

**AGAGC9PNS01D**  
**Gas Conversion Kit, Propane to Natural**  
**Condensing (90%+) Furnaces**  
**40,000 BTUh to 140,000 BTUh Models Only**

## Installation Instructions

**NOTE:** Read the entire instruction manual before starting the installation.



A200203

### SAFETY CONSIDERATION

#### **WARNING**

##### **FIRE, EXPLOSION, ELECTRICAL SHOCK, AND CARBON MONOXIDE POISONING HAZARD**

Failure to follow this warning could result in personal injury or death. This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, a fire, explosion, or production of carbon monoxide could result causing property damage, personal injury, or loss of life. The qualified service agency is responsible for the proper installation of this furnace with 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**

##### **LE FEU, L'EXPLOSION, CHOC ELECTRIQUE, ET MONOXYDE DE CARBONE EMPOISONNER**

Cette trousse de conversion doit être installée par un service d'entretien qualifié, selon les instructions du fabricant et selon toutes les exigences et tous les codes pertinents de l'autorité compétente. Assurez-vous de bien suivre les instructions dans cette notice pour réduire au minimum le risque d'incendie, d'explosion ou la production de monoxyde de carbone pouvant causer des dommages matériels, de blessure ou la mort. Le service d'entretien qualifié est responsable de l'installation de cette trousse. L'installation n'est pas adéquate ni complète tant que le bon fonctionnement de l'appareil converti n'a pas été vérifié selon les instructions du fabricant fournies avec la trousse.

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained and qualified personnel should install, repair, or service heating equipment.

Untrained personnel can perform basic maintenance functions such as cleaning and replacing air filters. Trained service personnel must perform all other operations. When working on heating equipment,

observe precautions in the literature, on tags, and on labels attached to or shipped with the unit, and other safety precautions that may apply.

Follow all safety codes. In the United States, follow all safety codes including the current edition of the National Fuel Gas Code (NFGC) NFPA No. 54/ANSI Z223.1. In Canada, refer to the current edition of the National Standard of Canada, Natural Gas and Propane Installation Codes (NSCNGPIC), CAN/CSA-B149.1 and .2. Wear safety glasses and work gloves. Have a fire extinguisher available during start-up, adjustment steps, and service calls.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the furnace and in instructions or manuals, be alert to the potential for personal injury. Understand the signal words DANGER, WARNING, CAUTION and NOTE. The words DANGER, WARNING, and CAUTION 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.

### INTRODUCTION

#### **WARNING**

##### **FIRE, EXPLOSION, ELECTRICAL SHOCK AND CARBON MONOXIDE POISONING HAZARD**

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

Improper installation, adjustment, alteration, service, maintenance, or use can cause carbon monoxide poisoning, explosion, fire, electrical shock, or other conditions, which could result in personal injury or death. Consult your distributor or branch for information or assistance. The qualified installer or agency must use only factory-authorized kits or accessories when servicing this product.

#### **WARNING**

##### **FIRE, EXPLOSION, ELECTRICAL SHOCK 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, FIRE OR EXPLOSION HAZARD

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

Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position and install a lockout tag. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label. Verify proper operation after servicing.

## ! CAUTION

### UNIT OPERATION HAZARD

Failure to follow this caution may result in unit damage or improper operation.

Do NOT use this kit with furnaces with an input of 26,000 BTUh; the unit will be severely over-fired. This could result in delayed ignition, sooting or premature heat exchanger failure.

This instruction covers the installation of gas conversion kit to convert the following furnaces from propane gas usage to natural gas usage.

NOTE: See appropriate sections for your furnace type.

Table 1 – Kit Contents

| QUANTITY | DESCRIPTION                          |
|----------|--------------------------------------|
| 2        | REGULATOR SPRINGS                    |
| 4        | ORIFICES (BAG ASSEMBLIES)            |
| 1        | LABELS 348712-201 through 348712-209 |
| 1        | PLUG, PIPE                           |
| 1        | INSTRUCTIONS                         |

## SINGLE-STAGE GAS VALVE

Condensing Furnaces with 40,000 to 140,000 BTUh (not all models have 140,000 BTUh) gas input rates.

## TWO-STAGE & MODULATING GAS VALVE

Condensing Furnaces with 40,000 through 120,000 BTUh gas input rates.

## DESCRIPTION AND USAGE

This kit is designed for use in the furnaces listed in Table 2 or Table 3, see Table 1 for kit contents. To accommodate many different furnace models, more parts are shipped in kit than will be needed to complete conversion. When installation is complete, discard extra parts.

### SINGLE-STAGE CONDENSING FURNACES

Table 2 – Single Stage Model Numbers

| Model Numbers Beginning with: |            |             |
|-------------------------------|------------|-------------|
| 59S(P/C/E)                    | 91(2/5/6)S | 92(2/5/6)S  |
| PG9(2/5)S                     | PG9(2/6)M  | PG9(2/5)ESA |
| (F/G)9MXE                     | F9MES      | (N/R)9MS    |
| (N/R)95ESN                    | (N/R)92ESN | (N/R)96MS   |
| (N/R)92MS                     | (N/R)96VS  | WF(A/H/S)X  |

For 40K through 140K models only.

## TWO-STAGE & MODULATING CONDENSING FURNACES

Table 3 – Two-Stage & Modulating Model Numbers

| Model Numbers Beginning with: |              |            |
|-------------------------------|--------------|------------|
| 59T(N/P)                      | 986T         | 92(5/6)T   |
| (G/P)G96V                     | PG95X        | (F/G)9MV   |
| (F/G)9MXT                     | (F/G/N)96CTN | (F/G/N)96V |
| 59MN                          | 987M         | (F/G)9MA   |
| (F/G/N)97C                    | WFST         |            |

## INSTALLATION

1. Set room thermostat to lowest setting or "OFF"
2. Disconnect power at external disconnect, fuse or circuit breaker.
3. Turn off gas at external shut-off or gas meter.
4. Remove outer doors and set aside.
5. Turn electric switch on gas valve to OFF.

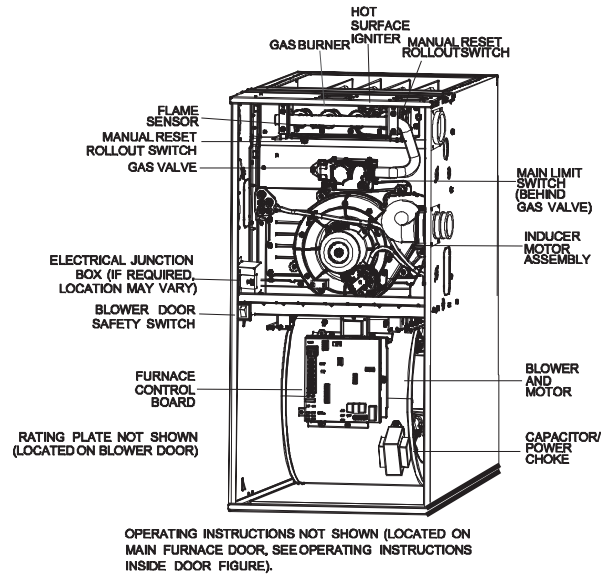


Fig. 1 – Representative Furnace Drawing  
MANIFOLD/ORIFICE/BURNER REMOVAL

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## ! CAUTION

### UNIT OPERATION HAZARD

Failure to follow this caution may result in unit damage or improper operation.

Label all wires prior to disconnection when servicing controls.

## ! ATTENTION

### D'EQUIPEMENT D'OPERATION

Toute erreur de câblage peut être une source de danger et de panne.

Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter.

NOTE: Use a back-up wrench on the gas valve to prevent the valve from rotating on the manifold or damaging the mounting to the burner box.

1. Disconnect the gas pipe from gas valve and remove pipe from the furnace casing, see Fig. 1.
2. Disconnect the connector harness from gas valve. Disconnect wires from Hot Surface Igniter (HSI) and Flame Sensor.
3. Support the manifold and remove the four (4) screws that secure the manifold assembly to the burner box and set aside.
4. Note the location of the green/yellow wire ground wire for re-assembly later, see Fig. 2.
5. Remove wires from both rollout switches, see Fig. 3.
6. Slide one-piece burner assembly out of slots on sides of burner box, see Fig. 3.
7. Remove the flame sensor from the burner assembly.
8. Remove the orifices from the manifold and discard.

9. Disconnect wires from Low Gas Pressure Switch. Re-attached these wires to the furnace pressure switch. Refer to furnace wiring diagram.

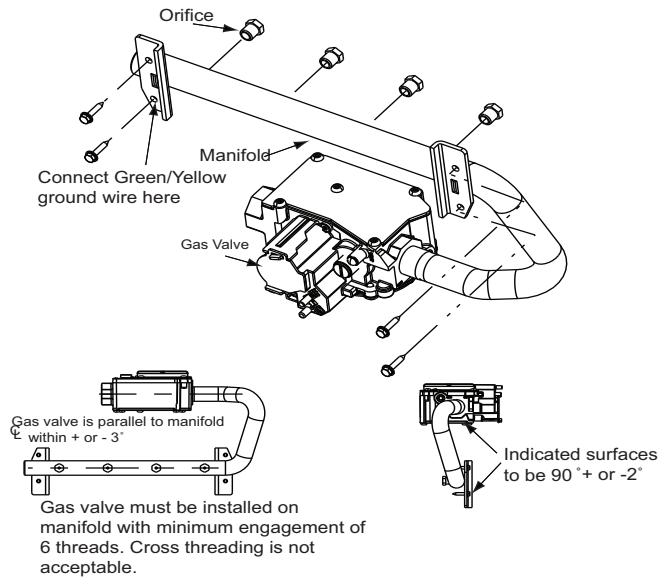


**Fig. 2 – Manifold Assembly**

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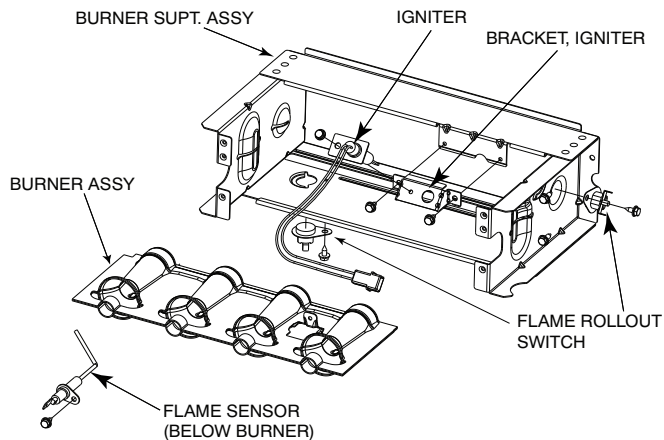


**Fig. 3 – Burner Assembly**

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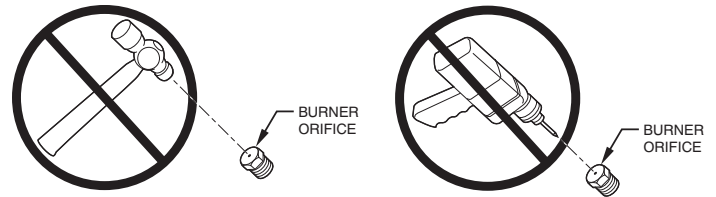
## ORIFICE SELECTION/DERATE



### UNIT DAMAGE HAZARD

Failure to follow this caution may result in unit damage.

DO NOT re-drill burner orifices. Improper drilling may result in burrs, out-of-round holes, etc. Obtain new orifices if orifice size must be changed, see Fig. 4.



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**Fig. 4 – Burner Orifice**

### For Single Stage and Two Stage Furnaces:

Determine natural gas orifice size and manifold pressure for correct input at installed altitude by using Table 4 for Single Stage furnaces and Table 5 for Two-Stage furnaces.

1. Obtain yearly heat-value average (at installed altitude) for local gas supply.
2. Obtain yearly specific-gravity average for local gas supply.
3. Find installation altitude in Table 4 or Table 5.

For Canada altitudes of 2000 to 4500 ft., use U.S.A. Altitudes of 2001 to 3000 ft. in Table 4 or Table 5.

4. Find closest natural gas heat value and specific gravity in Table 4 or Table 5.
5. Follow heat-value line and specific-gravity line to point of intersection to find orifice size and manifold pressure settings.

### For Modulating Furnaces:

Follow Steps 1 and 2 above.

For Step 3 use:

Table 6 for all sizes (20,000 BTU<sub>h</sub>/Max-Heat/8,000 BTU<sub>h</sub> Min-Heat per burner) except 60,000 BTU<sub>h</sub> models in a 21-in. wide cabinet.

Table 7 for 60,000 BTU<sub>h</sub> models in a 21-in. wide cabinet. (20,200 BTU<sub>h</sub> Max-Heat/8,000 BTU<sub>h</sub> Min-Heat per burner)

1. For both tables, follow heat-value line and specific-gravity line to point of intersection to find orifice size and manifold pressure settings.

For all furnaces:

Furnace gas input rate on furnace rating plate is for installations at altitudes up to 2000 ft. (610 M).

In the U.S.A.; the input rating for altitudes above 2000 ft. (610 M) must be reduced by 2 percent for each 1000 ft. (305 M) above sea level.

In Canada, the input rating must be derated by 5 percent for altitudes of 2000 ft. to 4500 ft. (610 M to 1372 M) above sea level.

The Conversion Kit Rating Plate accounts for high altitude derate.

