




High Altitude Conversion Kit Instructions Kit No. 9KHAlt95

IOM8408

Rev. A 09/23

- See Table 2 for minimum and maximum altitudes.
- For use with natural gas at altitudes above 4500 ft.
- For use on the following gas heat units when equipped with the White-Rogers 36J24 series gas control:
 - FPG*N9 – First-Pak 95% Gas Heat Units
- This kit is not intended for use in Canada.
- This conversion kit must be installed by a qualified service agency.

NOTE: FPG*N9* units are not certified for use with liquefied petroleum (L.P.) gas

	WARNING	
	FIRE OR EXPLOSION HAZARD	
<p>This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, a fire, an explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the converted appliance is checked as specified in the manufacturer's instructions supplied with the kit.</p>		

DESCRIPTION

This kit contains natural gas orifices for use in FPG*N9 condensing furnaces when installed above 4,500 ft. altitude.

For installations above 4,500 ft. altitudes, the input rate of the appliance must be de-rated to compensate for the decrease in air density.

Do not de-rate the appliance by adjusting the gas manifold pressure. Operate this appliance only when the manifold pressure is set within the range listed on the appliance rating plate.

If the BTU content of your gas supply has been artificially changed to account for altitude, contact your gas supplier for orifice sizing (orifice may not require change)

This kit is not intended for use in Canada.

HIGH ALTITUDE CONVERSION KIT COMPONENTS	
Natural Gas Orifices	GS-O-53 (5)
Natural Gas Orifices	GS-O-54 (5)
Installation Instructions	IOM8408
Conversion Label	LBR0036
Control Conversion Label	LBW0046
Conversion Rating Plate	LBY0060

TABLE 1

The following tools and supplies are required but not supplied to convert from "standard altitude" (<4,500 ft.) orifices to "high altitude" orifices





- 1 - 7/16" box-end wrench
- 1 - 1/4" nut driver
- 1 - 3/16" Allen wrench
- 1 - 1/4" flat blade screw driver
- 1 - manometer / gas pressure gauge
- Line voltage electrical tester
- Gas leak detector solution

Altitude (ft.)	Orifice Size
0 - 4,500	#52 PART #GS-O-52 (Factory Orifice)
4,501 - 7,000	#53 PART #GS-O-53
7,001 - 10,000	#54 PART #GS-O-54

TABLE 2

ORIFICE INSTALLATION

Caution the gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion

	WARNING	
	ELECTRIC SHOCK HAZARD	
<p>Verify electrical power has been disconnected before proceeding. Use a voltage tester to prove that both legs of 208 / 230 volt power have been disconnected</p>		

Refer to Figure 1

- 1) Shut off gas supply to the unit.
- 2) Disconnect gas piping from the gas valve.
- 3) Switch off electrical supply to unit.
- 4) Remove access doors
- 5) Label wires and their connection locations on the gas valve.
- 6) Loosen the 2 screws holding the control board mounting bracket to the panel, swing the control board mounting panel forward to gain access to the manifold assembly.
- 7) Remove the 2 screws holding the gas valve bracket to the cabinet.
- 8) Remove the 4 screws holding the manifold assembly to the burner box
- 9) Use a box-end wrench to remove the factory installed gas orifices from the gas manifold.
- 10) Refer to Table 2 and select the high altitude orifice size that corresponds to the altitude of the installation. Visually inspect each orifice before installing; check the size of each orifice (stamped on one of the hex flats) Do not install any orifice with damaged threads, burrs on the orifice opening, or stamped with a size inappropriate for the altitude of the installation.
- 11) Thread in each orifice by hand then tighten to 60 IN-LB torque. Do not cross-thread or over-tighten. Apply a small amount of leak detection solution to the orifice threads.
- 12) Attach the manifold assembly to the burner box using the 4 screws removed in step 8.
- 13) Attach the gas valve bracket to the cabinet using 2 screws removed in step 7.
- 14) Connect gas piping to the gas valve.
- 15) Connect gas valve wiring.

