LPKMOD CONVERSION KITS

MODULATING FURNACE
NATURAL GAS TO L.P. GAS CONVERSION

DESCRIPTION

This natural gas to L.P. (liquid petroleum) gas conversion kit allows modulating furnaces to be used on L.P. gas applications. The following table lists the kit number and the applicable models. The appropriate kit must be matched to the appropriate model number for safe and reliable operation. Upon opening the kit, please verify that all parts are 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.

MODEL LIST

MODEL LIST	
LP KIT	MODEL
LPKMOD060UF	*MVM960603BX
	DM96MC0603BX
LPKMOD080UF	*MVM960805CX
	DM96MC0805CX
LPKMOD100UF	*MVM961005DX
	DM96MC1005DX
LPKMOD115UF	*MVM961155DX
	DM96MC1155DX
LPKMOD060CF	*CVM960604CX
	DC96MC0604CX
LPKMOD080CF	*CVM960805DX
	DC96MC0805DX
LPKMOD100CF	*CVM961005DX
	DC96MC1005DX

*=A or G

CONTENTS OF KIT

KIT	DESCRIPTION	QTY
LPKMOD060UF	Installation Instructions	1
	L.P. Burners	3
	Gas Valve \ Manifold Assy.	1
LPKMOD080UF	Installation Instructions	1
	L.P. Burners	4
	Gas Valve \ Manifold Assy.	1
LPKMOD100UF	Installation Instructions	1
	L.P. Burners	5
	Gas Valve \ Manifold Assy.	1
LPKMOD115UF	Installation Instructions	1
	L.P. Burners	5
	Gas Valve \ Manifold Assy.	1
LPKMOD060CF	Installation Instructions	1
	L.P. Burners	3
	Gas Valve \ Manifold Assy.	1
LPKMOD080CF	Installation Instructions	1
	L.P. Burners	4
	Gas Valve \ Manifold Assy.	1
LPKMOD100CF	Installation Instructions	1
	L.P. Burners	5
	Gas Valve \ Manifold Assy.	1

All of the fasteners 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.

ATTENTION INSTALLING PERSONNEL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

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September 2013

⚠ 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.*

The following tools and supplies are required:

- 2 – Pipe wrenches, properly sized to accommodate the gas piping and connectors
- 1 - 5/16" nut driver
- 1 – 1/4" nut driver
- 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
- Gas leak detection solution like a soap and water solution. Always wipe the solution from the joints when testing is completed.

⚠ 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.

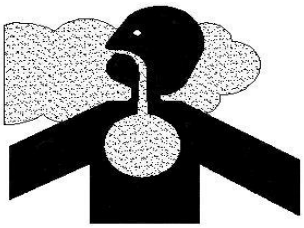
⚠ WARNING

CARBON MONOXIDE (CO) CAN CAUSE SEVERE 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.

DANGER
PELIGRO



CARBON MONOXIDE POISONING HAZARD

Special Warning for Installation of Furnaces 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.

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⚠ WARNING

PROPANE GAS IS HEAVIER THAN AIR AND ANY LEAKING GAS CAN SETTLE IN ANY LOW AREAS OR CONFINED SPACES. TO PREVENT PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO FIRE OR EXPLOSION CAUSED BY A PROPANE GAS LEAK, INSTALL A GAS DETECTION WARNING DEVICE.

CONVERSION INSTRUCTIONS

⚠ WARNING

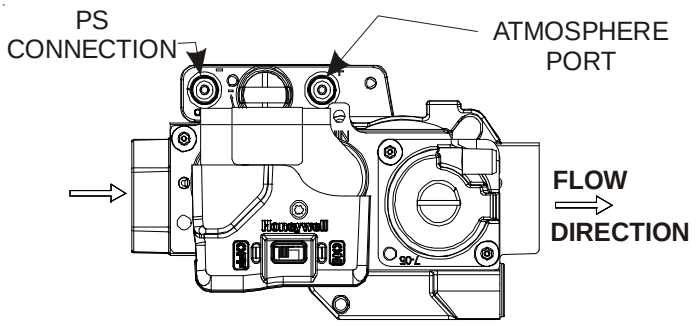
HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING.
MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

