

**CRLPELEV001A00-
CRLPELEV004A00
CRLPELEV007A00-
CRLPELEV009A00**

**SMALL ROOFTOP UNITS
ACCESSORY LP (LIQUID PROPANE)
HIGH ALTITUDE GAS CONVERSION KIT
GAS HEATING/ELECTRIC COOLING
3 to 15 TON
60,000–350,000 Btu/hr**

Installation Instructions

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PACKAGE CONTENTS LP (LIQUID PROPANE) AND HIGH ALTITUDE KIT

ACCESSORY PART NO.	ORIFICES		
	SIZE	QTY	PART NUMBER
CRLPELEV001A00	31	5	LH32RF120
	32	5	LH32RF116
	33	5	LH32RF113
	35	5	LH32RF110
	36	5	LH32RF105
CRLPELEV002A00	37	5	LH32RF104
	38	5	LH32RF102
	39	5	LH32RF103
	44	5	LH32RF086
	45	5	LH32RF082
CRLPELEV003A00	46	5	LH32RF080
	47	5	LH32RF079
	48	5	LH32RF076
	49	5	LH32RF073
	50	5	LH32RF070
CRLPELEV004A00	51	5	LH32RF067
	52	5	LH32RF065
	53	5	LH32RF060
	54	5	LH32RF055
	55	5	LH32RF052
CRLPELEV007A00	36	10	LH32RF105
	37	10	LH32RF104
	38	10	LH32RF102
	39	10	LH32RF103
CRLPELEV008A00	40	10	LH32RF098
	41	10	LH32RF096
	42	10	LH32RF094
	43	10	LH32RF089
CRLPELEV009A00	51	10	LH32RF067
	52	10	LH32RF065
	53	10	LH32RF060
	54	10	LH32RF055
	55	10	LH32RF052

COMMON CONTENTS	QTY	PART NUMBER
INSTRUCTIONS	1	IIK-CRLPELEV01-04
ELBOW, 1/8" NPT x 90°	1	CA05RA001 *
ELBOW, STREET 1/8" NPT x 90°	1	CA15RA001 *
NIPPLE, 1/8" PIPE x 3/4"	1	CA01CA001 *
NIPPLE, 1/8" PIPE x 1 1/2"	1	CA01CA006 *
NIPPLE, 1/8" PIPE x 3 1/2"	1	CA01CA020 *
SWITCH, LP PRESSURE	1	HK02LB008 *
WIRE, BROWN	1	99WG7373XC200918 *
SPRINGS, LP CONVERSION	2	EF39ZW023 *
LABEL, GAS VALVE LP CONV	1	48TM501013 *
LABEL, UNIT WARNING	1	48TM501012
LABEL, LP RESPONSIBILITY	1	48TM501014 *
LABEL, HIGH-ALT. RESPONSIBILITY	1	48TM501015
LABEL, LP CONVERSION KIT RATING PLATE	1	48TM502595 *
LABEL, NG CONVERSION KIT RATING PLATE	1	48TM502594


* Only used in LP applications

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform the basic maintenance functions. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

GENERAL

These models are shipped from the factory equipped to operate with natural gas at elevations up to 2000 ft (610 m). The units must be modified if installed at elevations above 2000 ft (610 m), or if operated with liquid propane.

For installations in Canada, the input rating must be derated by 10% for altitudes of 2000 ft (610 m) to 4500 ft (1372 m) above sea level.

Seven different gas conversion kits are available, as shown in Package Contents table. Each kit contains a particular range of orifice sizes plus other hardware and labels necessary for converting the unit. Refer to Table 1-4 to determine the recommended orifice size based on the nominal heat size, fuel type, and elevation. Knowing this orifice size, it is possible to select the proper Kit Accessory Part Number from Package Contents table.

IMPORTANT: The Accessory LP Conversion is not for use with Low NOx units. If Low NOx units are converted to LP gas, the Low NOx baffle must be removed. (See Fig. 1.) The unit will no longer be classified as Low NOx units. It is suggested that the LP Conversion Kit be used with standard units only.

WARNING

FIRE, EXPLOSION, CARBON MONOXIDE POISONING, PROPERTY DAMAGE HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

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. 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 furnace is checked as specified in the manufacturer's instructions supplied in the kit.

AVERTISSEMENT

FEU, EXPLOSION, EMPOISONNEMENT PAR CARBON DE MONOXYDE, RISQUE DE DOMMAGE À LA PROPRIÉTÉ

La négligence de suivre l'avis suivant, peut causer des blessures personnelles, la mort ou du dommage à la propriété.

Cette trousse de conversion doit être installée par un Entrepreneur qualifié, selon les instructions du fabricant et doit se conformer à toutes les exigences et tout les codes pertinents de l'autorité compétente. L'Entrepreneur qualifié est responsable, et doit s'assurer de bien suivre les instructions dans cet avis. L'installation sera considérée conforme et rencontrant les spécifications et instructions du fabricant qui sont inclus dans la trousse, seulement après vérification de l'opération de la fournaise convertie.

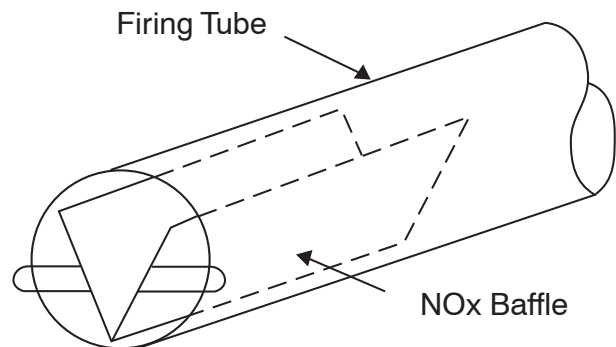


Fig. 1 - Low NOx Baffle Location

C00151

⚠ WARNING

EXPLOSION, PERSONAL INJURY HAZARD

Failure to follow this warning could result in personal injury or death.

Two-Stage Gas Valve - Unit is designed to operate at a 10.0-in. wc of manifold pressure on HIGH stage and 5.0-in. wc on LOW stage with propane gas.

