

LPM-34 NATURAL GAS TO LP GAS CONVERSION KIT 90% TWO-STAGE FURNACE INSTALLATION INSTRUCTIONS

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Daikin Comfort Technologies Manufacturing, L.P.

19001 Kermier Rd., Waller, TX 77484

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WARNING

ONLY PERSONNEL THAT HAVE BEEN TRAINED TO INSTALL, ADJUST, SERVICE, MAINTENANCE OR REPAIR (HEREINAFTER, "SERVICE") THE EQUIPMENT SPECIFIED IN THIS MANUAL SHOULD SERVICE THE EQUIPMENT.

THIS EQUIPMENT IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE EQUIPMENT.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SUPERVISION, SERVICE OR SERVICE PROCEDURES. IF YOU SERVICE THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY INJURY OR PROPERTY DAMAGE WHICH MAY RESULT. IN ADDITION, IN JURISDICTIONS THAT REQUIRE ONE OR MORE LICENSES TO SERVICE THE EQUIPMENT SPECIFIED IN THIS MANUAL, ONLY LICENSED PERSONNEL SHOULD SERVICE THE EQUIPMENT. IMPROPER SUPERVISION, INSTALLATION, ADJUSTMENT, SERVICING, MAINTENANCE OR REPAIR OF THE EQUIPMENT SPECIFIED IN THIS MANUAL, OR ATTEMPTING TO INSTALL, ADJUST, SERVICE OR REPAIR THE EQUIPMENT SPECIFIED IN THIS MANUAL WITHOUT PROPER SUPERVISION OR TRAINING MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



WARNING

DO NOT BYPASS SAFETY DEVICES.



RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION

DESCRIPTION

This natural gas to L.P. (liquid petroleum) gas conversion kit allows White-Rodgers gas valve 36G54 (0151F00000P) and 36J54 (0151M00027) to be used on L.P. gas applications.

Use the following parts list to ensure that all parts listed below are present and in an undamaged condition. IF ANY DOUBT EXISTS ABOUT THE CONDITIONS OF ANY COMPONENT WITHIN THIS KIT, DO NOT USE THIS KIT AND CONTACT YOUR SUPPLIER FOR A NEW KIT.

PARTS LIST

Quantity	Part Number	Description
1	0163F00000P	White-Rodgers LP Conversion Kit F92-1008
1	B14933151	Conversion Label
1	B40899125	1.25mm Spud Orifice Assembly
1	IO-818*	Installation Instructions
1	0151K00000S	36G54/36J54 Pressure Check Kit Valve
1	20328701	Gas Pressure Switch
1	M0021305	1/2" x 1/8" Bushing
1	20328801	Two-Stage Harness
1	W1821016027104	Long Jumper Wire
1	0259F00077	Long Single-Stage Harness
1	20346001	LP Low Pressure Kit Label
1	0140F01167	Wiring Diagram

Field Supplied

1	1/2" X 1-1/2" Nipple
1	1/2" Tee
1	1/2" Pipe (length dependent on model and application)

With the exception of the natural gas burner orifices, all of the fasteners and other components removed to perform this conversion are to be reused. Any component found to be damaged due to this conversion must be replaced with factory authorized replacement parts before this furnace can be put into operation.

This furnace is equipped for two-stage heating operation. The gas valve manifold pressure must be set with first stage operating at 6" +/-0.3" W.C. manifold pressure and the second stage must be set at 10" +/-0.3" W.C. manifold pressure. The accuracy of these pressures must be checked as shown in steps 25 and 26 of these instructions.

The gas valve is equipped with a 3-pin polarized plug which prevents this wiring from being installed incorrectly.



CAUTION

LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION. VERIFY PROPER OPERATION AFTER SERVICING.

NOTE: Do not use power tools for any adjustments on gas valves.



