



REZNOR[®] Thomas & Betts

Gas Conversion Kits and Instructions

INSTALLATION FORM RZ-NA-I-F/B-GC (Version A)
Obsoletes Form RZ-NA-I-F/B-GC

APPLIES TO: Models F, FE, B, BE

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/CSA-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

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

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.

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

IMPORTANT: Because the serial number code can only identify the original equipment, after the kit is selected, match the actual Model No. of the valve to the one listed for that kit. If the actual Model No. on the valve is different from the one listed, contact your Reznor Representative to select and verify parts required for gas conversion.

DANGER: The gas burner in this gas-fired equipment is designed and equipped to provide safe, 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.

Gas Conversion Instructions - Models F, FE, B, and 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 is on page 6. **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 valves for which the kit is designated.

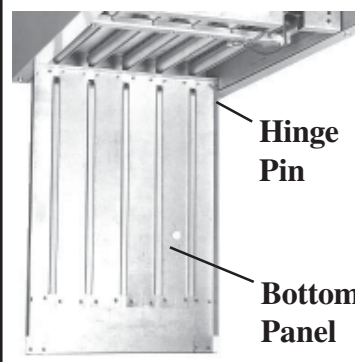
To change the valve, first mark the wires before removing them from the existing valve. Consult the valve manufacturer's instruction sheet for installation details and install the new valve. If the heater is equipped with an ECO device, be certain to connect it (applies to Models F and B with match-lit 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.			

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.

5. **Change the Pilot Orifice**



- a) Remove the two screws located at the rear of the bottom of the heater that retain the bottom panel. Allow the bottom panel to hinge down from the front.

Completely remove the bottom panel by pushing in on one of the spring-loaded hinge pins.

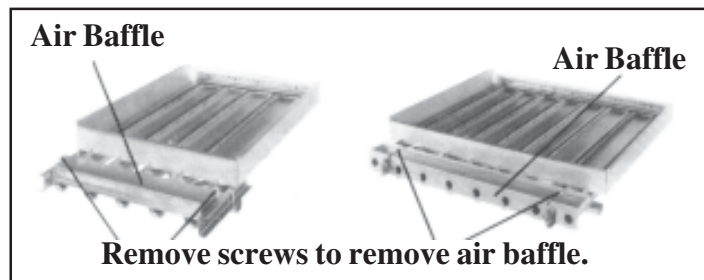
FIGURE 1 - Heater with Bottom Panel Hinged Down

- 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

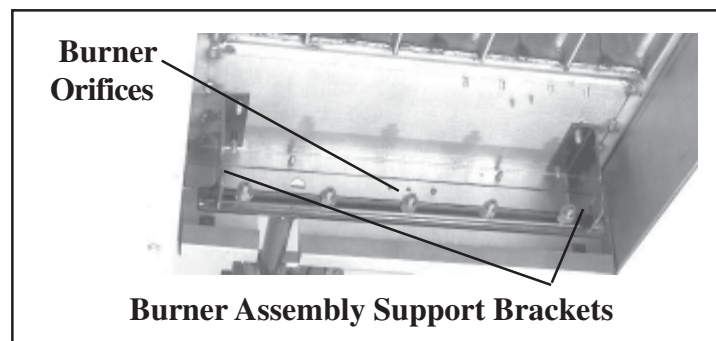


7. Change Burner Orifices

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.

FIGURE 3 - Burner Orifices



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

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 is included in the conversion kit.

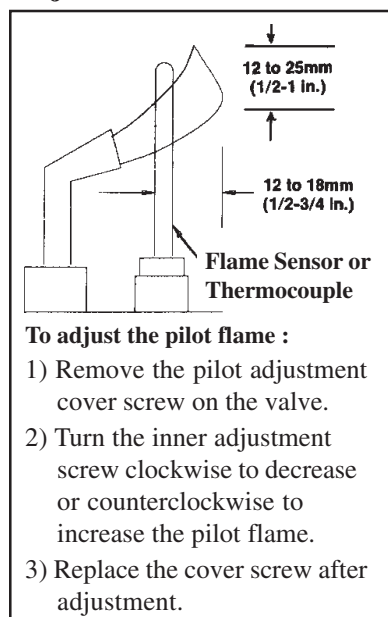
- a) Mark and disconnect the wires attached to the ignition controller. Remove the ignition controller.
 - b) Attach the ignition controller mounting bracket to the rear of the heater using the 3/8" long screws included in the kit. With the ignition controller positioned so that the terminals are across the bottom, attach it to the mounting bracket using the 5/8" long screws.
 - c) Connect the wires, making sure that the connections agree with the wiring diagram supplied with the heater.
11. 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**).

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 Gas
Feet	Meters	(inches W.C.)	(inches W.C.)
0 - 2000	1 - 610	3.5	10
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

FIGURE 4 - Pilot Flame Adjustment



- 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.

