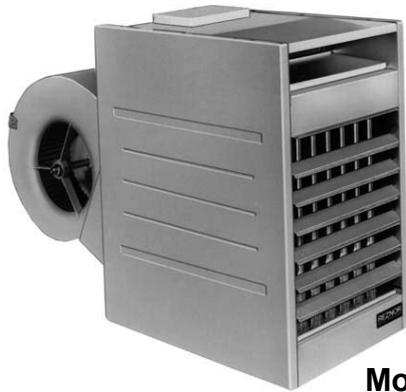


Gas Conversion Kits and Instructions

Applies to: **Models F, B, FE, and BE**



Model B



Model F



All gas conversion must be done by a qualified service person in accordance with these instructions and in compliance with all codes and requirements. In Canada, gas conversion shall be carried out in accordance with the requirements of the Provincial Authorities having jurisdiction and in accordance with the requirements of the CAN/CGA-B149.1 and .2 installation code.

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

FOR YOUR SAFETY

— **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.
- Leave the building immediately.
- Immediately call your gas supplier from a phone remote from the building. 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.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

DANGER: The conversion kit is to be selected and installed by a qualified service person in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. Failure to follow instructions could result in death, serious injury, and/or property damage. The qualified agency performing this work assumes responsibility for this conversion.

HAZARD INTENSITY LEVELS

1. **DANGER:** Failure to comply will result in severe personal injury or death and/or property damage.
 2. **WARNING:** Failure to comply could result in severe personal injury or death and/or property damage.
 3. **CAUTION:** Failure to comply could result in minor personal injury and/or property damage.
-

DANGER: The gas burner in this gas-fired equipment is designed and equipped to provide safe and economically controlled complete combustion. However, if the installation does not permit the burner to receive the proper supply of combustion air, complete combustion may not occur. The result is incomplete combustion which produces carbon monoxide, a poisonous gas that can cause death. Safe operation of indirect-fired gas burning equipment requires a properly operating vent system which vents all flue products to the outside atmosphere. **FAILURE TO PROVIDE PROPER VENTING WILL RESULT IN A HEALTH HAZARD WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH.**

Always comply with the combustion air requirements in the installation codes and instructions. Combustion air at the burner should be regulated only by manufacturer-provided equipment. NEVER RESTRICT OR OTHERWISE ALTER THE SUPPLY OF COMBUSTION AIR TO ANY HEATER. Indoor units installed in a confined space must be supplied with air for combustion as required by Code and in the heater installation manual. MAINTAIN THE VENT SYSTEM IN STRUCTURALLY SOUND AND PROPERLY OPERATING CONDITION.

Description and Kit Selection

The gas conversion kits in these instructions are for a Model F, FE, B, or BE heater equipped with a single-stage valve.

In order to determine which conversion kit is compatible to your heater, it is necessary to know the type of valve that is on the heater. This information is determined by decoding the heater serial number. From the rating plate, copy the complete Model and Serial No. of the heater. Also, copy the manufacturer's number on the gas valve. Follow the example below to decode the Serial No.

Example of a Heater Serial No.: AWA31K5N12345

AWA	31	K5	N	12345
Month & Year of Manufacturer	Safety Pilot Code	Type of Valve	Type of Gas*	Consecutive Number

* N = Natural Gas; L = Propane Gas

Gas Conversion Instructions - Models F, FE, B, BE

1. Verify Kit Selection - Check to be certain that the gas conversion kit is the appropriate kit for the unit being converted. Compare the Heater Model No., the Serial No. Safety Pilot Code, and the Serial No. Valve Code.

IMPORTANT: Also, because the serial number code can only identify the original equipment, compare the actual Model Nos. on the valve and the ignition controller to those listed for the kit. If either of the actual Model Nos. are different from the ones listed, do not install the kit. Contact your Reznor Representative to select and verify parts required for gas conversion.

2. Additional Parts May Be Required - If you are converting to propane, and your heater is a **Size 130-400 equipped with optional stainless steel burners**, it is necessary to order and install burner air shutters. (Air shutters may be used on aluminized burners but are not normally required.) A list of burner air shutter part numbers can be found on page 8. **Air shutters are not included in the conversion kits and must be ordered separately.**

3. Turn off the gas supply at the shutoff valve **upstream** of the control valve on the heater **and disconnect the electrical power.**

4. Install the Regulator Spring Kit or Change the Valve

To install a regulator spring kit, follow the valve manufacturer's installation instructions that are included with the regulator spring kit. After a new regulator spring kit is installed, it is necessary to adjust the spring for the correct manifold pressure. This adjustment can only be made after the heater is in operation. Instructions are included in Step No. 12 of the installation instructions.

WARNING: Manufacturer of regulator spring kit and gas valve must be the same. Spring kits of different manufacturers are not interchangeable, and each spring kit must be used only in the valve for which the kit is designated.

WARNING: The operating valve is the primary safety shutoff. The gas supply line must be free of dirt or scale before connecting the unit to ensure positive closure.

