

# INSTALLATION INSTRUCTIONS AND OWNER'S MANUAL

**INSTALLER:** Leave this manual with the appliance.  
**CONSUMER:** Retain this manual for future reference.

## ⚠ WARNING

### FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death or property damage.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- 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 neighbor's phone. 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.

## DIRECT VENT ZERO CLEARANCE GAS FIREPLACE HEATER SERIES

### MILLIVOLT (MV)

DVCP(32,36,42)BP3(0,2)(N,P)-2

### INTERMITTENT PILOT (IP)

DVCP(32,36,42)BP7(0,2)(N,P)-2

GAS-FIRED



UL FILE NO. MH30033

## ⚠ WARNING

If not installed, operated and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel or from fuel combustion which can cause death or serious illness.

This appliance may be installed in an aftermarket, permanently located, manufactured home (USA only) or mobile home, where not prohibited by state or local codes.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

## ⚠ WARNING



**HOT GLASS WILL  
CAUSE BURNS.  
DO NOT TOUCH GLASS  
UNTIL COOLED.  
NEVER ALLOW CHILDREN  
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.

NATIONAL  
FIREPLACE  
INSTITUTE



CERTIFIED  
[www.nficertified.org](http://www.nficertified.org)

We suggest that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

# BEFORE YOU START

## Samples and Definitions:

### DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE:** Addresses practices not related to personal injury.

1. Read the safety information on Pages 52 - 54.
2. If located in the Commonwealth of Massachusetts, please note the special requirements on page 55.
3. Are you going to install a blower into the fireplace? See pages 8 - 10.
4. Where are you going to install the fireplace? See page 14.
5. Frame the opening. See pages 17 - 18.
6. Installing and connecting the gas lines. See pages 15 - 16.
7. Install the wiring. See page 35.
8. Install the venting. See pages 21 - 25.
9. Install the fireplace. See pages 17 - 20.
10. Connect the venting system. See page 32 - 33.
11. Light the fireplace and troubleshoot. See pages 36 - 37 and 40 - 43.
12. Show the homeowner how to operate the fireplace.
13. Show the homeowner how to do the basic maintenance.

## Unpacking the fireplace

1. Cut binding straps and shrink wrap.
2. Remove top of carton.
3. Remove glass cartons from back of unit and set aside.
4. Remove non-combustible boards and set aside.
5. Remove remaining carton.
6. Verify that the fireplace and components have not been damaged during shipping.
7. Set fireplace in a location near to its final installation location.

## Installation Considerations - Fireplace Installation Guidelines

When planning a fireplace insert installation, it's necessary to determine:

- Gas supply piping (left side entrance).
- Electrical connections - for optional light kit
- Electrical supply requirements for optional light. (120V, 60Hz, 1 Amp) (right side entrance)
- Proper opening size of fireplace required for installation of the fireplace insert.

In planning the installation for the fireplace, determine where the unit is to be installed and whether optional accessories are desired. Gas supply piping should also be planned at this time.

The fireplace can be mounted on any of these surfaces:

1. A flat hard combustible or non-combustible surface.
2. A raised platform of combustible or non-combustible material.
3. Four corners of the fireplace so contact is made on all four perimeter edges on the bottom of the unit.

If the fireplace is installed directly on carpeting, tile or other combustible material other than wood flooring, it should be installed on a metal or wood panel extending the full width and depth of the unit.

This unit is designed to be installed in a zero-clearance enclosure. This means the combustible material can come in contact with the top and side standoff spacers, and secured to combustible framing using the framing brackets provided.

# CARTON CONTENTS



Note: Items not shown to scale.

INDEX NUMBER	DESCRIPTION	QUANTITY SUPPLIED	
		DVCP(32,36,42)BP3 SERIES	DVCP(32,36,42)BP7 SERIES
1	ROCK WOOL	1	1
2	RECEPTACLE COVER	1	2
3	RECEPTACLE	1	2
4	FLUE RESTRICTOR ASSEMBLY - NAT OR LP	1	1
5	NO. 10 X 1/2 PHILLIPS SCREW	8	8
6	#8 X 1 SELF-DRILLING DRYWALL SCREW	8	8
7	AA BATTERY	0	4
8	AC ADAPTOR	0	1
9	DECORATIVE ROCK	2	2
10	BACKER STUD	4	4

See Parts Lists on pages 48 - 51 for ordering replacement parts. Do not order batteries, bolts, screws, washers or nuts. They are standard hardware items and can be purchased at any local hardware store.

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# INTRODUCTION

## Instructions to Installer

1. Leave the instruction manual with owner after installation.
2. Have owner fill out and mail the product registration card supplied with the fireplace or register online.
3. Show owner how to start and operate the fireplace.

This direct vent gas fireplace heater is designed to operate with all combustion air being siphoned from the outside of the building and all exhaust gases expelled to the outside of the building. The information contained in this manual pertains to all models and gas control systems unless otherwise noted.

## Appliance Certification

### WARNING

Do not use this fireplace with solid fuels.

This fireplace is design certified in accordance with American National Standard/CSA Standard ANSI Z21.88/CSA 2.33 and by Underwriters Laboratories as a Direct Vent Gas Fireplace Heater and shall be installed according to these instructions.

Consult your local building code agency, prior to installation, to ensure compliance with local codes-including permits and inspections.

The fireplace, when installed, must be electrically grounded in accordance with local codes or, in absence of local codes, with the *National Electric Code ANSI/NFPA 70* or Canadian Electric code, CSA C22.1, if an external electrical source is utilized.

These models may be installed in a bedroom or bed-sitting room in the U.S.A. and Canada.

## Qualified Installing Agency

Installation and replacement of gas piping, gas utilization equipment or accessories and repair and servicing of equipment shall be performed only by a qualified agency. The term "qualified agency" means any individual, firm, corporation or company which either in person or through a representative is engaged in and is responsible for (a) the installation or replacement of gas piping or (b) the connection, installation, repair or servicing of equipment, who is experienced in such work, familiar with all precautions required and has complied with all the requirements of the authority having jurisdiction.

**State of Massachusetts:** The installation must be made by a licensed plumber or gas fitter in the Commonwealth of Massachusetts.

### WARNING

ANY CHANGE TO THIS FIREPLACE OR ITS CONTROLS CAN BE DANGEROUS.

Improper installation or use of the fireplace can cause serious injury or death from fire, burns, explosions, or carbon monoxide poisoning.

The installation must conform with local codes or, in the absence of local codes, with the *National Fuel Gas Code ANSI Z223.1/ NFPA 54\* Natural Gas and Propane Installation Code*, or *CSA B149.1 in Canada*. \*Available from the American National Standards Institute, Inc. 11 West 42nd St., New York, N.Y. 10036.

**Any alteration of the original design, installed other than as shown in these instructions or use with a type of gas not shown on the rating plate is the responsibility of the person and company making the change.**

## Important

All correspondence should refer to complete Model Number, Serial Number and type of gas.

## High Altitude

When installing this unit at an elevation above 2000 feet (in the United States) it may be necessary to decrease the input rating by changing the existing burner orifice to a smaller size. Generally, input should be reduced 4 percent for each 1000 feet above sea level. However, if the heating value of the gas has been reduced, this general rule may not apply. Check with Empire Comfort Systems for proper orifice size identification.

## Canadian High Altitude

Altitude: 0-4500 feet (0-1370 m)

When installing this unit at an elevation above 4500 feet (in Canada), check with Empire Comfort Systems.

Consult your Empire Comfort Systems for assistance in determining the proper orifice for location.

## Preparation

This direct vent gas fireplace and its components are tested and safe when installed in accordance with this Installation Manual. Report to your dealer any parts damaged in shipment, specifically check glass condition. Do not install unit with damaged, incomplete, or substitute parts. Read all instructions before starting installation and follow these instructions carefully during installation to insure maximum benefit and safety. Failure to follow them will void your warranty and may present a fire hazard. The warranty will be voided by, and the warranter disclaims any responsibility for the following actions:

- Installation of any damaged fireplace or vent system component.
- Modification of the fireplace or direct vent system.
- Installation other than as instructed by Empire Comfort Systems, Inc.
- Improper positioning of the logs, glass door or decorative rock.
- Installation and/or use of any component part not manufactured or approved by manufacturer.

# SPECIFICATIONS

	DVCP32NAT	DVCP32LP	DVCP36NAT	DVCP36LP	DVCP42NAT	DVCP42LP
Input BTU/Hr Maximum	24,000	22,000	24,000	24,000	28,500	26,500
Input BTU/Hr Minimum (millivolt only)	18,000	18,000	18,000	19,000	21,000	22,000
KWH (Maximum)	7.03	6.45	7.03	7.03	8.35	7.77
KWH (Minimum)	5.27	5.27	5.28	5.57	6.15	6.3
Orifice	42	54	42	1.45mm	39	1.55mm
Air Shutter Opening	1/4-in	Full Open	1/4-in	Full Open	1/8-in	Full Open
Gas Inlet Shutoff Valve (Pipe)	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT

**NOTE:** Air shutter settings are factory minimum settings. Some venting configurations may require minor air shutter adjustments for optimum performance.

GAS SUPPLY PRESSURES			
GAS TYPE	MAXIMUM	MINIMUM	MANIFOLD
NAT	14.0-in	4.5-in	3.5-in
LP	14.0-in	10.8-in	10.0-in

Remote Control Options & Accessories	Description	Models Used On
FRBC	Millivolt Battery Remote ON/OFF	DVCP(32,36,42)BP(3,7)
FRBTC	Millivolt Battery Remote Thermostat	DVCP(32,36,42)BP(3,7)
TMW	Millivolt Wireless Wall Thermostat	DVCP(32,36,42)BP(3,7)
TRW	Millivolt Reed Switch Wall Thermostat	DVCP(32,36,42)BP(3,7)
FWS-1	Direct Ignition/Millivolt Wall Switch	DVCP(32,36,42)BP(3,7)
FRBTP	Battery Operated Remote Control with Programmable Thermostat	DVCP(32,36,42)BP(3,7)
RVKN-1	Remote Kit, NAT (Stepper Motor)	DVCP(32,36,42)BP7N
RVKP-1	Remote Kit, LP (Stepper Motor)	DVCP(32,36,42)BP7P

Venting Options	Description
DVVK-4TSP	Top vent kit (horizontal) - 4-½-in to 6-in (114.3 mm to 152 mm) wall thickness
DVVK-4TP	Top vent kit (horizontal) - 8-in to 12-in (203 mm to 305 mm) wall thickness
DVVK-4VP	Vertical vent kit
DVVK-4F	Horizontal flex vent kit (4-ft FLEX)
SD46DVA-FCFX7	Flex Adaptor Collar (must be used with flex kits)

Conversion Kits	Description	Used On
31768	Conversion Kit, DV (Natural to Propane)	DVCP32BP30
31769	Conversion Kit, DV (Propane to Natural)	DVCP302BP30
31770	Conversion Kit, DV (Natural to Propane)	DVCP306BP30
31771	Conversion Kit, DV (Propane to Natural)	DVCP306BP30
31772	Conversion Kit, DV (Natural to Propane)	DVCP42BP30
31773	Conversion Kit, DV (Propane to Natural)	DVCP42BP30
32874	Conversion Kit, DV (Natural to Propane)	DVCP702BP70
32875	Conversion Kit, DV (Propane to Natural)	DVCP702BP70
32876	Conversion Kit, DV (Natural to Propane)	DVCP706BP70
32877	Conversion Kit, DV (Propane to Natural)	DVCP706BP70
32878	Conversion Kit, DV (Natural to Propane)	DVCP42BP70
32879	Conversion Kit, DV (Propane to Natural)	DVCP42BP70

## OPTIONAL ACCESSORIES

The following accessory parts can be obtained from your Empire Comfort Systems dealer. If you need additional information beyond what your dealer can furnish, contact Empire Comfort Systems Inc., 918 Freeburg Ave., Belleville, Illinois 62220-2623.

Model Number	Description
DVP32TAB	Liner, Aged Brick, Ceramic Fiber
DVP32TCB	Liner, Cottage Brick, Ceramic Fiber
DVP32TKR	Liner, Black Reflective
DVP32TRB	Liner, Rustic Brick, Ceramic Fiber
DVP36TAB	Liner, Aged Brick, Ceramic Fiber
DVP36TCB	Liner, Cottage Brick, Ceramic Fiber
DVP36TKR	Liner, Black Reflective
DVP36TRB	Liner, Rustic Brick, Ceramic Fiber
DVP42TAB	Liner, Aged Brick, Ceramic Fiber
DVP42TCB	Liner, Cottage Brick, Ceramic Fiber
DVP42TKR	Liner, Black Reflective
DVP42TRB	Liner, Rustic Brick, Ceramic Fiber
FBB10	Blower, Auto Variable-Speed
LK6	Lighting Kit, 120 V

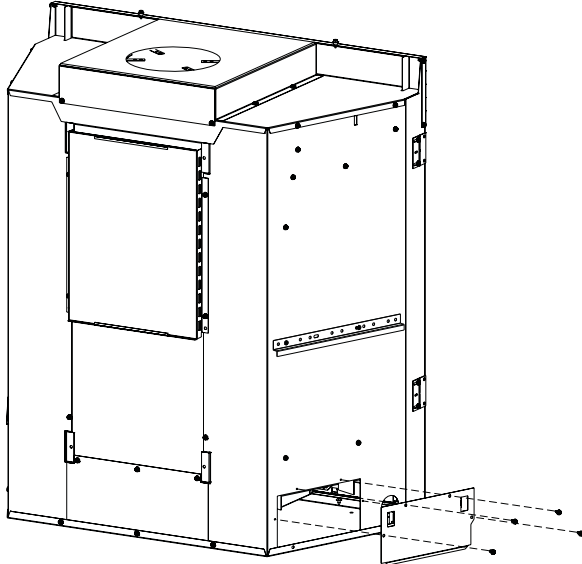
**Attention: This unit requires Ceramic Fiber Logs to complete the fireplace interior. Contact your Empire Comfort Systems Dealer (see Page 47) for further information. Do not operate the fireplace without the Ceramic Fiber Log accessory installed.**



# FBB10 BLOWER KIT INSTALLATION (OPTIONAL)

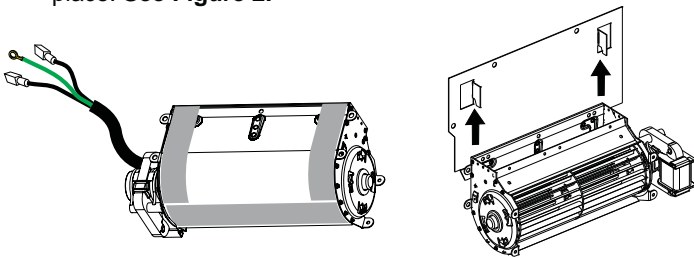
## **BENCH INSTALLATION (BEFORE INSTALLED IN WALL)**

1. With Power completely turned off, remove plate and four screws from left panel. **See Figure 1.**



**Figure 1**

2. Install the blower onto the pre-bent brackets on the blower plate. Ensure the Velcro connects to secure the blower in place. **See Figure 2.**

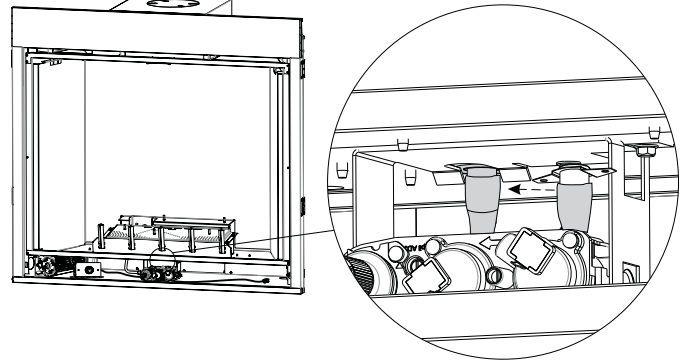


Back side of Blower  
showing Velcro

**Figure 2**

3. Route wiring through opening created in Step 1.
4. Secure blower assembly into place per step 2 with velcro.

5. Install thermo disc by snapping into valve bracket burner assembly. **See Figure 3.**

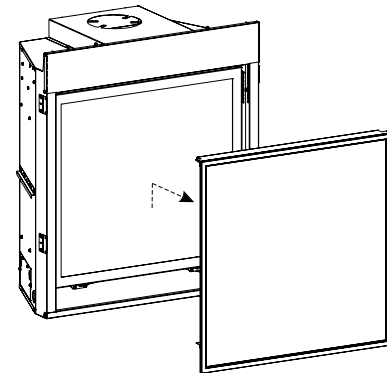


**Figure 3**

6. Connect Power source into outlet on the bottom right side of the appliance.

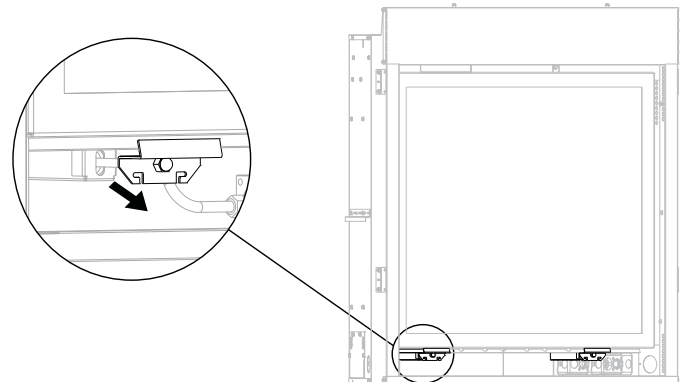
## **BLOWER INSTALLATION (AFTER INSTALLED IN WALL)**

1. Make sure power is turned off prior to any removal. Lift screen and pull away from the unit. **See Figure 4.**



**Figure 4**

2. Undo two latches at bottom of firebox assembly. **See Figure 5.**

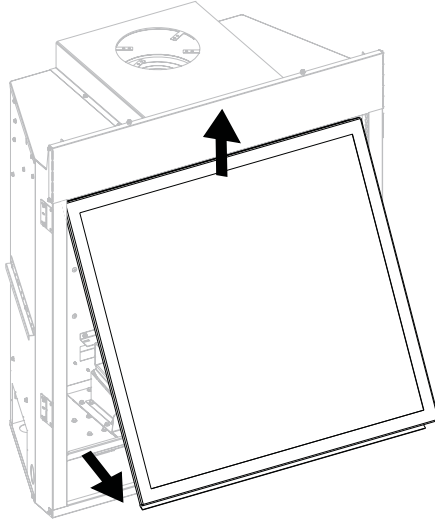


**Figure 5**



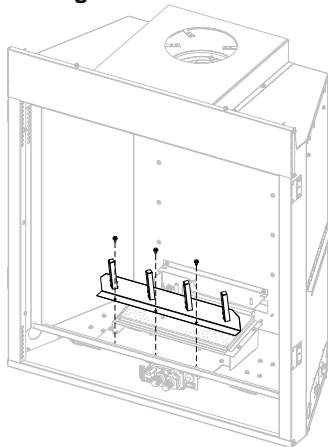
# FBB10 BLOWER KIT INSTALLATION (OPTIONAL)

3. Disengage Glass Frame by pulling in upward swinging position. Place Glass Frame aside in a safe and out of the way location. **See Figure 6.**



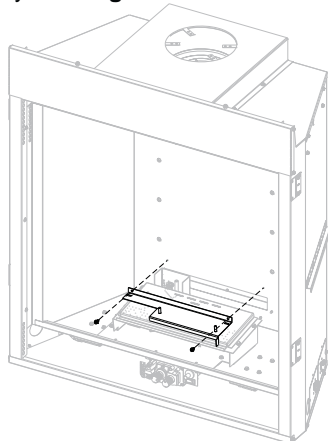
**Figure 6**

4. Remove grate by disassembling and removing the three screws on top panel. Retain grate and screws for reassembly. **See Figure 7.**



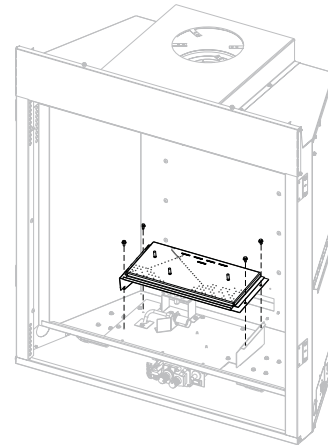
**Figure 7**

5. Remove log support by removing the two screws securing the metal plate to log support. Retain log support and screws for reassembly. **See Figure 8.**



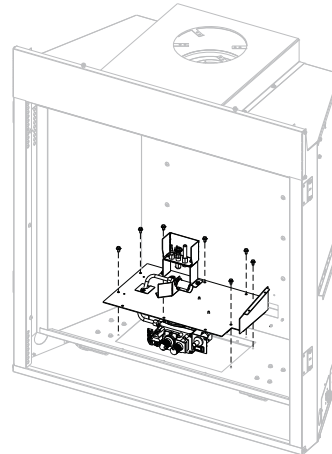
**Figure 8**

6. Remove the four screws securing burner and slide to right then lift burner off. Retain burner and screws for reassembly. **See Figure 9.**



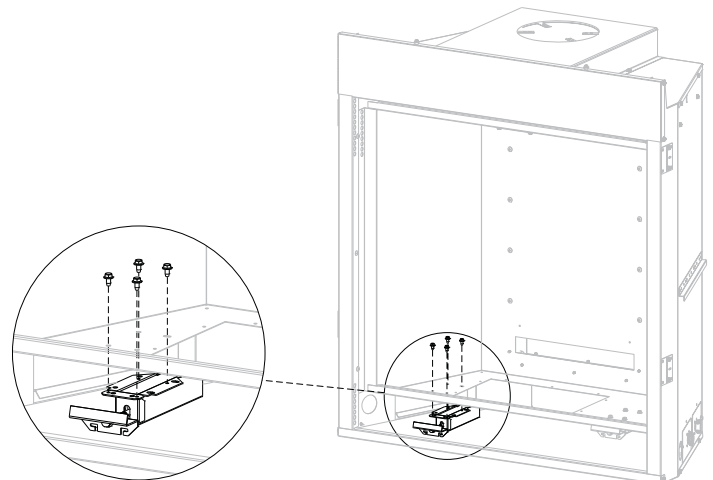
**Figure 9**

7. Remove seven screws and lift burner assembly. Retain screws and burner assembly for reassembly. **See Figure 10.**



**Figure 10**

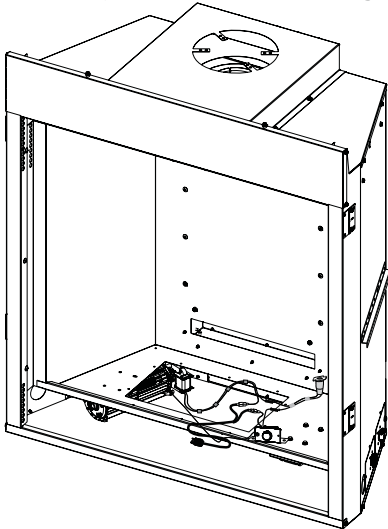
8. Remove the four #10 x 1/2 screws securing the latch assembly to the underside of the firebox. Retain screws and latch assembly for reassembly. **See Figure 11.**



**Figure 11**

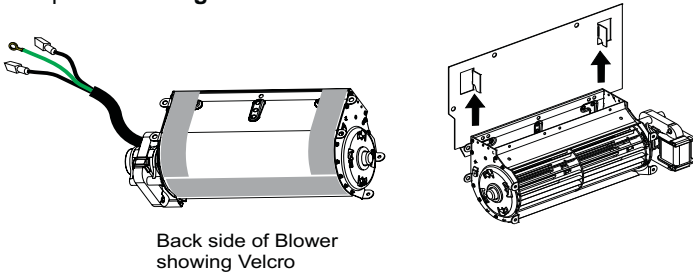
# FBB10 BLOWER KIT INSTALLATION (OPTIONAL)

9. Install blower through firebox cutout. **See Figure 12.**



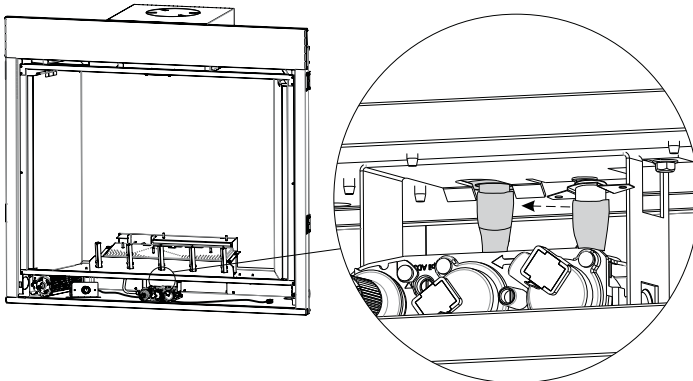
**Figure 12**

10. Install the blower onto the prebent brackets on the blower plate. Ensure the Velcro connects to secure the blower in place. **See Figure 13.**



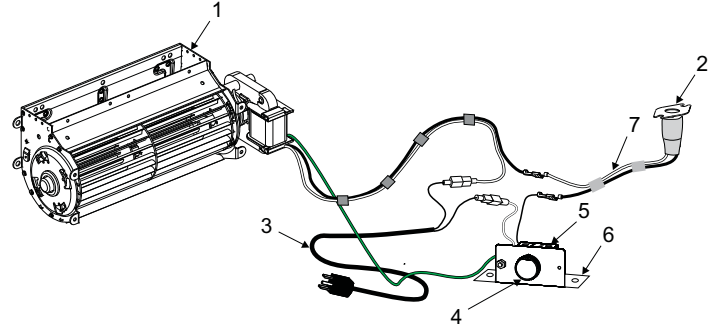
**Figure 13**

11. Reinstall the latch assembly removed in step 8. **See Figure 11.**  
 12. Reinstall the burner assembly and seven screws removed in step 7. **See Figure 10.**  
 13. Reinstall the burner and four screws removed in step 6. **See Figure 9.**  
 14. Reinstall the log support and secure it with the metal plate and two screws removed in step 5. **See Figure 8.**  
 15. Reinstall the grate three screws removed in step 4. **See Figure 7.**  
 16. Install thermo disc by snapping into valve bracket burner assembly. **See Figure 14.**



**Figure 14**

17. Connect Power source into outlet.  
 18. Reinstall the glass frame removed in step 3. **See Figure 6.**  
 19. Reconnect the latches at the bottom of the firebox assembly. **See Figure 5.**  
 20. Replace barrier screen removed in step 1. **See Figure 4.**



BLOWER ASSEMBLY PARTS LIST			
INDEX NO.	PART NO	DESCRIPTION	QTY
1	R2804	BLOWER ASSEMBLY	1
2	R7649	FAN, CONTROL L120-20	1
3	R2099	CORD SET, 30 INCHES	1
4	R4192	RHEOSTAT, KNOB	1
5	R4186	RHEOSTAT, 3.0 AMP 115 VAC	1
6	10088	RHEOSTAT BOX BRACKET	1
7	R11768	WIRE HARNESS, FAN CONTROL	1

# VENT SYSTEM IDENTIFICATION

Begin the vent system installation by selecting the type of venting to be installed and the path that it will take. Verify that clearances are met throughout the path of the venting system. Determine if the fireplace is to be vented vertically or horizontally.