**SINGLE-STAGE GAS VALVE**

| SINGLE-STAGE FURNACE<br>(TABULATED DATA BASED ON 20,000 BTUH PER BURNER, DERATED 2%/1000 FT (305M) ABOVE SEA LEVEL) |                                             |                                 |                   |             |                   |             |                   |             |                   |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
| ALTITUDE RANGE<br>ft (m)                                                                                            | AVG. GAS HEAT VALUE AT ALTITUDE (Btu/cu ft) | SPECIFIC GRAVITY OF NATURAL GAS |                   |             |                   |             |                   |             |                   |
|                                                                                                                     |                                             | 0.58                            |                   | 0.60        |                   | 0.62        |                   | 0.64        |                   |
|                                                                                                                     |                                             | Orifice No.                     | Manifold Pressure | Orifice No. | Manifold Pressure | Orifice No. | Manifold Pressure | Orifice No. | Manifold Pressure |
| U.S.A. and Canada                                                                                                   | 0 (0)                                       | 900                             | 43 3.8            | 42 3.2      | 42 3.3            | 42 3.4      | 42 3.4            |             |                   |
|                                                                                                                     | 925                                         | 43 3.6                          | 43 3.7            | 43 3.6      | 43 3.7            | 43 3.7      | 43 3.7            |             |                   |
|                                                                                                                     | 950                                         | 43 3.4                          | 43 3.5            | 43 3.4      | 43 3.5            | 43 3.5      | 43 3.5            |             |                   |
|                                                                                                                     | 975                                         | 44 3.7                          | 44 3.8            | 44 3.7      | 44 3.8            | 44 3.8      | 44 3.8            |             |                   |
|                                                                                                                     | 1000                                        | 44 3.5                          | 44 3.6            | 44 3.5      | 44 3.6            | 44 3.6      | 44 3.6            |             |                   |
|                                                                                                                     | 1025                                        | 44 3.3                          | 44 3.5            | 44 3.3      | 44 3.5            | 44 3.5      | 44 3.5            |             |                   |
|                                                                                                                     | 1050                                        | 44 3.2                          | 44 3.3            | 44 3.2      | 44 3.3            | 44 3.3      | 44 3.3            |             |                   |
|                                                                                                                     | 1075                                        | 45 3.7                          | 45 3.8            | 45 3.7      | 45 3.8            | 45 3.8      | 45 3.8            |             |                   |
| U.S.A. and Canada                                                                                                   | 2000 (610)                                  | 1100                            | 46 3.7            | 46 3.8      | 46 3.7            | 46 3.8      | 46 3.8            |             |                   |
|                                                                                                                     | U.S.A.                                      | 800                             | 42 3.4            | 42 3.5      | 42 3.4            | 42 3.5      | 42 3.5            |             |                   |
|                                                                                                                     | 2001 (611)                                  | 825                             | 43 3.8            | 42 3.3      | 42 3.4            | 42 3.5      | 42 3.5            |             |                   |
|                                                                                                                     | to                                          | 850                             | 43 3.6            | 43 3.7      | 42 3.2            | 42 3.3      | 42 3.3            |             |                   |
|                                                                                                                     | 3000 (914)                                  | 875                             | 43 3.4            | 43 3.5      | 43 3.7            | 43 3.8      | 43 3.8            |             |                   |
|                                                                                                                     | 900                                         | 44 3.7                          | 44 3.8            | 44 3.7      | 44 3.8            | 44 3.8      | 44 3.8            |             |                   |
|                                                                                                                     | 925                                         | 44 3.5                          | 44 3.6            | 44 3.5      | 44 3.6            | 44 3.6      | 44 3.6            |             |                   |
|                                                                                                                     | 950                                         | 44 3.3                          | 44 3.4            | 44 3.3      | 44 3.4            | 44 3.4      | 44 3.4            |             |                   |
| U.S.A. Only                                                                                                         | 2001 (611)                                  | 975                             | 44 3.2            | 44 3.3      | 44 3.2            | 44 3.3      | 44 3.3            |             |                   |
|                                                                                                                     | to                                          | 1000                            | 44 3.0            | 44 3.1      | 44 3.2            | 44 3.3      | 44 3.3            |             |                   |
|                                                                                                                     | 3001 (915)                                  | 775                             | 42 3.3            | 42 3.4      | 42 3.5            | 42 3.6      | 42 3.6            |             |                   |
|                                                                                                                     | 800                                         | 43 3.8                          | 42 3.2            | 42 3.3      | 42 3.4            | 42 3.4      | 42 3.4            |             |                   |
|                                                                                                                     | 825                                         | 43 3.6                          | 43 3.7            | 43 3.8      | 43 3.8            | 43 3.8      | 43 3.8            |             |                   |
|                                                                                                                     | 850                                         | 44 3.8                          | 43 3.5            | 43 3.6      | 43 3.7            | 43 3.7      | 43 3.7            |             |                   |
|                                                                                                                     | to                                          | 875                             | 44 3.6            | 44 3.7      | 43 3.4            | 43 3.5      | 43 3.5            |             |                   |
|                                                                                                                     | 4000 (1219)                                 | 900                             | 44 3.4            | 44 3.5      | 44 3.7            | 44 3.8      | 44 3.8            |             |                   |
| U.S.A. Only                                                                                                         | 925                                         | 44 3.2                          | 44 3.4            | 44 3.5      | 44 3.6            | 44 3.6      | 44 3.6            |             |                   |
|                                                                                                                     | 950                                         | 44 3.1                          | 44 3.2            | 44 3.3      | 44 3.4            | 44 3.4      | 44 3.4            |             |                   |
|                                                                                                                     | 4001 (1220)                                 | 750                             | 42 3.3            | 42 3.4      | 42 3.5            | 42 3.6      | 42 3.6            |             |                   |
|                                                                                                                     | 775                                         | 43 3.7                          | 43 3.8            | 42 3.3      | 42 3.4            | 42 3.4      | 42 3.4            |             |                   |
|                                                                                                                     | 800                                         | 43 3.5                          | 43 3.6            | 43 3.7      | 43 3.8            | 43 3.8      | 43 3.8            |             |                   |
|                                                                                                                     | 825                                         | 44 3.8                          | 43 3.4            | 43 3.5      | 43 3.6            | 43 3.6      | 43 3.6            |             |                   |
|                                                                                                                     | to                                          | 850                             | 44 3.5            | 44 3.7      | 44 3.8            | 44 3.8      | 44 3.8            |             |                   |
|                                                                                                                     | 5000 (1524)                                 | 875                             | 44 3.3            | 44 3.5      | 44 3.6            | 44 3.7      | 44 3.7            |             |                   |
| U.S.A. Only                                                                                                         | 900                                         | 44 3.2                          | 44 3.3            | 44 3.4      | 44 3.5            | 44 3.5      | 44 3.5            |             |                   |
|                                                                                                                     | 925                                         | 44 3.0                          | 44 3.1            | 44 3.2      | 44 3.3            | 44 3.3      | 44 3.3            |             |                   |
|                                                                                                                     | 5001 (1525)                                 | 725                             | 42 3.2            | 42 3.3      | 42 3.4            | 42 3.5      | 42 3.5            |             |                   |
|                                                                                                                     | 750                                         | 43 3.7                          | 43 3.8            | 42 3.2      | 42 3.3            | 42 3.3      | 42 3.3            |             |                   |
|                                                                                                                     | 775                                         | 43 3.4                          | 43 3.5            | 43 3.7      | 43 3.8            | 43 3.8      | 43 3.8            |             |                   |
|                                                                                                                     | 800                                         | 44 3.7                          | 44 3.8            | 43 3.4      | 43 3.5            | 43 3.5      | 43 3.5            |             |                   |
|                                                                                                                     | to                                          | 825                             | 44 3.5            | 44 3.6      | 44 3.7            | 44 3.8      | 44 3.8            |             |                   |
|                                                                                                                     | 6000 (1829)                                 | 850                             | 44 3.3            | 44 3.4      | 44 3.5            | 44 3.6      | 44 3.6            |             |                   |
| U.S.A. Only                                                                                                         | 875                                         | 44 3.1                          | 44 3.2            | 44 3.3      | 44 3.4            | 44 3.4      | 44 3.4            |             |                   |
|                                                                                                                     | 900                                         | 44 2.9                          | 44 3.0            | 44 3.1      | 44 3.2            | 44 3.2      | 44 3.2            |             |                   |
|                                                                                                                     | 6001 (1830)                                 | 675                             | 42 3.4            | 42 3.5      | 42 3.6            | 42 3.8      | 42 3.8            |             |                   |
|                                                                                                                     | 700                                         | 42 3.2                          | 42 3.3            | 42 3.4      | 42 3.5            | 42 3.5      | 42 3.5            |             |                   |
|                                                                                                                     | 725                                         | 43 3.6                          | 43 3.7            | 43 3.8      | 43 3.8            | 43 3.8      | 43 3.8            |             |                   |
|                                                                                                                     | 750                                         | 43 3.4                          | 43 3.5            | 43 3.6      | 43 3.7            | 43 3.7      | 43 3.7            |             |                   |
|                                                                                                                     | to                                          | 775                             | 44 3.6            | 44 3.7      | 43 3.4            | 43 3.5      | 43 3.5            |             |                   |
|                                                                                                                     | 7000 (2133)                                 | 800                             | 44 3.4            | 44 3.5      | 44 3.6            | 44 3.7      | 44 3.7            |             |                   |
| U.S.A. Only                                                                                                         | 825                                         | 44 3.2                          | 44 3.3            | 44 3.4      | 44 3.5            | 44 3.5      | 44 3.5            |             |                   |
|                                                                                                                     | 850                                         | 44 3.0                          | 44 3.1            | 44 3.2      | 44 3.3            | 44 3.3      | 44 3.3            |             |                   |

\* Orifice numbers shown in **BOLD** are factory installed.

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| SINGLE-STAGE FURNACE<br>(TABULATED DATA BASED ON 20,000 BTUH PER BURNER, DERATED 2%/1000 FT (305M) ABOVE SEA LEVEL) |                                             |                                 |                   |             |                   |             |                   |             |                   |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
| ALTITUDE RANGE<br>ft (m)                                                                                            | AVG. GAS HEAT VALUE AT ALTITUDE (Btu/cu ft) | SPECIFIC GRAVITY OF NATURAL GAS |                   |             |                   |             |                   |             |                   |
|                                                                                                                     |                                             | 0.58                            |                   | 0.60        |                   | 0.62        |                   | 0.64        |                   |
|                                                                                                                     |                                             | Orifice No.                     | Manifold Pressure | Orifice No. | Manifold Pressure | Orifice No. | Manifold Pressure | Orifice No. | Manifold Pressure |
| U.S.A. Only                                                                                                         | 7001 (2134)                                 | 650                             | 42 3.4            | 42 3.5      | 42 3.6            | 42 3.7      | 42 3.7            |             |                   |
|                                                                                                                     | 675                                         | 43 3.8                          | 42 3.2            | 42 3.3      | 42 3.4            | 42 3.4      | 42 3.4            |             |                   |
|                                                                                                                     | 700                                         | 43 3.5                          | 43 3.7            | 43 3.8      | 42 3.2            | 42 3.2      | 42 3.2            |             |                   |
|                                                                                                                     | 725                                         | 44 3.8                          | 43 3.4            | 43 3.5      | 43 3.6            | 43 3.6      | 43 3.6            |             |                   |
|                                                                                                                     | 750                                         | 44 3.5                          | 44 3.7            | 44 3.8      | 43 3.4            | 43 3.4      | 43 3.4            |             |                   |
|                                                                                                                     | 8000 (2438)                                 | 775                             | 44 3.3            | 44 3.4      | 44 3.5            | 44 3.7      | 44 3.7            |             |                   |
|                                                                                                                     | 800                                         | 44 3.1                          | 44 3.2            | 44 3.3      | 44 3.4            | 44 3.4      | 44 3.4            |             |                   |
|                                                                                                                     | 825                                         | 44 2.9                          | 44 3.0            | 44 3.1      | 44 3.2            | 44 3.2      | 44 3.2            |             |                   |
| U.S.A. Only                                                                                                         | 8001 (2439)                                 | 625                             | 42 3.4            | 42 3.5      | 42 3.6            | 42 3.7      | 42 3.7            |             |                   |
|                                                                                                                     | 650                                         | 43 3.8                          | 42 3.2            | 42 3.3      | 42 3.4            | 42 3.4      | 42 3.4            |             |                   |
|                                                                                                                     | 675                                         | 43 3.5                          | 43 3.6            | 43 3.7      | 42 3.2            | 42 3.2      | 42 3.2            |             |                   |
|                                                                                                                     | 700                                         | 44 3.7                          | 43 3.4            | 43 3.5      | 43 3.6            | 43 3.6      | 43 3.6            |             |                   |
|                                                                                                                     | 725                                         | 44 3.5                          | 44 3.6            | 44 3.7      | 44 3.8            | 44 3.8      | 44 3.8            |             |                   |
|                                                                                                                     | 750                                         | 44 3.3                          | 44 3.4            | 44 3.5      | 44 3.6            | 44 3.6      | 44 3.6            |             |                   |
|                                                                                                                     | 9000 (2743)                                 | 775                             | 44 3.0            | 44 3.2      | 44 3.3            | 44 3.4      | 44 3.4            |             |                   |
|                                                                                                                     | 9001 (2744)                                 | 600                             | 42 3.3            | 42 3.4      | 42 3.6            | 42 3.7      | 42 3.7            |             |                   |
| U.S.A. Only                                                                                                         | 625                                         | 43 3.7                          | 42 3.2            | 42 3.3      | 42 3.4            | 42 3.4      | 42 3.4            |             |                   |
|                                                                                                                     | 650                                         | 43 3.5                          | 43 3.6            | 43 3.7      | 43 3.8            | 43 3.8      | 43 3.8            |             |                   |
|                                                                                                                     | 675                                         | 44 3.7                          | 44 3.8            | 43 3.4      | 43 3.5            | 43 3.5      | 43 3.5            |             |                   |
|                                                                                                                     | 10000 (3048)                                | 700                             | 44 3.4            | 44 3.5      | 44 3.7            | 44 3.8      | 44 3.8            |             |                   |
|                                                                                                                     | 725                                         | 44 3.2                          | 44 3.3            | 44 3.4      | 44 3.5            | 44 3.5      | 44 3.5            |             |                   |

\* Orifice numbers shown in **BOLD** are factory-installed.

A11253B

**Table 4 – Orifice Size and Manifold Pressure (in.w.c.) for Gas Input Rate for Single Stage Gas Valve****TWO-STAGE GAS VALVE**

