Fuel Conversion Kit

Installation Instructions

Kits:

Natural to LP:

20011992, 20012367, 20012368

LP to Natural:

20013200, 20013199, 20013196

for Models: DVT38IN, DVT44IN, DVT38S2IN

WARNING!

The installation of this conversion kit must only be undertaken by a qualified, certified gas appliance installer.

This kit is designed for conversion of the Direct Vent Gas Heater Models DVT38, DVT44 and DVT38S2 equipped with the American Flame AF-4000 Series valve.

Tools required for conversion: TORX T20 Security Tee bit, 3/8" and 1/2" deep well socket, Phillips or Robertson screwdriver, 5/32" allen wrench, small flat blade screwdriver, 7/16" nut driver or socket.

Check Contents of Shipping Carton

Compare contents of Figure 1 with actual parts received. If any parts are missing or damaged, contact your dealer before starting conversion.

Conversion Precautions

Allow unit to cool if it has been operating.

Before proceeding with conversion shut off fireplace and turn gas supply OFF. Turn OFF any electricity that may be going to appliance.

Conversion Procedure

1. Remove glass frame. Refer to Homeowner's Manual.
2. Remove lava rock, volcanic rock, embers and logs. Carefully remove brick panels.

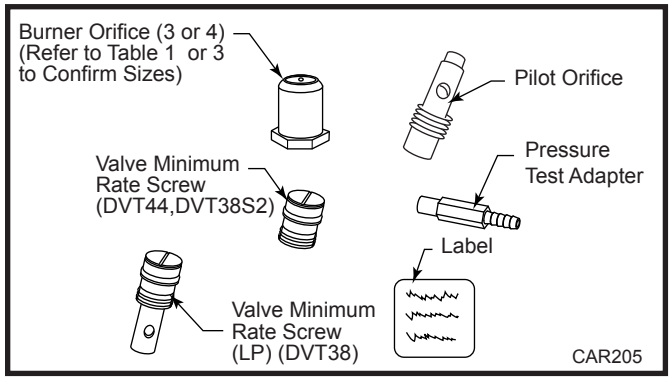

Fig. 1 Carton contents.

CAUTION: Logs may be hot.

3. Models DVT38, DVT44

a. With a Phillips or Robertson screwdriver, remove the two (2) screws holding the fettle to the burner assemblies. With a hex, remove the two (2) hex nuts holding the burner tube to the front of the burner assembly. Remove burner tube.

b. With the 3/8" socket remove two (2) hex nuts holding the left burner leg. Remove burner leg. (Fig. 2)

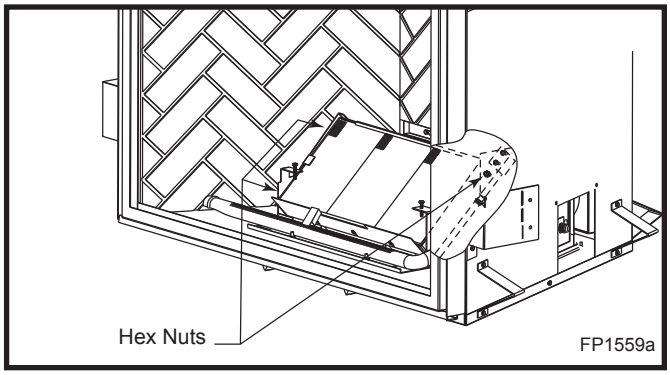

Fig. 2 Use 3/8" socket to remove hex nuts holding left burner leg.

c. Slide the burner housing assembly to the left and away. Adjust air shutter setting. Pull burner tube assembly forward and out. Adjust air shutter setting. Refer to Table 2.

d. Remove two (2) screws holding the pilot assembly to the burner assembly. Move the pilot assembly toward the back.

e. Slide the burner housing assembly to the left and away.

f. With the 1/2" socket, replace the three (3) injectors. Refer to Table 1.

