50/75/100 MBH GAS CONVERSION INSTRUCTIONS AND HIGH ALTITUDE MANIFOLD PRESSURE ADJUSTMENT FOR ALUMINUM BLOCK BOILERS

EFFECTIVE DATE SEPTEMBER 1, 2012

Please read these instructions carefully before starting the adjustment or conversion process. These changes must be performed by a qualified service agency.

⚠ DANGER

Before servicing, turn off electrical power to boiler at service switch. Close manual gas valve to turn gas supply OFF to boiler. Failure to comply will result in death or serious injury.

HIGH ALTITUDE MANIFOLD PRESSURE ADJUSTMENT

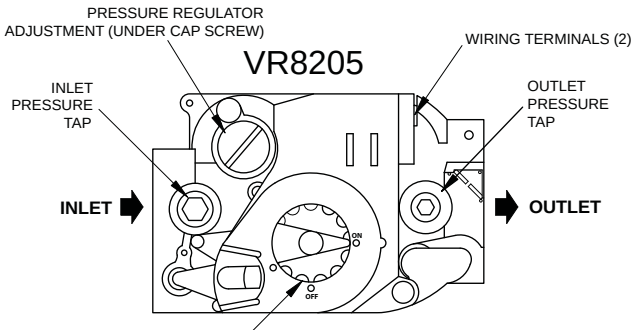
1. Turn off manual gas valve.
2. Remove manifold pressure tap plug marked "Outlet Pressure Tap" from gas valve using 3/16" Allen wrench. Install ⅛" NPT x ¼" barbed fitting. See **Figure #1**
3. Connect manometer or gauge to gas valve pressure tap barbed fitting just installed in step 1. Manometer should be capable of reading 1 to 15 inches of water column. See **Figure #2**.
4. Turn electrical power and gas supply on. Set thermostat high enough to start boiler.
5. Start boiler.
6. Note gas manifold pressure on manometer or gauge. Manometer or gauge reading should be 2½ inches water column at start up.
7. To adjust manifold pressure, remove "Pressure Regulator Adjustment Cap" located on gas valve to gain access to regulator adjustment screw. Turn adjustment screw clockwise to increase pressure and counterclockwise to decrease pressure. See **Figure #1.**

NOTICE

When doing this procedure, place pressure regulator cap back in place to obtain correct reading. Not putting cap in place gives false reading of manifold pressure.

8. Adjust manifold pressure to indicated value using known gas Btu value and known altitude of installation. See **Tables #1 and #2** on following pages.

Figure 1 - Gas Valve Detail



9. Once correct pressure reading is obtained and remains steady, shut off boiler at thermostat, shut off manual gas valve, and electrical supply. Remove manometer or gauge, ⅛" barbed fitting and replace pressure tap plug.
10. Restore electrical and gas supply, restart boiler and check for gas leaks using soapy water or a commercial leak detector.
11. Fill out data on adjustment/conversion label and attach to inside left panel of boiler.

Operate boiler through at least 6 ignition cycles to check for proper operation of boiler before leaving job site.

P/N 240009672, Rev. D [06/2013]

HIGH ALTITUDE RATINGS FOR NATURAL GAS

See **Tables #1 and #2** for specific high altitude orifice information.

TABLE #1: NATURAL GAS

MODELS 050 MBH						
	Stock Factory	Btu Value of Natural Gas++				
	Settings	750	850	950	1000	1050
Altitude in Ft.	0-5,000	5,000-10,000				
Normal Input (MBH)	50	–	–	–	–	–
Combustion Setting (CO_2)	8.7 - 9.7% (CO < 100 ppm)					
Gas Orifice	43331094					
Burner Plate	109006405					
MODELS 075 MBH						
	Stock Factory	Btu Value of Natural Gas++				
	Settings	750	850	950	1000	1050
Altitude in Ft.	0-5,000	5,000-10,000				
Normal Input (MBH)	75	–	–	–	–	–
Combustion Setting (CO_2)	8.7 - 9.7% (CO < 100 ppm)					
Gas Orifice	43331092					
Burner Plate	109006406					
MODELS 100 MBH						
	Stock Factory	Btu Value of Natural Gas++				
	Settings	750	850	950	1000	1050
Altitude in Ft.	0-5,000	5,000-10,000				
Normal Input (MBH)	100	–	–	–	–	–
Combustion Setting (CO_2)	8.7 - 9.7% (CO < 100 ppm)					
Gas Orifice	43331090					
Burner Plate	109009105					

