



HEARTH PRODUCTS

HEARTH PRODUCTS
KITS AND ACCESSORIES

P/N 506022-01
REV. B 02/2009

**LPVK-110
POWER VENT KIT**

**INSTALLATION INSTRUCTIONS FOR THE LPVK-110 POWER VENT KIT (CATALOG NO. H7387)
FOR USE WITH DIRECT VENT GAS FIREPLACES**

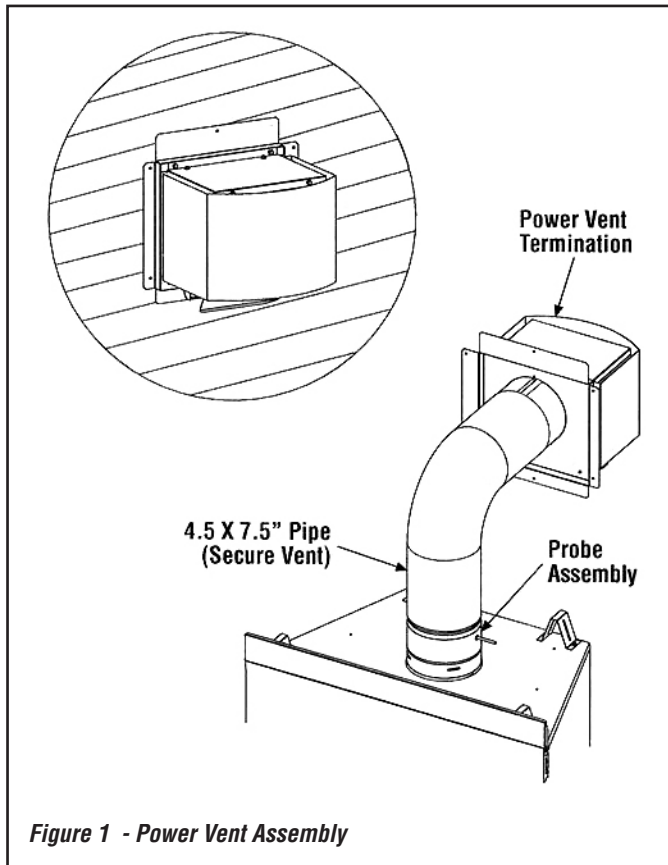


Figure 1 - Power Vent Assembly

GENERAL INFORMATION

These instructions are supplementary to the Installation and Operating Instructions supplied with the fireplace and should be kept together. Refer to the Installation and Operating Instructions for proper gas supply, safety requirements and operations. **Read these instructions in their entirety before beginning the installation.**

ALL WARNINGS AND PRECAUTIONS IN THE INSTALLATION AND OPERATION MANUAL PROVIDED WITH THE APPLIANCE APPLY TO THESE INSTRUCTIONS.

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



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.

Tested &
Listed By



Portland
Oregon USA

OMNI-Test Laboratories, Inc.

OTL Report No. 116-F-39C-5

For Use With Lennox ELDV Fireplaces (Electronic Models) Catalog Numbers: H3950 (35"), H3953" (40") and H3956 (45")

INSTALLATION INSTRUCTIONS

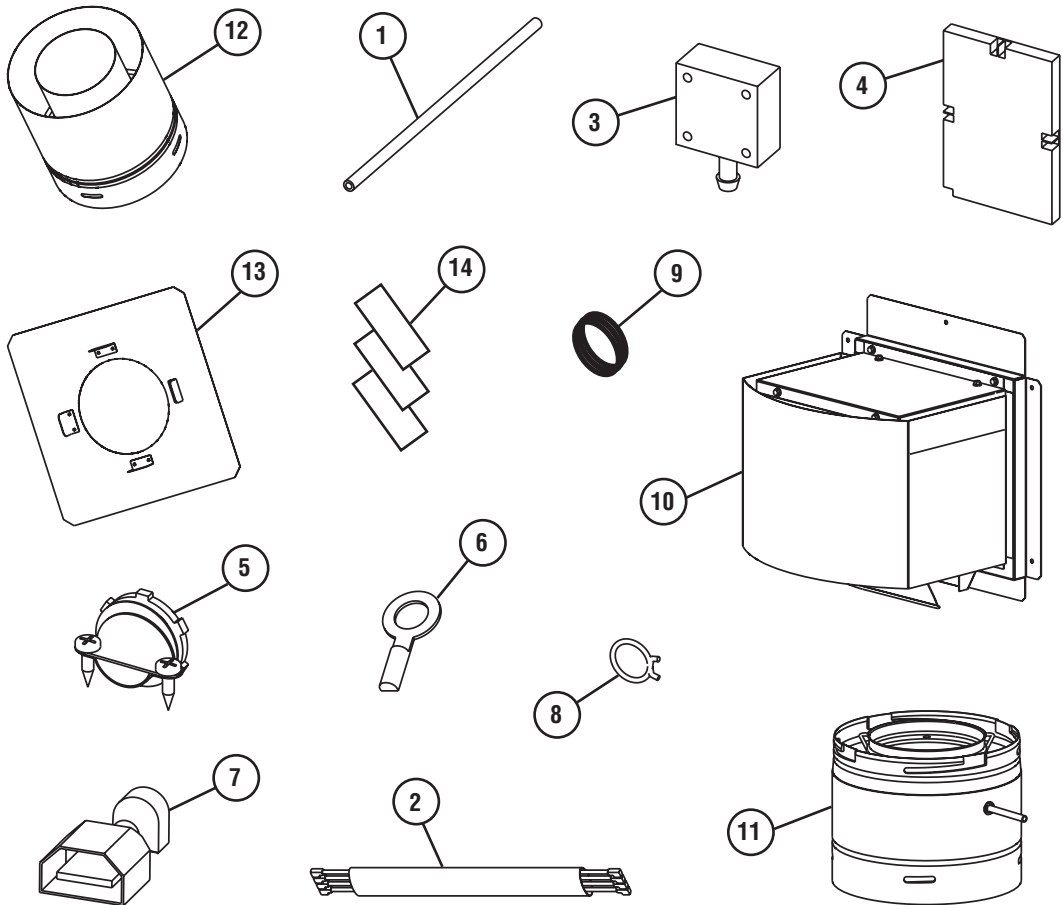
Locate the fireplace as per the instructions supplied under the fireplace. Make the following modifications to add the components used with the Power Vent Kits. This kit can only be used in conjunction with "Direct Vent" series electronic versions of Lennox Fireplaces. This installation must conform with local codes or, in the absence of local codes, with the Natural Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1.

CAUTION: The LPVK-110 Power Vent Kit cannot be used with Millivolt appliances. Use the LPVK-110 only with the Electronically controlled fireplaces listed for its use as shown in this document.

POWER VENT KIT CONTENTS

Item No.	Part Number	Description	Qty.
1	601970-01	Vacuum Hose	1
2	102019-03	Wiring Harness	1
3	102005-01	Pressure Switch	1
4	102009-01	Control Module	1
5	102010-01	Strain Relief - 3/8"	1
6	102021-01	Ring Terminal - #10	2
7	H7384	Insulated 1/4" Male Terminal	4

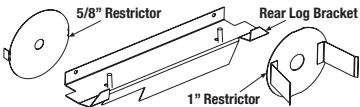
Item No.	Part Number	Description	Qty.
8	102022-01	Hose Clamp - 11/32"	2
9	P-8-7102	Snap Bushing	2
10	601957-01	Power Vent Termination	1
11	601978-01	Probe Assembly	1
12	74L61	SV Termination Adapter (SV4.5RCH)	1
13	H2246	Firestop Assembly (Horizontal)	1
14	67L6501	Velcro Strips (2" Lengths)	3