Single-Stage Gas Valve - Unit is designed to operate at a 10.0-in. wc of manifold pressure with propane gas.

⚠ WARNING

FIRE, EXPLOSION, ELECTRICAL HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

Gas supply **MUST** be shut off before disconnecting electrical power and proceeding with conversion.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch. Tag disconnect switch with suitable warning label.

LP CONVERSION KIT INSTALLATION

Step 1 — Remove Burner Section from Base Unit

1. Shut off main gas supply to unit.
2. Shut off power to unit and install lockout tag.
3. Remove burner access panel. (See Fig. 2.)

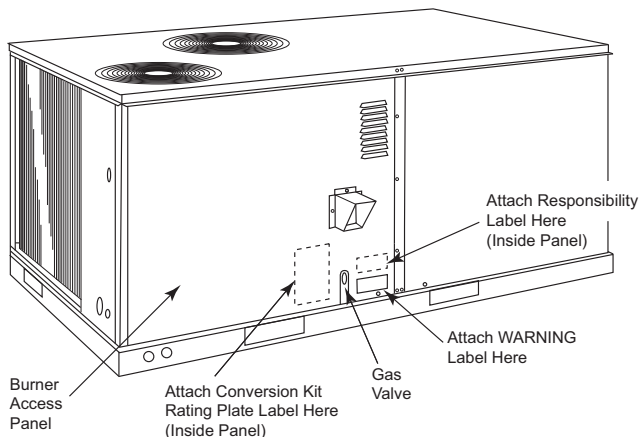
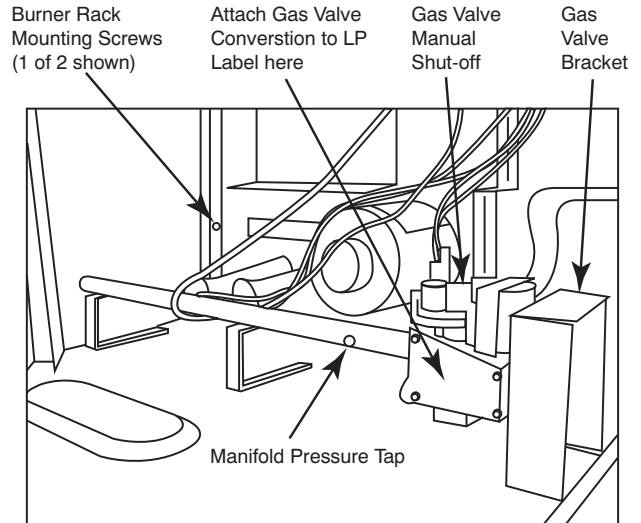


Fig. 2 - Typical Base Unit

C09434

4. Slide out burner section side panel.
5. Disconnect gas piping at unit gas valve.
6. Remove wires connected to gas valve. Mark each wire.
7. Remove igniter and sensor wires. Mark each wire.
8. For units with burner sections as shown in Fig. 3, remove the 2 screws that attach the burner rack to the vestibule plate. For units with burner sections as shown in Fig. 5, remove the 4 screws that hold the manifold to the sheet metal brackets.



C08237

Fig. 3 - Gas Section Details (Small Chassis Shown)

9. Remove the gas valve bracket.
10. Slide the burner rack or manifold out of the unit.
11. For small chassis units only--inspect the inlet of the heat exchanger tubes for presence of V-shaped NOx baffles. (See Fig. 1.) If baffles are present, they must be removed prior to converting unit for propane gas. Using needle nose pliers, remove NOx baffles. Squeeze sides of the baffle, if necessary, to remove from the heat exchanger tubes.

IMPORTANT: If this unit will be converted back to natural gas at a later time, these baffles should be retained for reuse. Otherwise the baffles may be discarded.

Step 2 — Modify Burner/Valve Assembly

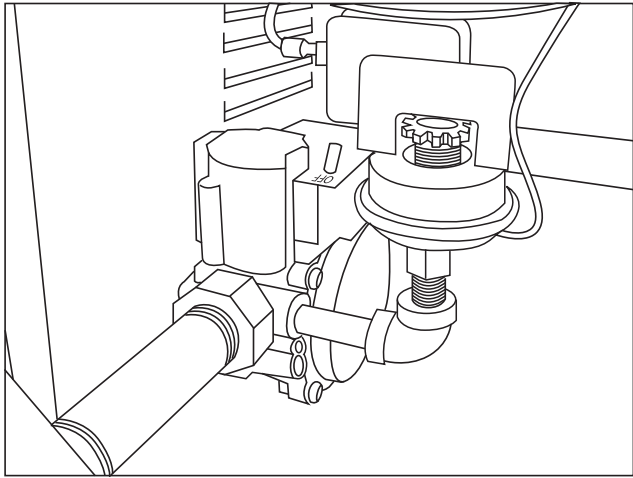
1. Separate burners from frame by removing screws.
2. Remove existing gas orifices. Install the new orifices from the gas conversion kit, making sure they match the recommended size from Table 1-4.

IMPORTANT: Never use Teflon tape to seal gas orifice threads because peeling tape can plug the orifice.

3. Remount burners to support frame.

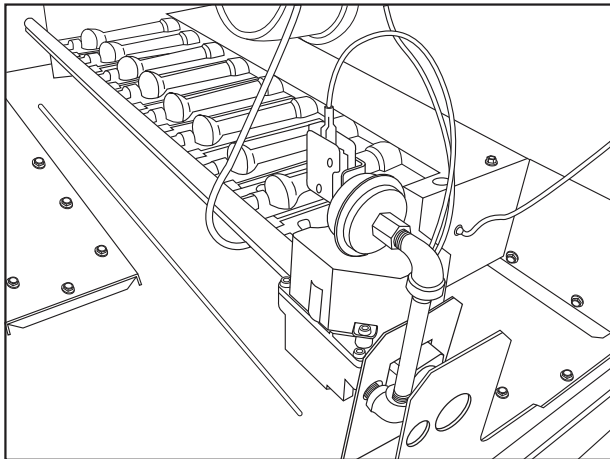
IMPORTANT: The burners should be positioned in the same order as shipped from the factory. The crossover flame region of the outermost burners are pinched off to prevent excessive gas flow from the sides of the burner assembly. If the pinched crossovers are installed between two burners, the flame will not ignite properly.

