INSTALLATION INSTRUCTIONS

CONVERSION KIT ALPKT516-4
FOR CONVERTING GUJ, GCJ, GHJ; GUK, GCK, GH90;
RGU80, RGC80, RGH80; RGU90, & RGC90 GAS FURNACES
FROM NATURAL TO PROPANE GAS
-FOR USE AT THE SAME ALTITUDE ONLY

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, AN EXPLOSION OR THE 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.

AVERTISSEMENT

Cette trousse de conversion ne doit être installée que par le représentant d'un organisme qualifié et conformément aux instructions du fabricant et à tous les codes et exigences pertinents de l'autorité compétente. Les instructions du présent guide doivent être suivies afin de réduire au minimum le risque d'incendie ou d'explosion, de dommange matériel, de blessure ou de mort. L'organisme qualifié est responsable de l'installation adéquate de cette trousse. L'installation n'est pas adéquate ni compléte tant que le bon fonctionnement de l'appereil converti n'a pas été vérfié selon les instructions du fabricant fournies avec la trousse.

FOR CANADIAN CONVERSIONS: THE CONVERSION SHALL BE CARRIED OUT BY A MANUFACTURER'S AUTHORIZED REPRESENTATIVE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER, PROVINCIAL, OR TERRITORIAL AUTHORITIES HAVING JURISDICTION AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CANADIAN INSTALLATION CODES CAN/CGA-B149.1 & B149.2.

NOTE: WHERE "LP" OR "LPG" APPEAR IN THE ENCLOSED KIT LITERATURE OR ON THE ENCLOSED KIT LABELS, THE LP AND/OR LPG IS AN ACCEPTABLE ABBREVIATION FOR "PROPANE."

This kit contains parts to convert GUJ, GHJ, GCJ, GCK, GUK, GH90, RGU80, RGH80, RGC80, RGU90, and RGC90 series furnaces from natural gas to LPG/Propane (U.S.A. and Canada).

NOTE: Depending on the specific model being converted, some of the parts in this kit may not be required. Refer to the appropriate section of this instruction to convert each particular furnace model.

PARTS LIST

(6) #54 Size orifices
(1) Pilot orifice
(1) Adapter kit for Honeywell VR8200 series gas valve
(1) Installation Instructions
(1) Gas valve conversion label
(1) Conversion plate
(1) Conversion gas installation label

If any damage to the contents is found at the time of delivery, proper notation should be made on the carrier's freight bill. Damage claims should be filed with the carrier at once. Claims of shortage should be filed with the manufacturer within five days.

Although equipment is suitable for operation with propane gas, certain precautions must be observed because of the distinct burning characteristics of propane gas. The following problems may be encountered:

1. Burning back at the orifices with a loud roar.
2. Loud popping upon extinction of burner.
3. Flame roll-out at time of ignition.

These problems can be caused by:

1. Low gas pressure.
2. Misalignment of burners.
3. Incorrect burning rate.

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

The minimum permissible gas supply pressure to the furnace is 11.0 inches W.C. for the purpose of input adjustment. The maximum permissible gas pressure to the gas valve is 14.0 inches W.C.

CONVERSION PROCEDURE FOR GUJ, GCJ, GCK, & GHJ SERIES FURNACES:

To proceed with the conversion, follow these steps:

1. CAUTION: The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion.

2. Remove the access door panel.

3. Remove the regulator cap, adjusting screw, and spring from the gas valve (See Figures 1 and 2). Disconnect the pilot tubing.

4. Install the new regulator spring and adjustment screw. (Follow the instructions included with the valve adapter kit). Wipe the manifold pipe beside the gas valve clean of any dirt, oily film, or residue. Place the gas valve conversion label, furnished in the kit from the furnace manufacturer, on this section of the manifold pipe so it is readily visible after the conversion is complete.

5. Remove the igniter plug from the gas valve.

6. Disconnect the rollout switch wire(s) and remove the burner shield.

7. Remove the burners by removing the screw on each side of the burner.

8. Remove the two (2) screws that hold the pilot bracket assembly on the burner rack. NOTE: For models equipped with a hot surface pilot, the igniter is fragile; handle the pilot carefully.