| TWO-STAGE FURNACE<br>(TABULATED DATA BASED ON 20,000 BTUH HIGH-HEAT / 13,000 BTUH LOW-HEAT PER BURNER,<br>DERATED 2%/1000 FT (305M) ABOVE SEA LEVEL) |                      |                                             |                                 |                      |             |                      |             |                      |             |                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------|---------------------------------|----------------------|-------------|----------------------|-------------|----------------------|-------------|----------------------|
| ALTITUDE RANGE                                                                                                                                       |                      | AVG. GAS HEAT VALUE AT ALTITUDE (Btu/cu ft) | SPECIFIC GRAVITY OF NATURAL GAS |                      |             |                      |             |                      |             |                      |
|                                                                                                                                                      |                      |                                             | 0.58                            |                      | 0.60        |                      | 0.62        |                      | 0.64        |                      |
| ft (m)                                                                                                                                               |                      |                                             | Orifice No.                     | MinId Press High/Low | Orifice No. | MinId Press High/Low | Orifice No. | MinId Press High/Low | Orifice No. | MinId Press High/Low |
| U.S.A. and Canada                                                                                                                                    | 0<br>(0)             | 900                                         | 43                              | 3.8 / 1.6            | 42          | 3.2 / 1.4            | 42          | 3.3 / 1.4            | 42          | 3.4 / 1.4            |
|                                                                                                                                                      |                      | 925                                         | 43                              | 3.6 / 1.5            | 43          | 3.7 / 1.6            | 43          | 3.8 / 1.6            | 42          | 3.2 / 1.4            |
|                                                                                                                                                      | to<br>1000           | 950                                         | 43                              | 3.4 / 1.4            | 43          | 3.5 / 1.5            | 43          | 3.6 / 1.5            | 43          | 3.7 / 1.6            |
|                                                                                                                                                      |                      | 975                                         | 44                              | 3.7 / 1.6            | 44          | 3.8 / 1.6            | 43          | 3.4 / 1.5            | 43          | 3.6 / 1.5            |
|                                                                                                                                                      | 2000<br>(610)        | 1000                                        | 44                              | 3.5 / 1.5            | 44          | 3.6 / 1.5            | 44          | 3.8 / 1.6            |             |                      |
|                                                                                                                                                      |                      | 1025                                        | 44                              | 3.3 / 1.4            | 44          | 3.5 / 1.5            | 44          | 3.6 / 1.5            | 44          | 3.7 / 1.6            |
|                                                                                                                                                      |                      | 1050                                        | 44                              | 3.2 / 1.3            | 44          | 3.3 / 1.4            | 44          | 3.4 / 1.4            | 44          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 1075                                        | 45                              | 3.7 / 1.6            | 45          | 3.8 / 1.6            | 44          | 3.3 / 1.4            | 44          | 3.4 / 1.4            |
| U.S.A. and Canada                                                                                                                                    |                      | 1100                                        | 46                              | 3.7 / 1.6            | 46          | 3.8 / 1.6            | 45          | 3.8 / 1.6            | 44          | 3.2 / 1.4            |
|                                                                                                                                                      |                      | U.S.A.                                      | 800                             | 42                   | 3.4 / 1.4   | 42                   | 3.5 / 1.5   | 42                   | 3.6 / 1.5   | 42                   |
|                                                                                                                                                      | to<br>3000 (914)     | 825                                         | 43                              | 3.8 / 1.6            | 42          | 3.3 / 1.4            | 42          | 3.4 / 1.4            | 42          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 850                                         | 43                              | 3.6 / 1.5            | 43          | 3.7 / 1.6            | 42          | 3.2 / 1.3            | 42          | 3.3 / 1.4            |
|                                                                                                                                                      | Canada<br>2001 (611) | 875                                         | 43                              | 3.4 / 1.4            | 43          | 3.5 / 1.5            | 43          | 3.7 / 1.5            | 43          | 3.8 / 1.6            |
|                                                                                                                                                      |                      | 900                                         | 44                              | 3.7 / 1.6            | 44          | 3.8 / 1.6            | 43          | 3.5 / 1.5            | 43          | 3.6 / 1.5            |
|                                                                                                                                                      | to<br>4500 (1372)    | 925                                         | 44                              | 3.5 / 1.5            | 44          | 3.6 / 1.5            | 44          | 3.8 / 1.6            |             |                      |
|                                                                                                                                                      |                      | 950                                         | 44                              | 3.3 / 1.4            | 44          | 3.4 / 1.5            | 44          | 3.6 / 1.5            | 44          | 3.7 / 1.6            |
| U.S.A. Only                                                                                                                                          | 3001<br>(915)        | 975                                         | 44                              | 3.2 / 1.3            | 44          | 3.3 / 1.4            | 44          | 3.4 / 1.4            | 44          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 1000                                        | 46                              | 3.8 / 1.6            | 45          | 3.8 / 1.6            | 44          | 3.2 / 1.4            | 44          | 3.3 / 1.4            |
|                                                                                                                                                      | to<br>4000<br>(1219) | 775                                         | 42                              | 3.3 / 1.4            | 42          | 3.4 / 1.4            | 42          | 3.5 / 1.5            | 42          | 3.6 / 1.5            |
|                                                                                                                                                      |                      | 800                                         | 43                              | 3.8 / 1.6            | 42          | 3.2 / 1.4            | 42          | 3.3 / 1.4            | 42          | 3.4 / 1.4            |
|                                                                                                                                                      |                      | 825                                         | 43                              | 3.6 / 1.5            | 43          | 3.7 / 1.6            | 43          | 3.8 / 1.6            | 42          | 3.2 / 1.4            |
|                                                                                                                                                      |                      | 850                                         | 44                              | 3.8 / 1.6            | 43          | 3.5 / 1.5            | 43          | 3.6 / 1.5            | 43          | 3.7 / 1.6            |
|                                                                                                                                                      |                      | 875                                         | 44                              | 3.6 / 1.5            | 44          | 3.7 / 1.6            | 43          | 3.4 / 1.4            | 43          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 900                                         | 44                              | 3.4 / 1.4            | 44          | 3.5 / 1.5            | 44          | 3.7 / 1.5            | 44          | 3.8 / 1.6            |
| U.S.A. Only                                                                                                                                          | 4001<br>(1220)       | 925                                         | 44                              | 3.2 / 1.4            | 44          | 3.4 / 1.4            | 44          | 3.5 / 1.5            | 44          | 3.6 / 1.5            |
|                                                                                                                                                      |                      | 950                                         | 45                              | 3.7 / 1.6            | 44          | 3.2 / 1.3            | 44          | 3.3 / 1.4            | 44          | 3.4 / 1.4            |
|                                                                                                                                                      | to<br>5000<br>(1524) | 750                                         | 42                              | 3.3 / 1.4            | 42          | 3.4 / 1.4            | 42          | 3.5 / 1.5            | 42          | 3.6 / 1.5            |
|                                                                                                                                                      |                      | 775                                         | 43                              | 3.7 / 1.6            | 43          | 3.8 / 1.6            | 42          | 3.3 / 1.4            | 42          | 3.4 / 1.4            |
|                                                                                                                                                      |                      | 800                                         | 43                              | 3.5 / 1.5            | 43          | 3.6 / 1.5            | 43          | 3.7 / 1.6            | 43          | 3.8 / 1.6            |
|                                                                                                                                                      |                      | 825                                         | 44                              | 3.8 / 1.6            | 43          | 3.4 / 1.4            | 43          | 3.5 / 1.5            | 43          | 3.6 / 1.5            |
|                                                                                                                                                      |                      | 850                                         | 44                              | 3.5 / 1.5            | 44          | 3.7 / 1.5            | 44          | 3.8 / 1.6            | 43          | 3.4 / 1.4            |
|                                                                                                                                                      |                      | 875                                         | 44                              | 3.3 / 1.4            | 44          | 3.5 / 1.5            | 44          | 3.6 / 1.5            | 44          | 3.7 / 1.6            |
| U.S.A. Only                                                                                                                                          | 5001<br>(1525)       | 900                                         | 44                              | 3.2 / 1.3            | 44          | 3.3 / 1.4            | 44          | 3.4 / 1.4            | 44          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 925                                         | 46                              | 3.8 / 1.6            | 45          | 3.7 / 1.6            | 44          | 3.2 / 1.4            | 44          | 3.3 / 1.4            |
|                                                                                                                                                      | to<br>6000<br>(1829) | 725                                         | 42                              | 3.2 / 1.4            | 42          | 3.3 / 1.4            | 42          | 3.4 / 1.5            | 42          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 750                                         | 43                              | 3.7 / 1.5            | 43          | 3.8 / 1.6            | 42          | 3.2 / 1.4            | 42          | 3.3 / 1.4            |
|                                                                                                                                                      |                      | 775                                         | 43                              | 3.4 / 1.4            | 43          | 3.5 / 1.5            | 43          | 3.7 / 1.5            | 43          | 3.8 / 1.6            |
|                                                                                                                                                      |                      | 800                                         | 44                              | 3.7 / 1.6            | 44          | 3.8 / 1.6            | 43          | 3.4 / 1.5            | 43          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 825                                         | 44                              | 3.5 / 1.5            | 44          | 3.6 / 1.5            | 44          | 3.7 / 1.6            | 44          | 3.8 / 1.6            |
|                                                                                                                                                      |                      | 850                                         | 44                              | 3.3 / 1.4            | 44          | 3.4 / 1.4            | 44          | 3.5 / 1.5            | 44          | 3.6 / 1.5            |
| U.S.A. Only                                                                                                                                          | 7000<br>(2133)       | 875                                         | 45                              | 3.7 / 1.6            | 44          | 3.2 / 1.3            | 44          | 3.3 / 1.4            | 44          | 3.4 / 1.4            |
|                                                                                                                                                      |                      | 900                                         | 46                              | 3.7 / 1.6            | 46          | 3.8 / 1.6            | 45          | 3.8 / 1.6            | 44          | 3.2 / 1.4            |
|                                                                                                                                                      | to<br>850            | 675                                         | 42                              | 3.4 / 1.4            | 42          | 3.5 / 1.5            | 42          | 3.6 / 1.5            | 42          | 3.8 / 1.6            |
|                                                                                                                                                      |                      | 700                                         | 42                              | 3.2 / 1.3            | 42          | 3.3 / 1.4            | 42          | 3.4 / 1.4            | 42          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 725                                         | 43                              | 3.6 / 1.5            | 43          | 3.7 / 1.6            | 43          | 3.8 / 1.6            | 42          | 3.3 / 1.4            |
|                                                                                                                                                      |                      | 750                                         | 43                              | 3.4 / 1.4            | 43          | 3.5 / 1.5            | 43          | 3.6 / 1.5            | 43          | 3.7 / 1.6            |
|                                                                                                                                                      |                      | 775                                         | 44                              | 3.6 / 1.5            | 44          | 3.7 / 1.6            | 43          | 3.4 / 1.4            | 43          | 3.5 / 1.5            |
|                                                                                                                                                      |                      | 800                                         | 44                              | 3.4 / 1.4            | 44          | 3.5 / 1.5            | 44          | 3.6 / 1.5            | 44          | 3.7 / 1.6            |
|                                                                                                                                                      | 825                  | 44                                          | 3.2 / 1.3                       | 44                   | 3.3 / 1.4   | 44                   | 3.4 / 1.4   | 44                   | 3.5 / 1.5   |                      |
|                                                                                                                                                      | 850                  | 46                                          | 3.8 / 1.6                       | 45                   | 3.8 / 1.6   | 44                   | 3.2 / 1.4   | 44                   | 3.3 / 1.4   |                      |

MODULATING GAS VALVE

Table 6 to be used with Modulating Furnaces EXCEPT the 60,000 BTU<sub>h</sub> INPUT IN 21-IN. WIDE CASING

| MODULATING FURNACE<br>(TABULATED DATA BASED ON 20,000 BTUH MAX-HEAT / 8,000 BTUH MIN-HEAT PER BURNER,<br>DERATED 2%/1000 FT (305M) ABOVE SEA LEVEL) |                                           |                                                      |                                 |                         |                |                         |                |                         |                |                         |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------|---------------------------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|--|
| ALTITUDE<br>RANGE<br><br>ft (m)                                                                                                                     |                                           | AVG. GAS<br>HEAT VALUE<br>AT ALTITUDE<br>(Btu/cu ft) | SPECIFIC GRAVITY OF NATURAL GAS |                         |                |                         |                |                         |                |                         |  |
|                                                                                                                                                     |                                           |                                                      | 0.58                            |                         | 0.60           |                         | 0.62           |                         | 0.64           |                         |  |
|                                                                                                                                                     |                                           |                                                      | Orifice<br>No.                  | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min |  |
| U.S.A. and Canada                                                                                                                                   | 0<br>(0)<br><br>to                        | 900                                                  | 43                              | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              | 42             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                                           | 925                                                  | 43                              | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              |  |
|                                                                                                                                                     |                                           | 950                                                  | 43                              | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.60              | 43             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 975                                                  | 44                              | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.6 / 0.55              |  |
|                                                                                                                                                     |                                           | 1000                                                 | 44                              | 3.5 / 0.55              | 44             | 3.6 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              |  |
|                                                                                                                                                     | 2000<br>(610)                             | 1025                                                 | 44                              | 3.3 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 1050                                                 | 44                              | 3.2 / 0.50              | 44             | 3.3 / 0.55              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 1075                                                 | 45                              | 3.7 / 0.60              | 45             | 3.8 / 0.60              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                                           | 1100                                                 | 46                              | 3.7 / 0.60              | 46             | 3.8 / 0.60              | 45             | 3.8 / 0.60              | 44             | 3.2 / 0.50              |  |
| U.S.A. and Canada                                                                                                                                   | U.S.A.<br>2001 (611)<br>to<br>3000 (914)  | 800                                                  | 42                              | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.55              | 42             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 825                                                  | 43                              | 3.8 / 0.60              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 850                                                  | 43                              | 3.6 / 0.60              | 43             | 3.7 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              |  |
|                                                                                                                                                     | Canada<br>2001 (611)<br>to<br>4500 (1372) | 875                                                  | 43                              | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              |  |
|                                                                                                                                                     |                                           | 900                                                  | 44                              | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              |  |
|                                                                                                                                                     |                                           | 925                                                  | 44                              | 3.5 / 0.55              | 44             | 3.6 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                                           | 950                                                  | 44                              | 3.3 / 0.55              | 44             | 3.4 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 975                                                  | 44                              | 3.2 / 0.50              | 44             | 3.3 / 0.55              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 1000                                                 | 46                              | 3.8 / 0.60              | 45             | 3.8 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.55              |  |
| U.S.A. Only                                                                                                                                         | 3001<br>(915)<br><br>to                   | 775                                                  | 42                              | 3.3 / 0.55              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.60              |  |
|                                                                                                                                                     |                                           | 800                                                  | 43                              | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              | 42             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                                           | 825                                                  | 43                              | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              |  |
|                                                                                                                                                     |                                           | 850                                                  | 44                              | 3.8 / 0.60              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 875                                                  | 44                              | 3.6 / 0.60              | 44             | 3.7 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              |  |
|                                                                                                                                                     | 4000<br>(1219)                            | 900                                                  | 44                              | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              |  |
|                                                                                                                                                     |                                           | 925                                                  | 44                              | 3.2 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              |  |
|                                                                                                                                                     |                                           | 950                                                  | 45                              | 3.7 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.55              | 44             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                                           |                                                      |                                 |                         |                |                         |                |                         |                |                         |  |
| U.S.A. Only                                                                                                                                         | 4001<br>(1220)<br><br>to                  | 750                                                  | 42                              | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.55              |  |
|                                                                                                                                                     |                                           | 775                                                  | 43                              | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                                           | 800                                                  | 43                              | 3.5 / 0.55              | 43             | 3.6 / 0.60              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              |  |
|                                                                                                                                                     |                                           | 825                                                  | 44                              | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.60              |  |
|                                                                                                                                                     |                                           | 850                                                  | 44                              | 3.5 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              |  |
|                                                                                                                                                     | 5000<br>(1524)                            | 875                                                  | 44                              | 3.3 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 900                                                  | 44                              | 3.2 / 0.50              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 925                                                  | 46                              | 3.8 / 0.60              | 45             | 3.7 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.55              |  |
|                                                                                                                                                     |                                           |                                                      |                                 |                         |                |                         |                |                         |                |                         |  |
| U.S.A. Only                                                                                                                                         | 5001<br>(1525)<br><br>to                  | 725                                                  | 42                              | 3.2 / 0.50              | 42             | 3.3 / 0.55              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 750                                                  | 43                              | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              |  |
|                                                                                                                                                     |                                           | 775                                                  | 43                              | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              |  |
|                                                                                                                                                     |                                           | 800                                                  | 44                              | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 825                                                  | 44                              | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              |  |
|                                                                                                                                                     | 6000<br>(1829)                            | 850                                                  | 44                              | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.60              |  |
|                                                                                                                                                     |                                           | 875                                                  | 45                              | 3.7 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.55              | 44             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                                           | 900                                                  | 46                              | 3.7 / 0.60              | 46             | 3.8 / 0.60              | 45             | 3.8 / 0.60              | 44             | 3.2 / 0.50              |  |
|                                                                                                                                                     |                                           |                                                      |                                 |                         |                |                         |                |                         |                |                         |  |
| U.S.A. Only                                                                                                                                         | 6001<br>(1830)<br><br>to                  | 675                                                  | 42                              | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.60              | 42             | 3.8 / 0.60              |  |
|                                                                                                                                                     |                                           | 700                                                  | 42                              | 3.2 / 0.50              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 725                                                  | 43                              | 3.6 / 0.60              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.3 / 0.50              |  |
|                                                                                                                                                     |                                           | 750                                                  | 43                              | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 775                                                  | 44                              | 3.6 / 0.60              | 44             | 3.7 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              |  |
|                                                                                                                                                     | 7000<br>(2133)                            | 800                                                  | 44                              | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.60              | 44             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                                           | 825                                                  | 44                              | 3.2 / 0.50              | 44             | 3.3 / 0.55              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                                           | 850                                                  | 46                              | 3.8 / 0.60              | 45             | 3.8 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.55              |  |
|                                                                                                                                                     |                                           |                                                      |                                 |                         |                |                         |                |                         |                |                         |  |

\*Orifice numbers shown in BOLD are factory installed.