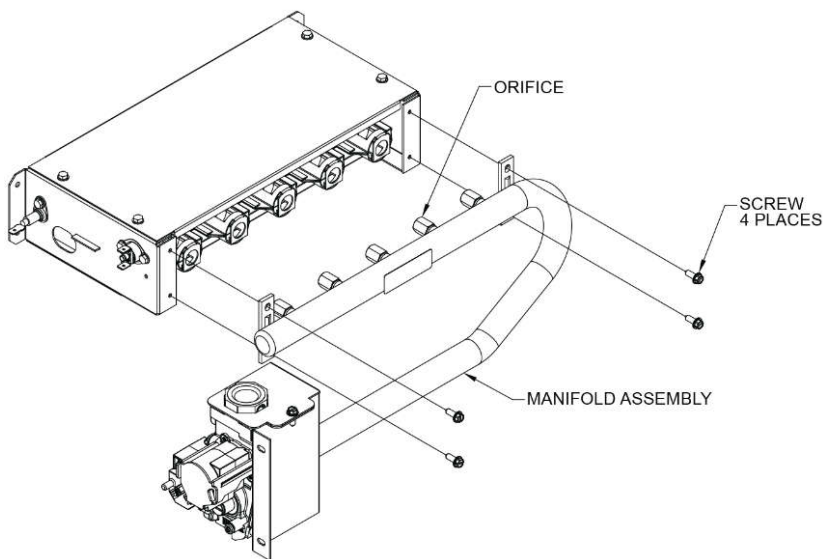


FIGURE 1

CHECKS AND ADJUSTMENTS - GAS SUPPLY PRESSURE

- 1) Shut off gas supply to the appliance using the manual gas valve.
- 2) Remove the gas valve inlet pressure port plug using a 3/16" hex wrench. (refer to Figure 2)
- 3) Install a 1/8"- 27 N.P.T. x 1/4" hose barb connector into the inlet pressure port.
- 4) Connect tubing and a manometer or gas pressure gauge to the 1/4" hose barb connector.
- 5) Turn "on" the gas supply to the furnace using the manual gas valve.
- 6) Leak check gas piping and the manometer connections using soap solution made specifically for the detection of leaks. If a leak is present, shut off the manual valve and repair the leak. Proceed only when no leaks are present.
- 7) Note the gas supply pressure measured on the manometer. With the burners not operating, the pressure should be 4.5" wc minimum and not exceed 10.5" wc maximum.
- 8) Set the room thermostat to call for heat.
- 9) Note the gas supply pressure measured on the manometer, with the burners operating the gas pressure must maintain 4.5" wc minimum and not exceed 10.5" wc maximum.
- 10) Turn off the unit gas supply, remove the manometer and re-install the pressure tap plug.

NOTE: If the gas supply pressure is not within the min-max specified, contact the gas utility to correct this issue before placing this equipment in operation.

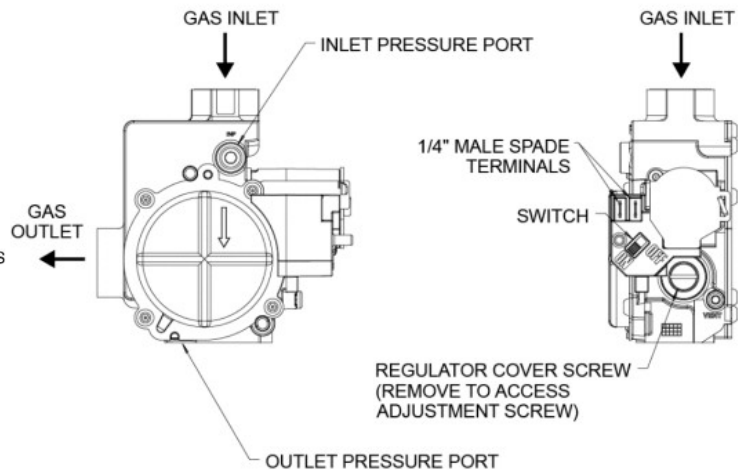


FIGURE 2

MANIFOLD PRESSURE ADJUSTMENT

Adjusting the gas valve pressure regulator should only be used to make minor changes in gas flow. The required manifold pressure range is 3.2" to 3.8" wc.

- 1) Shut off gas supply to the appliance using the manual gas valve.
- 2) Remove the gas valve outlet pressure port plug using a 3/16" hex wrench. **(Refer to Figure 2)**
- 3) Install a 1/8" - 27 N.P.T. x 1/4" hose barb connector into the outlet pressure port.
- 4) Connect tubing and a manometer or gas pressure gauge to the 1/4" hose barb connector.
- 5) Turn "on" the gas supply to the furnace using the manual gas valve.
- 6) Set the room thermostat to call for heat.
- 7) Check manifold pressure with burners firing. If gas manifold pressure is not within 3.2" wc - 3.8" wc range, remove the screw cap from the gas valve regulator, using a slot screw driver turn clockwise to increase and counter-clockwise to decrease pressure.
- 8) Replace the cap screw on the manifold pressure regulator. Confirm the manifold pressure.
- 9) Turn off the unit gas supply, remove the manometer and re-install the pressure tap plug.

LABELING THE CONVERTED APPLIANCE

The 9KHiAlt95 kit is shipped with three labels that the installer shall apply to the converted appliance as follows;

- The conversion label (LBR0036)

This label shall be affixed in a highly visible location. The installer shall record the date of the conversion and the name and address of the organization making the conversion.

- The conversion rating plate (LBY0060)

This label shall be affixed as close as possible to the existing rating plate. The installer shall indicate the part number of the orifices used, as well as the quantity of orifices used.

Do not cover the existing rating plate.

- The control conversion label (LBW0046)

This label shall be affixed on or near the gas control.

CHECKING BURNER FLAMES

Each flame should be steady, gentle, and blue (dust may cause orange tips but they must not be yellow).

Flames must not be curling, floating, or lifting off the burners.

The flame from each burner must be drawn into its corresponding heat exchanger tube. **(Refer to Figure 3)**

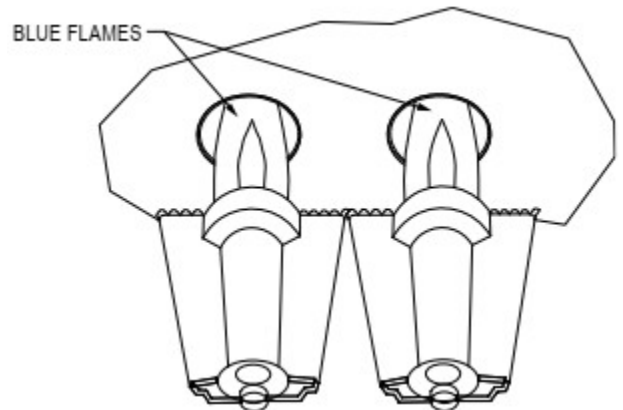


FIGURE 3



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The manufacturer works to continually improve its products. It reserves the right to change design and specifications without notice.

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