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The following tools and supplies are required:

- 2 – Pipe wrenches, properly sized to accommodate the gas piping and connectors
- 1 – 7/16" box wrench or socket wrench
- 1 - 1/4" nut driver
- 1 – 3/16" flat blade screwdriver
- 1 – 1/4" flat blade screwdriver
- 1 – 3/16" allen wrench
- 1 – manometer to read inlet and outlet pressure of the gas valve (Minimum range: 0"-20" W.C.)
- Pipe joint compound or pipe thread tape that is approved for use with L.P. gas
- Gas leak detection solution like a soap and water solution. Always wipe the solution from the joints when testing is completed.


The following tools and supplies are required:

 WARNING
NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS.



Prior to performing this conversion, refer to the National Fuel Gas Code (NFPA 54-02) or in Canada, CAN/CSA-B149.2-05 to ensure that the installation is in compliance with those and all local codes.

IMPORTANT INFORMATION

 WARNING	
HIGH VOLTAGE DISCONNECT ALL POWER BEFORE SERVICING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.	

 WARNING
THIS L.P. (LIQUID PETROLEUM) CONVERSION KIT MUST BE INSTALLED BY A QUALIFIED SERVICE PERSON OR AGENCY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND ALL APPLICATION CODES AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. FAILURE TO FOLLOW THESE INSTRUCTIONS EXPLICITLY MAY CAUSE A FIRE, EXPLOSION OR THE PRODUCTION OF CARBON MONOXIDE (CO), WHICH CAN CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH. THE QUALIFIED PERSON PERFORMING THIS CONVERSION ASSUMES THE RESPONSIBILITY FOR THE PROPER CONVERSION OF THE APPLIANCE.

 WARNING
CARBON MONOXIDE (CO) CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

 DANGER PELIGRO

CARBON MONOXIDE POISONING HAZARD
Special Warning for Installation of Furnace or Air Handling Units in Enclosed Areas such as Garages, Utility Rooms or Parking Areas
Carbon monoxide producing devices (such as an automobile, space heater, gas water heater, etc.) should not be operated in enclosed areas such as unventilated garages, utility rooms or parking areas because of the danger of carbon monoxide (CO) poisoning resulting from the exhaust emissions. If a furnace or air handler is installed in an enclosed area such as a garage, utility room or parking area and a carbon monoxide producing device is operated therein, there must be adequate, direct outside ventilation.
This ventilation is necessary to avoid the danger of CO poisoning which can occur if a carbon monoxide producing device continues to operate in the enclosed area. Carbon monoxide emissions can be (re)circulated throughout the structure if the furnace or air handler is operating in any mode.
CO can cause serious illness including permanent brain damage or death. B10259-216
RIESGO DE INTOXICACIÓN POR MONÓXIDO DE CARBONO
Advertencia especial para la instalación de calentadores ó manejadoras de aire en áreas cerradas como estacionamientos ó cuartos de servicio.
Los equipos ó aparatos que producen monóxido de carbono (tal como automóvil, calentador de gas, calentador de agua por medio de gas, etc) no deben ser operados en áreas cerradas debido al riesgo de envenenamiento por monóxido de carbono (CO) que resulta de las emisiones de gases de combustión. Si el equipo ó aparato se opera en dichas áreas, debe existir una adecuada ventilación directa al exterior. Esta ventilación es necesaria para evitar el peligro de envenenamiento por CO, que puede ocurrir si un dispositivo que produce monóxido de carbono sigue operando en el lugar cerrado. Las emisiones de monóxido de carbono pueden circular a través del aparato cuando se opera en cualquier modo.
El monóxido de carbono puede causar enfermedades severas como daño cerebral permanente ó muerte. B10259-216
RISQUE D'EMPOISONNEMENT AU MONOXYDE DE CARBONE
Avertissement special au sujet de l'installation d'appareils de chauffage ou de traitement d'air dans des endroits clos, tels les garages, les locaux d'entretien et les stationnements.
Évitez de mettre en marche les appareils produisant du monoxyde de carbone (tels que les automobile, les appareils de chauffage autonome, etc.) dans des endroits non ventilés tels que les d'empoisonnement au monoxyde de carbone. Si vous devez faire fonctionner ces appareils dans un endroit clos, assurez-vous qu'il y ait une ventilation directe provenant de l'exterieur.
Cette ventilation est nécessaire pour éviter le danger d'intoxication au CO pouvant survenir si un appareil produisant du monoxyde de carbone continue de fonctionner au sein de la zone confinée.
Les émissions de monoxyde de carbone peuvent être recirculées dans les endroits clos, si l'appareil de chauffage ou de traitement d'air sont en marche.
Le monoxyde de carbone peut causer des maladies graves telles que des dommages permanents au cerveau et même la mort. B10259-216