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 13.5 inches w.c. for natural gas or between 10 and 13.5 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 - <u>Natural to Propane Conversion Kits</u> for Heater Equipped with the ignition control listed and either of the valves listed.						See kit components listed in TABLE:	
Conversion Kit P/N	Models F, B, FE, BE Size	Match-Lit or Spark Pilot		Single-Stage Gas Valve			
		Serial No. Pilot Code	IgnitionControl	Serial No. Valve Code	Valve Manufacturer		
99243	25	31	None (Match-Lit)	K5	M/H V8200M7003	2, page 7	
				9B	M/H VR8200M7005		
		65	JC #G770NGC-4	M4	M/H VR8204M1000		
				W7	M/H VR8104M2505		
99249		66	JC #G67BG-5	M4	M/H VR8204M1000	3, page 7	
				W7	M/H VR8104M2505		
99244	50	31	None (Match-Lit)	K5	M/H V8200M7003	4, page 7	
				9B	M/H VR8200M7005		
		65	JC #G770NGC-4	M4	M/H VR8204M1000		
				W7	M/H VR8104M2505		
99250		66	JC #G67BG-5	M4	M/H VR8204M1000	5, page 7	
				W7	M/H VR8104M2505		
99245	75	31	None (Match-Lit)	K5	M/H V8200M7003	6, page 7	
				9B	M/H VR8200M7005		
		65	JC #G770NGC-4	M4	M/H VR8204M1000		
				W7	M/H VR8104M2505		
99251		66	JC #G67BG-5	M4	M/H VR8204M1000	7, page 7	
				W7	M/H VR8104M2505		
99246	100, 125	31	None (Match-Lit)	K5	M/H V8200M7003	8, page 8	
				9B	M/H VR8200M7005		
		65	JC #G770NGC-4	M4	M/H VR8204M1000		
				W7	M/H VR8104M2505		
99252		66	JC #G67BG-5	M4	M/H VR8204M1000	9, page 8	
				W7	M/H VR8104M2505		
131582	130, 165	31	None (Match-Lit)	K5	M/H V8200M7003	10, page 8	
				9B	M/H VR8200M7005		
99247	130, 165, 200, 250	31	None (Match-Lit)	K6	W/R 36C03-211	11, page 8	
	300, 400	65	JC #G770NGC-4	M6	W/R 36C68-452		
99256	130, 165, 200, 250	65	JC #G770NGC-4	M4	M/H VR8204M1000	12, page 8	
		65	JC #G770NGC-4	Q3	M/H VR8304M2816		
99253			66	JC #G67BG-5	M4	M/H VR8204M1000	13, page 8
			66	JC #G67BG-5	Q3	M/H VR8304M2816	
99254	200, 250	66	JC #G67BG-5	M5	M/H VR8440A2159	14, page 9	
99248	200, 250	65	JC #G770NGC-4	M5	M/H VR8440A2159	15, page 9	
	300, 400	31	None (Match-Lit)	K7	M/H V800M7009		
99255	300, 400	66	JC #G67BG-5	M6	W/R 36C68-452	16, page 9	

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) 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.

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

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

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 (Match-Lit)	K5	M/H VR8200M7003
			9B	M/H VR8200M7005
Spark w/100% Lockout	65	J/C #G770NGC-4	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				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Spark	66	J/C #G67BG-5	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	97547	Ignition Control J/C #G770NGC-4 with 100% lockout		
1	110076	Screws, 6 x 5/8" lg, round head Philips (for mounting controller)		
1	111736	Ignition Control Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" lg, (for bracket)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

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 (Match-Lit)	K5	M/H VR8200M7003
			9B	M/H VR8200M7005
Spark w/100% Lockout	65	J/C #G770NGC-4	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		

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	J/C #G67BG-5	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	97547	Ignition Control J/C #G770NGC-4 with 100% lockout		
2	110076	Screws, 6 x 5/8" lg, round head Philips (for mounting controller)		
1	111736	Ignition Control Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" lg, (for bracket)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

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 (Match-Lit)	K5	M/H VR8200M7003
			9B	M/H VR8200M7005
Spark w/100% Lockout	65	J/C #G770NGC-4	M4	M/H VR8204M1000
			W7	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	J/C #G67BG-5	M4	M/H VR8204M1000
			W7	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	97547	Ignition Control J/C #G770NGC-4 with 100% lockout		
2	110076	Screws, 6 x 5/8" lg, round head Philips (for mounting controller)		
1	111736	Ignition Control Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" lg, (for bracket)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

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

TABLE 8 - Natural to Propane Conversion Kit, P/N 99246				
Applies to Models F/FE/B/BE 100 and 125				
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 (Match-Lit)	K5 9B	M/H V8200M7003 M/H VR8200M7005
Spark w/100 % Lockout	65	J/C #G770NGC-4	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	J/C #G67BG-5	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	97547	Ignition Control J/C #G770NGC-4 with 100% lockout		
2	110076	Screws, 6 x 5/8" lg, round head Philips (for mounting controller)		
1	111736	Ignition Control Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" lg, (for bracket)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

