**KGBNP50011SP**

**Gas Conversion Kit Natural—to—Propane for 1 Stage Condensing (90%+) and Non—Condensing Gas Furnaces 40,000 BTUH to 140,000 BTUH Models Only**

# Installation Instructions

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

## 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 servie d'entretien qualifié, selon les instructions du fabricant et selon toutes les exigences et tous les codes pertinents de l'autorité compétente. Assurezvous 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'appereil converti n'a pas été vérfié selon les instructions du fabricant fornies 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 natural gas usage to propane gas usage. See appropriate section for your furnace type.

**Section 1** − Models 59SC2, 59SP2, 59SC5, 59SE5, 59SP5, 912S, 915S, 922S, 925S, and PG92S are 4−Way Multipoise, Hot Surface Ignition, Condensing Furnaces with 40,000 to 140,000 btuh gas input rates. Not all models have 140,000 btuh.

**Section 2** − Models 58DL, 58PH, 58ST, 310A, 310J, 311A, 311J, 313A, 313J, PG8JA, PG8JE, PG8MA, and PG8ME 33.3−Inch High, Induced− Combustion, Hot−Surface Ignition, Single−Stage, Non− Condensing 4−Way Multipoise Furnaces with 42,000 to 154,000 btuh gas input rates ONLY.

**Table 1 KIT Contents**

| COMPONENT NUMBER | QTY. | DESCRIPTION |
|---|---|---|
| EF39ZW023 | 1 | REGULATOR SPRING KIT |
| HK02LB008 | 1 | LOW GAS PRESSURE SWITCH |
| 323751-702 | 7 | 1.30 MM ORIFICES, LH32DB210 |
| 323269-703 | 7 | 1.25 MM ORIFICES, LH32DB209 |
| 323269-704 | 7 | #55 ORIFICES, LH32DB201 |
| 323272-702 | 7 | #56 ORIFICES, LH32DB206 |
| | | |
| 337932-701 | 1 | BAG ASSEMBLY INCLUDEDS: |
| FAJ5812B | 7 | 90% MIXER SCREW |
| 328456-402 | 1 | 7/64-IN. DRILL BIT |
| | | |
| 337932-702 | 1 | BAG ASSEMBLY INCLUDEDS: |
| 327593-401 | 7 | 80% MIXER SCREW |
| 328456-401 | 1 | 5/64-IN. DRILL BIT |
| | | |
| 337932-703 | 1 | BAG ASSEMBLY INCLUDEDS: |
| CA15RA001 | 1 | BLK IRON STREET ELBOW 1/8-IN NPT |
| 66175D55 | 1 | CONNECTOR-1/4QC |
| HY76TB125 | 1 | WIRE TIE |
| CA52JZ103 | 1 | BRASS HEX NIPPLE 1/8-IN NPT |
| CA21JZ001 | 1 | BRASS TEE 1/8 NPT |
| CA16JQ001 | 1 | BRASS STREET ELBOW 1/8 NPT |
| CA01JZ001 | 1 | BRASS NIPPLE 1/8-IN X 2-IN NPT |
| CA21JQ001 | 1 | BRASS STREET TEE 1/8-IN NPT |
| HY89SC047 | 1 | CONNECTOR,SPLC 3/16-IN QC |
| | | |
| ORANGE WIRE, 18-IN | 1 | 1/4 INSUL FLAG Q.C. X 1/4 UNINSUL ST Q.C. |
| ORANGE WIRE, 12-IN | 1 | 1/4 INSUL TAB Q.C. X 1/4 UNINSUL ST Q.C. |

# 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.

# SECTION 1
# CONDENSING FURNACES

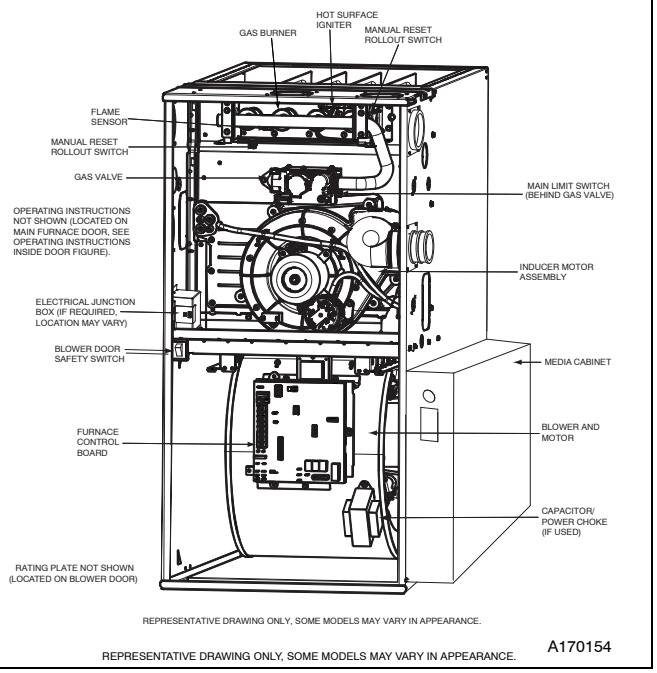
| Table 2 | MODEL NUMBERS BEGINNING WITH: | | | |
|---|---|---|---|---|
| 59SC2 | 59SC5* | 59SE5 | 59SP2 | 59SP5* |
| 912S | 915S* | 922S | 925S* | |
| PG92S | PG95S | | | |

*** Except 26,000 BTUH models.**

# 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.

**Figure 1 Representative Furnace Drawing**




REPRESENTATIVE DRAWING ONLY, SOME MODELS MAY VARY IN APPEARANCE. A170154

# MANIFOLD/ORIFICE/BURNER REMOVAL

## ⚠ 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.

## ⚠ PRUDENCE

**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 **Figure 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 **Figure 2**)
5. Slide one−piece burner assembly out of slots on sides of burner box. (See **Figure 3**)
6. Remove the flame sensor from the burner assembly.
7. Remove the orifices from the manifold and discard.

**Figure 2** **Manifold Assembly**

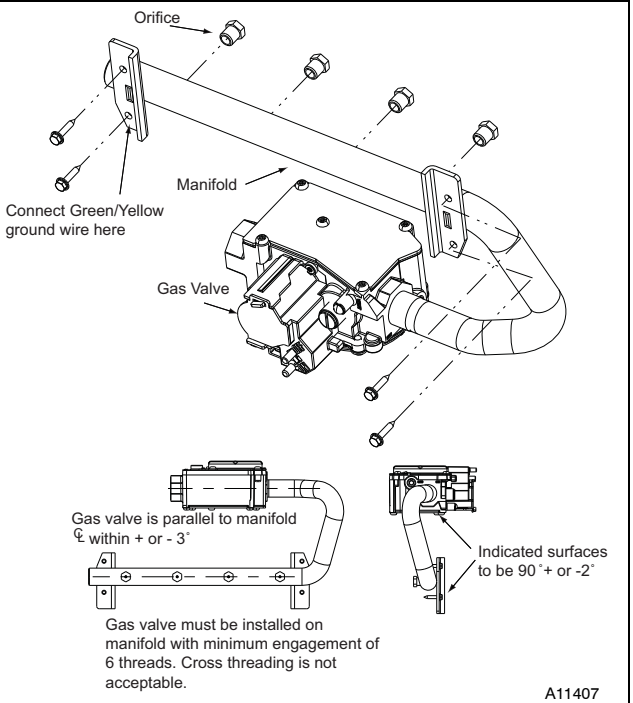
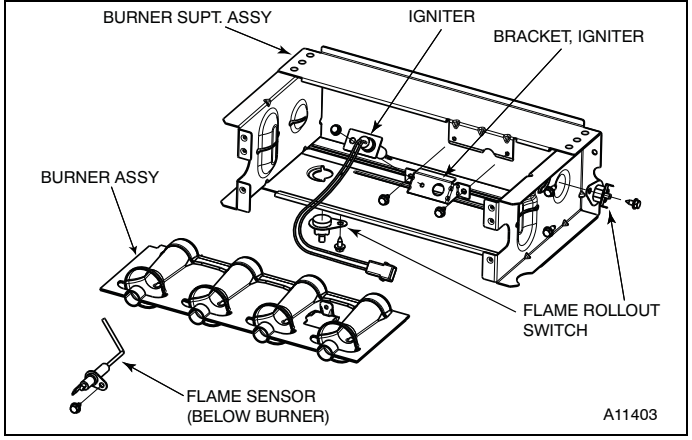



