




# Service Bulletin


## SF-065

DATE: August 12, 2015  
TO: All Service and Parts Managers  
SUBJECT: Modulating Furnace - Gas Manifold Pressure / Valve Adjustment

In the event of low manifold gas pressure, loss of flame, or low flame signal fault alerts on modulating furnaces, perform the following steps to determine if gas valve adjustment is necessary. All other potential issues must be considered before adjusting manifold pressure such as inadequate gas supply pressure or condensation causing the blocked drain switch to go open, breaking the 24 volt circuit to the gas valve. Follow this procedure to adjust the gas valve / manifold pressure if necessary. Before adjusting gas valve / manifold pressure, verify adequate gas supply pressure by measuring gas supply pressure during ignition. Gas supply pressure must be within the range shown in the chart below. Do not attempt to adjust manifold gas pressure if supply pressure is outside the appropriate gas pressure range shown below.

Inlet Gas Supply Pressure		
Natural Gas	Minimum 4.5" w.c.	Maximum 10" w.c.
L.P. Gas	Minimum 10" w.c.	Maximum 13" w.c.

 **WARNING**  
**HIGH VOLTAGE!**  
Disconnect ALL power before servicing.  
Multiple power sources may be present.  
Failure to do so may cause property damage,  
personal injury or death.



- 1) Turn off gas supply to the furnace at the manual gas shutoff valve external to the furnace.
- 2) Turn off electrical power to furnace.
- 3) Connect a manometer or appropriate gas pressure gauge to the 1/8" NPT inlet pressure tap on the gas valve.
- 4) Connect a second manometer or appropriate gas pressure gauge to the 1/8" NPT outlet (manifold) pressure tap on the gas valve.
- 5) Turn on gas supply to the furnace and verify inlet manometer connection is leak free before proceeding.
- 6) Set control board DIP switch #13 to "ON"
- 7) Jumper R to W1 on control board low volt terminal strip.
- 8) Turn on all gas appliances before starting furnace to verify adequate supply pressure.
- 9) Turn on electrical power to the furnace. Observe and record the gas supply pressure during ignition. If gas supply pressure is not within the range shown above, contact your gas supplier to correct the gas supply pressure; do not make adjustments to the gas valve.
- 10) If gas supply pressure is within the acceptable range, proceed with gas manifold pressure check.

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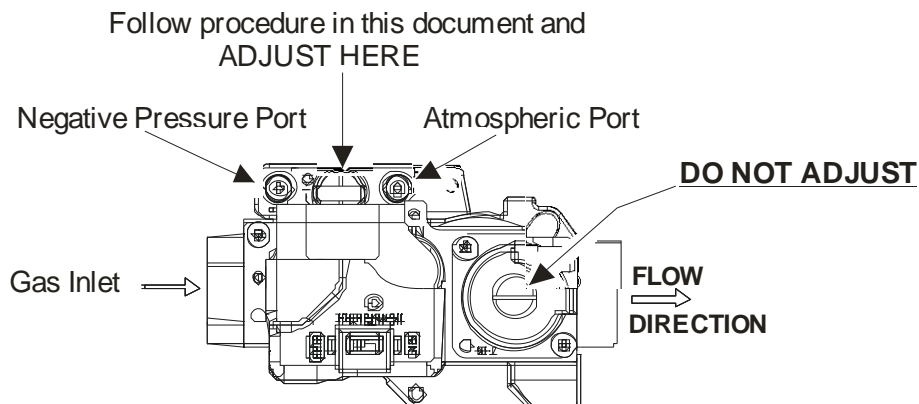
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**NOTE:** Normal firing rate sequence is as follows for DIP switch #13 in the “ON” position and 24 volts on W1; a) Trial for ignition & flame stabilization period –approximately 17 seconds at 80% rate. b) 35% rate for approximately 2 minutes. c) 50% rate for 8 minutes.

- 11) Observe and record gas manifold pressure during the 50% firing rate. The gas manifold pressure at 50% firing rate must be within the appropriate range shown below. If manifold pressure is found to be within the acceptable range, do not adjust gas valve.

Manifold Gas Pressure @ 50% Firing Rate		
Natural Gas	Minimum .9" w.c.	Maximum 1.2" w.c.
L.P. Gas	Minimum 2.6" w.c.	Maximum 3.3" w.c.

- 12) If manifold pressure is found to be lower than acceptable (less than .9" wc for natural gas, less than 2.6" WC for LP gas) turn the fine adjustment screw counterclockwise slightly ( $\frac{1}{4}$  -  $\frac{1}{2}$  turn) and observe manifold pressure. The fine adjustment screw is located between the atmospheric and negative air ports and extends from the base of the valve as shown in the illustration below. Adjust in small increments using the fine adjustment screw only, until manifold pressure is within the acceptable range. **DO NOT ADJUST** the max regulator screw located on top the gas valve.



- 13) If manifold pressure is found to be higher than acceptable (more than 1.2" wc for natural gas, more than 3.3" WC for LP gas) turn the fine adjustment screw clockwise slightly ( $\frac{1}{4}$  -  $\frac{1}{2}$  turn) and observe manifold pressure. The fine adjustment screw is located between the atmospheric and negative air ports and extends from the base of the valve as shown in the illustration below. Adjust in small increments using the fine adjustment screw only, until manifold pressure is within the acceptable range. **DO NOT ADJUST** the max regulator screw located on top the gas valve

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