To change the valve, first mark the wires before removing them from the existing valve. Consult the valve manufacturer's instruction sheet for installation details and install the new valve. Field-supplied fittings may be required. If the heater is equipped with an ECO device, be certain to connect it (applies to Models F and B with match-lit pilot and all models with spark pilot manufactured prior to approximately 8/99; check the wiring diagram).

Wiring Terminal Identification

Valve Manufacturer	Common	Pilot *	Main
Honeywell (M/H)	TR	TH-TR	TH
	PV-MV	PV	MV
White Rogers (W/R) or Robertshaw (R)	C	P	M
Wire Color	White or Brown	Blue	Black
*Pilot terminal is not used on match-lit units.			

5. Change the Pilot Orifice

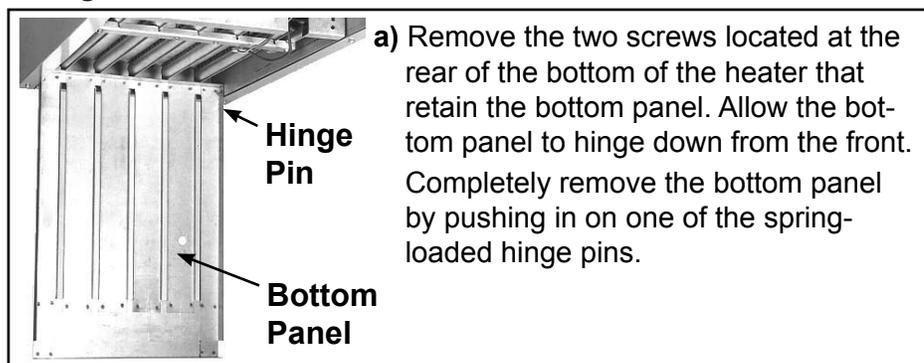


FIGURE 1 - Heater with Bottom Panel Hinged Down

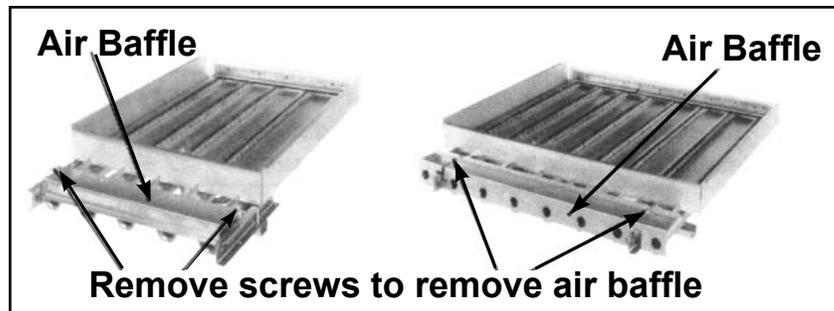
Gas Conversion Instructions - Models F, FE, B, BE (cont'd)

- b) The bottom of the pilot is now visible. Do the following:
- (1) Disconnect the pilot tubing from the pilot burner.
 - (2) For match-lit (standing) pilot, disconnect the thermocouple from the valve.
 - (3) For spark pilot, disconnect the flame sensing wire and high tension (spark) lead from the ignition controller.
- c) Heaters manufactured beginning 8/91 (Serial No. Date Code AQH) - While supporting the burner rack, remove the screws (two or three) that hold the indexed burner rack support. Remove the support, allowing the burner rack assembly to swing down. Lift up on the rear and slide the burner assembly up and out of the manifold support brackets.
- Heaters manufactured prior to 8/91 - Loosen the sheetmetal screws (two or three) located at the front of the burner rack assembly. (These screws retain the burner rack support.) While supporting the burner rack assembly, slide the burner rack support and remove it from the screws. Allow the burner rack assembly to swing down. Lift up on the rear and slide the burner assembly up and out of the manifold support brackets.
- d) Remove the pilot from the burner rack and install the new pilot orifice. Re-install the pilot burner on the burner rack. On units equipped with a pilot shield, be certain that the pilot shield is in place when replacing the pilot burner.

6. Remove Air Baffle (if applicable)

If you are converting from natural to propane, you may have to remove a factory-installed air baffle from the burner rack. Look at the burner rack that you have just removed to see if it is equipped with one of the air baffles illustrated in **FIGURE 2**. Not all heaters are equipped with an air baffle. If your burner rack is factory-equipped with either of these air baffles, remove the air baffle before converting to propane. Refer to **FIGURE 2** showing which screws to remove.