**NOTE: Unit requires 12 inches of rise before elbow, as well as 2 inches of clearance around first 12 inches of pipe.**

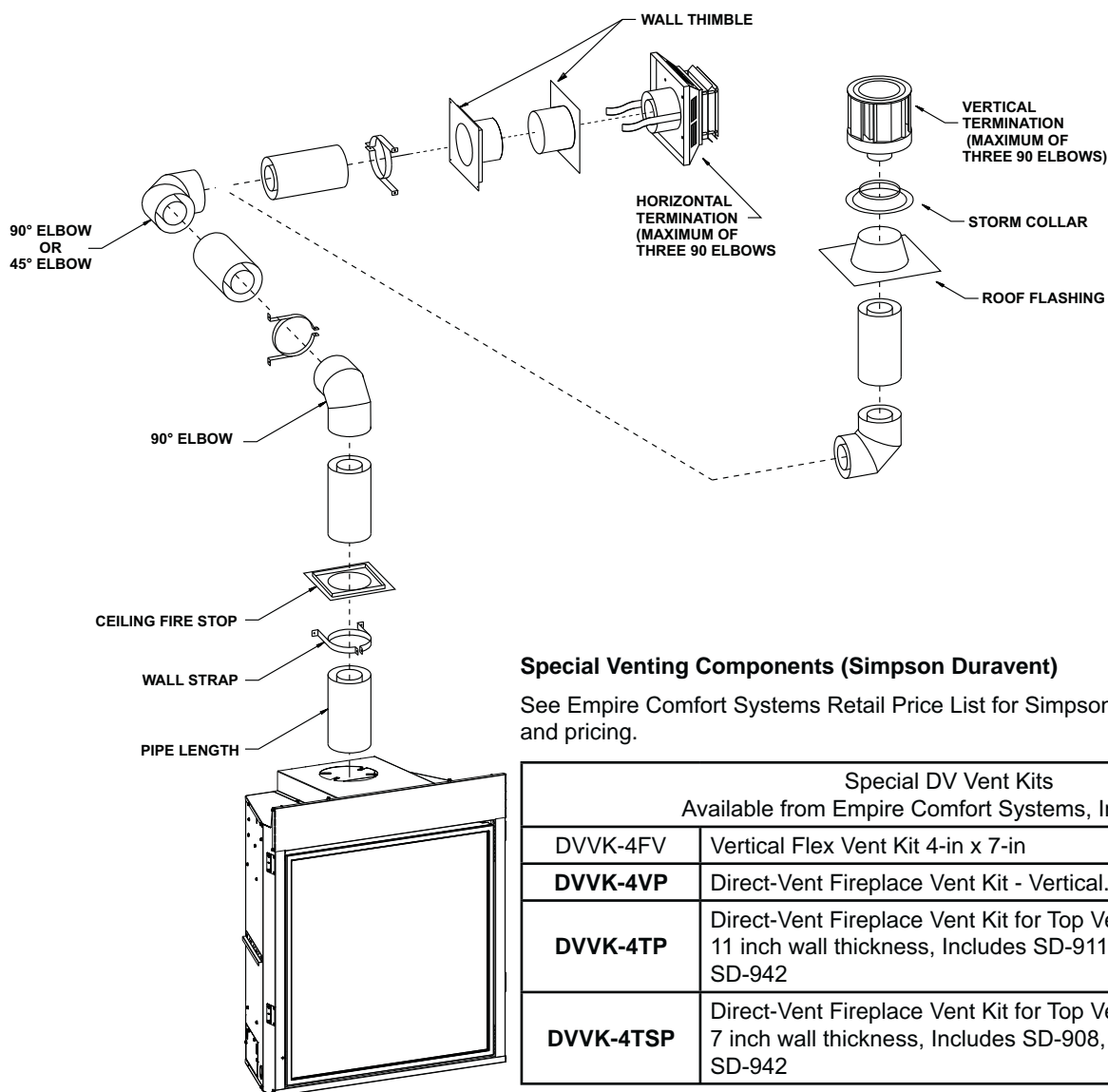


Figure 15

## Special Venting Components (Simpson Duravent)

See Empire Comfort Systems Retail Price List for Simpson Duravent part numbers and pricing.

Special DV Vent Kits Available from Empire Comfort Systems, Inc. dealers	
DVVK-4FV	Vertical Flex Vent Kit 4-in x 7-in
DVVK-4VP	Direct-Vent Fireplace Vent Kit - Vertical.
DVVK-4TP	Direct-Vent Fireplace Vent Kit for Top Vent, Thru-the-wall, 8 to 11 inch wall thickness, Includes SD-911, SD-985, SD-990 and SD-942
DVVK-4TSP	Direct-Vent Fireplace Vent Kit for Top Vent, Thru-the-wall, 5 to 7 inch wall thickness, Includes SD-908, SD-985, SD-990 and SD-942

# SPECIAL VENT SYSTEMS

Use one of the following 4 x 6-5/8 vent systems:

Simpson Duravent® DVA-H2

Simpson Duravent® GS

American Metal Products

Selkirk Direct-Temp®

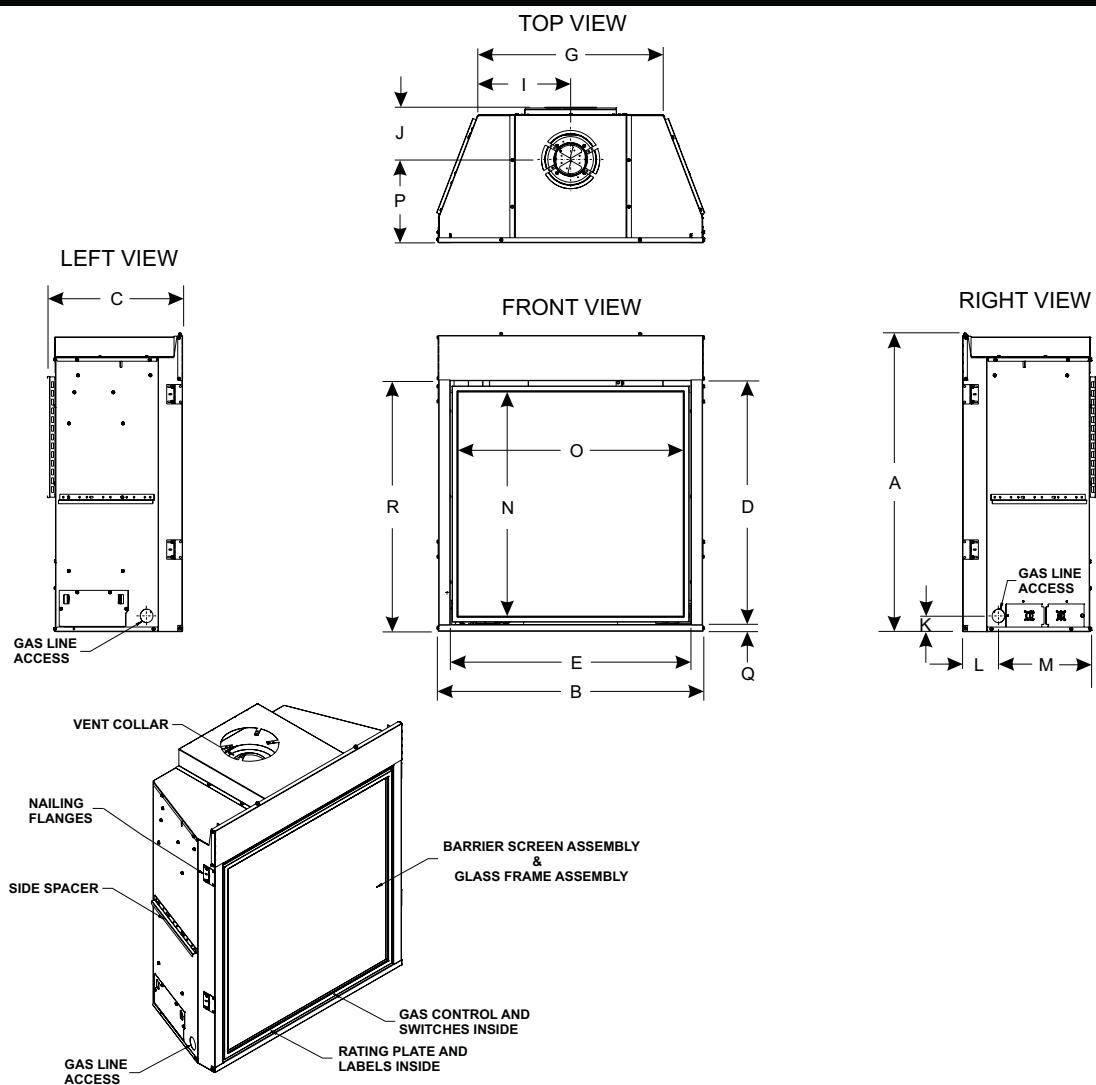
Security Secure Vent®

Empire Flexvent Kit DVVK-4F, refer to page 32 - 33.

Or the following 4 x 6-1/2 vent system:

Metal Fab Sure Seal® (Note: Starter Adaptor Pipe required)

# FIREPLACE DIMENSIONS



INDEX LETTER	DIMENSION DESCRIPTION	DVCP32	DVCP36	DVCP42
		Dimensions in Inches		
A	The maximum height of fireplace face (excluding standoffs)	38-1/8	38-1/8	40-1/8
B	The maximum width of the fireplace face (excluding nailing flanges)	34	37	43
C	The maximum depth of the fireplace	17-1/2	17-1/2	17-1/2
D	The height of the fireplace opening	31-3/8	31-3/8	33-3/8
E	The width of the fireplace opening	31	34	40
F	The interior depth of the fireplace (not shown)	11-1/2	11-1/2	11-1/2
G	The rear exterior width of the fireplace	23-15/16	26-15/16	32-15/16
I	Width from the left side of the fireplace to the centerline of vent	12	13-1/2	16-1/2
J	Depth from back of fireplace to centerline of top vent	6-3/4	6-3/4	6-3/4
K	Height from the bottom of the fireplace to the left gas line opening	2	2	2
L	Depth from the front of the fireplace to the left gas line opening	4-5/8	4-5/8	4-5/8
M	Depth from rear of fireplace to gas line opening	11-13/16	11-13/16	11-13/16
N	Viewing area height	24-7/8	24-7/8	26-7/8
O	Viewing area width	27-1/2	30-1/2	36-1/2
P	Depth from front of fireplace to centerline of vent	10-3/4	10-3/4	10-3/4
Q	Distance from floor to bottom fireplace opening	7/8	7/8	7/8
R	Distance from floor to top fireplace opening	32-1/4	32-1/4	34-1/4

# CLEARANCES

Clearance to Combustibles (Dimensions in inches)	
Back	0
Side	0
Floor	0
Top Framing Edge	See Below

SEE MANTLE CHART FOR  
MAXIMUM MANTLE DEPTH

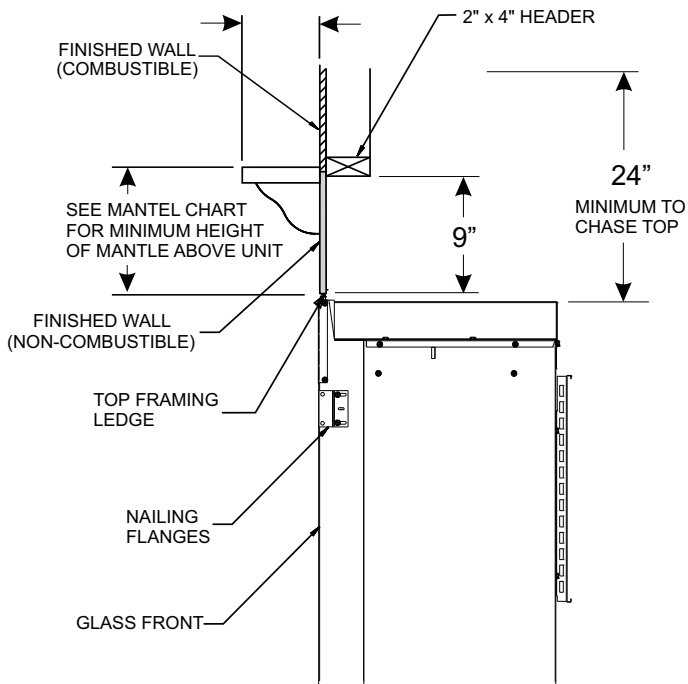


Figure 17

## Combustible Material

No greeting cards, stockings or ornamentation of any type should be placed on or attached to the fireplace. The flow of heat can ignite combustibles.

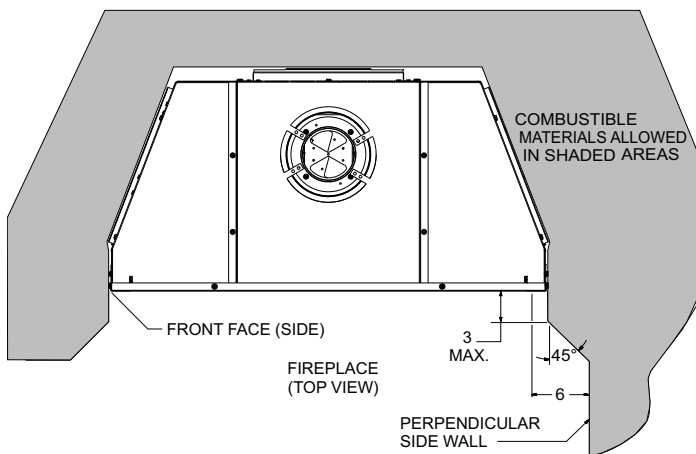
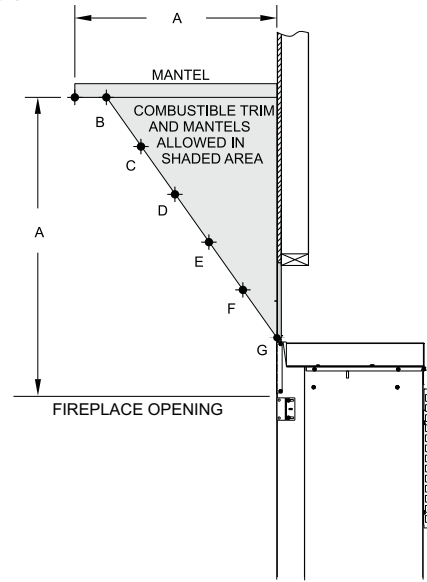


Figure 18

## Mantle Chart



INDEX LETTER	DISTANCE FROM TOP EDGE OF FIREPLACE (VERTICAL)	DISTANCE FROM FIREPLACE FRONT (HORIZONTAL)
(Dimensions in inches)		
A	18	12
B	18	10
C	16-3/4	8
D	14	6
E	11	3-3/4
F	9	2-1/4
G	6	0

Figure 19

# CLEARANCES

## Clearances

Clearance from bottom edge of fireplace to ceiling is 72-in.  
Clearance from side of fireplace to adjacent sidewall is 6-in.  
Refer to framing dimensions on page 18.

Note: 72-in minimum applies when unit is installed in wall above floor level.

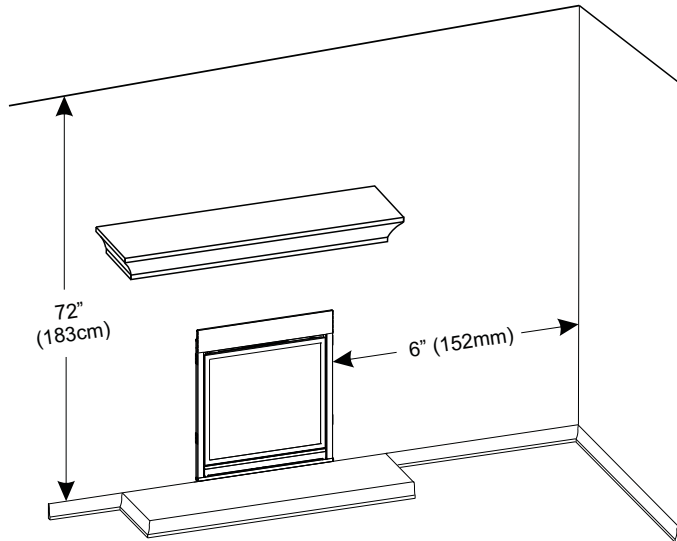


Figure 20

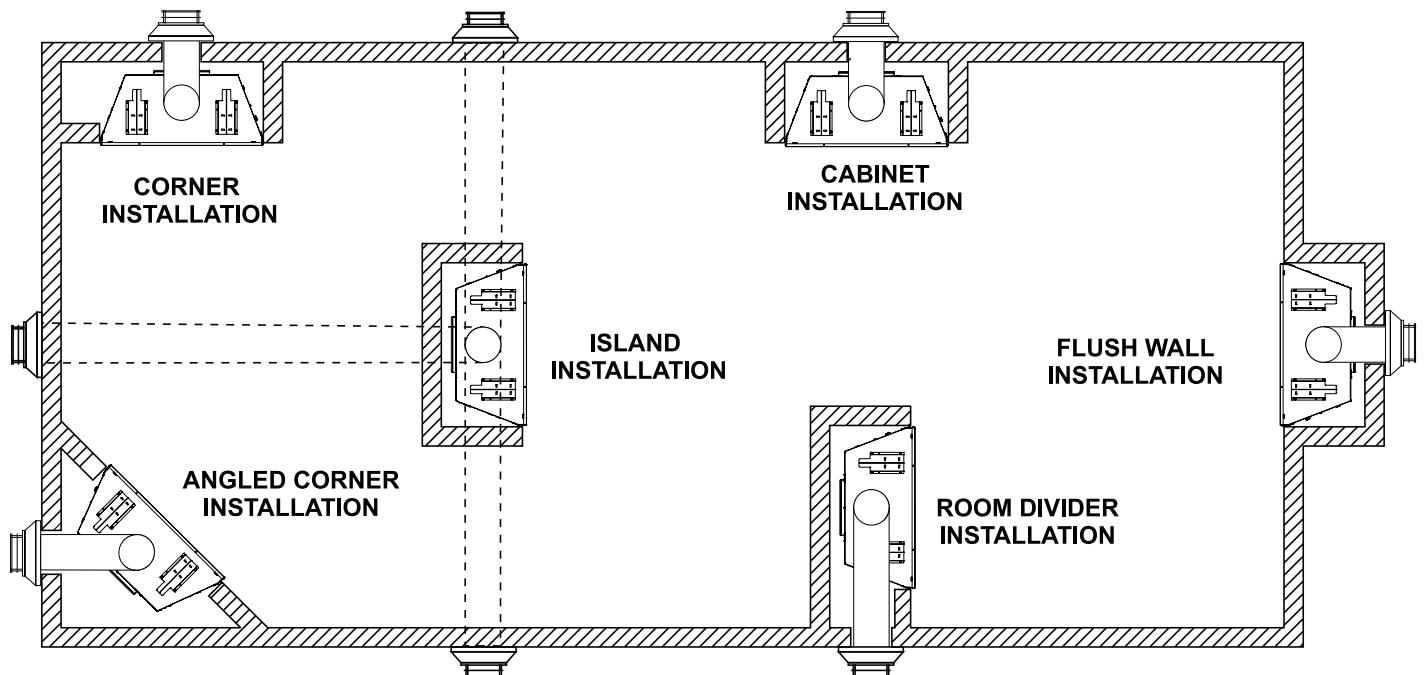
## Television Considerations

Installing a television above an appliance has become increasingly popular; however, the area above any appliance gets hot and most TV manufacturers recommend against placing their products near a heat source.

If you install a television above this appliance, Empire Comfort Systems accepts no responsibility for damage or injuries. Follow the television manufacturer's installation instructions, including any recommendations regarding proximity to heat sources.

If you have a TV above your appliance, turn off the appliance and let it cool completely before servicing or touching any buttons on the TV.

# LOCATING FIREPLACE



Note: Island and Room Divider installation is possible as long as the horizontal portion of the vent system does not exceed 20 feet with a minimum vertical run of 8 feet. See details in Venting Section.

When you install your Direct Vent Fireplace in Room divider or Flat on wall corner positions, a minimum of 6 inches clearance must be maintained from the perpendicular wall and the front edge of the appliance.

Figure 21

# GAS SUPPLY

The gas pipeline can be brought in through the right or left side of the appliance. Consult the current National Fuel Gas Code, ANSI Z223.1 CAN/CGA-B149 (.1 or .2) installation code.

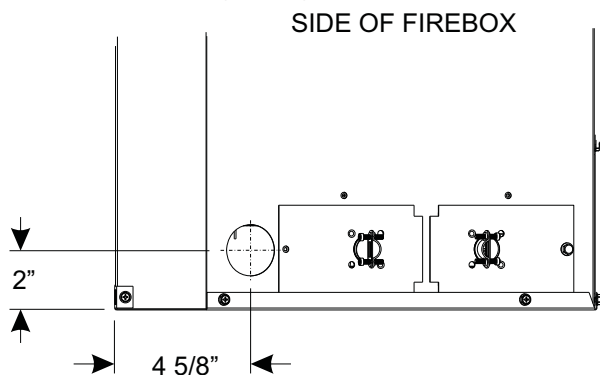


Figure 22

## FLEXIBLE GAS LINE CONNECTION

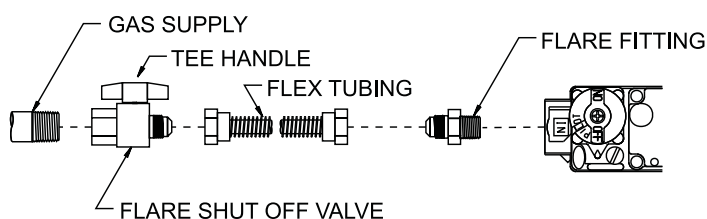


Figure 23

## Recommended Gas Pipe Diameter

Pipe Length	Schedule 40 Pipe Inside Diameter (in inches)		Tubing, Type L Outside Diameter (in inches)	
	Nat.	L.P.	Nat.	L.P.
0-10 feet	1/2	3/8	1/2	3/8
10-40 feet	1/2	1/2	5/8	1/2
40-100 feet	1/2	1/2	3/4	1/2
100-150 feet	3/4	1/2	7/8	3/4

**Note:** Never use plastic pipe. Check to confirm whether your local codes allow copper tubing or galvanized.

**Note:** Since some municipalities have additional local codes, it is always best to consult your local authority and installation code.

The use of the following gas connectors is recommended:

- ANSI Z21.24 Appliance Connectors of Corrugated Metal Tubing and Fittings.
- ANSI Z21.45 Assembled Flexible Appliance Connectors of Other Than All-Metal Construction

The above connectors may be used if acceptable by the authority having jurisdiction. The state of Massachusetts requires that a flexible appliance connector cannot exceed three feet in length. A gas valve and ground joint union should be installed in the gas line upstream of the gas control to aid in servicing. It is required by the National Fuel Gas Code that a drip leg be installed near the gas inlet. **See Figure 24.** This should consist of a vertical length of pipe tee connected into the gas line that is capped on the bottom in which condensation and foreign particles may collect.

## GAS SUPPLY PIPING

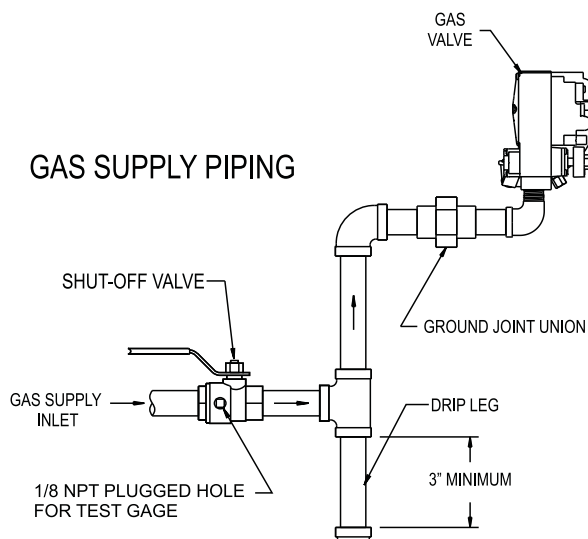


Figure 24

## Installing a New Main Gas Supply Knob (Check Local Code)

Each appliance should have its own manual gas supply knob. A manual main gas supply knob should be located in the vicinity of the unit. Where none exists, or where its size or location is not adequate, contact your local authorized installer for installation or relocation.

Compounds used on threaded joints of gas piping shall be resistant to the action of liquefied petroleum gases. The gas lines must be checked for leaks by the installer. This should be done with a soap solution watching for bubbles on all exposed connections, and if unexposed, a pressure test should be made.

**Never use an exposed flame to check for leaks. Appliance must be disconnected from piping at inlet of control valve and pipe capped or plugged for pressure test. Never pressure test with appliance connected; control valve will sustain damage!**

**NOTE:** The millivolt gas controls are equipped with a captured screw type pressure test point, therefore it is not necessary to provide a 1/8 inch test point up stream of the control.

On direct ignition valves, hex plugs may be replaced with hose fittings for pressure checks, then reinstalled before operating fireplace.

When using copper or flex connector use only approved fittings.

The appliance and its individual shut off valve must be disconnected from supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

The appliance must be isolated from the gas supply piping system by closing its individual manual shut off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.5 kPa).