- Remove the plug on the inlet end of the gas valve using a $\frac{3}{16}$ -in. hex wrench. (See Fig. 4 and 6 for units using White-Rodgers 36G gas valve and Fig. 5 and 7 for units using White-Rodgers 36H gas valve).



C08238

**Fig. 4 - LP Pressure Switch Piping
(36G Gas Valve Shown)**



C10520

**Fig. 5 - LP Pressure Switch Piping
(36H Gas Valve Shown)**

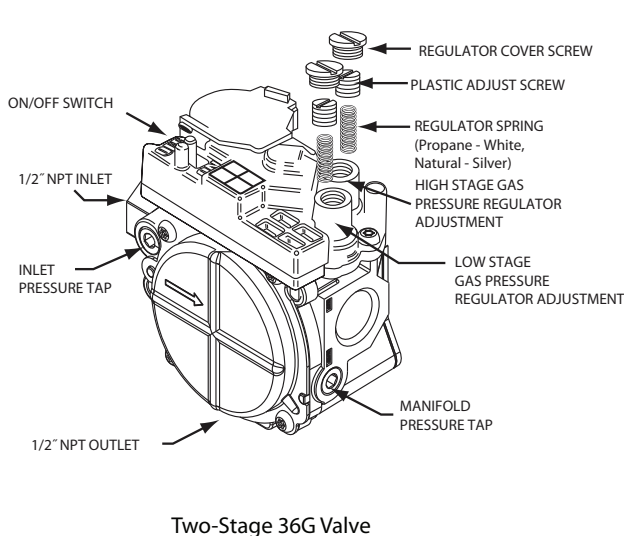
- For units with 36G valve**, install the $\frac{1}{8}$ -in. x $1\frac{1}{2}$ -in. nipple where the plug was removed. (See Fig. 4.) Use pipe thread dope or tape (field-supplied, must be certified for use with propane gas) for all joints, making sure not to get any excess in the pipe or valve. Next, install the $\frac{1}{8}$ -in. x 90° elbow, then $\frac{1}{8}$ -in. x $\frac{3}{4}$ -in. nipple, followed by the LP Pressure Switch as shown in Fig. 4.

For Single-Stage Gas Valves, connect supplied brown jumper wire from the “NO” (Normally Open) terminal on the pressure switch to the terminal where the gray wire was attached.

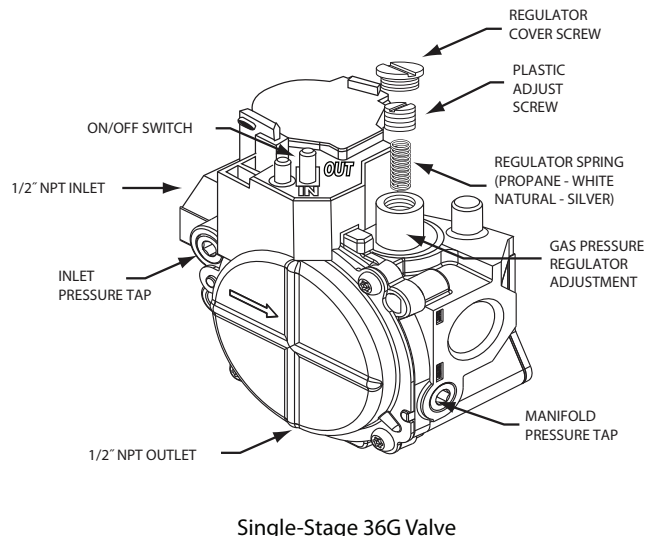
NOTE: Terminals are not marked on Gas Valve.

For Two-Stage Gas Valves, connect the supplied brown jumper wire from the “NO” terminal on the pressure switch to terminal “M” on the gas valve.

- For units with 36H valve**, install the $\frac{1}{8}$ -in. x $\frac{3}{4}$ -in nipple where the plug was removed. (See Fig. 5.) Use pipe thread dope or tape (field supplied, must be certified for use with propane gas) for all joints, making sure not to get any excess in the pipe or valve. Next, install the gas valve bracket over nipple, then the $\frac{1}{8}$ -in x 90° elbow, then $\frac{1}{8}$ -in x $3\frac{1}{2}$ -in nipple, then $\frac{1}{8}$ -in x 90° street elbow, followed by the LP Pressure Switch as shown in Fig. 5. Connect he supplied brown jumper wire from the “NO” terminal on the pressure switch to terminal “MP” on the gas valve.
- Remove regulator cover screw(s) from gas regulator(s). (See Fig. 6 or 7.) Save regulator cover screws.
- Using a screwdriver, remove plastic adjust screw(s) from both regulators. (See Fig. 6 or 7.) Save plastic adjust screws.
- Remove regulator spring(s) (silver) from gas regulator(s). (See Fig. 6 or 7.) Discard regulator springs.
- Install propane gas regulator spring(s) (white) shipped with the kit into the gas regulator(s). (See Fig. 6 or 7.)