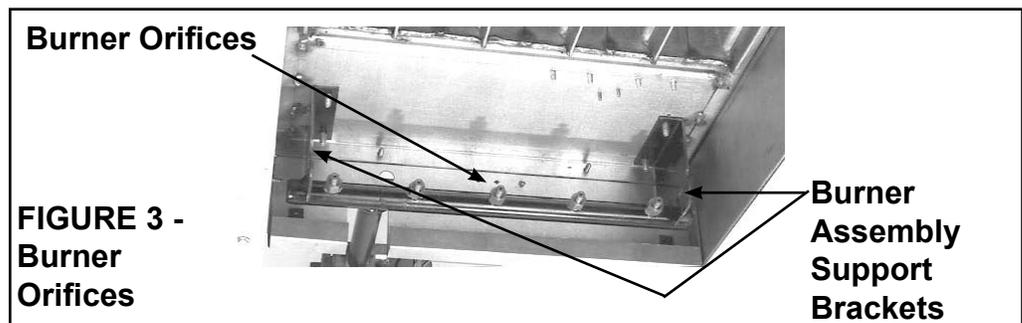
FIGURE 2 - Burner Rack with Factory-Installed Air Baffles



7. Change Burner Orifices

With the burner rack removed, the burner orifices are visible in the manifold pipe at the rear of the heater. (See **FIGURE 3**.) Remove all existing orifices and replace with the orifices included in the conversion kit. (NOTE: Kits that apply to various sizes of heaters include the quantity of burner orifices required for the largest size of heater. When converting the smaller sizes, there will be extra burner orifices which will not be used.)

WARNING: Do not attempt to drill orifices. Use factory supplied orifices only.



8. Install Burner Air Shutters (if required)

Burner air shutters are required on Sizes 130-400 models equipped with optional stainless steel burners for use with propane gas. Air shutters may be used on aluminized burners but are not normally required.

Refer to the instructions included with the air shutter assembly for installation and adjustment.

DANGER: Failure to install and adjust burner air shutters according to directions could cause property damage, personal injury and/or death.

9. Re-Assemble the Heater

Reverse the above procedure to re-assemble the heater. Be certain that the burner rack is properly positioned and tight against the heat exchanger. If your conversion requires changing the ignition controller, do not re-connect the flame sensing wire and the high tension lead to the ignition controller.

Do not replace the bottom panel.

10. Change the Ignition Controller (if required)

If your conversion requires an ignition controller with 100% lockout, the ignition controller with new wires and a new wiring diagram are included in the conversion kit.

- On the rear of the heater, locate the ignition controller. Disconnect the spark wire from the spike on the controller. Leave all other wires connected to the ignition controller; follow the wires and disconnect them from their various connections. Remove the ignition controller and attached wires.
- In the same location, attach the ignition controller mounting bracket to the heater using the #10x3/8" long screws included in the kit. With the ignition controller positioned so that the terminals are across the bottom, attach it to the mounting bracket using the #8x3/8" long screws.
- Refer to the new wiring diagram label in the kit and connect the wires. All of the wires are connected to the ignition controller at the factory except to the "TH" Terminal. Attach the loose black wire in the kit to the "TH" terminal and connect it to the limit control. (The yellow wire in the kit will not be used.)
- Select a location near the current wiring diagram on the unit to adhere the wiring label. Do not put the label on a surface that will be hot when the heater is operating and do not put it over the existing wiring diagram. Wipe the selected area with a clean dry cloth. Peel the backing and adhere the new label.

- Turn on the electric and the gas. Relight, following the instructions on the heater. Check for gas leaks using a commercial leak detecting fluid or a rich soap and water solution. Leaks are indicated by the presence of bubbles. Check all connections which were worked on during the conversion including the pilot connections. If a leak cannot be stopped by tightening, replace the part.

Observe the pilot flame through the lighting hole. The flame should extend 1/2 to 1 inch past the flame sensing device (**See FIGURE 4**).

Ignition Controller with Lockout, P/N 257010



Minimum flame proving signal strength is 0.2 microamps.

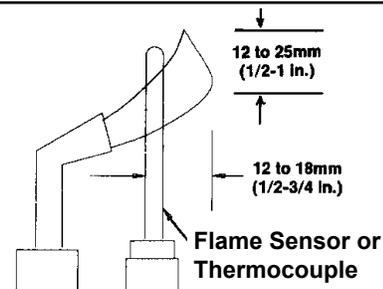
Special Wiring Instructions when using an automatic vent damper:

Remove the plug from the ignition controller and plug in the wiring harness from the vent damper. The wiring harness electrically interlocks the vent damper to the control. Unplugging either end results in a system shutdown.

FIGURE 4 - Pilot Flame Adjustment

To adjust the pilot flame :

- Remove the pilot adjustment cover screw on the valve.
- Turn the inner adjustment screw clockwise to decrease or counterclockwise to increase the pilot flame
- Replace the cover screw after adjustment.



Gas Conversion Instructions - Models F, FE, B, BE (cont'd)

12. Adjust the manifold pressure. Follow these requirements and instructions to adjust manifold gas pressure.

- 1) The correct pressure adjustment depends on the area of the country in terms of elevation. If you don't know the elevation, check with your local gas company.
- 2) Determine the required manifold pressure for that elevation.