Power Vent Kit Components

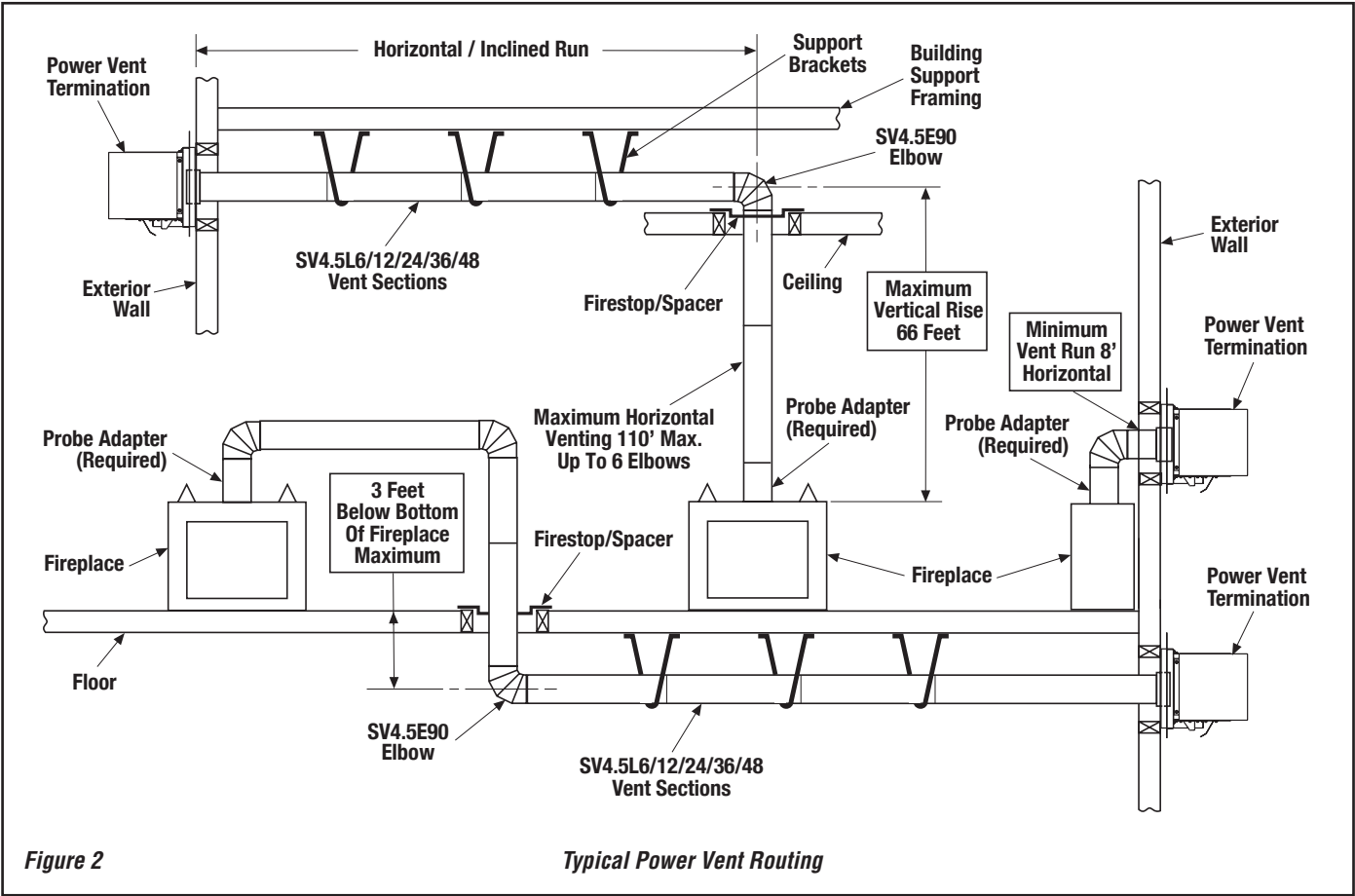
PREPARE THE FIREPLACE FOR POWER-VENTING

Modify fireplace for acceptance of the power vent kit. Refer to **Table 1** and install the appropriate adapter kit. Follow the instructions provided with the kit to successfully prepare the fireplace for use with power venting. If no kit is listed, the fireplace will not require modification. Refer to the fireplace installation instructions for details and information detailing its compatibility with power venting. If its is not compatible, do not power-vent the fireplace.

FIREPLACE ADAPTER KITS (For LPVK-110)		
Fireplace Model	Kit Catalog Number	Kit Contents
ELDV	H7407 (ELDV-PVAK)	
Table 1		

VENTING THE FIREPLACE
Venting Configurations

Maximum vent is 110 feet, plus six 90-degree elbows or twelve 45-degree elbows. Minimum horizontal vent length is 8 feet, maximum vertical rise above the fireplace is 66 feet. The vent can be installed with any combination or rise and run between appliance and termination, including up to 3 feet below the unit (see **Figure 2**). Ensure vent pipe is properly supported.



VENT CLEARANCES

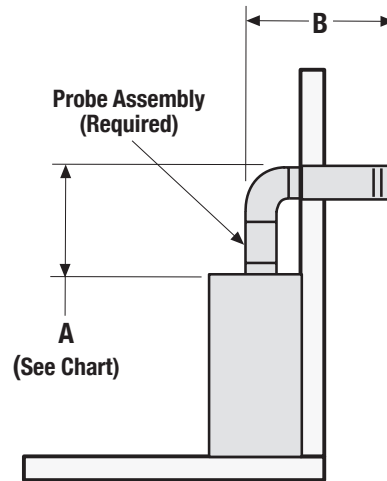
Refer to the charts and illustration in **Figure 3** for vent clearances for the LPVK-110 Power Vent Kit.

POWER VENT VENTING CHART

Maximum Number Of Elbows	-	6
Maximum Feet Of Run	A + B	110 feet
Minimum Horizontal Run	B	8 feet
Minimum Vertical Run	A	Probe Assembly And Elbows
Maximum Vertical Rise	A	66 feet

MINIMUM CLEARANCES TO COMBUSTIBLES

Vertical Vent Pipe	1.0 in. (25.4 mm)
Horizontal Vent Pipe	Top - 3.0 in. (76.2 mm) Sides - 1.0 in. (25.4 mm) Bottom - 1.0 in. (25.4 mm)



All other clearances are as per the appliance Installation Instructions

Figure 3

INSTALL PROBE ASSEMBLY ON THE FIREPLACE

- **Attach the probe assembly to appliance.** The probe assembly (# 11 from Parts List) is of the same design as the unitized concentric pipe components of the SV4.5 Secure-Vent System, featuring positive twist lock connections (see **Figure 4**).