9. Replace the burner orifices on the manifold with the propane orifices supplied in the kit. Make sure to apply pipe compound resistant to propane gas to the orifice threads before installing the new orifices.

10. Remove the pilot assembly from the pilot bracket and replace the pilot orifice with the propane orifice found in adapter kit. Tighten all fittings.

11. Install the pilot assembly to the burner rack.

12. Install the burners back on the burner rack, making sure they are aligned.

13. Install the burner shield cover.

14. Reconnect all wiring.

15. Remove the outlet pressure plug on the gas valve and connect a water manometer.

16. Turn on the gas and electric supply to the unit.

17. With the unit operating, turn the pressure regulator screw to obtain 10" W.C. manifold pressure (gas valve outlet). Turn the adjustment clockwise to increase pressure and counterclockwise to decrease pressure. Be sure to install the regulator cap (See Figures 1 and 2) on the gas valve.

    NOTE: See "High Altitude" section for additional pressure regulator setting information.

18. Check all fittings for leaks using a soap solution.

WARNING: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS. IF THERE IS A GAS LEAK, EXPLOSION OR INJURY CAN RESULT.

CAUTION: SOME SOAPS USED FOR LEAK DETECTION ARE CORROSIVE TO CERTAIN METALS. CAREFULLY RINSE PIPING THOROUGHLY AFTER LEAK DETECTION HAS BEEN COMPLETED.

19. Check for normal operation of the ignition system (see "Sequence of Operation" section). Cycle the main burners (See Figure 3) on and off. Ignition and extinction should be smooth. The pilot flame should cover approximately 1/2" of sensor. (See Figures 4 and 5) Disconnect the manometer, replace the plug, and check for leaks at the plug.

20. Attach the conversion plate in the kit adjacent to the unit rating plate.

21. Mark the conversion gas installation label in a permanent manner to show propane kit model number, conversion date, your organization and address. Then apply this label near the unit rating plate.

HIGH ALTITUDE

In both the U.S.A. and Canada this furnace is approved for operation at altitudes from 0 to 4500 feet above sea level without any required modifications. Above 4500 feet the manifold pressure needs to be adjusted. The required manifold pressure for a given altitude is shown in the table below. To adjust the manifold pressure refer to the previous section on "Checking and Adjusting the Gas Input Rate."

Manifold Pressure vs. Altitude

	NATURAL GAS		PROPANE (LP)			
ALTITUDE (FT)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	INPUT FACTOR	OUTPUT FACTOR
2000	948	3.50	2278	10.00	0.9666	0.7733
3000	914	3.50	2196	10.00	0.9499	0.7599
4000	881	3.50	2116	10.00	0.9332	0.7466
4500	865	3.50	2077	10.00	0.9249	0.7399
5000	849	3.29	2039	9.41	0.8900	0.7120
5500	833	3.27	2000	9.35	0.8790	0.7032
6000	818	3.25	1964	9.29	0.8680	0.6944
6500	802	3.23	1927	9.24	0.8570	0.6856
7000	787	3.21	1891	9.18	0.8460	0.6768
7500	771	3.19	1853	9.12	0.8350	0.6680

- CONSULT LOCAL UTILITY FOR ACTUAL HEATING VALUE

AT ALTITUDES 5000 FT AND ABOVE 3 INCH VENT PIPE IS RECOMMENDED FOR ALL MODELS.

FURNACE INPUT = INPUT FACTOR x NAMEPLATE INPUT
FURNACE OUTPUT = OUTPUT FACTOR x NAMEPLATE INPUT

ABOVE 7500 FEET CONSULT TECHNICAL SERVICES AT 1-800-448-5872

SEQUENCE OF OPERATION

A call for heat from the thermostat closes R to W, and the combustion blower is energized. The pressure switch senses normal combustion air flow, and closes. Several seconds later power is applied to the ignition control, which then energizes the pilot igniter and the pilot gas solenoid. Pilot ignition occurs, is sensed by the flame sensor, and the main gas valve is energized (pilot igniter is de-energized). Main burner ignition occurs.

Energizing of the main valve starts the "blower on" timing for the circulating blower. Several seconds later (not adjustable), the heating speed is energized.

When the call for heat is satisfied, R to W is opened and the burners and the combustion blower is de-energized. This starts the "blower off" timing for the circulating blower. After the selected (adjustable) time period elapses, the blower is de-energized.