TABLE 10 - Natural to Propane Conversion Kit, P/N 131582				
Applies to Models F/B 130, 165				
Equipped with				
Pilot			Valve	
Type	Serial No. Code	Manufacturer's No.	Serial No. Code	Manufacturer's No.
Match	31	None (Match-Lit)	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	J/C #G770NGC-4	M6	W/R 36C68-452
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		

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	J/C #G770NGC-4	M4 Q3	M/H VR8204M1000 M/H VR8304M2816
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	J/C #G67BG-5	M4 Q3	M/H VR8204M1000 M/H VR8304M2816
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	97547	Ignition Control J/C #G770NGC-4 with 100% lockout		
2	110076	Screws, 6 x 5/8" lg, round head Philips (for mounting controller)		
1	111736	Ignition Control Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" lg, (for bracket)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

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

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	J/C #G67BG-5	M5	M/H VR8440A2159
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	97547	Ignition Control J/C #G770NGC-4 with 100% lockout		
2	110076	Screws, 6 x 5/8" lg, round head Philips (for mounting controller)		
1	111736	Ignition Control Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" lg, (for bracket)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

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 V800M7009
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	J/C #G770NGC-4	M5	M/H VR8440A2159
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	J/C #G67BG-5	M6	W/R 36C68-452
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	97547	Ignition Control J/C #G770NGC-4 with 100% lockout		
2	110076	Screws, 6 x 5/8" lg, round head Philips (for mounting controller)		
1	111736	Ignition Control Mounting Bracket		
2	96426	Screws, #10LGM x 3/8" lg, (for bracket)		
1	37752	Propane Gas Disk		
1	64391	Conversion Tape		

Conversion Kits - Propane to Natural

TABLE 17 - Propane to Natural Conversion Kits for Heater Equipped with the ignition control listed and either of the valves listed.						See kit components listed in TABLE:
Conversion Kit P/N	Models F, B, FE, BE Size	Match-Lit or Spark Pilot		Single-Stage Gas Valve		
		Serial No. Pilot Code	IgnitionControl	Serial No. Valve Code	Valve Manufacturer	
99257	25	31	None (Match-Lit)	K8	M/H V8200M7011	18, page 10
				1C	M/H VR8200M7013	
		65	JC #G770NGC-4	M7	M/H VR8204M1018	
99258	50	31	None (Match-Lit)	K8	M/H V8200M7011	19, page 10
				1C	M/H VR8200M7013	
		65	JC #G770NGC-4	M7	M/H VR8204M1018	
99259	75	31	None (Match-Lit)	K8	M/H V8200M7011	20, page 10
				1C	M/H VR8200M7013	
		65	JC #G770NGC-4	M7	M/H VR8204M1018	
99260	100, 125	31	None (Match-Lit)	K8	M/H V8200M7011	21, page 10
				1C	M/H VR8200M7013	
		65	JC #G770NGC-4	M7	M/H VR8204M1018	
99261	130, 165	31	None (Match-Lit)	K8	M/H V8200M7011	22, page 11
				1C	M/H VR8200M7013	
		65	JC #G770NGC-4	M7	M/H VR8204M1018	
99262	200	31	None (Match-Lit)	K8	M/H V8200M7011	23, page 12
			1C	M/H VR8200M7013		
99263		65	JC #G770NGC-4	M7	M/H VR8204M1018	24, page 12
99264	250, 300	31	None (M atch-Lit)	K9	M/H V800M7017	25, page 12
99266		65	JC #G770NGC-4	M8	W/R 36C68-325	26, page 12
99265	400	31	None (M atch-Lit)	K9	M/H V800M7017	27, page 12
99267		65	JC #G770NGC-4	M8	W/R 36C68-325	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 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 (Match-Lit)	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65	J/C #G770NGC-4	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 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 (Match-Lit)	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65	J/C #G770NGC-4	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 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 (Match-Lit)	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65	J/C #G770NGC-4	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 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 (Match-Lit)	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65	J/C #G770NGC-4	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 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 (Match-Lit)	K8	M/H V8200M7011
			1C	M/H VR8200M7013
Spark w/100% lockout	65	J/C #G770NGC-4	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 (Match-Lit)	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	J/C #G770NGC-4	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 (Match-Lit)	K8	M/H V8200M7011
			1C	M/H VR8200M7013
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	J/C #G770-NGC-4	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 (Match-Lit)	K8	M/H V8200M7011
			1C	M/H VR8200M7013
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	J/C #G770-NGC-4	M8	W/R #36C68-325
Components:				
Qty	P/N	Description		
1	96309	Valve, W/R #36C68-452		
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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1204 OG POD Form RZ-NA-I-F/B-GC (Version A)