WHITE-RODGERS 36G22 AND 36J22

CONVERSION INSTRUCTIONS



WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



CAUTION

IF NO_x SCREENS ARE PRESENT, REMOVE AS PER INSTRUCTIONS IN SECTION "NO_x SCREEN REMOVAL."

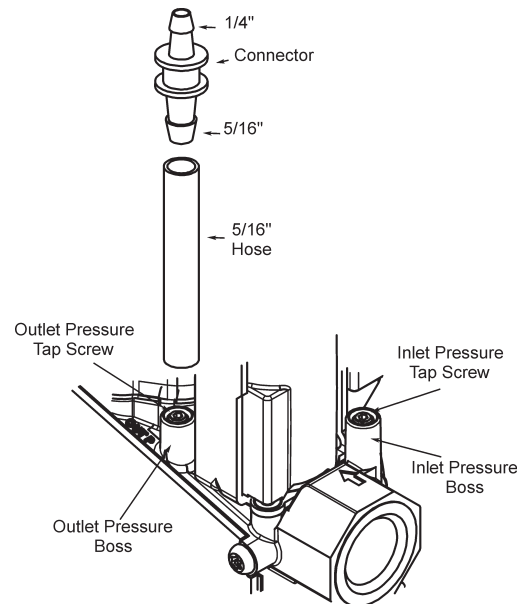


CAUTION

TO PREVENT UNSATISFACTORY FURNACE OPERATION, THE PROPER GAS CONVERSION KIT MUST BE USED FOR THE GAS VALVE. USE THE WHITE-RODGERS SPRING KIT ONLY WITH THE WHITE-RODGERS GAS VALVES.

NOTE: For low NO_x models, see table of contents for NO_x screen section.

1. Turn off gas supply to the furnace.
2. Turn off the electrical power to the furnace.
3. Remove the furnace control access panel.
4. Check for the presence of NO_x screen and remove per NO_x instruction.
5. Separate the gas supply union and remove associated downstream piping.
6. Always use a backup wrench when removing or replacing piping to avoid any undue strains or rotation of controls.
7. Remove the wires from the gas valve.
8. Remove the 4 sheet metal screws that fasten the manifold/gas valve assembly to the burner box.
9. Visually inspect orifices for damage and drill size (marked on face with 1.25mm) before installation. Using the 7/16" wrench, remove all existing natural gas orifices and replace with the appropriate 1.25mm L.P. gas orifices contained in this kit. Tighten the orifices to prevent gas leaks, but do not overtighten. Retain the natural gas orifices for future reconversion.
10. Install water manometer using Valve Pressure Check Kit P/N 0151K00000S included with this kit. Using the included 3/32" hex wrench, rotate outlet pressure tap screw one revolution counterclockwise. Attach the included 5/16" hose to the inlet and outlet pressure boss of the valve. Hose should overlap boss 3/8". Connect 5/16" side of included connector to the hose on the outlet boss. Connect 1/4" side of the connector to the manometer hose. The manometer must have a scale range of at least 0" to 20" of water column.



11. Remove both regulator cover screws.
12. Using a 1/4" flat blade screwdriver, remove both regulator adjustment screws (beneath the cover screws).
13. Remove both Natural Gas regulator springs (color-coded silver/plain) from regulator sleeves and retain with the Natural Gas orifices for future reconversion.
14. Insert the L.P. regulator springs (provided in the conversion kit and color-coded white) into the regulator sleeves.
15. Replace the High regulator adjustment screw and adjust it clockwise to bottom stop. Follow instructions below beginning in step 26 for checking & adjustment to verify manifold pressure falls into the desired range.
16. Replace the Low regulator adjustment screw and adjust it clockwise to bottom stop. Follow instructions below beginning with step 25 for checking & adjustment to verify manifold pressure falls into the desired range.
17. Reinstall the manifold/gas valve assembly into the appliance. Rewire the gas valve.