CONVERSION PROCEDURE FOR GUK SERIES FURNACES:

To proceed with the conversion, follow these steps:

1. CAUTION: The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion.

2. Remove the access door panel.

3. Remove the regulator cap, adjusting screw, and spring from the gas valve (See Figures 1 and 2). Disconnect the pilot tubing.

4. Install the new regulator spring and adjustment screw. (Follow the instructions included with the valve adapter kit). Wipe the manifold pipe beside the gas valve clean of any dirt, oily film, or residue. Place the gas valve conversion label, furnished in the kit from the furnace manufacturer, on this section of the manifold pipe so it is readily visible after the conversion is complete.

5. Remove the igniter plug from the gas valve.

6. Remove the top panel of the furnace.

7. Remove the front cover of the burner box.

8. Remove the top cover of the burner box.

9. Remove the burner shield.

10. Remove the burners by removing the screw on each side of the burner.

11. Remove the two (2) screws that hold the pilot bracket assembly on the burner rack. NOTE: For models equipped with a hot surface pilot, the igniter is fragile; handle the pilot carefully.

12. Remove the burner rack by removing the two (2) screws on each side of the burner box.

13. Replace the burner orifices on the manifold with the propane orifices supplied in the kit. Make sure to apply pipe compound resistant to propane gas to the orifice threads before installing the new orifices.

14. Remove the pilot assembly from the pilot bracket and replace the pilot orifice with the propane orifice found in adapter kit. Tighten all fittings.

15. Install the pilot assembly to the burner rack.

16. Install the burner rack to the burner box.

17. Install the burners back on the burner rack, making sure they are aligned.

18. Install the burner shield cover.

19. Install the top cover and front cover of the burner box.

20. Install the top panel on the furnace.

21. Reconnect all wiring.

22. Remove the outlet pressure plug on the gas valve and connect a water manometer.

23. Turn on the gas and electric supply to the unit.

24. With the unit operating, turn the pressure regulator screw to obtain 10" W.C. manifold pressure (gas valve outlet). Turn the adjustment clockwise to increase pressure and counterclockwise to decrease pressure. Be sure to install the regulator cap (See Figures 1 and 2) on the gas valve.

    NOTE: See "High Altitude" section for additional pressure regulator setting information.

25. Check all fittings for leaks using a soap solution.

WARNING: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS. IF THERE IS A GAS LEAK, EXPLOSION OR INJURY CAN RESULT.

CAUTION: SOME SOAPS USED FOR LEAK DETECTION ARE CORROSIVE TO CERTAIN METALS. CAREFULLY RINSE PIPING THOROUGHLY AFTER LEAK DETECTION HAS BEEN COMPLETED.

26. Check for normal operation of the ignition system (see "Sequence of Operation" section). Cycle the main burners (See Figure 3) on and off. Ignition and extinction should be smooth. The pilot flame should cover approximately 1/2" of sensor. (See Figures 4 and 5) Disconnect the manometer, replace the plug, and check for leaks at the plug.

27. Attach the conversion plate in the kit adjacent to the unit rating plate.

28. Mark the conversion gas installation label in a permanent manner to show propane kit model number, conversion date, your organization and address. Then apply this label near the unit rating plate.

HIGH ALTITUDE

In both the U.S.A. and Canada this furnace is approved for operation at altitudes from 0 to 4500 feet above sea level without any required modifications. Above 4500 feet the manifold pressure needs to be adjusted. The required manifold pressure for a given altitude is shown in the table below. To adjust the manifold pressure refer to the previous section on "Checking and Adjusting the Gas Input Rate."

Manifold Pressure vs. Altitude

	NATURAL GAS		PROPANE (LP)			
ALTITUDE (FT)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	INPUT FACTOR	OUTPUT FACTOR
2000	948	3.50	2278	10.00	0.9666	0.7733
3000	914	3.50	2196	10.00	0.9499	0.7599
4000	881	3.50	2116	10.00	0.9332	0.7466
4500	865	3.50	2077	10.00	0.9249	0.7399
5000	849	3.29	2039	9.41	0.8900	0.7120
5500	833	3.27	2000	9.35	0.8790	0.7032
6000	818	3.25	1964	9.29	0.8680	0.6944
6500	802	3.23	1927	9.24	0.8570	0.6856
7000	787	3.21	1891	9.18	0.8460	0.6768
7500	771	3.19	1853	9.12	0.8350	0.6680

- CONSULT LOCAL UTILITY FOR ACTUAL HEATING VALUE

AT ALTITUDES 5000 FT AND ABOVE 3 INCH VENT PIPE IS RECOMMENDED FOR ALL MODELS.