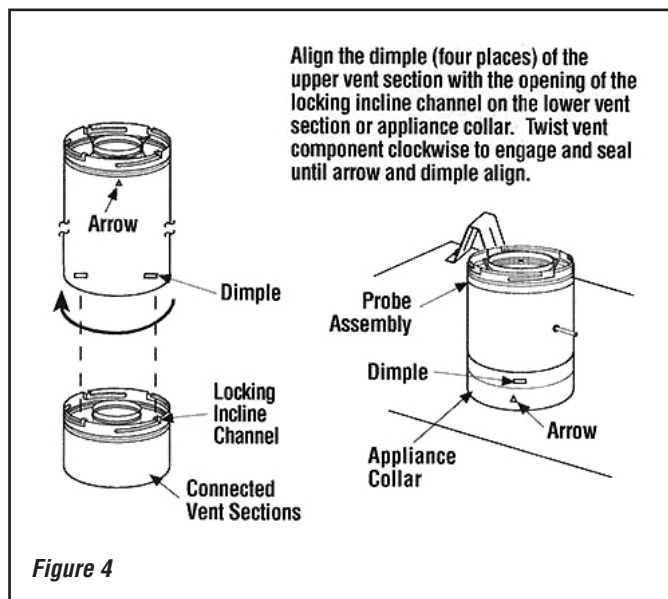


Figure 4

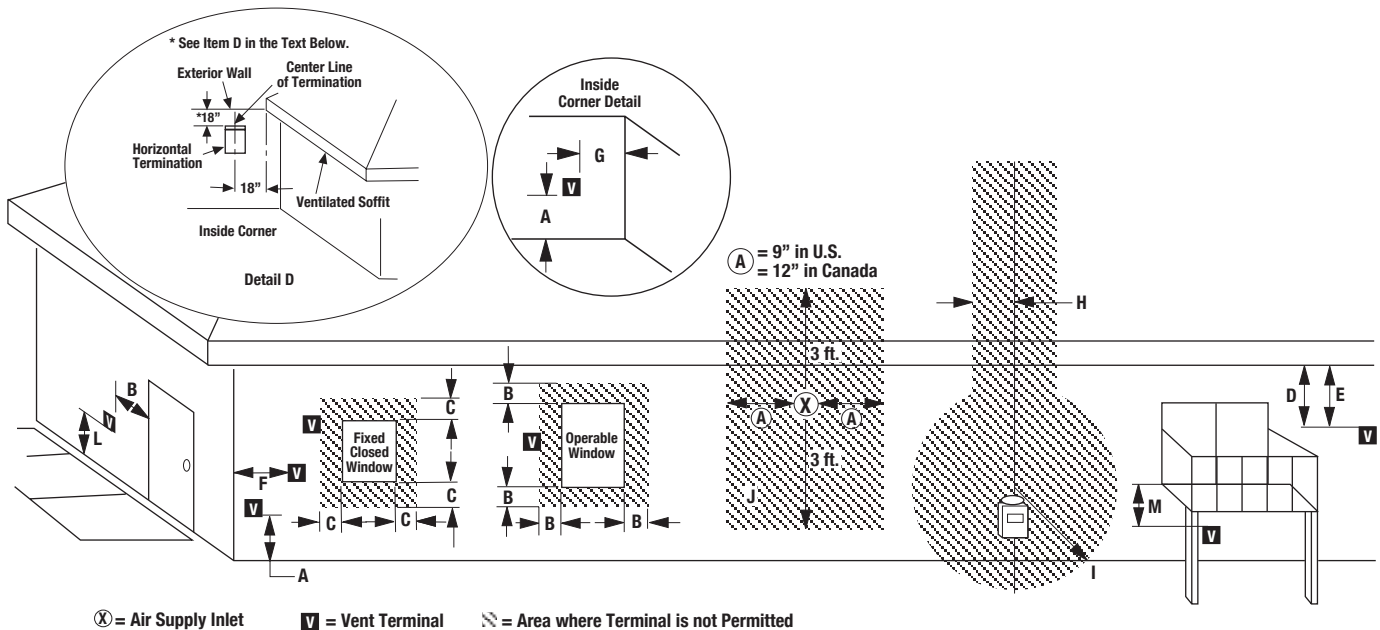
CAUTION: The probe assembly must be installed directly to the appliance collar. Install the probe assembly first before connecting any other vent components to the fireplace.

All of the appliances that can be installed with this power vent kit, are fitted with collars having locking inclined channels. The dimpled end of the probe assembly fits over the appliance collar to create the positive twist lock connection.

To attach the probe assembly to the appliance collar, align the dimpled end over the collar, adjusting the radial alignment until the four locking dimples are aligned with the inlet of the four inclined channels on the collar (refer to **Figure 4**). Push the probe assembly against the collar until it fully engages, then twist the probe assembly clockwise, running the dimples down and along the incline channels until they seat at the end of the channels. The unitized design of the probe assembly components will engage and seal both the inner and outer pipe without the need for sealant or screws.

- **Attach vent components to the probe assembly.** Other vent sections may be added to the previously installed probe assembly in accordance with the requirements of the fireplace installation instructions and the vent charts provided in the instructions.

EXTERIOR HORIZONTAL VENT TERMINATION CLEARANCE REQUIREMENTS



	Canadian Installation*	US Installation**
A = Clearance above grade, veranda, porch, deck, or balcony.	12 inches (30cm)*	12 inches (30cm)**
B = Clearance to window or door that may be opened.	6 in (15cm) for appliances < 10,000 Btuh (3kW), 12 in (30cm) for appliances > 10,000 Btuh (3kW) and < 100,000 Btuh (30kW), 36 inches (91cm) for appliances > 100,000 Btuh (30kW)*	6 in (15cm) for appliances < 10,000 Btuh (3kW), 9 in (23cm) for appliances > 10,000 Btuh (3kW) and < 50,000 Btuh (15kW), 12 inches (30cm) for appliances > 50,000 Btuh (15kW)**
C = Clearance to permanently closed window	12" (305mm) recommended to prevent window condensation	9" (229mm) recommended to prevent window condensation
D = Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 18 inches (458mm) from the center line of the terminal	18" (458mm)	18" (458mm)
E = Clearance to unventilated soffit	12" (305mm)	12" (305mm)
F = Clearance to outside corner	5" (12.7cm) minimum	5" (12.7cm) minimum
G = Clearance to inside corner	24"	24"
H = Clearance to each inside of center line extended above meter/regulator assembly	3 feet (91cm) within a height of 15 feet above the meter/regulator assembly*	3 feet (91cm) within a height of 15 feet above the meter/regulator assembly**
I = Clearance to service regulator vent outlet	3 feet (91cm)*	3 feet (91cm)**
J = Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in (15cm) for appliances < 10,000 Btuh (3kW), 12 in (30cm) for appliances > 10,000 Btuh (3kW) and < 100,000 Btuh (30kW), 36 inches (91cm) for appliances > 100,000 Btuh (30kW)*	6 in (15cm) for appliances < 10,000 Btuh (3kW), 9 in (23cm) for appliances > 10,000 Btuh (3kW) and < 50,000 Btuh (15kW), 12 inches (30cm) for appliances > 50,000 Btuh (15kW)**
K = Clearance to a mechanical air supply inlet	6 feet (1.83m)*	3 feet (91cm) above if within 10 feet (3m) horizontally**
L = Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13m)‡	7 feet (2.13m)‡
M = Clearance under veranda, porch, deck or balcony	12 inches (30cm)*‡	12 inches (30cm)‡
<p>* In accordance with the current CSA-B149.1 National Gas And Propane Installation Code.</p> <p>** In accordance with the current ANSI SZ223.1/NFPA 54 National Fuel Gas Codes.</p> <p>‡ A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.</p> <p>*‡ Only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor:</p>		

Figure 5

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

BEGIN VENTING

Horizontal (Outside Wall) Termination System

NOTE: The LPVK-110 Power Vent system can **only** be terminated horizontally.

Various horizontal venting configurations are possible for use with these power vent kit. **Secure Vent** pipe are used in these applications. Refer to **Figures 2, 3 and Tables in Figure 3** which summarizes each system's minimum and maximum vertical and horizontal length values that can be used to design and install the vent components in a variety of applications.

Horizontal vent systems terminate through an outside wall. Building Codes limit or prohibit terminating in specific areas. Refer to local codes and **Figure 5** for location guidelines.

• Plan and execute the vent run -

Analyze the vent routing and determine the types and quantities of sections and elbows required. Vent sections are available in net lengths of 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm). Plan the vent lengths so that a joint does not occur at the intersection of ceiling or roof joists. Elbows are available in 90° and 45° configurations. Make allowances for elbows as indicated in the appliance installation instructions.

Maintain a minimum 1" (25 mm) clearance to combustibles on the vertical sections. Clearances for the horizontal runs are; 3" (76 mm) on top, 1" (25 mm) on sides, and 1" (25 mm) at the bottom.

Install Vacuum Hose

- Refer to **Figure 6** and remove the knockouts located where the strain relief (#5) and snap bushing (#9) are to be installed, at the lower right hand side.
- Install the snap bushing (#9) in the hole provided on the fireplace for the vacuum hose (refer to **Figure 6**).
- Route the vacuum hose (#1), taking caution to not kink and/or damage the hose (refer to **Figure 6**). Route the hose from the probe assembly (#11) location to the appliance control compartment, through the snap bushing previously installed. Ensure enough material is available at either end to allow hook up. Ensure the hose is safety plated throughout its run to prevent damage by framing nails and finish drywall screws. Secure the vacuum hose (#1) to the probe (#11) with the hose clamp (#8). Refer to **Figure 7**.

Route Wiring

NOTE: Electrical wiring must be performed by a qualified electrician.

- Install the strain relief (#5) in the hole provided on the fireplace for the electrical wiring (refer to **Figure 6**).

Standard Instruction (For use when access to the termination is difficult because of height or other reasons).

- Locate a locally procured electrical junction box within reach of the termination wiring pigtail (refer to **Figure 8**) and route the pigtail to the junction box as the termination is installed.

- Route 14 gauge AWG grounded Romex wiring (not provided) from the fireplace to the just installed junction box close to the termination. Ensure the wiring is safety plated to prevent damage by framing nails and finish drywall screws. Route the wire into the lower control compartment and cut to length before installing the terminals. Install provided wiring hardware (#6 and #7) on the ends of the Romex wire.