WARNING

TO AVOID THE POSSIBILITY OF EXPLOSION OR FIRE, NEVER USE A MATCH OR OPEN FLAME TO TEST FOR LEAKS.

18. Apply a liberal amount of pipe joint compound or pipe thread tape to the threads and reassemble the piping previously removed.
19. Turn on the gas supply.
20. Using a soap and water solution, check for leaks around the gas valve/manifold connection.
21. Turn on the electrical supply.
22. Adjust the room thermostat to obtain a first stage (W1 only) burner operation.



WARNING

NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS.

NOTE: for hybrid models, the control board dip switches need to be set to 2 stg position to set and verify first stage heat. (See Installation Instructions supplied with the unit for dip switch settings)

23. Using a soap and water solution, check for leaks around the gas valve/manifold connection and the burner orifices. Repair any leaks before continuing.

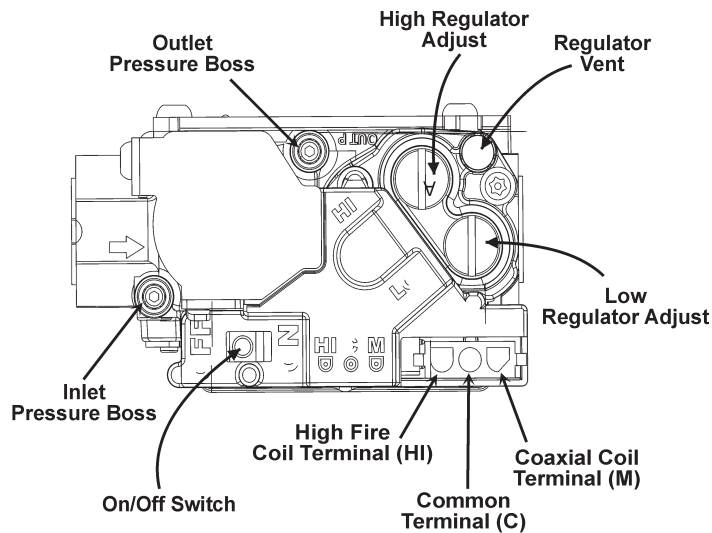
24. **NOTE:** Any other gas-fired equipment should be ON before any adjustments are made.

After the furnace has been in operation for 15 minutes, adjust the gas supply pressure (not manifold pressure) to obtain a range between 11" and 13" W.C. If the gas inlet pressure falls outside of this range, then make necessary L.P. service regulator(s) adjustments; check piping size, etc., and /or consult with L.P. provider.

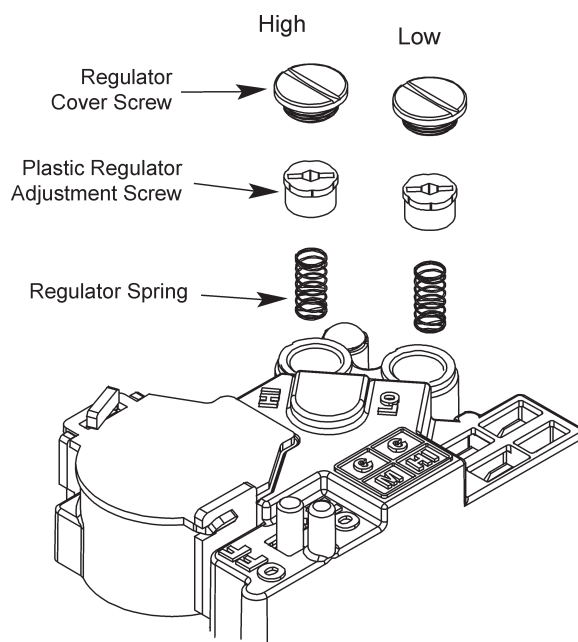
25. With the furnace operating in its low-fire (W1) condition, the manifold pressure should be 6" W.C. \pm 0.30". If necessary, this pressure can be adjusted using the gas valve low regulator adjustment screw. Turn clockwise to increase pressure and counterclockwise to decrease manifold pressure.