**Figure 3** **Burner Assembly**




## ORIFICE SELECTION/DERATE

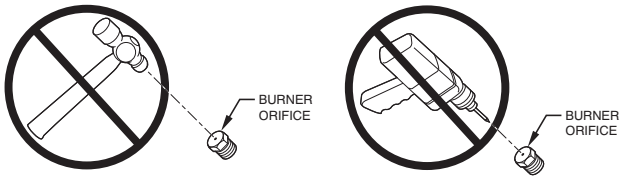
**⚠ CAUTION**

**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 **Figure 4**)

**Figure 4** **Burner Orifice**




Refer to conversion kit rating plate 339852−201 to determine main burner orifice size. (See **Figure 5**)

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.

**Figure 5** **Conversion Kit Rating Plate (40,000 BTUH to 140,000 BTUH ONLY)**

**CONVERSION KIT RATING PLATE - CARRIER CORPORATION**

**THIS APPLIANCE HAS BEEN CONVERTED TO USE PROPANE GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY CARRIER CORPORATION 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 by 5% for altitudes of 2000 ft. (610m) to 4500 ft. (1372m) above sea level.

KIT NO.: KGBNP50011SP
(SUPERSEDES: KGANP50011SP) FUEL USED: PROPANE GAS INLET PRESSURE (min - max): 12.0 - 13.6 in. wc

| APPLIANCE MODELS | | ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A. * | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 to 2000 | 2001 * to 3000 | 3001 to 4000 | 4001 to 5000 | 5001 to 6000 | 6001 to 7000 | 7001 to 8000 | 8001 to 9000 | 9001 to 10000 |
| 59SC2, 59SC5, 59SE5, 59SP2, 59SP5, 912S, 915S, 922S, 925S, PG92S, PG95S | Orifice No. | 1.25mm | 1.25mm | 1.25mm | 1.25mm | 1.25mm | 1.25mm | 1.25mm | 1.25mm | 1.25mm |
| | | Manifold Pressure | | | | | | | | |
| | | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| | | | | | | | | | | |

* For Canadian Installations from 2000 to 4500 ft. (610m to 1373m) use U.S.A. column 2001 to 3000 ft. (611m to 914m).

339852-201 REV. A

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## INSTALL ORIFICES

1. Install main burner orifices. Do not use Teflon 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.

## INSTALL MIXER SCREWS

**NOTE**: There are two sets of mixer screws. One set is for Condensing gas furnaces, the other set is for Non−condensing gas furnaces. Use only the parts in the bag marked **"REQUIRED FOR THE CONVERSION OF CONDENSING GAS FURNACES TO PROPANE GAS"**

1. See **Figure 6** to verify you have the correct set of mixer screws.
2. Locate the dimple on each burner venturi tube.
3. If you cannot locate the dimple, refer to **Figure 7** for location of the mixer screw.
4. Drill a 7/64−in (2.8 mm) hole (supplied in kit) in each dimple.
5. Install a mixer screw in each drilled hole drilling as straight as possible (i.e. in the center of the gas flow stream as well as perpendicular to the gas flow stream).
6. The screw head should be flush with the top of the burner venturi.

**Figure 6** **Gas Conversion Kit**

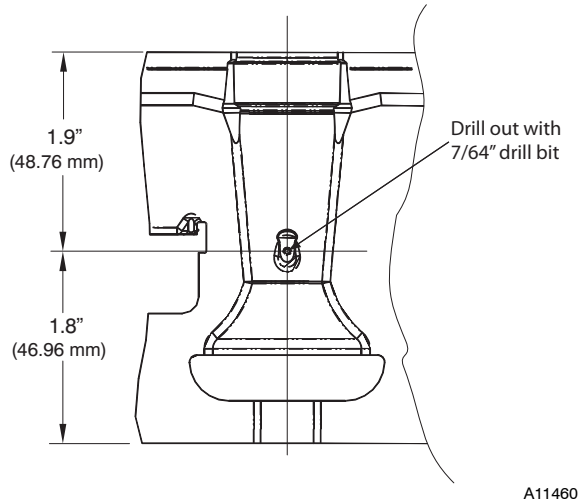
337932-701

| PART # | CONTAINS: DESCRIPTION | QTY |
|---|---|---|
| 328456-402 | BIT, DRILL | 1 |
| FAJ5812B | SCREW | 7 |

REQUIRED FOR CONVERSION OF CONDENSING GAS FURNACE TO PROPANE GAS.

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**Figure 7** **Mixer Screw Location**



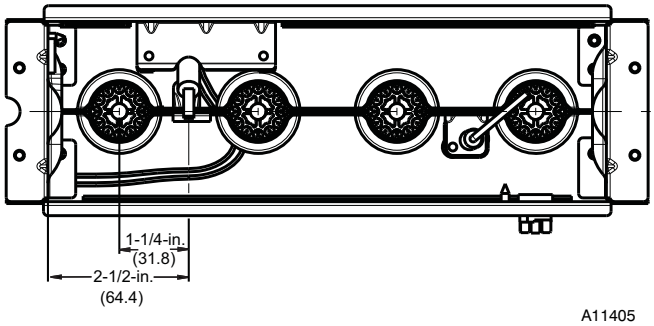

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## REINSTALL BURNER ASSEMBLY

To reinstall burner assembly:

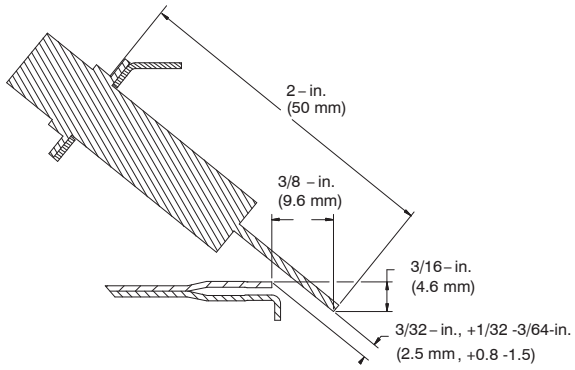
1. Attach flame sensor to burner assembly.
2. Insert one-piece burner in slot on sides of burner box and slide burner back in place.
3. Reattach HSI wires to HSI.
4. Verify igniter to burner alignment. (See **Figure 8** & **Figure 9**)

**Figure 8** **Igniter Position − Back View**




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**Figure 9** **Igniter Position − Side View**