Manifold Pressure Settings by Elevation			
Elevation Ranges		Natural Gas	Propane
Feet	Meters	(inches W.C.)	
0- 2000	1-610	3.5	10.0
2001-3000	911-915	2.8	7.7
3001-4000	916-1220	2.5	7.1
4001-5000	1221-1525	2.3	6.4
5001-6000	1526-1830	2.1	5.8
6001-7000	1831-2135	1.9	5.2
7001-8000	2136-2440	1.7	4.6
8001-9000	2441-2745	1.5	4.1

- 3) With the manual valve positioned to prevent flow to the main burners, connect a manometer to the 1/8" pipe outlet pressure tap in the valve. Use a water column manometer that is readable to the nearest tenth of an inch. NOTE: A manometer (fluid-filled gauge) is recommended rather than a spring type gauge due to the difficulty of maintaining calibration of a spring type gauge.
- 4) Remove the cap from the pressure adjusting screw and adjust the manifold pressure to the pressure selected from the table above. Cycle the main burners once or twice to properly seat the adjustment spring in the valve.
- 5) Measure the manifold pressure. If adjustment is necessary, correct pressure setting by turning the regulator screw IN (clockwise) to increase pressure. Turn regulator screw OUT (counterclockwise) to decrease pressure. When the pressure is correct, remove the manometer and replace the cap. Check for leaks at the pressure tap fitting.

CAUTION: DO NOT bottom out the gas valve regulator adjusting screw. This can result in unregulated manifold pressure causing excess overfire and heat exchanger failure.

WARNING: Manifold gas pressure must never exceed 3.5" w.c. for natural gas or 10" w.c. for propane gas.

- 6) With the heater operating, determine that the inlet pressure to the heater is between 5 and 14 inches w.c. for natural gas or between 11 and 14 inches w.c. for propane gas. Take this reading as close as possible to the heater. (Most heaters are equipped with gas valves that have an inlet pressure tap.) If the inlet pressure is not within the specified range, the inlet pressure must be corrected and the manifold pressure re-checked.
- 7) If the gas valve has been adjusted for operation above 2000 ft, find the high altitude manifold pressure label in the kit. Using a permanent marker, fill-in the pressure setting and adhere the label to the heater in a conspicuous location close to the gas valve.

WARNING: Wait at least five minutes before attempting to relight heater in the event of pilot outage or improper ignition.

13. Check for safe and proper operation by operating the heater for at least one cycle. Observe main burners for complete flame carryover. Observe cautiously from beneath the heater after ignition is established. Flame must be present on the full length of each burner.

If air shutters are used, adjust them according to the instructions supplied with the air shutters.

Replace the bottom panel.

Safety check the installation and equipment. Check that all safety devices are functioning properly.

14. Complete the information required on the gas conversion tape and affix the tape to the heater near the rating plate. Attach the disk to the heater near the gas valve.

Conversion Kits - Natural to Propane

TABLE 1 - Natural to Propane Conversion Kits

Conversion Kit P/N	Models F, B, FE, BE Size	Natural to Propane Conversion Kit for Heater Equipped with				See kit components listed in:
		Match-Lit or Spark Pilot		Single-Stage Gas Valve		
		Serial No. Pilot Codes	Ignition Control	Serial No. Valve Code	Valve Manufacturer	
99243	25	31	None (Match-Lit)	K5	M/H V8200M7003	TABLE 2, page 8
				9B	M/H VR8200M7005	
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000	
				W7	M/H VR8104M2505	
99249	66 or 94	JC #G67BG-5; UTEC 1003-638A		M4	M/H VR8204M1000	TABLE 3, page 8
				W7	M/H VR8104M2505	
99244	50	31	None (Match-Lit)	K5	M/H V8200M7003	TABLE 4, page 8
				9B	M/H VR8200M7005	
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000	
				W7	M/H VR8104M2505	
99250	66 or 94	JC #G67BG-5; UTEC 1003-638A		M4	M/H VR8204M1000	TABLE 5, page 9
				W7	M/H VR8104M2505	
99245	75	31	None (Match-Lit)	K5	M/H V8200M7003	TABLE 6, page 9
				9B	M/H VR8200M7005	
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000	
				W7	M/H VR8104M2505	
99251	66 or 94	JC #G67BG-5; UTEC 1003-638A		M4	M/H VR8204M1000	TABLE 7, page 9
				W7	M/H VR8104M2505	
99246	100, 125	31	None (Match-Lit)	K5	M/H V8200M7003	TABLE 8, page 9
				9B	M/H VR8200M7005	
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000	
				W7	M/H VR8104M2505	
99252	66 or 94	JC #G67BG-5; UTEC 1003-638A		M4	M/H VR8204M1000	TABLE 9, page 9
				W7	M/H VR8104M2505	
131582	130, 165	31	None (Match-Lit)	K5	M/H V8200M7003	TABLE 10, page 9
				9B	M/H VR8200M7005	
99247	130, 165, 200, 250	31	None (Match-Lit)	K6	W/R 36C03-211	TABLE 11, page 9
	300, 400	65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M6	W/R 36C68-452	
				9A	W/R 36H32-441	
99256	130, 165, 200, 250	65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000	TABLE 12, page 10
				W7	M/H VR8104M2505	
99253	66 or 94	JC #G67BG-5; UTEC 1003-638A		M4	M/H VR8204M1000	TABLE 13, page 10
				W7	M/H VR8104M2505	
99254	200, 250	66 or 94	JC #G67BG-5; UTEC 1003-638A	M5	M/H VR8440A2159	TABLE 14, page 10
				Q3	M/H VR8304M2816	
99248	200, 250	65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M5	M/H VR8440A2159	TABLE 15, page 10
				Q3	M/H VR8304M2816	
	300, 400	31	None (Match-Lit)	K7	M/H V800M7009	
99255	300, 400	66 or 94	JC #G67BG-5; UTEC 1003-638A	M6	W/R 36C68-452	TABLE 16, page 10
				9A	W/R 36H32-441	