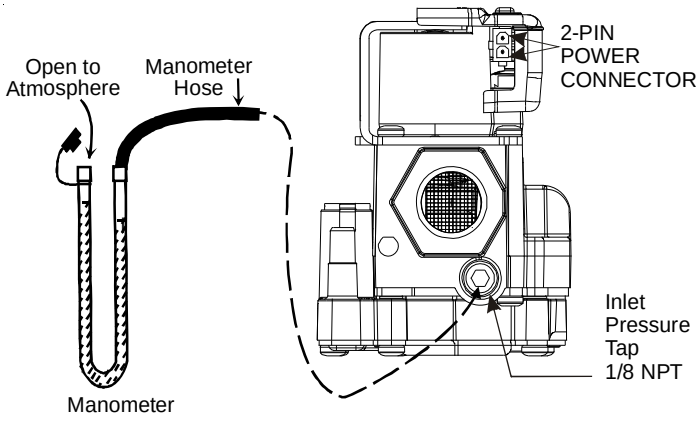
⚠ CAUTION

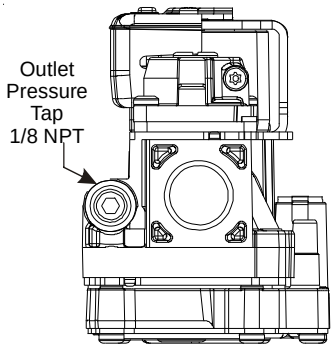
TO PREVENT UNSATISFACTORY FURNACE OPERATION, THE PROPER GAS CONVERSION KIT MUST BE USED WITH THE APPROPRIATE MODEL.

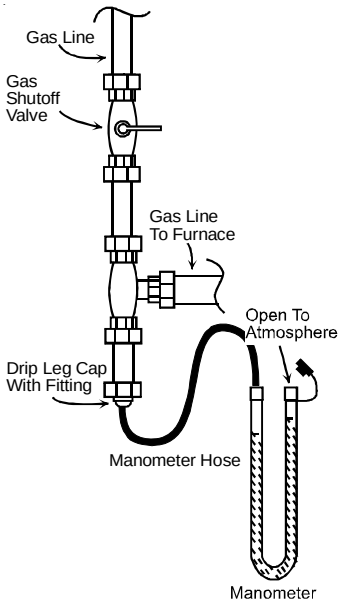
1. Turn off the gas supply to the furnace.
2. Turn off the electrical power to the furnace.
3. Remove the furnace control access panel.
4. Separate the gas supply union and remove associated downstream piping.

5. Always use a backup wrench when removing or replacing piping to avoid any undue strains or rotation of controls.
6. Remove the wires from the gas valve. Be sure to remove any wire ties that may be attached to the manifold assembly.
7. Remove the pressure switch hose connected to the gas valve.
8. Remove the 4 sheet metal screws that fasten the manifold/gas valve assembly to the burner box. Retain the natural gas manifold/valve assembly for possible future reconversion to natural gas.
9. Remove the natural gas burners from the burner rack by lifting and rotating to allow clearance through the opening. Retain for possible future reconversion to natural gas.
10. Install L.P. gas burners supplied in the kit. Rotate and set on tabs in burner box.
11. Install L.P. manifold/valve assembly supplied in the kit. Be sure to align the orifices in the burner opening. Fasten with 4 sheet metal screws retained from Step 8.
12. Reattach the pressure switch hose to the gas valve.
13. Reattach the wiring to the gas valve and wire tie any loose wires to avoid contact with hot or moving parts.
14. Apply a liberal amount of pipe joint compound or pipe thread tape to the threads and reassemble the piping previously removed.









Measuring Inlet Gas Pressure (Alt. Method)

15. Connect a calibrated water manometer (or appropriate gas pressure gauge) at either the gas valve inlet pressure boss or the gas piping drip leg. See gas valve figure for location of inlet pressure boss.

NOTE: If measuring gas pressure at the drip leg or gas valve, a field-supplied hose barb fitting must be installed prior to making the hose connection.

⚠ WARNING

TO PREVENT THE POSSIBILITY OF GAS LEAKS, THE PIPE JOINT COMPOUND MUST BE RESISTANT TO L.P. GAS.

16. Turn on the electrical supply.
17. Turn ON the gas supply and operate the furnace and all other gas consuming appliances on the same gas supply line.