A11251A

| MODULATING FURNACE<br>(TABULATED DATA BASED ON 20,000 BTUH MAX-HEAT / 8,000 BTUH MIN-HEAT PER BURNER,<br>DERATED 2%/1000 FT (305M) ABOVE SEA LEVEL) |                          |                                                      |                                 |                         |                |                         |                |                         |                |                         |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------|---------------------------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|--|
| ALTITUDE<br>RANGE<br><br>ft (m)                                                                                                                     |                          | AVG. GAS<br>HEAT VALUE<br>AT ALTITUDE<br>(Btu/cu ft) | SPECIFIC GRAVITY OF NATURAL GAS |                         |                |                         |                |                         |                |                         |  |
|                                                                                                                                                     |                          |                                                      | 0.58                            |                         | 0.60           |                         | 0.62           |                         | 0.64           |                         |  |
|                                                                                                                                                     |                          |                                                      | Orifice<br>No.                  | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min |  |
| U.S.A. Only                                                                                                                                         | 7001<br>(2134)<br><br>to | 650                                                  | 42                              | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.60              | 42             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                          | 675                                                  | 43                              | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              | 42             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                          | 700                                                  | 43                              | 3.5 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              |  |
|                                                                                                                                                     |                          | 725                                                  | 44                              | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.60              |  |
|                                                                                                                                                     | 8000<br>(2438)           | 750                                                  | 44                              | 3.5 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                          | 775                                                  | 44                              | 3.3 / 0.55              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                          | 800                                                  | 45                              | 3.8 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.55              | 44             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                          | 825                                                  | 46                              | 3.7 / 0.60              | 46             | 3.8 / 0.60              | 45             | 3.8 / 0.60              | 44             | 3.2 / 0.50              |  |
| U.S.A. Only                                                                                                                                         | 8001<br>(2439)<br><br>to | 625                                                  | 42                              | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.55              | 42             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                          | 650                                                  | 43                              | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              | 42             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                          | 675                                                  | 43                              | 3.5 / 0.55              | 43             | 3.6 / 0.60              | 43             | 3.7 / 0.60              | 42             | 3.2 / 0.50              |  |
|                                                                                                                                                     |                          | 700                                                  | 44                              | 3.7 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              |  |
|                                                                                                                                                     | 9000<br>(2743)           | 725                                                  | 44                              | 3.5 / 0.55              | 44             | 3.6 / 0.60              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              |  |
|                                                                                                                                                     |                          | 750                                                  | 44                              | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              |  |
|                                                                                                                                                     |                          | 775                                                  | 45                              | 3.7 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                          |                                                      |                                 |                         |                |                         |                |                         |                |                         |  |
| U.S.A. Only                                                                                                                                         | 9001<br>(2744)<br><br>to | 600                                                  | 42                              | 3.3 / 0.55              | 42             | 3.4 / 0.55              | 42             | 3.6 / 0.55              | 42             | 3.7 / 0.60              |  |
|                                                                                                                                                     |                          | 625                                                  | 43                              | 3.7 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              | 42             | 3.4 / 0.55              |  |
|                                                                                                                                                     |                          | 650                                                  | 43                              | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              |  |
|                                                                                                                                                     | 10000<br>(3048)          | 675                                                  | 44                              | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              |  |
|                                                                                                                                                     |                          | 700                                                  | 44                              | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              |  |
|                                                                                                                                                     |                          | 725                                                  | 44                              | 3.2 / 0.50              | 44             | 3.3 / 0.55              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              |  |

\* Orifice numbers shown in BOLD are factory-installed.

Table 6 – Orifice Size and Manifold Pressure (in. w.c.) for Gas Input Rate for Modulating Gas Valve, EXCEPT 60,000 BTU<sub>h</sub>.

A11251B

MODULATING GAS VALVE (60.000 BTU<sub>h</sub> ONLY)

Table 7 to be used with Modulating Furnaces 60,000 BTU<sub>h</sub> INPUT IN 21-IN. WIDE CASING ONLY

| (TABULATED DATA BASED ON 20,000 BTUH MAX-HEAT / 8,000 BTUH MIN-HEAT PER BURNER,<br>DERATED 2%/1000 FT (305M) ABOVE SEA LEVEL) |                      |                                                      |                                 |                         |                |                         |                |                         |                |                         |            |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------|---------------------------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|------------|
| ALTITUDE<br>RANGE                                                                                                             |                      | AVG. GAS<br>HEAT VALUE<br>AT ALTITUDE<br>(Btu/cu ft) | SPECIFIC GRAVITY OF NATURAL GAS |                         |                |                         |                |                         |                |                         |            |
|                                                                                                                               |                      |                                                      | 0.58                            |                         | 0.60           |                         | 0.62           |                         | 0.64           |                         |            |
|                                                                                                                               |                      |                                                      | Orifice<br>No.                  | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min | Orifice<br>No. | Manifd Press<br>Max/Min |            |
| ft (m)                                                                                                                        |                      |                                                      |                                 |                         |                |                         |                |                         |                |                         |            |
| U.S.A. and Canada                                                                                                             | 0                    | 925                                                  | 42                              | 3.2 / 0.50              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              |            |
|                                                                                                                               |                      | 950                                                  | 43                              | 3.7 / 0.55              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.50              |            |
|                                                                                                                               |                      | 975                                                  | 43                              | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              |            |
|                                                                                                                               |                      | 1000                                                 | 44                              | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              |            |
|                                                                                                                               | to                   | 1025                                                 | 44                              | 3.6 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.5 / 0.55              |            |
|                                                                                                                               |                      | 1050                                                 | 44                              | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.8 / 0.60              |            |
|                                                                                                                               | 2000<br>(610)        | 1075                                                 | 44                              | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 1100                                                 | 45                              | 3.8 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              |            |
| U.S.A. and Canada                                                                                                             | U.S.A.<br>2001 (611) | 800                                                  | 42                              | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.7 / 0.55              | 42             | 3.8 / 0.60              |            |
|                                                                                                                               |                      | 825                                                  | 42                              | 3.2 / 0.50              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 850                                                  | 43                              | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.55              |            |
|                                                                                                                               |                      | 875                                                  | 43                              | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              |            |
|                                                                                                                               | Canada<br>2001 (611) | 900                                                  | 44                              | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 925                                                  | 44                              | 3.6 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              |            |
|                                                                                                                               | to                   | 950                                                  | 44                              | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              |            |
|                                                                                                                               |                      | 975                                                  | 44                              | 3.2 / 0.50              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.6 / 0.55              |            |
| 4500 (1372)                                                                                                                   | 1000                 | 45                                                   | 3.7 / 0.60                      | 44                      | 3.2 / 0.50     | 44                      | 3.3 / 0.50     | 44                      | 3.4 / 0.55     |                         |            |
|                                                                                                                               | U.S.A. Only          | 3001<br>(915)                                        | 775                             | 42                      | 3.4 / 0.55     | 42                      | 3.5 / 0.55     | 42                      | 3.6 / 0.55     | 42                      | 3.7 / 0.60 |
| 800                                                                                                                           |                      |                                                      | 42                              | 3.2 / 0.50              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              |            |
| 825                                                                                                                           |                      |                                                      | 43                              | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.50              |            |
| 850                                                                                                                           |                      |                                                      | 43                              | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.8 / 0.60              |            |
| to                                                                                                                            |                      | 875                                                  | 44                              | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 900                                                  | 44                              | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              | 43             | 3.4 / 0.55              |            |
| 4000<br>(1219)                                                                                                                | 925                  | 44                                                   | 3.3 / 0.50                      | 44                      | 3.4 / 0.55     | 44                      | 3.5 / 0.55     | 44                      | 3.6 / 0.55     |                         |            |
|                                                                                                                               | 950                  | 45                                                   | 3.8 / 0.60                      | 44                      | 3.2 / 0.50     | 44                      | 3.4 / 0.55     | 44                      | 3.5 / 0.55     |                         |            |
| U.S.A. Only                                                                                                                   | 4001<br>(1220)       | 750                                                  | 42                              | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.6 / 0.55              | 42             | 3.7 / 0.55              |            |
|                                                                                                                               |                      | 775                                                  | 43                              | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              |            |
|                                                                                                                               |                      | 800                                                  | 43                              | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              |            |
|                                                                                                                               |                      | 825                                                  | 44                              | 3.8 / 0.60              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.7 / 0.60              |            |
|                                                                                                                               | to                   | 850                                                  | 44                              | 3.6 / 0.55              | 44             | 3.7 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              |            |
|                                                                                                                               |                      | 875                                                  | 44                              | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.8 / 0.60              |            |
|                                                                                                                               | 5000<br>(1524)       | 900                                                  | 44                              | 3.2 / 0.50              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 925                                                  | 45                              | 3.7 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              |            |
| U.S.A. Only                                                                                                                   | 5001<br>(1525)       | 725                                                  | 42                              | 3.3 / 0.50              | 42             | 3.4 / 0.55              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 750                                                  | 43                              | 3.7 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.50              | 42             | 3.4 / 0.55              |            |
|                                                                                                                               |                      | 775                                                  | 43                              | 3.5 / 0.55              | 43             | 3.6 / 0.55              | 43             | 3.7 / 0.60              | 42             | 3.2 / 0.50              |            |
|                                                                                                                               |                      | 800                                                  | 44                              | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.6 / 0.55              |            |
|                                                                                                                               | to                   | 825                                                  | 44                              | 3.5 / 0.55              | 44             | 3.7 / 0.55              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              |            |
|                                                                                                                               |                      | 850                                                  | 44                              | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              |            |
|                                                                                                                               | 6000<br>(1829)       | 875                                                  | 45                              | 3.8 / 0.60              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              |            |
|                                                                                                                               |                      | 900                                                  | 46                              | 3.8 / 0.60              | 45             | 3.7 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.50              |            |
| U.S.A. Only                                                                                                                   | 6001<br>(1830)       | 675                                                  | 42                              | 3.5 / 0.55              | 42             | 3.6 / 0.55              | 42             | 3.7 / 0.60              | 42             | 3.8 / 0.60              |            |
|                                                                                                                               |                      | 700                                                  | 42                              | 3.2 / 0.50              | 42             | 3.3 / 0.50              | 42             | 3.5 / 0.55              | 42             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 725                                                  | 43                              | 3.7 / 0.60              | 43             | 3.8 / 0.60              | 42             | 3.2 / 0.50              | 42             | 3.3 / 0.50              |            |
|                                                                                                                               |                      | 750                                                  | 43                              | 3.4 / 0.55              | 43             | 3.5 / 0.55              | 43             | 3.7 / 0.55              | 43             | 3.8 / 0.60              |            |
|                                                                                                                               | to                   | 775                                                  | 44                              | 3.7 / 0.60              | 44             | 3.8 / 0.60              | 43             | 3.4 / 0.55              | 43             | 3.5 / 0.55              |            |
|                                                                                                                               |                      | 800                                                  | 44                              | 3.5 / 0.55              | 44             | 3.6 / 0.55              | 44             | 3.7 / 0.60              | 44             | 3.8 / 0.60              |            |
|                                                                                                                               | 7000<br>(2133)       | 825                                                  | 44                              | 3.2 / 0.50              | 44             | 3.4 / 0.55              | 44             | 3.5 / 0.55              | 44             | 3.6 / 0.55              |            |
|                                                                                                                               |                      | 850                                                  | 45                              | 3.7 / 0.60              | 44             | 3.2 / 0.50              | 44             | 3.3 / 0.50              | 44             | 3.4 / 0.55              |            |

**SINGLE-STAGE GAS VALVE**

**CONVERSION KIT RATING PLATE**

THIS APPLIANCE HAS BEEN CONVERTED TO USE NATURAL GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY MANUFACTURER AND INSTALLED BY QUALIFIED PERSONNEL. SEE EXISTING RATING PLATE FOR APPLIANCE MODEL NO. AND INPUT RATING.

NOTE: Furnace gas input rate on rating plate is for installations up to 2000 ft. (610m) above sea level. In U.S.A. the input rating for altitudes above 2000 ft. (610m) must be derated by 2% for each 1000 ft. (305m) above sea level. In Canada the input rating must be derated (per chart below) for altitudes of 2000 ft. (610m) to 4500 ft. (1372m) above sea level.

(SUPERSEDES: KGBPN42011SP, NAHD00901NG, AGAGC9PNS01B, AGAGC9PNS01C)

KIT NO.: AGAGC9PNS01D FUEL USED: NATURAL GAS

| APPLIANCE MODELS                                                                                                                                                                           | USA<br>% DERATE<br>PER<br>1000 FT. | CANADA<br>% DERATE<br>FOR<br>2000-4500 FT. | NATURAL GAS PRESSURE                                        |                                                             | IN. W.C. (PO C.E.)                                                       |           | PA |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------|-----------|----|
|                                                                                                                                                                                            |                                    |                                            | Max. Inlet Gas Pressure<br>(Press. Max. D'Admission De Gaz) | Min. Inlet Gas Pressure<br>(Press. Min. D'Admission De Gaz) | 13.6                                                                     | 4.5       |    |
| 59S(P/C/E), 91(2/5/6)S,<br>92(2/5/6)S, PG9(2/5)S,<br>PG9(2/6)M, PG9(2/5)ESA,<br>(F/G)9MXE, F9MES,<br>(N/R)9MS, (N/R)9ESN,<br>(N/R)92ESN, (N/R)96MS,<br>(N/R)92MS, WF(A/H/S)X,<br>(N/R)96VS | 2%                                 | 5%                                         | (For Purpose of Input Adjustment)                           |                                                             | (Pour L'Adjustment D'Entree)                                             |           |    |
|                                                                                                                                                                                            |                                    |                                            | ALTITUDE                                                    |                                                             |                                                                          |           |    |
|                                                                                                                                                                                            |                                    |                                            | Manifold Pressure                                           | 0-2,000 ft.<br>(0 - 610 m)                                  | 3.2 - 3.8                                                                | 797 - 946 |    |
|                                                                                                                                                                                            |                                    |                                            | Pression Tubulure                                           | 2,000 - 10,000 ft.<br>(610 - 3050 m)                        | Refer to Installation Manual<br>Respecter les Instruction D'Installation |           |    |

348712-206 REV.-

A221025

**PLAQUE SIGNALÉTIQUE DE LA TROUSSE DE CONVERSION**

CET APPAREIL A ÉTÉ CONVERTI POUR UNE COMBUSTION AU GAZ NATUREL. SE RÉFÉRER AUX INSTRUCTIONS DE L'ÉQUIPEMENT POUR LES PROCÉDURES DE CONVERSION. N'UTILISER QUE DES PIÈCES FOURNIES PAR LE MANUFACTURIER ET INSTALLÉES PAR DU PERSONNEL QUALIFIÉ. VOIR LA PLAQUE SIGNALÉTIQUE EXISTANTE POUR LE MODÈLE D'APPAREIL ET LA CONSOMMATION.

NOTE: La consommation de gaz de la fournaise indiquée sur la plaque signalétique est exacte pour des installations jusqu'à 2000 pieds (610m) au dessus du niveau de la mer. Aux E.U., la consommation pour des altitudes au dessus de 1000 pieds (610m) doit être réduite de 2% pour chaque 1000 pieds (305m) d'élévation au dessus du niveau de la mer. Au Canada, la consommation doit être réduite de 5% entre les altitudes de 2000 pieds (610m) à 4500 pieds (1372m).

