

LP GAS CONVERSION KIT FOR U.S. and CANADIAN INSTALLATIONS

Installation Instructions

For Model Series *G7MQ/*GCMQ Furnaces and Appliances Using White-Rodgers Gas Valves.

BEFORE THE CONVERSION

IMPORTANT: Please read all instructions before converting the furnace. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual to designate a degree or level of seriousness and should not be ignored. **WARNING** indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. **CAUTION** indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage

This conversion kit may be used to convert natural gas furnaces to LP/Propane gas in the United States and Canada.

Table 1 is a detailed listing of the components in the LP gas conversion kit. Please check the contents of the conversion kit with that of the parts listing, and familiarize yourself with each component.

DESCRIPTION	QTY
Installation Instructions	1
White-Rodgers Conversion Kit (F0092-102181)	1
#55 Drill Size Burner Orifice Kit (contains (7) 661055)	1
Conversion Warning Label	1
Conversion Information Label	1

Table 1. LP Gas Conversion Kit



WARNING:

All gas piping must conform with local building codes, or in the absence of local codes, with the most recent edition of the National Fuel Gas Code ANSI Z223.1 or (CAN/CGA B149.1 or .2). DO NOT attempt to modify, or tap into existing gas lines yourself. Fire or explosion may result causing property damage, personal injury or loss of life. Failure to follow the safety warnings exactly could result in serious injury, death or property damage.



WARNING:

All electrical wiring must comply with the latest edition of the National Electrical Code ANSI/NFPA 70. Canadian installations must comply with current Canadian Electrical Code (CSA C22.1 and/or local codes Failure to follow these instructions could result in possible damage to equipment, serious personal injury, or death.

The installer performing this work assumes all responsibility for this conversion. These instructions are primarily intended to assist qualified individuals experienced in the proper installation of these components. Some local codes require licensed installation/service personnel for this type of equipment. Safety should always be the deciding factor when installing this product and using common sense plays an important role as well. Improper installation of the components or failure to follow safety warnings could result in serious injury, death, or property damage. After completing the installation, return these instructions to the homeowner's package for future reference.

WARNING:

FIRE OR EXPLOSION HAZARD

- Failure to follow safety warnings exactly could result in serious injury or property damage.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Leave the building immediately.
- Immediately call your gas supplier from a neighbors phone. Follow the gas suppliers instructions.
- If you cannot reach your gas supplier, call the fire department.

DO NOT DESTROY.

KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

CONVERTING TO LP/PROPANE GAS

Converting modulating gas valves to LP/propane requires the replacement of the burner orifices and adding a jumper to the gas valve.



WARNING:

Shut off the gas supply at the manual gas shutoff valve, before disconnecting the electrical power. A fire or explosion may result causing property damage, personal injury or loss of life. Failure to follow the safety warnings exactly could result in serious injury, death or property damage.



WARNING:

To avoid electric shock, personal injury, or death, turn off the electric power at the disconnect or the main service panel before making any electrical connections.



WARNING:

The reduction of input rating necessary for high altitude installation may only be accomplished by accessing the ALTITUDE ADJUST screen in the iQ Drive® thermostat. Do not attempt to drill out orifices in the field. Improperly drilled orifices may cause fire, explosion, carbon monoxide poisoning, personal injury or death.

1. Remove the Burner Orifices
 - a. Turn off all electrical power to the appliance.
 - b. Turn the manual gas valve (on the outside of the unit) to the OFF position.
 - c. Remove the door from the burner compartment.
 - d. Move the gas valve ON/OFF switch (1) to the OFF position (Figure 1, page 3).
 - e. Remove the wiring harness (2) from the modulating gas valve (3).
 - f. Remove the supply gas piping from the gas valve inlet (4). (If connected)
 - g. Remove four screws (5) securing the manifold assembly (6) to the burner assembly (7).
 - h. Remove the manifold assembly (6) from the burner assembly (7).
 - i. Remove the burner orifices (8) from the manifold assembly (6).

IMPORTANT NOTE: Before installing an orifice, check the side of the orifice for the drill number to ensure that it is the appropriate size.

- j. Install the #55 drill size LP/Propane gas burner orifices (8) into the manifold assembly (6).

IMPORTANT NOTE: To prevent cross threading, screw the orifices (8) into the manifold assembly (6) by hand until snug, then tighten with a wrench.



WARNING:

Do not use Teflon tape or pipe joint compound on the orifice threads. The hole in the orifice may become blocked and cause fire, explosion, property damage, carbon monoxide poisoning, personal injury, or death.

- k. Reinstall the manifold assembly (6) to the burner assembly (7) with the four screws (5), removed in step 1g.

IMPORTANT NOTE: It is important that the center of the orifices are aligned with the center of the burners.

- l. Reconnect the gas piping to the gas valve inlet (4).
 - m. Reconnect the wiring harness (2) to the gas valve.
2. Convert the Modulating Valve To LP/Propane Gas
 - a. Move the gas switch (Figure 2, page 3) on the gas valve to the OFF position.
 - b. Remove and discard the NAT. GAS label from the top of the gas valve to expose two pins.