Conversion Kits - Natural to Propane (cont'd)

Natural to Propane Conversion Requirements

- Propane requires ignition controller with 100% lockout
- Propane on Sizes 130-400 requires burner air shutters

Propane units equipped with spark pilot **require** an ignition controller with 100% lockout. When converting Models F, FE, B, and BE equipped with spark pilot without 100% lockout (Safety Pilot Code 66 or 94) from natural to propane, the ignition controller must be changed. **Where it is required, the conversion kit includes the ignition controller with 100% lockout.**

Heater sizes 130-400 that are **equipped with optional stainless steel burners require** the addition of burner air shutters when converting from natural to propane gas.

Air shutters are NOT included in the conversion kit. If air shutters are required in your installation, order P/N listed in the table below.

Heater Size	Air Shutter Assembly P/N
130	98478
165	98479
200	98480
250	98481
300	98482
400	98483

To determine if your heater is equipped with stainless steel burners, check the replacement parts tag located on the inner panel (next to the fan or blower) on the rear of the heater. If the heater is equipped with stainless steel burners, the tag will read **"EQUIPPED WITH SS BURNERS"**.

Conversion Kit Components - Natural to Propane

TABLES 2-16 list the components included in each conversion kit as well as the heater(s) to which that kit applies. Kits that apply to various sizes of heaters include the quantity of orifices required for the largest size of heater. Excess burner orifices may not be returned for credit.

TABLE 2 - Natural to Propane Conversion Kit, P/N 99243				
Applies to Models F/FE/B/BE 25				
Equipped with either of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K5	M/H V8200M7003
			9B	M/H VR8200M7005
Spark w/100% Lockout	65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000
			W7	M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
2	95936	Burner Orifice, #60 (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

TABLE 3 - Natural to Propane Conversion Kit, P/N 99249				
Applies to Models F/FE/B/BE 25				
Equipped with either of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66 or 94	J/C G67BG-5; UTEC 1003-638A	M4	M/H VR8204M1000
			W7	M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
2	95936	Burner Orifice, #60 (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	257475	Ignition Controller Assy including:		
1	257010	Ignition Control w/100% Lockout, UTEC 1003-514		
1	133108	Black Wire Assy (I.C. "MV")		
1	98215	Brown Wire Assy (I.C. "MV/PV")		
1	98214	Blue Wire Assy (I.C. "PV")		
1	257074	Green Wire Assy (I.C. "GND BURNER")		
1	98215	Brown Wire Assy I.C. "24V GND"		
1	173303	Red Wire Assy (I.C. "24V")		
1	257014	Red Wire Assy (I.C. "SENSE")		
1	122655	Yellow Wire Assy (I.C. "TH")		
1	173307	Black Wire Assy (I.C. "TH")		
1	257012	Ignition Controller Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" long (for attaching bracket)		
4	195638	Screws, #8 x 3/8" long (for attaching controller)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		
1	257478	Wiring Diagram Label		

TABLE 4 - Natural to Propane Conversion Kit, P/N 99244				
Applies to Models F/FE/B/BE 50				
Equipped with either of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K5	M/H V8200M7003
			9B	M/H VR8200M7005
Spark w/100% Lockout	65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000
			W7	M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
3	63003	Burner Orifice, 1.2MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

Conversion Kit Components - Natural to Propane (cont'd)

TABLE 5 - Natural to Propane Conversion Kit, P/N 99250				
Applies to Models F/FE/B/BE 50				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66 or 94	J/C G67BG-5; UTEC 1003-638A	M4 W7	M/H VR8204M1000 M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
3	63003	Burner Orifice, 1.2MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	257475	Ignition Controller Assy including:		
1	257010	Ignition Control w/100% Lockout, UTEC 1003-514		
1	133108	Black Wire Assy (I.C. "MV")		
1	98215	Brown Wire Assy (I.C. "MV/PV")		
1	98214	Blue Wire Assy (I.C. "PV")		
1	257074	Green Wire Assy (I.C. "GND BURNER")		
1	98215	Brown Wire Assy I.C. "24V GND")		
1	173303	Red Wire Assy (I.C. "24V")		
1	257014	Red Wire Assy (I.C. "SENSE")		
1	122655	Yellow Wire Assy (I.C. "TH")	The loose yellow wire is not used in this application.	
1	173307	Black Wire Assy (I.C. "TH")		
1	257012	Ignition Controller Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" long (for attaching bracket)		
4	195638	Screws, #8 x 3/8" long (for attaching controller)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		
1	257478	Wiring Diagram Label		

TABLE 6 - Natural to Propane Conversion Kit, P/N 99245				
Applies to Models F/FE/B/BE 75				
Equipped with either of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K5 9B	M/H V8200M7003 M/H VR8200M7005
Spark w/100% Lockout	65; 84; or 95	J/C G770NGC-4; J/C G770NHC-1; UTEC 1003-514	M4 W7	M/H VR8204M1000 M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
4	64676	Burner Orifice, 1.3MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