- Refer to **Figure 9** and install the electrical hardware on the ends of the Romex wiring. Male terminals (#7) on the Black and White wires, and ring terminals (#6) on the ground wire.

- Using standard electrical practices and the terminals provided, connect the three wires of the Romex cable to the termination pigtail within the Electrical junction box. Ensure ground.

- The fireplace end of the Romex will be addressed in **Connecting The Power Vent To The Fireplace Control System**.

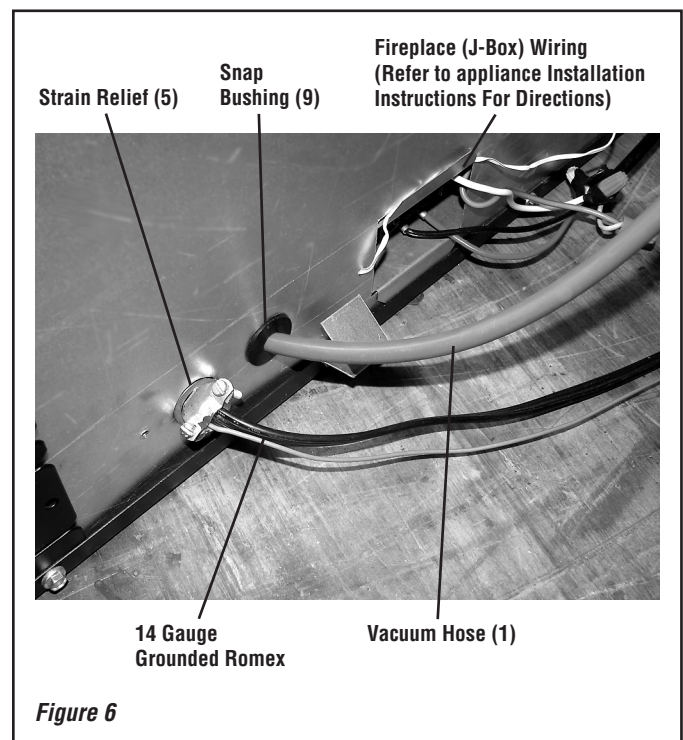


Figure 6

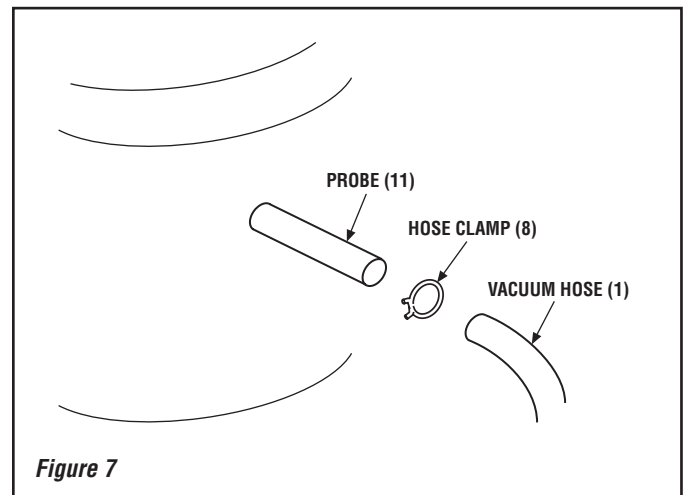
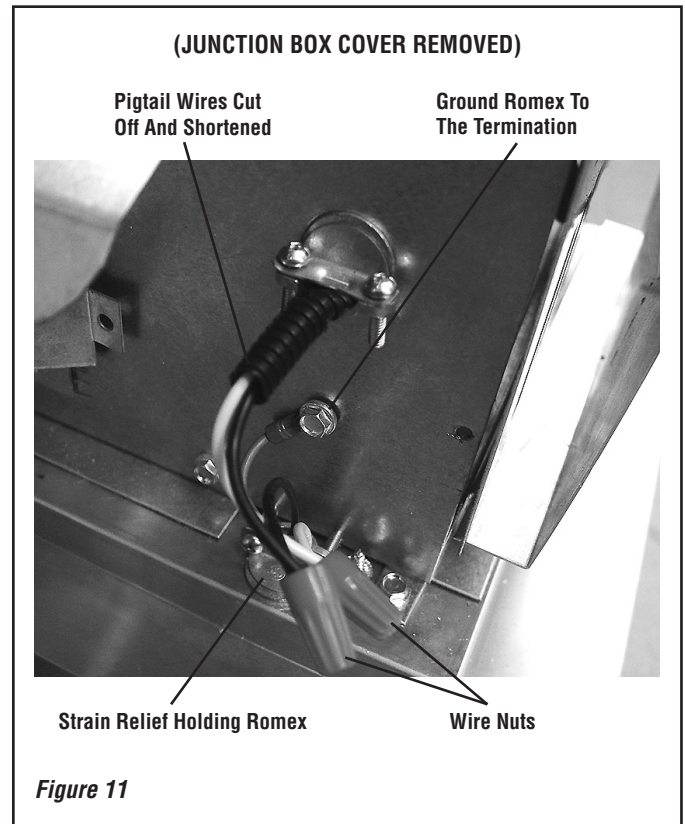
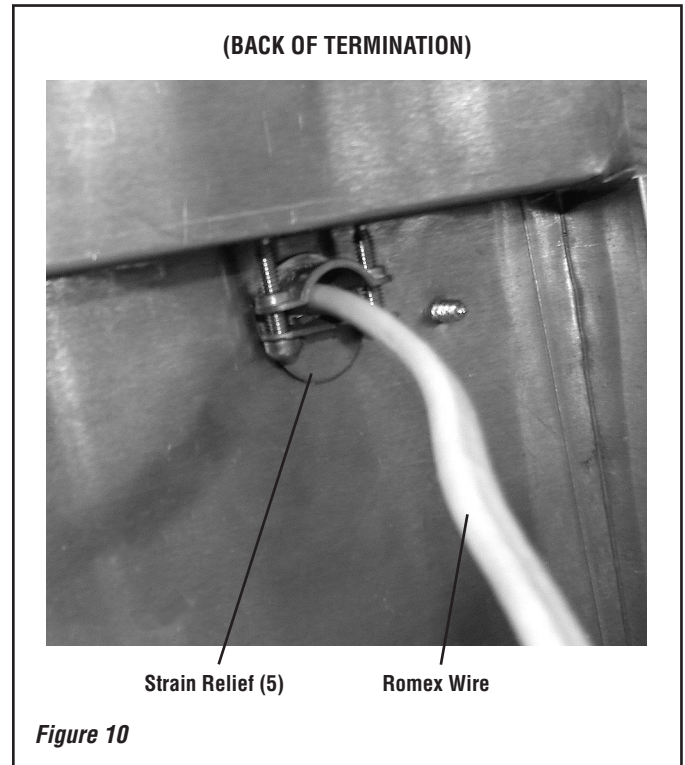
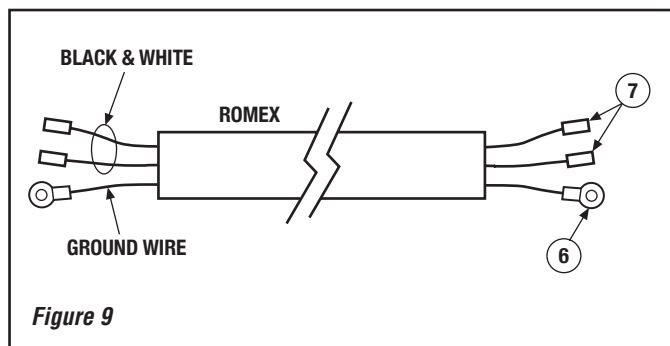
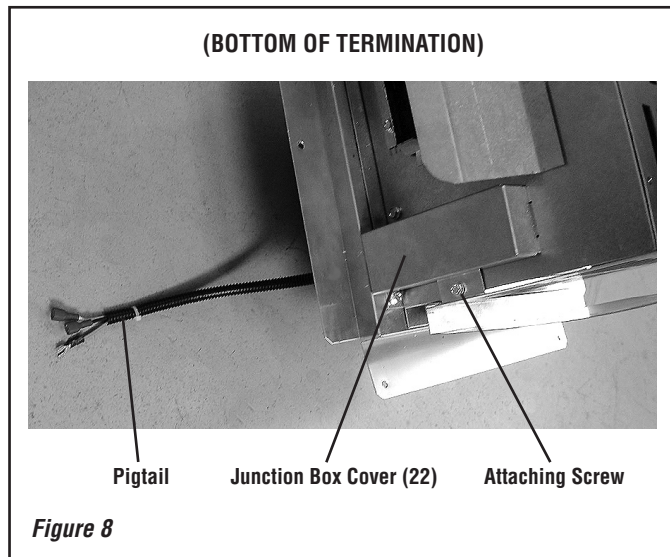


Figure 7

Alternate Instructions (For use when access to the termination is easy and a secondary electrical junction box installation is not desired).

