GENERAL

This accessory provides the parts to operate a propane furnace at elevations between 2,000 and 6,000 feet (610 and 1,829 meters). Accessory 1NP0440 is required for the parts to convert a natural gas furnace to propane.

This instruction covers the high altitude conversion only. Use the Installation Instruction supplied with the unit and the propane kit for all other aspects of the installation.

FURNACE CONVERSION

If this high altitude accessory and propane conversion kits are being installed at the same time, follow the kit instructions, but use the proper main burner orifices from this accessory. If it's being installed separately use the following instructions.

Before the gas and electrical power supplies are connected to the unit, remove the manifold/burner/gas valve assembly as follows:

1. Remove the access panel to the gas heat compartment.
2. Disconnect the wiring from the gas valve and disconnect the red high tension wire with the spark ignitor and sensor located in the burner bracket.
3. Using a screw driver or ratchet, remove the screws holding either end of the manifold/burner/gas valve assembly to the supports.
4. Carefully remove the assembly by grasping the manifold with two hands, lifting up and pulling it out of the unit.
5. Remove the main burner orifices from the manifold and discard them.
6. Refer to Table 1 to verify that the proper size burner orifices from this accessory are installed for the elevation.
7. Install the orifices in the manifold, and tighten them. All leftover orifices may be discarded.
8. Make sure the manifold is mounted tightly with the support for burners, manifold and orifices.
9. Verify that all screws are secured and replace the assembly into the unit. Make sure that the burners are seated at the front of the heat exchanger.
10. Re-connect wiring which was disconnected in Step 2.

11. Remove label 035-11635-000 from the shipping box.
   Check the box that states the unit has been converted from normal to high altitude along with the natural to propane conversion box and fill the name of the organization making the conversion (in Canada the respective conversion station) and address.

12. Under “Rating After Conversion”, write in the following:
   a. Orifice size, as stamped on the orifice.
   b. Maximum inlet pressure - 13.0 IWC.
   c. Minimum inlet pressure - 11.0 IWC.
   d. Manifold pressure - 9.4 IWC.
   e. Input, this will be a 4% derate for each 1,000 feet above sea level from the output on the data plate (See Table 1).
   f. Output rating, this will be a 4% derate for each 1,000 feet above sea level from the output on the data plate (See Table 1).

13. Under “Changes After Conversion”, write in the following:
   a. Kit number, located on the outside of the box.
   b. Unit model number.
   c. Name and address of the organization making the conversion and date.

14. Remove the label backing and affix label adjacent to the unit data plate along with the laminate overlay.

15. Refer to the gas heat section of the unit installation instructions for proper installation and start-up procedures.

**TABLE 1: RATING/ORIFICE DATA**

<table>
<thead>
<tr>
<th>Gas Heat Input @ 0 - 2,000 ft. Altitude BTU/HR</th>
<th>Conversion Required For 2,000-4,000 ft. Altitude</th>
<th>Conversion Required For 4,000-6,000 ft. Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Heat Input BTU/HR</td>
<td>Gas Heat Output BTU/HR</td>
<td>Manufacturer’s Recommended Orifice Size (pressure I.W.C.)</td>
</tr>
<tr>
<td>Gas Heat Output BTU/HR</td>
<td>Burner (BTU/HR)</td>
<td>Pilot (BTU/HR)</td>
</tr>
<tr>
<td></td>
<td>Propane</td>
<td>Propane</td>
</tr>
<tr>
<td>50,000</td>
<td>46,000</td>
<td>36,800</td>
</tr>
<tr>
<td>54 (9.4)</td>
<td>74 (6.0)</td>
<td>43,320</td>
</tr>
<tr>
<td>54 (9.4)</td>
<td>74 (6.0)</td>
<td>63,480</td>
</tr>
<tr>
<td>50,000</td>
<td>69,200</td>
<td>55,200</td>
</tr>
<tr>
<td>54 (9.4)</td>
<td>69 (5.1)</td>
<td>84,640</td>
</tr>
<tr>
<td>54 (9.4)</td>
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<td>100,000</td>
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<td>72,680</td>
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<td>115,000</td>
</tr>
<tr>
<td>125,000</td>
<td>115,000</td>
<td>91,080</td>
</tr>
<tr>
<td>54 (9.4)</td>
<td>69 (5.1)</td>
<td>105,800</td>
</tr>
</tbody>
</table>

**TESTS AND ADJUSTMENTS**

The following tests must be performed at the time of conversion:

- **WARNING**
  
  If the furnace is connected to gas and power supplies, make sure both are shut off before proceeding.

1. Connect a manometer to the pressure tap in the manifold. Connect a power supply and a propane gas supply to the unit, if not already connected.

2. Turn on the propane gas supply, and bleed air from the gas supply lines at a point as close to the inlet of the gas valve as is practical. Turn gas valve knob to the ON position.

3. Connect a jumper between terminals “R” and “W” on the circuit board to simulate a call for heat.

4. Make sure unit electrical disconnect switch is in the OFF position, then energize the power supply to the disconnect switch.

5. Turn unit electrical disconnect switch ON. The combustion blower should start and the pilot electrode should start sparking.

6. After air has been purged from the pilot supply line, pilot ignition should occur. Shortly after pilot ignition, the main gas valve will open as indicated by the manometer. Main burner ignition may be delayed on the first ignition cycle due to air in the gas manifold.

7. Observe several ignition cycles. The pilot burner and all main burners must ignite without delayed ignition or burning at the orifices. If delayed ignition is observed, verify that pilot flame is adjusted correctly (refer to Pilot Flame Adjustment section of the unit Installation Instruction), and that the pilot is properly mounted (not loose or crooked on bracket, bracket not bent or loose on main burner).

8. Adjust the manifold pressure to 9.4 IWG with gas supplied to the unit at a pressure of 11 to 13 inches WC.
9. If burning at the orifices, excessive yellow tipping, or excessive noise is observed during any phase of main burner operation, adjust the main burner air shutters (See Figure 1) to eliminate the problem(s).

10. With main burners ignited, check for gas leaks, especially in the following locations: pilot tubing connection at the pilot, pilot tubing connection at the gas valve, gas valve inlet and outlet connections, manifold union in the burner compartment, and main burner orifices where they thread into the manifold. Repair any leaks found, and recheck.

11. With main burners off, disconnect the manometer and replace the manifold plug. Check for gas leaks at this plug.

12. Remove jumpers and replace all access panels.

FIGURE 1 - MAIN BURNERS, PILOT TUBE, GAS MANIFOLD AND ADJUSTABLE SHUTTERS

CAUTION
Manifold pressure for the respective BTU/HR input or output must be adjusted to 9.4 IWG as specified.

### WARNING
DO NOT CHECK FOR LEAKS WITH AN OPEN FLAME! Damage to unit, building and installer could result.

### PARTS SUPPLIED WITH THIS ACCESSORY

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY.</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>9601 / 029-20423-054</td>
<td>Burner Orifice, #54</td>
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<tr>
<td>2</td>
<td>5</td>
<td>9602 / 029-20423-055</td>
<td>Burner Orifice, #55</td>
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<td>1</td>
<td>10561 / 035-11635-000</td>
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<td>Accessory Instruction</td>
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