SERVICE AND APPLICATION NOTES

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SL280UHNV GAS FURNACES

The SL280UHNV is the newest addition to our Dave Lennox Signature Collection of gas furnaces. This two-stage variable speed gas furnace is one of four furnaces in the Ultra-Low Emissions furnace line, bringing with it some new features. To assist you with installing and servicing the SL280UHNV, below are some differences both with operational characteristics and installation considerations.

Manifold Pressure

- The manifold pressure at start up is slightly higher than at steady state.
- We use the pressure generated by the inducer to open the gas valve. At a colder temperature, the pressure is higher which results in a slightly higher manifold pressure at start up.
- This pressure will return to normal as the heat train warms up, this generally is accomplished in about 8 minutes.
- That is why we ask that you wait 8 minutes before adjusting the manifold pressure.

Inducer Motor

- The inducer has a different sound signature than the traditional SL280UHV unit.
- We use a DC variable speed motor programmed for two discreet speeds.
- The rpm is higher than normal to move the amount of air through the system that we require to burn efficiently and cleanly.
- This results in more sound than we normally hear.

Cabinet Temperatures

- Cabinet temperatures are slightly higher with pre-mix burner than a typical furnace with an in-shot burner.
- There is a 1” clearance for the top, sides and back of the cabinet.
- Always check and adjust the blower to obtain the appropriate heat rise to match the nameplate requirements.

Heating Compartment Temperatures

- The temperature of components in the heat compartment are higher than normal due to the pre-mix burner.
- If you notice, the burner itself is back further in the heating compartment and emits heat.
- There are more louvers in the door and the top of the cabinet to help dissipate this heat.
- We have a warning label on the top of the front door as a reminder to help prevent contact with hot surfaces.

Accoustic Resonance

- You might hear some resonance out of the burner at times on a cold start up.
- This furnace has a narrow band of **CO_2%.** Resonance may occur when **CO_2%** is outside the normal operating band due to job differences:
  - Vent length - longer or shorter
  - Gas line or manifold pressure higher. See table 1.
  - Heat exchanger and burner variation

If accoustic resonance is heard, follow one the steps below:

- Reduce the manifold pressure by turning the adjustment screw on the gas valve clockwise 1/2 to 1 full turn.
- Add a short length of vent pipe with an elbow to the intake.

TABLE 1

Unit	Manifold Pressure		Supply Pressure	
	High Fire	Low Fire	Min	Max
060	3.2 - 3.6 in wc	1.3 - 1.7 in wc	4.5 in. wc	13.5 in,wc.
080				
100				

You Can't See the Flame

- The flame is sealed and cannot be observed, how do you know how it is burning?
- Combustion Analysis is the only way to tell if the unit is operating as specified.
- Using a combustion analyzer, simply check the flue readings to make sure you are burning properly and efficiently. See table 2.

TABLE 2

All Models	**CO_2% For Nat**
High Fire	**6.0 - 7.5**
Low Fire	
The maximum carbon monoxide reading should not exceed 100 ppm	