- Remove the junction box cover (#22) from the termination by removing the attaching screw (refer to **Figure 8**).
- Loosen the strain relief (#5) on the termination shown in **Figure 10**. Pull the pigtail in and shorten it to fit within the junction box cover (#22).
- Route 14 gauge AWG grounded Romex wiring (not provided) from fireplace to the J-Box (#2) at the termination. Ensure the wiring is safety plated to prevent damage by framing nails and finish drywall screws. Route the wire into the lower control compartment and cut to length before installing the terminals. Install provided wiring hardware (#6 and #7) on the fireplace end of the Romex wire.
- Refer to **Figure 9** and install the electrical hardware on the fireplace end of the Romex wiring. Male terminals (#7) on the Black and White wires, and ring terminals (#6) on the ground wire. The termination end of the Romex will be connected to the termination with wire nuts (not provided).
- Refer to **Figure 11** to connect the three wires of the Romex cable to the termination. Ensure the ground ring terminal is grounded beneath a structural screw as shown. Attach the junction box cover (#22) to the termination with the screw previously removed.

- The fireplace end of the Romex will be addressed in **Connecting The Power Vent To The Fireplace Control System**.



Installing Power Vent Termination

• **Assemble vent run to exterior wall** - If not previously measured, locate the center of the vent on the exterior wall. Prepare an opening as described in the appliance installation instructions. Assemble the vent system to a point where the terminus of the last section is within 8 inches of the outside wall surface where the power vent is to be mounted (refer to **Figure 12**).

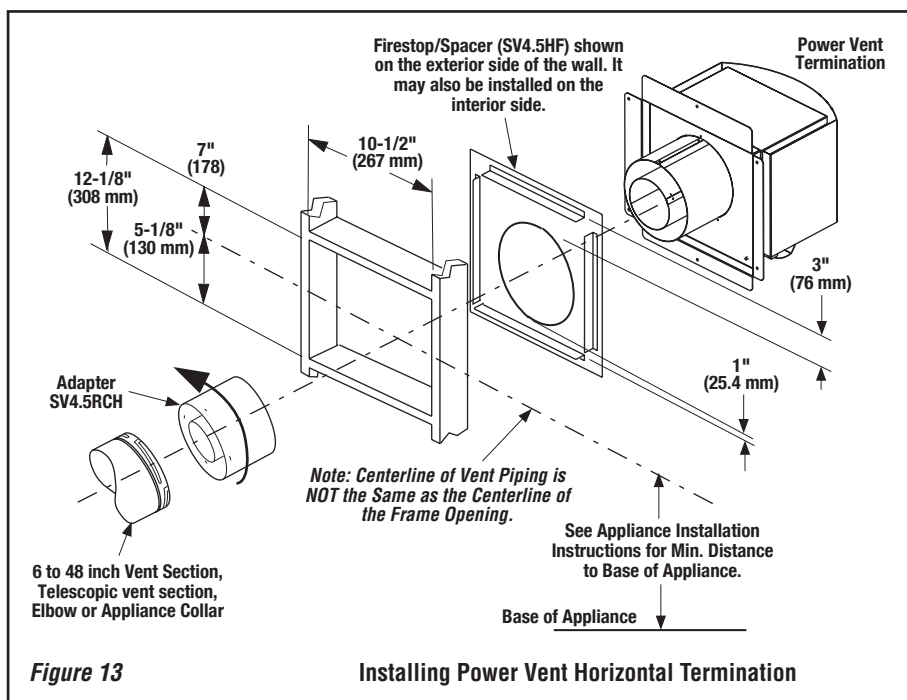
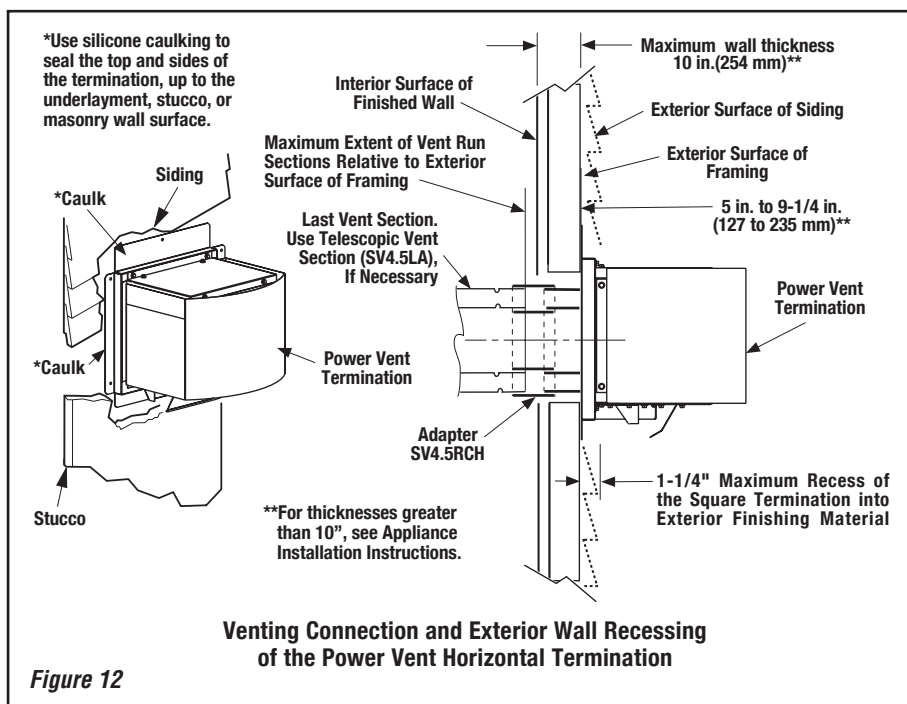
If the terminus of the last section is not within this distance, use the **telescopic vent section SV4.5LA**, as the last vent section. For wall thicknesses greater than that shown in **Figure 12**, refer to the appliance Installation Instructions for the additional venting components needed (in addition to the termination and adapter) for a particular range of wall thicknesses.

• **Attach termination adapter** - Attach the adapter (adapter - SV4.5RCH - provided with the power vent kit - #12) to the vent section telescoping vent section, or elbow or appliance collar, as shown in **Figure 13** in the same manner as any SV4.5 vent component.

• **Install Firestop/Spacer at exterior wall** - Install SV4.5HF Firestop/Spacer (#13), provided with the power vent kit, over the opening at the **exterior** side of the framing, long side up, with the 3 inch spacer clearance at the top as shown in **Figure 13**, and nail into place.

(The Firestop/Spacer may also be installed over the opening at the interior side of the framing).

• **Install the Power Vent termination (#10)** - For the last step, from outside the exterior wall, slide the collars of the termination onto the adapter (the outer inside the outer and the inner outside the inner) until the termination seats against the exterior wall surface to which it will be attached. Orient the housing of the termination with the arrow pointed upwards. Secure the termination to the exterior wall. **The termination must not be recessed into the exterior wall or siding** by more than the 1-1/4" (32 mm) as shown in **Figure 12**.



The Power Vent termination has been designed to perform in a wide range of weather conditions. Our terminations meet or exceed industry standards.

When selecting the location of your termination, do not place the termination where water from eaves and adjoining roof lines may create a heavy flow of cascading water onto the terminations. If the termination must be placed where the possibility of cascading water exists, it is the responsibility of the builder to direct the water away from the termination cap by using gutters or other means.

Take care to carefully follow the Installation Instructions for the termination, including the use of silicone caulking where required.