(SUPPLANT: KGBPN42011SP, NAHD00901NG, AGAGC9PNS01B, AGAGC9PNS01C)

KIT NO.: AGAGC9PNS01D COMBUSTIBLE: GAZ NATUREL

| APPOUVÉ POUR LES MODÈLES                                                                                                                                                                   | USA<br>% DERATE<br>PER<br>1000 FT. | CANADA<br>% DERATE<br>FOR<br>2000-4500 FT. | PRESSION GAZ NATUREL                                        |                                                             | IN. W.C. (PO C.E.)                                                       |           | PA |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------|-----------|----|
|                                                                                                                                                                                            |                                    |                                            | Max. Inlet Gas Pressure<br>(Press. Max. D'Admission De Gaz) | Min. Inlet Gas Pressure<br>(Press. Min. D'Admission De Gaz) | 13.6                                                                     | 4.5       |    |
| 59S(P/C/E), 91(2/5/6)S,<br>92(2/5/6)S, PG9(2/5)S,<br>PG9(2/6)M, PG9(2/5)ESA,<br>(F/G)9MXE, F9MES,<br>(N/R)9MS, (N/R)9ESN,<br>(N/R)92ESN, (N/R)96MS,<br>(N/R)92MS, WF(A/H/S)X,<br>(N/R)96VS | 2%                                 | 5%                                         | (For Purpose of Input Adjustment)                           |                                                             | (Pour L'Adjustment D'Entree)                                             |           |    |
|                                                                                                                                                                                            |                                    |                                            | ALTITUDE                                                    |                                                             |                                                                          |           |    |
|                                                                                                                                                                                            |                                    |                                            | Manifold Pressure                                           | 0-2,000 ft.<br>(0 - 610 m)                                  | 3.2 - 3.8                                                                | 797 - 946 |    |
|                                                                                                                                                                                            |                                    |                                            | Pression Tubulure                                           | 2,000 - 10,000 ft.<br>(610 - 3050 m)                        | Refer to Installation Manual<br>Respecter les Instruction D'Installation |           |    |

348712-207 REV.-

A221025FR

Fig. 5 – Conversion Kit Rating Plate (40,000 BTU/h to 140,000 BTU/h ONLY) Single-Stage Furnace

**TWO-STAGE GAS VALVE**

**CONVERSION KIT RATING PLATE**

THIS APPLIANCE HAS BEEN CONVERTED TO USE NATURAL GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY MANUFACTURER AND INSTALLED BY QUALIFIED PERSONNEL. SEE EXISTING RATING PLATE FOR APPLIANCE MODEL NO. AND INPUT RATING.

NOTE: Furnace gas input rate on rating plate is for installations up to 2000 ft. (610m) above sea level. In U.S.A. the input rating for altitudes above 2000 ft. (610m) must be derated by 2% for each 1000 ft. (305m) above sea level. In Canada the input rating must be derated (per chart below) for altitudes of 2000 ft. (610m) to 4500 ft. (1372m) above sea level.

(SUPERSEDES: KGAPN43012SP, KGCPN4401VSP, NAHB01001NG, AGAGC9PNS01B, AGAGC9PNS01C)

KIT NO.: AGAGC9PNS01D FUEL USED: NATURAL GAS

| APPLIANCE MODELS                                                                                            | USA<br>% DERATE<br>PER<br>1000 FT. | CANADA<br>% DERATE<br>FOR<br>2000-4500 FT. | NATURAL GAS PRESSURE                                        |                                                             | IN. W.C. (PO C.E.)                                                       |                        | PA |
|-------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------|------------------------|----|
|                                                                                                             |                                    |                                            | Max. Inlet Gas Pressure<br>(Press. Max. D'Admission De Gaz) | Min. Inlet Gas Pressure<br>(Press. Min. D'Admission De Gaz) | 13.6                                                                     | 4.5                    |    |
| 59T(N/P), 986T, 92(5/6)T,<br>(G/P)G96V, PG95X,<br>(F/G)9MV, (F/G)9MXT,<br>(F/G/N)96CTN, (F/G/N)96V,<br>WFST | 2%                                 | 5%                                         | (For Purpose of Input Adjustment)                           |                                                             | (Pour L'Adjustment D'Entree)                                             |                        |    |
|                                                                                                             |                                    |                                            | ALTITUDE                                                    |                                                             |                                                                          |                        |    |
|                                                                                                             |                                    |                                            | Manifold Pressure                                           | 0-2,000 ft.<br>(0 - 610 m)                                  | High Heat 3.2 - 3.8<br>Low Heat 1.4 - 1.8                                | 797 - 946<br>349 - 448 |    |
|                                                                                                             |                                    |                                            | Pression Tubulure                                           | 2,000 - 10,000 ft.<br>(610 - 3050 m)                        | Refer to Installation Manual<br>Respecter les Instruction D'Installation |                        |    |

348712-208 REV.-

A221024

**PLAQUE SIGNALÉTIQUE DE LA TROUSSE DE CONVERSION**

CET APPAREIL A ÉTÉ CONVERTI POUR UNE COMBUSTION AU GAZ NATUREL. SE RÉFÉRER AUX INSTRUCTIONS DE L'ÉQUIPEMENT POUR LES PROCÉDURES DE CONVERSION. N'UTILISER QUE DES PIÈCES FOURNIES PAR LE MANUFACTURIER ET INSTALLÉES PAR DU PERSONNEL QUALIFIÉ. VOIR LA PLAQUE SIGNALÉTIQUE EXISTANTE POUR LE MODÈLE D'APPAREIL ET LA CONSOMMATION.

NOTE: La consommation de gaz de la fournaise indiquée sur la plaque signalétique est exacte pour des installations jusqu'à 2000 pieds (610m) au dessus du niveau de la mer. Aux E.U., la consommation pour des altitudes au dessus de 1000 pieds (610m) doit être réduite de 2% pour chaque 1000 pieds (305m) d'élévation au dessus du niveau de la mer. Au Canada, la consommation doit être réduite de 5% entre les altitudes de 2000 pieds (610m) à 4500 pieds (1372m).

(SUPPLANT: KGAPN43012SP, KGCPN4401VSP, NAHB01001NG, AGAGC9PNS01B, AGAGC9PNS01C)

KIT NO.: AGAGC9PNS01D COMBUSTIBLE: GAZ NATUREL

| APPOUVÉ POUR LES MODÈLES                                                                                    | USA<br>% DERATE<br>PER<br>1000 FT. | CANADA<br>% DERATE<br>FOR<br>2000-4500 FT. | PRESSION GAZ NATUREL                                        |                                                             | IN. W.C. (PO C.E.)                                                       |                        | PA |
|-------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------|------------------------|----|
|                                                                                                             |                                    |                                            | Max. Inlet Gas Pressure<br>(Press. Max. D'Admission De Gaz) | Min. Inlet Gas Pressure<br>(Press. Min. D'Admission De Gaz) | 13.6                                                                     | 4.5                    |    |
| 59T(N/P), 986T, 92(5/6)T,<br>(G/P)G96V, PG95X,<br>(F/G)9MV, (F/G)9MXT,<br>(F/G/N)96CTN, (F/G/N)96V,<br>WFST | 2%                                 | 5%                                         | (For Purpose of Input Adjustment)                           |                                                             | (Pour L'Adjustment D'Entree)                                             |                        |    |
|                                                                                                             |                                    |                                            | ALTITUDE                                                    |                                                             |                                                                          |                        |    |
|                                                                                                             |                                    |                                            | Manifold Pressure                                           | 0-2,000 ft.<br>(0 - 610 m)                                  | High Heat 3.2 - 3.8<br>Low Heat 1.4 - 1.8                                | 797 - 946<br>349 - 448 |    |
|                                                                                                             |                                    |                                            | Pression Tubulure                                           | 2,000 - 10,000 ft.<br>(610 - 3050 m)                        | Refer to Installation Manual<br>Respecter les Instruction D'Installation |                        |    |

348712-209 REV.-

A221024FR

Fig. 6 – Conversion Kit Rating Plate (40,000 BTU/h to 120,000 BTU/h ONLY) Two-Stage Furnace

MODULATING GAS VALVE

CONVERSION KIT RATING PLATE

THIS APPLIANCE HAS BEEN CONVERTED TO USE NATURAL GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY MANUFACTURER AND INSTALLED BY QUALIFIED PERSONNEL. SEE EXISTING RATING PLATE FOR APPLIANCE MODEL NO. AND INPUT RATING.

NOTE: Furnace gas input rate on rating plate is for installations up to 2000 ft. (610m) above sea level. In U.S.A. the input rating for altitudes above 2000 ft. (610m) must be derated by 2% for each 1000 ft. (305m) above sea level. In Canada the input rating must be derated (per chart below) for altitudes of 2000 ft. (610m) to 4500 ft. (1372m) above sea level.

(SUPERSEDES: KGCPN4401VSP, NAHB01001NG, AGAGC9PNS01B, AGAGC9PNS01C)

FUEL USED: NATURAL GAS

| APPLIANCE MODELS                       | USA<br>% DERATE<br>PER<br>1000 FT.   | CANADA<br>% DERATE<br>FOR<br>2000-4500 FT. | NATURAL GAS PRESSURE                                                     |             | IN. W.C. (PO C.E.) |  |
|----------------------------------------|--------------------------------------|--------------------------------------------|--------------------------------------------------------------------------|-------------|--------------------|--|
|                                        |                                      |                                            | PA                                                                       | PA          |                    |  |
| 59MN, 987M,<br>(F/G)9MA,<br>(F/G/N)97C | 2%                                   | 5%                                         | Max. Inlet Gas Pressure<br>(Press. Max. D'Admission De Gaz)              | 13.6        | 3,386              |  |
|                                        |                                      |                                            | Min. Inlet Gas Pressure<br>(Press. Min. D'Admission De Gaz)              | 4.5         | 1,121              |  |
|                                        |                                      |                                            | (For Purpose of Input Adjustment) (Pour L'Adjustment D'Entree)           |             |                    |  |
|                                        |                                      |                                            | ALTITUDE                                                                 |             |                    |  |
| Manifold Pressure                      | 0-2,000 ft.<br>(0 - 610 m)           |                                            | Max Heat                                                                 | 3.2 - 3.8   | 797 - 946          |  |
|                                        | 2,000 - 10,000 ft.<br>(610 - 3050 m) |                                            | Min Heat                                                                 | 0.50 - 0.60 | 125 - 162          |  |
| Pression Tubulure                      |                                      |                                            | Refer to Installation Manual<br>Respecter les instruction D'Installation |             |                    |  |



348712-201 REV.-

A221023

PLAQUE SIGNALÉTIQUE DE LA TROUSSE DE CONVERSION

CET APPAREIL A ÉTÉ CONVERTI POUR UNE COMBUSTION AU GAZ NATUREL. SE RÉFÉRER AUX INSTRUCTIONS DE L'ÉQUIPEMENT POUR LES PROCÉDURES DE CONVERSION. N'UTILISER QUE DES PIÈCES FOURNIES PAR LE MANUFACTURIER ET INSTALLÉES PAR DU PERSONNEL QUALIFIÉ. VOIR LA PLAQUE SIGNALÉTIQUE EXISTANTE POUR LE MODÈLE D'APPAREIL ET LA CONSOMMATION.

NOTE: La consommation de gaz de la fournaise indiquée sur la plaque signalétique est exacte pour des installations jusqu'à 2000 pieds (610m) au dessus du niveau de la mer. Aux E.U., la consommation pour des altitudes au dessus de 1000 pieds (610m) doit être réduite de 2% pour chaque 1000 pieds (305m) d'élévation au dessus du niveau de la mer. Au Canada, la consommation doit être réduite de 5% entre les altitudes de 2000 pieds (610m) à 4500 pieds (1372m).

(SUPPLAN: KGCPN4401VSP, NAHB01001NG, AGAGC9PNS01B, AGAGC9PNS01C)

COMBUSTIBLE: GAZ NATUREL

| APPOUVÉ POUR<br>LES MODÈLES            | USA<br>% DERATE<br>PER<br>1000 FT.   | CANADA<br>% DERATE<br>FOR<br>2000-4500 FT. | PRESSION GAZ NATUREL                                                     |             | IN. W.C. (PO C.E.) |  |
|----------------------------------------|--------------------------------------|--------------------------------------------|--------------------------------------------------------------------------|-------------|--------------------|--|
|                                        |                                      |                                            | PA                                                                       | PA          |                    |  |
| 59MN, 987M,<br>(F/G)9MA,<br>(F/G/N)97C | 2%                                   | 5%                                         | Max. Inlet Gas Pressure<br>(Press. Max. D'Admission De Gaz)              | 13.6        | 3,386              |  |
|                                        |                                      |                                            | Min. Inlet Gas Pressure<br>(Press. Min. D'Admission De Gaz)              | 4.5         | 1,121              |  |
|                                        |                                      |                                            | (For Purpose of Input Adjustment) (Pour L'Adjustment D'Entree)           |             |                    |  |
|                                        |                                      |                                            | ALTITUDE                                                                 |             |                    |  |
| Manifold Pressure                      | 0-2,000 ft.<br>(0 - 610 m)           |                                            | Max Heat                                                                 | 3.2 - 3.8   | 797 - 946          |  |
|                                        | 2,000 - 10,000 ft.<br>(610 - 3050 m) |                                            | Min Heat                                                                 | 0.50 - 0.60 | 125 - 162          |  |
| Pression Tubulure                      |                                      |                                            | Refer to Installation Manual<br>Respecter les instruction D'Installation |             |                    |  |



348712-204 REV.-

A221023FR

Fig. 7 – Conversion Kit Rating Plate (40,000 BTUh to 120,000 BTUh ONLY) Modulating Furnace

INSTALL ORIFICES

1. Install main burner orifices. Do not use PTFE thread-seal tape. Finger-tighten orifices at least one full turn to prevent cross-threading, then tighten with wrench.

2. There are enough orifices in each kit for largest furnace. Discard extra orifices.

NOTE: DO NOT reinstall the manifold at this time.

REMOVE MIXER SCREWS

NOTE: Each burner contains a mixer screw that must be removed. Refer to Fig. 8 for the mixer screw location.

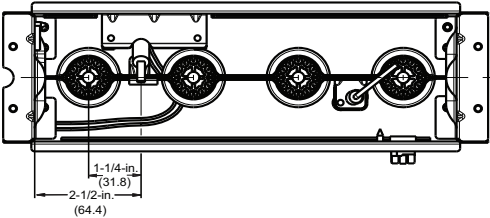
1. Remove the mixer screws from the burners.

NOTE: It is not necessary to plug the hole in the burner when the mixer screws are removed.

2. Insert one-piece burner in slot on sides of burner box and slide burner back in place.

3. Reattach HSI wires to HSI.

4. Verify igniter to burner alignment, see Fig. 9 & Fig. 10.



A11405

Fig. 9 – Igniter Position - Back View

Furnace gas input rate on furnace rating plate is for installations at altitudes up to 2000 ft. (610 M).

In the U.S.A.; the input rating for altitudes above 2000 ft. (610 M) must be reduced by 4 percent for each 1000 ft. (305 M) above sea level.

In Canada, the input rating must be derated by 10 percent for altitudes of 2000 ft. to 4500 ft. (610 M to 1372 M) above sea level.

The Conversion Kit Rating Plate accounts for high altitude derate.