26. Readjust the room thermostat to obtain a second stage call for heat (W2). The manifold pressure for the W2 condition should be 10" W.C. \pm 0.30" W.C. If necessary, this pressure can be adjusted using the gas valve high regulator adjustment screw. Turn clockwise to increase pressure and counterclockwise to decrease manifold pressure.


27. Using the room thermostat to cycle the unit, observe a minimum of three (3) smooth ignition cycles.



White-Rodgers 36G54 or 36J54



White-Rodgers 36G54 or 36J54 Springs and Regulator Screws

 WARNING
<p>ATTACH THE WARNING LABEL PROVIDED IN THE KIT TO THE GAS VALVE WHERE IT CAN BE READILY SEEN.</p> <p>ATTACH THE SMALL, ROUND L.P. LABELS TO THE TOP OF THE REGULATOR COVER SCREWS.</p>

28. Turn off gas and electrical supply to the furnace, remove the manometer hose from the pressure tap bosses, and tighten the inlet and outlet pressure tap screws using the 3/32" Allen wrench.

29. Replace both regulator cover screws on the regulator sleeve.

30. **IMPORTANT NOTE:** Apply the conversion label (B14933-151) provided with the conversion kit. This label must be attached adjacent to the rating plate.

LP LOW PRESSURE SWITCH INSTALLATION

IMPORTANT INFORMATION

This kit provides control over the unit gas valve by routing the gas valve wiring through the supplied pressure switch. To enable proper fit-up, the pressure switch kit must be installed before connecting the gas supply line to the gas valve. For new unit installations, the kit hardware may be fitted to the gas valve while the gas manifold is removed for LP gas orifice conversion. For existing installations, the gas valve line must be disconnected from the gas valve to allow fitting of kit hardware. Refer to Figures 4 and 6 for a view of kit hardware as installed in unit. Before proceeding, shut off gas supply at manual shutoff and turn off power to unit.



CAUTION

TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, SHUT OFF GAS SUPPLY FIRST, THEN DISCONNECT THE ELECTRICAL SUPPLY BEFORE PROCEEDING WITH CONVERSION.



WARNING

HIGH VOLTAGE

DISCONNECT ALL ELECTRICAL POWER AND SHUT OFF GAS SUPPLY BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



WARNING

IF THE GAS FURNACE IS INSTALLED IN A BASEMENT, AN EXCAVATED AREA OR A CONFINED SPACE, IT IS STRONGLY RECOMMENDED TO CONTACT A PROPANE SUPPLIER TO INSTALL A GAS DETECTING WARNING DEVICE IN CASE OF A GAS LEAK.

- SINGLE PROPANE IS HEAVIER THAN AIR, ANY LEAKING GAS CAN SETTLE IN ANY LOW AREAS OR CONFINED SPACES.
- PROPANE GAS ODORANT MAY FADE, MAKING THE GAS UNDETECTABLE EXCEPT WITH A WARNING DEVICE.



WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

- DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.
- WHAT TO DO IF YOU SMELL GAS:
DO NOT TRY TO LIGHT ANY APPLIANCE.
DO NOT TOUCH ANY ELECTRICAL SWITCH; DO NOT USE ANY PHONE IN YOUR BUILDING.
IMMEDIATELY CALL YOUR GAS SUPPLIER FROM A NEIGHBOR'S PHONE. FOLLOW THE GAS SUPPLIER'S INSTRUCTIONS.
IF YOU CANNOT REACH YOUR GAS SUPPLIER, CALL THE FIRE DEPARTMENT.
- INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.