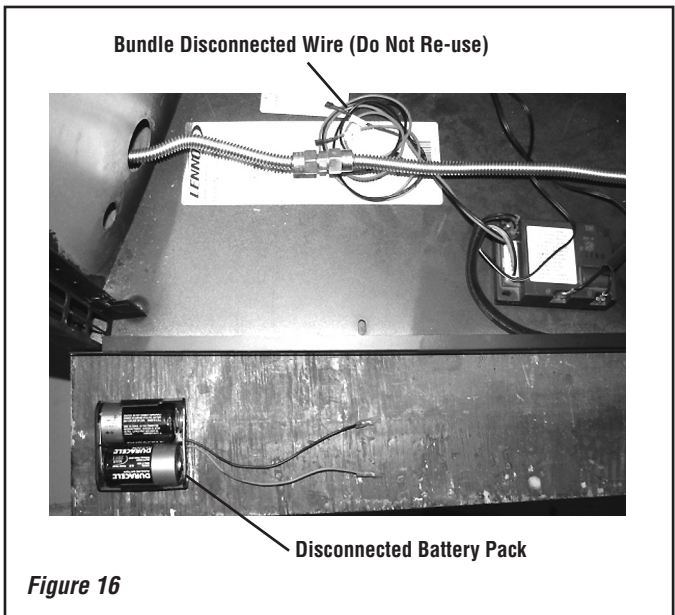
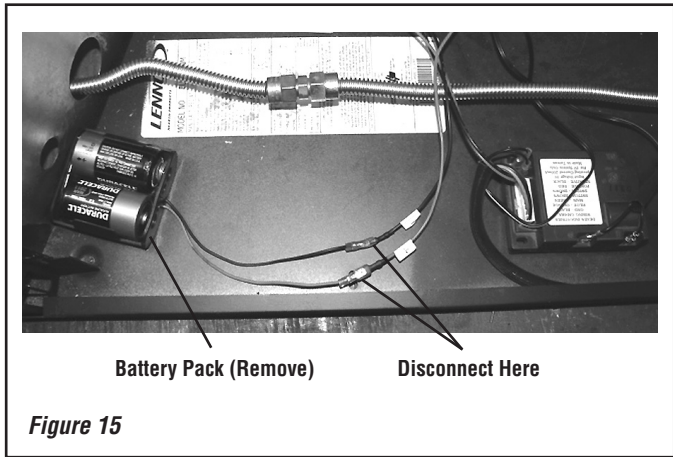
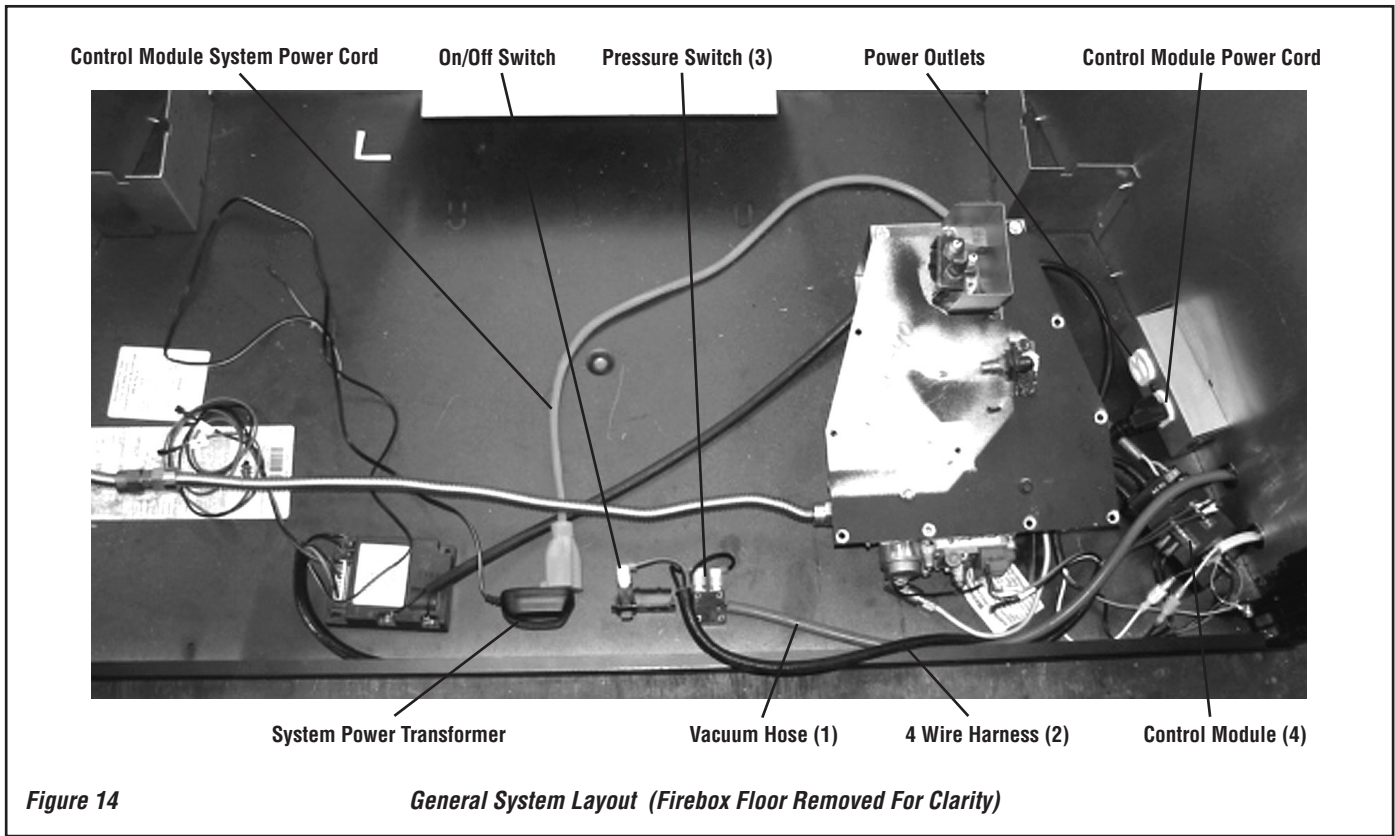
Connecting The Power Vent To The Fireplace Control System

Remove any control compartment cover or access plates and set aside. Ensure power is off to the fireplace.

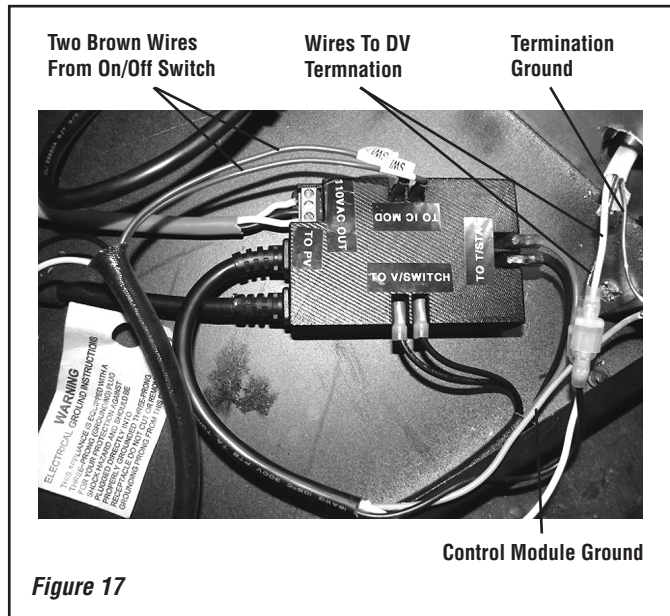
Connecting To Battery Backed-up Dexen Systems

Refer to the general components layout shown in *Figure 14*.