FURNACE INPUT = INPUT FACTOR x NAMEPLATE INPUT
FURNACE OUTPUT = OUTPUT FACTOR x NAMEPLATE INPUT

ABOVE 7500 FEET CONSULT TECHNICAL SERVICES AT 1-800-448-5872

SEQUENCE OF OPERATION

A call for heat from the thermostat closes R to W, and the combustion blower is energized. The pressure switch senses normal combustion air flow, and closes. Several seconds later power is applied to the ignition control, which then energizes the pilot igniter and the pilot gas solenoid. Pilot ignition occurs, is sensed by the flame sensor, and the main gas valve is energized (pilot igniter is de-energized). Main burner ignition occurs.

Energizing of the main valve starts the "blower on" timing for the circulating blower. Several seconds later (not adjustable), the heating speed is energized.

When the call for heat is satisfied, R to W is opened and the burners and the combustion blower is de-energized. This starts the "blower off" timing for the circulating blower. After the selected (adjustable) time period elapses, the blower is de-energized.

CONVERSION PROCEDURE FOR GH90 SERIES FURNACES:

To proceed with the conversion, follow these steps:

1. CAUTION: The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion.

2. Remove the igniter plug from the gas valve.

3. Unplug any remaining wiring leading to the gas valve and the rollout switch which is next to the valve.

4. Remove the manifold plate (See Figure 6) which holds the grommet around the gas manifold.

5. Remove the remaining screws which hold on the burner access plate, being careful to leave the two (2) screws located in the clearance holes, and remove the burner access plate. (See Figure 6)

6. Remove the two (2) screws holding the burner locking tab in the burner box, then remove the locking tab. (See Figure 7)

7. Remove the burner assembly by moving the manifold support bracket off the two alignment screws, pulling the whole assembly straight out. (See Figure 8)

8. Remove the regulator cap, adjusting screw, and spring from the gas valve (See Figures 1 and 2). Disconnect the pilot tubing.

9. Install the new regulator spring and adjustment screw. (Follow the instructions included with the valve adapter kit). Wipe the manifold pipe beside the gas valve clean of any dirt, oily film, or residue. Place the gas valve conversion label, furnished in the kit from the furnace manufacturer, on this section of the manifold pipe so it is readily visible after the conversion is complete.

10. Remove the burners by removing the screw on each side of the burner.

11. Remove the two (2) screws that hold the pilot bracket assembly on the burner rack. NOTE: For models equipped with a hot surface pilot, the igniter is fragile; handle the pilot carefully.

12. Replace the burner orifices on the manifold with the propane orifices supplied in the kit. Make sure to apply pipe compound resistant to propane gas to the orifice threads before installing the new orifices.

13. Remove the pilot assembly from the pilot bracket and replace the pilot orifice with the propane orifice found in adapter kit. Tighten all fittings.

14. Install the pilot assembly to the pilot bracket, then install the pilot bracket assembly to the burner rack.

15. Install the burners back on the burner rack, making sure they are aligned.

16. Install the burner assembly by sliding the whole assembly back in the burner box making sure the manifold support slides into the far burner locking tab.

17. Install the burner locking tab in the burner box.

18. Install the burner access plate.

19. Install the manifold plate which seals the grommet around the manifold, making sure the plate seals.

20. Reconnect all wiring.

21. Remove the outlet pressure plug on the gas valve and connect a water manometer.

22. Turn on the gas and electric supply to the unit.

23. With the unit operating, turn the pressure regulator screw to obtain 10" W.C. manifold pressure (gas valve outlet). Turn the adjustment clockwise to increase pressure and counterclockwise to decrease pressure. Be sure to install the regulator cap (See Figures 1 and 2) on the gas valve.

24. Check all fittings for leaks using a soap solution.

WARNING: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS. IF THERE IS A GAS LEAK, EXPLOSION OR INJURY CAN RESULT.

