

INSTALLATION INSTRUCTIONS FOR 36,000 DERATE NATURAL GAS KIT (10K55) USED FOR ML193, ML195, 92AF1 AND 95AF1 045 BTUH CAPACITY UNITS

⚠ WARNING

This conversion kit is to be installed by a licensed professional HVAC service technician (or equivalent) or other qualified agency in accordance with the manufacturer's instructions, all codes and requirements of the authority having jurisdiction in the USA, and the requirements of the CSA-B149 installation codes in Canada. 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. The qualified agency performing this work assumes responsibility for this conversion.

Shipping & Packing List

Package 1 of 1 contains the following:

- 4 - Main burner orifices (#54 / 0.055)
- 1 - Gas converter sticker
- 1 - Nameplate conversion sticker

Application

When installed on 045 UH/DF ML193, ML195, 92AF1 and 95AF1 model furnaces, input rate is decreased to 36,000 btuh.

Installation

⚠ CAUTION

As with any mechanical equipment, personal injury can result from contact with sharp sheet metal edges. Be careful when you handle this equipment.

- 1 - Set the thermostat to the lowest setting. If the gas supply line has been connected, shut off the gas supply to the furnace, then turn off the electrical power.
- 2 - Remove the heating compartment access panel. Move the automatic gas valve switch to the OFF position. See figure 2 .
- 3 - Disconnect the gas supply and the wiring at the gas valve.
- 4 - If necessary, remove the wires from the ignitor and sensor. Mark the wires as you remove them. Remove the burner box cover (if equipped). Remove the four manifold securing screws. Slide the manifold/gas valve assembly out of the burner box. See figure 1.

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- 5 - Replace the burner orifices with the provided gas orifices. Torque to approximately 35 in-lbs. Do not use sealant on the orifices. Figure 1 shows the manifold/gas valve assembly.

⚠ IMPORTANT

DO NOT use any pipe sealant on gas orifice threads.

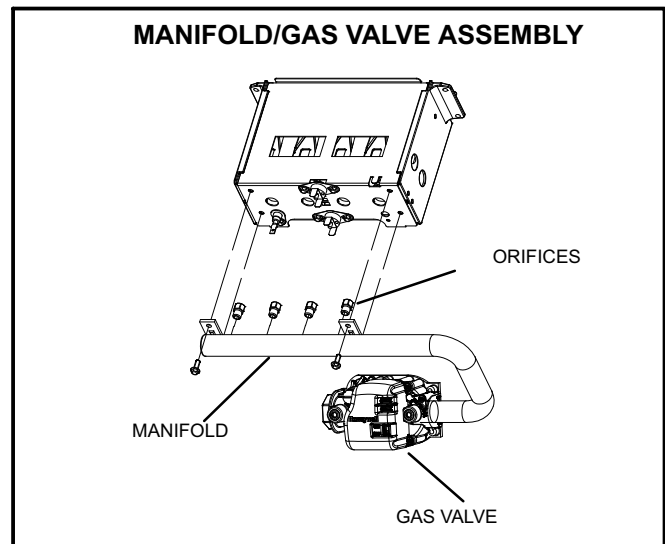


FIGURE 1

- 6 - Reinstall the manifold/valve assembly. Reinstall the burner box cover (if removed). Reinstall the ignitor wire and sensor wire (if removed). Reconnect the wiring to the gas valve.
- 7 - Reconnect the gas supply to the gas valve and turn on the gas supply to the unit.

⚠ IMPORTANT

Carefully check all piping connection for gas leaks. DO NOT use matches, candles, open flames or other means of ignition to check for gas leaks. Use a soap solution or other preferred means.

⚠ CAUTION

Some soaps used for leak detection are corrosive to certain metals. Rinse piping thoroughly after leak test has been completed. Do not use matches, candles, flame or other sources of ignition to check for gas leaks.

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- 8 - Restore electrical power to the unit.
- 9 - Affix nameplate conversion sticker next to unit nameplate.
- 10 - Complete the information required on the gas converter sticker: date, name, and address. Affix sticker to the exterior of the unit in a visible area.
- 11 - Follow the steps given in the "Startup and Adjustment" section.
- 12 - Energize the thermostat several times to ensure the ignition control is operating and that the ignitor glows.
- 13 - Replace the heating compartment access panel.

Startup & Adjustment

BEFORE LIGHTING - Smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. Use only your hand to move the gas control switch. Never use tools. If the switch will not move by hand, do not try to repair it. Using force to turn or attempting repair the gas control switch may result in a fire or explosion.

A - Placing the Unit into Operation

⚠ IMPORTANT

Follow the lighting instructions provided on the unit. If lighting instructions are not available, refer to the following section.