WARNING

PERSONAL INJURY OF DEATH MAY RESULT FROM IMPROPER INSTALLATION OR MAINTENANCE PERFORMED BY UNTRAINED PERSONNEL. CALL YOUR INSTALLING DEALER OR OTHER QUALIFIED SERVICE COMPANIES TO PERFORM THE INSTALLATION OR MAINTENANCE INSPECTION.



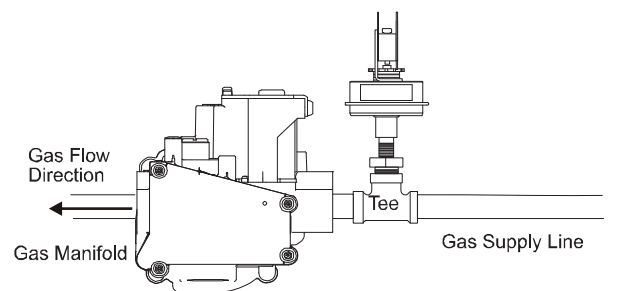
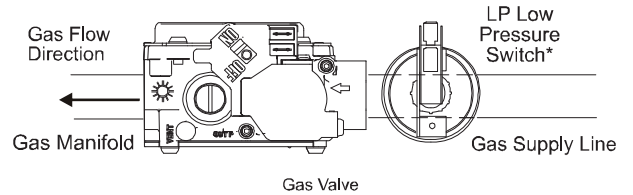
WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO EXPLOSION OR FIRE, INSTALL A GAS DETECTING WARNING DEVICE. SINCE THE ODORANT IN PROPANE GAS CAN BE REDUCED BY IRON OXIDE (RUST), A GAS DETECTING WARNING DEVICE IS THE ONLY RELIABLE METHOD TO DETECT PROPANE GAS LEAKS.

Contact a local propane gas supplier about installing a gas detecting warning device.

NOTE: To ensure proper operation, install, operate and maintain the unit in accordance with these installation instructions, all local building codes and ordinances. In their absence, follow the latest edition of the National Fuel Gas Code (NFPA 54/ANSI Z223.1), and/or CAN/CSA B149.1 Installation Codes.

White-Rodgers 36G/36J Valve Right Facing Gas Inlet (Left Facing Similar)



Tee Orientation for Direct Inlet Gas Piping for All Piping on Other Models

Figure 4

White-Rodgers Gas Valve & Wiring Harness Connection LP Low Pressure Switch Wiring Two-Stage Models

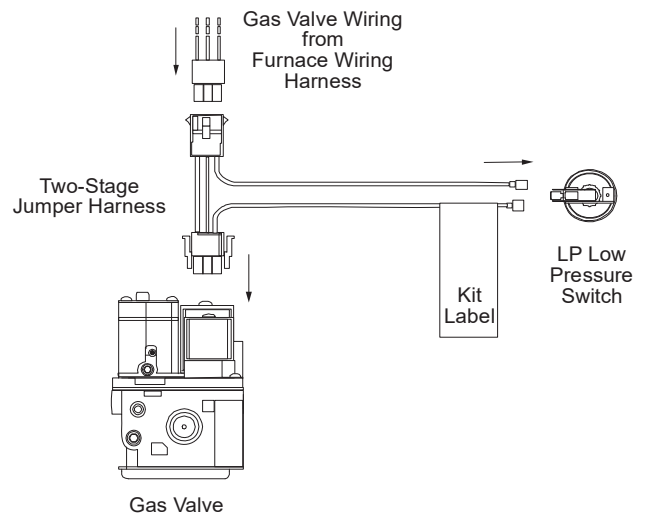


Figure 5

FURNACES USING WHITE-RODGERS

36G/36J GAS VALVE

NOTE: All threaded connections must be sealed with Teflon tape or pipe dope. Pipe sealant must be approved for use with propane gas.