**Attention!** If one of the procedures results in pressures in excess of 1/2 psig (14-in w.c.) (3.5 kPa) on the fireplace gas valve, it will result in a hazardous condition.



# GAS SUPPLY

## Checking Manifold Pressures

Both Propane and Natural gas valves have a built-in pressure regulator in the gas valve. Natural gas models will have a manifold pressure of approximately 3.5-in w.c. (.871 kPa) at the valve outlet with the inlet pressure to the valve from a minimum of 4.5-in w.c. (1.120 kPa) for the purpose of input adjustment to a maximum of 14.0-in w.c. (3.484 kPa). Propane gas models will have a manifold pressure approximately 10.0-in w.c. (2.49 kPa) at the valve outlet with the inlet pressure to the valve from a minimum of 10.8-in w.c. (2.68 kPa) for the purpose of input adjustment to a maximum of 14.0-in w.c. (3.484 kPa).

	Gas Supply Pressure (inches w.c.)		
	Minimum	Normal	Maximum
Natural Gas	4.5	7.0	14.0
LP (Propane)	10.8	11.0	14.0
	Manifold Pressure (inches w.c.)		
	Normal (HI)		
Natural Gas	3.5		
LP (Propane)	10.0		

# INSTALLATION

## Framing the Fireplace

1. Choose fireplace location.
2. Frame in fireplace with a header across the top. It is important to allow for finished face when setting the depth of the frame.
3. Attach fireplace to frame using adjustable frame. Preset depth to suit facing material (adjustable to 1/2-in, 5/8-in or 3/4-in depths).
4. Loosen but do not remove the eight screws securing the nailing flanges to the firebox. **See Figure 25.**

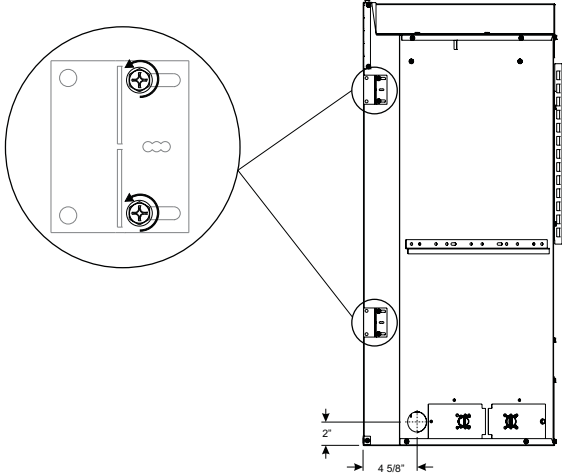


Figure 25

5. Measure from face of fireplace to face of drywall strip to determine final depth and adjust nailing flanges as shown in **Figure 26.**

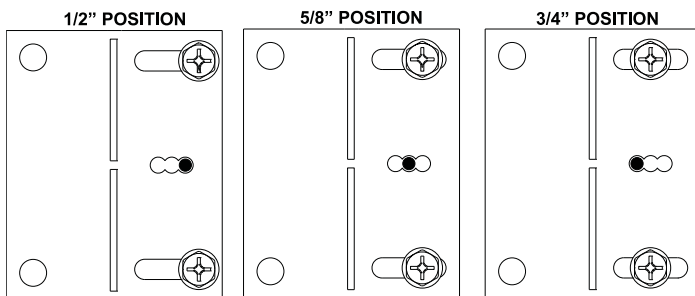


Figure 26

6. Tighten the eight screws loosened in step 5.
7. Bend the nailing flanges 90 degree as shown in **Figure 27.**

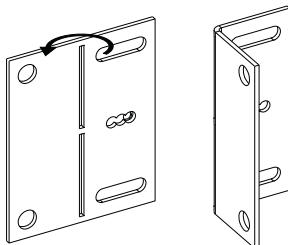


Figure 27

8. Attach the two backer studs to the firebox with four #10 x 1/2 Phillips screws (provided) as shown in **Figure 28.**
9. Attach the two backer studs to the vertical studs with four screws appropriate for installation (not provided) as shown **Figure 28.**
10. Slide unit into position and secure to wall with nailing flanges.
11. Mark non-combustible board for backer stud locations. Place non-combustible board in place and secure with four #8 x 1 self-drilling drywall screws (provided) and three screws appropriate for installation(not provided) as shown in **Figure 28.** To avoid damage to the non-combustible board, do not use more screws.

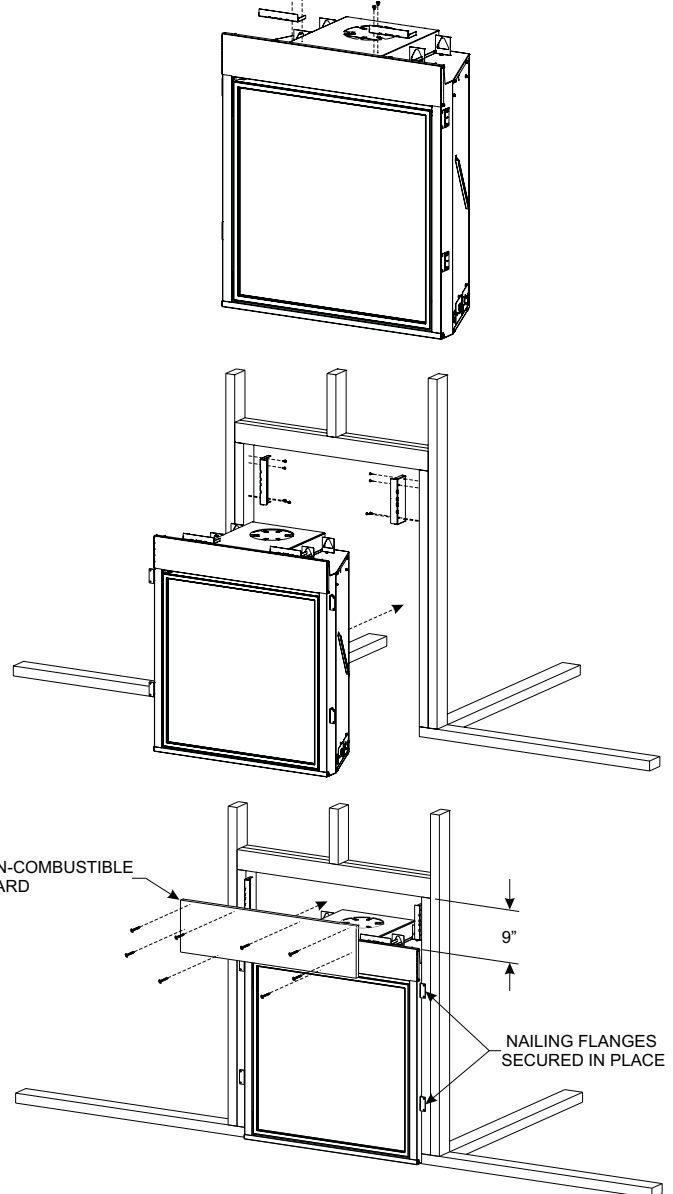
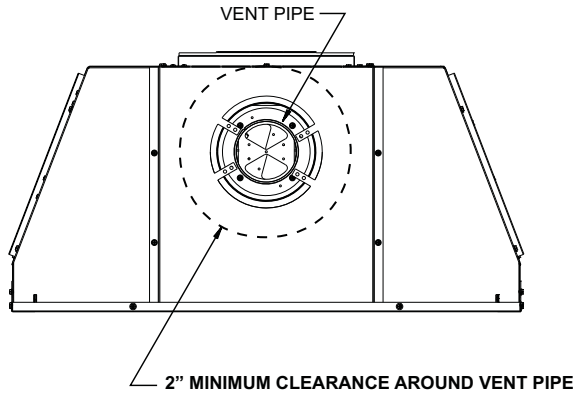


Figure 28

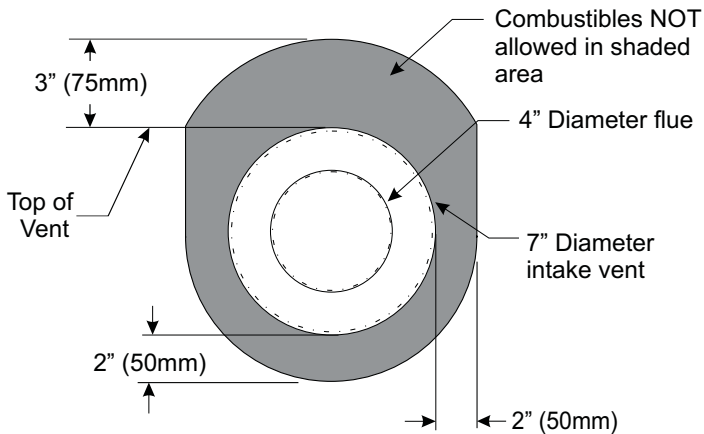
# INSTALLATION (continued)

## Vent Pipe Clearance

For horizontal vent, maintain a minimum 2-in clearance to the bottom and sides of the vent, and 3-in clearance to combustibles above the vent pipe. See **Figure 30**.



**Figure 29**



**Figure 30**

## Framing - In the Wall

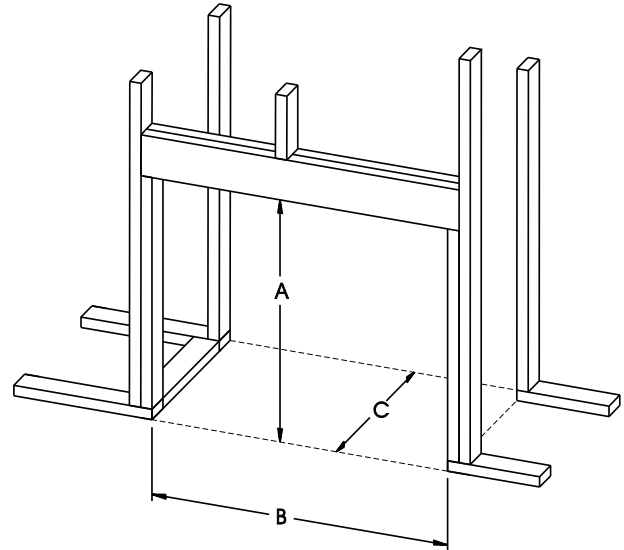
Fireplace framing can be built before or after the fireplace is set in place. Framing should be positioned to accommodate wall covering and fireplace facing material. The fireplace framing should be constructed of 2 x 4 lumber. Refer to **Figure 31** for minimum framing dimensions.

### ⚠ CAUTION

**CAUTION: MEASURE FIREPLACE DIMENSIONS AND VERIFY FRAMING METHODS, AND WALL COVERING DETAILS BEFORE FRAMING CONSTRUCTION BEGINS.**

**Note:** For finishing to top of fireplace, refer to **Figure 32**.

**Note:** Minimum chase top to top of framing edge is 24-in.



	DVCP32	DVCP36	DVCP42
	(Dimensions in inches)		
A	47-1/4	47-1/4	49-1/4
B	34-3/4	37-3/4	43-3/4
C	17-1/4	17-1/4	17-1/4

**Figure 31**

## Finishing

Finish the walls with the material of your choice. **Figure 19** on page 13 shows the minimum vertical and corresponding maximum horizontal dimensions of mantels or other combustible projections above the top front edge of the fireplace. Only non-combustible materials may be used to cover the black fireplace front.

### ⚠ WARNING

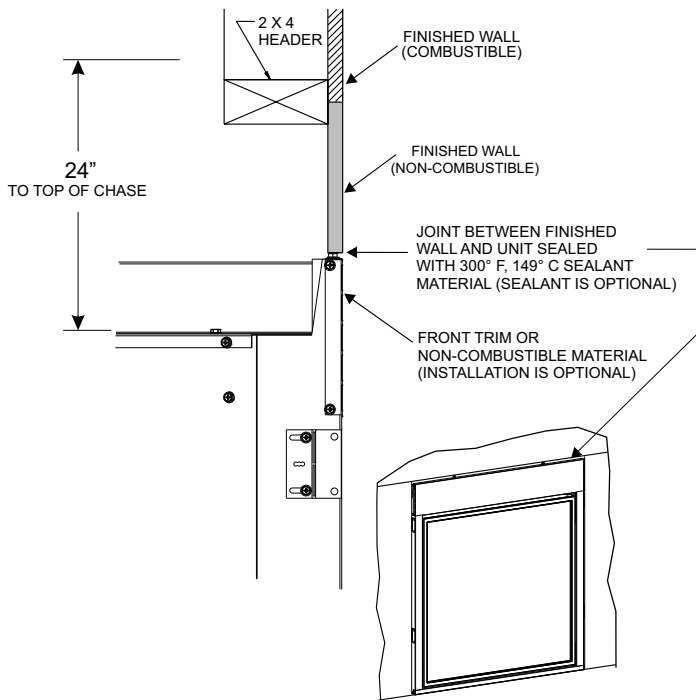
When finishing the fireplace never obstruct or modify the air inlet/outlet in any manner. Provide adequate clearances around air openings into the combustion chamber.

### ⚠ CAUTION

If the joints between the finished wall and the fireplace surround (top and sides) are sealed, a 300 Degree F minimum sealant material must be used. These joints are not required to be sealed. Only non-combustible material (using 300 Degree F minimum adhesive if needed), can be applied as facing to the fireplace surround.

# INSTALLATION (continued)

## Flush Wall Installation



**Note:** If interior of chase requires drywall per local code, 2 x 4 Header must be reduced to 2 x 2.

Figure 32

**NOTE:** If the Interior of the chase is required by local code to be dry walled the face wall above the fireplace must be built with 2 x 2 lumber to meet clearances.

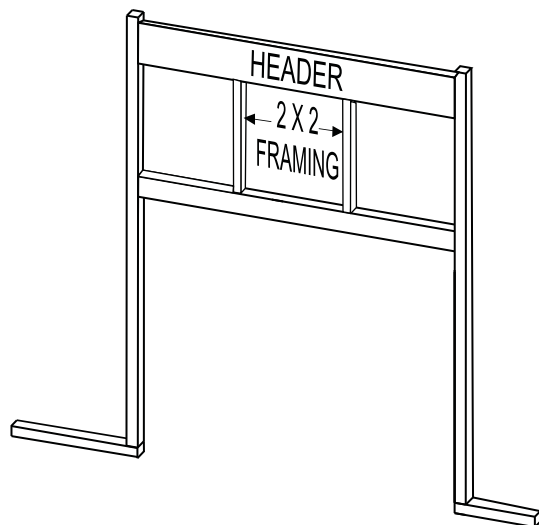


Figure 33

## Combustible Surround Installation

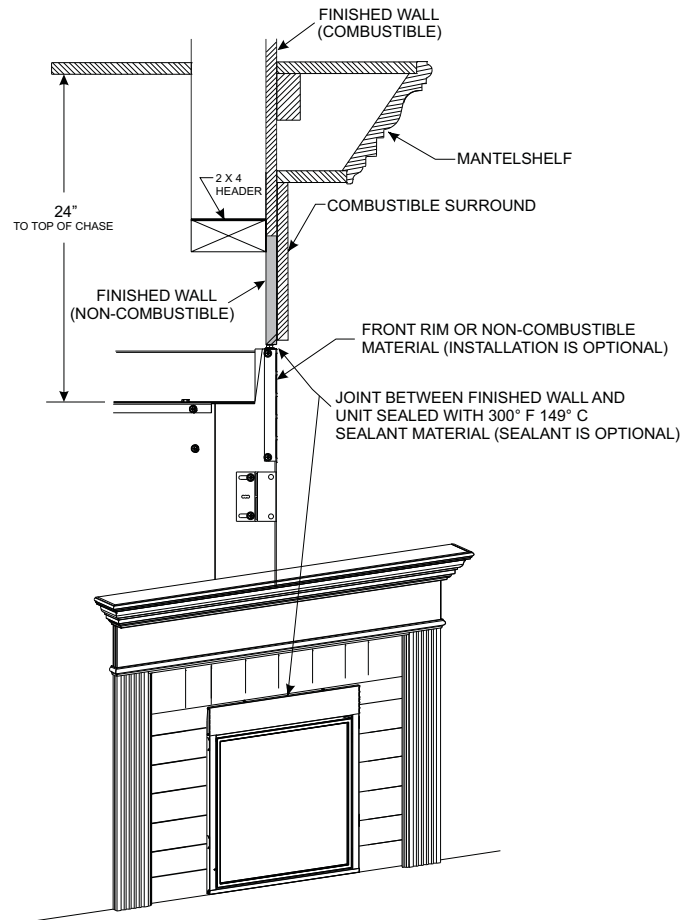


Figure 34

**Attention:** Cold climate installation recommendation: When installing this unit against a non-insulated exterior wall, it is recommended that the outer walls be insulated to conform to applicable insulation codes.

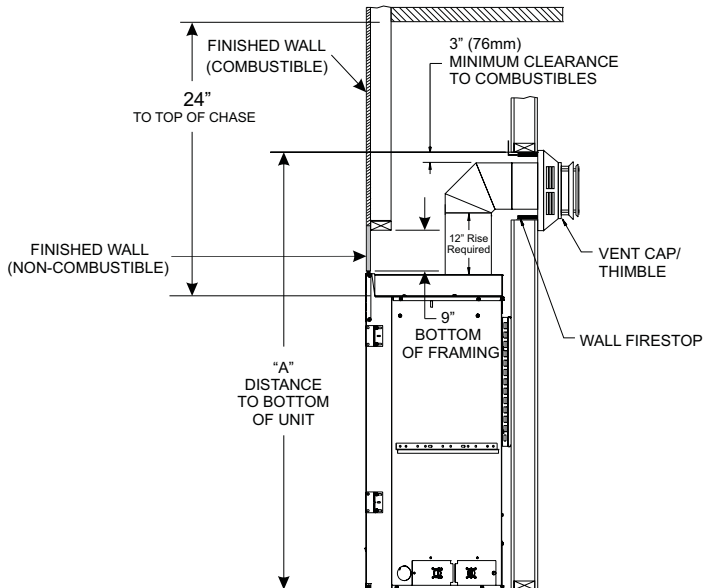
## Vent Runs

In planning the installation for the fireplace, it is necessary to install certain components before the appliance is completely positioned and installed. These include the direct vent system, gas piping for the appliance and the electrical wiring. (If the fan option is used.) The appliance can be mounted on any of the following surfaces:

1. A flat, hard combustible (burnable) surface.
2. A raised wooden platform.
3. Four corner supports. (Example: Four concrete masonry blocks.) These supports must be positioned so they contact all four perimeter edges on the bottom of the unit.

# INSTALLATION (continued)

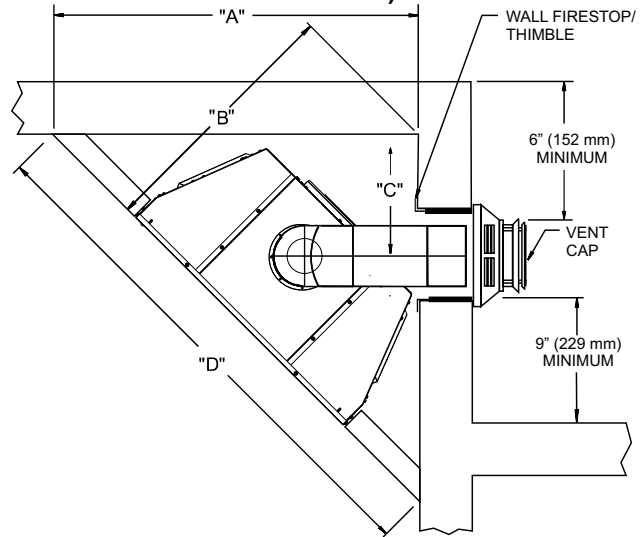
## VERTICAL, 90 DEGREE ELBOW WITH HORIZONTAL TERMINATION



A DIMENSION	
(Dimensions in inches)	
DVCP32	57-1/2
DVCP36	57-1/2
DVCP42	59-1/8

Figure 35

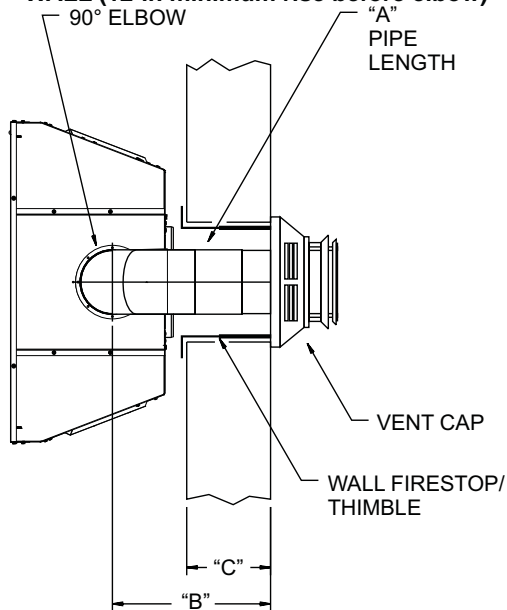
## CORNER INSTALLATION - VERTICAL, 90 DEGREE ELBOW TO HORIZONTAL OUT THE WALL (12-in minimum rise before elbow)



Dim.	DVCP32	DVCP36	DVCP42
(Dimensions in inches)			
A	37-3/4	39-7/8	44-1/8
B	26-3/4	28-3/16	31-3/16
C	12-3/4	13-3/4	15-15/16
D	53-3/8	56-3/8	62-3/8

Figure 37

## VERTICAL, 90 DEGREE ELBOW TO HORIZONTAL OUT THE WALL (12-in minimum rise before elbow)



A	B	C
(Dimensions in inches)		
6	11-1/4 to 12-3/4	4-3/4 to 6-1/4
9	14-1/4 to 15-3/4	7-3/4 to 9-1/4
12	17-1/4 to 18-3/4	10-3/4 to 12-1/4

Figure 36

# VENTING FIREPLACE - TOP

## To Use the Vent Graph

1. Determine the height of the center of the horizontal vent pipe. Using this dimension on the Sidewall Vent Graph, locate the point it intersects with the slanted graph line.
2. From the point of this intersection, draw a vertical line to the bottom of the graph.
3. Select the indicated dimension, and position the unit in accordance with same.

### EXAMPLE A:

If the vertical dimension from the floor of the unit is 35 feet, the horizontal run to the outer wall flange must not exceed 6.5 feet.

### EXAMPLE B:

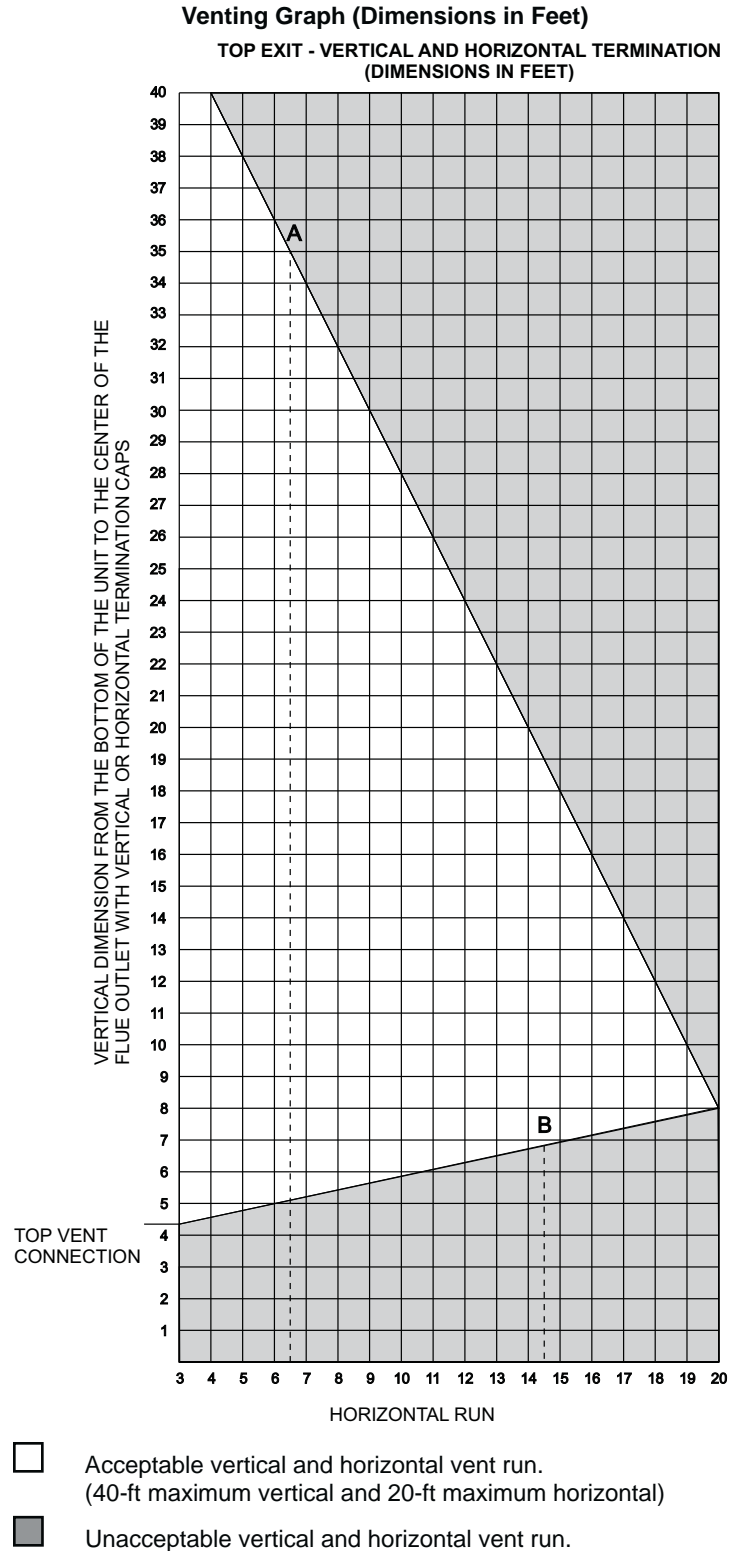
If the vertical dimension from the floor of the unit is 6.5 feet, the horizontal run to the outer wall flange must not exceed 14.5 feet.

**SPECIAL NOTE:** For each 45 degree elbow installed in the horizontal run, the length of the horizontal run **MUST** be reduced by 18-in (457 mm). This does not apply if the 45 degree elbows are installed on the vertical part of the vent system. Reduce 3-ft for every 90 degree elbow.