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## CONVERT GAS VALVE

**⚠ 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.

**NOTE**: Do not use this kit if the gas valve in **Figure 10** 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.

# ⚠ 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

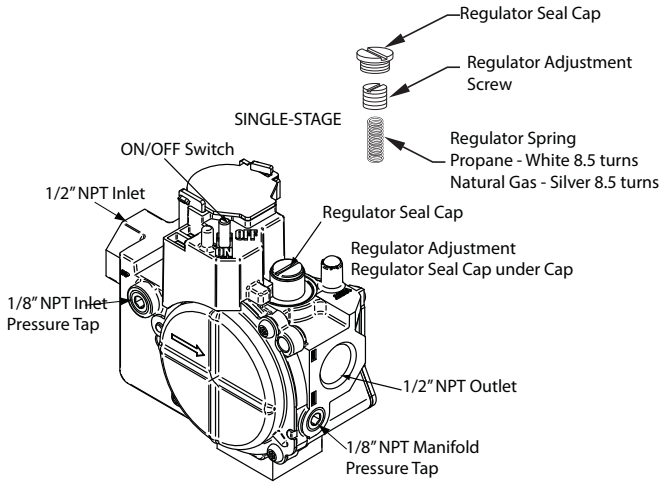
**UNIT OPERATION HAZARD**

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

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

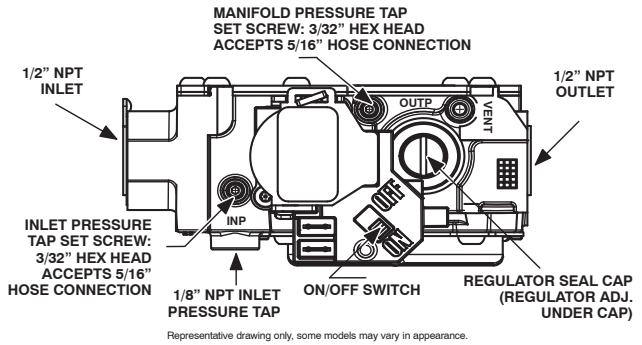
1. Refer to **Figure 10**. Verify the gas valve has a white label with black lettering on top of the operator.
2. Be sure gas and electrical supplies to furnace are off.
3. Remove caps that conceal adjustment screws for the gas–valve regulators. (See **Figure 10**)
4. Remove the regulator adjustment screw.
5. Remove the regulator springs (silver).
6. Install the propane gas regulator springs (white).
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 propane set point. (See **Figure 10**)
9. Do not install regulator seal caps at this time.

**Figure 10** **Gas Valve (Single Stage) without Tower Pressure Ports**



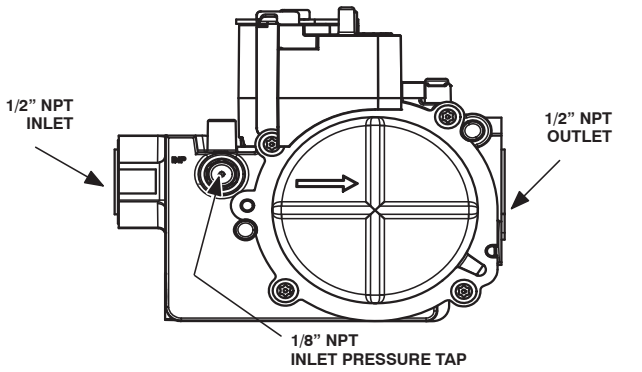

Remove the natural gas regulator spring (silver)
Install the propane regulator spring (white)

**Figure 10 (cont.) – Gas Valve (Single Stage) with Tower Pressure Ports**




Representative drawing only, some models may vary in appearance.

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Representative drawing only, some models may vary in appearance.

A170133

## INSTALL LOW GAS PRESSURE SWITCH

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

There are two ways to mount the Low Gas Pressure Switch.

**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 may be installed as shown in **Figure 11**:

1. Remove the 1/8-in. (3 mm) NPT pipe plug from the gas valve inlet pressure tap.

**NOTE**: Use pipe dope approved for use with Propane Gas.

**NOTE**: Tighten all fittings and the Low Gas Pressure Switch with a small wrench. Do not over-tighten, check for gas leaks after gas supply has been turned on.

# ⚠ 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 por vérifier la présence des fuites de gaz. Pour la vérification de tous les joints, utiliser plutôt une solution savonneuse commerciale fabriquée spécifiquement pur la détection des fuites de gaz. Un incendie ou une explosion peut entraîner des dommages matériels, des blessures ou la mort.

2. Apply pipe dope sparingly to the male threads of the 1/8-in. (3 mm) black iron street elbow. Install the street elbow into the gas valve inlet pressure tap. One end of the opening of the street elbow should be parallel with the inlet boss on the gas valve. The other opening should be pointing toward you.
3. Apply pipe dope sparingly to the male threads of the 1/8-in. (3 mm) brass street tee. Install the male end of the street tee as shown in **Figure 12**. One opening on the street tee should face you. The other opening should be parallel with the inlet of the gas valve.
4. Apply pipe dope sparingly to the male threads of the 1/8-in. (3 mm) brass hex nipple. Install the hex nipple into the open end of the brass street tee. (See **Figure 12**) The hex nipple should be parallel with the boss on the gas valve.
5. Install the open end of the brass street elbow on the end of the hex nipple. Tighten the street elbow so the male threads of the elbow point away from you.
6. Apply pipe dope sparingly to the male threads of the 1/8-in. (3 mm) brass street elbow. Install the Low Gas Pressure Switch on the male threads of the street elbow. Tighten switch at hex fitting at base of switch. Do not use switch body to tighten switch. Do not over-tighten switch.
7. The remaining opening on the brass street tee is the new gas valve inlet pressure tap (optional on some models). Apply pipe dope to inlet pressure plug from gas valve and install in open end of brass street tee.
8. Check all fittings for leaks after gas supply has been turned on.

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

1. 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 may be installed as shown in **Figure 12**):
2. Remove the 1/8-in. (3 mm) NPT pipe plug from the gas valve inlet pressure tap.

**NOTE**: Use pipe dope approved for use with Propane Gas.

**NOTE**: Tighten all fittings and the Low Gas Pressure Switch with a small wrench. Do not over-tighten, check for gas leaks after gas supply has been turned on.

3. Apply pipe dope sparingly to the male threads of the brass street elbow.
4. Install the brass street elbow in inlet pressure tap of the gas valve
5. Tighten the brass street elbow with a small wrench so the outlet faces to your left.
6. Apply pipe dope sparingly to the male threads of the 2–in. brass nipple.
7. Install the brass nipple in the outlet of the brass street elbow.
8. Locate the brass street tee in the kit. Orient the tee so the male threads on the tee face away from you and the female threads face point to the male threads of the 2–in brass nipple.
9. With a small back–up wrench on the brass street elbow, tighten the brass street tee with a small wrench until the fittings are tight and the male portion of the threads point away from you.
10. Apply pipe dope sparingly to the male threads of the 1/8–in. brass street elbow. Install the Low Gas Pressure Switch on the male threads of the street elbow. Tighten switch at hex fitting at base of switch. Do not use switch body to tighten switch. Do not over–tighten switch.
11. The remaining opening on the brass street tee is the new gas valve inlet pressure tap (optional on some models). Apply pipe dope to inlet pressure plug from gas valve and install in open end of brass street tee.
12. Check all fittings for leaks after gas supply has been turned on.