1. Install field-supplied $\frac{1}{2}$ " x length required to exit wrapper when the inlet is on left side.
2. For installing the pressure switch, in case of a right-side inlet, install field-supplied $\frac{1}{2}$ " x $1\frac{1}{2}$ " required for "C and D" size cabinet models. "B" cabinet models require a field supplied $\frac{1}{2}$ " x length sufficient enough to be clear from any interference from other components. The pressure switch can be installed within or outside the cabinet in case of right-side inlet.
3. Place $\frac{1}{2}$ " tee on pipe.
4. With gas valve and manifold installed in the unit, connect the gas supply line into $\frac{1}{2}$ " tee as required (typically opposite of gas valve side).
5. Install $\frac{1}{2}$ " x $\frac{1}{8}$ " bushing into $\frac{1}{2}$ " tee in the remaining opening.
6. Install pressure switch in bushing (see Figure 6).

NOTE: Ensure that the switch is upright in all applications.

7. Perform installation check out procedure (piping leak check, line pressure measurement, manifold pressure adjustment, etc.) as outlined in the unit installation instructions.
8. Turn OFF gas supply.
9. Turn OFF power to furnace. Connect jumper harness between LPLP switch and gas valve and gas valve wiring as indicated in Figure 5 (two-stage models). Some two-stage models may require the use of long jumper wires to accommodate connection of the switch. (2nd long jumper wire can be taken from long single stage harness.).

NOTE: Do not run wires through the gas pipe opening if gas piping is present. Pipe could easily cause damage to the wires.

10. Turn ON power to furnace. Verify proper unit operation.
11. Remove backing from LP switch kit label. Fold label around jumper harness wire to indicate kit installation.
12. Adhere kit wiring diagram adjacent to existing unit wiring diagram.

IMPORTANT NOTE: Secure all wires to avoid their contact with any hot surfaces or moving parts.

