PROPAINE CONVERSION KIT SAFETY

Your safety and the safety of others are very important.
We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.

This is the safety alert symbol.
This symbol alerts you to potential hazards that can kill or hurt you and others.
All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.” These words mean:

⚠️ DANGER

You can be killed or seriously injured if you don't immediately follow instructions.

⚠️ WARNING

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

WARNING

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, 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 operation of the converted appliance is checked as specified in the manufacturer’s instructions supplied with the kit.
ADDITIONAL SAFETY INFORMATION

In the State of Massachusetts, the following installation instructions apply:

- Installations and repairs must be performed by a qualified or licensed contractor, plumber, or gasfitter qualified or licensed by the State of Massachusetts.
- If using a ball valve, it shall be a T-handle type.
- A flexible gas connector, when used, must not exceed 3 feet.

INSTALLATION REQUIREMENTS

These instructions are intended as a general guide only and do not supersede any national or local codes in any way. Compliance with all local, state or national codes pertaining to this type of equipment should be determined prior to installation.

Read this entire instruction manual as well as instructions supplied with separate equipment before starting the installation.

This kit contains parts and instructions for converting furnaces from natural gas to propane. In these instructions, LP is an abbreviation for propane.

IMPORTANT: It is recommended that the conversion from Natural gas to Propane be completed prior to making final gas connections.

Tools and Parts

Check that you have everything necessary for correct installation. Proper installation is your responsibility.

Assemble the required tools before starting installation. Read and follow the instructions provided with any tools listed here.

Tools Needed:

- Flat-blade and Phillips screwdrivers
- ⅜ in. Allen wrench
- ⅜ in. nut driver
- ¼ in. nut driver
- ⅜ in. open-end wrench
- Pipe wrench
- Adjustable wrench
- Thread sealant
- Noncorrosive leak detection solution
- Test gauge with ⅛ in. NPT connection (for measuring gas supply pressure)

Parts Supplied:

- #4 size orifices (5)
- #8 x 1 in. spoiler screws (5)
- Conversion plate label
- Gas conversion manifold label
- Conversion kit for gas control valve

Parts Needed:

Read “LP Gas Requirements” and check local codes and ordinances before purchasing parts.

LP Gas Requirements

The furnace has a regulator in the gas control valve. A regulator is also required on the propane tank. Another regulator is required at the house or unit.

The minimum LP gas pressure required at the furnace is 11 in. W.C.

The maximum LP gas pressure allowed at the furnace is 13 in. W.C.
INSTALLATION INSTRUCTIONS

Convert Furnace

WARNING

Explosion Hazard
Furnace must be installed and serviced by a qualified person.
Examples of a qualified person include:
licensed heating personnel,
authorized gas company personnel.
Read and follow all instructions provided for installation, adjustment, service, alteration, or maintenance.
Failure to follow these instructions can result in death, explosion, fire, or carbon monoxide poisoning.

Gas Control Valve

Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Turn off gas supply at manual gas shutoff valve.
2. Disconnect power.
3. Remove the burner access door.
4. Disconnect all wires from gas control valve.
5. Disconnect the rollout switch and flame sensor wires.
6. Remove the manifold pipe from the burner assembly by removing the 4 mounting screws.
7. Slide the manifold pipe (with gas control valve) forward and out of the control compartment.
8. Remove the regulator adjustment cap with “O” ring, pressure regulator adjusting screw, and spring from the gas control valve. See “Gas Control Valve.”

Gas Control Valve

1. Gas control knob
2. Gas outlet
3. Outlet pressure tap
4. Gas inlet
5. Inlet pressure tap
6. Regulator adjustment cap
7. “O” ring
8. Pressure regulator adjusting screw
9. Spring
9. Convert the Gas Control Valve for LP Gas.
   - Open the plastic bag included in this kit.
   - Locate the new spring (different color) and install.
   - Locate the new pressure regulator adjusting screw and thread in such a way that the top of the regulator adjusting screw is flush with the surface of the gas control valve.
   - Turn regulator adjusting screw clockwise 11 full turns.
   - Install new “O” ring into new regulator adjustment cap (BLACK).
   - Install the new regulator adjustment cap (BLACK).
   - Affix the gas control valve conversion label included in the plastic bag to the top of the gas control valve.