NOTE - Units are equipped with a hot surface ignition system. The ignition system automatically lights the burners each time the thermostat calls for heat.

- 1 - **STOP!** Read the safety information at the beginning of this section.
- 2 - Set the thermostat to its lowest setting.
- 3 - Turn off all electrical power to the furnace.
- 4 - Do **not** try to light the burners by hand.
- 5 - Remove the unit access panel.

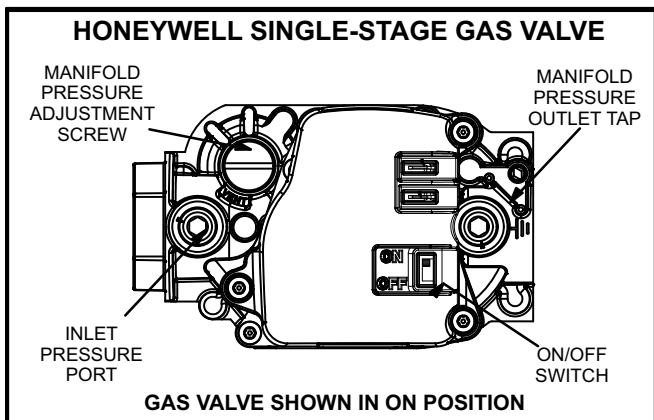


FIGURE 2

- 6 - Move gas valve switch to **OFF**. See figure 2.
- 7 - Wait five (5) minutes for any gas to clear out. If you then smell gas, **STOP!** Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. If you do not smell gas, go to the next step.

- 8 - Move the gas valve switch to **ON**. See figure 2.
- 9 - Replace the unit access panel.
- 10 - Turn on all electrical power to the unit.
- 11 - Set the thermostat to desired setting.
- 12 - If the furnace will not operate, see the section "Turning Off Gas to the Unit" and call the gas supplier.

B - Turning Off Gas To the Unit

- 1 - Set the thermostat to the lowest setting.
- 2 - Turn off all electrical power to the unit if service is to be performed.
- 3 - Remove the unit access panel.
- 4 - Move the gas valve switch to **OFF**.
- 5 - Replace the heating compartment access panel.

Gas Pressure Measurement

A - Gas Flow (Approximate)

TABLE 1

Unit	GAS METER CLOCKING CHART			
	Seconds for One Revolution			
	Natural		LP	
	1 cu ft Dial	2 cu ft Dial	1 cu ft Dial	2 cu ft DIAL
36,000 btuh Derate Kit	100	200	N/A	N/A
Natural-1000 btu/cu ft		LP-2500 btu/cu ft		

Furnace should operate at least 5 minutes before checking the gas flow. Determine time in seconds for **two** revolutions of gas through the meter. (Two revolutions assures a more accurate time.) **Divide the recorded time by two** and compare the recorded times to the times listed in table 1. If manifold pressure matches table 2 but the rate is incorrect, check gas orifices for proper size and possible restrictions. Remove temporary gas meter if installed.

NOTE - To obtain an accurate reading, shut off all other gas appliances connected to meter.

B - Supply Pressure Measurement

When testing supply gas pressure, use the 1/8" N.P.T. plugged tap or pressure post located on the gas valve to facilitate test gauge connection. See figure 2. Check gas line pressure with unit firing at maximum rate. Low pressure may result in erratic operation or underfire. High pressure can result in permanent damage to gas valve or overfire.

On multiple unit installations, each unit should be checked separately, with and without units operating. Supply pressure must fall within range listed in table 2.

C - Manifold Pressure Measurement

- 1 - Connect the test gauge to the manifold pressure tap (figure 2) on the gas valve.
- 2 - Start the unit and allow 5 minutes for unit operation to stabilize.

- 3 - After allowing the unit to stabilize for 5 minutes, record the manifold pressure and compare it to the value given in table 2.
- 4 - Make adjustments if necessary. Figure 2 shows the location of the manifold pressure adjustment screw.

TABLE 2

Supply Line and Manifold Pressure (inches w.c.)		
Unit	Manifold Pressure	Line Pressure
045 UH/DF ML193, ML195, 92AF1 & 95AF1	3.5	4.5 - 13.0

D - Proper Combustion

Furnace should operate a minimum of 15 minutes with

correct manifold pressure and gas flow rate before checking combustion. Take combustion sample beyond the flue outlet and compare to table 3.

TABLE 3

Unit	CO ₂ % with 36,000 btuh De-rate Kit installed
045 UH/DF ML193, ML195, 92AF1 & 95AF1	6.1 - 7.1
The carbon monoxide reading should not exceed 50 ppm.	

NOTE - Shut the unit off and remove the manometer as soon as supply line, manifold pressure and combustion samples are obtained. Take care to remove the barbed fitting, replace the threaded plug and tighten the port fittings.