Two-Stage 36G Valve



Single-Stage 36G Valve

Fig. 6 - 36G Valve Spring Installation

C10521

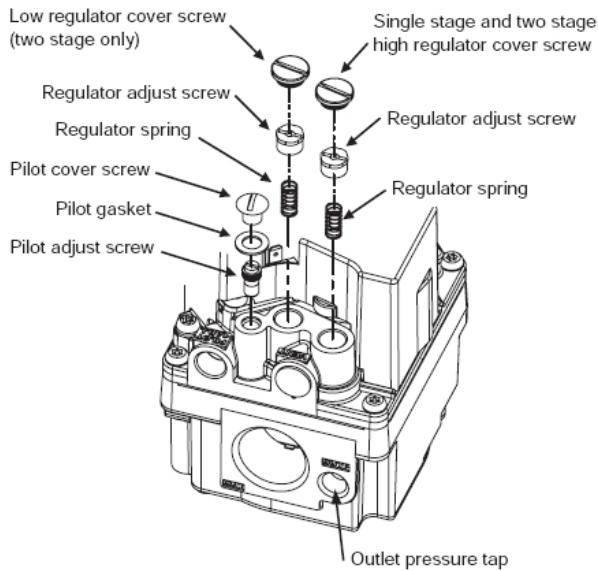


Fig. 7 - Two-Stage Spring Installation (36H Gas Valve Shown)

C08241

10. **For Two-Stage Gas Valves**, install plastic adjust screw into the high stage gas regulator, turn clockwise 13.5 turns. (See Fig. 6 and 7.) Then install plastic adjust screw into the low stage gas regulator, turn clockwise 9.5 turns. Replace regulator cover screws. (See Fig. 6 and 7.)
11. **For Single-Stage Gas Valves**, install plastic adjust screw into the single-stage gas regulator, turn clockwise 13.5 turns. Replace regulator cover screw. (See Fig. 6.)

Step 3 — Re-install Burner Assembly

1. Slide the burner rack into the unit.
2. Attach burner rack or manifold with previously removed screws.
3. Fasten gas valve bracket with 2 screws in base.


4. Reconnect the igniter and sensor wires.
5. Reconnect the wires to the gas valve, except for the grey wire. Connect the grey wire to terminal “C” on the pressure switch.
6. Connect gas piping to the gas valve.
7. Attach LP Conversion Label to gas valve. (See Fig. 3 and 8.)

**THIS UNIT HAS BEEN
CONVERTED TO L.P
GAS WITH FACTORY
SUPPLIED PARTS.
MANIFOLD PRESSURE,
10.0"wc**

Fig. 8 - Gas Valve Conversion Label (LP Only)

C08244

8. Attach Warning Label to burner access panel. (See Fig. 2 and 9.)



WARNING

THIS UNIT IS DESIGNED TO OPERATE AT 10.0±0.3" OF MANIFOLD PRESSURE WITH L.P. GAS. EXCEEDING THIS PRESSURE WILL CAUSE EXPLOSION OR INJURY.

Fig. 9 - Unit Warning Label (LP Only)

C08251

9. Attach completed LP Responsibility Label to inside of burner access panel. (See Fig. 2 and 10.)
10. For High Altitude LP installations attach LP Conversion Kit Rating Plate Label to inside of burner access panel. (See Fig. 2 and 11.)

<p>THIS FURNACE WAS CONVERTED ON _____ TO PROPANE GAS</p> <p style="text-align: center;">DAY MONTH YEAR</p> <p>USING _____ ORIFICE SIZE.</p> <p>BY _____</p> <p>_____</p> <p>_____</p> <p><small>(Name and address of organization making this conversion), which accepts the responsibility that this conversion has been properly made.</small></p> <p style="text-align: right;">48TM501014 REV-</p>	<p>CÉ GÉNÉRATEUR D'AIR CHAUD A ÉTÉ CONVERTI LE _____ POUR</p> <p style="text-align: center;">JOUR MOIS ANNÉE</p> <p>GAZ DE PÉTROLÉ LIQUÉFIE OU PROPANE SI L'ORIFICE EST</p> <p>IDENTIQUE AU TROU D'UN FORÉT N°</p> <p>PAR _____</p> <p>_____</p> <p>_____</p> <p><small>(Nom et adresse de l'organisme qui a effectué la conversion), qui accepte l'entière responsabilité de la conversion.</small></p>
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Fig. 10 - LP Responsibility Label

C08242

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- Leak check all gas connections including the main service connection, gas valve, gas spuds, and manifold pipe plug. All leaks must be repaired before firing unit.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Failure to follow this warning could result in personal injury and/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.

CRLPELEV

<p>CONVERSION KIT RATING PLATE PROPANE GAS</p> <p>REFER TO MAIN RATING PLATE FOR SPECIFIC MODEL NUMBER. THIS UNIT HAS BEEN CONVERTED TO OPERATE WITH PROPANE GAS AT ALTITUDES FROM 0 TO 14,000 FEET. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES.</p> <p>CONVERSION KIT PART NUMBERS: CRLPELEV001A00, CRLPELEV002A00, CRLPELEV003A00, CRLPELEV004A00, CRLPELEV007A00, CRLPELEV008A00, CRLPELEV009A00</p> <p>MANIFOLD PRESSURE: REFER TO MAIN RATING PLATE</p> <p>GAS SUPPLY PRESSURE: REFER TO MAIN RATING PLATE</p> <p>REFER TO ALTITUDE COMPENSATION TABLES FOUND IN KIT INSTRUCTIONS FOR REQUIRED INFORMATION TO COMPLETE THIS SECTION.</p> <p>INSTALLATION ALTITUDE _____ FT</p> <p>ORIFICE SIZE INSTALLED _____</p> <p>INPUT RATE AT INSTALLATION ALTITUDE _____ BTU/HR</p> <p>FOR INSTALLATIONS IN CANADA, THE INPUT RATING SHOULD BE DERATED BY 10% FOR ALTITUDES FROM 2,000 FT (610 M) TO 4,500 FT (1372 M) ABOVE SEA LEVEL.</p>
<p>PLAQUE SIGNALÉTIQUE DE TROUSSE DE CONVERSION GAZ PROPANE</p> <p>SE RÉFÉRER À LA PLAQUE SIGNALÉTIQUE PRINCIPALE POUR LE NUMÉRO DE MODÈLE SPÉCIFIQUE CET APPAREIL A FAIT L'OBJET D'UNE CONVERSION POUR UN FONCTIONNEMENT AU GAZ PROPANE À DES ALTITUDES SITUÉES ENTRE 0 ET 14,000 PIEDS. SE RÉFÉRER AUX INSTRUCTIONS FOURNIES AVEC LA TROUSSE POUR OBTENIR LES PROCÉDURES DE CONVERSION.</p> <p>NUMÉROS DE PIÈCE DES TROUSSES DE CONVERSION: CRLPELEV001A00, CRLPELEV002A00, CRLPELEV003A00, CRLPELEV004A00, CRLPELEV007A00, CRLPELEV008A00, CRLPELEV009A00</p> <p>PRESSION DE COLLECTEUR: SE RÉFÉRER À LA PLAQUE SIGNALÉTIQUE PRINCIPALE</p> <p>PRESSION DE L'ARRIVÉE DE GAZ: SE RÉFÉRER À LA PLAQUE SIGNALÉTIQUE PRINCIPALE</p> <p>SE RÉFÉRER AU TABLEAU DE COMPENSATION D'ALTITUDE FOURNI AVEC LA TROUSSE POUR LES INFORMATIONS NÉCESSAIRES À L'ACHEVEMENT DE CETTE SECTION.</p> <p>ALTITUDE D'INSTALLATION _____ M</p> <p>TAILLE DE LA BUSE INSTALLÉE _____</p> <p>CAPACITÉ D'ENTRÉE À L'ALTITUDE D'INSTALLATION _____ BTU/HR</p> <p>POUR LES INSTALLATIONS AUX CANADA, LA CAPACITÉ D'ENTRÉE DOIT ÊTRE DÉPRÉCIÉE DE 10% POUR LES ALTITUDES SITUÉES ENTRE 2,000 PIEDS (610 MÈTRES) ET 4,500 PIEDS (1372 MÈTRES) AU DESSUS DU NIVEAU DE LA MER.</p>