10. Remove the orifices from the manifold. Thread in the new #54 LP Gas orifices located in the kit.
    NOTE: Make sure that the orifices are straight and positioned at a 90° angle to the manifold.

11. Remove the #10 screws that secure the burner assembly to the flue panel.

12. Remove burner assembly from vestibule compartment. Be careful to support burner opening inlet plate.

Manifold and Burner Assembly

13. Remove two (2) screws securing top air shield to burner assembly. Move top air shield to allow access to spoiler screws holes. See “Manifold and Burner Assembly.”

14. Install spoiler screws into each burner. Thread screw down until the head of the screw just touches the surface of the burner. Make sure not to overtighten. See “Orifice and Spoiler Screw Location.”

15. Reinstall the top air shield.


17. Reinstall the manifold pipe to the burner assembly.

IMPORTANT: Ensure that the burner igniter is aligned properly with the burner. The burner igniter tube should be aligned vertically as shown.

18. Affix the gas conversion manifold label “This control has been converted for use with propane gas” to the manifold in a visible location.

19. Reconnect all wires on the gas control valve.

20. Reconnect rollout switch and flame sensor wires.

Orifice and Spoiler Screw Location

21. Fill in the required information on the conversion plate label (day-month-year of conversion, and the name and address of the organization making this conversion).

22. Attach conversion plate label to the exterior panel adjacent to the unit rating plate.

23. Replace the burner access door.

24. Dispose of all remaining parts.
Make Gas Connections

**WARNING**

**FIRE OR EXPLOSION HAZARD**

Failure to follow the safety warnings exactly could result in serious injury, death or property damage.

Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections. A fire or explosion may result causing property damage, personal injury or loss of life.

1. Install the field gas supply for either side or bottom gas pipe entry as shown.
2. Provide a sediment trap on the outside of the furnace section in accordance with any local codes.
3. Install a manual gas shutoff valve in the gas line, outside the unit in accordance with any local codes.
4. Install a test gauge connection with a \( \frac{1}{8} \) in. NPT plugged tapping immediately upstream of the manual gas shutoff valve as shown.
5. Connect the gas pipe to the furnace controls providing a ground joint union as close to the controls as possible to facilitate removal of controls and manifold.

Pipe-joint compounds suitable for use with natural and LP gas must be used. Do not use Teflon® tape.

**Side Gas Pipe Entry**

Side entry is the primary method of routing the gas supply to the unit. Use the factory provided grommet to seal the opening around the gas pipe, preventing rain and moisture from entering the unit.

**Bottom Gas Pipe Entry**

When bottom entry of gas pipe is used, the side entry hole must first be completely covered by a field-provided plug. Route the pipe up through the bottom entry hole and immediately into an elbow to route pipe along the base of the unit. Use another elbow to route gas pipe up through holes provided in control drawer mount. One more elbow will route the pipe to the union and gas control valve.

**Check Inlet Pressure**

1. Turn off the gas supply at the manual gas shutoff valve.
2. Remove the inlet pressure tap plug on the gas control valve.
3. Install a \( \frac{1}{8} \) in. NPT hose connector and connect the pressure gauge tube.

**Gas Control Valve**

1. Gas control knob
2. \( \frac{1}{8} \) in. NPT outlet pressure tap
3. \( \frac{1}{8} \) in. NPT inlet pressure tap
4. Regulator adjustment cap

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4. Turn on the gas supply at the manual gas shutoff valve.
5. Turn on the electrical power to the furnace.
6. To light the main burners, set the room thermostat to a point above room temperature.

**NOTE:** This furnace is equipped with an ignition device, which automatically lights the burner. This furnace cannot be lighted manually. Do not try to light the burner by hand.

7. Check minimum inlet gas supply pressure.
   - Turn off all other gas appliances.
   - Observe the pressure rating on the pressure gauge. The minimum inlet gas supply pressure is 4.5 in. W.C. for natural gas and 11 in. W.C. for propane gas.
8. Check maximum inlet gas supply pressure.
   - Turn off all other gas appliances.
   - Observe the pressure reading on the pressure gauge. The maximum inlet gas supply pressure is 10 in. W.C. for natural gas and 13 in. W.C. for propane gas.