    Field Test Mode is intended to help a service person troubleshoot and check out an installed appliance.

    To enter Field Test Mode the Fault Recall Push-Button must be pressed twice within a 5 second period at any-

time during a heating cycle, at which time the display will show “Ft”. While the display is showing “Ft”, pressing and holding the Fault Recall Push-Button for 3 seconds will enable the field test mode and override the normal firing rate sequence at a rate of 100% for 5 minutes or until the end of the call for heat. The display will show the normal “Hi” while the control is firing at 100%. If the Fault Recall Push-Button has not been pressed within 5 seconds of displaying “Ft” the display will revert back to normal.

18. Measure furnace gas supply pressure with burners firing. Supply pressure must be within the range specified in the *Inlet Gas Supply Pressure* table.

Inlet Gas Supply Pressure		
Natural Gas	Minimum: 5.0" w.c.	Maximum:10.0" w.c.
Propane Gas	Minimum: 11.0" w.c.	Maximum:13.0" w.c.

If supply pressure differs from table, make the necessary adjustments to pressure regulator, gas piping size, etc., and/or consult with local gas utility.

⚠ WARNING

NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS.

19. Using a soap and water solution, check for leaks around the gas valve/manifold connection and the burner orifices. Repair any leaks before continuing.
20. Turn OFF all electrical power to the system.
21. Turn OFF gas to furnace at the manual gas shutoff valve external to the furnace, disconnect manometer and reinstall plug.

GAS MANIFOLD PRESSURE ADJUSTMENT

⚠ CAUTION

TO PREVENT UNRELIABLE OPERATION OF EQUIPMENT DAMAGE, THE GAS MANIFOLD PRESSURE MUST BE AS SPECIFIED ON THE UNIT RATING PLATE. GAS VALVE IS FACTORY SET AND DOES NOT REQUIRE ANY FIELD ADJUSTMENT. DO NOT ATTEMPT TO ADJUST VALVE.

The manifold pressure must be measured with the burners operating. To measure the manifold pressure, use the following procedure.

22. Outlet pressure tap connections: Remove the outlet pressure boss plug. Install an 1/8" NPT hose barb fitting into the outlet pressure tap.
23. Attach a hose and manometer to the outlet pressure barb fitting.
24. Turn ON the gas supply.
25. Turn on power and close thermostat “R” and “W1” contacts to provide a call for low stage heat.

    NOTE: After every time the main power is turned off and back on, the furnace will enter a calibration routine on the next call for heat *The inducer will ramp up and down during the calibration routine. After calibration, the furnace will proceed to ignition cycle.*
26. Field Test Mode is intended to help a service person troubleshoot and check out an installed appliance.

    To enter Field Test Mode the Fault Recall Push-Button must be pressed twice within a 5 second period at any time during a heating cycle, at which time the display will show “Ft”. While the display is showing “Ft”, pressing and holding the Fault Recall Push-Button for 3 seconds will enable the field test mode and override the normal firing rate sequence at a rate of 100% for 5 minutes or until the end of the call for heat. The display will show the normal “Hi” while the control is firing at 100%. If the Fault Recall Push-Button has not been pressed within 5 seconds of displaying “Ft” the display will revert back to normal.

    NOTE: Gas valve is factory set and does NOT require any field adjustment. Do NOT attempt to adjust valve.

    Measure the gas manifold pressure with burners firing.
27. Turn off all electrical power and gas supply to the system.
28. Remove the manometer hose from the hose barb fitting.
29. Remove the 1/8" NPT hose barb fitting from the outlet pressure tap. Replace the outlet pressure boss plug and seal with a high quality thread sealer.
30. Turn on electrical power and gas supply to the system.
31. Close thermostat contacts “R” and “W1/W2” to energize the valve.

Using a leak detection solution or soap suds, check for leaks at outlet pressure boss plug. Bubbles forming indicate a leak. SHUT OFF GAS AND REPAIR ALL LEAKS IMMEDIATELY!

Manifold Gas Pressure			
Gas		Range	Nominal
Natural	High Stage	3.2 - 3.8" w.c.	3.5" w.c.
Propane	High Stage	9.5 - 10.5" w.c.	10.0" w.c.

32. If no leak is detected, reinstall the access panels.
33. Reset all other appliances so they function normally.

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