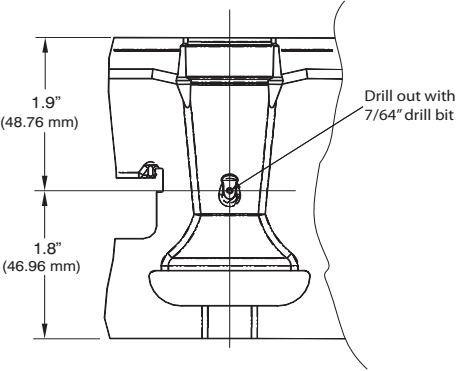


Fig. 8 – Mixer Screw Location

REINSTALL BURNER ASSEMBLY

To reinstall burner assembly:

1. Attach flame sensor to burner assembly.

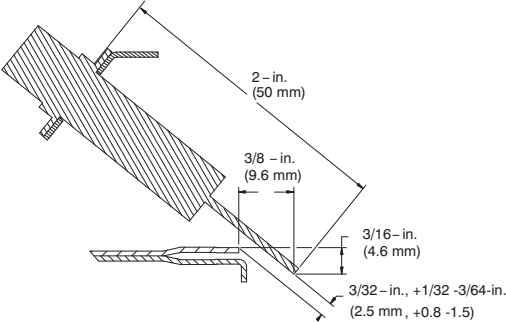


Fig. 10 – Igniter Position - Side View

A12392

**CONVERT GAS VALVE****! CAUTION****UNIT OPERATION HAZARD**

Failure to follow this caution may result in unit damage or improper operation.

DO NOT use this kit if the gas valve has a green label (26,000 BTU/h model) on it. The 26,000 BTU/h model uses a different conversion kit available from your distributor.

**NOTE:** Do not use this kit if the gas valve in Fig. 11 has a green label on top of the valve. The green label on the gas valve is a special low capacity gas valve. Refer to Specification Sheet for the correct conversion kit.

**! CAUTION****UNIT DAMAGE HAZARD**

Failure to follow this caution may result in unit damage

The gas valve must be converted and pre-adjusted before operating on propane gas. If not converted and pre-adjusted, sooting and corrosion will occur leading to early heat exchanger failure.

**! WARNING****FIRE, EXPLOSION, ELECTRICAL SHOCK 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.

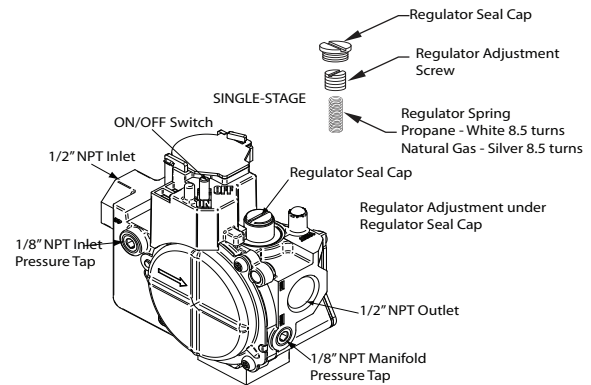
**! WARNING****ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD**

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

Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position and install a lockout tag. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label. Verify proper operation after servicing.

**Single Stage Gas Valve**

1. Refer to Fig. 5. Verify the gas valve has a white label with black lettering on top of the operator.
2. Be sure gas and electrical supplies to furnace are off.
3. Remove caps that conceal adjustment screws for the gas-valve regulators, see Fig. 11 or Fig. 12.
4. Remove the regulator adjustment screw.
5. Remove the propane gas regulator springs (white).
6. Install the natural gas regulator springs (silver).
7. Install the regulator adjustment screws.
8. Turn the adjusting screw clockwise (in) 8.5 full turns. This will increase the manifold pressure closer to the natural set point, see Fig. 11 or Fig. 12.
9. Do not install regulator seal caps at this time.



**NOTE:** Remove the propane gas regulator spring (white) Install the natural gas regulator spring (silver)

**Fig. 11 – Gas Valve (Single Stage) without Tower Pressure Ports**

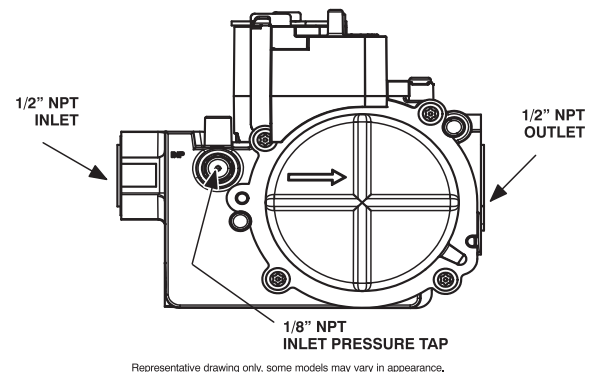
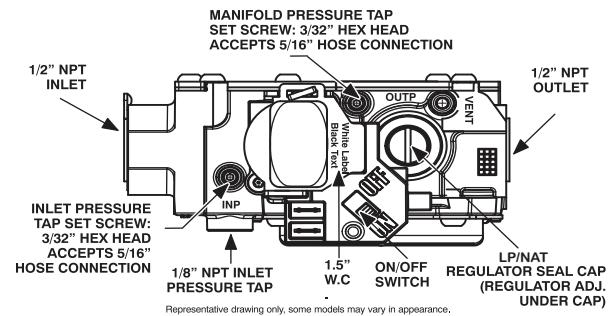


**Fig. 12 – Gas Valve (Single Stage) with Tower Pressure Ports**  
**Two Stage Gas Valve**

Refer to Fig. 13 or Fig. 14.

1. Remove caps that conceal adjustment screws for high heat and low heat gas-valve regulators, see Fig. 13 or Fig. 14.
2. Remove the high heat and low heat propane regulator adjustment screws.
3. Remove the high heat and low heat propane gas regulator springs (white).
4. Install the high heat and low heat natural gas regulator springs (silver).
5. Install the high heat and low heat regulator adjustment screws.
6. Turn high heat stage adjusting screw clockwise (in) 12 full turns. This will increase the manifold pressure closer to the natural set point.
7. Turn low heat stage adjusting screw clockwise (in) 9.5 full turns. This will increase the manifold pressure closer to the natural low heat set point.
8. Do not install regulator seal caps at this time.

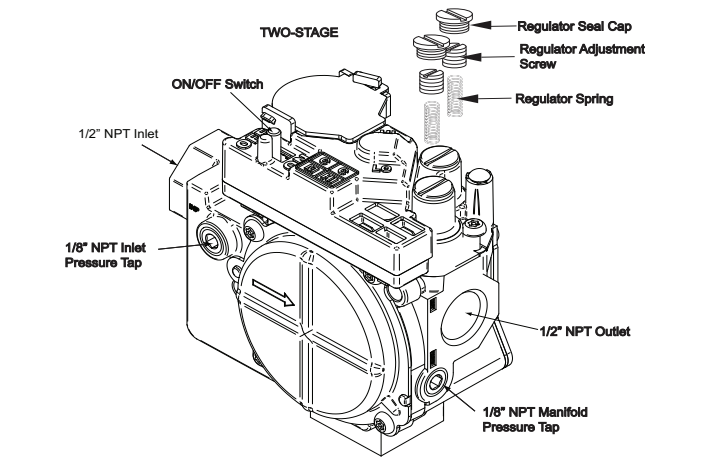


**Fig. 13 – Automatic Gas Valve (Two-Stage) without Tower Pressure Ports**

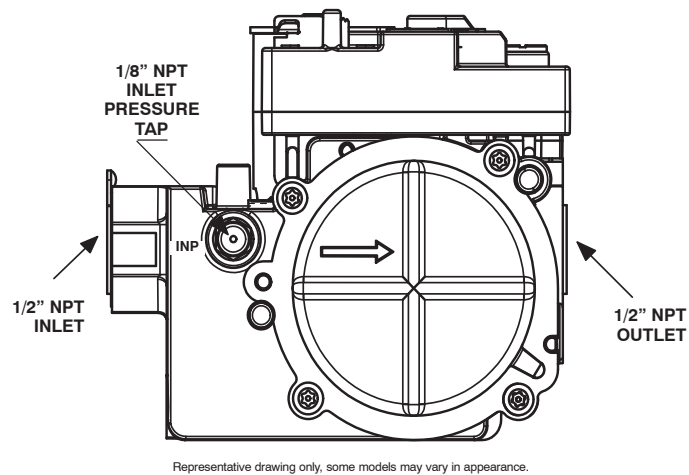
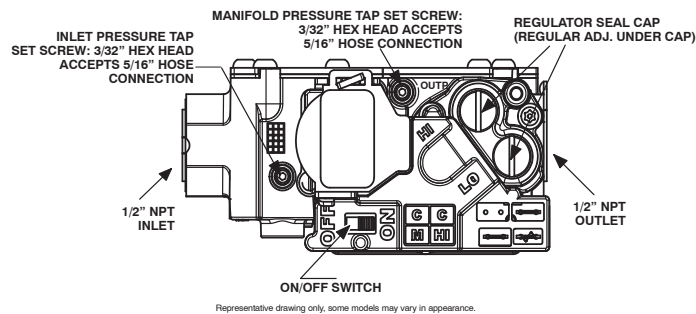


**Fig. 14 – Automatic Gas Valve (Two-Stage) with Tower Pressure Ports**

## Modulating Gas Valve

Refer to Fig. 15 through Fig. 17.

1. Locate the round "LP GAS" sticker on the top of the gas valve.
2. Peel the sticker off and discard.
3. Note the small square opening in the top of the gas valve.
4. Note the two jumper pins inside the modulating gas valve.
5. Use needle-nosed pliers to grasp the jumper by the tab on the end.
6. Remove the small black plastic propane jumper from the gas valve.
7. Cover the opening in the gas valve with the label marked "NAT GAS."

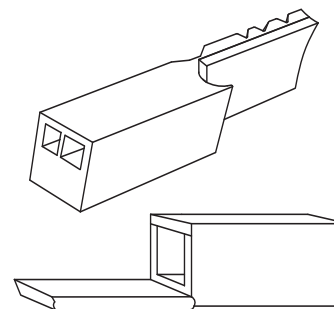


**Fig. 15 – Propane Jumper**

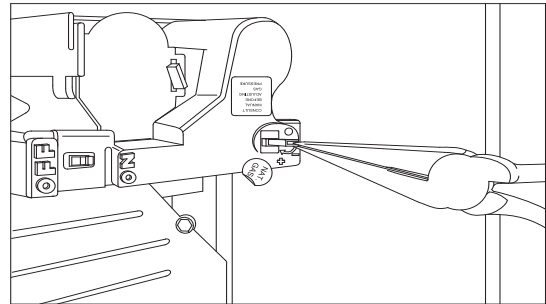


**Fig. 16 – Removing Propane Jumper**

**NOTE:** The Propane jumper for the modulating gas valve is very small. Needle-nose pliers are required to remove the jumper from the valve. If the jumper is not removed, the valve will not operate properly on natural gas pressures.

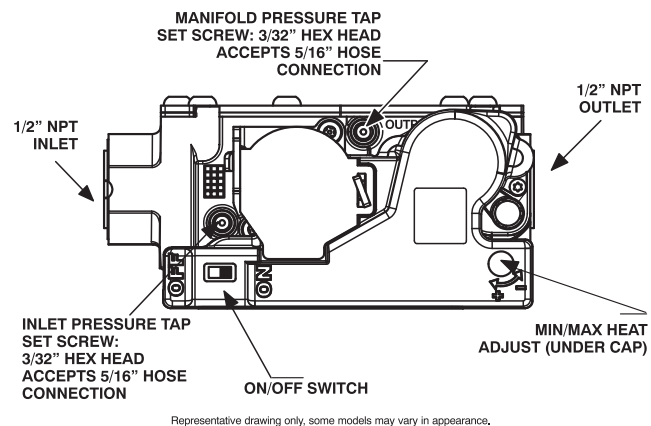
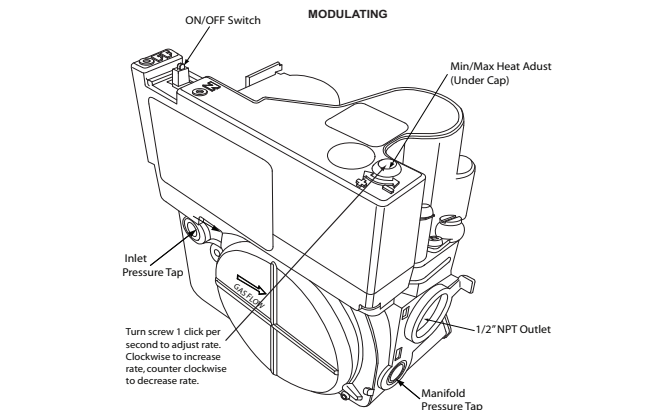


**Fig. 17 - Automatic Control Valve (Modulating) without Tower Pressure Ports**

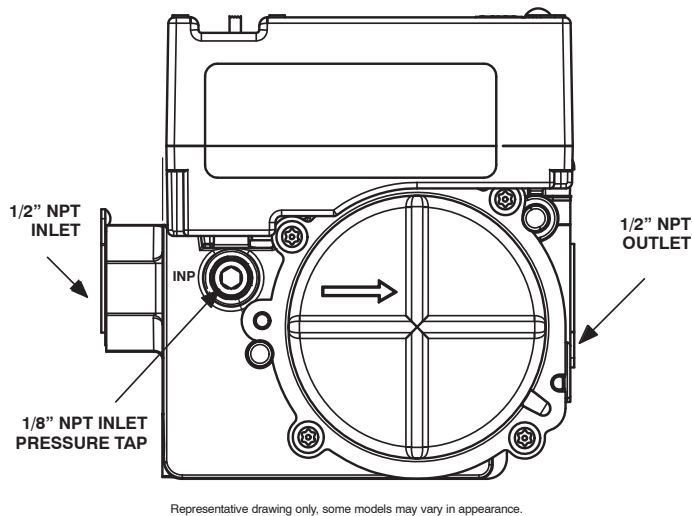


**Fig. 17 – Automatic Control Valve (Modulating) without Tower Pressure Ports (continued)**

## REMOVE LOW GAS PRESSURE SWITCH

**NOTE:** Remove the Low Gas Pressure Switch before installing the manifold on the burner assembly.

**NOTE:** There are two ways that the Low Gas Pressure Switch (LGPS) could have been installed during the original natural to Propane gas conversion.

### All 14 3/16-in Casings or Vent Passed Between Inducer Assembly and Burner Assembly

If the vent pipe passes between the inducer and burner assembly, or the furnace is a 14 3/16-in. wide casing. The switch is installed as shown in Fig. 18.

1. Remove low gas pressure switch, brass street 90\_ elbow, brass hex nipple, brass tee and black iron street 90\_ elbow from the gas valve inlet pressure tap, see Fig. 18.

**NOTE:** Use pipe dope approved for use with Propane gas. DO NOT use PTFE thread-seal tape.

2. Apply pipe dope sparingly to the 1/8-in. (3 mm) NPT pipe plug (provided in kit) and install in the 1/8-in tapped inlet-pressure tap opening in the gas valve. DO NOT over-tighten. Check for gas leaks after gas supply has been turned on.

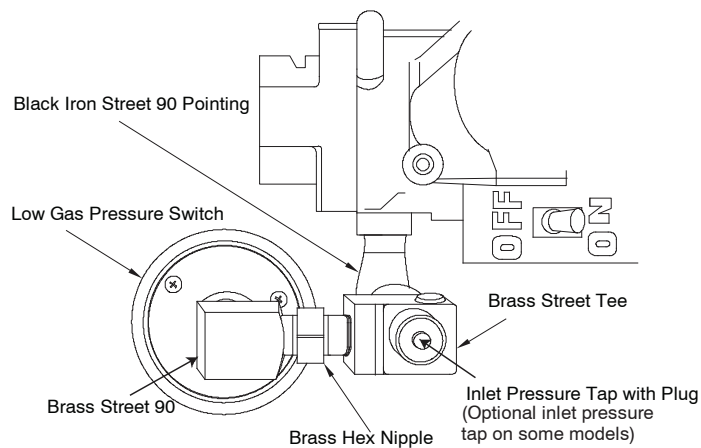


**Fig. 18 – LGPS for 14-3/16 Casing or when vent passes between inducer and burner assembly**

## ! WARNING

### FIRE OR EXPLOSION HAZARD

Failure to follow this warning could result in personal injury, death, 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. A fire or explosion may result causing property damage, personal injury or loss of life.