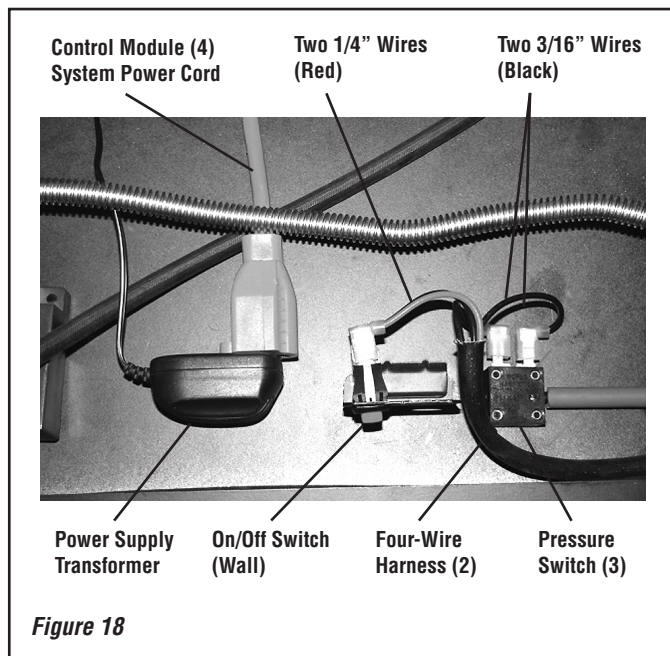
- Disconnect and remove the battery pack. See *Figures 15 and 16*.
- Disconnect system power transformer (3V) from power outlet. Refer to *Figure 14*.
- Disconnect 2 brown wires from the On/Off switch.
- Reconnect 2 brown wires to the control module (#4). See *Figure 17*.



- Position the pressure switch (#3) on the fireplace cabinet bottom. Refer to **Figure 14** and **Figure 18**. Secure in position using Velcro strips (#4) provided. Install vacuum hose to the pressure switch. Secure with hose clamp (#8).



- Connect four-wire harness (#2) to the control module (#4) (**Figure 17**) at T-STAT (Red) and V-SWITCH (Black). Connect the other end of the four-wire harness to the unit/wall On/Off switch and pressure switch (#3) (**Figure 18**), black to the pressure switch, red to the On/Off switch.



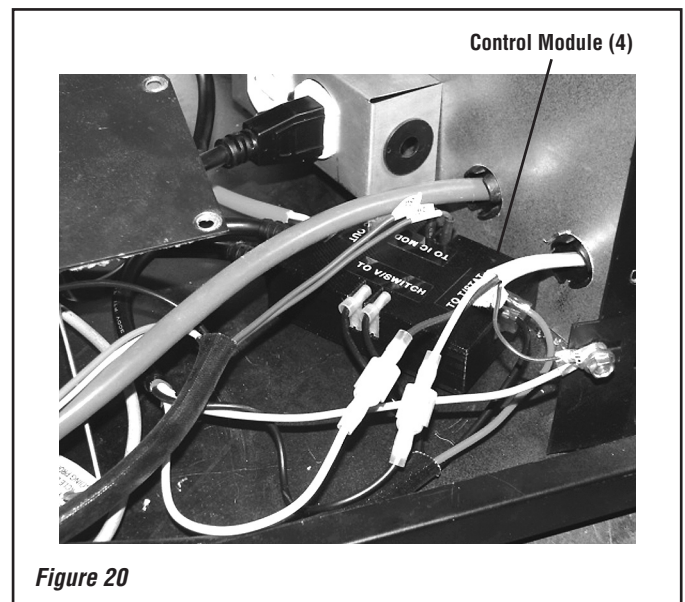
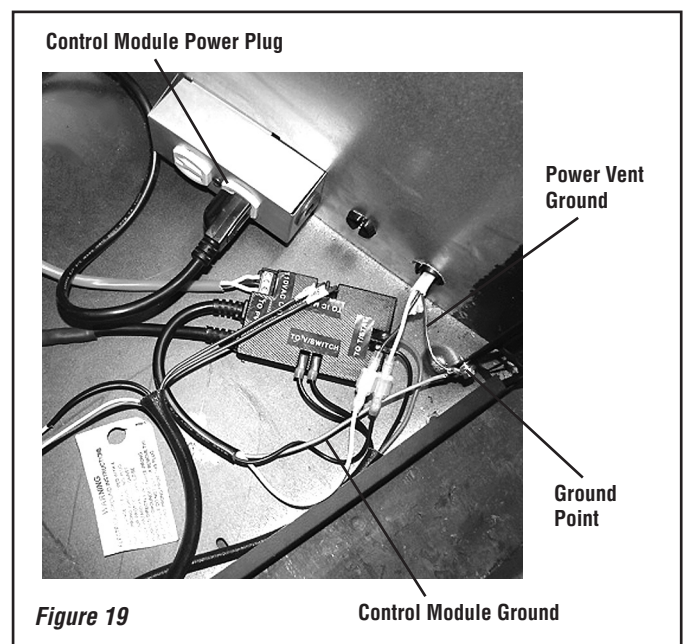
- Connect the transformer (3V) to the control module system power. (Refer to **Figure 18**).

- Connect control module (#4) (To Power Vent) to the power wire for the power vent termination. Remove the paint plug from the fireplace corner post to expose the bare metal at the grounding point and connect the PV (Romex ground wire) ground with the Control Module ground wire to the grounding point with the screw provided. See **Figure 19**.

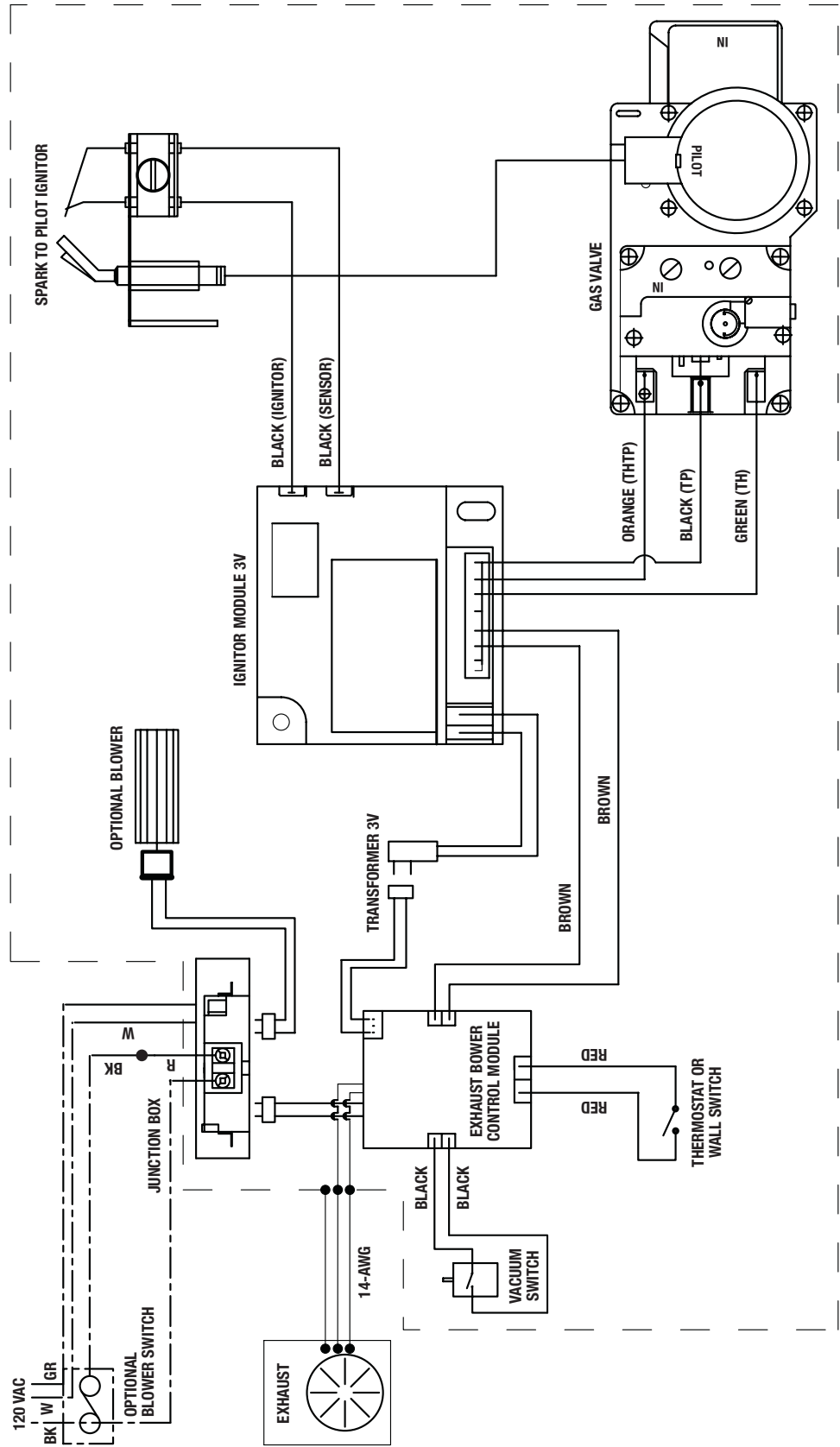
- Connect the control module (#4) power plug to the power socket. (See **Figure 19**).