**Figure 11** — **LGPS for 14–3/16 Casing or when vent passes between inducer and burner assembly**

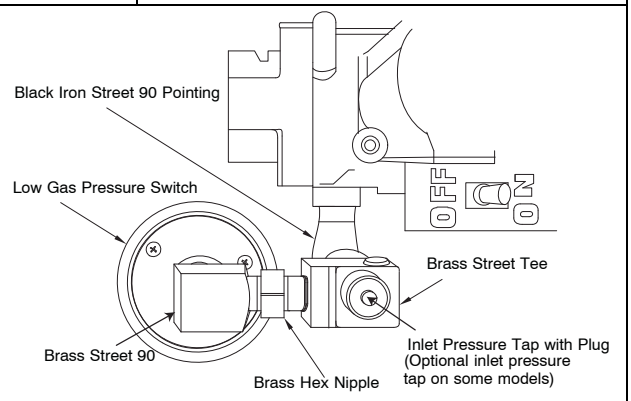
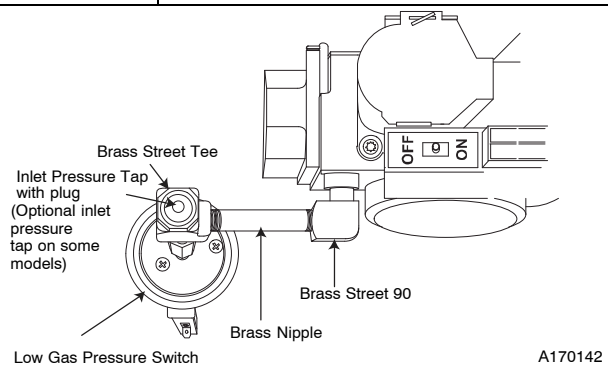



**Figure 12** — **LGPS for casing wider than 14–3/16 and vent does not pass between inducer and burner assembly**




# INSTALL LOW GAS PRESSURE SWITCH WIRES

1. Locate the orange wire in the kit with an insulated straight female spade terminal and an insulated straight male terminal on the other end.
2. Connect the female terminal to a terminal on the Low Gas Pressure Switch.
3. Locate the orange wire in kit with an insulated straight female spade terminal and an insulated female flag terminal on the other end.
4. Connect both straight female terminals of the orange wires to the terminals on the Low Gas Pressure Switch.

## INSTALL MANIFOLD

1. Refer to **Figure 2** and **Figure 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 **Figure 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**: Use only propane-resistant pipe dope. Do not use Teflon 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.

## MODIFY PRESSURE SWITCH WIRING

### ⚠ 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.

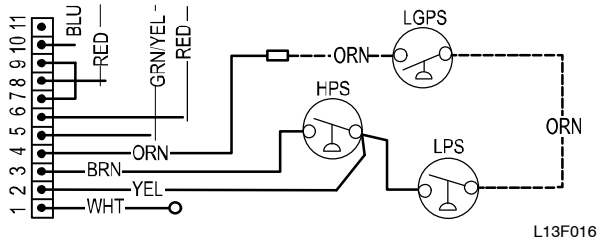
### ⚠ PRUDENCE

**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.

1. Disconnect orange wire from Low Heat Pressure Switch LPS on inducer housing. (See **Figure 1**)
2. Connect the orange wire from the Low Heat Pressure Switch to the orange wire with the insulated male spade terminal. (See **Figure 13**)
3. Connect the orange wire from the Low Gas Pressure Switch to the terminal on the Low Heat Pressure Switch.
4. Route orange wires along wire harness. If possible, secure with wire tie provided in kit.

**Figure 13** | **Pressure Switch Wiring**




## 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 12.0–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 **Figure 11** and **Figure 12**) 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 **Figure 10**)
2. Verify manometer is connected to inlet pressure tap on gas valve. (See **Figure 10**)
3. Turn on furnace power supply.
4. Turn gas supply manual shutoff valve 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.

5. Turn furnace gas valve switch to ON position.
6. Jumper R–W thermostat connections on control.
7. When main burners ignite, confirm inlet gas pressure is between 12.0–in. w.c. and 13.6–in. w.c.
8. Remove jumper across R–W thermostat connections to terminate call for heat.
9. Turn furnace gas valve switch to OFF position.
10. Turn gas supply manual shutoff valve to OFF position.
11. Turn off furnace power supply.
12. Remove manometer and on some models remove pressure tap fitting.
13. 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 **Figure 10**.

## 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 por vérifier la présence des fuites de gaz. Pour la vérification de tous les joints, utiliser plutôt une solution savonneuse commerciale fabriquée spécifiquement pur 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 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 **Figure 10**)
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

The gas input rate for propane is the same as for natural gas. See furnace rating plate (see **Figure 5**) for input rate. The input rate for propane is determined by manifold pressure and orifice size.

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.

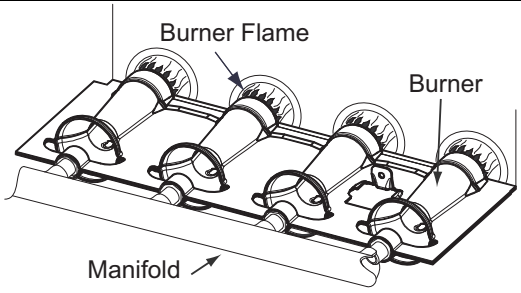
**In Canada**; the input rating must be derated by 5 percent for altitudes of 2000 ft. (610 M) to 4500 ft. (1372 M) above sea level.

The Conversion Kit Rating Plate accounts for high altitude derate.

## SET GAS INPUT RATE

1. Jumper R and W thermostat connections to call for heat. (See **Figure 15**)
2. Check manifold orifices for gas leaks when main burners ignite.
3. Adjust gas manifold pressure.
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.

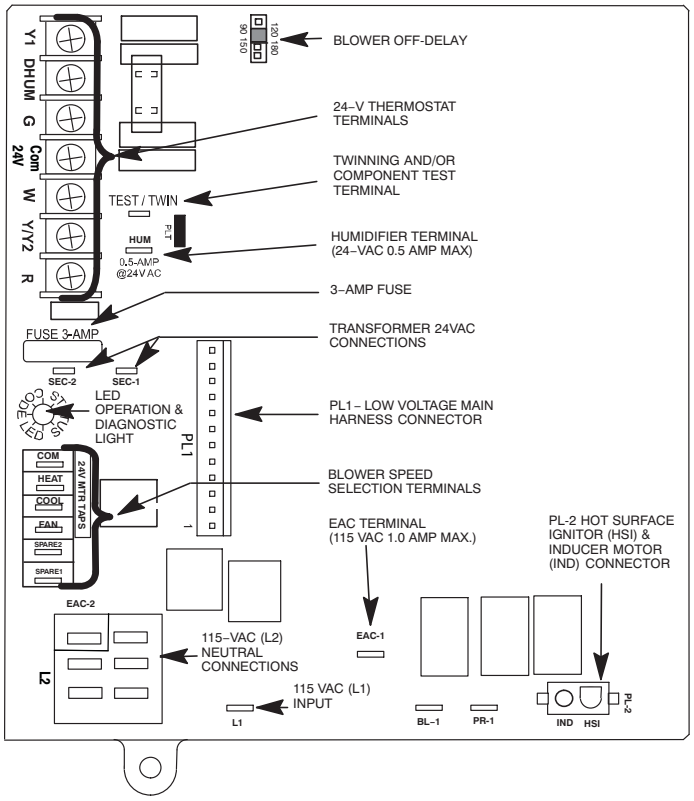
**Figure 14** **Burner Flame**




**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 **Figure 14**). 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 **Figure 10**.
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.

| Figure 15 | Example of Single Stage Furnace Control for PSC Blower Motor |
|---|---|




A11391

Representative drawing only, some models may vary in appearance.

