

SERVICE AND APPLICATION NOTES

August 11, 2015
H-15-02

Annual Maintenance for Variable Capacity Gas Furnaces

Lennox has been asked what needs to be checked on variable capacity gas furnaces during annual inspections. Please reference Service and Application Note H-13-05 Annual Furnace Maintenance issued November 24, 2014. Follow all steps for 90% condensing furnaces. In addition, using the information found in this document, please check the manifold and the operating signal pressure at the prescribed firing rates using figures 1 and 2 and tables 1 and 2. The operating pressure signals remain the same for both natural and propane gas. The values given in tables 1 and 2 are measurements only. The gas valve should not be adjusted. See unit Installation Instruction or Unit Information (service manual) for specific information on check out or set up procedures.

TABLE 1
Manifold and Operating Signal Pressures in inches 0 - 7500 ft (0 - 2286 m)

SLP98 Firing Rate	Manifold Pressure Nat Gas			Manifold Pressure LP/Propane			Operating Pressure Signal (Delta P)		
	Min	Normal	Max	Min	Normal	Max	Min	Normal	Max
35%	0.4	0.5	0.6	1.2	1.5	1.8	0.25	0.30	0.35
70%	1.7	1.9	2.1	5.1	5.5	5.9	0.60	0.65	0.70
100%	3.2	3.5	3.8	9.5	10.0	10.5	1.10	1.15	1.20

NOTE - The values given in table are measurements only. The gas valves are **NOT** field adjustable..

TABLE 2
Manifold and Operating Signal Pressures in inches 0 - 7500 ft (0 - 2286 m)

G71MP Firing Rate	Manifold Pressure Nat Gas			Manifold Pressure LP/Propane			Operating Pressure Signal (Delta P)		
	Min	Normal	Max	Min	Normal	Max	Min	Normal	Max
40%	0.5	0.7	0.9	1.2	2.0	2.3	0.27	0.32	0.37
70%	1.7	1.9	2.1	5.1	5.5	5.9	0.55	0.60	0.65
100%	3.2	3.5	3.8	9.5	10.0	10.5	0.95	1.00	1.05

NOTE - The values given in table are measurements only. The gas valves are **NOT** field adjustable..

Three-Stage Timed Operation

To facilitate firing at the different levels, remove thermostat wires, place the unit in three stage heating mode as detailed in table 3. Add jumper from R to W1.

Upon a call for heat and a successful ignition, the combustion air inducer will operate at 35% (SLP98) or 40%(G71MP) and the indoor blower will adjust to the appropriate cfm. After a field selectable 7 or 12 minute delay period, the inducer RPM will increase and the unit will operate at 70%. The indoor blower will adjust to the appropriate cfm. After a factory set non-adjustable 10 minute delay expires, the furnace will increase rate to 100%. The indoor blower will adjust to the appropriate cfm.

Once testing is complete return the jumpers to original position and reconnect thermostat wires.

If you need assistance, please contact Lennox Technical Support at (800)453-6669.



TABLE 3
Thermostat Selection Switch Settings

Operation	Thermostat	Switch 1	Switch 2	Switch 3
Three-Stage Heat SLP98 - 35%, 70%, 100% G71MP - 40%, 70%, 100%	Single-Stage	On	Off	2nd stage delay OFF = 7 minutes 3rd stage delay 10 minutes fixed