C11144

Fig. 11 - LP Conversion Kit Rating Plate Label

The newly installed low gas pressure switch is a safety device used to guard against adverse burner operating characteristics that can result from low gas supply pressure. Switch opens at not less than 7.2-in. wc and closes at not greater than 10.2-in. wc.

This switch also prevents operation when the propane tank level is low which can result in gas with a high concentration of impurities, additives, and residues that have settled to the bottom of the tank. Operation under these conditions can cause harm to the heat exchanger system. This normally open switch closes when gas is supplied to gas valve under normal LP operation pressure of 11.0 to 13.0-in.wc. The closed switch completes the control circuit. Should an interruption or reduction in gas supply occur, the gas pressure at switch drops below low gas pressure switch setting, and switch opens. Any interruption in control circuit (in which low gas pressure switch is wired) quickly closes gas valve and stops gas flow to burners.

Step 4 — Check Unit Operation and Make Necessary Adjustments

NOTE: LP gas supply pressure must not be less than **11-in.wc** or greater than **13-in.wc** at the unit connection.

- Remove manifold pressure tap plug from manifold and connect pressure gauge or manometer. (See Fig. 3.)
- Turn on electrical supply.
- Turn on unit main gas valve.
- Set room thermostat to call for heat. If unit has two-stage gas valve, verify high-stage heat operation before attempting to adjust manifold pressure.
- When main burners ignite, check all fittings, manifold, and orifices for leaks.
- Adjust high-stage pressure to 10.0-in. wc by turning the plastic adjust screw clockwise to increase pressure, counter-clockwise to decrease to pressure.
- For Two-Stage Gas Valves, set room thermostat to call for low-stage heat. Adjust low-stage pressure to 5.0-in. wc.
- Replace regulator cover screw(s) when finished.
- With burner access panel removed, observe unit heating operation in both high stage and low stage operation if so equipped. Observe burner flames to see if they are blue in appearance, and that the flames are approximately the same for each burner.
- Turn off unit, remove pressure manometer and replace the 1/8-in. pipe fitting on the gas manifold. (See Fig. 3.)
- Re-install burner access panel. (See Fig.2.)

HIGH ALTITUDE CONVERSION KIT INSTALLATION

⚠ WARNING

FIRE, EXPLOSION AND ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury, death and/or property damage.

Gas supply **MUST** be shut off before disconnecting electrical power and proceeding with conversion.

Step 1 — Remove Burner Section from Base Unit

1. Shut off main gas supply to unit.
2. Shut off power to unit and install lockout tag.
3. Remove burner access panel.
4. Slide out burner section side panel.
5. Disconnect gas piping at unit gas valve.
6. Remove wires connected to gas valve. Mark each wire.
7. Remove igniter and sensor wires. Mark each wire.
8. Remove the 2 screws that attach the burner rack to the vestibule plate.
9. Remove the gas valve bracket.
10. Slide the burner rack out of the unit. (See Fig. 3.)

Step 2 — Modify Burner/Valve Assembly

1. Separate burners from frame by removing screws.
2. Remove existing gas orifices. Install the new orifices from the gas conversion kit, making sure they match the recommended size from Table 1-4.

IMPORTANT: Never use Teflon tape to seal gas orifice threads because peeling tape can plug the orifice.

3. Remount burners to support frame.

IMPORTANT: The burners should be positioned in the same order as shipped from the factory. The crossover flame region of the outermost burners are pinched off to prevent excessive gas flow from the sides of the burner

assembly. If the pinched crossovers are installed between two burners, the flame will not ignite properly.

Step 3 — Re-install Burner Assembly

1. Slide the burner rack into the unit.
2. Attach burner rack to vestibule plate with 2 screws.
3. Replace gas valve bracket.
4. Reconnect the igniter and sensor wires.
5. Reconnect wires to gas valve.
6. Connect gas piping to the gas valve.
7. Attach completed High Altitude Responsibility Label to inside of service access panel. (See Fig. 2 and 12.)
8. Attach NG Conversion Kit Rating Plate Label to inside of burner access panel. (See fig. 2 and 13.)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch. Tag disconnect switch with suitable warning label.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Failure to follow this warning could result in personal injury and/or property damage.