CAUTION: SOME SOAPS USED FOR LEAK DETECTION ARE CORROSIVE TO CERTAIN METALS. CAREFULLY RINSE PIPING THOROUGHLY AFTER LEAK DETECTION HAS BEEN COMPLETED.

25. Check for normal operation of the ignition system (see "Sequence of Operation" section). Cycle the main burners (See Figure 3) on and off. Ignition and extinction should be smooth. The pilot flame should cover approximately 1/2" of sensor. (See Figures 4 and 5) Disconnect the manometer, replace the plug, and check for leaks at the plug.

26. Attach the conversion plate in the kit adjacent to the unit rating plate.

27. Mark the conversion gas installation label in a permanent manner to show propane kit model number, conversion date, your organization and address. Then apply this label near the unit rating plate.

NOTE: BTU RATINGS SHOWN ON THE FURNACE RATING PLATE ARE FOR ELEVATIONS UP TO 2,000 FEET(USA & CANADA). IN THE USA, FOR ELEVATIONS ABOVE 2,000 FEET, THE RATINGS SHOULD BE REDUCED AT THE RATE OF 4 PERCENT FOR EACH 1,000 FEET ABOVE SEA LEVEL. IN CANADA, FOLLOW THE ALTITUDE RATING LABEL ON THE FURNACE FOR ELEVATIONS OF 2,000 TO 4,500 FEET; ABOVE 4,500 FEET, THE RATINGS SHOULD BE REDUCED AN ADDITIONAL 4 PERCENT FOR EACH ADDITIONAL 1,000 FEET.

SEQUENCE OF OPERATION

A call for heat from the thermostat closes R to W, and the combustion blower is energized. The pressure switch senses normal combustion air flow, and closes. Several seconds later power is applied to the ignition control, which then energizes the pilot igniter and the pilot gas solenoid. Pilot ignition occurs, is sensed by the flame sensor, and the main gas valve is energized (pilot igniter is de-energized). Main burner ignition occurs.

Energizing of the main valve starts the "blower on" timing for the circulating blower. Several seconds later (not adjustable), the heating speed is energized.

When the call for heat is satisfied, R to W is opened and the burners and the combustion blower is de-energized. This starts the "blower off" timing for the circulating blower. After the selected (adjustable) time period elapses, the blower is de-energized.

CONVERSION PROCEDURE FOR RGU80, RGC80, RGH80 & RGC90 SERIES FURNACES:

To proceed with the conversion, follow these steps:

1. CAUTION: The gas supply shall be shut off prior to disconnecting the elctrical power, before proceeding with the conversion.

2. Remove the access door panel.

3. Remove the regulator cap, adjusting screw, and spring from the gas valve (See Figures 1 and 2).

4. Install the new regulator spring and adjustment screw. (Follow the instructions included with the valve adapter kit). Wipe the manifold pipe beside the gas valve clean of any dirt, oily film, or residue. Place the gas valve conversion label, furnished in the kit from the furnace manufacturer, on this section of the manifold pipe so it is readily visible after the conversion is complete.

5. Disconnect the spark and sensor leads from ignition control.

6. Disconnect the rollout switch wire and remove the burner shield.

7. Remove the burners by removing the screw on each side of the burner.

8. Replace the burner orifices on the manifold with the propane orifices supplied in the kit. Make sure to apply pipe compound resistant to propane gas to the orifice threads before installing the new orifices.

9. Install the burners back on the burner rack, making sure they are aligned.

10. Install the burner shield cover.

11. Reconnect all wiring.

12. Remove the outlet pressure plug on the gas valve and connect a water manometer.

13. Turn on the gas and electric supply to the unit.

14. With the unit operating, turn the pressure regulator screw to obtain 10" W.C. manifold pressure (gas valve outlet). Turn the adjustment clockwise to increase pressure and counterclockwise to decrease pressure. Be sure to install the regulator cap (See Figures 1 and 2) on the gas valve.

    NOTE: See "High Altitude" section for additional pressure regulator setting information.

15. Check all fittings for leaks using a soap solution.

WARNING: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS. IF THERE IS A GAS LEAK, EXPLOSION OR INJURY CAN RESULT.