## ! AVERTISSEMENT

### RISQUE D'EXPLOSION ET D'INCENDIE

Le non-respect des avertissements de sécurité pourrait d'entraîner des blessures graves, la mort ou des dommages matériels.

Ne jamais utiliser une flamme nue pour vérifier la présence des fuites de gaz. Pour la vérification de tous les joints, utiliser plutôt une solution savonneuse commerciale fabriquée spécifiquement pour la détection des fuites de gaz. Un incendie ou une explosion peut entraîner des dommages matériels, des blessures ou la mort.

### Casings Wider Than 14 3/16-in/Vent Does Not Pass Between Inducer and Burner Assembly

If the vent pipe does not pass between the inducer and burner assembly, or the furnace is wider than a 14 3/16-in. wide casing. The switch is installed as shown in Fig. 19.

1. Remove Low Gas Pressure Switch (LGPS), brass street tee, brass nipple and brass street 90° elbow from the gas valve inlet pressure tap, see Fig. 19.

**NOTE:** Use pipe dope approved for use with Propane gas. DO NOT use PTFE thread-seal tape.

2. Apply pipe dope sparingly to the 1/8-in. (3 mm) NPT pipe plug (provided in kit) and install in the 1/8-in (3 mm) tapped inlet-pressure tap opening in the gas valve. DO NOT over-tighten. Check for gas leaks after gas supply has been turned on.

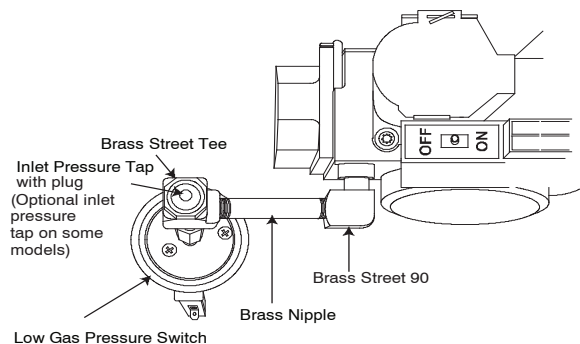


**Fig. 19 – LGPS for casing wider than 14-3/16 and vent does not pass between inducer and burner assembly**

## INSTALL MANIFOLD

1. Refer to Fig. 2 and Fig. 3.
2. Align the orifices in the manifold assembly with the support rings on the end of the burner.
3. Insert the orifices in the support rings of the burners. Manifold mounting tabs should fit flush against the burner box.

**NOTE:** If manifold does not fit flush against the burner box, the burners are not fully seated forward. Remove the manifold and check burner positioning in the burner box assembly.

4. Attach the green/yellow wire and ground terminal to one of the manifold mounting screws, see Fig. 2.

5. Install the remaining manifold mounting screws.
6. Connect the wires to the flame sensor and hot surface igniter.
7. Connect the connector harness to gas valve.

**NOTE:** Do not use PTFE thread-seal tape.

8. Insert the gas pipe through the grommet in the casing. Apply a thin layer of pipe dope to the threads of the pipe and thread the pipe by into the gas valve.

**NOTE:** Use a back-up wrench on the gas valve to prevent the valve from rotating on the manifold or damaging the mounting to the burner box.

9. With a back-up wrench on the inlet boss of the gas valve, finish tightening the gas pipe to the gas valve.
10. Turn gas on at electric switch on gas valve.

## CHECK INLET GAS PRESSURE

**! CAUTION**

## UNIT DAMAGE HAZARD

Failure to follow this caution may result in unit damage.

DO NOT operate furnace more than one minute to check inlet gas pressure, as conversion is not complete at this time.

**NOTE:** This kit is to be used only when inlet gas pressure is between 4.5-in. w.c. and 13.6-in. w.c.

1. On some models, remove 1/8-in. (3 mm) pipe plug from inlet pressure tap (see [Fig. 18](#) and [Fig. 19](#)) and insert pressure tap. Or, on some models, loosen set screw on inlet tower pressure tap no more than one full turn with the 3/32-in. hex wrench, see [Fig. 11](#) or [Fig. 12](#).
2. Verify manometer is connected to inlet pressure tap on gas valve, see [Fig. 11](#) or [Fig. 12](#).
3. Turn on furnace power supply.
4. Turn gas supply manual shutoff valve to ON position.
5. Turn furnace gas valve switch to ON position.

## ! WARNING

## FIRE, EXPLOSION, ELECTRICAL SHOCK 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, FIRE OR EXPLOSION HAZARD**

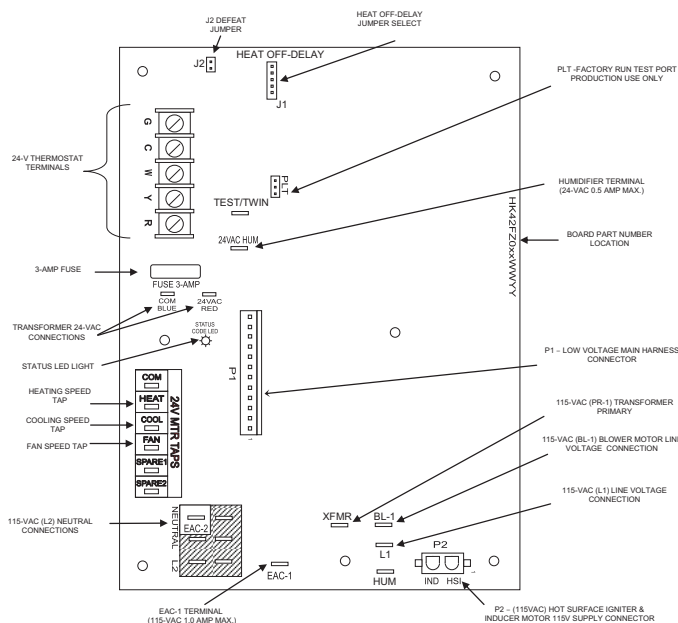
Failure to follow this warning could result in personal injury, death or property damage.

Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position and install a lockout tag. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label. Verify proper operation after servicing.

## Single Stage Gas Valve

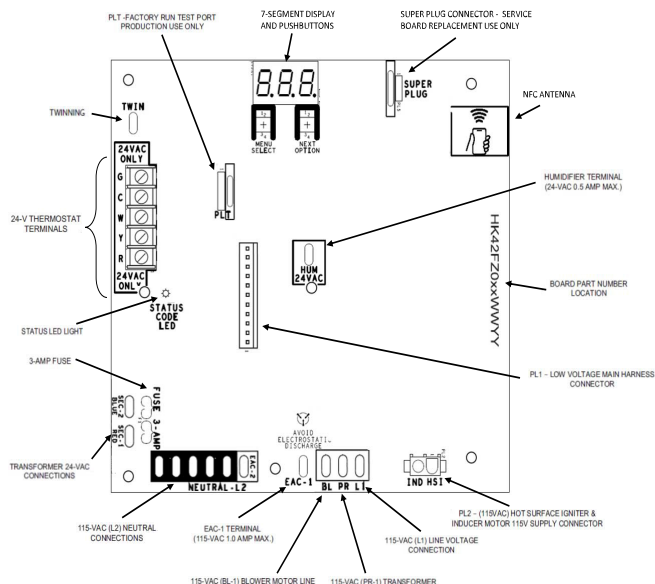
1. Jumper R-W thermostat connections on control.
2. When main burners ignite, confirm inlet gas pressure is between 4.5-in. w.c. and 13.6-in. w.c.

3. Remove jumper across R-W thermostat connections to terminate call for heat.
4. Turn furnace gas valve switch to OFF position.
5. Turn gas supply manual shutoff valve to OFF position.
6. Turn off furnace power supply.
7. Remove manometer and on some models remove pressure tap fitting.
8. On some models, apply pipe dope sparingly to end of inlet gas pipe plug and install into unused end of 1/8-in. (3 mm) tee. Use a small back-up wrench on tee when tightening gas inlet pipe plug. Or, on some models, tighten set screw on inlet tower pressure tap with a 3/32-in. hex wrench, see [Fig. 11](#) or [Fig. 12](#).



Representative drawing only, some models may vary in appearance.

A190022



Representative drawing only, some models may vary in appearance.

A210192

**Fig. 20 – Example of Single Stage Furnace Control**

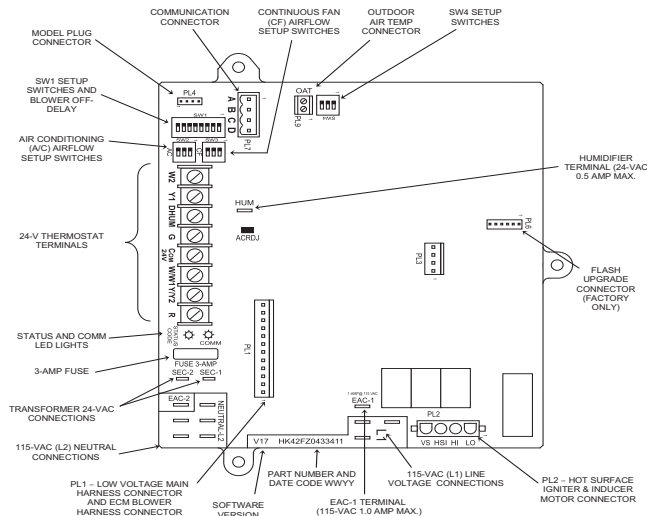
## Two-Stage Gas Valve



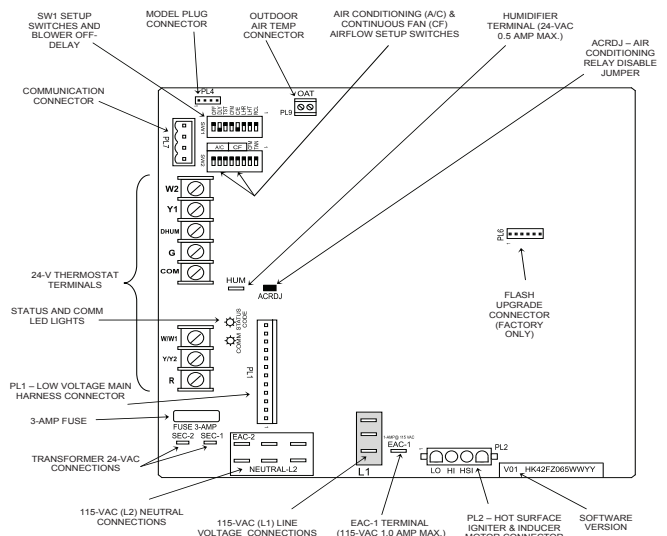
### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury, or death. Blower access door switch removes 115-V power to control. No component operation can occur unless switch is closed. Caution must be taken when manually closing this switch for service purposes. Do not tape or permanently allow the door switch to be bypassed. Temporarily depress the door switch with one hand while accessing the service buttons with your other hand. Do not touch uninsulated electrical components.

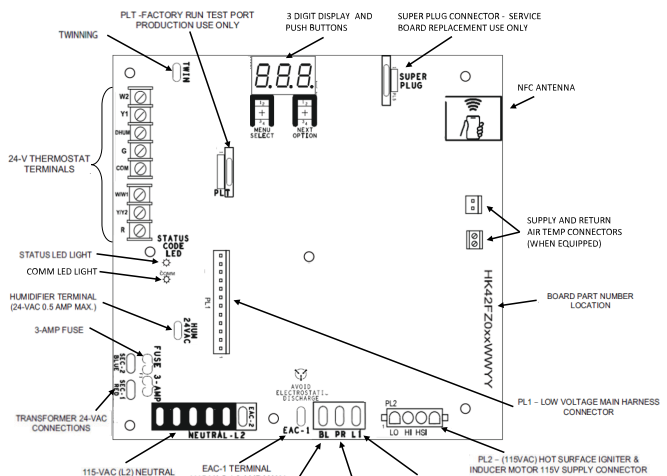
1. Enable two-stage thermostat on furnace control by:
  - a. Furnace controls with DIP switches, turn SW1-2 on furnace control ON, see Fig. 21.
  - b. Furnace controls with 3 digit display, navigate to (HtE) and select (25E), see Fig. 21. See furnace installation manual for additional instructions.
2. Jumper R-W/W1 and R-W2 thermostat connections on control.
3. When main burners ignite, confirm inlet gas pressure is between 4.5-in. w.c. and 13.6-in. w.c.
4. Remove jumper across R-W/W1 and R-W2 thermostat connections to terminate call for heat.
5. Turn furnace gas valve switch to OFF position.
6. Turn gas supply manual shutoff valve to OFF position.
7. Turn off furnace power supply.
8. Remove manometer and on some models remove pressure tap fitting.
9. On some models, apply pipe dope sparingly to the end of inlet gas pipe plug and install into unused end of 1/8-in. (3 mm) tee. Use a small back-up wrench on tee when tightening gas inlet pipe plug. Or, on some models, tighten set screw on inlet tower pressure tap with a 3/32-in. hex wrench, see Fig. 13 or Fig. 14.



Representative drawing only, some models may vary in appearance. A200178



Representative drawing only, some models may vary in appearance. L14F003



Representative drawing only, some models may vary in appearance. A221035A

**Fig. 21 – Example of Two-Stage Speed Furnace Control for VCA or VCT Blower Motor**

### Fixed Speed Blower (FCT), Two-Stage Gas Valve

1. Turn Setup Switch SW1 (LHT or TT) on furnace control ON, see Fig. 22.
2. Jumper R-W/W1 and R-W2 thermostat connections on control.
3. When main burners ignite, confirm inlet gas pressure is between 4.5-in. w.c. and 13.6-in. w.c.
4. Remove jumper across R-W/W1 and R-W2 thermostat connections to terminate call for heat.
5. Turn furnace gas valve switch to OFF position.
6. Turn gas supply manual shutoff valve to OFF position.
7. Turn off furnace power supply.
8. Remove manometer and on some models remove pressure tap fitting.
9. On some models, apply pipe dope sparingly to the end of inlet gas pipe plug and install into unused end of 1/8-in. (3 mm) tee. Use a small back-up wrench on tee when tightening gas inlet pipe plug. Or, on some models, tighten set screw on inlet tower pressure tap no more than one full turn with a 3/32-in. hex wrench, see Fig. 13 or Fig. 14.



**CHECK FURNACE AND MAKE ADJUSTMENTS** **WARNING****FIRE OR EXPLOSION HAZARD**

Failure to follow this warning could result in personal injury, death, 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. A fire or explosion may result causing property damage, personal injury or loss of life.

 **AVERTISSEMENT****RISQUE D'EXPLOSION ET D'INCENDIE**

Le non-respect des avertissements de sécurité pourrait d'entraîner des blessures graves, la mort ou des dommages matériels.

Ne jamais utiliser une flamme nue pour vérifier la présence des fuites de gaz. Pour la vérification de tous les joints, utiliser plutôt une solution savonneuse commerciale fabriquée spécifiquement pour la détection des fuites de gaz. Un incendie ou une explosion peut entraîner des dommages matériels, des blessures ou la mort.