# CHECK LOW GAS PRESSURE SWITCH

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

This switch also prevents operation when the propane tank level is low which can result in gas with a high concentration of impurities, additives, and residues that have settled to the bottom of the tank. Operation under these conditions can cause harm to the heat exchanger system. This normally open switch closes when gas is supplied to gas valve under normal operating pressure.

The closed switch completes control circuit. Should an interruption or reduction in gas supply occur, the gas pressure at switch drops below low gas pressure switch setting, and switch opens. Any interruption in control circuit (in which low gas pressure switch is wired) quickly closes gas valve and stops gas flow to burners. When normal gas pressure is restored, the system must be electrically reset to re–establish normal heating operation.

Before leaving installation, observe unit operation through two complete heating cycles. During this time, turn gas supply to gas valve off just long enough to completely extinguish burner flame, then instantly restore full gas supply. To ensure proper low gas pressure switch operation, observe that there is no gas supply to burners until after hot surface igniter begins glowing.

# LABEL APPLICATION

1. Fill in Conversion Responsibility Label 339852–205, see **Figure 30**, and apply to blower door of furnace. Date, name, and address of organization making this conversion are required.
2. Attach Conversion Rating Plate Label 339852–201 to outer door of furnace. (See **Figure 5**)
3. Apply Gas Control Conversion Label to gas valve: For single–stage gas valve apply label 339852–202 to gas valve. (Do not use 339852–203, which is similar) Check for correct normal operating sequence of the ignition system as described in furnace Installation, Start–Up, and Operating Instructions.
4. Replace control access door, blower door and outer door of furnace.

# 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.

# SECTION 2
# NON–CONDENSING FURNACES

| Table 3 | MODEL NUMBERS BEGINNING WITH: | | | | |
|---|---|---|---|---|---|
| 58DL | 58PH | 58ST | 310A | 310J | 311A |
| 311J | 313A | 313J | PG8JA | PG8JE | PG8MA |
| PG8ME | | | | | |

## INSTALLATION

### ⚠ 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, 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 servie d'entretien qualifié, selon les instructions du fabricant et selon toutes les exigences et tous les codes pertinents de l'autorité compétente. Assurezvous 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 vérfié selon les instructions du fabricant fornies avec la trousse.

### ⚠ 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.

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.

### ⚠ 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.

## MANIFOLD/ORIFICE/BURNER REMOVAL

**Figure 16** — **80% Burner**

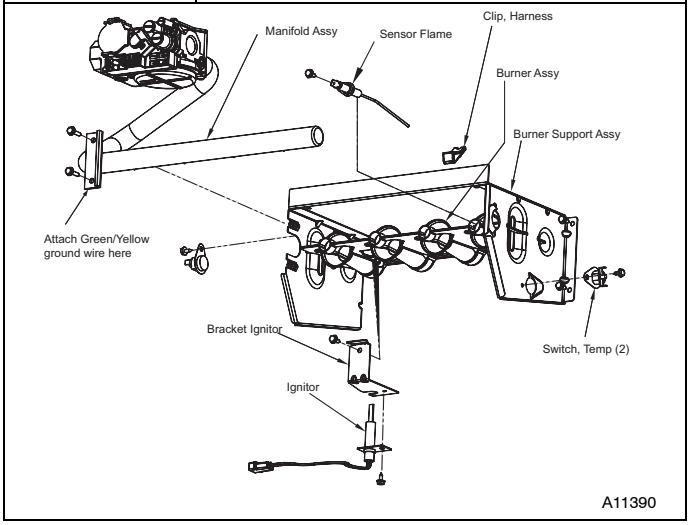
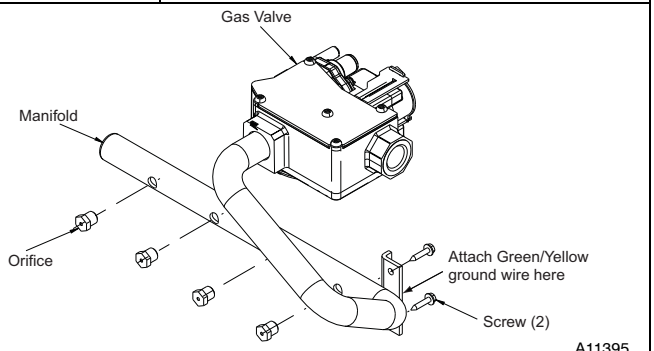


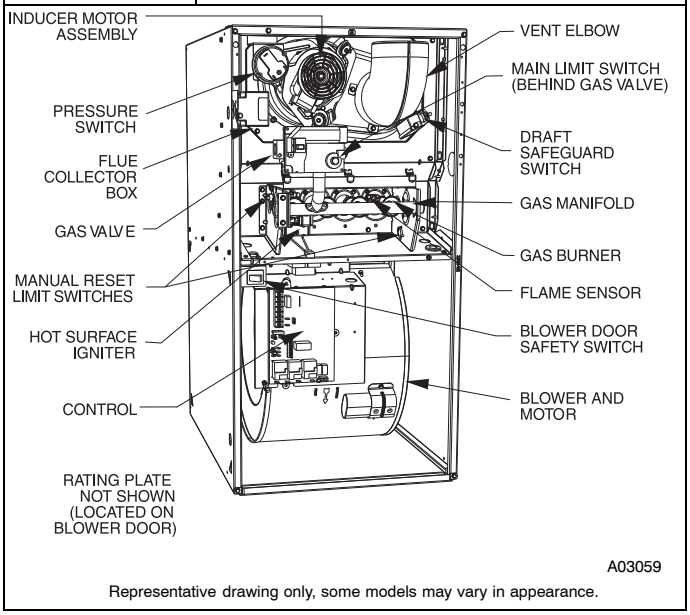
**Figure 17** | **80% Manifold**




**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. (See **Figure 16** & **Figure 17**)

1. Disconnect the gas pipe from gas valve and remove pipe from the furnace casing. (See **Figure 18**)

**Figure 18** | **Representative Furnace Drawing**




Representative drawing only, some models may vary in appearance.

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.
5. Slide one−piece burner assembly out of slots on sides of burner box.
6. Remove wires from both rollout switches.
7. Remove the flame sensor from the burner assembly.
8. Remove the orifices from the manifold and discard.

## NOx DEVICE REMOVAL

**⚠ CAUTION**

**UNIT DAMAGE HAZARD**

Failure to follow this caution may result in unit damage.

Furnace MUST have low NOx devices removed prior to operating furnace on propane gas.

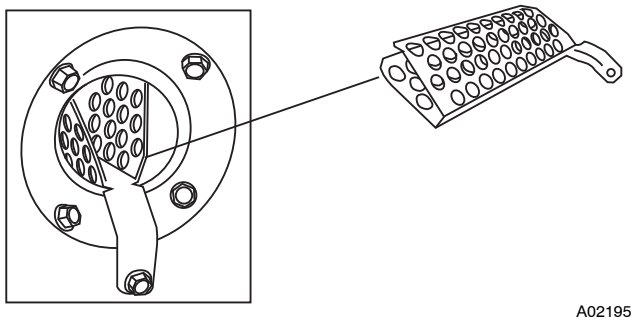
For NOx device removal, follow these additional steps:

1. Remove the screw underneath the heat exchanger inlet that secures the NOx device in the heat exchanger. (See **Figure 19**)
2. Use a pair of needle nose pliers to remove the NOx device.
3. Squeeze the sides of the device, if necessary, to remove from the heat exchanger.
4. Re-install screw in hole underneath heat exchanger inlet.