CAUTION: SOME SOAPS USED FOR LEAK DETECTION ARE CORROSIVE TO CERTAIN METALS. CAREFULLY RINSE PIPING THOROUGHLY AFTER LEAK DETECTION HAS BEEN COMPLETED.

16. Check for normal operation of the ignition system (see "Sequence of Operation" section). Cycle the main burners (See Figure 3) on and off. Ignition and extinction should be smooth. Disconnect the manometer, replace the plug, and check for leaks at the plug.

17. Attach the conversion plate in the kit adjacent to the unit rating plate.

18. Mark the conversion gas installation label in a permanent manner to show propane kit model number, conversion date, your organization and address. Then apply this label near the unit rating plate.

HIGH ALTITUDE

In both the U.S.A. and Canada this furnace is approved for operation at altitudes from 0 to 4500 feet above sea level without any required modifications. Above 4500 feet the manifold pressure needs to be adjusted. The required manifold pressure for a given altitude is shown in the table below. To adjust the manifold pressure refer to the previous section on "Checking and Adjusting the Gas Input Rate."

Manifold Pressure vs. Altitude

	NATURAL GAS		PROPANE (LP)			
ALTITUDE (FT)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	INPUT FACTOR	OUTPUT FACTOR
2000	948	3.50	2278	10.00	0.9666	0.7733
3000	914	3.50	2196	10.00	0.9499	0.7599
4000	881	3.50	2116	10.00	0.9332	0.7466
4500	865	3.50	2077	10.00	0.9249	0.7399
5000	849	3.29	2039	9.41	0.8900	0.7120
5500	833	3.27	2000	9.35	0.8790	0.7032
6000	818	3.25	1964	9.29	0.8680	0.6944
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7500	771	3.19	1853	9.12	0.8350	0.6680

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SEQUENCE OF OPERATION

A call for heat from the thermostat closes R and W, and the combustion air blower is energized. The pressure switch senses normal combustion air flow and closes. Several seconds later the ignition sequence is started by energizing the igniter then energizing the gas valve. The main burners will light. Once flame has been established and proven the circulating air blower will be energized several seconds (not adjustable) later.

When the call for heat is satisfied, R to W is opened and the burners and combustion blower are de-energized. This starts the "blower off" timing for the circulating blower. After the selected (adjustable) time period elapses, the blower is de-energized.

CONVERSION PROCEDURE FOR RGU90 SERIES FURNACES:

To proceed with the conversion, follow these steps:

1. CAUTION: The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion.

2. Remove the access door panel.

3. Remove the regulator cap, adjusting screw, and spring from the gas valve (See Figures 1 and 2).

4. Install the new regulator spring and adjustment screw. (Follow the instructions included with the valve adapter kit). Wipe the manifold pipe beside the gas valve clean of any dirt, oily film, or residue. Place the gas valve conversion label, furnished in the kit from the furnace manufacturer, on this section of the manifold pipe so it is readily visible after the conversion is complete.

5. Disconnect the spark and sensor leads from ignition control.

6. Remove the top panel of the furnace.

7. Remove the front cover of the burner box.

8. Remove the top cover of the burner box.

9. Remove the burner shield.

10. Remove the burners by removing the screw on each side of the burner.

11. Replace the burner orifices on the manifold with the propane orifices supplied in the kit. Make sure to apply pipe compound resistant to propane gas to the orifice threads before installing the new orifices.

12. Install the burners back on the burner rack, making sure they are aligned.

13. Install the burner shield cover.

14. Install the top cover and front cover of the burner box.

15. Install the top panel on the furnace.

16. Reconnect all wiring.

17. Remove the outlet pressure plug on the gas valve and connect a water manometer.

18. Turn on the gas and electric supply to the unit.

19. With the unit operating, turn the pressure regulator screw to obtain 10" W.C. manifold pressure (gas valve outlet). Turn the adjustment clockwise to increase pressure and counterclockwise to decrease pressure. Be sure to install the regulator cap (See Figures 1 and 2) on the gas valve.

    NOTE: See "High Altitude" section for additional pressure regulator setting information.

20. Check all fittings for leaks using a soap solution.

WARNING: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS. IF THERE IS A GAS LEAK, EXPLOSION OR INJURY CAN RESULT.

