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."

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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:

- CAUTION: The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding 1. with the conversion.
- Remove the access door panel. 2.
- Remove the regulator cap, adjusting screw, and spring from the gas valve (See Figures 1 and 2). Disconnect 3. the pilot tubing.

1.7	403091C078		10-1-9
4.	Install the new regulator adapter kit). Wipe the ma gas valve conversion lat manifold pipe so it is read	spring and anifold pipe cel, furnish fily visible a	l adjustm beside the ed in the after the c
5.	Remove the igniter plug f	rom the gas	valve.
6.	Disconnect the rollout sw	itch wire(s)	and remo
7.	Remove the burners by re	moving the	screw on
8.	Remove the two (2) scree equipped with a hot surface	ews that hol ce pilot, the	ld the pil igniter is
9.	Replace the burner orifice pipe compound resistant t	es on the ma to propane g	unifold wi gas to the
10.	Remove the pilot assembl in adapter kit. Tighten all	y from the J fittings.	oilot brac
11.	Install the pilot assembly	to the burne	r rack.
12.	Install the burners back or	1 the burner	rack, ma
13.	Install the burner shield co	over.	
4.	Reconnect all wiring.		
15.	Remove the outlet pressur	e plug on th	e gas val
6.	Turn on the gas and electr	ic supply to	the unit.
17. V c t	With the unit operating, turi outlet). Turn the adjustment o install the regulator cap (S	n the pressu clockwise to ee Figures 1	ire regula increase and 2) o
	<u>NOTE</u> : See "High Altitud	e" section fo	or additio
	Check all fittings for leaks	using a soa	n solutio

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19. for leaks at the plug.

THERE IS A GAS LEAK, EXPLOSION OR

INJURY CAN RESULT.

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

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nent the g e kit conv	then the screw. (Follow the instructions included with the valve he gas valve clean of any dirt, oily film, or residue. Place the e kit from the furnace manufacturer, on this section of the conversion is complete.							
likiyo 2010 - Anta I	the humar shield	۰.						
iove iiiiiii n eac	the burner side of the burner.	en an en trat	an an transformation and the second sec					
lot b s fraș	racket assembly on gile; handle the pilot	the burner rack carefully.	. NOTE: For models					
ith the orification of the original data and the original d	he propane orifices so ice threads before ins	upplied in the k talling the new	it. Make sure to apply orifices.					
cket a	and replace the pilot	orifice with the	propane orifice found					
aking	sure they are aligned	1.						
			u te Litera					
lve a	nd connect a water n	anometer.						
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ator e pre on th	screw to obtain 10" essure and counterclo e gas valve. pressure regulator se	W.C. manifold ckwise to decre	l pressure (gas valve ase pressure. Be sure					
on.								
	CAUTION: SOM DETECTION AI METALS. CA THOROUGHLY HAS BEEN COM	IE SOAPS U REFULLY AFTER LE PLETED.	SED FOR LEAK VE TO CERTAIN RINSE PIPING AK DETECTION					
istam	(ass "Sequence of	Operation" sect	ion) Cuolo the main					

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

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Mark the conversion gas installation label in a permanent manner to show propane kit model number, 21. 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

	NATUR	AL GAS	PROPA	NE (LP)	References de la composition de la comp	
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
3500	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:

- CAUTION: The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding 1. with the conversion.
- 2. Remove the access door panel.

- PART NO. 40509K098 DATE 10-1 3. the pilot tubing. 4 manifold pipe so it is readily visible after the conversion is complete. Remove the igniter plug from the gas valve. 5.: Remove the top panel of the furnace. 6. Remove the front cover of the burner box. 7. 8. Remove the top cover of the burner box. 9. Remove the burner shield. Remove the burners by removing the screw on each side of the burner. 10. 11. equipped with a hot surface pilot, the igniter is fragile; handle the pilot carefully. Remove the burner rack by removing the two (2) screws on each side of the burner box. 12. 13. 14. in adapter kit. Tighten all fittings. Install the pilot assembly to the burner rack. 15. 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. Install the top cover and front cover of the burner box. 19. Install the top panel on the furnace. 20.
 - 21. Reconnect all wiring.
 - Remove the outlet pressure plug on the gas valve and connect a water manometer. 22.
 - 23. Turn on the gas and electric supply to the unit.
 - 24. 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.

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

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

Remove the two (2) screws that hold the pilot bracket assembly on the burner rack. NOTE: For models

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.

Remove the pilot assembly from the pilot bracket and replace the pilot orifice with the propane orifice found

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

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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.

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

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

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	NATUR	AL GAS	PROPA	NE (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
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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
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

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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.