**Example:** According to the chart the maximum horizontal vent length is 20-ft and if two 45 degree elbows are required in the horizontal vent it must be reduced to 17-ft.

The maximum number of 45 degree elbows permitted per side wall installation is two. These elbows can be installed in either the vertical or horizontal run.

**Note:** On vertical venting the first elbow does not get counted.



**Figure 38**

# VENTING FIREPLACE - TOP (continued)

## ⚠ WARNING

Use flue restrictor for vertically terminated units only. Do not use for horizontally terminated units.

Figures 39 to 41 show the location and recommended openings for the flue restrictor. Adjustments may be made for each particular installation.

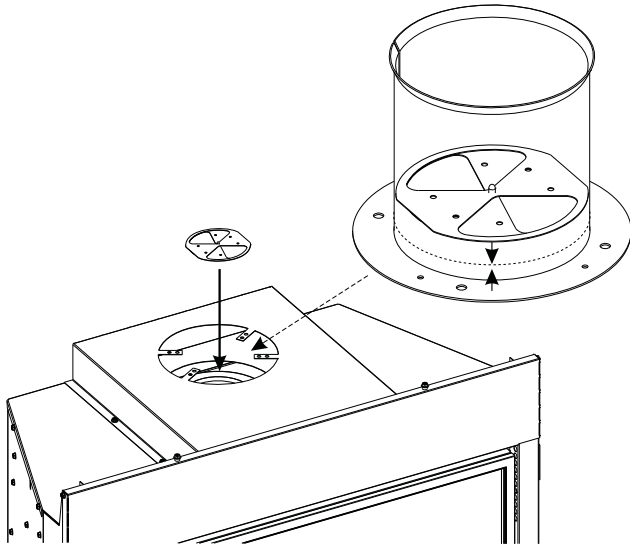
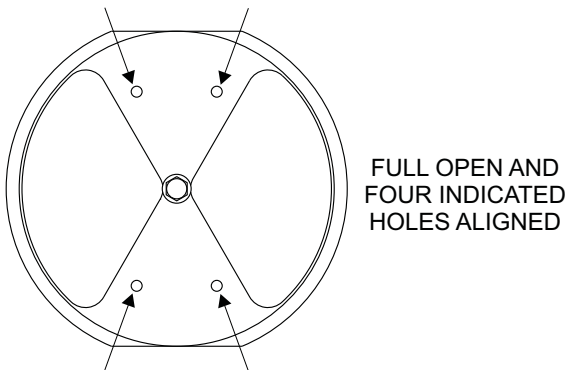
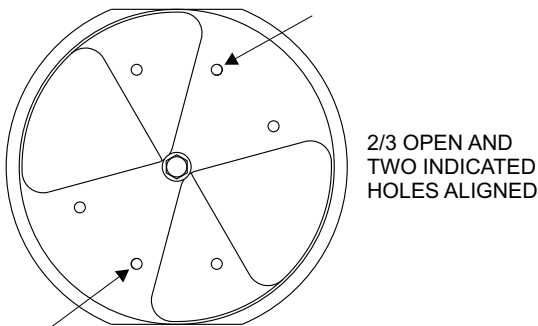


Figure 39

**Note:** When installing flue restrictor, install with screws pointing in downward position.



LP Setting - Figure 40

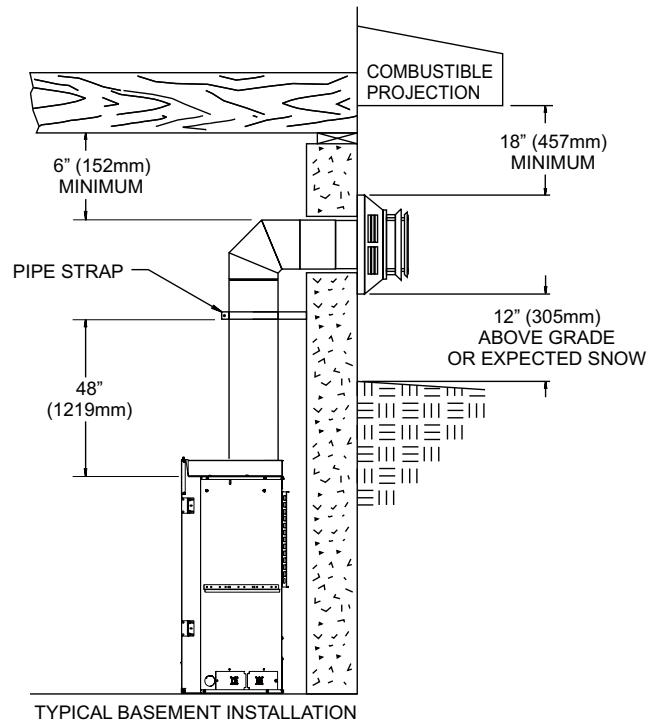


Natural Gas Setting - Figure 41

## Below Grade Installation

When it is not possible to meet the required vent termination clearances of 12-in (305 mm) above grade level, a snorkel kit is recommended. It allows installation depth down to 7-in (178 mm) below grade level. The 7-in (178 mm) is measured from the center of the horizontal vent pipe as it penetrates through the wall.

**Ensure the sidewall venting clearances are observed. If venting system is installed below ground, we recommend a window well with adequate and proper drainage to be installed around the termination area.**



TYPICAL BASEMENT INSTALLATION

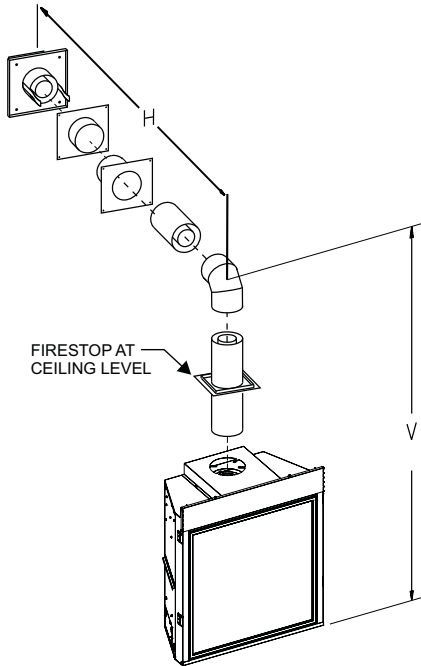
Figure 42



# VENTING FIREPLACE - TOP (continued)

## Example of possible venting systems using one 90 degree elbow

Eight feet is listed as minimum vertical vent run with 20 feet of maximum horizontal vent run. Vertical dimensions are based on center line to center line of pipe. Horizontal dimensions are based on center line of pipe to end of termination.

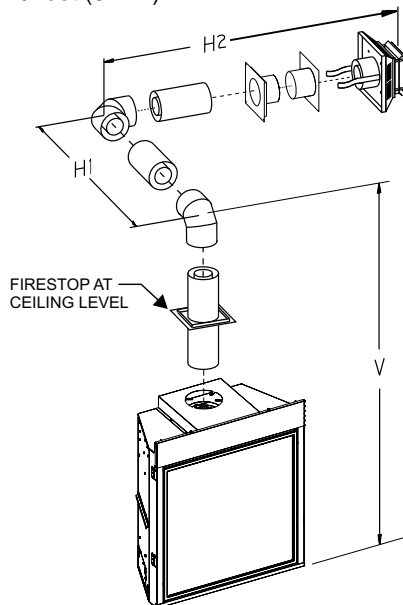


SEE GRAPH FOR PERMISSIBLE "H" AND "V" DIMENSIONS

**Figure 43**

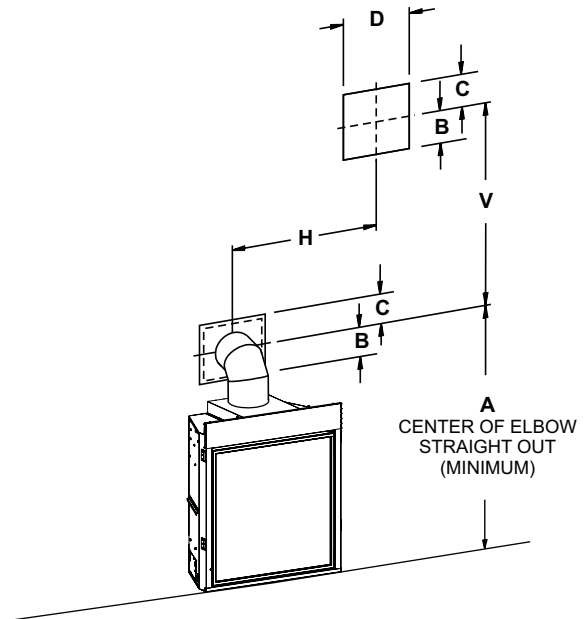
## Examples of possible venting systems using two 90 degree elbows.

V is listed as minimum vertical dimensions and  $H_1 + H_2$  is listed as total of maximum horizontal dimensions. The maximum vertical and horizontal distances for two 90 degree elbows as shown in **Figure 44** is 20 feet (6.1 m).



SEE GRAPH FOR PERMISSIBLE "H" AND "V" DIMENSIONS  
NOTE: H1 AND H2 MUST BE ADDED TOGETHER TO USE CHART

**Figure 44**



FIREPLACE SERIES	HARD ELBOW DIMENSIONS (in inches)			
	A	B	C	D
DVCP32	50-13/16	4-5/16	6-5/16	9-1/8
DVCP36	50-13/16	4	6	9-1/8
DVCP42	52-13/16	4	6	9-1/8

FIREPLACE SERIES	FLEX PIPE 90 DEGREE BEND (in inches)			
	A	B	C	D
DVCP32	51-11/16	4-1/2	6-1/2	9-1/8
DVCP36	51-11/16	4-1/2	6-1/2	9-1/8
DVCP42	53-11/16	4-1/2	6-1/2	9-1/8

**MINIMUM HOLE LOCATION DIMENSIONS FOR THROUGH THE WALL HORIZONTAL INSTALLATIONS WITH 90 DEGREE ELBOW AND 12-in RISE OFF TOP OF FIREPLACE**

**SEE FIGURE 38 ON PAGE 21 FOR PERMISSIBLE HORIZONTAL AND VERTICAL DIMENSIONS.**

**Figure 45**

# VENTING FIREPLACE - TOP (continued)

## Positioning the Fireplace

Determine the exact position of the appliance so the direct vent termination will be centered (if possible) between two (2) studs. This will avoid any extra framing. All vent kit pipes should be assembled on the unit after the unit is moved into the final position.

## Cutting the Hole

After the fireplace has been positioned in its permanent location, the hole through the exterior wall of the house can be cut. This hole must be 10-in (254mm) high x 10-5/8-in (270mm) wide with its center line determined by the amount of vertical rise and horizontal run of the termination. **See Figure 46.** When locating the hole it must be noted that the bottom of the must be 12-in (305mm) above the ground level, and top of the cap must be no less than 18-in (457mm) below a combustible projection, and no closer than 9-in (229mm) to any wall running parallel to vent termination.

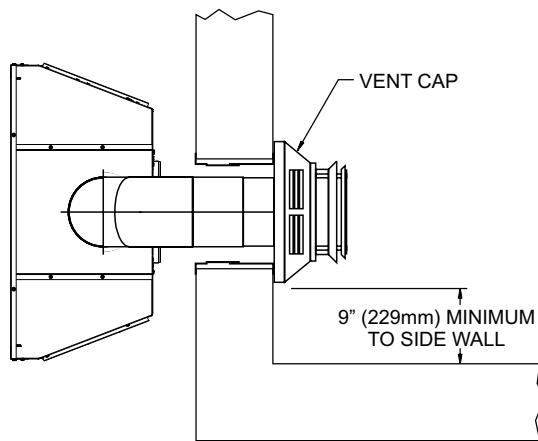
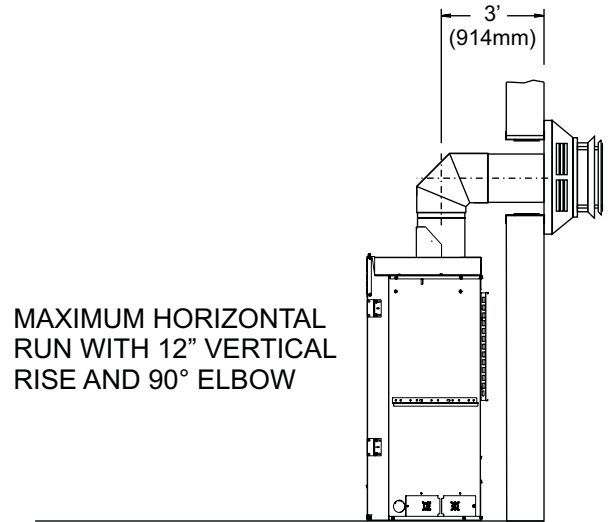


Figure 46



MAXIMUM HORIZONTAL RUN WITH 12" VERTICAL RISE AND 90° ELBOW

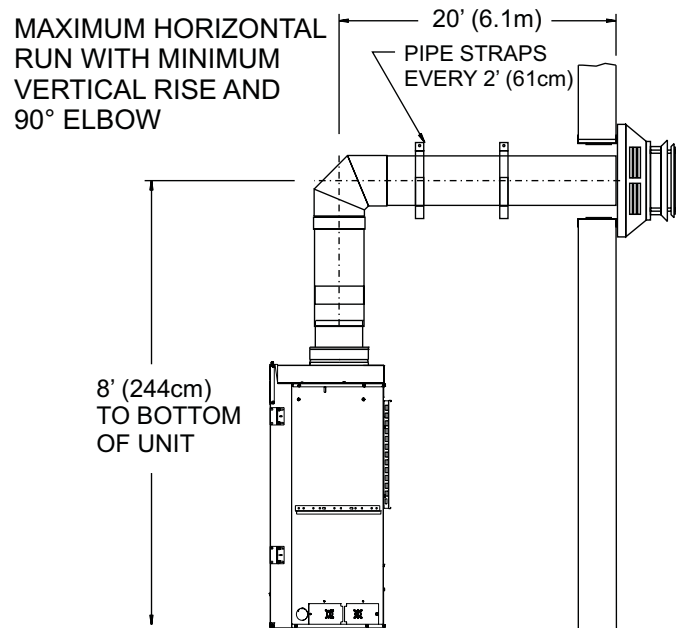


Figure 47

# EXAMPLES - TOP VENT RUN

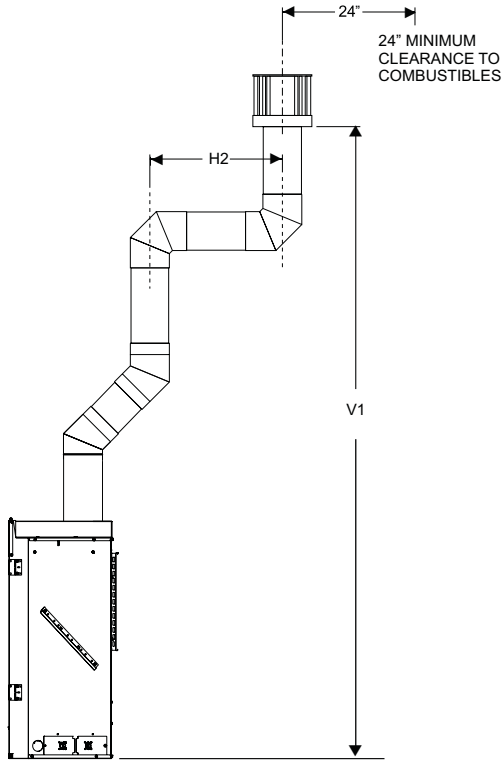


Figure 48

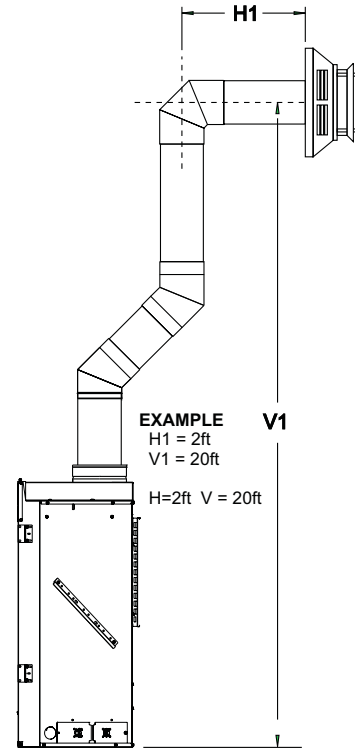


Figure 50

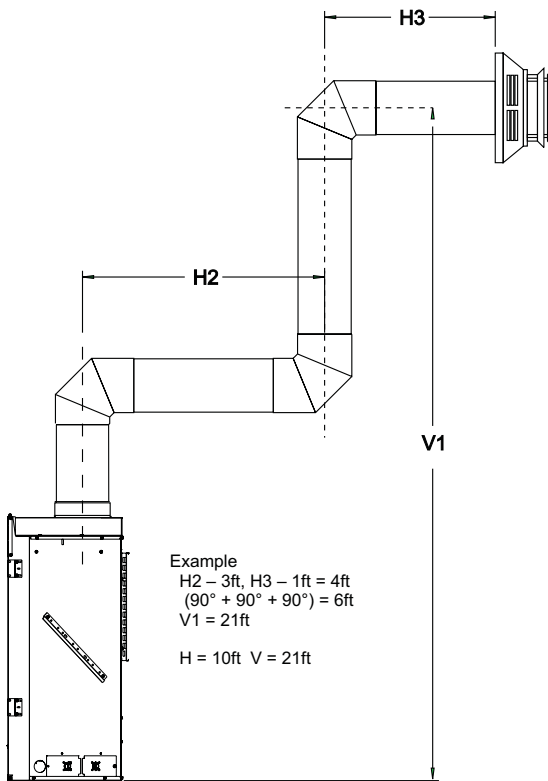
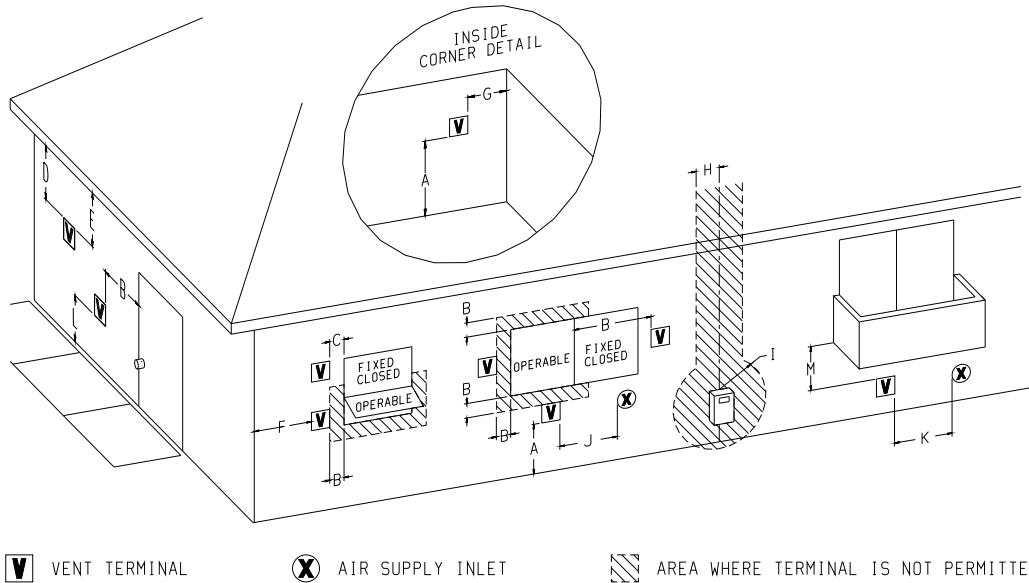


Figure 49

# VENT TERMINAL CLEARANCES



	Canadian Installations <sup>1</sup>	US Installations <sup>2</sup>
A= Clearance above grade, veranda, porch, deck, or balcony	12 in (30 cm)	12 in (30 cm)
B= Clearance to window or door that may be open	6 in (15 cm) for appliances ≤ 10,000 Btuh (3 kW), 12 in (30 cm) for appliances > 10,000 Btuh (3 kW) and ≤ 100,000 Btuh (30 kW), 36 in (91 cm) for appliances > 100,000 Btuh (30 kW)	6 in (15 cm) for appliances ≤ 10,000 Btuh (3 kW), 9 in (23 cm) for appliances > 10,000 Btuh (3 kW) and ≤ 50,000 Btuh (15 kW), 12 in (30 cm) for appliances > 50,000 Btuh (15 kW)
C= Clearance to permanently closed window	12 in (30 cm)	12 in (30 cm)
D= Vertical clearance ventilated soffit located above the terminal within a horizontal distance of 2 feet (61 cm) from the center line of the terminal	24 in (61 cm)	24 in (61 cm)
E= Clearance to unventilated soffit	12 in (30 cm)	12 in (30 cm)
F= Clearance to outside corner	6 in (15 cm)	6 in (15 cm)
G= Clearance inside corner	9 in (23 cm)	9 in (23 cm)
H= Clearance to each side of center line extended above meter/regulator assembly	3 ft (91 cm) within a height 15 ft (4.5 m) above the meter/regulator assembly	3 ft (91 cm)

	Canadian Installations <sup>1</sup>	US Installations <sup>2</sup>
I= Clearance to service regulator vent outlet	3 ft (91 cm)	6 ft
J= Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in (15 cm) for appliances ≤ 10,000 Btuh (3 kW), 12 in (30 cm) for appliances > 10,000 Btuh (3 kW) and ≤ 100,000 Btuh (30 kW), 36 in (91 cm) for appliances > 100,000 Btuh (30 kW)	6 in (15 cm) for appliances ≤ 10,000 Btuh (3 kW), 9 in (23 cm) for appliances > 10,000 Btuh (3 kW) and ≤ 50,000 Btuh (15 kW), 12 in (30 cm) for appliances > 50,000 Btuh (15 kW)
K= Clearance to a mechanical air supply inlet	6 ft (1.83 m)	3 ft (91 cm) above if within 10 ft (3 m) horizontally
L= Clearance above paved sidewalk or paved driveway located on public property	7 ft (2.13 m) †	7 ft (2.13 m) †
M= Clearance under veranda, porch, deck, or balcony	12 in (30 cm) ‡	12 in (30 cm) ‡
1	In accordance with the current CSA B149.1, Natural Gas and Propane Installation Code	
2	In Accordance with the current ANSI Z223.1/NFPA 54, National Fuel Gas Code	
†	A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings	

## ATTENTION: Vinyl Soffit, Vinyl Ceiling, Vinyl Overhang Disclaimer

Clearances are to heat resistant material (i.e. wood, metal). This does not include vinyl. Empire Comfort Systems Inc. will not be held responsible for heat damage caused from terminating under vinyl overhangs, vinyl ceilings or vinyl ventilated/unventilated soffits.

‡	Permitted only if veranda,, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.
*	For clearances not specified in ANSI Z223.1/NFPA 54 or CSA B149.1, one of the following shall be indicated:
	Clearance in accordance with local installation codes and the requirements of the gas supplier.

Figure 51

# FRAMING AND FINISHING

## Installing Support Brackets

Install a horizontal pipe support used for each 3 feet of horizontal run to framing members. Allow 6-inch clearance to combustibles above 6 5/8 inch diameter pipe and elbows and 1 inch clearance on both sides and bottom.

Support vertical runs of this vent systems every 4 feet using wall brackets attached to the vent pipe and secured with nails or screws to structural framing.

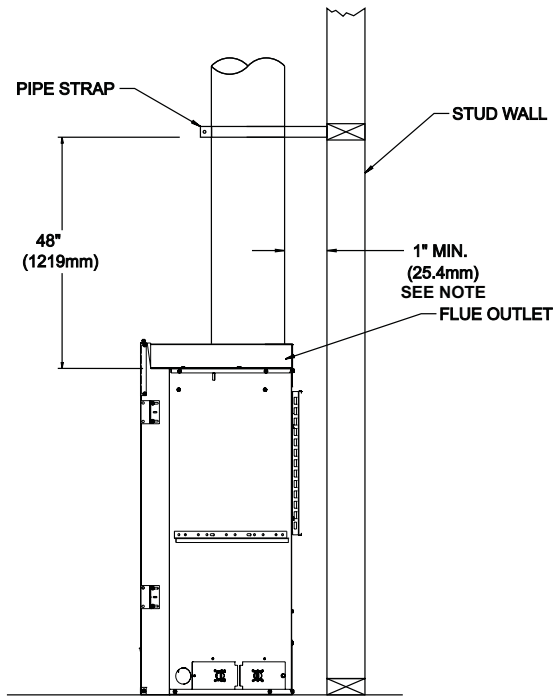


Figure 52

## Installing Firestops

Firestops are required for safety whenever the vent system passes through an interior wall, an exterior wall, or a ceiling. These firestops act as a firebreak heat shield and as a means to insure that minimum clearances are maintained to the vent system.

### Horizontal Firestops

Horizontal runs in the vent system which pass through either interior or exterior walls, require the use of wall firestops on both sides of the wall through which the vent passes.

Position the firestops on both sides of the framed hole, previously cut. Refer to **Figure 45** on page 23 for sizing information. Secure firestop with nails or screws. The heat shields of the firestops **MUST BE** placed towards the top of the hole. Continue the vent run through the firestops.