**NOTE**: It is very IMPORTANT to reinstall the NOx bracket mounting screw.

5. Repeat steps for each heat exchanger.

**Figure 19** | **NOx Device Removal**




## ORIFICE SELECTION/DERATE

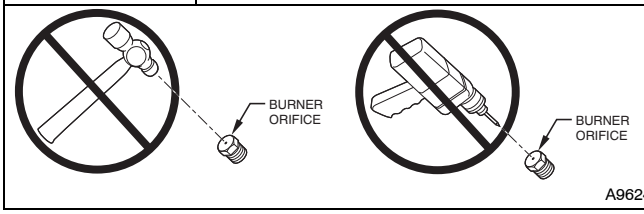
**⚠ CAUTION**

**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 **Figure 20**)

**Figure 20** | **Burner Orifice**




Refer to conversion kit rating plate 341164−204 to determine main burner orifice size. (See **Figure 21**)

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.

**Figure 21** | **Conversion Kit Rating Plate**

**CONVERSION KIT RATING PLATE - CARRIER CORPORATION**

THIS APPLIANCE HAS BEEN CONVERTED TO USE PROPANE GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY CARRIER CORPORATION 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 4% for each 1000 ft. (305m) above sea level. In Canada the input rating must be derated by 10% for altitudes of 2000 ft. (610m) to 4500 ft. (1372m) above sea level.

KIT NO.: KGBNP50011SP FUEL USED: PROPANE GAS INLET PRESSURE (min - max): 12.0 - 13.6 in. wc

(SUPERSEDES: KGANP50011SP, KGANP4601ALL, KGANP4101ALL, KGANP4001ALL, KGANP3001ALL, KGANP2901ALL)

| APPLIANCE MODELS | | ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A. * | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 to 2000 | 2001 * to 3000 | 3001 to 4000 | 4001 to 5000 | 5001 to 6000 | 6001 to 7000 | 7001 to 8000 | 8001 to 9000 | 9001 to 10000 |
| 58DL, 58PH, 58ST, 310A, 310J, 311A, 311J, 313A, 313J, PG8J, PG8M | Orifice No. | 55 | 1.30mm | 1.30mm | 1.25mm | 1.25mm | 1.25mm | 56 | 56 | 56 |
| | | Manifold Pressure | | | | | | | | |
| | | 11.0 | 11.0 | 10.5 | 11.0 | 11.0 | 10.5 | 11.0 | 11.0 | 10.5 |
| | | | | | | | | | | |

* For Canadian Installations from 2000 to 4500 ft. (610m to 1373m) use U.S.A. column 2001 to 3000 ft. (611m to 914m).

339852-204 REV. A

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# INSTALL ORIFICES

1. Install main burner orifices. Do not use Teflon 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.

# INSTALL MIXER SCREWS

**NOTE**: There are two sets of mixer screws. One set is for Condensing gas furnaces, the other set is for Non-condensing gas furnaces. Use only the parts in the bag marked **"REQUIRED FOR THE CONVERSION OF NON–CONDENSING GAS FURNACES TO PROPANE GAS"**

See **Figure 22** to verify you have the correct set of mixer screws.

**Figure 22** | **Gas Conversion Kit**

**337932-702**

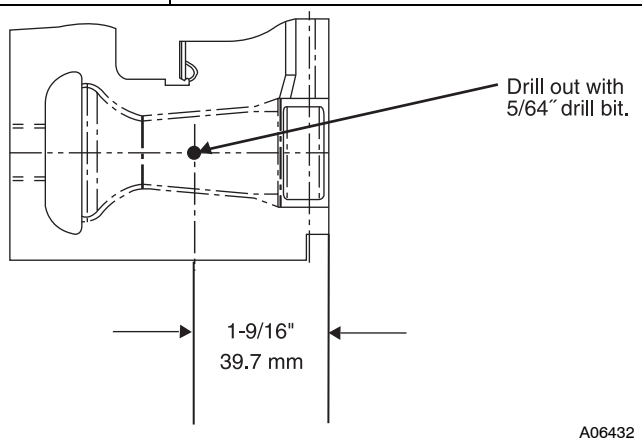
| PART # | CONTAINS: DESCRIPTION | QTY |
|---|---|---|
| 328456-401 | BIT, DRILL | 1 |
| 327593-401 | SCREW | 7 |

REQUIRED FOR CONVERSION OF NON CONDENSING GAS FURNACE TO PROPANE GAS.

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1. Locate the dimple on each burner venturi tube. If you cannot locate the dimple, refer to **Figure 23** for location of the mixer screw.
2. Drill a 5/64–in (1.9 mm) hole (supplied in kit) in each dimple.
3. Install a mixer screw in each drilled hole drilling as straight as possible (i.e. in the center of the gas flow stream as well as perpendicular to the gas flow stream).
4. The screw head should be flush with the top of the burner venturi.

**Figure 23** | **Mixer Screw Location**




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# REINSTALL BURNER ASSEMBLY

To reinstall burner assembly:

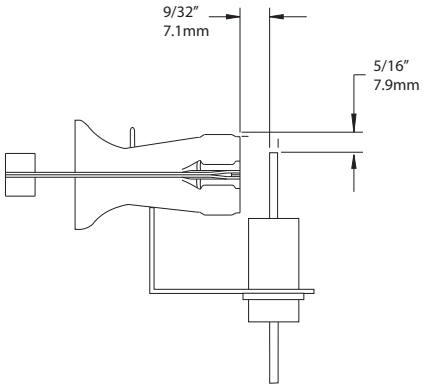
1. Attach flame sensor to burner assembly.
2. Install HSI and bracket to burner assembly.
3. Insert one-piece burner in slot on sides of burner box and slide burner back in place.
4. Reattach HSI wires to HSI.
5. Verify igniter to burner alignment.
6. Verify igniter to burner alignment.

For Silicon Nitride igniters, see **Figure 24** and **Figure 25**.

For Silicon Carbide igniters, see **Figure 26**.

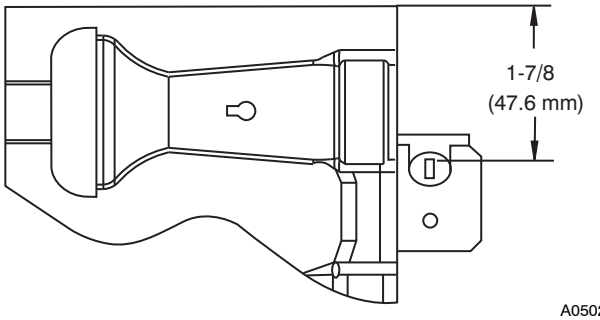
Reattach Flame sensor wire to Flame Sensor.