3. Model DVT38S2

a. With a Phillips or Robertson screwdriver, remove the four (4) nuts holding the fettle to the burner assemblies. With a hex, remove the two (2) hex nuts holding each burner tube to the front of the

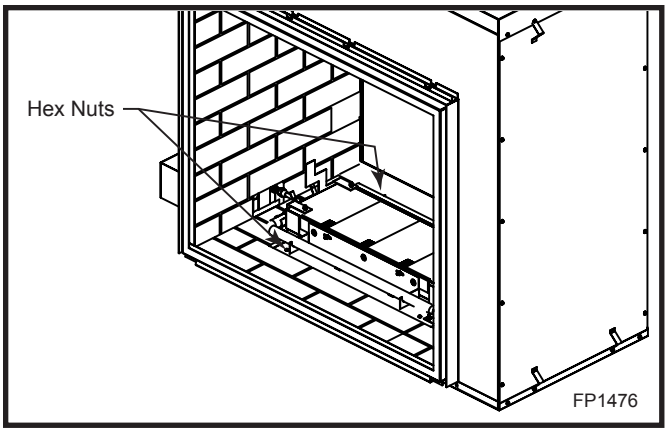

Fig. 3 Use a 3/8" socket to remove hex nuts holding burner legs.

burner assembly on both sides. Remove burner tubes.

b. Remove two (2) hex nuts holding the left burner leg. Remove burner leg. (Fig. 3)
c. Remove two (2) screws holding the pilot assembly to the burner assembly. Move the pilot assembly toward the back.
d. Slide the burner housing assembly to the left and away.
e. Replace the four (4) injectors. Refer to Table 3.

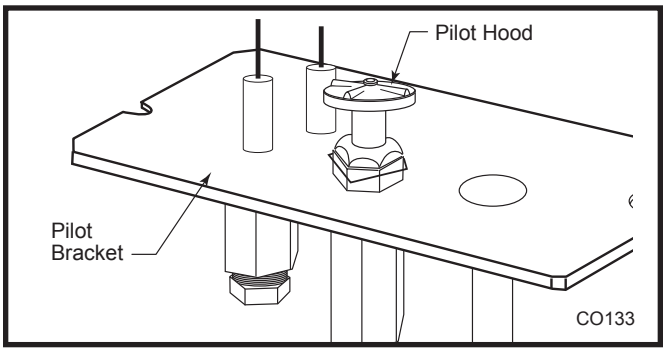

Fig. 4 Remove pilot hood.

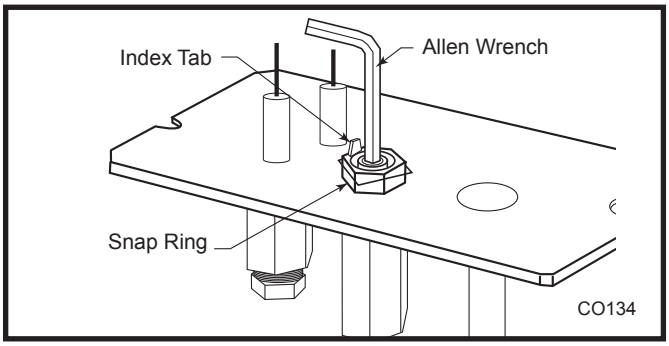

Fig. 5 Remove pilot orifice.

Replace Pilot Orifice

4. Remove pilot hood by lifting up. (Fig. 4) **NOTE:** It is not necessary to remove the pilot tube for conversion.
5. Remove pilot orifice with 5/32" Allen wrench. (Fig. 5)
6. Install the conversion orifice.
7. Reinstall pilot hood. Be sure to align hood with index tab.

Valve Conversion

1. Remove two (2) screws holding the pilot assembly to the burner assembly. Move the pilot assembly toward the back wall.
2. Using a back-up wrench, disconnect the gas supply fitting near the right rear corner of the firebox.
3. Remove four (4) screws holding the burner assembly to the firebox floor.
4. Carefully slide the burner assembly out of the way.
5. Remove 13 screws around the perimeter holding large access panel on the of the firebox.
6. Carefully pull back the panel just enough to gain access to control box.
7. Locate the black plastic cap on the gas valve. (Fig. 6) Remove the black cap by pulling the cap straight off. Note the position of the marker on the top of the rotary knob. This marker will point to NAT or LP. (Fig. 7)