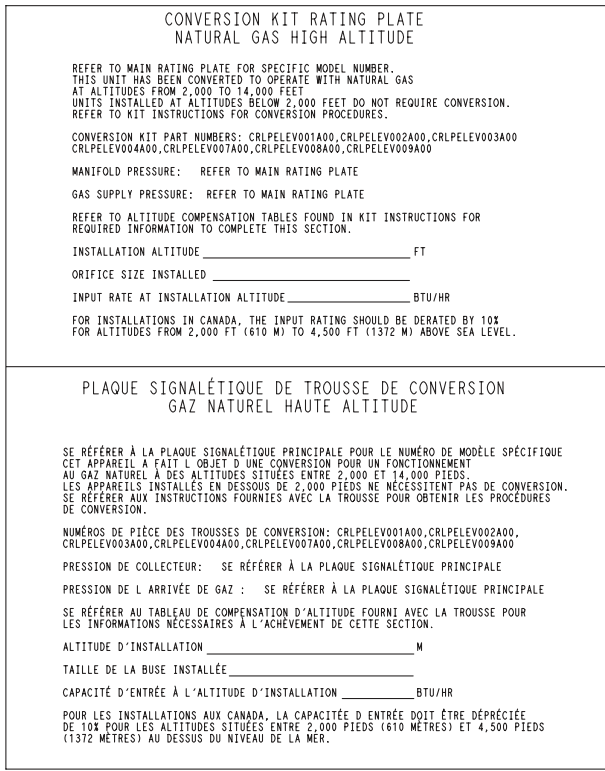
Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections.

9. Leak check all gas connections including the main service connection, gas valve, gas spuds, and manifold pipe plug. All leaks must be repaired before firing unit.

CRLPELEV

<p>THIS FURNACE WAS CONVERTED ON _____ - _____ - _____ FOR OPERATION AT <small>DAY MONTH YEAR</small> _____ ft (_____)m ALTITUDE WITH KIT NO. _____ BY _____ _____ <small>(Name and address of organization making this conversion), which accepts the responsibility that this conversion has been properly made.</small> 48TM501015 REV-</p>	<p>CÉ GÉNÉRATEUR D'AIR CHAUD A ÉTÉ CONVERTI LE _____ - _____ - _____ POUR <small>JOUR MOIS ANNEE</small> UTILISATION À UNE ALTITUDE DE _____ pi (_____)m AU MOYEN DE LA TRO_USSE N°. _____ PAR _____ _____ <small>(Nom et adresse de l'organisme qui a effectué la conversion), qui accepte l'entière responsabilité de la conversion.</small></p>
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Fig. 12 - High-Altitude Responsibility Label



C11145

Fig. 13 - Natural Gas Conversion Kit Rating Plate Label

Step 4 — Check Unit Operation and Make Necessary Adjustments

1. Remove manifold pressure tap plug from manifold and connect pressure gauge or manometer. (See Fig. 3.)
2. Turn on electrical supply.
3. Turn on unit main gas valve.
4. Set room thermostat to call for heat. If unit has two-stage gas valve, verify high-stage heat operation before attempting to adjust manifold pressure.
5. When main burners ignite, check all fittings, manifold, and orifices for leaks.
6. Adjust pressure to value shown on the rating plate by turning the plastic adjust screw clockwise to increase pressure, counter-clockwise to decrease to pressure.
7. For Two-Stage Gas Valves, set room thermostat to call for low-stage heat. Verify, then adjust low-stage pressure to value shown on rating plate.
8. Replace regulator cover screw(s) when finished.
9. With burner access panel removed, observe unit heating operation in both high stage and low stage operation if so equipped. Observe burner flames to see if they are blue in appearance, and that the flames are approximately the same for each burner.
10. Turn off unit, remove pressure manometer and replace the 1/8-in. pipe fitting on the gas manifold. (See Fig. 3.)
11. Re-install burner access panel. (See Fig. 2.)

**Table 1 – *Altitude Compensation for Low NOx Models 48TC04-06 (L, M, N) and 48HC04-06 (L, M, N),
 Low NOx Models 580J04-06 and 581J04-06
 Low NOx Models RGS036, 048, 060 and RGH036, 048, 060**

NATURAL GAS ONLY

ELEVATION		NOMINAL HEAT INPUT					
		60k BTUH		90k BTUH		120k BTUH	
Feet	Meters	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)
0 – 2000	0 – 610	38 ²	60,000	38 ²	90,000	32 ¹	120,000
2000	610	39 ²	55,200	39 ²	82,800	33 ¹	110,400
3000	914	†40	52,800	†40	79,200	33 ¹	105,600
4000	1219	†41	50,400	†41	75,600	35 ¹	100,800
5000	1524	†41	48,000	†41	72,000	35 ¹	96,000
6000	1829	†42	45,600	†42	68,400	36 ¹	91,200
7000	2134	†42	43,200	†42	64,800	36 ¹	86,400
8000	2438	†43	40,800	†43	61,200	37 ²	81,600
9000	2743	†43	38,400	†43	57,600	38 ²	76,800
10000	3048	44 ²	36,000	44 ²	54,000	†40	72,000
11000	3353	44 ²	33,600	44 ²	50,400	†41	67,200
12000	3658	45 ²	31,200	45 ²	46,800	†42	62,400
13000	3962	47 ³	28,800	47 ³	43,200	†43	57,600
14000	4267	48 ³	26,400	48 ³	39,600	†43	52,800

* As the height above sea level increases, there is less oxygen per cubic ft. of air. Therefore, heat input rate should be reduced at higher altitudes.

† Not included in kit. May be purchased separately through dealer.