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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. proceeding with the conversion.
- 2. Remove the igniter plug from the gas valve.
- 3.
- 4.
- 5.
- 6. (See Figure 7)
- 7. pulling the whole assembly straight out. (See Figure 8)
- 8. Disconnect the pilot tubing.
- 9. manifold pipe so it is readily visible after the conversion is complete.
- Remove the burners by removing the screw on each side of the burner. 10.
- 11. equipped with a hot surface pilot, the igniter is fragile; handle the pilot carefully.
- 12.
- 13. found in adapter kit. Tighten all fittings,
- 14.
- 15. Install the burners back on the burner rack, making sure they are aligned.

CAUTION: The gas supply shall be shut off prior to disconnecting the electrical power, before

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

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

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)

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

Remove the burner assembly by moving the manifold support bracket off the two alignment screws,

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

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

Remove the two (2) screws that hold the pilot bracket assembly on the burner rack. NOTE: For models

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.

Remove the pilot assembly from the pilot bracket and replace the pilot orifice with the propane orifice

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

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.	Install t manifold	he burner assen d support slides i	bly by slid nto the far	ding the wh burner lockir	ole assembly back 1g tab.	in the burner	box making sure the
7.	Install th	ne burner locking	tab in the	burner box.			n An Maria I.
8.	Install th	ne burner access	plate.		1 (1919) - 2 (1917) - 2 - 4 (1917) - 2 (1917) - 4 (1917) - 2 (1917)		
9.	Install th	ne manifold plate	which seal	s the gromm	et around the manifo	old, making sur	e the plate seals.
0.	Reconne	ect all wiring.			5 1999 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 -	anders Ander Mittaber -	
1.	Remove	the outlet pressu	re plug on	the gas valve	e and connect a wate	r manometer.	
2.	Turn on	the gas and elect	ric supply t	to the unit.	24 1		
3.	With the valve ou	e unit operating, itlet). Turn the Be sure to insta	turn the p adjustment	ressure regu clockwise 1	lator screw to obtai to increase pressure Figures 1 and 2) on	n 10" W.C. m and counterc	anifold pressure (gas lockwise to decrease
'4. Cl	neck all fit	tings for leaks us	ing a soap s	solution.			OFD FOR LEAV
WAR FLAN THEF INJU	NING: I IE TO RE IS A G RY CAN I	NEVER USE CHECK FOR GAS LEAK, EXI RESULT.	AN OF LEAKS. PLOSION	IF N OR T B	DETECTION: SOME DETECTION ARE METALS. CAR HOROUGHLY A DEEN COMPLETE	SOAPS US CORROSIV EFULLY FTER LEAK	SED FOR LEAK VE TO CERTAIN RINSE PIPING DETECTION HAS
25.	Check for burners (approxim check for	or normal operati (See Figure 3) on nately 1/2" of se r leaks at the plus	on of the ig and off. Ig nsor. (See g.	nition syster nition and ex Figures 4 an	n (see "Sequence of ttinction should be s d 5) Disconnect th	Operation" sec mooth. The pile e manometer, 1	tion). Cycle the main ot flame should cover replace the plug, and
26.	Attach th	e conversion pla	te in the kit	t adjacent to	the unit rating plate.		
7.	Mark the conversion	e conversion gas on date, your org	installation anization a	ו label in a ו nd address. כ	permanent manner t Then apply this label	o show propan near the unit ra	ie kit model number, ating plate.
OTE	::]]]] [(BTU RATING ELEVATIONS ELEVATIONS RATE OF 4 PE FOLLOW THE DF 2,000 TO 4.5	S SHOW UP TO ABOVE 2, RCENT F ALTITUD 00 FEET;	'N ON T 2,000 FEI 000 FEET, 'OR EACH)E RATIN(ABOVE 4,5	HE FURNACE ET(USA & CAN THE RATINGS SI 1,000 FEET ABO 3 LABEL ON THE 00 FEET, THE RA	RATING PI ADA). IN HOULD BE R VE SEA LEV CFURNACE F ATINGS SHOU	LATE ARE FOR THE USA, FOR EDUCED AT THE EL. IN CANADA, FOR ELEVATIONS ULD BE REDUCED

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.

AN ADDITIONAL 4 PERCENT FOR EACH ADDITIONAL 1.000 FEET.

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

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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. with the conversion.
 - Remove the access door panel.

2.

3.

5.

6.

- 4. manifold pipe so it is readily visible after the conversion is complete.
 - Disconnect the spark and sensor leads from ignition control.
 - 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.
- 9. Install the burners back on the burner rack, making sure they are aligned.
- 10. Install the burner shield cover.
- 11. Reconnect all wiring.
- Remove the outlet pressure plug on the gas valve and connect a water manometer. 12.
- 13. Turn on the gas and electric supply to the unit.
- 14. 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.
- Check all fittings for leaks using a soap solution. 15.