TABLE 7 - Natural to Propane Conversion Kit, P/N 99251				
Applies to Models F/FE/B/BE 75				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66 or 94	J/C G67BG-5; UTEC 1003-638A	M4 W7	M/H VR8204M1000 M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
4	64676	Burner Orifice, 1.3MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	257475	Ignition Controller Assy including:		
1	257010	Ignition Control w/100% Lockout, UTEC 1003-514		
1	133108	Black Wire Assy (I.C. "MV")		
1	98215	Brown Wire Assy (I.C. "MV/PV")		
1	98214	Blue Wire Assy (I.C. "PV")		
1	257074	Green Wire Assy (I.C. "GND BURNER")		
1	98215	Brown Wire Assy I.C. "24V GND")		
1	173303	Red Wire Assy (I.C. "24V")		
1	257014	Red Wire Assy (I.C. "SENSE")		
1	122655	Yellow Wire Assy (I.C. "TH")	The loose yellow wire is not used in this application.	
1	173307	Black Wire Assy (I.C. "TH")		
1	257012	Ignition Controller Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" long (for attaching bracket)		
4	195638	Screws, #8 x 3/8" long (for attaching controller)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		
1	257478	Wiring Diagram Label		

TABLE 8 - Natural to Propane Conversion Kit, P/N 99246				
Applies to Models F/FE/B/BE 100 and 125				
Equipped with any of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K5 9B	M/H V8200M7003 M/H VR8200M7005
Spark w/100% Lockout	65; 84; or 95	J/C G770NGC-4; J/C G770NHC-1; UTEC 1003-514	M4 W7	M/H VR8204M1000 M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H #393691		
6	11830	Burner Orifice, #55 (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

TABLE 9 - Natural to Propane Conversion Kit, P/N 99252				
Applies to Models F/FE/B/BE 100 and 125				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66 or 94	J/C G67BG-5; UTEC 1003-638A	M4 W7	M/H VR8204M1000 M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
6	11830	Burner Orifice, #55 (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	257475	Ignition Controller Assy including:		
1	257010	Ignition Control w/100% Lockout, UTEC 1003-514		
1	133108	Black Wire Assy (I.C. "MV")		
1	98215	Brown Wire Assy (I.C. "MV/PV")		
1	98214	Blue Wire Assy (I.C. "PV")		
1	257074	Green Wire Assy (I.C. "GND BURNER")		
1	98215	Brown Wire Assy I.C. "24V GND")		
1	173303	Red Wire Assy (I.C. "24V")		
1	257014	Red Wire Assy (I.C. "SENSE")		
1	122655	Yellow Wire Assy (I.C. "TH")	The loose yellow wire is not used in this application.	
1	173307	Black Wire Assy (I.C. "TH")		
1	257012	Ignition Controller Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" long (for attaching bracket)		
4	195638	Screws, #8 x 3/8" long (for attaching controller)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		
1	257478	Wiring Diagram Label		

TABLE 10 - Natural to Propane Conversion Kit, P/N 131582				
Applies to Models F/B 130 and 165				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K5 9B	M/H V8200M7003 M/H VR8200M7005
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
5	96344	Burner Orifice, 1.65MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

TABLE 11 - Natural to Propane Conversion Kit, P/N 99247				
Applies to Models F/B 130, 165, 200, 250				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K6	W/R 36C03-211
AND				
Applies to Models F/FE/B/BE 300, 400				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark w/100% Lockout	65; 84; or 95	J/C G770NGC-4; J/C G770NHC-1; UTEC 1003-514	M6 9A	W/R 36C68-452 W/R 36H32-441
Components:				
Qty	P/N	Description		
1	82524	Regulator Spring Kit, W/R #92-0659		
12	96344	Burner Orifice, 1.65 (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

Conversion Kit Components - Natural to Propane (cont'd)

TABLE 12 - Natural to Propane Conversion Kit, P/N 99256				
Applies to Models F/FE/B/BE 130, 165, 200, 250				
Equipped with either of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark w/100% Lockout	65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M4	M/H VR8204M1000
			W7	M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H #393691		
8	96344	Burner Orifice, #1.65MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

TABLE 13 - Natural to Propane Conversion Kit, P/N 99253				
Applies to Models F/FE/B/BE 130, 165, 200, 250				
Equipped with either of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66 or 94	J/C G67BG-5; UTEC 1003-638A	M4	M/H VR8204M1000
			W7	M/H VR8104M2505
Components:				
Qty	P/N	Description		
1	98720	Regulator Spring Kit, M/H 393691		
8	96344	Burner Orifice, #1.65MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	257475	Ignition Controller Assy including:		
1	257010	Ignition Control w/100% Lockout, UTEC 1003-514		
1	133108	Black Wire Assy (I.C. "MV")		
1	98215	Brown Wire Assy (I.C. "MV/PV")		
1	98214	Blue Wire Assy (I.C. "PV")		
1	257074	Green Wire Assy (I.C. "GND BURNER")		
1	98215	Brown Wire Assy I.C. "24V GND")		
1	173303	Red Wire Assy (I.C. "24V")		
1	257014	Red Wire Assy (I.C. "SENSE")		
1	122655	Yellow Wire Assy (I.C. "TH")	The loose yellow wire is not used in this application.	
1	173307	Black Wire Assy (I.C. "TH")		
1	257012	Ignition Controller Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" long (for attaching bracket)		
4	195638	Screws, #8 x 3/8" long (for attaching controller)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		
1	257478	Wiring Diagram Label		

