

- 1 - Periodically examine burner flames for proper appearance during the heating season.
- 2 - Before each heating season examine the burners for any deposits or blockage that may have occurred.
- 3 - Clean burners as follows:
  - a - Turn off both electrical and gas supplies to unit.
  - b - Disconnect gas supply piping, high tension and sensor leads. Remove gas manifold. Remove burner tray.
  - c - Clean burners as necessary. Make sure that burner heads line up properly to ensure flame crossover. Check spark gap on electrode and adjust if required. The gap should be between 0.110" and 0.140" (3mm to 4mm). The gap may be checked with appropriately sized twist drills or feeler gauges.

d - Reinstall burner tray, gas manifold, high tension and sensor leads. Reconnect gas supply piping.

e - Restore electrical power and gas supply. Follow lighting instructions to light unit. Check burner flame.

### FLUE PASSAGEWAY AND FLUE BOX

The flue passages and flue box should be inspected and cleaned prior to each heating season. The sequence of operation should be as follows:

- 1 - Turn off both electrical and gas supply to unit.
- 2 - Disconnect combustion air inducer wiring.
- 3 - Remove screws securing flue box to unit. Remove flue box. If necessary, remove inducer assembly from flue box. Clean flue box with wire brush.
- 4 - Remove turbulator retention bracket and turbulators. Clean turbulators with wire brush.
- 5 - Remove burners as described in section "Burners" section.
- 6 - Clean tubes with a wire brush.
- 7 - Reassemble unit. The combustion air and flue box gaskets should also be replaced during reassembly.
- 8 - Restore electrical power and gas supply. Follow lighting instructions to light unit. Check operation of unit.

### COMBUSTION AIR INDUCER

Under normal operating conditions, the combustion air inducer should be checked and cleaned prior to the heating season with the power supply disconnected. Use a small brush to clean inducer wheel.

### ELECTRICAL

- 1 - Check all wiring for loose connections.
- 2 - Check for correct voltage at unit (unit operating).
- 3 - Check amperage draw.

### FLUE AND CHIMNEY

Check all vent and vent connector joints for tightness. Ensure that connections are sealed and that there are no blockages.

### FAILURE TO OPERATE

If unit fails to operate check the following:

- 1 - Is thermostat calling for heat?
- 2 - Is main disconnect closed?
- 3 - Is there a breaker tripped or a fuse blown?
- 4 - Is gas turned on at meter?
- 5 - Is manual shutoff valve open?
- 6 - Is unit ignition system in lock out? If unit locks out again, call service technician to inspect unit.

7 - Is pressure switch closed? Obstructed flue will cause unit to shut off at pressure switch. Check flue passage and outlet.

**SAFETY SHUT-OFF VALVE TEST**

The safety shut-off valve test procedure is as follows:

- 1 - Turn off the manual gas valve.
- 2 - Set the thermostat to call for heat.
- 3 - System begins normal sequence of operation.
- 4 - After approximately 30 seconds (pre purge period) the LED will fast flash indicating the gas valve is powered.

5 - After 10 seconds, the gas valve closes and steps 4 and 5 will repeat two additional times before locking out the gas valve, which will be indicated by two flashes on the LED.

6 - To restart the system, de-energize the thermostat call for heat and follow the operating instructions under "Unit Start-Up and Operation."

**REPAIR PARTS**

When ordering repair parts include the complete unit model number listed on the unit rating plate. For example: LF24-45A-1.

**START-UP AND PERFORMANCE CHECKLIST**

Job Name: \_\_\_\_\_ Job No.: \_\_\_\_\_ Date: \_\_\_\_\_  
 Job Location: \_\_\_\_\_ City: \_\_\_\_\_ State/Province: \_\_\_\_\_  
 Installer: \_\_\_\_\_ City: \_\_\_\_\_ State/Province: \_\_\_\_\_  
 Unit Model No.: \_\_\_\_\_ Serial No.: \_\_\_\_\_ Service Technician: \_\_\_\_\_

Electrical Connections Tight? \_\_\_\_\_ Air Shutters Properly Adjusted (If Installed)? \_\_\_\_\_  
 Supply Voltage \_\_\_\_\_ Flue Connections Tight? \_\_\_\_\_  
 Blower Motor Lubrication O.K.? \_\_\_\_\_ Fan Timer Operation Checked? \_\_\_\_\_  
 Gas Piping Connections Tight & Leak-Tested? \_\_\_\_\_  
 Blower Motor Amps \_\_\_\_\_ **THERMOSTAT**  
 Furnace Btu Input \_\_\_\_\_ Calibrated? \_\_\_\_\_  
 Line Pressure \_\_\_\_\_ Heat Anticipator Properly Set? \_\_\_\_\_  
 Manifold Pressure \_\_\_\_\_ w.c. Level? \_\_\_\_\_