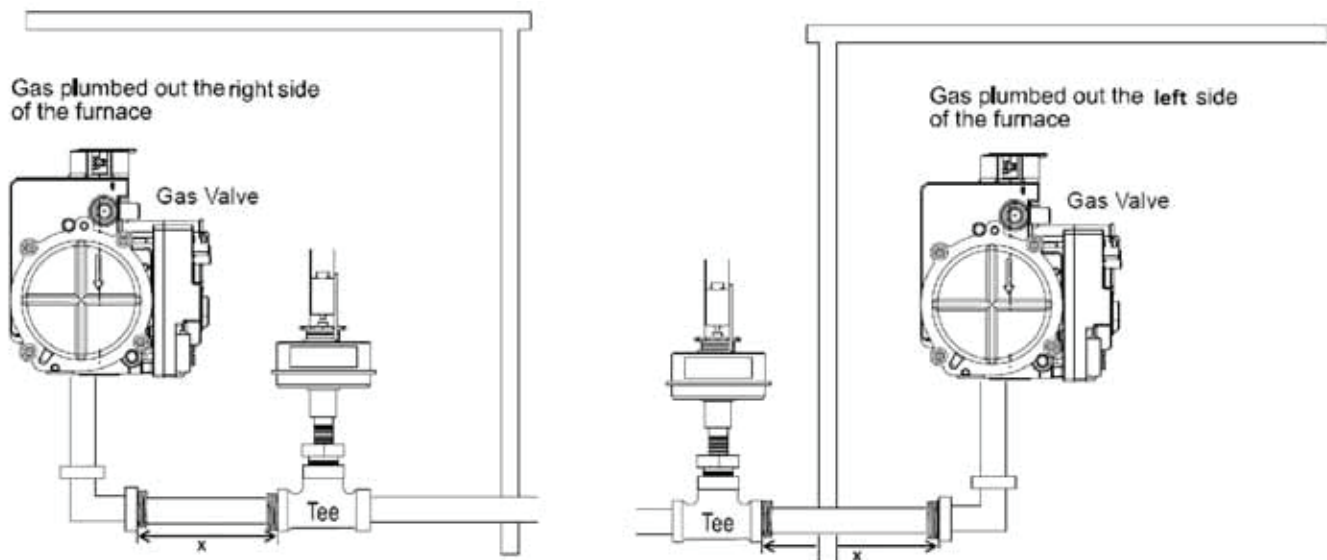
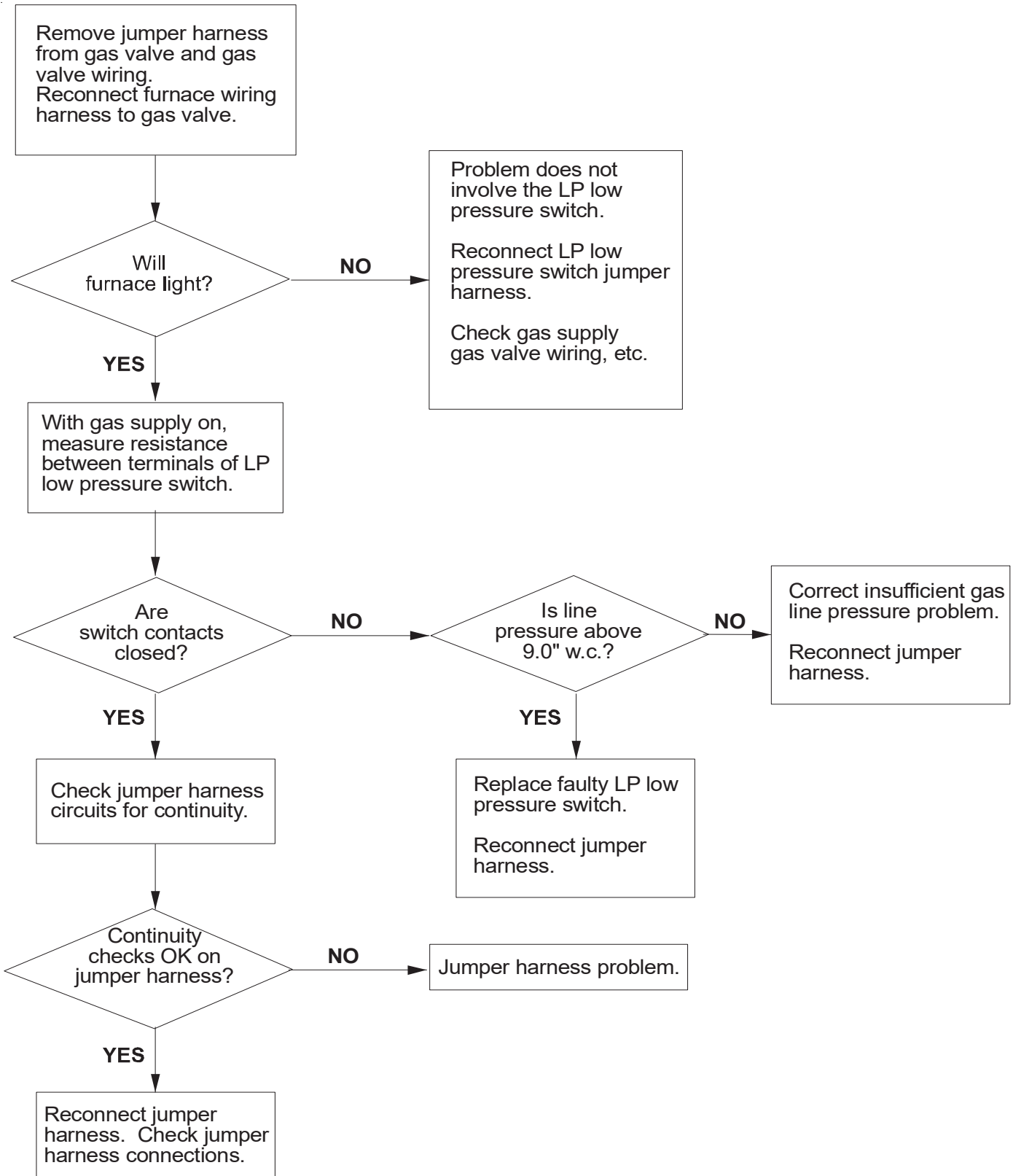


Figure 6

TROUBLESHOOTING

If the furnace fails to light after installation of the LP low pressure switch kit, proceed as follows:



CUSTOMER FEEDBACK

We are very interested in all product comments.

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