

90 PLUS GAS FURNACES: GAS CONVERSION KIT INDEX NATURAL TO LP GAS

(These instructions also include information pertaining to the selection of L.P. orifices at altitude.)

▲ Recognize this symbol as an indication of Important Safety Information!

▲ WARNING

FURNACES USED ON LP GAS MUST BE EQUIPPED WITH 100% SAFETY SHUT-OFF CONTROLS. CONVERSION WITH THE CORRECT KIT WILL MEET THIS SAFETY REQUIREMENT. FAILURE TO USE THE PROPER KIT CAN CAUSE IMPROPER FURNACE OPERATION RESULTING IN FIRE, EXPLOSION, PERSONAL INJURY OR DEATH.

The conversion of the Air Conditioning Division furnaces must be made by a qualified service professional. Use the following conversion kits only on the furnace model and gas control systems for which they are shown. If you do not find your exact furnace model number and Gas Code in the kit selection chart, contact your distributor or manufacturer for help in verifying the correct kit selection for your equipment. **Do not substitute** kits or kit components.

HOW TO IDENTIFY THE CONTROL SYSTEM CODE ON THE FURNACE TO BE CONVERTED

The model number and the control system code on the furnace to be converted are required to select the proper conversion kit. This information is located on the rating plate of the furnace just below the date of manufacture. The control system code designates the control system as applied by the manufacturer and the type gas it was manufactured to burn.

Locate the control system code in Chart 1. This is the control system on the furnace.

NOTE: The same Gas Code can exist for 80% and 90 Plus furnaces.

All furnaces are manufactured to burn natural gas. Verify correct fuel on the furnace rating plate.

CONTROL SYSTEMS

JZ) WHITE-RODGERS 36J27-515 (60-102787-02) HONEYWELL ELECTRONIC CONTROL S9242F2018 (62-105563-01)

KC) WHITE-RODGERS 36J27-513 (60-102787-02) HONEYWELL ELECTRONIC CONTROL S9242F2020 (62-105563-03)

EXAMPLE: CONTROL SYSTEM CODE

The control system code is "JZ." When the "JZ" is located in Chart 1, the control system in the furnace is a White-Rodgers 36J27 Valve, manufactured to burn natural gas.

With the model number from the rating plate, the control system from Chart 1, and the type gas it presently burns, the proper conversion kit can now be selected.

EXPLANATION: USING THE CONVERSION KIT CHARTS

STEP 1. Find the control system code letters in the Gas Code Column in the conversion kit chart.

STEP 2. The type furnace and model number are listed on the left hand column. **IMPORTANT: Verifying the model number of the furnace is a necessity, since there are common control system codes which are used on the 80% & 90 Plus models.**

STEP 3. By going down in the control system and across in the model number line, the proper kit number can be located.

EXAMPLE

You wish to convert a natural gas furnace model (-)97VA060 from natural gas to LP gas.

Using the information from the first example, the control system code is "JZ" Locate the control system code letters "JZ" in the Gas Code Column of Chart 1: Conversion Kits - Natural gas to LP gas. Locate the model number of the unit in the first column on the left on the chart, and find that for U.S./Canadian models an FP37 conversion kit would be used.

CHART 2: “90+ MODELS” CONVERSION KITS - NATURAL GAS TO LP GAS

Furnace Model Number	Type of Ignition	Gas Code	Kit Number
			U.S./Canadian
R97V(-)XXXXXXXXUSA	Direct Spark (Modulating)	JZ	RXGJ-FP37
R97V(-)XXXXXXXXKSA	Direct Spark (Modulating)	KC	RXGJ-FP37

BURNER ORIFICE SIZES

Note: these furnaces with the fuel codes listed in conversion kit index in these instructions, require a 2% de-rate per 1000 ft. elevation. This is unique to these products.

INSTALL CORRECT ALTITUDE ORIFICES

Install correct orifices based on:

- Gas; LP
- Rate, corrected to altitude. 2% per thousand ft elevation de-rate required.
- LP – Heating value does not vary as it is a manufactured gas. 2450 per cuft is the national average. LP conversion kit is required (RXGJ-FP37)

LP GAS ORIFICE SELECTION BASED ON 2% DE-RATE PER 1000 FEET ELEVATION GAIN

LP gas is a manufactured gas that has consistent heating value across most regions. The recommended orifices below allow the furnace to operate within 5% of design rate. It is notable that the 1.10 mm orifice is used at all altitudes. The lower barometric pressure at altitudes allows a “natural de-rate” to occur resulting in a 2% de-rate with minor adjustments to manifold pressures.

Furnace operation is optimized when operating at design rate. Installer is responsible to verify rate.

TABLE 1

For U.S. and Canada L.P. Gas Orifice Drill Size (2% per 1000 ft. De-Rate) 90+ Burner input (per burner) 14,000 @ sea level		
Altitude	Input per burner avg.	Orifice size
0 to 2000 ft.	14000	1.10mm
2001 to 3000 ft.	13440	1.10mm
3001 to 4000 ft.	13160	1.10mm
4001 to 5000 ft.	12880	1.10mm
5001 to 6000 ft.	12600	1.10mm
6001 to 7000 ft.	12320	1.10mm
7001 to 8000 ft.	12040	1.10mm

ORIFICE ORDERING INFORMATION

Orifice sizes are selected by adding the 2-digit drill size required in the orifice part number. Drill sizes available are 39 through 64, metric size available 1.10mm (-90): Orifice Part Number 62-22175-(drill size).

Example 1: #60 drill size required – Part #62-22175-60 Example 2: 1.10mm drill size orifice required – Part #62-22175-90