**Figure 24** | **Igniter Position – Side View**

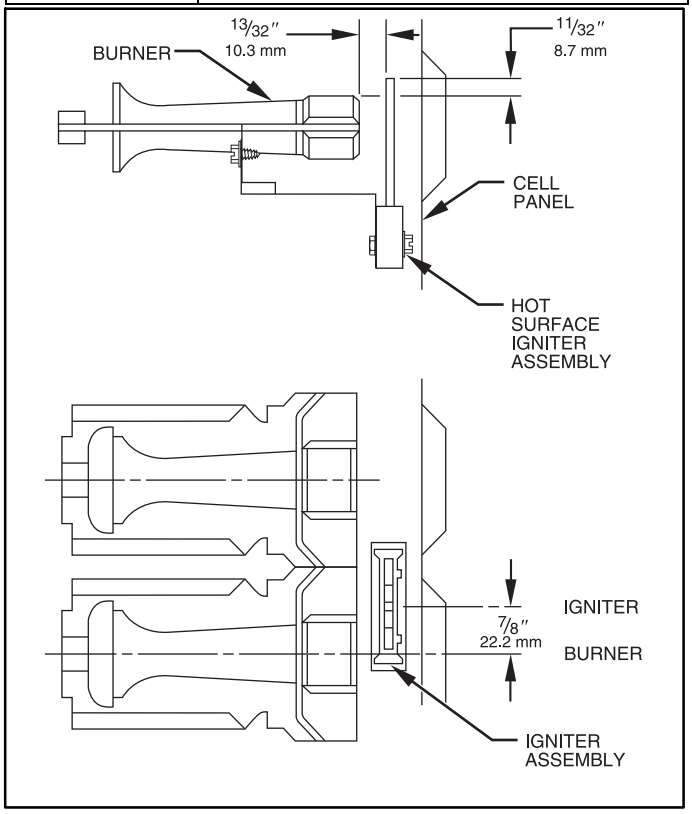



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| Figure 25 | Igniter Position – Top View |
|---|---|




| Figure 26 | Silicon Carbide Igniters |
|---|---|




## CONVERT GAS VALVE

**⚠ 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**

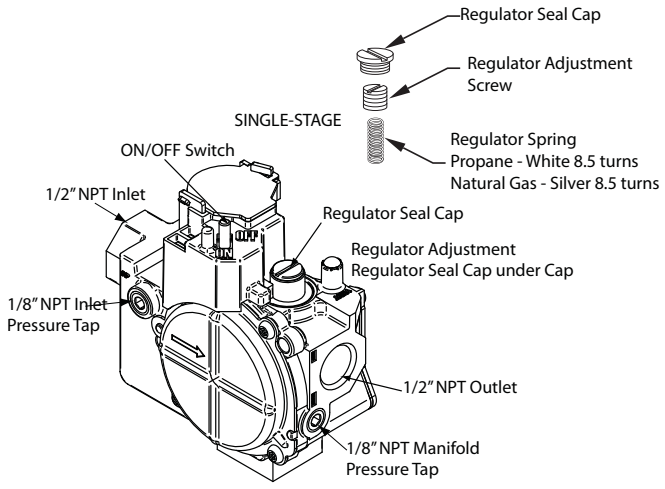
**ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD**

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.

1. Refer to **Figure 27**.
2. Be sure gas and electrical supplies to furnace are off.
3. Remove caps that conceal adjustment screws for the gas valve regulators. (See **Figure 27**)
4. Remove the regulator adjustment screw.
5. Remove the regulator springs (silver).
6. Install the propane gas regulator springs (white).
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 propane set point. (See **Figure 27**)
9. Do not install regulator seal caps at this time.

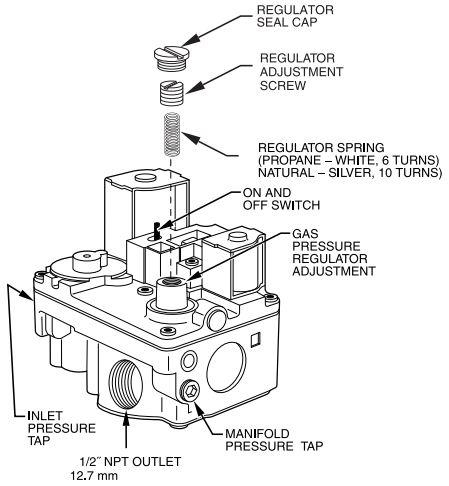
| Figure 27 | Single Stage Gas Valve |
|---|---|



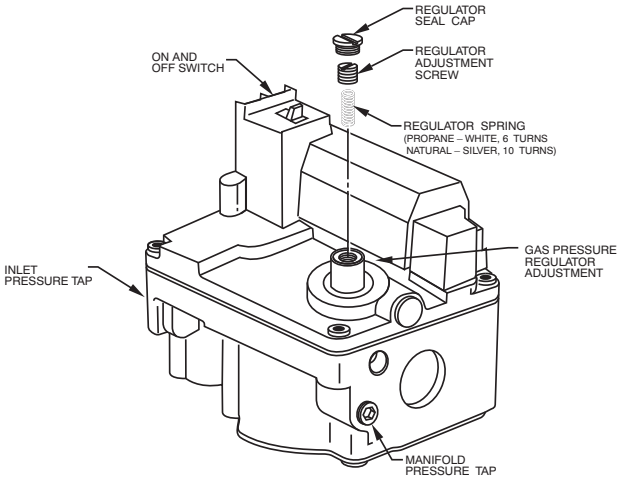

Remove the natural gas regulator spring (silver)
Install the propane regulator spring (white)

**Figure 27(cont.) – Single Stage Gas Valve**

**Redundant Auto Gas Valve**




**Single–Solenoid Redundant Auto Gas Valve**




# INSTALL MANIFOLD

1. Refer to **Figure 16** & **Figure 17**.
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.
5. Install the remaining manifold mounting screws.
6. Connect the wires to both rollout switches.
7. Connect the wires to the flame sensor and hot surface igniter.
8. Connect the connector harness to gas valve.

**NOTE**: Use only propane-resistant pipe dope. Do not use Teflon tape.

9. 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.

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

# INSTALL LOW GAS PRESSURE SWITCH

## ⚠ 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.

**NOTE**: Use propane-gas-resistant pipe dope on all connections to prevent gas leaks. DO NOT use Teflon tape. (See **Figure 28**)

1. Be sure main gas and electric supplies to furnace are off.
2. Remove 1/8-in. (3 mm) pipe plug from inlet pressure tap on gas valve. DO NOT DISCARD 1/8-in. (3 mm) PLUG.
3. Apply pipe dope sparingly to one end of 1/8-in. (3 mm) x 2–in. (50.8 mm) brass nipple (provided in kit) and install the doped end in 1/8-in. (3 mm) tapped opening in gas valve inlet pressure-tap. Tighten fitting with a small wrench.
4. Apply pipe dope sparingly to opposite end of the 1/8-in. (3 mm) x 2–in. (50.8 mm) brass coupling (provided in kit). Install the female end of the female x female x male tee on the brass coupling.
5. Tighten tee finger tight. Use a small open- end wrench for final tightening. The male end of the tee should be facing you.
6. Apply pipe dope sparingly to male end of brass tee.
7. Install propane low gas pressure switch (provided in kit) on male end of the female x female x male tee.
8. Tighten switch finger tight.
9. Use a small open-end wrench on base of pressure switch for final tightening. The contacts of the LGPS should be pointing toward the inducer motor when complete.
10. The remaining opening on the brass street tee is the new gas valve inlet pressure tap.
11. Install manometer fitting to the open end of the brass street tee. Or if installation is to be completed later, apply pipe dope to inlet pressure plug from gas valve and install in open end of brass street tee.
12. Check all fittings for leaks after gas supply has been turned on.