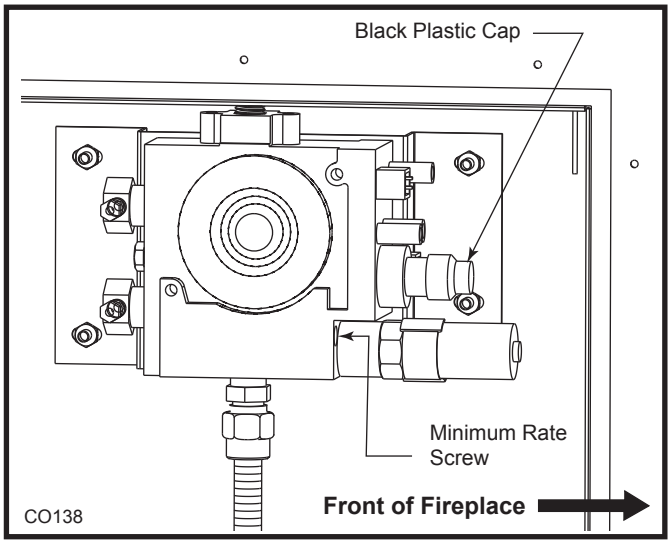

Fig. 6 AF4000 Valve in place.

8. To convert the valve from NG to LP, push in the knob and rotate 90° (1/4 turn). **NOTE:** The shaft should point to LP. The shaft will remain pushed-in.
9. Remove the slotted brass minimum rate screw located in the valve next to the motor drive. (Fig. 7)
10. Replace the minimum rate screw with the one provided in the LP conversion kit supplied with this fireplace. Ensure the screw is fully installed.
11. Install the enclosed identification label to the valve body where it can be easily seen.
12. Reinstall steel panel.

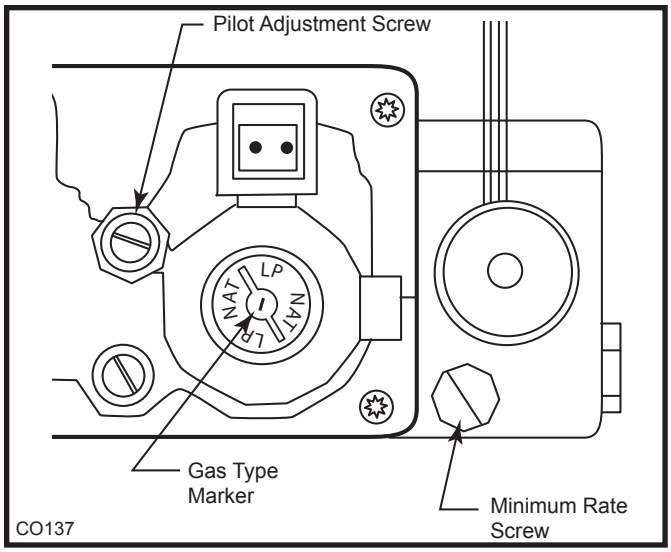

Fig. 7 Remove black plastic cap and adjust rotary knob to correct gas type. (LP position shown) Replace minimum rate screw with one supplied in conversion kit.

13. Reinstall burner to original position. Reinstall burner leg, burner tube and fettle. Re-attach supply tube to gas supply fitting. Using a back-up wrench, tighten securely.
14. Test for leaks. Apply electric and gas to the system.
15. Light the pilot burner using the remote control. With soapy solution check for leaks around the pilot assembly where the tube enters the pilot assembly. Tighten fitting if necessary.
16. Light the main burner and check for leaks around the burner supply tube fittings and burner orifices. Tighten if necessary.
17. Turn fireplace OFF.
18. After the conversion and leak checks have been made, manifold outlet pressure can be checked with a manometer at the test ports located at the side front edge of the fireplace opening. The lower test port is manifold outlet pressure.

CAUTION: Turn off the gas supply before removing test port plug.

19. Using a 7/16” nut driver, remove the threaded plug from the test port.
20. Thread the supplied extension adaptor into the open test port.
21. Attach a 1/4” diameter pressure gauge flexible hose fully onto the barb of the adaptor.
22. Turn on gas supply and operate valve with remote control as needed to indicate gas pressure. The manifold pressure for LP should be approximately 10.0” wcp.