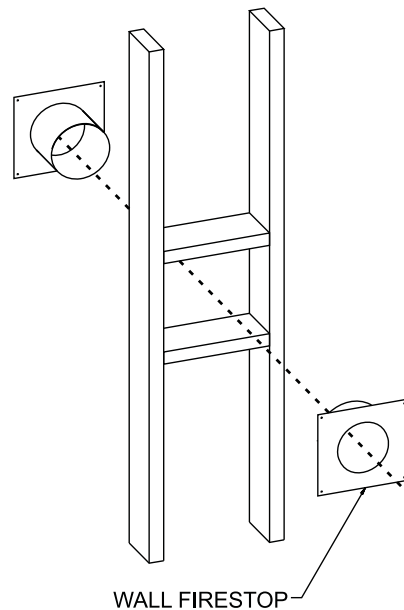


Figure 53

# FRAMING AND FINISHING (continued)

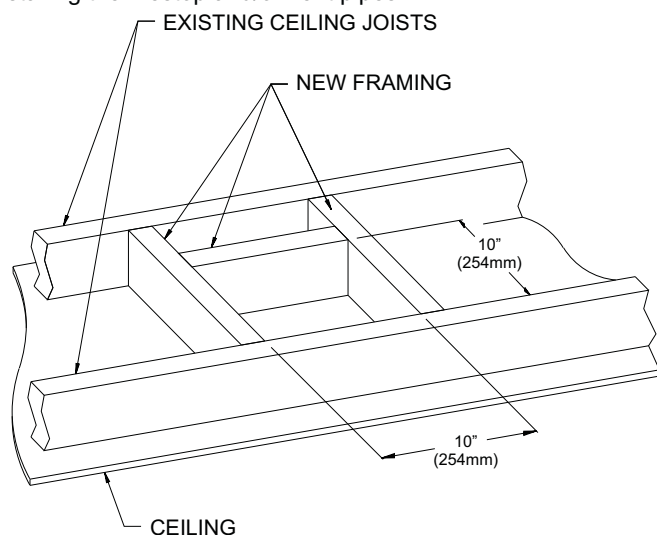
## Vertical Firestops

Vertical runs of this system which pass through ceilings require the use of ONE ceiling firestop at the hole in each ceiling through which the vent passes.

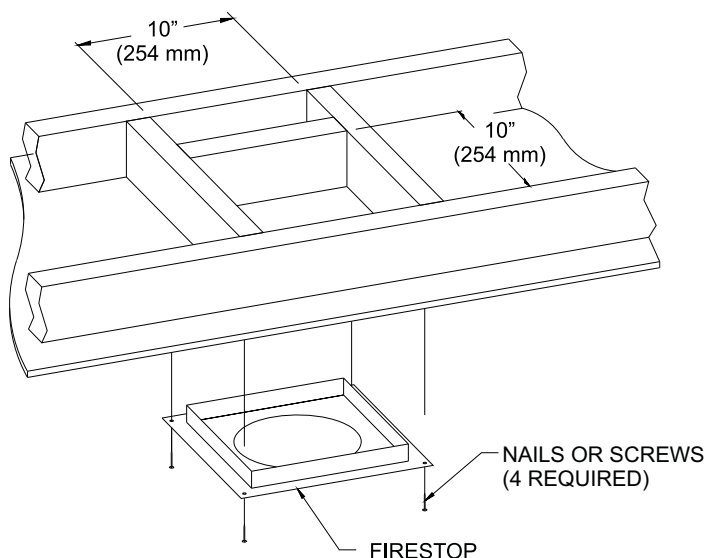
Position a plumb bob directly over the center of the vertical vent component and mark the ceiling to establish the center point of the vent. Drill a hole or drive a nail through this center point and check the floor above for any obstructions such as wiring or plumbing runs. Reposition the appliance and vent system, if necessary, to accommodate ceiling joists and/or obstructions.

Cut a 10 inch x 10 inch hole through the ceiling, using the center point previously marked. Frame the hole with framing lumber the same size as the ceiling joists. **See Figure 54.** If the area above the ceiling is NOT an attic, position and secure the ceiling firestop on the ceiling side of the previously cut and framed hole. **See Figure 55.** If the area above the ceiling is an attic, position and secure the firestop on top of the previously framed hole. **See Figure 56.**

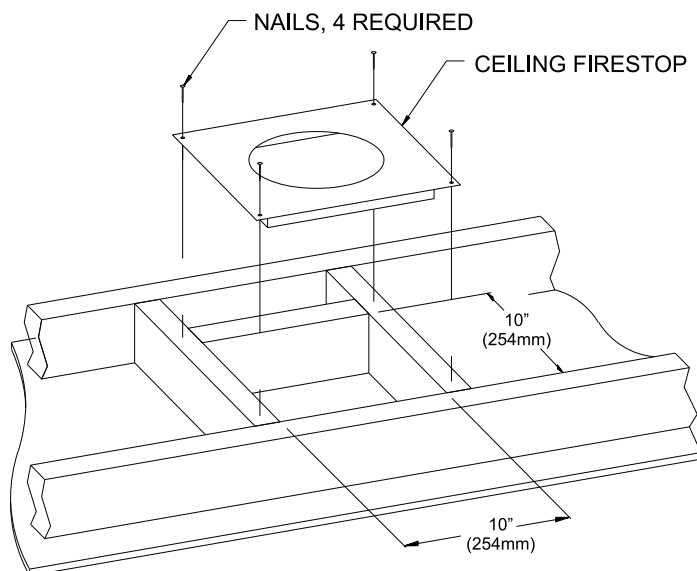
**NOTE:** Remove insulation from the framed area in the attic before installing the firestop and/or vent pipes.



**Figure 54**



**Figure 55**



**Figure 56**

See **Vertical Termination** Pages 30 - 31.

# TERMINATION CLEARANCES

Termination clearance for buildings with combustible and noncombustible exteriors.

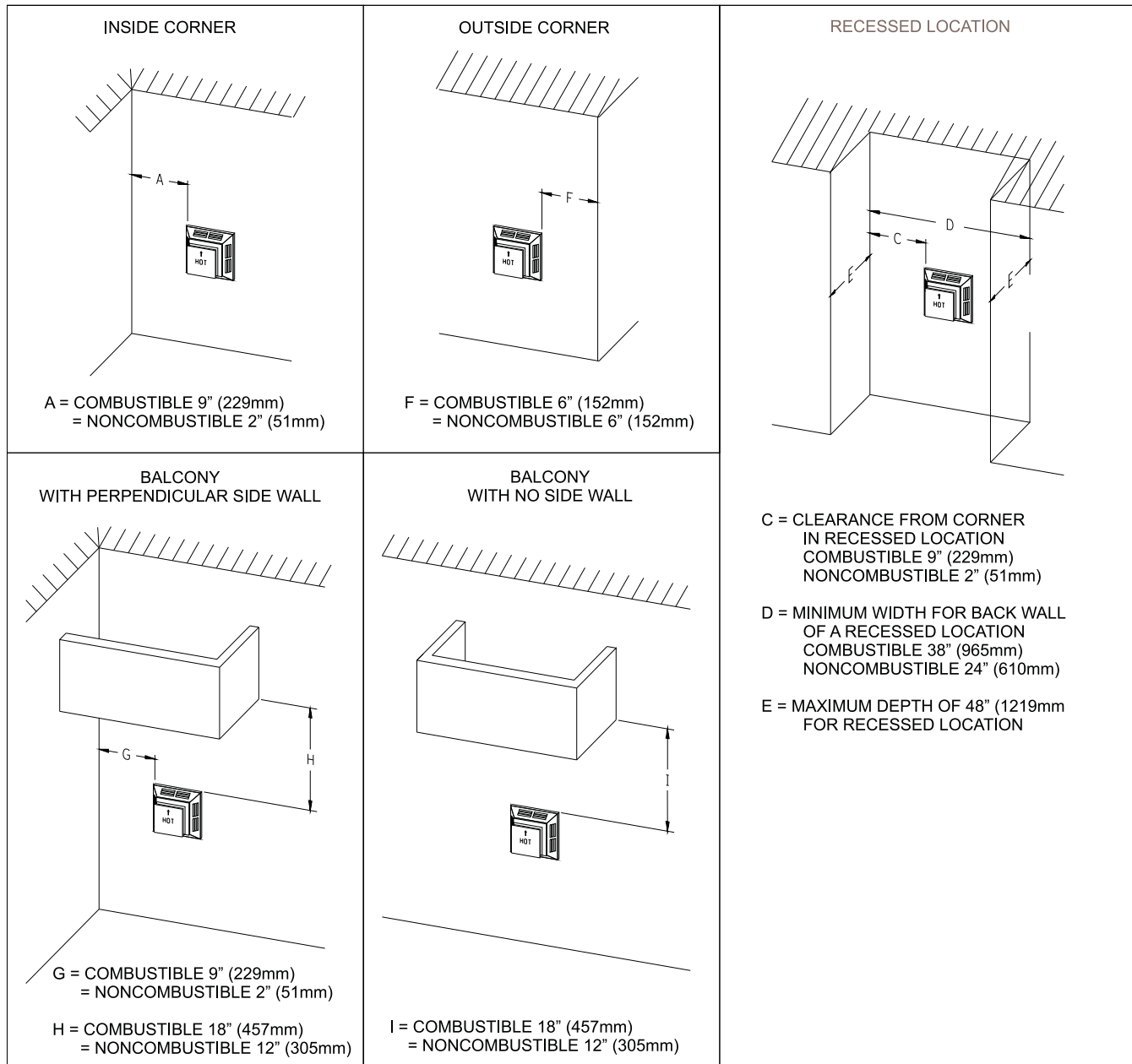


Figure 57

## Vertical Sidewall Installations

**Important!** Minimum clearance between vent pipes and combustible materials is 3 inch(75 mm) on top, and 2 inch (50 mm) on bottom and sides.

**Important!** When vent termination exits through foundation less than 20 inch(508 mm) below siding outcrop, the vent pipe must extend outward so that the horizontal vent termination is located flush to, or beyond the outcrop siding.

## Information on Various Venting Routes and Components

**Important:** It is always best to locate the fireplace in such a way that minimizes the number of offsets and horizontal vent length.

Since it is very important that the venting system maintain its balance between the combustion air intake and the flue gas exhaust, certain limitations as to vent configurations apply and must be strictly adhered to.

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The graph showing the relationship between vertical and horizontal side wall venting will help to determine the various vent lengths allowable.

The horizontal vent run refers to the total length of vent pipe from the flue collar of the fireplace to the face of the outer wall.

The maximum horizontal vent run is 20 feet (6.10 m) when the vertical vent rise is 8 feet (2.44 m). **See Page 21, Figure 38.**

Venting termination shall not be recessed into wall or siding.



# VERTICAL TERMINATION

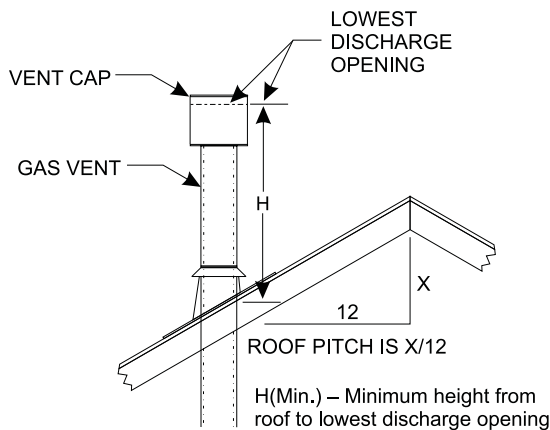
Locate and mark the center point of the vent pipe using a nail on the underside of the roof. Drive the nail through the center point. Mark the outline of the roof hole around this center point.

**NOTE:** Size of the roof hole dimensions depend on the pitch of the roof. There must be a 1-in (25 mm) clearance to the vertical pipe sections. This clearance is to all combustible material.

Cover the opening of the vent pipe and cut and frame the roof hole. Use framing lumber the same size as the roof rafters and install the frame securely. Flashing anchored to frame must withstand high winds. The storm collar is placed over this joint to make a water-tight seal. Non-hardening sealant should be used to completely seal this flashing installation.

## Determining Minimum Vent Height Above the Roof.

**WARNING: Major U.S. building codes specify minimum chimney and/or vent height above the roof top. These minimum heights are necessary in the interest of safety. These specifications are summarized in Figure 58.**



ROOF PITCH	H (Min.)
Flat to 6/12	12-in. (305 mm)
6/12 to 7/12	15-in. (381 mm)
Over 7/12 to 8/12	18-in. (457 mm)
Over 8/12 to 16/12	24-in. (610 mm)
Over 16/12 to 21/12	36-in. (914 mm)

**Figure 58**

Note that for steep roof pitches, the vent height must be increased. In high wind conditions, nearby trees, adjoining roof lines, steep pitched roofs, and other similar factors can result in poor draft, or down-drafting. In these cases, increasing the vent height may solve this problem.

## General Maintenance

Inspect venting system semi-annually as follows:

1. Check for corrosion areas of the venting system exposed to the elements. These will appear as rust spots or streaks and, in extreme cases, holes. Replace damaged components should immediately.
2. Remove the cap and shine a flashlight down the vent. Remove any bird nests or other foreign material.
3. Check for evidence of excessive condensate, such as water droplets forming in the inner liner and subsequently dripping out at joints. Condensate can cause corrosion of caps, pipe and fittings. It may be caused by having excessive lateral runs, too many elbows and exterior portions of the system being exposed to cold weather.
4. Inspect joints to verify that no pipe sections or fittings have been disturbed and, consequently, loosened. Also, check mechanical supports, such as wall straps or plumbers' tape for rigidity.

Venting termination shall not be recessed into a wall or siding.

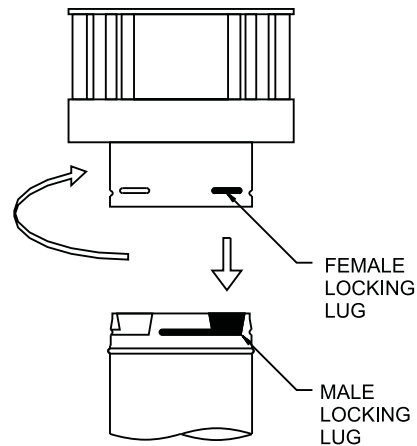
A removable panel or other means must be provided in the enclosure for visual inspection of the flue connection.

**NOTE:** This also pertains to vertical vent systems installed on the outside of the building.

Slide the vertical vent cap over the ends of the vent pipe and secure. **See Figure 59.**

## Installing the Vent System in a Chase

A chase is a vertical box-like structure built to enclose the gas appliance and/or its vent system. Vertical vent runs on the outside of a building may be, but are not required to be installed inside a chase.



**Figure 59**

## CAUTION

Treatment of firestop spacers and construction of the chase may vary with the type of building. These instructions are not substitutes for the requirements of local building codes. Check local building codes to determine the requirements for these steps.

**NOTE:** Build the chase large enough to the minimum clearance of combustible materials (including insulation) to the vent system. When installing the vent system in a chase, to insulate the chase as you would the outside walls of your home. This is especially important in cold climates. Upon completion of chase framing, install the vent system by following the instructions in this manual.

# VERTICAL TERMINATION (continued)

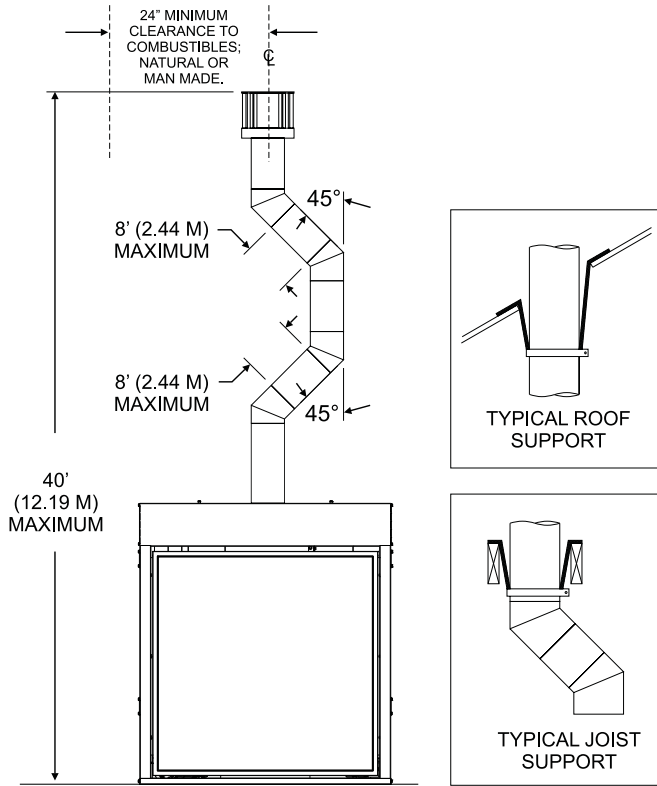


Figure 60

If two vertical terminations are run near each other, they may be placed a minimum of 12 inches between them if they are at the same height. See Figure 61. If two vent terminations are not at the same height, they must be positioned at least 24 inches apart to minimize draft issues between them.

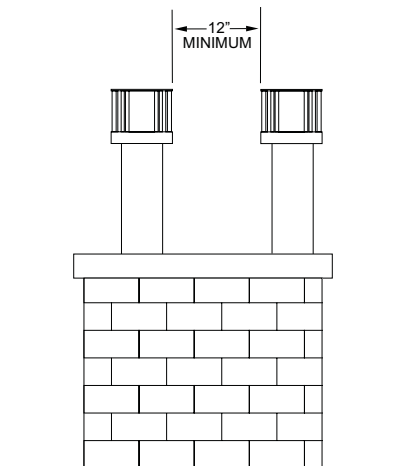


Figure 61

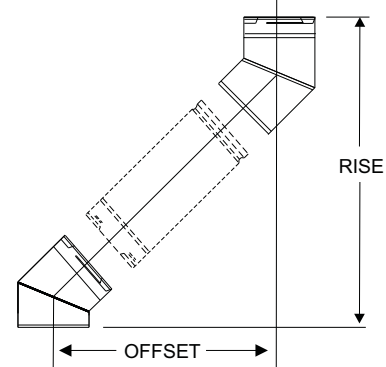
## Vertical Through the Roof Applications

Your Gas Fireplace has been approved for:

- a) Vertical installations up to 40 feet in height.
- b) Two sets of 45 degree elbow offsets within these vertical installations. From 0 to a maximum of 8 feet a vent pipe can be used between elbows.
- c) Wall straps must be used to support offset pipe every 4-ft.

This application will require that you first determine the roof pitch and use the appropriate venting components.

## OFFSET CHART



ELBOW DEGREES	CHIMNEY SECTION	OFFSET	RISE
Dimensions in inches			
45	0	4-7/8	13-3/8
45	6	8	16-1/2
45	9	10-1/8	18-5/8
45	12	12-1/4	20-3/4
45	24	20-5/8	29-1/8
45	36	29	37-1/2
45	36	29	37-1/2
45	48	37-3/8	45-7/8

Figure 62

# DVVK-4F FLEX VENT INSTRUCTIONS

The **DVVK-4F FLEX VENT KIT** includes the following components:

- 1 - Horizontal Termination Cap
  - 1 - 4-foot section of Flex vent with spacers (4-in flue/7-in outer pipe)
  - 1 - 4-in diameter flue adapter collar
  - 1 - 7-in diameter outer vent adapter collar
  - 1 - Wall Firestop/Thimble Assembly
- Hardware pack that includes band clamps and screws

**NOTE:** If installing the DVVK-4F Flex Vent Kit, an SD46DVA-FCFX7 Flex Adaptor Collar Assembly must also be used (purchased separately).

When installing a horizontal vent run from top connections, maintain at least ½-in rise for every 12-in of vent run.

## CAUTION

Always stretch and secure venting with wire or metal strapping to ensure that the horizontal runs do not sag. Because of sharp edges, always use gloves when handling the flex vent components. Vent connections should overlap a minimum of 1-in for proper sealing.

Always follow the general venting requirements for vent termination location, vent lengths, and clearance to combustible materials.

## INSTALLATION

1. Unpack vent components and check that all items are included.
2. Check to see that the vent spacer springs are located around the flue vent at 8-in and 12-in intervals along its length. **See Figure 63.** If not, stretch the spacer springs to about 15-in long and wrap them around the flue, then interlock the ends of each spring about 2-in. **See Figure 64.** Maintain equal distance between spring spacers.

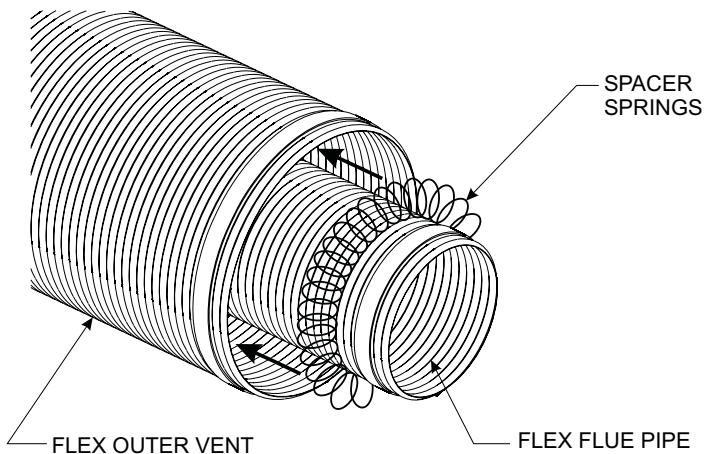


Figure 63

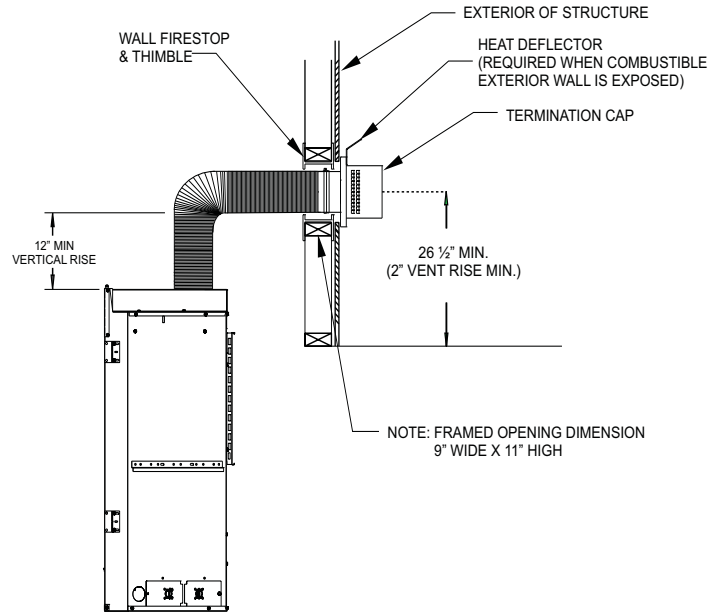


Figure 64

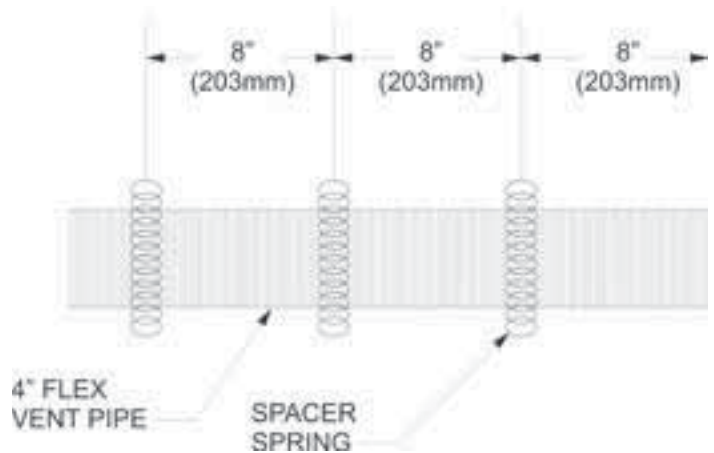
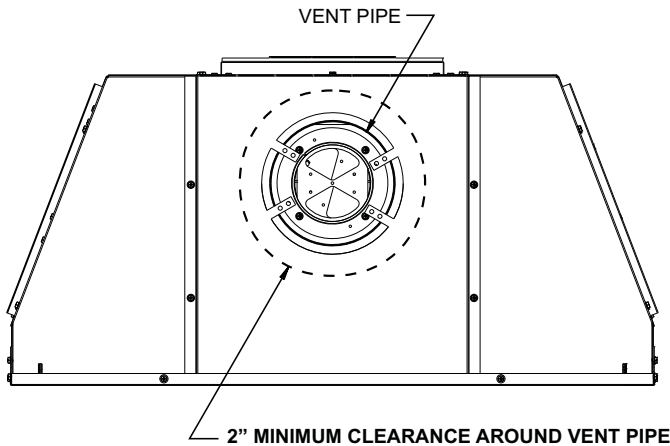


Figure 65

3. Connect the SD46DVA-FCF Adaptor to the vent and flue collars on top of the fireplace.
4. Slide the Flex Vent flue pipe into the Outer Flex Vent pipe.

# DVVK-4F FLEX VENT INSTRUCTIONS

5. Install the Wall Firestop/Thimble assembly as required through the wall. Refer to the venting charts in the fireplace manual to determine the proper height and size of the vent opening. The minimum opening should be 11-in wide by 11-in high. The minimum combustible clearance from the horizontal vent is 2-in from sides and bottom, and 6-in above the vent pipe. **See Figure 66.**



**Figure 66**

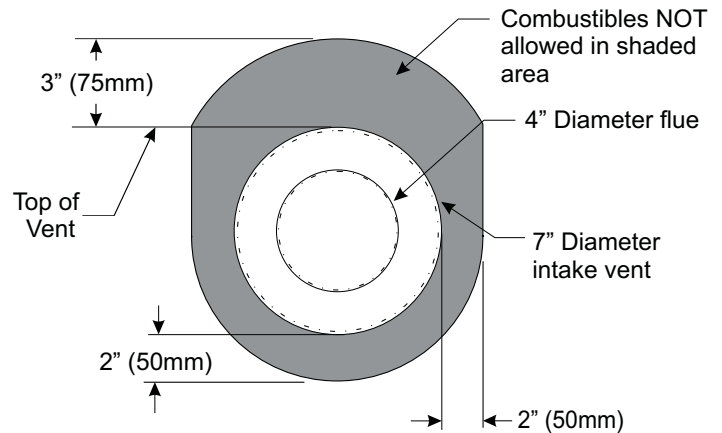
6. In most cases, after determining the length of the vent that is needed, it may be easier to install the flue and outer vent pipes to the Termination Cap first, then from the outside, feed the venting through the wall to the fireplace.
7. If the venting is too long, trim off any excess vent before attaching the vent end connectors.

## **⚠ CAUTION**

**Do not use force when installing the Horizontal Vent Termination into the flex venting. Always stretch venting out first, then cut off excessive vent material prior to sliding the vent termination into the flue and inlet venting. Forcing the termination cap into the flex venting will deform the flue venting, which will restrict the exhaust gases, and cause improper operation of the fireplace.**

8. Attach the Termination Cap to the outside of the house.
9. Prior to making the vent connections, apply high temperature sealant (1000 degree F min.) to the vent connections before securing with the band clamps provided. Note: The flue pipe end **without the adapter** is to be installed to the Termination Cap.