CAUTION: SOME SOAPS USED FOR LEAK DETECTION ARE CORROSIVE TO CERTAIN METALS. CAREFULLY RINSE PIPING THOROUGHLY AFTER LEAK DETECTION HAS BEEN COMPLETED.

21. Check for normal operation of the ignition system (see "Sequence of Operation" section). Cycle the main burners (See Figure 3) on and off. Ignition and extinction should be smooth. Disconnect the manometer, replace the plug, and check for leaks at the plug.

22. Attach the conversion plate in the kit adjacent to the unit rating plate.

23. Mark the conversion gas installation label in a permanent manner to show propane kit model number, conversion date, your organization and address. Then apply this label near the unit rating plate.

HIGH ALTITUDE

In both the U.S.A. and Canada this furnace is approved for operation at altitudes from 0 to 4500 feet above sea level without any required modifications. Above 4500 feet the manifold pressure needs to be adjusted. The required manifold pressure for a given altitude is shown in the table below. To adjust the manifold pressure refer to the previous section on "Checking and Adjusting the Gas Input Rate."

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ALTITUDE (FT)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	INPUT FACTOR	OUTPUT FACTOR
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4500	865	3.50	2077	10.00	0.9249	0.7399
5000	849	3.29	2039	9.41	0.8900	0.7120
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6000	818	3.25	1964	9.29	0.8680	0.6944
6500	802	3.23	1927	9.24	0.8570	0.6856
7000	787	3.21	1891	9.18	0.8460	0.6768
7500	771	3.19	1853	9.12	0.8350	0.6680

- CONSULT LOCAL UTILITY FOR ACTUAL HEATING VALUE

AT ALTITUDES 5000 FT AND ABOVE 3 INCH VENT PIPE IS RECOMMENDED FOR ALL MODELS.

FURNACE INPUT = INPUT FACTOR x NAMEPLATE INPUT
FURNACE OUTPUT = OUTPUT FACTOR x NAMEPLATE INPUT

ABOVE 7500 FEET CONSULT TECHNICAL SERVICES AT 1-800-448-5872

SEQUENCE OF OPERATION

A call for heat from the thermostat closes R and W, and the combustion air blower is energized. The pressure switch senses normal combustion air flow and closes. Several seconds later the ignition sequence is started by energizing the igniter then energizing the gas valve. The main burners will light. Once flame has been established and proven the circulating air blower will be energized several seconds (not adjustable) later.

When the call for heat is satisfied, R to W is opened and the burners and combustion blower are de-energized. This starts the "blower off" timing for the circulating blower. After the selected (adjustable) time period elapses, the blower is de-energized.

Figures:

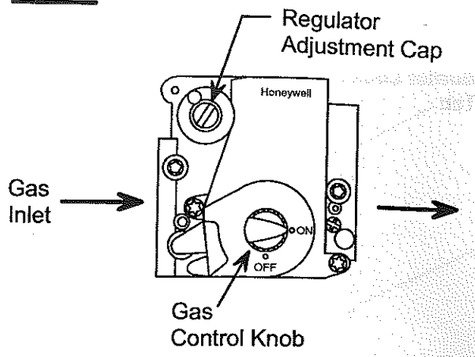


Figure 1

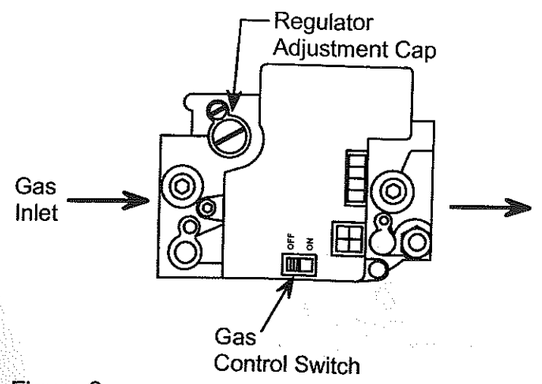
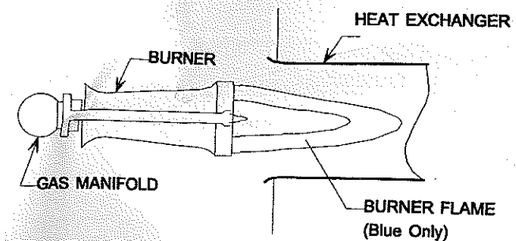