TABLE 14 - Natural to Propane Conversion Kit, P/N 99254				
Applies to Models F/FE/B/BE 200, 250				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66 or 94	J/C G67BG-5; UTEC 1003-638A	M5	M/H VR8440A2159
			Q3	M/H VR8304M2816
Components:				
Qty	P/N	Description		
1	51749	Regulator Spring Kit, M/H 391937		
8	96344	Burner Orifice, #1.65MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	257475	Ignition Controller Assy including:		
1	257010	Ignition Control w/100% Lockout, UTEC 1003-514		
1	133108	Black Wire Assy (I.C. "MV")		
1	98215	Brown Wire Assy (I.C. "MV/PV")		
1	98214	Blue Wire Assy (I.C. "PV")		
1	257074	Green Wire Assy (I.C. "GND BURNER")		
1	98215	Brown Wire Assy I.C. "24V GND")		
1	173303	Red Wire Assy (I.C. "24V")		
1	257014	Red Wire Assy (I.C. "SENSE")		
1	122655	Yellow Wire Assy (I.C. "TH")	The loose yellow wire is not used in this application.	
1	173307	Black Wire Assy (I.C. "TH")		
1	257012	Ignition Controller Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" long (for attaching bracket)		
4	195638	Screws, #8 x 3/8" long (for attaching controller)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		
1	257478	Wiring Diagram Label		

TABLE 15 - Natural to Propane Conversion Kit, P/N 99248				
Applies to Models F/B 300, 400				
Equipped with either of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K7	M/H VR800M7009
AND				
Applies to Models F/FE/B/BE 200, 250				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark w/100% Lockout	65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M5	M/H VR8440A2159
			Q3	M/H VR8304M2816
Components:				
Qty	P/N	Description		
1	51749	Regulator Spring Kit, M/H 391937		
12	96344	Burner Orifice, 1.65 MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

TABLE 16 - Natural to Propane Conversion Kit, P/N 99255				
Applies to Models F/FE/B/BE 300, 400				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66 or 94	J/C G67BG-5; UTEC 1003-638A	M6	W/R 36C68-452
			9A	W/R 36 H32-441
Components:				
Qty	P/N	Description		
1	82524	Regulator Spring Kit, W/R *92-0659		
12	96344	Burner Orifice, 1.65MM (sea level)		
1	98695	Pilot Orifice, J/C #9733-410 (black)		
1	257475	Ignition Controller Assy including:		
1	257010	Ignition Control w/100% Lockout, UTEC 1003-514		
1	133108	Black Wire Assy (I.C. "MV")		
1	98215	Brown Wire Assy (I.C. "MV/PV")		
1	98214	Blue Wire Assy (I.C. "PV")		
1	257074	Green Wire Assy (I.C. "GND BURNER")		
1	98215	Brown Wire Assy I.C. "24V GND")		
1	173303	Red Wire Assy (I.C. "24V")		
1	257014	Red Wire Assy (I.C. "SENSE")		
1	122655	Yellow Wire Assy (I.C. "TH")	The loose yellow wire is not used in this application.	
1	173307	Black Wire Assy (I.C. "TH")		
1	257012	Ignition Controller Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" long (for attaching bracket)		
4	195638	Screws, #8 x 3/8" long (for attaching controller)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		
1	257478	Wiring Diagram Label		

TABLE 17 - Conversion Kits - Propane to Natural

Conversion Kit P/N	Models F, B, FE, BE Size	Propane to Natural Conversion Kit for Heater Equipped with				See kit components listed in:
		Match-Lit or Spark Pilot		Single-Stage Gas Valve		
		Serial No. Pilot Code	Ignition Control	Serial No. Valve Code	Valve Manufacturer	
99257	25	31	None (Match-Lit)	K8	M/H V8200M7011	TABLE 18, page 11
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018	
99258	50	31	None (Match-Lit)	K8	M/H V8200M7011	TABLE 19, page 11
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018	
99259	75	31	None (Match-Lit)	K8	M/H V8200M7011	TABLE 20, page 11
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018	
99260	100, 125	31	None (Match-Lit)	K8	M/H V8200M7011	TABLE 21, page 11
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018	
99261	130, 165	31	None (Match-Lit)	K8	M/H V8200M7011	TABLE 22, page 12
		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018	
99262	200	31	None (Match-Lit)	K8	M/H V8200M7011	TABLE 23, page 12
99263		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018	TABLE 24, page 11
99264	250, 300	31	None (Match-Lit)	K9	M/H V800M7017	TABLE 25, page 12
99266		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M8	W/R 36C68-325	TABLE 26, page 12
99265	400	31	None (Match-Lit)	K9	M/H V800M7017	TABLE 27, page 12
99267		65; 84; or 95	JC G770NGC-4; JC G770NHC-1; UTEC 1003-514	M8	W/R 36C68-325	TABLE 28, page 12

Conversion Kit Components - Propane to Natural

TABLES 18-28 list the components included in each conversion kit as well as the heater(s) to which that kit applies. Kits that apply to various sizes of heaters include the quantity of orifices required for the largest size of heater. Excess burner orifices may not be returned for credit.