10. Apply sealant to the outside of the flue pipe adapter and connect to the flex flue pipe. Then insert the adapter into the fireplace flue. Secure flue adapter to the fireplace flue with a minimum of two screws provided. **See Figure 67.**



**Figure 67**

11. Attach the Outer Vent pipe to the 7-in diameter collar on the fireplace with a large band clamp provided. Sealant may also be used on the outer vent connections.
12. Check all vent connections for tightness. Make sure horizontal venting has the proper rise and combustible clearances required. Refer to venting charts in fireplace instruction manual.

# MILLIVOLT OPERATING INSTRUCTIONS (BP3 SERIES)

## Millivolt System

The standing pilot burns continuously even when the main burner is OFF.

When you ignite the pilot, the thermopile produces millivolts (electrical current) which energizes the magnet in the gas valve. After 30 seconds you can release the gas control knob and the pilot will stay ON. Allow the pilot flame to burn an additional one to two minutes before you turn the gas control knob from the PILOT position to the ON position. This allows the millivolts current to build-up to a sufficient level to operate the gas control properly.

1. Follow the SAFETY and LIGHTING INSTRUCTIONS for standing pilot controls found in this manual and on labels found in control compartment behind the door assembly.

### ⚠ CAUTION

During the initial purging and subsequent lightings, never allow the gas valve control knob to remain depressed in the "pilot" position without pushing the piezo ignitor button at least once every second.

2. During the operating season, leave the control valve knob in the "ON" position. This will allow the pilot flame to remain lit. Turn the burner flame on or off with the fireplace REMOTE/OFF/ON switch, wall switch or remote controls.

**NOTE:** The gas control valve allows you to increase or decrease the height of the main burner flame. The control valve has a pressure regulator with a knob as shown in **Figure 68**. Rotate the knob clockwise to "HI" to increase the flame height and counterclockwise to "LO" to decrease the flame height.

3. When the heating season ends, turn the REMOTE/OFF/ON switch to "OFF" and the control valve to "OFF". The system, including the pilot light, will be shut down.

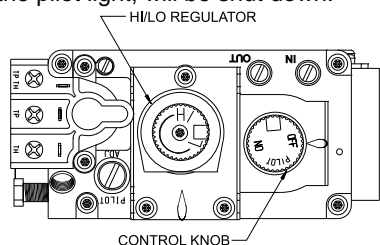


Figure 68

The OWNER should carefully read and follow these operating instructions.

## Initial Lighting

Lower the door assembly to view the gas controls for the fireplace. Upon completing the gas line or turning the gas valve on after it has been in the "OFF" position, a small amount of air will be in the lines. When first lighting the fireplace, it will take a few minutes for the lines to purge this air. Once the purging is complete, the fireplace will light and operate satisfactorily.

Subsequent lightings of the appliance will not require purging if the gas valve is not turned to "OFF."

## Pilot Flame

The pilot flame should cover the thermopile and thermocouple.

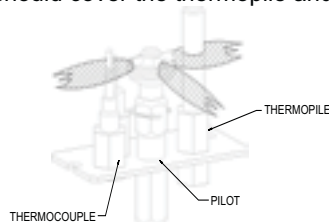


Figure 69

## STANDING PILOT OPERATING INSTRUCTIONS

### REMOTE/OFF/ON Switch

The fireplace is equipped with a REMOTE/OFF/ON switch. A wire harness is attached to the REMOTE/OFF/ON switch. The red, black and green (wires) female push-ons attach to the REMOTE/OFF/ON switch. At the opposite end of the wire harness, the black and green (wires) female push-ons attach to the gas valve. An additional green wire and the red wire, which are stripped and bare, will attach to one of the accessories that can be purchased for use with your fireplace.

### Operation of REMOTE/OFF/ON Switch with no Accessories

To ignite main burner, turn the control knob on the gas valve from the PILOT position to the ON position. Turn the REMOTE/OFF/ON switch from the OFF position to the ON position. The additional green wire and red wire, which are stripped and bare are not used.

### Wall Switch, FWS-1

Connect the green and red, stripped and bare, wires on the REMOTE/OFF/ON switch wire harness to the wall switch. Turn the REMOTE/OFF/ON switch to the REMOTE position. Pivot the rocker switch on the FWS-1 to the ON position.

### Wall Thermostats (optional)

TRW - Wireless for Millivolt models

TMV - Reed switch for Millivolt models

### Battery Operated Remote Controls, FRBC, FRBTC, and TRW

Connect the green and red, stripped and bare, wires on the REMOTE/OFF/ON switch wire harness to the remote receiver that is a component in the remote kit. Turn the REMOTE/OFF/ON switch to the REMOTE position. Follow instructions included with the remote to complete installation.

**Note:** If batteries fail in the remote, and immediate heat is desired, turn the REMOTE/OFF/ON switch from the REMOTE position to the ON position.

### Installation of Remote Receiver

Place remote receiver on the floor of fireplace behind the louver as far forward as possible.

**Attention:** The Velcro loop and hook are not necessary in this installation but can be used to secure remote receiver.

Refer to remote control installation and operating instructions for more details on remote control.

### Millivolt Control

The valve regulator controls the burner pressure which should be checked at the pressure test point. Turn captured screw counter clockwise 2 or 3 turns and then place tubing to pressure gauge over test point (Use test point "A" closest to control knob). After taking pressure reading, be sure and turn captured screw clockwise firmly to re-seal. Do not over torque. Check for gas leaks.

Millivolt thermopile is self generating. Gas valve does not require 24 volts or 110 volts.

### Check System Operation

Millivolt system and all individual components may be checked with a millivolt meter 0-1000 MV range.

Use wire of a gauge proper for the length of the wire:

#### Recommended Wire Gauges

Maximum Length	Wire Gauge
1-ft to 10-ft	18
10-ft to 25-ft	16
25-ft to 35-ft	14

# MILLIVOLT STANDING PILOT WIRING DIAGRAM (BP3 SERIES)

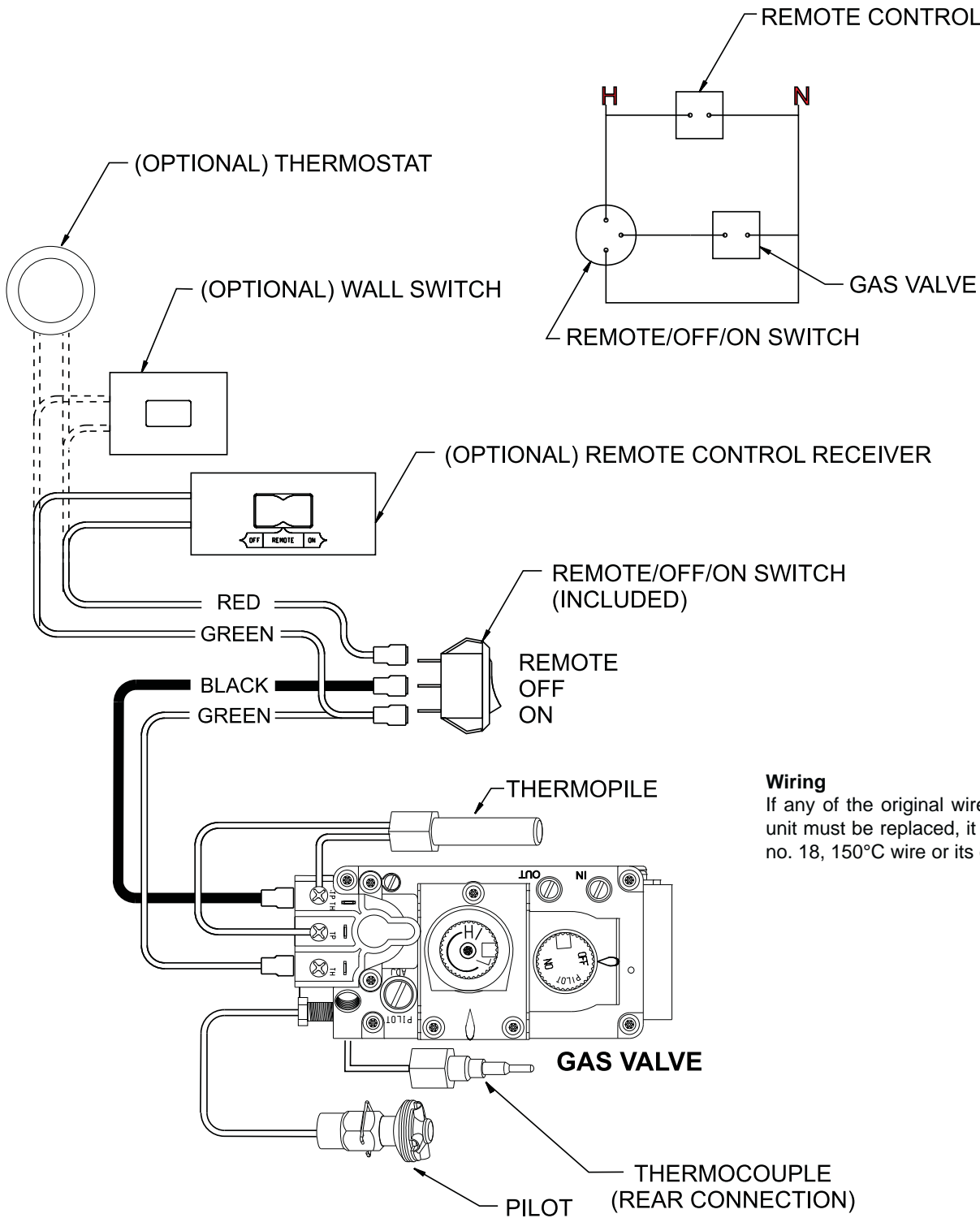


Figure 70



# MILLIVOLT STANDING PILOT LIGHTING INSTRUCTIONS (BP3 SERIES)




## FOR YOUR SAFETY READ BEFORE LIGHTING

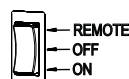
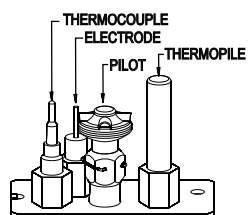
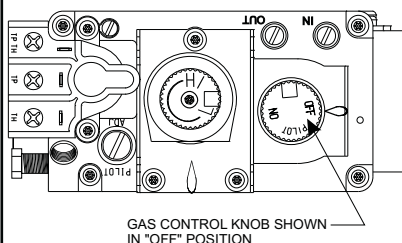
### ⚠ WARNING

**If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.**


- A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.
- B. Before lighting smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.  
**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.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it; call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

## LIGHTING INSTRUCTIONS

1. Stop! Read the safety information above.
  2. Set REMOTE/OFF/ON switch to OFF.
  3. Turn off all electric power to the appliance (if applicable).
  4. Lower bottom louver assembly.
  5. Push in gas control knob slightly and turn clockwise  to "OFF."
- Note:** Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. Do not force.
6. Wait ten minutes to clear out any gas. Then smell for gas, including near the floor. If you then smell gas, STOP! Follow "B" in the safety information above. If you do not smell gas, go to the next step.
  7. Find pilot - Follow metal tube from gas control. The pilot is behind the burner on the right side.
  8. Turn gas control knob counterclockwise  to "PILOT."
  9. Push in control knob all the way and hold in. Repeatedly push the piezo ignitor button until the pilot is lit. Continue to hold the control knob in the for about one minute after the pilot is lit. Release knob, and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 5 through 9.
    - If the control knob does not pop up when released, STOP and IMMEDIATELY call a qualified service technician or gas supplier.
    - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
  10. Turn gas control knob counterclockwise  to "ON."
  11. Close bottom louver assembly.
  12. Turn on all electric power to the appliance (if applicable).
  13. Set REMOTE/OFF/ON switch to desired setting.



## TO TURN OFF GAS TO FIREPLACE

1. Set REMOTE/OFF/ON switch to OFF.
2. Turn off all electric power to the appliance if service is to be performed (if applicable).
3. Lower bottom louver assembly.
4. Push in gas control knob slightly and turn clockwise  to "OFF." Do not force.
5. Close bottom louver assembly.



# MILLIVOLT STANDING PILOT TROUBLESHOOTING (BP3 SERIES)

With proper installation and maintenance, your new Direct Vent Gas Fireplace will provide years of trouble-free service. If you do experience a problem, refer to the Trouble Shooting Guide below. This guide will assist a qualified service person in the diagnosis of problems and the corrective action to be taken.

## 1. Spark ignitor will not light pilot after repeated triggering of piezo ignitor button.

- a. Defective ignitor (no spark electrode)  
—Check for spark at electrode and pilot; if no spark and electrode wire is properly connected, replace ignitor.
- b. No gas or low gas pressure.  
—Check remote shut off valves from fireplace. Usually there is a valve near the main. There can be more than one valve between the fireplace and main.  
—Low pressure can be caused by a variety of situations such as a bent line, too narrow diameter of pipe, or low line pressure. Consult with plumber or gas supplier.
- c. No LP in tank.  
—Check LP (propane) tank. Refill tank.

## 2. Pilot will not stay lit after carefully following lighting instructions.

- a. Defective thermocouple.  
—Check that pilot flame impinges on thermocouple. Clean and/or adjust pilot for maximum flame impingement.  
—Ensure the thermocouple connection at the gas valve is fully inserted and tight (hand tight plus 1/4 turn). Faulty thermocouple if reading is below specified minimum of 15 millivolts.  
—Disconnect the thermocouple from the valve, place one millivolt meter lead wire on the end of the thermocouple and the other millivolt meter lead wire on the thermocouple copper wire. Start the pilot and hold the valve knob in. If the millivolt reading is less than 15 millivolt, replace the thermocouple.
- b. Defective valve.  
—If thermocouple is producing more than 15 millivolts, replace faulty valve.

## 3. Pilot burning, no gas to burner, valve knob "ON", REMOTE/OFF/ON switch "ON."

- a. REMOTE/OFF/ON switch, wall switch, remote control or wires defective.  
—Check REMOTE/OFF/ON switch and wires for proper connections. Place jumper wires across terminal at switch. If burner comes on, replace defective switch. If OK, place jumper wires across switch wires at gas valve-if burner comes on, wires are faulty or connections are bad.
- b. Thermopile may not be generating sufficient millivolts.  
—If the pilot flame is not close enough physically to the thermopile, adjust the pilot flame.  
—Be sure the wire connections from the thermopile at the gas valve terminals are tight and the thermopile is fully inserted into the pilot bracket.  
—Check the thermopile with a millivolt meter. Take the reading at TH-TP & TP terminals of the gas valve. The meter should read 350 millivolts minimum, while holding the valve knob depressed in the PILOT position, with the pilot lit, and the REMOTE/OFF/ON switch in the OFF position. Replace the faulty thermopile if the reading is below the specified minimum.  
—With the pilot in the ON position, disconnect the thermopile leads from the valve. Take a reading at the thermopile leads. The reading should be 350 millivolts minimum. Replace the thermopile if the reading is below the minimum.

- c. Defective valve.

—Turn valve knob to ON. Place REMOTE/OFF/ON switch to ON. Check with millivolt meter at thermopile terminals. Millivolt meter should read greater than 200 millivolts. If the reading is okay and the main burner does not ignite, replace the gas valve.

- d. Plugged main burner orifice.

—Check main burner orifice for blockage and remove.

## 4. Frequent pilot outage problem.

- a. Pilot flame may be too high or too low, or blowing (high), causing pilot safety to drop out.  
—Clean and adjust flame for maximum flame impingement on the thermocouple. Follow lighting instructions carefully.

## 5. The pilot and main burner extinguish while in operation.

- a. No LP (Propane) in tank.  
Check LP (Propane) tank. Refill fuel tank.
- b. Inner vent pipe leaking exhaust gases back into system  
—Check for leaks.
- c. Glass too loose, gasket leaks in corners after usage.  
—Be certain glass assembly is installed correctly.
- d. Horizontal vent improperly pitched.  
—The horizontal vent cap should slope down only enough to prevent any water from entering the unit. The maximum downwards slope is 1/4 inch.
- e. Bad thermopile or thermocouple.  
—Replace if necessary.
- f. Improper vent cap installation.  
—Check for proper installation and freedom from debris or blockage.

## 6. Glass soots.

- a. Flame impingement on logs.  
—Check and adjust log position. Contact Empire Comfort Systems, Inc.
- b. Debris around throat of main burner.  
—Inspect the opening at the base of the main burner. It is imperative that NO material be placed in this opening.

## 7. Flame burns blue and lifts off main burner.

- a. Insufficient oxygen being supplied.  
—Check to make sure vent cap is installed properly and free of debris. Make sure that vent system joints are tight and have no leaks.  
—Check to make sure that no material has been placed at the main burner base.

# IPI ELECTRONIC SYSTEM OPERATING INSTRUCTIONS (BP7 SERIES)

## 5.25 VDC ELECTRONIC CONTROL VALVE

The electronic control valve system includes the ability to switch the pilot from a standing pilot mode to an intermittent pilot mode.

- **IPI Mode** - In the Intermittent Pilot mode, when the unit is turned ON, it will cause spark to the pilot, light the pilot, then allow the burner to light. When the unit is turned OFF, both the burner and pilot will be OFF.
- **CPI Mode** - In the Continuous Pilot mode, the pilot remains ON continuously even when the burner is turned OFF.

Note: A small toggle switch is located on the front of the module tray that is used to switch from IPI (left) to the CPI (right).

See Figure 71.

When the unit is turned to ON, the electrical current will energize a spark to the pilot igniter. Once the pilot sensor heats up (after a few seconds), the valve will be energized, allowing gas to flow to the burner.

1. Follow the SAFETY and LIGHTING INSTRUCTIONS for Intermittent Pilot controls found in this manual, and on labels found in the control compartment located in the lower cavity of the appliance.
2. During the heating season (or in power outage periods), it is recommended that the pilot remain in the CPI (standing pilot mode) to reduce cold start issues, and/or conserve battery backup power during a power outage.
3. The gas valve has inlet and outlet pressure taps as shown in Figure 71. Refer to pages 15 and 16 for gas pressure requirements.

**Note:** The gas control has a manual HI/LO flame adjustment knob (regulator) that allows you to increase or decrease the height of the burner flame. See Figure 69. Rotate the HI/LO knob counterclockwise to "HI" to increase the flame height, and clockwise to "LO" to decrease the flame height.

## OPTIONAL REMOTE CONTROLS

Optional remote controls are available for use with this appliance. It is recommended that the remote receiver be placed either in a wall outlet box with extended wiring, or in the control compartment area as far forward as possible.

The placement options for the remote receiver are given to allow flexibility, however battery life will be extended when the receiver is placed in cooler areas.

To connect the remote receiver to the appliance, first disconnect the ON/OFF switch wires from the white and green wire connectors and connect the wires from the remote receiver to the green and white wire connectors. See Figure 71. Follow the instructions included with the remote control for programming and other operational information.

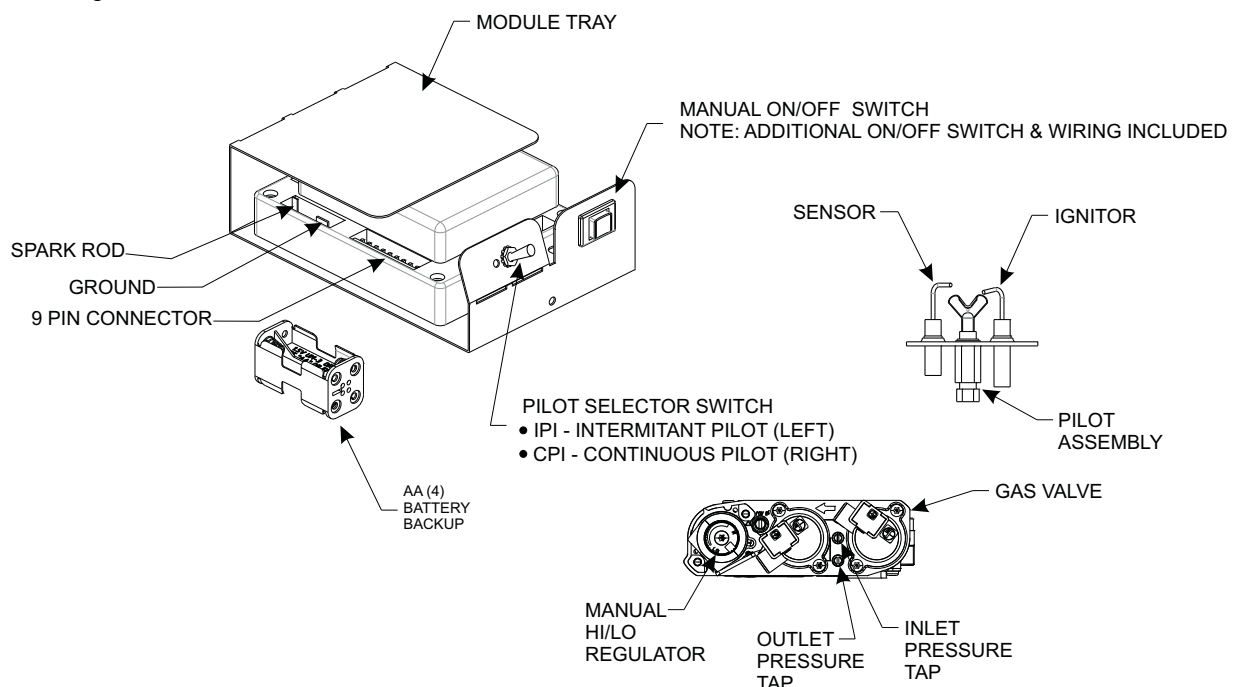
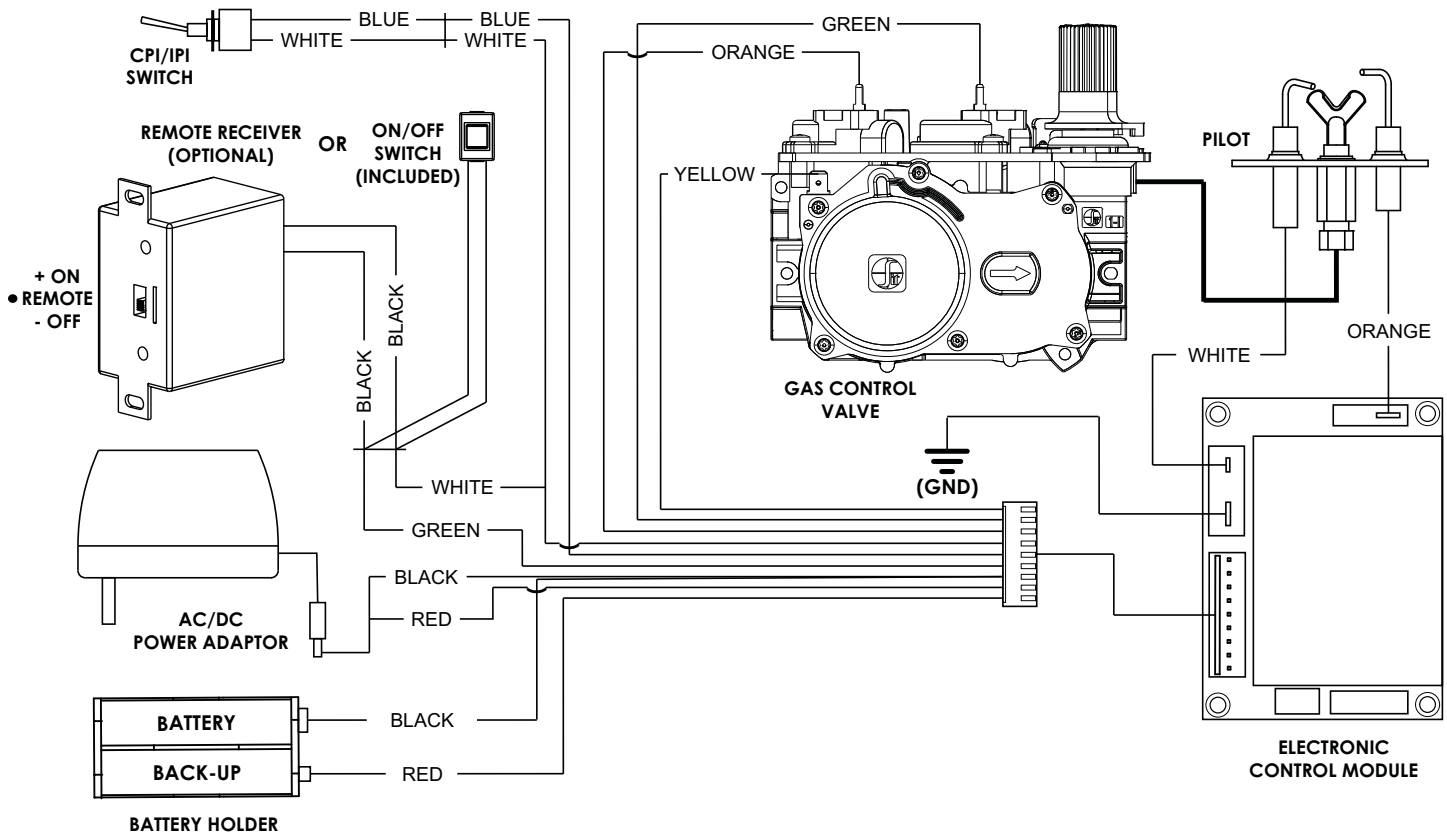


Figure 69

# IPI ELECTRONIC SYSTEM WIRING DIAGRAM (BP7 SERIES)



This appliance is only for use with the type of gas indicated on the rating plate in this appliance and may be installed in an after-market, permanently located, manufactured (mobile) home where not prohibited by local codes. This appliance is not convertible for use with other gases, unless a certified kit is used.

## ⚠ CAUTION

Do not operate the appliance with glass panel removed, cracked or broken. Have a qualified technician replace a damaged panel(s).

## ⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier.

### Wiring

If any of the original wire as supplied with this unit must be replaced, it must be replaced with no. 18, 150°C wire or its equivalent.