CAUTION:

Do not force the jumper into the opening. Forcing the jumper may cause serious damage to the pins and make valve conversion unattainable.

- c. Carefully place the jumper on the pins in the opening.
 - d. Place the LP label over the opening to conceal the jumper.
 - e. Attach the warning label to the gas valve where it can be readily seen.
 - f. Move the gas switch back to the ON position.
3. Measure and Adjust the Supply Gas Pressure
 - a. Turn the manual gas valve (on the outside of the appliance) to the OFF position.
 - b. Remove the inlet pressure plug (Figure 3, page 3) from the INLET side of the gas valve with a 3/16 inch Allen wrench.
 - c. Install an 1/8 inch NPT pipe thread fitting, which is compatible with a manometer or similar pressure gauge.

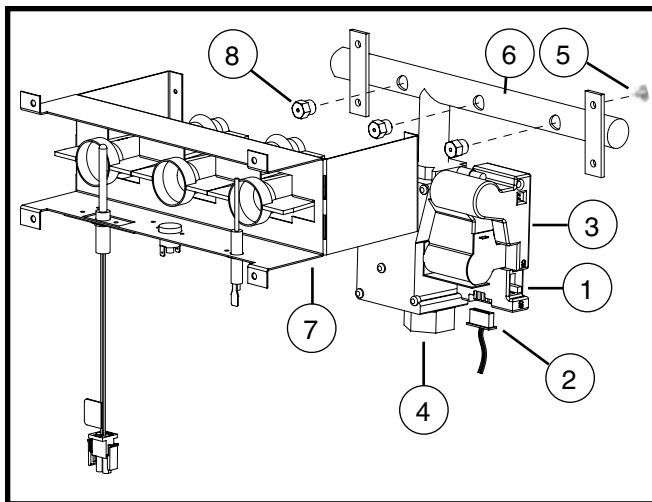


Figure 1. Burner and Manifold Assembly

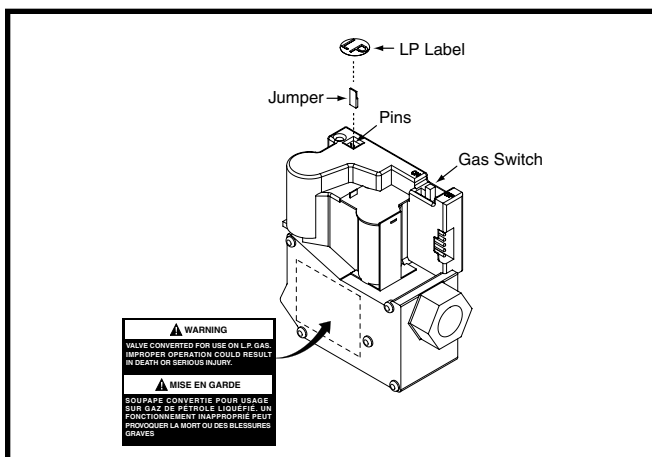


Figure 2. Modulating Gas Valve and Jumper

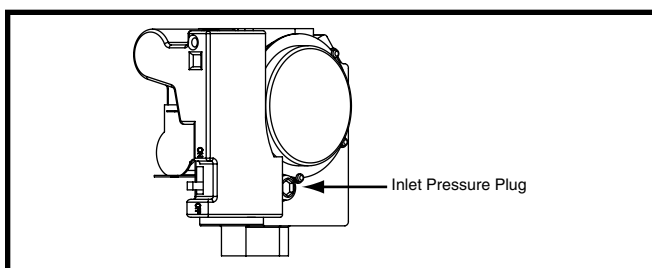


Figure 3. Inlet Pressure Plug

- d. Connect the manometer or pressure gauge to the inlet pressure tap.
- e. Turn the manual gas valve (on the outside of the appliance) to the ON position.
- f. Check and adjust the incoming gas line pressure to 11.0-14.0 inches Water Column for LP gas.
- g. Turn the manual gas valve (on the outside of the appliance) to the OFF position.
- h. Disconnect the manometer or pressure gauge and remove the NPT fitting.
- i. Reinstall the INLET pressure tap plug. Hand tighten the plug first to prevent cross-threading. Tighten with 3/16 Allen wrench.

4. Light and Adjust the Appliance



WARNING:

FIRE OR EXPLOSION HAZARD

Never test for gas leaks with an open flame. Check all connections using a commercially available soap solution. A fire or explosion may result causing property damage, personal injury or loss of life. Failure to follow the safety warnings exactly could result in serious injury, death or property damage.

- a. Turn the manual gas valve (on the outside of the appliance) to the ON position.
- b. Check all gas connections for leaks with a soap and water solution. If the solution bubbles there is a gas leak which must be corrected.
- c. Turn on the electrical power to the appliance.
- d. Move the gas switch (Figure 2) to the ON position.
- e. Start the furnace by adjusting the thermostat 5 degrees above room temperature.
- f. Check the furnace for proper ignition and operation. Refer to the installation instructions provided with the unit for the normal operating sequence.
- g. After ignition, visually inspect the burner assembly to verify that the flame is drawn directly into the center of the heat exchanger tube.