TABLE 18 - Propane to Natural Conversion Kit, P/N 99257				
Applies to Models F/FE/B/BE 25				
Equipped with any of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65; 84; or 95	J/C G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H V8204M1018
Components:				
Qty	P/N	Description		
1	98721	Spring Regulator Kit, M/H #394588		
2	39650	Burner Orifice, #51 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 19 - Propane to Natural Conversion Kit, P/N 99258				
Applies to Models F/FE/B/BE 50				
Equipped with any of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65; 84; or 95	J/C G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018
Components:				
Qty	P/N	Description		
1	98721	Regulator Spring Kit, M/H #394588		
3	84853	Burner Orifice, #47 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 20 - Propane to Natural Conversion Kit, P/N 99259				
Applies to Models F/FE/B/BE 75				
Equipped with any of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65; 84; or 95	J/C G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018
Components:				
Qty	P/N	Description		
1	98721	Regulator Spring Kit, M/H #394588		
4	38678	Burner Orifice, #45 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 21 - Propane to Natural Conversion Kit, P/N 99260				
Applies to Models F/FE/B/BE 100 and 125				
Equipped with any of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65; 84; or 95	J/C G770NGC-4; JC G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018
Components:				
Qty	P/N	Description		
1	98721	Regulator Spring Kit, M/H 394588		
6	11833	Burner Orifice, #44 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

Conversion Kit Components - Propane to Natural (cont'd)

TABLE 22 - Propane to Natural Conversion Kit, P/N 99261				
Applies to Models F/FE/B/BE 130, 165				
Equipped with any of the following pilot and valve combinations				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65; 84; or 95	J/C G770NGC-4; J/C G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018
Components:				
Qty	P/N	Description		
1	98721	Regulator Spring Kit, M/H #394588		
5	11831	Burner Orifice, #35 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 23 - Propane to Natural Conversion Kit, P/N 99262				
Applies to Models F/B 200 (This size requires a valve change when converting from propane to natural.)				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Components:				
Qty	P/N	Description		
1	96300	Valve, W/R #36C03-211		
6	11831	Burner Orifice, #35 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 24 - Propane to Natural Conversion Kit, P/N 99263				
Applies to Models F/B/FE/BE 200 (This size requires a valve change when converting from propane to natural.)				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark w/100% lockout	65; 84; or 95	J/C G770NGC-4; J/C G770NHC-1; UTEC 1003-514	M7	M/H VR8204M1018
Components:				
Qty	P/N	Description		
1	121599	Valve, M/H #VR8304M2816		
6	11831	Burner Orifice, #35 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 25 - Propane to Natural Conversion Kit, P/N 99264				
Applies to Models F/B 250, 300				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K9	M/H V800M7017
Components:				
Qty	P/N	Description		
1	90204	Regulator Spring Kit, M/H 391936		
9	11831	Burner Orifice, #35 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 26 - Propane to Natural Conversion Kit, P/N 99266				
Applies to Models F/FE/B/BE 250, 300				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark w/100% lockout	65; 84; or 95	J/C G770NGC-4; J/C G770NHC-1; UTEC 1003-514	M8	W/R #36C68-325
Components:				
Qty	P/N	Description		
1	82525	Regulator spring Kit, W/R #92-0656		
9	11831	Burner Orifice, #35 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 27 - Propane to Natural Conversion Kit, P/N 99265				
Applies to Models F/B 400 (This size model requires a valve change when converting from propane to natural.)				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None	K9	M/H V800M7017
Components:				
Qty	P/N	Description		
1	96301	Valve, M/H #V800M7009		
12	11831	Burner Orifice, #35 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

TABLE 28 - Propane to Natural Conversion Kit, P/N 99267				
Applies to Models F/FE/B/BE 400 (This size model requires a valve change when converting from propane to natural.)				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark w/100% lockout	65; 84; or 95	J/C G770-NGC-4; J/C G770NHC-1; UTEC 1003-514	M8	W/R #36C68-325
			1B	W/R #36H32-442
Components:				
Qty	P/N	Description		
1	222037	Replacement Valve Kit including P/N 221525 Valve, W/R #36H32-441; Compression Nut, P/N 97572; and Instruction Sheet, P/N 222038		
12	11831	Burner Orifice, #35 (sea level)		
1	103034	Pilot Orifice, J/C #9731-715 (brass)		
1	1401	Natural Gas Disk		
1	64391	Conversion Tape		

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9/10 Form-CP-F/B-GC (Version A.1)