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

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

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

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

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.

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

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

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- Check for normal operation of the ignition system (see "Sequence of Operation" section). Cycle the main 16. 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.
- Mark the conversion gas installation label in a permanent manner to show propane kit model number, 18. 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

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	NATUR	AL GAS	PROPA	NE (LP)			
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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5000	849	3.29	2039	9.41	0.8900	0.7120	
5500	833	3.27	2000	9.35	0.8790	0.7032	
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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.

CONVERSION PROCEDURE FOR RGU90 SERIES FURNACES:

To proceed with the conversion, follow these steps:

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

Г		1	, <u> </u>								
	PART NO.	40509K098	DATE	10-1-98	SUPERSEDES	40509H098					
	2. Remove	the access door p	oanel.								
	PART NO. 40509K098 DATE 10-1-98 SUPERSEDES 40509H098 2. Remove the access door panel. . 3. Remove the regulator cap, adjusting screw, and spring from the gas valve (See Figure 4. Install the new regulator spring and adjustment screw. (Follow the instructions in adapter kit). Wipe the manifold pipe beside the gas valve clean of any dirt, oily film gas valve conversion label, furnished in the kit from the furnace manufacturer, 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 top cover of the burner box. 8. Remove the burner shield. 10. Remove the burner shield. 11. Replace the burner orifices on the manifold with the propane orifices supplied in the k pipe compound resistant to propane gas to the orifice threads before installing the new										
	4. Install th adapter k gas valve manifold	te new regulator cit). Wipe the ma e conversion lab pipe so it is read	spring and mifold pipe pel, furnishe ily visible a	adjustment beside the gr d in the kit fter the conve	screw. (Follow the as valve clean of any from the furnace r ersion is complete.	instructions incl y dirt, oily film, nanufacturer, or					
	5. Disconne	ect the spark and	sensor leads	from ignition	n control.	÷					
1	6. Remove	the top panel of t	he furnace.		1948 - Maria Maria, ang karangan 1949 - Karangan Karangan, ang karangan karangan karangan karangan karangan karangan karangan karangan karangan						
	7. Remove	Remove the front cover of the burner box.									
	8. Remove t	Remove the top cover of the burner box.									
. (9. Remove t	Remove the burner shield.									
	10. Remove t	Remove the burners by removing the screw on each side of the burner.									
]	11. Replace the pipe complexity of the pipe c	he burner orifices pound resistant to	s on the mar propane ga	nifold with the s to the orific	e propane orifices su e threads before inst	pplied in the kit. alling the new or					
	2. Install the	burners back on	the burner 1	ack, making s	sure they are aligned	•					
1	3. Install the	burner shield co	ver.								
1	4. Install the	top cover and fre	ont cover of	the burner bo	а. Х.						
1	5. Install the	top panel on the	furnace.		e po po la Cenar Constante de la Cenar						
1	6. Reconnect	t all wiring.									
1	7. Remove th	ne outlet pressure	plug on the	gas valve and	l connect a water ma	nometer.					
1	8. Turn on th	e gas and electric	supply to t	ne unit.							
19	9. With the u outlet). Tu sure to inst	unit operating, turn the adjustmen tall the regulator of	n the pressi t clockwise cap (See Fig	tre regulator : to increase p sures 1 and 2)	screw to obtain 10" pressure and counter on the gas valve.	W.C. manifold clockwise to dec					
	NOTE: Se	e "High Altitude	" section for	additional pr	ressure regulator sett	ing information.					
20). Check all f	ittings for leaks u	ising a soap	solution.							
					CATTION SOM	SOAPS US					

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

rew, and spring from the gas valve (See Figures 1 and 2).

adjustment screw. (Follow the instructions included with the valve peside the gas valve clean of any dirt, oily film, or residue. Place the in the kit from the furnace manufacturer, on this section of the er the conversion is complete.

fold with the propane orifices supplied in the kit. Make sure to apply to the orifice threads before installing the new orifices.

e regulator screw to obtain 10" W.C. manifold pressure (gas valve o increase pressure and counterclockwise to decrease pressure. Be res 1 and 2) on the gas valve.

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

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- Check for normal operation of the ignition system (see "Sequence of Operation" section). Cycle the main 21. 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.
- Attach the conversion plate in the kit adjacent to the unit rating plate. 22.
- Mark the conversion gas installation label in a permanent manner to show propane kit model number, 23. 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

	NATUR	AL GAS	PROPA	NE (LP)	INPUT FACTOR	OUTPUT FACTOR
ALTITUDE (FT)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)	HEATING VALUE* (BTU/FT3)	MANIFOLD PRESSURE (IN WC)		
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

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