NOTES:

In a properly adjusted burner assembly, the flame color should be blue with some light yellow streaks near the outer portions of the flame.

The ignitor may not ignite the gas until all of the air is bled from the gas line. Once the burners are lit, check all gas connections for leaks again with the soap and water solution.

5. Measure the Manifold Pressure

The manifold pressure must be measured by installing a pressure gauge (manometer, magnehelic meter, etc.) to the outlet end of the gas valve.

- a. Turn off all electrical power to the appliance.
- b. Turn the manual gas valve (on the outside of the appliance) to the OFF position.
- c. Remove the outlet pressure plug from the outlet side of the gas valve (Figure 4, page 4) with a 3/16 inch Allen wrench.
- d. Install an 1/8 inch NPT pipe thread fitting, which is compatible with a Manometer or similar pressure gauge.
- e. Connect the manometer or pressure gauge to the manifold pressure tap.

- f. Start the furnace by adjusting the thermostat 5 degrees above room temperature. Allow the furnace to operate for 3 minutes.
 - g. Verify the running step in the FURNACE STATUS screen iQ Drive® thermostat and check the manifold pressure. Compare the measured value with the value shown in Table 2. If the manifold pressure is not set to the appropriate pressure, proceed to step 6. If the manifold pressure is correct go to step 7.
6. Adjust the Manifold Pressure (If Necessary)
 - a. Using a small screwdriver, slowly turn the adjustment screw (Figure 4) to obtain the appropriate manifold pressure.
7. Complete the Conversion
 - a. Adjust the thermostat to its lowest setting.
 - b. Turn the manual gas valve (on the outside of the appliance) to the OFF position.
 - c. Turn OFF all electrical power to the unit.
 - d. Remove the manometer or pressure gauge from the gas valve.
 - e. Remove the pressure gauge adapter from the gas valve and replace it with the 1/8 inch NPT manifold pressure plug that had been removed earlier. Ensure that the plug is tight and not cross-threaded.
 - f. Turn ON the electrical power to the unit.
 - g. Turn ON the main gas supply to the unit at the manual shut-off valve.

IMPORTANT NOTE: Turning the screw clockwise increases the pressure, turning the screw counter-clockwise decreases the pressure.

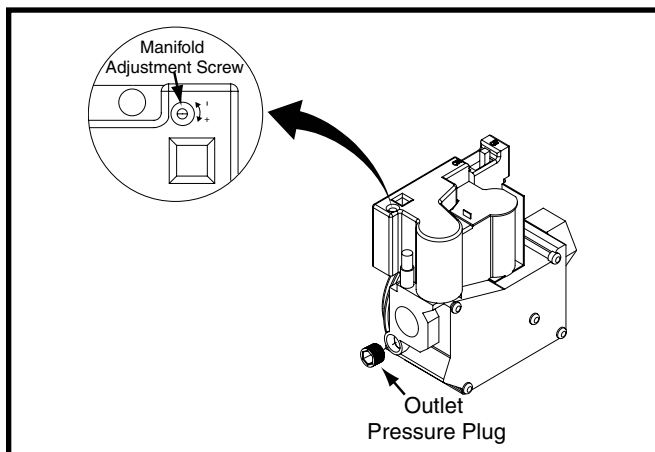


Figure 4. Outlet Pressure Plug and Manifold Adjustment Screw



WARNING:

Do not alter or remove the original rating plate from the furnace.

- h. Affix the conversion warning label (P/N 703935) provided in the kit to the outside of the unit door. Next, affix the conversion information label (P/N 703942) near the rating plate on the inside of the control area. Each label should be prominent and visible after installation.
- i. Reinstall the appliance door.
- j. Run the appliance through three complete cycles to assure proper operation.

ALTITUDE ABOVE SEA LEVEL	HIGHEST RUNNING STEP	MANIFOLD PRESSURE (NATURAL GAS)	MANIFOLD PRESSURE (PROPANE)	MAXIMUM INPUT RATE			
0	16	3.5	10.0	60,000	80,000	100,000	120,000
1,000	16	3.5	10.0	60,000	80,000	100,000	120,000
2,000	16	3.5	10.0	57,900	77,200	96,500	115,800
3,000	15	3.2	9.0	54,000	72,000	90,000	108,000
4,000	15	3.2	9.0	53,000	70,700	88,300	106,000
5,000	14	2.8	8.1	49,200	65,600	82,000	98,400
6,000	14	2.8	8.1	48,300	64,400	80,500	96,600
7,000	13	2.5	7.2	44,800	59,700	74,700	89,600
8,000	13	2.5	7.2	44,000	58,600	73,300	87,900
9,000	12	2.2	6.4	40,600	54,100	67,600	81,100
10,000	12	2.2	6.4	39,800	53,000	66,300	79,600

Table 2. Manifold Pressure Chart