Figure 2



TYPICAL FLAME APPEARANCE

Figure 3

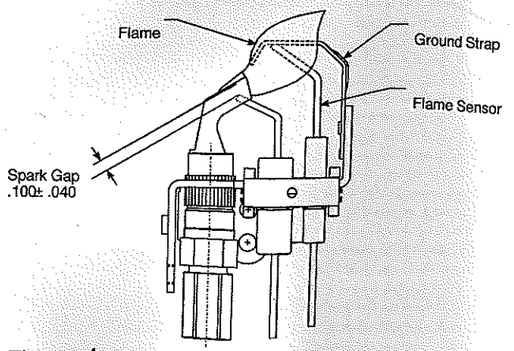


Figure 4

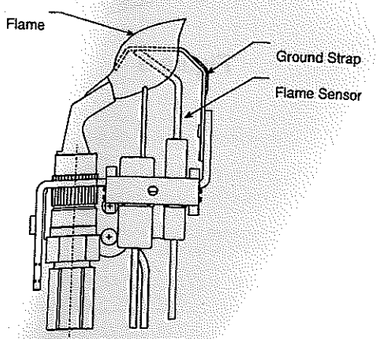


Figure 5

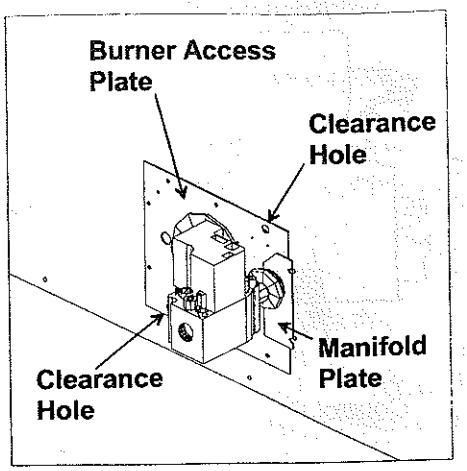


Figure 6

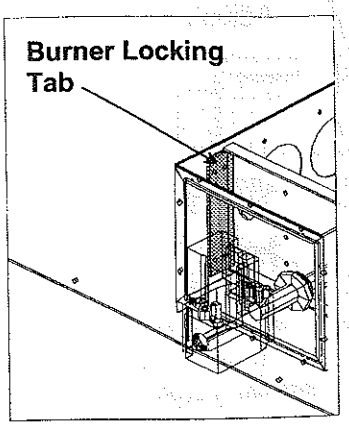


Figure 7

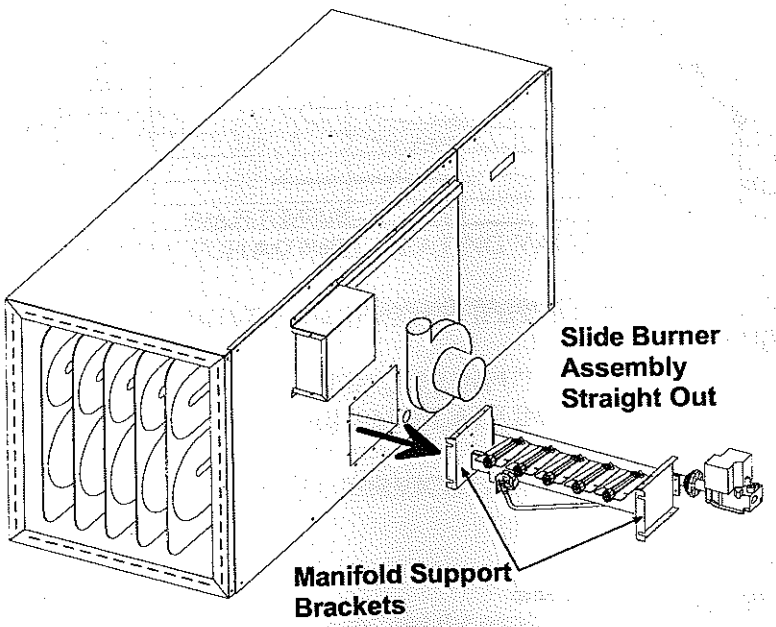


Figure 8