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**Table 2 – *Altitude Compensation for Models 48TC04-07 (D, E, F, S, R, T) and 48HC04-06 (D, E, F, S, R, T)
Models 580J04-07 and 581J04-06
Models RGS036, 048, 060 and RGH036, 048, 060**

NATURAL GAS

ELEVATION		NOMINAL HEAT INPUT					
		72k BTUH		115k BTUH		150k BTUH	
Feet	Meters	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)
0 – 2000	0 – 610	33 ¹	72,000	33 ¹	115,000	†30	150,000
2000	610	35 ¹	66,240	35 ¹	105,800	†30	138,000
3000	914	35 ¹	63,360	35 ¹	101,200	31 ¹	132,000
4000	1219	36 ¹	60,480	36 ¹	96,600	31 ¹	126,000
5000	1524	36 ¹	57,600	36 ¹	92,000	31 ¹	120,000
6000	1829	37 ²	54,720	37 ²	87,400	31 ¹	114,000
7000	2134	38 ²	51,840	38 ²	82,800	32 ¹	108,000
8000	2438	39 ²	48,960	39 ²	78,200	33 ¹	102,000
9000	2743	†40	46,080	†40	73,600	33 ¹	96,000
10000	3048	†41	43,200	†41	69,000	35 ¹	90,000
11000	3353	†42	40,320	†42	64,400	36 ¹	84,000
12000	3658	†43	37,440	†43	59,800	37 ²	78,000
13000	3962	†43	34,560	†43	55,200	38 ²	72,000
14000	4267	44 ²	31,680	44 ²	50,600	†40	66,000

PROPANE GAS

ELEVATION		NOMINAL HEAT INPUT					
		72k BTUH		115k BTUH		150k BTUH	
Feet	Meters	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)
0 – 2000	0 – 610	51 ⁴	72,000	50 ³	115,000	46 ³	150,000
2000	610	51 ⁴	66,240	51 ⁴	105,800	47 ³	138,000
3000	914	52 ⁴	63,360	51 ⁴	101,200	47 ³	132,000
4000	1219	52 ⁴	60,480	51 ⁴	96,600	48 ³	126,000
5000	1524	52 ⁴	57,600	51 ⁴	92,000	48 ³	120,000
6000	1829	52 ⁴	54,720	52 ⁴	87,400	48 ³	114,000
7000	2134	53 ⁴	51,840	52 ⁴	82,800	49 ³	108,000
8000	2438	53 ⁴	48,960	52 ⁴	78,200	49 ³	102,000
9000	2743	53 ⁴	46,080	53 ⁴	73,600	50 ³	96,000
10000	3048	54 ⁴	43,200	53 ⁴	69,000	50 ³	90,000
11000	3353	54 ⁴	40,320	53 ⁴	64,400	51 ⁴	84,000
12000	3658	54 ⁴	37,440	54 ⁴	59,800	51 ⁴	78,000
13000	3962	55 ⁴	34,560	54 ⁴	55,200	52 ⁴	72,000
14000	4267	†56	31,680	55 ⁴	50,600	53 ⁴	66,000

* As the height above sea level increases, there is less oxygen per cubic ft. of air. Therefore, heat input rate should be reduced at higher altitudes.

† Not included in kit. May be purchased separately through dealer.

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**Table 3 – *Altitude Compensation for Models 48TC08-14 (D, E, F, S, R, T) and 48HC07-14 (D, E, F, S, R, T)
Models 580J08-14 and 581J07-14
Models RGS090, 091, 101, 102, 120, 121, 150 and RGH072, 090, 102, 120**

NATURAL GAS

ELEVATION		NOMINAL HEAT INPUT											
		72k BTUH		125k BTUH		150k BTUH		180k BTUH		224k BTUH		250k BTUH	
FT	M	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)
0 – 2000	0 – 610	33 ¹	72,000	31 ¹	125,000	32 ¹	150,000	31 ¹	180,000	31 ¹	224,000	†30	250,000
2000	610	35 ¹	66,240	32 ¹	115,000	33 ¹	138,000	32 ¹	165,600	32 ¹	206,080	†30	230,000
3000	914	35 ¹	63,360	32 ¹	110,000	35 ¹	132,000	32 ¹	158,400	32 ¹	197,120	31 ¹	220,000
4000	1219	36 ¹	60,480	33 ¹	105,000	35 ¹	126,000	33 ¹	151,200	33 ¹	188,160	31 ¹	210,000
5000	1524	36 ¹	57,600	33 ¹	100,000	35 ¹	120,000	33 ¹	144,000	33 ¹	179,200	31 ¹	200,000
6000	1829	37 ²	54,720	35 ¹	95,000	36 ¹	114,000	33 ¹	136,800	33 ¹	170,240	31 ¹	190,000
7000	2134	38 ²	51,840	35 ¹	90,000	36 ¹	108,000	35 ¹	129,600	35 ¹	161,280	32 ¹	180,000
8000	2438	38 ²	48,960	36 ¹	85,000	36 ¹	102,000	36 ¹	122,400	36 ¹	152,320	33 ¹	170,000
9000	2743	†40	46,080	37 ²	80,000	37 ²	96,000	37 ²	115,200	37 ²	143,360	33 ¹	160,000
10000	3048	†41	43,200	38 ²	75,000	38 ²	90,000	38 ²	108,000	38 ²	134,400	35 ¹	150,000
11000	3353	†42	40,320	39 ²	70,000	†40	84,000	39 ²	100,800	39 ²	125,440	36 ¹	140,000
12000	3658	†42	37,440	†41	65,000	†40	78,000	†41	93,600	†41	116,480	37 ²	130,000
13000	3962	†43	34,560	†42	60,000	†41	72,000	†42	86,400	†42	107,520	38 ²	120,000
14000	4267	†43	31,680	†43	55,000	†41	66,000	†43	79,200	†43	98,560	†40	110,000