# INTERMITTENT PILOT LIGHTING INSTRUCTIONS (BP7 SERIES)


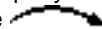
## FOR YOUR SAFETY READ BEFORE LIGHTING

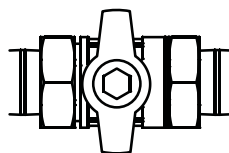
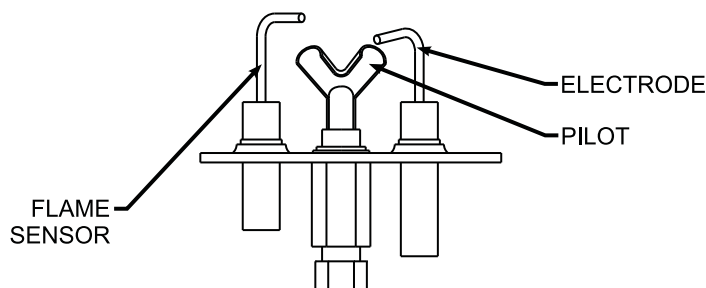
### ⚠ WARNING

**If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.**

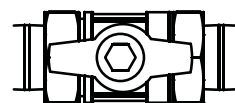
- A. This appliance has a pilot which can be lighted with the manual on/off switch, a remote control, or by switching the receiver switch to the "ON" position. When lighting the pilot, follow these instructions exactly.
- B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.  
**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. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. If you can not reach your gas supplier, call the fire department.
- C. Use only the remote control or manual remote receiver switch to operate the gas valve. Never use tools. If valve does not operate, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

## LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above.
2. Turn OFF electric power to the appliance.
3. Remove front surround panel assembly or bottom louver if included.
4. Turn gas supply knob counterclockwise  to "On" position.
5. Wait ten minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above on this page. If you do not smell gas, go to the next step.
6. Turn ON electric power to the appliance.
7. Find pilot - Follow metal tube from gas control. The pilot is behind the burner on the right side.
8. Turn main flame to on. If the pilot does not light within 60 seconds, stop and go to Step 5.
9. Refer to remote control instructions for detailed information, control features, and operation. Note: There is a CPI/IPI switch that allows for a continuous standing pilot mode or an intermittent pilot mode. See appliance manual for location of this switch. If the pilot or burner does not stay lit (in the standing pilot mode), stop and immediately call a qualified service technician or gas supplier.
10. If the burner or pilot does not operate properly after several tries, turn the gas supply knob clockwise  to "OFF" and call your service technician or gas supplier.
11. Replace the front surround assembly or close bottom louver assembly.
12. Operation of the gas valve is controlled by a manual on/off switch or a hand held remote control. Refer to remote instructions for detailed operation information.




OFF



ON

## TO TURN OFF GAS TO FIREPLACE

1. Turn off all electric power to the appliance if service is to be performed (if applicable).
2. Gain access to control compartment. Remove surround panel assembly if necessary.
3. Locate On/Off gas supply knob and turn clockwise to  "OFF". Do not force.
4. Close bottom louver assembly, if included.

# INTERMITTENT PILOT CONTROL SYSTEM TROUBLESHOOTING (BP7 SERIES)

## Brief Description of the Components

The gas valve is fitted with a manual HI/LO knob to allow for manual modulation of the gas outlet pressure to the appliance burner. This fireplace is intended to operate on NAT or LP Gas. Field conversion is permitted with an Empire Comfort Systems conversion kit.

The Digital Fireplace Control (DFC) is an automatic gas ignition system based on a single micro-controller core. This control manages all functions related to ignition, flame sensing and supervision for atmospheric applications.

The DFC can be set to provide continuous or intermittent ignition control sequences and flame monitoring with safety shutdown in case of failure.

The DFC is set up as a stand alone (AC powered system with battery back up. See Lighting Instructions on page 40 and Wiring Diagram on page 39.

## Troubleshooting

Before proceeding with the procedures in the following troubleshooting table, verify that the power supply (AC/DC adapter) is present and that the batteries inside the receiver and/or optional battery pack are fresh and installed with correct polarity.

Make sure all the connections between the wire harnesses and system components are proper and positive.

Verify that the static inlet pressure meets the manufacturer's recommended inlet pressure. If necessary adjust the line pressure regulator.

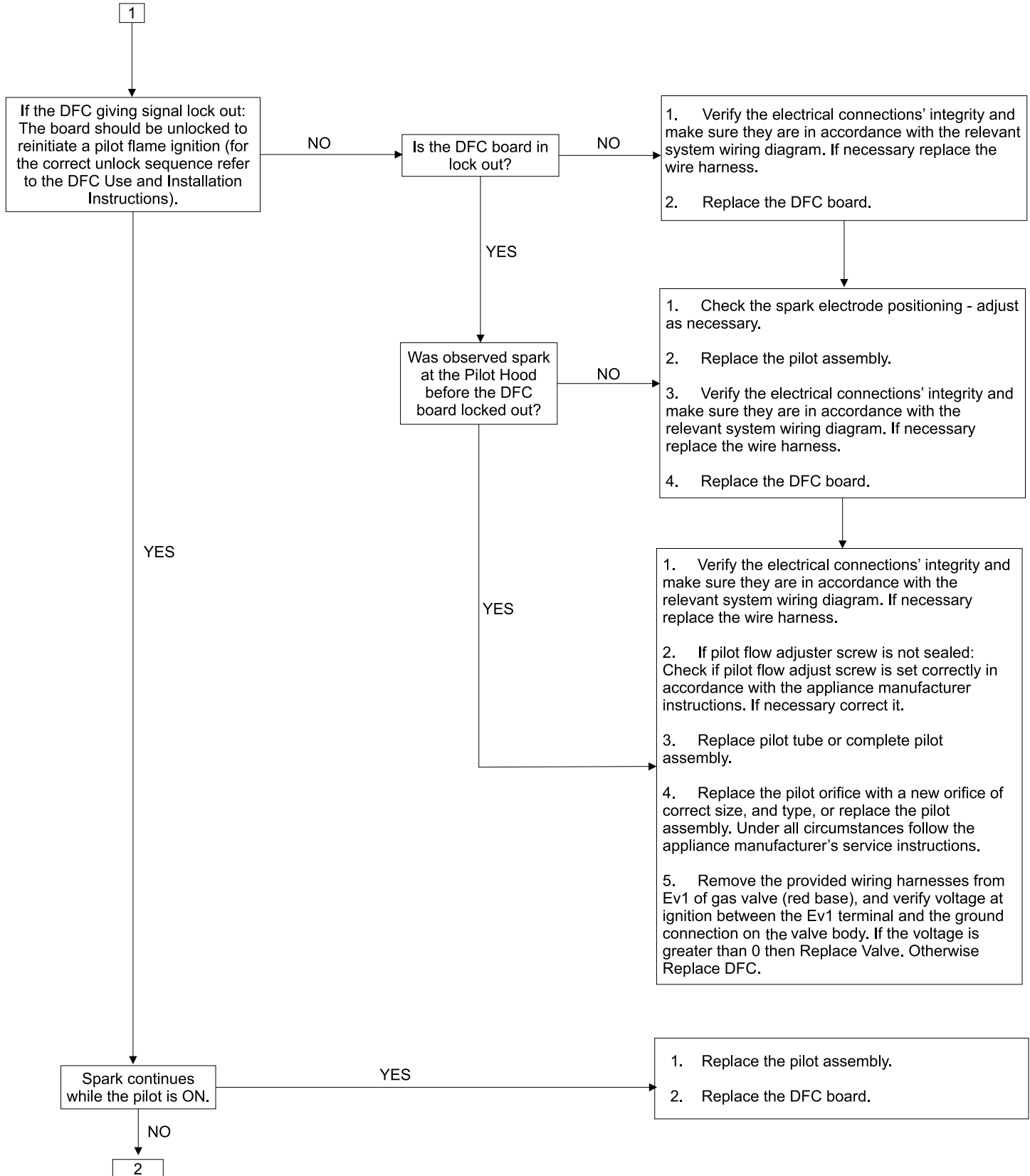
If the recommended actions for the following troubleshooting chart do not help to address the problem consider replacing wiring harnesses.

### **WARNING**

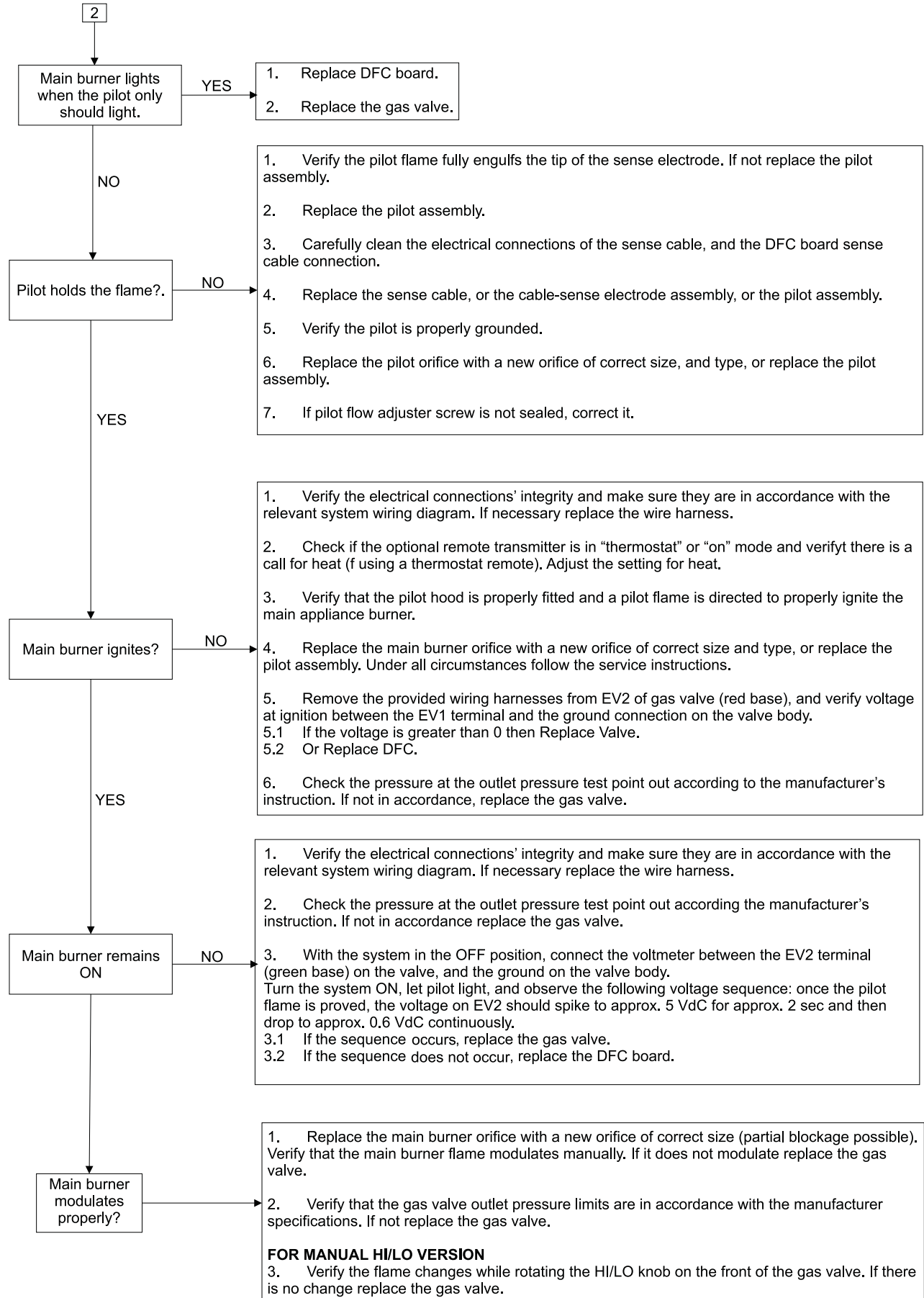
**Any actions performed on the gas valve must be in accordance with this instruction manual. Likewise, any actions performed on the DFC or other system components must be done in accordance with the individual component instructions.**

**Replacement of components must be performed in accordance with this instructions manual.**

# INTERMITTENT PILOT CONTROL SYSTEM TROUBLESHOOTING (BP7 SERIES)



# INTERMITTENT PILOT CONTROL SYSTEM TROUBLESHOOTING (BP7 SERIES)





# MAINTENANCE AND SERVICE

## NOTE

It is normal for appliances fabricated of steel to give off some expansion and/or contraction noise during the start up or cool down cycle. Similar noises are found with your furnace heat exchanger or car engine.

It is normal for your gas fireplace to give off some odor the first time it is burned. This is due to the curing of the paint and any undetected oil from the manufacturing process.

Please ensure that your room is well ventilated - open a window.

It is recommended that you burn your fireplace for at least six hours the first time you use it. If optional fan kit has been installed, place fan in the "OFF" position during this time.

**IMPORTANT:** Turn off gas before servicing appliance. It is recommended that a qualified service person perform these check-ups at the beginning of each heating season.

### • Clean Burner and Control Compartment

Keep the control compartment, logs, and burner areas surrounding the logs clean by vacuuming or brushing at least twice a year.

### Cleaning Procedure

1. Turn off pilot light at gas valve.
2. Remove glass front. (See Glass Removal)
3. Vacuum burner compartment.
4. Reinstall glass front.
5. Ignite pilot. (See Lighting Instructions)
6. Operate the pilot burner. If it appears abnormal call a service person.

### • Check Vent System

The appliance and venting system should be inspected before initial use and at least annually by a qualified service person. Inspect the external vent cap on a regular basis to make sure that no debris is interfering with the air flow.

### Glass Cleaning

It will be necessary to clean the glass periodically. During start-up condensation, which is normal, forms on the inside of the glass and causes lint, dust and other airborne particles to cling to the glass surface. Also initial paint curing may deposit a slight film on the glass. It is therefore recommended that the glass be cleaned two or three times with a non-abrasive household cleaner and warm water (we recommend gas fireplace glass cleaner). After that clean the glass two or three times during each heating season or more often if necessary.

### General Glass Information

## ⚠ WARNING

**Do not operate appliance with the glass front removed, cracked or broken.**

Only glass approved for use by the manufacturer in fireplace may be used for replacement. The glass replacement should be done by a licensed or qualified service person.

## ⚠ WARNING

1. The use of substitute glass will void all product warranties.
2. Care must be taken to avoid breakage of the glass.
3. Under no circumstances should this appliance be operated without the glass front or with a broken glass front. Replacement of the glass (with gasket) as supplied by the manufacturer should be done by a qualified service person.
4. Do not abuse the glass by striking or hitting the glass.

## ⚠ WARNING

**Do not use Ammonia based or abrasive cleaners on glass. Do not attempt to clean glass when glass is hot.**

### Glass Door & Barrier Screen Removal

1. Remove the barrier screen by lifting and pulling towards you.

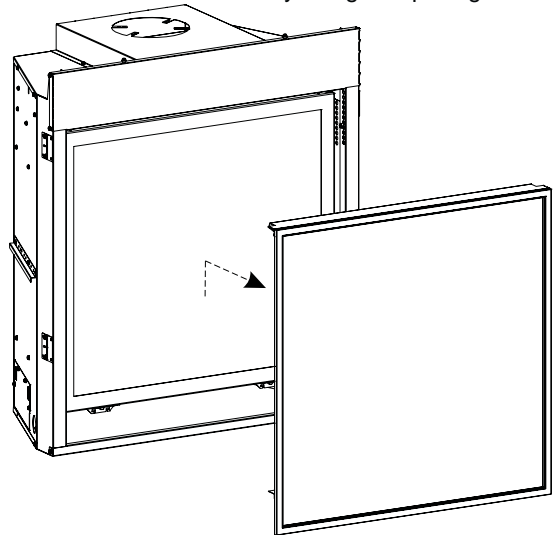


Figure 72

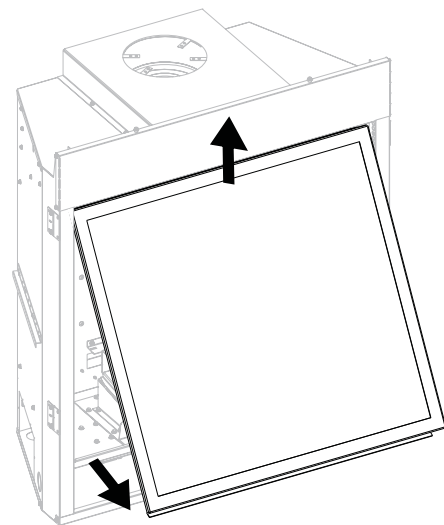


Figure 73

2. Locate the bottom two glass frame spring clamps. Pull forward and downward to release them from the Glass Door frame.
3. Remove the Glass Door by pulling the bottom of the door outward several inches, then lift upwards to disengage from the firebox upper flange.



# MAINTENANCE AND SERVICE

## Install Glass Door and Barrier Screen

1. When installing the Glass Door assembly, make sure that the door top flange is hooked over the firebox top flange as illustrated in the "Correct" view in **Figure 74**.

**Important: Do not allow the gasket across the top of the door to roll up on top of the firebox flange as shown in "Incorrect" view in Figure 74.**

2. To install correctly, the door should be held at an angle outward from the firebox as shown in the illustration, then carefully engage the upper flange of the door frame with the top flange of the firebox. Center the door left to right, then allow the bottom of the door to swing inward to seal against the firebox front.
3. Once the glass door is placed flat to the firebox front edges, engage the two spring latches to the bottom flange on the glass door frame to secure the door assembly.
4. Replace the barrier screen.

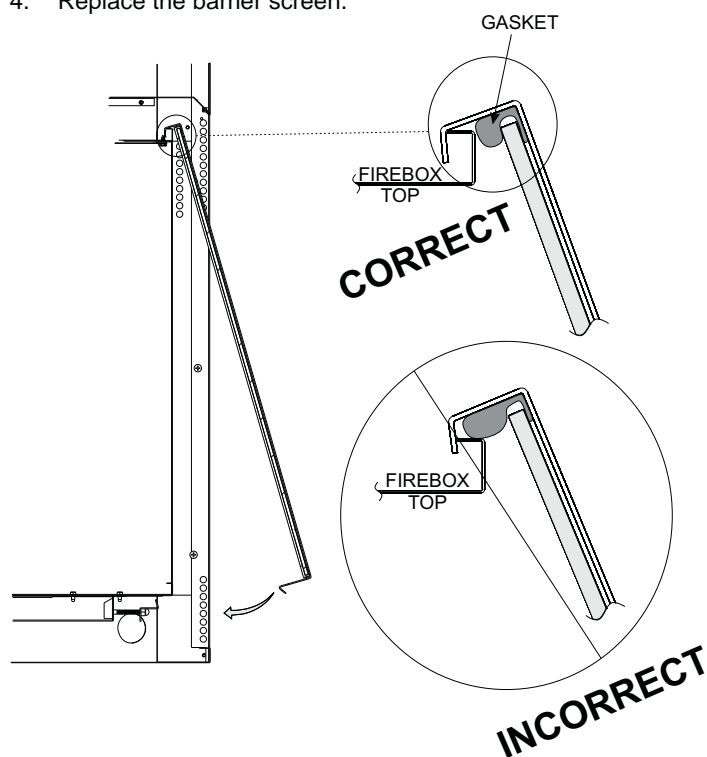


Figure 74

# JUNCTION BOX WIRING INSTALLATION INSTRUCTIONS

## ⚠ CAUTION

ALL WIRING SHOULD BE DONE BY A QUALIFIED ELECTRICIAN AND SHALL BE IN COMPLIANCE WITH ALL LOCAL, CITY AND STATE BUILDING CODES. BEFORE MAKING THE ELECTRICAL CONNECTION, MAKE SURE THAT MAIN POWER SUPPLY IS DISCONNECTED. THE APPLIANCE, WHEN INSTALLED, MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES OR, IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70 (LATEST EDITION).

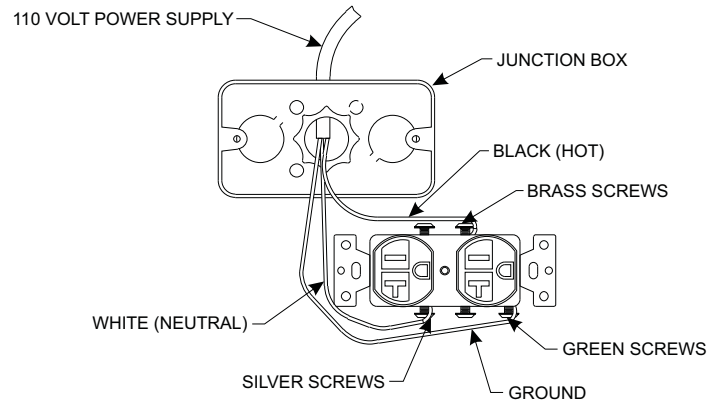
A factory installed junction box is located on the lower right side of the fireplace. Wiring must be fed to the junction box and attached to the receptacle that is provided. Leave approximately 6-in of wire in the junction box for connection.

Attach black wire to one side of the receptacle and white wire to opposite side of receptacle. The ground wire should be attached to the green (ground) screw.

Install the receptacle into the junction box. Attach cover plate.

**Note:** IP units have two junction boxes.

## JUNCTION BOX CONNECTIONS



**Figure 74**

# MASTER PARTS DISTRIBUTOR LIST

To Order Parts Under Warranty, please contact your local Empire dealer. See the dealer locator at [www.empirecomfort.com](http://www.empirecomfort.com). To provide warranty service, your dealer will need your name and address, purchase date and serial number, and the nature of the problem with the unit.

To Order Parts After the Warranty Period, please contact your dealer or one of the Master Parts Distributors listed below. This list changes from time to time. For the current list, please click on the Master Parts button at [www.empirecomfort.com](http://www.empirecomfort.com). Please note: Master Parts Distributors are independent businesses that stock the most commonly ordered Original Equipment repair parts for Heaters, Grills, and Fireplaces manufactured by Empire Comfort Systems Inc.

## Dey Distributing

1401 Willow Lake Boulevard  
Vadnais Heights, MN 55101

**Phone:** 651-490-9191

**Toll Free:** 800-397-1339

**Website:** [www.deydistributing.com](http://www.deydistributing.com)

**Parts:** Heater, Hearth and Grills

## Victor Division of F. W. Webb Company

200 Locust Street  
Hartford, CT 06114

**Phone:** 860-722-2433

**Toll Free:** 800-243-9360

**Fax:** 860-293-0479

**Toll Free Fax:** 800-274-2004

**Websites:** [www.fwwebb.com](http://www.fwwebb.com) & [www.victormfg.com](http://www.victormfg.com)

**Parts:** Heater, Hearth and Grills

## East Coast Energy Products

10 East Route 36  
West Long Branch, NJ 07764

**Phone:** 732-870-8809

**Toll Free:** 800-755-8809

**Fax:** 732-870-8811

**Website:** [www.eastcoastenergy.com](http://www.eastcoastenergy.com)

**Parts:** Heater, Hearth and Grills

# HOW TO ORDER REPAIR PARTS

## Parts Not Under Warranty

Parts can be ordered through your Service Person, Dealer, or a Master Parts Distributor. See this page for the Master Parts Distributors list. For best results, the **service person or dealer** should order parts through the distributor. Parts can be shipped directly to the **service person/dealer**.

## Warranty Parts

Warranty parts will need a proof of purchase and can be ordered by your Service Person or Dealer. Proof of purchase is **required** for warranty parts.

All parts listed in the Parts List have a Part Number. When ordering parts, first obtain the Model Number and Serial Number from the name plate on your equipment. Then determine the Part Number (**not** the Index Number) and the Description of each part from the following illustration and part list. Be sure to give all this information . . .

Appliance Model Number \_\_\_\_\_ Part Description \_\_\_\_\_

Appliance Serial Number \_\_\_\_\_ Part Number \_\_\_\_\_

Type of Gas (Propane or Natural) \_\_\_\_\_

Do not order bolts, screws, washers or nuts. They are standard hardware items and can be purchased at any local hardware store.

Shipments contingent upon strikes, fires and all causes beyond our control.