# ⚠ 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.

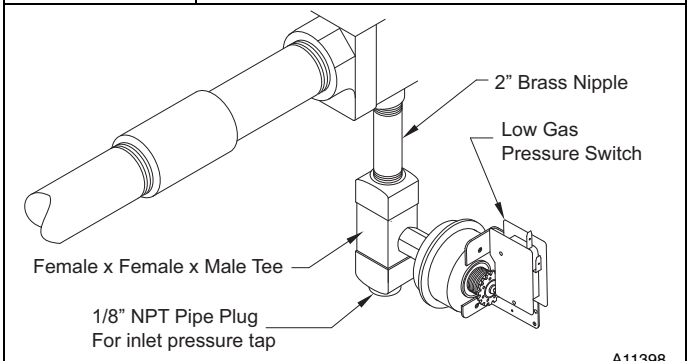
# ⚠ AVERTISSEMENT

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

**Figure 28** | **80% Low Gas Pressure Switch**




## MODIFY PRESSURE SWITCH WIRING

# ⚠ 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.

# ⚠ PRUDENCE

**D'EQUIPEMENT D'OPERATION**

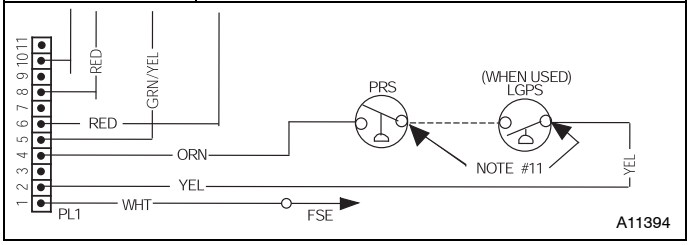
Toute erreur de câblage peut être une source de danger et de panne.

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

Refer to **Figure 29**.

1. Locate the orange wire in the kit with an insulated straight female spade terminal and an insulated straight male terminal on the other end.
2. Connect the female terminal to a terminal on the Low Gas Pressure Switch.
3. Locate the orange wire in the kit with an insulated straight female spade terminal and an insulated female flag terminal on the other end.
4. Connect both straight female terminals of the orange wires to the terminals on the Low Gas Pressure Switch.
5. Disconnect yellow wire from Low Heat Pressure Switch LPS on inducer housing.
6. Connect the yellow wire from the Low Heat Pressure Switch to the orange wire with the insulated male spade terminal.
7. Connect the orange wire from the Low Gas Pressure Switch to the terminal on the Low Heat Pressure Switch.
8. Route orange wires along wire harness. If possible, secure with wire tie provided in kit.

**Figure 29** | **80% Pressure Switch Wiring**




## 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 12.0–in. w.c. and 13.6–in. w.c.

1. Verify manometer is connected to inlet pressure tap on gas valve.
2. Turn on furnace power supply.
3. Turn gas supply manual shutoff valve to ON position.
4. Turn furnace gas valve switch to ON position.
5. Jumper R–W thermostat connections on control.
6. When main burners ignite, confirm inlet gas pressure is between 12.0–in. w.c. and 13.6–in. w.c.
7. Remove jumper across R–W thermostat connections to terminate call for heat.
8. Turn furnace gas valve switch to OFF position.
9. Turn gas supply manual shutoff valve to OFF position.
10. Turn off furnace power supply.
11. Remove manometer.
12. 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.

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

**⚠ 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.

1. Be sure main gas and electric supplies to furnace are off.
2. Remove 1/8-in. (3 mm) pipe plug from manifold pressure tap on downstream side of gas valve.
3. Attach manometer to manifold pressure tap on gas valve. (See **Figure 27**)
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

The gas input rate for propane is the same as for natural gas. See furnace rating plate for input rate. The input rate for propane is determined by manifold pressure and orifice size.

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

1. Jumper R and W thermostat connections to call for heat. (See **Figure 15**)
2. Check manifold orifices for gas leaks when main burners ignite.
3. Adjust gas manifold pressure. Refer to conversion kit rating plate 339852−204, **Figure 21**.
4. Turn adjusting screw counterclockwise (outwards) to decrease manifold pressure or clockwise (inwards) to increase manifold pressure.

**NOTE**: Gas valve regulator seal cap MUST be in place when checking input rate.

5. When correct input is obtained, main burner flame should be clear blue, almost transparent. Be sure regulator seal cap is in place when finished. (See **Figure 14**)
6. Remove jumper across R and W thermostat connections to terminate call for heat.
7. Turn furnace gas valve control switch or control knob to OFF position.
8. Turn off furnace power supply.
9. Remove manometer and replace manifold pressure tap plug.

**NOTE**: Use propane−gas−resistant pipe dope to prevent gas leaks. DO NOT use Teflon tape.

10. Turn furnace gas valve control switch or control knob to ON position.
11. Turn on furnace power supply. Set room thermostat to call for heat.
12. Check manifold pressure tap plug for gas leaks when main burners ignite.
13. Observe unit operation through two complete heating cycles.
14. See Sequence of Operation in furnace Installation, Start−up and Operating Instructions.
15. Set room thermostat to desired temperature.

After making the required manifold pressure adjustments, check and adjust the furnace temperature rise per the furnace installation instructions.

## CHECK LOW GAS PRESSURE SWITCH

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

This switch also prevents operation when the propane tank level is low which can result in gas with a high concentration of impurities, additives, and residues that have settled to the bottom of the tank. Operation under these conditions can cause harm to the heat exchanger system. This normally open switch closes when gas is supplied to gas valve under normal operating pressure.

The closed switch completes control circuit. Should an interruption or reduction in gas supply occur, the gas pressure at

switch drops below low gas pressure switch setting, and switch opens. Any interruption in control circuit (in which low gas pressure switch is wired) quickly closes gas valve and stops gas flow to burners. When normal gas pressure is restored, the system must be electrically reset to re−establish normal heating operation.

Before leaving installation, observe unit operation through two complete heating cycles. During this time, turn gas supply to gas valve off just long enough to completely extinguish burner flame, then instantly restore full gas supply. To ensure proper low gas pressure switch operation, observe that there is no gas supply to burners until after hot surface igniter begins glowing.

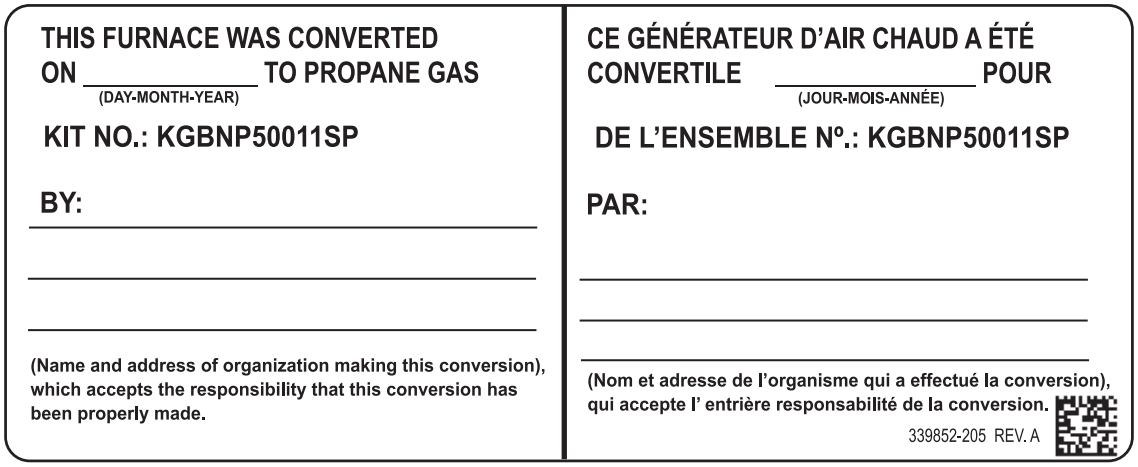
# LABEL APPLICATION

1. Fill in Conversion Responsibility Label 339852−205 and apply to Blower Access Door of furnace. Date, name, and address of organization making this conversion are required. (See **Figure 30**)
2. Attach Conversion Rating Plate Label 339852−204 to Outer Door of furnace. (See **Figure 21**)
3. Apply Gas Control Conversion Label to gas valve: 339852−202 to gas valve. (Do not use 339852−203, which is similar.)

# CHECKOUT

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

**Figure 30** **Conversion Responsibility Label**



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