CAUTION: Turn off the valve and gas supply before removing test port adaptor and replacing plug.

23. After test, remove adaptor and replace plug.
24. Turn on gas supply and check that plugs are tight and leak free.
25. Follow instructions in Homeowner’s Manual to re-assemble brick panels, logs, lava rock, volcanic rock, embers and andirons.
26. Replace glass frame.
27. Conversion complete.

Pilot Flame Adjustment

Typically, the top 3/8” or 1/2” of the thermopile should be engulfed in the pilot flame. (Fig. 8)

To adjust pilot burner: Adjust pilot screw on valve to provide properly sized flame..

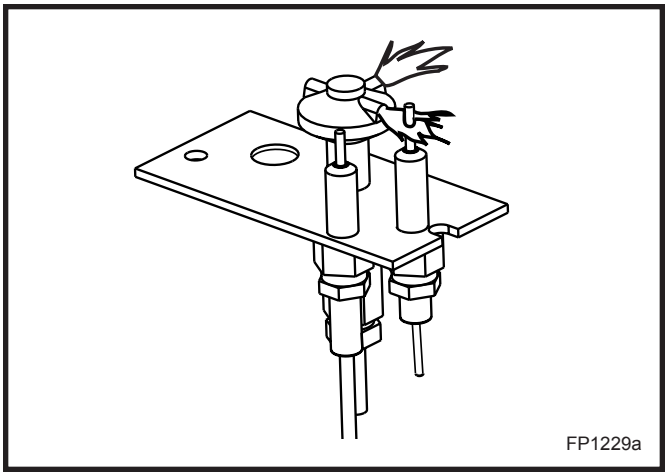

Fig. 8 Correct pilot flame appearance.

Table 1 Injector Orifice Size Matrix

Conversion to LP									
		Burner Orifice						Input (BTU/hr)	
Kit #	Model	Front	Part #	Middle	Part #	Rear	Part #	Minimum	Maximum
20011992	DVT38IP	#66 (.033”)	20009182	#59 (.041”)	20000664	#50 (.070”)	30000337	36,000	46,000
20012367	DVT44IP	#63 (.037”)	20006251	#57 (.043”)	20004587	#49 (.073”)	20006252	45,000	60,000
Conversion to Natural Gas									
		Burner Orifice						Input (BTU/hr)	
Kit #	Model	Front	Part #	Middle	Part #	Rear	Part #	Minimum	Maximum
20013200	DVT38IN	#54 (.059”)	20000130	#54 (.055”)	20000130	#30 (.128”)	20009175	32,000	46,000
20013199	DVT44IN	#53 (.059”)	20007347	#40 (.098”)	20004263	#23 (.154”)	20009044	37,000	60,000

Table 2 Air Shutter Settings

Conversion to LP or Natural Gas		
Model	Burner Tube Air Shutter Setting	Burner Housing Air Shutter Setting
DVT38IP	Fully open	n/a
DVT44IP	Fully open	Fully open

Table 3 DVT38S2 Injector Orifice Size Matrix

Conversion to LP											
KiT # 20012368 Model	Burner Housing	Part #	Burner Housing/ Pilot	Part #	Burner Tube	Part #	Burner Tube	Part #	Input (BTU/hr) Min.	Max.
DVT38S2IP	#55 (.052”)	30000333	#54 (.055”)	20000130	#57 (.043”)	20004587	#57 (.043”)	20004587	45,000	56,000
Conversion to Natural Gas										
KiT # 20013196 Model	Burner Housing	Part #	Burner Housing/ Pilot	Part #	Burner Tube	Part #	Burner Tube	Part #	Input (BTU/hr) Min.	Max.
DVT38S2IN	#38 (.101”)	20009310	#38 (.101”)	20009310	#45 (.082”)	20010169	#45 (.082”)	20010169	38,000	56,000

Table 4 Valve Minimum Rate Screw

Model	Drill Size	Part #	ID Stamp
DVT38IP	#31 (.120”)	20012364	31
DVT44IP	No Shank Screw	20012264	00
DVT38S2IP			
DVT38IN	No Shank Screw	20013198	0
DVT44IN			
DVT38S2IN			

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