# MILLIVOLT PARTS LIST - DVCP(32,36,42)BP3

INDEX NO.	DVCP32	DVCP36	DVCP42	DESCRIPTION
1	35918	35918	35918	INSULATION BOX
2	R12177	R12177	R12177	INSULATION TOP, CENTER
3	35997	35997	35997	BRACKET, SHIPPING (QTY. 2)
4	35894	35901	35908	OUTER WRAPPER TOP
5	R12174	R12175	R12176	INSULATION TOP
6	32730	32730	32730	FLUE RESTRICTOR ASSEMBLY
7	R7566	R7566	R7566	INLET VENT ADAPTER 6-5/8
8	R7573	R7573	R7573	GASKET, INLET VENT
9	31579	31579	31579	NAILING FLANGE (QTY. 4)
10	R11751	R11751	R11751	GASKET, ACCENT LAMP
11	32214	32214	32214	COVER PLATE, ACCENT LIGHT
12	31587	31587	31587	BLOWER MOUNTING PLATE
13	17162	17162	17162	JUNCTION BOX ASSEMBLY (QTY. 2)
14	17357	17357	17357	JUNCTION BOX SHIELD
15	32767	32767	32768	LOG SUPPORT ASSEMBLY
16	31837	31837	31938	GRATE ASSEMBLY
17	29057	29057	29057	SPRING RETAINER ASSEMBLY (QTY. 2)
18	31939	31940	32256	GLASS FRAME ASSEMBLY
19	35982	35983	35984	SCREEN ASSEMBLY COMPLETE
20	R7612	R7612	R7612	PILOT ASSEMBLY, NAT
20	R7611	R7611	R7611	PILOT ASSEMBLY, LPG
21	31600	31600	31600	PILOT BRACKET
22	31598	31598	31610	BURNER WELDED ASSEMBLY
23	R11269	R11269	R11269	GAS LINE BRACKET
24	31599	31599	31786	BURNER BASE
25	31785	31785	31785	TUBING ASSEMBLY, INLET

INDEX NO.	DVCP32	DVCP36	DVCP42	DESCRIPTION
26	R11675	R11675	R11675	ORIFICE HOLDER
27	31714	31714	31714	ORIFICE BRACKET
28	R7572	R7572	R7572	JAMB NUT, 1/4-in-18 NPS
29	R7624	R7624	R7624	AIR SHUTTER
30	P204	N/A	N/A	ORIFICE #54 LP
30	P286	P286	N/A	ORIFICE #42 NAT
30	N/A	P208	N/A	ORIFICE #1.45mm LP
30	N/A	N/A	P258	ORIFICE #1.55mm LP
30	N/A	N/A	P285	ORIFICE #39 NAT
31	R10432	R10432	R10432	VENTURI
32	R10602	R10602	R10602	VENTURI GASKET
33	R2423	R2423	R2423	CONNECTOR, MALE 5/16 X 3/8 NPT
34	R7577	R7577	R7577	VALVE, NAT
34	R7578	R7578	R7578	VALVE, LPG
35	31595	31595	31595	VALVE BRACKET
36A	17626	17626	17626	GASKET 3/4 X 7 (QTY. 2)
36B	17625	17625	17625	GASKET 3/4 X 13 3/4 (QTY. 2)
37	R3436	R3436	R3436	SWITCH, REMOTE OFF/ON
38	R9760	R9760	R9760	IGNITOR, PIEZO
39	R10947	R10947	R10947	WIRE ASSEMBLY
40	R7591	R7591	R7591	FLEXLINE 3/8 X 12 WITH SHUTOFF
41	36071	36072	36073	NON-COMBUSTIBLE BOARD
NS	36094	36094	36094	BACKER STUD (QTY. 4)
NS	R3491	R3491	R3491	COVER, JUNCTION BOX
NS	R3492	R3492	R3492	RECEPTICAL, 3-PRONG (QTY. 1)

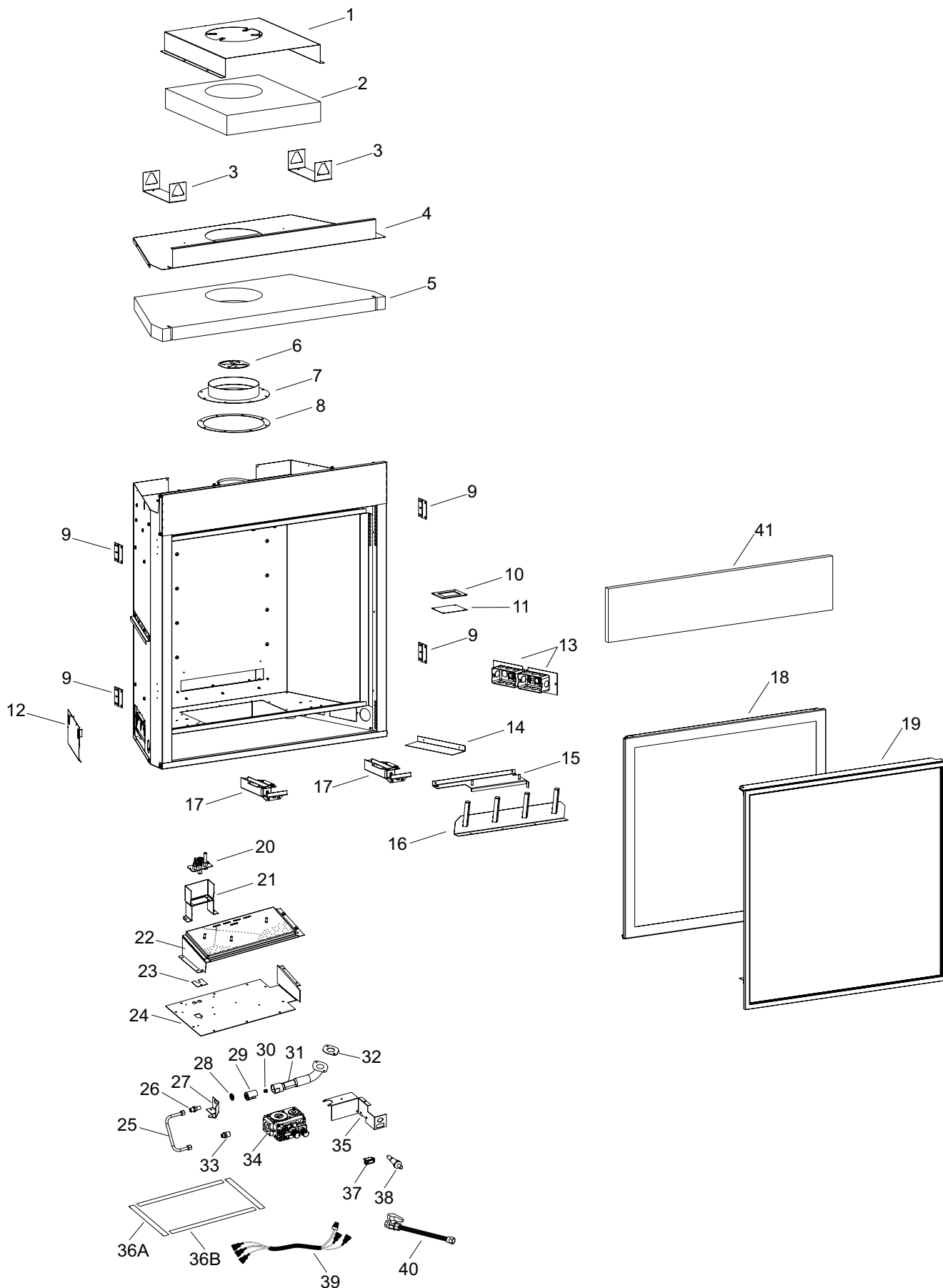
NS - Part Not Shown on Exploded View

N/A - Part not applicable for that particular unit.

## WARNING

**USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH.**

# MILLIVOLT PARTS VIEW - DVCP(32,36,42)BP3



# IP PARTS LIST - DVCP(32,36,42)BP7

INDEX NO.	DVCP32	DVCP36	DVCP42	DESCRIPTION
1	35918	35918	35918	INSULATION BOX
2	R12177	R12177	R12177	INSULATION TOP, CENTER
3	35997	35997	35997	BRACKET, SHIPPING (QTY. 2)
4	35894	35901	35908	OUTER WRAPPER TOP
5	R12174	R12175	R12176	INSULATION TOP
6	32730	32730	32730	FLUE RESTRICTOR ASSEMBLY
7	R7566	R7566	R7566	INLET VENT ADAPTER 6-5/8
8	R7573	R7573	R7573	GASKET, INLET VENT
9	31579	31579	31579	NAILING FLANGE (QTY. 4)
10	R11751	R11751	R11751	GASKET, ACCENT LAMP
11	32214	32214	32214	COVER PLATE, ACCENT LIGHT
12	31587	31587	31587	BLOWER MOUNTING PLATE
13	17162	17162	17162	JUNCTION BOX ASSEMBLY (QTY. 2)
14	17357	17357	17357	JUNCTION BOX SHIELD
15	32767	32767	32768	LOG SUPPORT ASSEMBLY
16	31837	31837	31938	GRATE ASSEMBLY
17	29057	29057	29057	SPRING RETAINER ASSEMBLY (QTY. 2)
18	31939	31940	32256	GLASS FRAME ASSEMBLY
19	35982	35983	35984	SCREEN ASSEMBLY COMPLETE
20	R10423	R10423	R10423	PILOT ASSEMBLY, NAT
20	R10424	R10424	R10424	PILOT ASSEMBLY, LPG
21	31600	31600	31600	PILOT BRACKET
22	31598	31598	31610	BURNER WELDED ASSEMBLY
23	R11269	R11269	R11269	GAS LINE BRACKET
24	31599	31599	31786	BURNER BASE
25	31785	31785	31785	TUBING ASSEMBLY, INLET
26	R11675	R11675	R11675	ORIFICE HOLDER
27	31714	31714	31714	ORIFICE BRACKET

INDEX NO.	DVCP32	DVCP36	DVCP42	DESCRIPTION
28	R7572	R7572	R7572	JAMB NUT, 1/4-in-18 NPS
29	R7624	R7624	R7624	AIR SHUTTER
30	P204	N/A	N/A	ORIFICE #54 LP
30	P286	P286	N/A	ORIFICE #42 NAT
30	N/A	P208	N/A	ORIFICE #1.45mm LP
30	N/A	N/A	P258	ORIFICE #1.55mm LP
30	N/A	N/A	P285	ORIFICE #39 NAT
31	R10432	R10432	R10432	VENTURI
32	R10602	R10602	R10602	VENTURI GASKET
33	R2423	R2423	R2423	CONNECTOR, MALE 5/16 X 3/8 NPT
34	R11125	R11125	R11125	VALVE, NAT
34	R11126	R11126	R11126	VALVE, LPG
35	31926	31926	31926	VALVE BRACKET
36A	17626	17626	17626	GASKET 3/4 X 7 (QTY. 2)
36B	17625	17625	17625	GASKET 3/4 X 13 3/4 (QTY. 2)
37	R11123	R11123	R11123	WIRE HARNESS, PRO-FLAME DFC
38	R11127	R11127	R11127	CONTROL BOARD, PRO-FLAME DFC
39	R2522	R2522	R2522	SWITCH, ON/OFF
40	R11122	R11122	R11122	BATTERY HOLDER, AA WITH SNAP-ON
41	29382	29382	29382	MODULE TRAY
42	R2566	R2566	R2566	WIRE ASSEMBLY (QTY. 2)
43	R11034	R11034	R11034	WIRE ASSEMBLY
44	R11128	R11128	R11128	POWER ADAPTOR, 7.0 VDC
45	R7591	R7591	R7591	FLEXLINE 3/8 X 12 WITH SHUTOFF
46	36071	36072	36073	NON-COMBUSTIBLE BOARD
NS	36094	36094	36094	BACKER STUD (QTY. 4)
NS	R3491	R3491	R3491	COVER, JUNCTION BOX (QTY. 2)
NS	R3492	R3492	R3492	RECEPTICAL, 3-PRONG (QTY. 2)

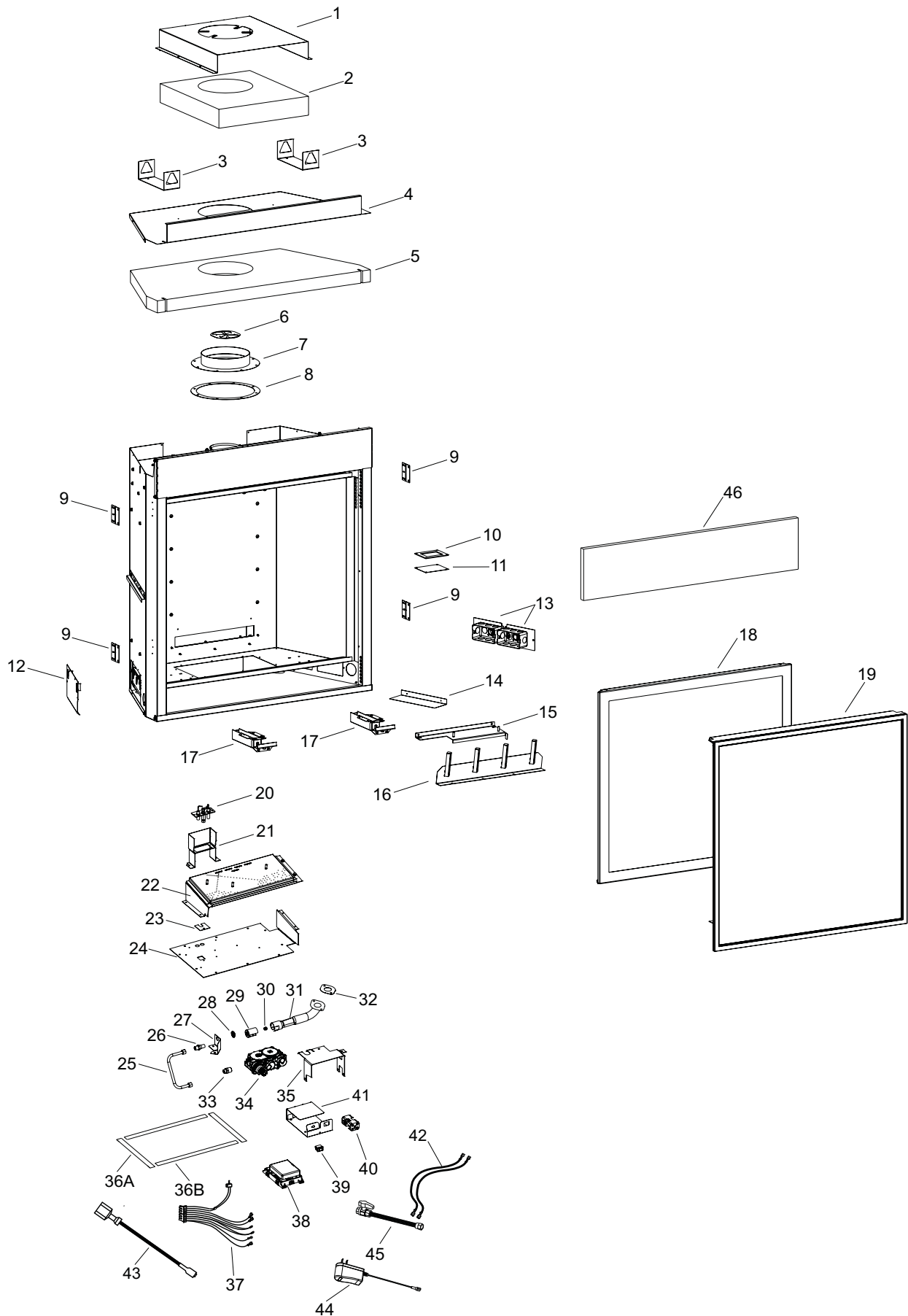
NS - Part Not Shown on Exploded View

N/A - Part not applicable for that particular unit.

## WARNING

**USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH.**

# IP PARTS VIEW - DVCP(32,36,42)BP7



# IMPORTANT SAFETY INFORMATION

## WARNING

Read and follow these safety precautions prior to operating this appliance. Failure to follow these precautions may result in death, injury, or property damage.

### Safety Precautions

**Before enclosing the vent pipe assembly, operate the appliance to ensure it is venting properly.**

**DO NOT OPERATE THIS APPLIANCE WITHOUT GLASS FRONT PANEL INSTALLED.**

## CAUTION

If the glass used in your fireplace is cracked or damaged in any way, it should be replaced only with a complete glass frame assembly from Empire. See parts list on Pages 48 to 51 for ordering.

- Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- If this appliance is installed directly on carpeting, tile or other combustible material other than wood flooring the appliance must be installed on a metal or wood panel extending the full width and depth of the appliance.  
The base referred to above does not mean the fireproof base as used on wood stoves. The protection is for rugs that are extremely thick and light colored tile.
- Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition. Alert people – and especially children – to the hazards of high surface temperatures. This heater may become hot enough to burn skin and ignite clothing after prolonged contact. To prevent injury, caution people to stay clear and avoid touching the heater.
- Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children, and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at-risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep toddlers, young children, and other at-risk individuals out of the room and away from hot surfaces.
- Always keep the appliance area clear and free from combustible material, gasoline and other flammable vapors and liquids.
- This appliance must not share or be connected to a flue serving a separate solid-fuel burning appliance.
- The vent cap, located on the outside of your home, will become very hot. Alert everyone, adults and children, to stay clear and avoid touching the vent cap. Keep the area around the vent cap clear of combustibles, including shrubs and trees.
- **Under no circumstances** should any solid fuels (wood, coal, paper or cardboard etc.) be used in this appliance.
- This appliance requires an unimpeded flow of air to circulate

warm air. Do not place objects on or around the appliance that may restrict air flow to or from the appliance.

- Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- Keep the area around the heater free of combustible materials – including drapery, upholstered furniture, paper, boxes, and clothing.
- The glass front or any part removed for servicing the appliance must be replaced prior to operating the appliance. Work should be done by a qualified service person.
- A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.
- Any safety screen, guard, or barrier removed to service an appliance must be replaced prior to operating the appliance.
- If the barrier becomes damaged, the barrier shall be replaced with the manufacturer's barrier for this appliance.
- Only trim kit(s) supplied by the manufacturer shall be used in the installation of this appliance.

### Maintenance Precautions

- Installation and repair should be done by a qualified service person. The appliance should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.
- Keep burner and control compartment clean.
- Examine venting system periodically and replace damaged parts.
- Make a periodic visual check of pilot and burners. Clean and replace damaged parts.

### Damaged Heater

- Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.
- In the event of a natural disaster (tornado, earthquake, fire, etc.) have a qualified technician inspect the heater for damage or potential gas leaks. Repair or replace any damaged components before operating this heater.



## IMPORTANT SAFETY INFORMATION

- Do not place clothing or other flammable material on or near the appliance.
- Do not place debris or other articles on the log set during operation.
- During manufacture, fabricating, and shipping, components of this appliance are treated with oils, films and bonding agents. These are not harmful but may produce smoke and smells as they are burned off during initial operation. This is normal. Open a window during the initial bake out period.
- Keep burner and control compartment clean.
- A qualified service person must perform installation and repair. A qualified service person must inspect the appliance before use and at least annually. More frequent cleaning may be required due to excessive lint from carpeting, bedding materials, hair from pets, etc. It is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.
- **Do not** put anything around the fireplace that will obstruct the flow of ventilation air.
- **Do** keep the appliance area clear and free from combustible material, gasoline and other flammable vapors and liquids.
- A yearly examination and cleaning of the venting system of the solid-fuel burning fireplace must be performed by a qualified agency.
- **Do** make a periodic visual check of pilot and burners. Clean and replace damaged parts.
- **Do not** use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

# SAFETY INFORMATION FOR USERS OF LP GAS

Propane (LP-Gas) is a flammable gas which can cause fires and explosions. In its natural state, propane is odorless and colorless. You may not know all the following safety precautions which can protect both you and your family from an accident. Read them carefully now, then review them point by point with the members of your household. Someday when there may not be a minute to lose, everyone's safety will depend on knowing exactly what to do. If, after reading the following information, you feel you still need more information, please contact your gas supplier.

## LP-GAS WARNING ODOR

**If a gas leak happens, you should be able to smell the gas because of the odorant put in the LP-Gas. That's your signal to go into immediate action!**

- Do not operate electric switches, light matches, use your phone. Do not do anything that could ignite the gas.
- Get everyone out of the building, vehicle, trailer, or area. Do that IMMEDIATELY.
- Close all gas tank or cylinder supply valves.
- LP-Gas is heavier than air and may settle in low areas such as basements. When you have reason to suspect a gas leak, keep out of basements and other low areas. Stay out until firefighters declare them to be safe.
- Use your neighbor's phone and call a trained LP-Gas service person and the fire department. Even though you may not continue to smell gas, do not turn on the gas again. Do not re-enter the building, vehicle, trailer, or area.
- **Finally**, let the service man and firefighters check for escaped gas. Have them air out the area before you return. Properly trained LP-Gas service people should repair the leak, then check and relight the gas appliance for you.

## NO ODOR DETECTED - ODOR FADE

**Some people cannot smell well. Some people cannot smell the odor of the chemical put into the gas. You must find out if you can smell the odorant in propane.** Smoking can decrease your ability to smell. Being around an odor for a time can affect your sensitivity or ability to detect that odor. Sometimes other odors in the area mask the gas odor. People may not smell the gas odor or their minds are on something else. Thinking about smelling a gas odor can make it easier to smell.

**The odorant in LP-Gas is colorless, and it can fade under some circumstances.** For example, if there is an underground leak, the movement of the gas through soil can filter the odorant. Odorants in LP-Gas also are subject to oxidation. This fading can occur if there is rust inside the storage tank or in iron gas pipes.

The odorant in escaped gas can adsorb or absorb onto or into walls, masonry and other materials and fabrics in a room. That will take some of the odorant out of the gas, reducing

its odor intensity.

LP-Gas may stratify in a closed area, and the odor intensity could vary at different levels. Since it is heavier than air, there may be more odor at lower levels. Always be sensitive to the slightest gas odor. If you detect any odor, treat it as a serious leak. Immediately go into action as instructed earlier.

## SOME POINTS TO REMEMBER

- **Learn to recognize the odor of LP-Gas.** Your local LP-Gas Dealer can give you a "Scratch and Sniff" pamphlet. Use it to find out what the propane odor smells like. If you suspect that your LP-Gas has a weak or abnormal odor, call your LP-Gas Dealer.
- If you are not qualified, do not light pilot lights, perform service, or make adjustments to appliances on the LP-Gas system. If you are qualified, consciously think about the odor of LP-Gas prior to and while lighting pilot lights or performing service or making adjustments.
- Sometimes a basement or a closed-up house has a musty smell that can cover up the LP-Gas odor. Do not try to light pilot lights, perform service, or make adjustments in an area where the conditions are such that you may not detect the odor if there has been a leak of LP-Gas.
- Odor fade, due to oxidation by rust or adsorption on walls of new cylinders and tanks, is possible. Therefore, people should be particularly alert and careful when new tanks or cylinders are placed in service. Odor fade can occur in new tanks, or reinstalled old tanks, if they are filled and allowed to set too long before refilling. Cylinders and tanks which have been out of service for a time may develop internal rust which will cause odor fade. If such conditions are suspected to exist, a periodic sniff test of the gas is advisable. **If you have any question about the gas odor, call your LP-Gas dealer. A periodic sniff test of the LP-Gas is a good safety measure under any condition.**
- If, at any time, you do not smell the LP-Gas odorant and you think you should, assume you have a leak. Then take the same immediate action recommended above for the occasion when you do detect the odorized LP-Gas.
- If you experience a complete "gas out," (the container is under no vapor pressure), turn the tank valve off immediately. If the container valve is left on, the container may draw in some air through openings such as pilot light orifices. If this occurs, some new internal rusting could occur. If the valve is left open, then treat the container as a new tank. Always be sure your container is under vapor pressure by turning it off at the container before it goes completely empty or having it refilled before it is completely empty.

# REQUIREMENTS FOR MASSACHUSETTS

For all side wall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than seven feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

1. **INSTALLATION OF CARBON MONOXIDE DETECTORS.** At the time of installation of the side wall horizontal vented gas fueled equipment, the installing plumber or gasfitter shall observe that a hard wired carbon monoxide detector with an alarm and battery back-up is installed on the floor level where the gas equipment is to be installed. In addition, the installing plumber or gasfitter shall observe that a battery operated or hard wired carbon monoxide detector with an alarm is installed on each additional level of the dwelling, building or structure served by the side wall horizontal vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors
  - a. In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or an attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level.
  - b. In the event that the requirements of this subdivision can not be met at the time of completion of installation, the owner shall have a period of thirty days to comply with the above requirements; provided, however, that during said thirty day period, a battery operated carbon monoxide detector with an alarm shall be installed.
2. **APPROVED CARBON MONOXIDE DETECTORS.** Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and be ANSI/UL 2034 listed and IAS certified.
3. **SIGNAGE.** A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height of eight feet above grade directly in line with the exhaust vent termination for the horizontally vented gas fueled heating appliance or equipment. The sign shall read, in print size no less than 1/2 inch in size, **“GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS”**.
4. **INSPECTION.** The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspection, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CMR 5.08(2)(a) 1 through 4.
  - (b) **EXEMPTIONS:** The following equipment is exempt from 248 CMR 5.08(2)(a)1 through 4:
    1. The equipment listed in Chapter 10 entitled “Equipment Not Required To Be Vented” in the most current edition of NFPA 54 as adopted by the Board; and
    2. Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.
  - (d) **MANUFACTURER REQUIREMENTS - GAS EQUIPMENT VENTING SYSTEM NOT PROVIDED.** When the manufacturer of a Product Approved side wall horizontally vented gas fueled equipment does not provide the parts for venting the flue gases, but identifies “special venting systems”, the following requirements shall be satisfied by the manufacturer:
    1. The referenced “special venting system” instructions shall be included with the appliance or equipment installation instructions; and
    2. The “special venting systems” shall be Product Approved by the Board, and the instructions for that system shall include a parts list and detailed installation instruction.
  - (e) A copy of all installation instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions, and/or all venting design instructions shall remain with the appliance or equipment at the completion of the installation.

# WARRANTY

Empire Comfort Systems Inc. warrants this hearth product to be free from defects at the time of purchase and for the periods specified below. Hearth products must be installed by a qualified technician and must be maintained and operated safely, in accordance with the instructions in the owner's manual. This warranty applies to the original purchaser only and is not transferable. All warranty repairs must be accomplished by a qualified gas appliance technician.

## **Limited Lifetime Parts Warranty – Combustion Chamber, Heat Exchanger, and Factory-Installed Glass**

If the combustion chamber, heat exchanger (see parts list) or factory-installed glass fails because of defective workmanship or material, Empire will repair or replace at Empire's option.

## **Limited Three-Year Parts Warranty – All Other Components**

(Except Remote Controls, Thermostats, Accessories and Replacement Parts)

Should any part fail because of defective workmanship or material within three years from the date of purchase, Empire will repair or replace at Empire's option..

## **Limited One-Year Parts Warranty – Remote Controls, Thermostats, Accessories, and Parts**

Should any remote control, thermostat, accessory, or other part fail because of defective workmanship within one year from the date of purchase, Empire will repair or replace at Empire's option.

## **Duties Of The Owner**

The appliance must be installed by a qualified installer and operated in accordance with the instructions furnished with the appliance.

A bill of sale, cancelled check, or payment record should be kept to verify purchase date and establish warranty period.

Ready access to the appliance for service.

## **What Is Not Covered**

Damages that might result from the use, misuse, or improper installation of this appliance.

Travel, diagnostic costs and freight charges on warranted parts to and from the factory.

Claims that do not involve defective workmanship or materials.

Unauthorized service or parts replacements.

Removal and reinstallation cost.

Inoperable due to improper or lack of maintenance.

## **How To Get Service**

To make a claim under this warranty, please have your receipt available and contact your installing dealer. Provide the dealer with the model number, serial number, type of gas, and purchase verification. The installing dealer is responsible for providing service and will contact the factory to initiate any warranted parts replacements. Empire will make replacement parts available at the factory. Shipping expenses are not covered.

If, after contacting your Empire dealer, service received has not been satisfactory, contact: Consumer Relations Department, Empire Comfort Systems Inc., PO Box 529, Belleville, Illinois 62222, or send an e-mail to [info@empirecomfort.com](mailto:info@empirecomfort.com) with "Consumer Relations" in the subject line.

## **Your Rights Under State Law**

This warranty gives your specific legal rights, and you may also have other rights, which vary from state to state.



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If you have a general question about our products, please e-mail us at [info@empirecomfort.com](mailto:info@empirecomfort.com).

If you have a service or repair question, please contact your dealer.