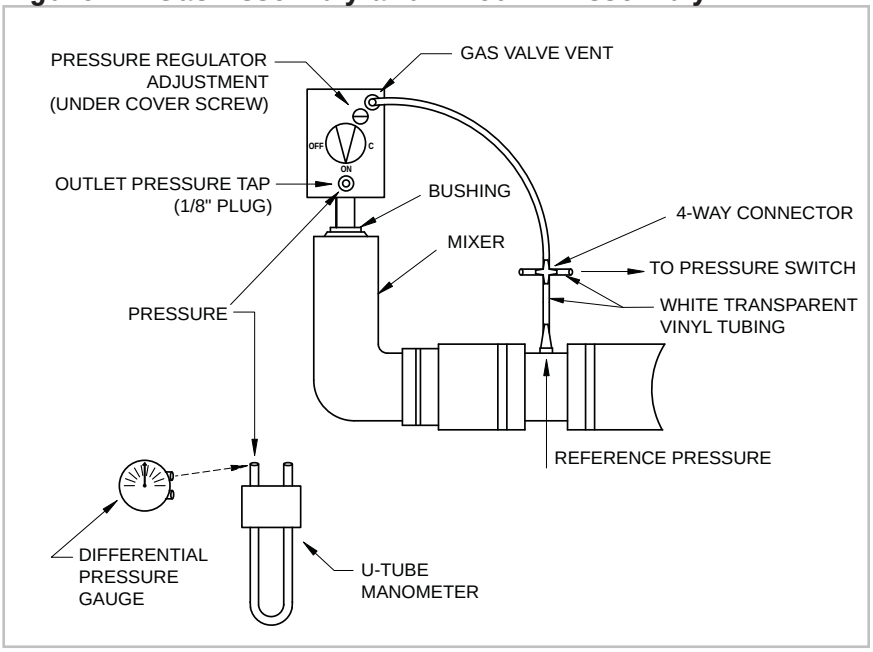
++Contact local gas utility or distributor for Btu value of gas.

Gas Conversion Procedure

When changing from Natural to Propane or vice versa, use correct conversion orifice for boiler model.

1. Turn off manual gas valve.
2. Remove front door. Use 5/16" nut driver to remove top panel.
3. Use 9/64" Allen wrench to remove adapter block from gas valve. Take care not to lose o-ring under the block. See **Figure #3.**
4. Use adjustable or 1¼" wrench on bushing to remove gas orifice assembly from mixer turning counter clockwise. Do not use channel locks, pipe wrench, etc, as damage to bushing may occur. See **Figure #2**.
5. Use small pipe wrench to remove orifice from bushing by turning counter clockwise. Install correct orifice for boiler being converted. Apply small amount of pipe dope to threads of orifice leaving last two threads clean. Turn clockwise into bushing.

Figure 2 - Gas Assembly and Inlet Air Assembly

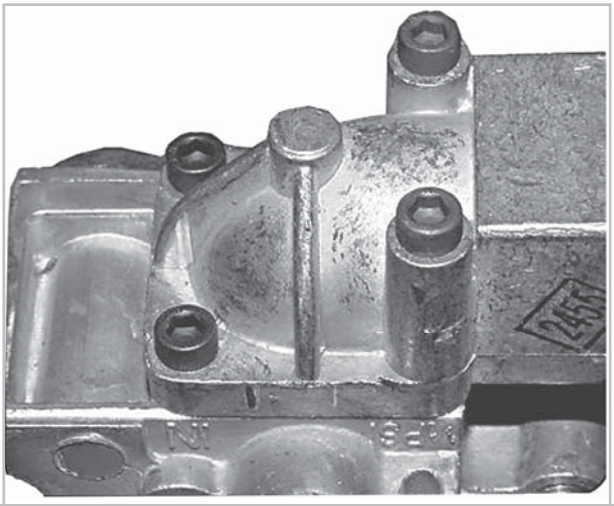


HIGH ALTITUDE RATINGS FOR PROPANE

TABLE #2: PROPANE GAS

MODELS 050 MBH						
	Stock Factory	Btu Value of Propane Gas++				
	Settings	2300	2350	2400	2450	2500
Altitude in Ft.	0-5,000	5,000-10,000				
Normal Input (MBH)	50	–	–	–	–	–
Combustion Setting (CO_2)	10.0 -11.1% (CO < 100 ppm)					
Orifice	43331095					
Burner Plate	109006405					
MODELS 075 MBH						
	Stock Factory	Btu Value of Propane Gas++				
	Settings	2300	2350	2400	2450	2500
Altitude in Ft.	0-5,000	5,000-10,000				
Normal Input (MBH)	75	–	–	–	–	–
Combustion Setting (CO_2)	10.0 -11.1% (CO < 100 ppm)					
Orifice	43331093	43331096*				
Burner Plate	109009107					
** For model 075 LP units only at altitudes above 5,000 ft., install 075 MBH High Altitude Orifice Kit #5550002629 which includes 43331096 orifice.*						
MODELS 100 MBH						
	Stock Factory	Btu Value of Propane Gas++				
	Settings	2300	2350	2400	2450	2500
Altitude in Ft.	0-5,000	5,000-10,000				
Normal Input (MBH)	100	–	–	–	–	–
Combustion Setting (CO_2)	10.0 -11.1% (CO < 100 ppm)					
Orifice	43331091					
Burner Plate	109009105					
++Contact local gas utility or distributor for Btu value of gas.						

Figure 3 - Gas Valve Adapter Detail



6. Apply pipe dope to bushing threads. Install gas orifice assembly turning clockwise into mixer. DO NOT USE TEFLON TAPE.
7. Attach adapter block to gas valve.
8. 75 MBH: Chose table for correct type of fuel supplied to your boiler. Replace burner plate with plate listed in correct table. Different burner plate is used for Nat and LP fuels.
9. Install top panel. Restore electrical and gas supply. Set thermostat high enough to start boiler. Restart boiler. Check for gas leaks using soapy water or commercial leak detector.
10. Fill out data on adjustment/conversion label. Attach to inside left panel of boiler.
11. Install front door.

Operate boiler through at least 6 ignition cycles to check for proper operation of the boiler before leaving job site.