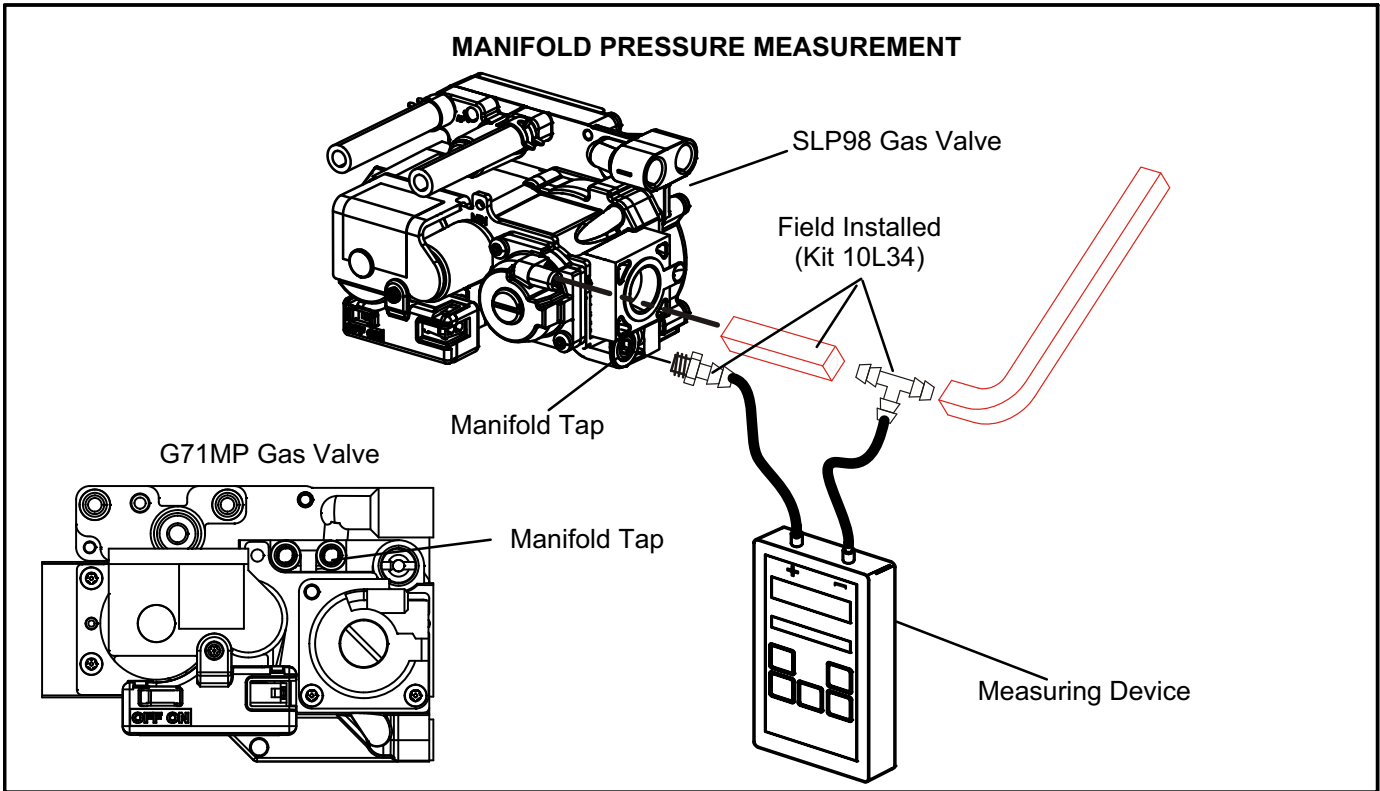


FIGURE 1

Operating Pressure (Delta P) Signal

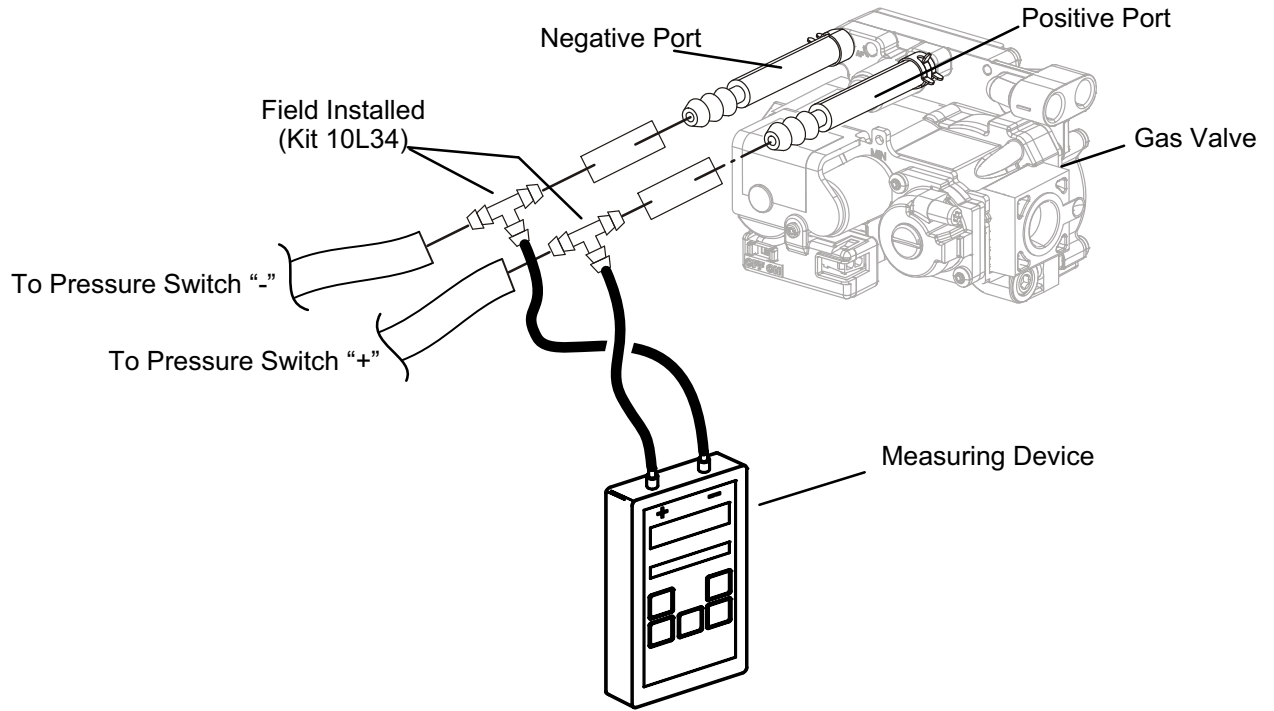


FIGURE 2