**IMPORTANT:** If the inlet gas supply pressure is not within the minimum and maximum range as shown on the rating plate, contact your gas supplier.

9. Turn off the electrical power to the furnace.
10. Turn off the gas supply at the manual gas shutoff valve.
11. Remove the pressure gauge tube and the ¼ in. hose connector.
12. Replace the inlet pressure tap plug on the gas control valve.
13. Test all connections by brushing on an approved noncorrosive leak-detection solution. Bubbles will show a leak. Correct any leak found.
   - At test pressures greater than ½ psig (3.5 kPa), the furnace and the manual gas shutoff valve must be disconnected from the gas supply piping system.
   - At test pressures less than or equal to ½ psig (3.5 kPa), the furnace must be isolated from the gas supply piping system by closing the manual gas shutoff valve.

**Adjust the Furnace Input Rate**

For installations above 2,000 ft, the furnace input rate is to be reduced per the requirements of the National Fuel Gas Code (ANSI Z223.1/NFPA 54, latest edition), at the rate of 4 percent for each 1,000 ft above sea level.

1. Remove the burner access door.
2. Move the gas control knob to the OFF position. Use only your hand to move the gas control knob; tools are not required.
3. Remove the outlet pressure tap plug on the gas valve and connect pressure gauge to the ¼ in. NPT outlet pressure tap.
4. Be sure the gas control knob has been in the OFF position for at least 5 minutes before starting the unit.
5. Move the gas control knob to the ON position.
   **NOTE:** This furnace is equipped with an ignition device which automatically lights the burner. This furnace cannot be lighted manually. Do not try to light the burner by hand.

6. Turn on the electrical power to the furnace.
7. To light the main burners, set the room thermostat to a point above room temperature.
8. Observe the pressure reading on the pressure gauge. If necessary, adjust the manifold pressure to 10.0 in. W.C. for propane gas.
9. If necessary, remove the regulator adjusting cap on the gas control valve and turn the regulator adjusting screw clockwise to increase pressure and input, or counterclockwise to decrease pressure and input.
   **IMPORTANT:** If the manifold pressure cannot be adjusted to the correct value, contact your gas supplier.
10. Move the gas control knob to the OFF position.
11. Disconnect the pressure gauge from the ¼ in. NPT outlet pressure tap.
12. Replace outlet pressure tap plug and the regulator adjusting cap on the gas valve.
13. Move the gas control knob to the ON position.
14. Replace the burner access door.
15. Set the room thermostat to the desired temperature necessary to achieve optimum temperature rise.

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**Complete Installation**

**IMPORTANT:** Do not use this furnace if any part has been under water. Immediately call a qualified person to inspect the furnace and to replace any part of the control system and gas control which has been under water.

1. Check to be sure you have all of your tools.
2. Dispose of all packaging materials.
3. Check the furnace in its final location. Be sure the vent is not blocked.
Measure Temperature Rise

1. After 20 minutes of heating operation, measure the furnace temperature rise. Take air temperature readings in both the return air ducts and the heated air ducts.
2. If furnace doesn’t maintain temperature rise within the range shown on the furnace rating plate, adjust the blower speed.

Adjust Blower Speed

WARNING
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

NOTE: See the “Wiring Connection Diagram” while performing the following procedure.

Blower Speed Tap Change

1. Disconnect power.
2. Remove blower access panel.
3. Place blue wire on the HIGH, MED or LOW motor speed tap, as desired for COOLING.
4. Place red wire on any of the other motor speed taps for HEATING.

Factory Setting Heat/Cool Speeds

<table>
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<tr>
<th>Unit</th>
<th>Heat</th>
<th>Cool</th>
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<tr>
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<tr>
<td>WPG248A125</td>
<td>MED</td>
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<tr>
<td>WPG248A100</td>
<td>MED</td>
<td>LOW</td>
</tr>
</tbody>
</table>

Shut Down the Furnace

1. Set the room thermostat to the lowest setting.
2. Disconnect power.
3. Remove burner access panel.
4. Shut off the gas by moving the gas control knob to the OFF position.
5. Replace the burner access panel.

See your Furnace Installation Instructions for troubleshooting information.