PROPANE GAS

ELEVATION		NOMINAL HEAT INPUT											
		72k BTUH		125k BTUH		150k BTUH		180k BTUH		224k BTUH		250k BTUH	
FT	M	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)
0 – 2000	0 – 610	51 ⁴	72,000	49 ³	125,000	50 ³	150,000	48 ³	180,000	48 ³	224,000	46 ³	250,000
2000	610	51 ⁴	66,240	50 ³	115,000	51 ⁴	138,000	49 ³	165,600	49 ³	206,080	47 ³	230,000
3000	914	52 ⁴	63,360	50 ³	110,000	51 ⁴	132,000	49 ³	158,400	49 ³	197,120	47 ³	220,000
4000	1219	52 ⁴	60,480	50 ³	105,000	51 ⁴	126,000	49 ³	151,200	49 ³	188,160	48 ³	210,000
5000	1524	52 ⁴	57,600	51 ⁴	100,000	51 ⁴	120,000	50 ³	144,000	50 ³	179,200	48 ³	200,000
6000	1829	52 ⁴	54,720	51 ⁴	95,000	52 ⁴	114,000	50 ³	136,800	50 ³	170,240	48 ³	190,000
7000	2134	53 ⁴	51,840	51 ⁴	90,000	52 ⁴	108,000	50 ³	129,600	50 ³	161,280	49 ³	180,000
8000	2438	53 ⁴	48,960	52 ⁴	85,000	52 ⁴	102,000	51 ⁴	122,400	51 ⁴	152,320	49 ³	170,000
9000	2743	53 ⁴	46,080	52 ⁴	80,000	53 ⁴	96,000	51 ⁴	115,200	51 ⁴	143,360	50 ³	160,000
10000	3048	54 ⁴	43,200	52 ⁴	75,000	53 ⁴	90,000	52 ⁴	108,000	52 ⁴	134,400	50 ³	150,000
11000	3353	54 ⁴	40,320	53 ⁴	70,000	53 ⁴	84,000	52 ⁴	100,800	52 ⁴	125,440	51 ⁴	140,000
12000	3658	54 ⁴	37,440	53 ⁴	65,000	53 ⁴	78,000	53 ⁴	93,600	53 ⁴	116,480	51 ⁴	130,000
13000	3962	55 ⁴	34,560	54 ⁴	60,000	53 ⁴	72,000	53 ⁴	86,400	53 ⁴	107,520	52 ⁴	120,000
14000	4267	55 ⁴	31,680	54 ⁴	55,000	55 ⁴	66,000	54 ⁴	79,200	54 ⁴	98,560	53 ⁴	110,000

* As the height above sea level increases, there is less oxygen per cubic ft. of air. Therefore, heat input rate should be reduced at higher altitudes.

† Not included in kit. May be purchased separately through dealer.

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**Table 4 – *Altitude Compensation for Models 48TC16 (D, E, F, S, R, T) and 48HC14 (D, E, F, S, R, T)
Models 580J16 and 581J14
Models RGS180 and RGH150**

NATURAL GAS

ELEVATION		NOMINAL HEAT INPUT							
		150k BTUH		180k BTUH		240k BTUH		350k BTUH	
FT	M	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)
0 – 2000	0 – 610	37 ⁷	150,000	37 ⁷	180,000	37 ⁷	240,000	†35	350,000
2000	610	38 ⁷	138,000	38 ⁷	165,600	38 ⁷	220,800	36 ⁷	322,000
3000	914	39 ⁷	132,000	39 ⁷	158,400	39 ⁷	211,200	36 ⁷	308,000
4000	1219	39 ⁷	126,000	39 ⁷	151,200	39 ⁷	201,600	37 ⁷	294,000
5000	1524	40 ⁸	120,000	40 ⁸	144,000	40 ⁸	192,000	37 ⁷	280,000
6000	1829	41 ⁸	114,000	41 ⁸	136,800	41 ⁸	182,400	38 ⁷	266,000
7000	2134	42 ⁸	108,000	42 ⁸	129,600	42 ⁸	172,800	39 ⁷	252,000
8000	2438	42 ⁸	102,000	42 ⁸	122,400	42 ⁸	163,200	40 ⁸	238,000
9000	2743	43 ⁸	96,000	43 ⁸	115,200	43 ⁸	153,600	41 ⁸	224,000
10000	3048	43 ⁸	90,000	43 ⁸	108,000	43 ⁸	144,000	42 ⁸	210,000
11000	3353	†44	84,000	†44	100,800	†44	134,400	43 ⁸	196,000
12000	3658	†45	78,000	†45	93,600	†45	124,800	43 ⁸	182,000
13000	3962	†46	72,000	†46	86,400	†46	115,200	†44	168,000
14000	4267	†47	66,000	†47	79,200	†47	105,600	†45	154,000

PROPANE GAS

ELEVATION		NOMINAL HEAT INPUT							
		150k BTUH		180k BTUH		240k BTUH		350k BTUH	
FT	M	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)	Orifice Size	Input (btu/hr)
0 – 2000	0 – 610	52 ⁹	150,000	52 ⁹	180,000	52 ⁹	240,000	51 ⁹	350,000
2000	610	52 ⁹	138,000	52 ⁹	165,600	52 ⁹	220,800	51 ⁹	322,000
3000	914	53 ⁹	132,000	53 ⁹	158,400	53 ⁹	211,200	52 ⁹	308,000
4000	1219	53 ⁹	126,000	53 ⁹	151,200	53 ⁹	201,600	52 ⁹	294,000
5000	1524	53 ⁹	120,000	53 ⁹	144,000	53 ⁹	192,000	52 ⁹	280,000
6000	1829	53 ⁹	114,000	53 ⁹	136,800	53 ⁹	182,400	52 ⁹	266,000
7000	2134	53 ⁹	108,000	53 ⁹	129,600	53 ⁹	172,800	53 ⁹	252,000
8000	2438	54 ⁹	102,000	54 ⁹	122,400	54 ⁹	163,200	53 ⁹	238,000
9000	2743	54 ⁹	96,000	54 ⁹	115,200	54 ⁹	153,600	53 ⁹	224,000
10000	3048	54 ⁹	90,000	54 ⁹	108,000	54 ⁹	144,000	54 ⁹	210,000
11000	3353	55 ⁹	84,000	55 ⁹	100,800	55 ⁹	134,400	54 ⁹	196,000
12000	3658	55 ⁹	78,000	55 ⁹	93,600	55 ⁹	124,800	54 ⁹	182,000
13000	3962	55 ⁹	72,000	55 ⁹	86,400	55 ⁹	115,200	55 ⁹	168,000
14000	4267	†56	66,000	†56	79,200	†56	105,600	55 ⁹	154,000

* As the height above sea level increases, there is less oxygen per cubic ft. of air. Therefore, heat input rate should be reduced at higher altitudes.

† Not included in kit. May be purchased separately through dealer.

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