1. Be sure main gas and electric supplies to furnace are off.
2. On some models, remove 1/8-in. (3 mm) pipe plug from manifold pressure tap on the outlet end of gas valve and insert pressure tap. Or, on some models, loosen the set screw on manifold tower pressure tap no more than one full turn with the 3/32-in. hex wrench.
3. Attach manometer to manifold pressure tap on gas valve, see [Fig. 11](#), [Fig. 12](#), [Fig. 13](#), [Fig. 14](#), or [Fig. 17](#).
4. Turn gas supply manual shutoff valve to ON position.
5. Turn furnace gas valve switch to ON position.
6. Check all threaded pipe connections for gas leaks.
7. Turn on furnace power supply.

**GAS INPUT RATE INFORMATION**

See furnace rating plates, see [Fig. 5](#), [Fig. 6](#), or [Fig. 7](#), for input rate. The input rate for natural gas is determined by manifold pressure and orifice size.

Modulating gas valve must be set for Maximum Heat first and then set for Minimum heat on Modulating furnaces.

Two-Stage gas valve must be set for High Heat first and then set for Low Heat on Two-Stage furnaces.

Furnace gas input rate on rating plate is for installations at altitudes up to 2000 ft. (610 M).

In the U.S.A.; the input rating for altitudes above 2000 ft. (610M) must be reduced by 2 percent for each 1000 ft. (305 M) above sea level.

In Canada; the input rating must be derated by 5 percent for altitudes of 2000 ft. (610 M) to 4500 ft. (1372 M) above sea level.

The Conversion Kit Rating Plate accounts for high altitude derate.

**SET GAS INPUT RATE****Single Stage Gas Valve**

1. Jumper R and W thermostat connections to call for heat, see [Fig. 20](#).
2. Check manifold orifices for gas leaks when main burners ignite.
3. Adjust gas manifold pressure, see [Table 4](#).
4. Remove cap that conceals gas valve regulator adjustment screw.
5. Turn adjusting screw counterclockwise (out) to decrease manifold pressure or clockwise (in) to increase manifold pressure.

6. Replace gas valve regulator seal cap.

7. Verify manifold pressure is correct.

**NOTE:** Gas valve regulator seal cap **MUST** be in place when checking input rate. When correct input is obtained, main burner flame should be clear blue, almost transparent, see [Fig. 24](#). Be sure regulator seal cap is in place when finished.

8. Remove jumper across R and W thermostat connections to terminate call for heat.
9. Turn furnace gas valve control switch or control knob to OFF position.
10. Turn off furnace power supply.
11. Remove manometer and on some models remove pressure tap fitting.
12. On some models, apply pipe dope sparingly to end of 1/8-in. (3 mm) pipe plug and install in the manifold pressure tap opening. Or, on some models, tighten set screw on manifold tower pressure tap with a 3/32-in. hex wrench, see [Fig. 5](#).
13. Turn furnace gas-valve switch to ON position.
14. Turn on furnace power supply.
15. Set room thermostat to call for heat.
16. Check pressure tap plug for gas leaks when main burners ignite.
17. Check for correct burner flame.
18. After making the required manifold pressure adjustments, check and adjust the furnace temperature rise per the furnace installation instructions.

**Fixed-Speed Blower (FCT). Two-Stage Gas Valve**

1. Verify SW1 (LHT or TT) on furnace control is turned "ON". See [Fig. 22](#).
2. Jumper R and W/W1 thermostat connections to call for heat.
3. Check manifold orifices for gas leaks when main burners ignite.
4. Adjust gas manifold pressure, see [Table 5](#).
5. Remove caps that conceal adjustment screws for gas valve regulators, see [Fig. 6](#).
6. Adjust low heat input rate manifold pressure for propane gas.
7. Turn low heat adjusting screw counterclockwise (out) to decrease input rate or clockwise (in) to increase input rate.
8. When correct input is obtained, main burner flame should be clear blue, almost transparent, see [Fig. 24](#).
9. Jumper R and W/W1 and W2 on control center thermostat connections. This keeps furnace locked in high heat operation.
10. Adjust high heat input rate manifold pressure for propane gas.
11. Turn high heat adjusting screw counterclockwise (out) to decrease input rate or clockwise (in) to increase input rate.
12. Replace caps that conceal gas valve regulator adjustment screws.
13. When correct input is obtained, main burner flame should be clear blue, almost transparent, see [Fig. 24](#).
14. Remove jumper across R, W1, and W2 after high heat adjustment to terminate call for heat.
15. Turn setup switch SW1 (TT) on furnace control to OFF position.
16. Turn furnace gas-valve switch to OFF position.
17. Turn off furnace power supply.
18. Remove manometer from the manifold pressure tap of the gas valve.
19. On some models, apply pipe dope sparingly to end of 1/8-in. (3 mm) pipe plug and install in the manifold pressure tap opening. Or, on some models, tighten set screw on manifold tower pressure tap with a 3/32-in. hex wrench, see [Fig. 6](#).
20. Turn on furnace power supply.
21. Set room thermostat to call for heat.

22. Check pressure tap plug for gas leaks when main burners ignite.
23. Check for correct burner flame.
24. After making the required manifold pressure adjustments, check and adjust the furnace temperature rise per the furnace installation instructions.

## Two-Stage Gas Valve

1. Enable two-stage thermostat on furnace control by:
  - a. Furnace controls with DIP switches, turn SW1-2 on furnace control ON.
  - b. Furnace controls with 3 digit display, navigate to (Ht) and select (25t). See furnace installation manual for additional instructions.
2. Jumper R and W/W1 thermostat connections to call for heat.
3. Check manifold orifices for gas leaks when main burners ignite.
4. Remove caps that conceal adjustment screws for gas valve regulators, see Fig. 6.
5. Adjust low-heat manifold pressure for propane gas, see Fig. 6.
6. Turn low-heat adjusting screw counterclockwise (out) to decrease input rate or clockwise (in) to increase input rate.

**NOTE:** When correct input is obtained, main burner flame should be clear blue, almost transparent, see Fig. 24.

7. Jumper R, W/W1 and W2 on control center thermostat connections. This keeps furnace locked in high-heat operation.
8. Adjust high-heat manifold pressure for propane gas.
9. Turn high-heat adjusting screw counterclockwise (out) to decrease input rate or clockwise (in) to increase input rate.
10. Replace caps that conceal gas valve regulator adjustment screws.

**NOTE:** When correct input is obtained, main burner flame should be clear blue, almost transparent, see Fig. 24.

11. Remove jumper across R, W1, and W2 after high-heat adjustment to terminate call for heat.
12. Return thermostat type setting back to desired setting based on your thermostat:
  - a. Furnace controls with DIP switches, turn SW1-2 on furnace control ON for a two-stage Thermostat, OFF for a single-stage thermostat, see Fig. 22.
  - b. Furnace controls with 3 digit display, navigate to (Ht) and select (25t) for a two-stage thermostat or select (15t) for a single-stage thermostat. See furnace installation manual for additional instructions.
13. Turn furnace gas valve switch to OFF position.
14. Turn off furnace power supply.
15. Remove manometer from the manifold pressure tap of the gas valve.
16. On some models, apply pipe dope sparingly to end of 1/8-in. (3 mm) pipe plug and install in the manifold pressure tap opening. Or, on some models, tighten set screw on manifold tower pressure tap with a 3/32-in. hex wrench, see Fig. 6.
17. Turn furnace gas valve switch to ON position.
18. Turn on furnace power supply.
19. Set room thermostat to call for heat.
20. Check pressure tap plug for gas leaks when main burners ignite.
21. Check for correct burner flame.
22. Observe unit operation through two complete heating cycles.
23. See Sequence of Operation in furnace Installation, Start-up, and Operating Instructions.
24. Set room thermostat to desired temperature.
25. After making the required manifold pressure adjustments, check and adjust the furnace temperature rise per the furnace installation instructions.

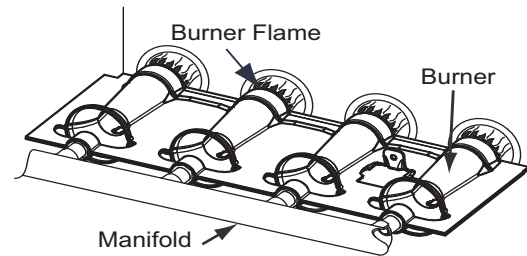


Fig. 24 – Burner Flame

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## Modulating Gas Valve



### UNIT DAMAGE HAZARD

Failure to follow this caution may result in gas valve damage.

**DO NOT** force the rotary adjustment switch on the modulating gas valve. **DO NOT** turn the rotary adjustment switch faster than one click per second when adjusting manifold pressure. Gas valve will be damaged if excessive force is used on the rotary switch.

For proper operation and long term reliability, the manifold pressure must be adjusted as specified on the conversion kit rating plate.

The modulating furnace manifold pressure is set at two points. The first point is Maximum Heat. The second point is Minimum Heat. Do not adjust Intermediate Heat manifold pressure. Intermediate Heat manifold pressure can be checked as part of the temperature rise, but is not adjustable. Always adjust Maximum Heat first, then Minimum Heat.

**NOTE:** Use care when performing adjustments. Gas valve adjustment is performed by turning a rotary adjustment switch inside the gas valve with a small straight blade screwdriver. Excessive force can break or bend the rotary adjustment switch making it non-adjustable.

### To adjust manifold pressure to obtain input rate for Maximum Heat:

1. Enable two-stage thermostat with low heat on furnace control by:
  - a. Furnace controls with DIP switches, turn SW1-2 ON and SW4-2 OFF at the furnace control.
  - b. Furnace controls with 3 digit display, navigate to (Ht) and select (25t - L.Ht). See furnace installation manual for additional instructions.
2. Jumper the R to W/W1 and W2 thermostat connections at the furnace control.
3. After the main burners ignite and the blower starts, confirm Maximum Heat manifold pressure is correct, based on the manifold pressure table on the Conversion Kit Rating Plate.
4. To adjust the Maximum Heat manifold pressure, Slowly turn the rotary adjustment switch counterclockwise to decrease manifold pressure or clockwise to increase manifold pressure.
5. Turn rotary adjustment switch no more than one click per second until you obtain the required manifold pressure.

Main burner flame should be clear blue, almost transparent.

### To adjust manifold pressure to obtain input rate for Minimum Heat:

1. Remove the jumper from W2 at the thermostat connections at the furnace control.
2. Wait until the burners and the blower transitions to Minimum Heat.
3. Verify the Minimum Heat manifold pressure is correct, based on the manifold pressure table on Conversion Kit Rating Plate.
4. To adjust the Minimum Heat manifold pressure, Slowly turn the rotary adjustment switch counterclockwise to decrease manifold pressure or clockwise to increase manifold pressure.

5. Turn rotary adjustment switch no more than one click per second until you obtain the required manifold pressure. This adjustment will not affect the previous Maximum Heat adjustment.
6. When correct input is obtained. Remove jumpers across thermostat connections to terminate the call for heat. Wait until the blower off delay is completed.
7. Return thermostat type setting on furnace control back to desired setting based on your thermostat:
  - a. Furnace controls with DIP switches, set SW1-2 and SW4-2 at furnace control per the furnace installation manual.
  - b. Furnace controls with 3 digit display, navigate to (HtE) and select ( !SE) for a single-stage thermostat, (2SE - LHE) for a two-stage thermostat running low heat, or (2SE - !HE) for a two-stage thermostat running intermediate heat. See furnace installation manual for additional instructions. Turn gas supply manual shutoff valve to OFF position.
8. Turn off furnace power supply.
9. Remove manometer from the manifold pressure tap of the gas valve.
10. On some models, apply pipe dope sparingly to end of 1/8-in. (3 mm) pipe plug and install in the manifold pressure tap opening, see Fig. 7. Or, on some models, tighten set screw on manifold tower pressure tap with a 3/32-in. hex wrench, see Fig. 25)
11. Re-install plastic cap over rotary adjustment switch on the top of the gas valve
12. After making the required manifold pressure adjustments, check and adjust the furnace temperature rise at Minimum, Intermediate and Maximum heat per the furnace installation instructions.

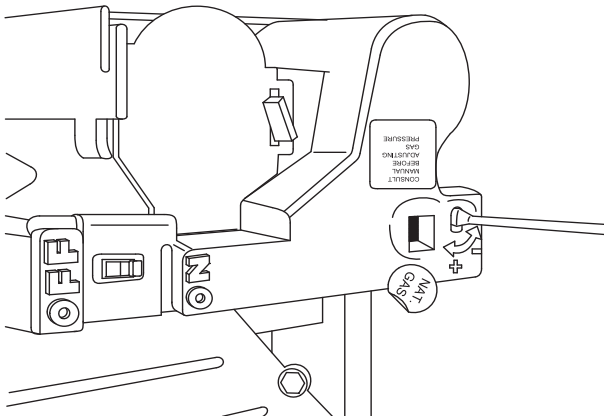


Fig. 25 – Modulating Gas Valve Adjustment

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## LABEL APPLICATION

1. Fill in Conversion Responsibility Label 348712-205 and apply to Blower Access Door of furnace. Date, name, and address of organization making this conversion are required, see Fig. 26.
2. Attach Conversion Rating Plate Label 348712-201, -204, -206, -207, -208 or -209 to outer door of furnace, see Fig. 5, Fig. 6 or Fig. 7.
3. Attach Gas Control Conversion Label 348712-202 to gas valve. Do not use 348712-203, which is similar.

## CHECKOUT

1. Observe unit operation through two complete heating cycles.
2. See Sequence of Operation in furnace Installation, Start-Up, and Operating Instructions.
3. Set room thermostat to desired temperature.

## ! WARNING

### FIRE HAZARD

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

Manifold pressure tap set screw must be tightened or 1/8-in. (3 mm) NPT pipe plug must be installed to prevent gas leaks.

13. Turn furnace gas valve switch to ON position.
14. Turn on furnace power supply.
15. Set room thermostat to call for heat.
16. Check pressure tap plug for gas leaks when main burners ignite.
17. Check for correct burner flame.

|                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>THIS FURNACE WAS CONVERTED</b><br/><b>ON _____ TO NATURAL GAS</b><br/><small>(DAY-MONTH-YEAR)</small><br/><b>KIT NO.: AGAGC9PNS01D</b></p> <p><b>BY:</b></p> <p>_____</p> <p>_____</p> <p>_____</p> <p><small>(Name and address of organization making this conversion),<br/>which accepts the responsibility that this conversion has<br/>been properly made.</small></p> | <p><b>CETTE FOURNAISE A ÉTÉ CONVERTED AU</b><br/><b>GAZ NATUREL LE _____</b><br/><small>(JOUR-MOIS-ANNÉE)</small><br/><b>DE L'ENSEMBLE N°.: AGAGC9PNS01D</b></p> <p><b>PAR:</b></p> <p>_____</p> <p>_____</p> <p>_____</p> <p><small>(Nom et adresse de l'organisme qui a effectué la conversion),<br/>qui accepte l'entière responsabilité de la conversion.</small></p> <p>348712-205 REV.- </p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Fig. 26 – Gas Conversion Responsibility Label

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|                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><small>This control has been converted for use with natural gas.<br/>Cette commande a été réglée pour emploi avec le gaz<br/>naturel.</small></p> <p>348712-202 REV.- </p> | <p><small>This control has been adjusted for use with natural gas.<br/>Ce coontrôle a été réglée pour fonctionner au gaz naturel.</small></p> <p>348712-203 REV.- </p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Fig. 27 – Gas Control Conversion Label

A221026