- Refer to **Figure 14** and ensure all components are properly placed. Ensure the ON/Off switch is secure and the pressure switch is in place. Ensure the fireplace blower (if used) is installed and connected to the power socket.

- Place the control module (#4) into position. Secure in position using Velcro strips provided. See **Figure 20** and refer to **Figure 14**.



POWER VENT WIRING DIAGRAM



NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

POWER VENT OPERATING INSTRUCTIONS

Power Vent Control Sequences

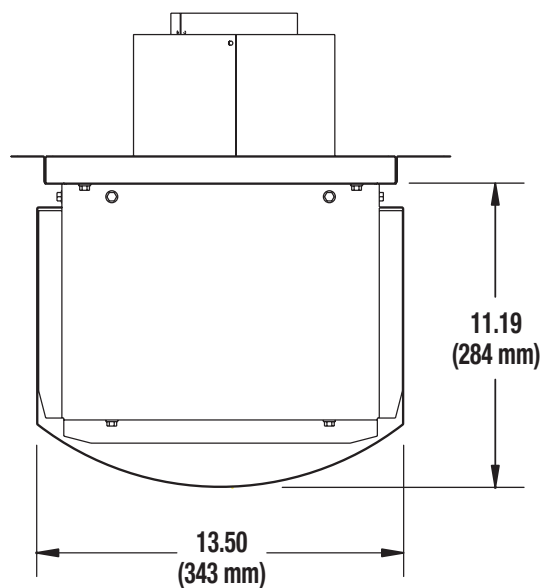
Turn On

1. Turn On The Thermostat Or On/Off Switch.
2. Blower Should Start Immediately.
3. Ignitor Starts Sparking And Pilot Will Light.
4. Burner Should Light After A Few Seconds.
5. Fireplace Should Run Continuously Until Thermostat Or On/Off Switch Is Turned Off.

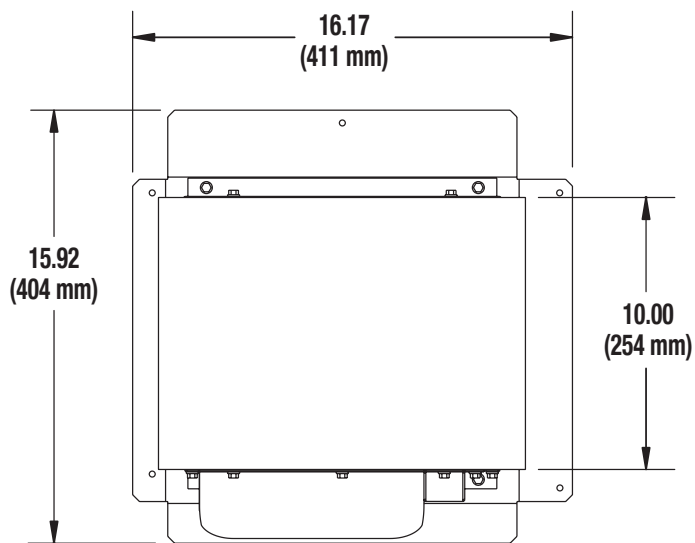
Turn Off

1. Turn Off The Thermostat Or On/Off Switch.
2. Burner And Pilot Should Be Off Immediately.
3. Blower Will Continue To Run For About 90 Seconds And Then The Blower Will Stop.

POWER VENT SPECIFICATIONS



Top View



Front View

Note: Dimensions Are In Inches (mm)

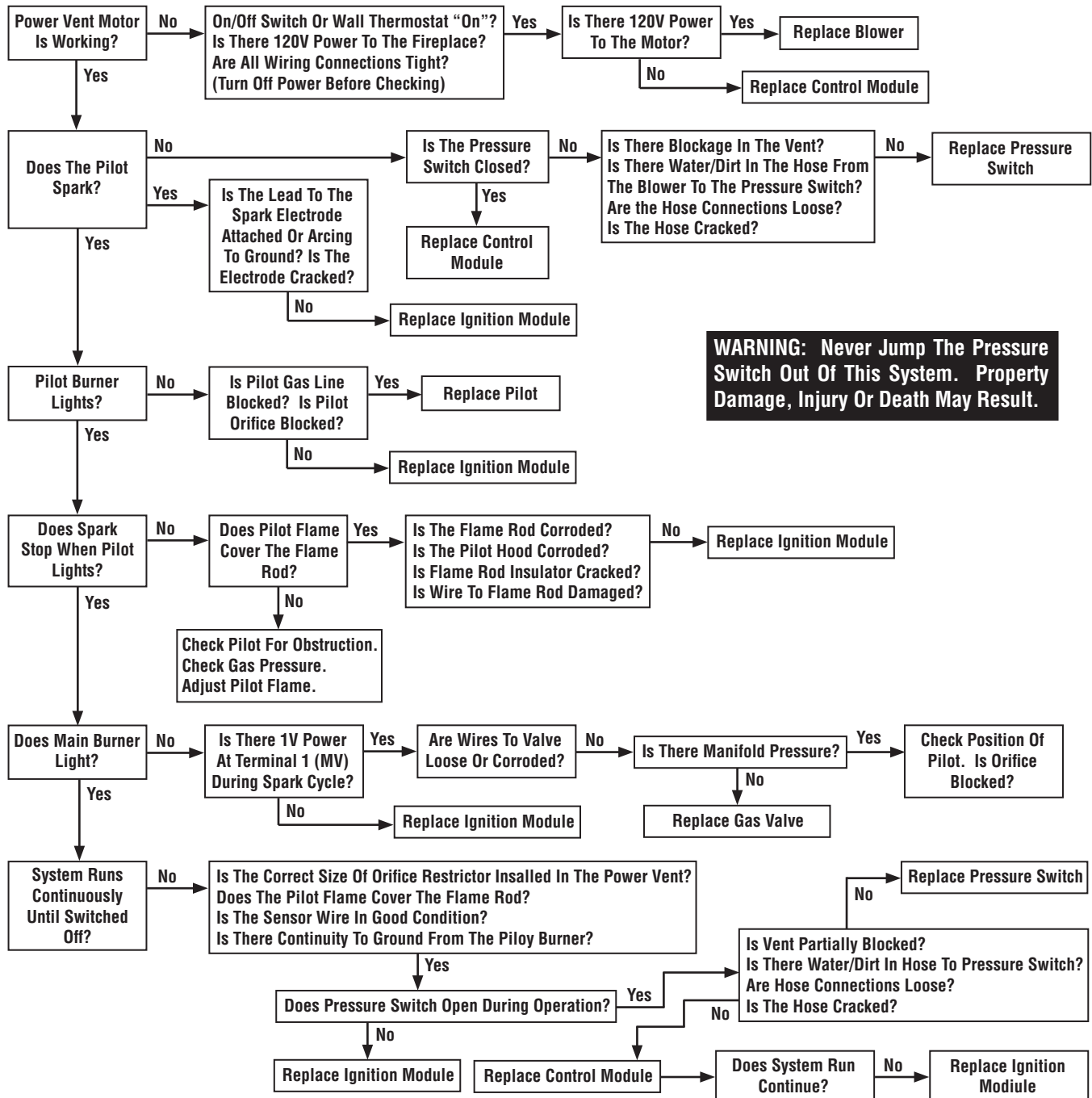
TROUBLESHOOTING THE POWER VENT SYSTEM

Important: Service must be performed by a qualified installer, service agency or your gas supplier.

BEFORE COMMENCING TO TROUBLESHOOT THE UNIT:

1. Check if there is power to the unit (fireplace).
2. Check if there is gas to the unit (fireplace).
3. The igniter module in the fireplace is equipped with a lockout device, which will put the unit into a lockout condition. Follow the steps in the chart below to reset the control: Turn the On/Off switch to the Off position, or turn the thermostat to the Off position.
4. If this is the first time that the unit has been fired, check the wiring of the unit against the wiring diagram before commencing troubleshooting.

START

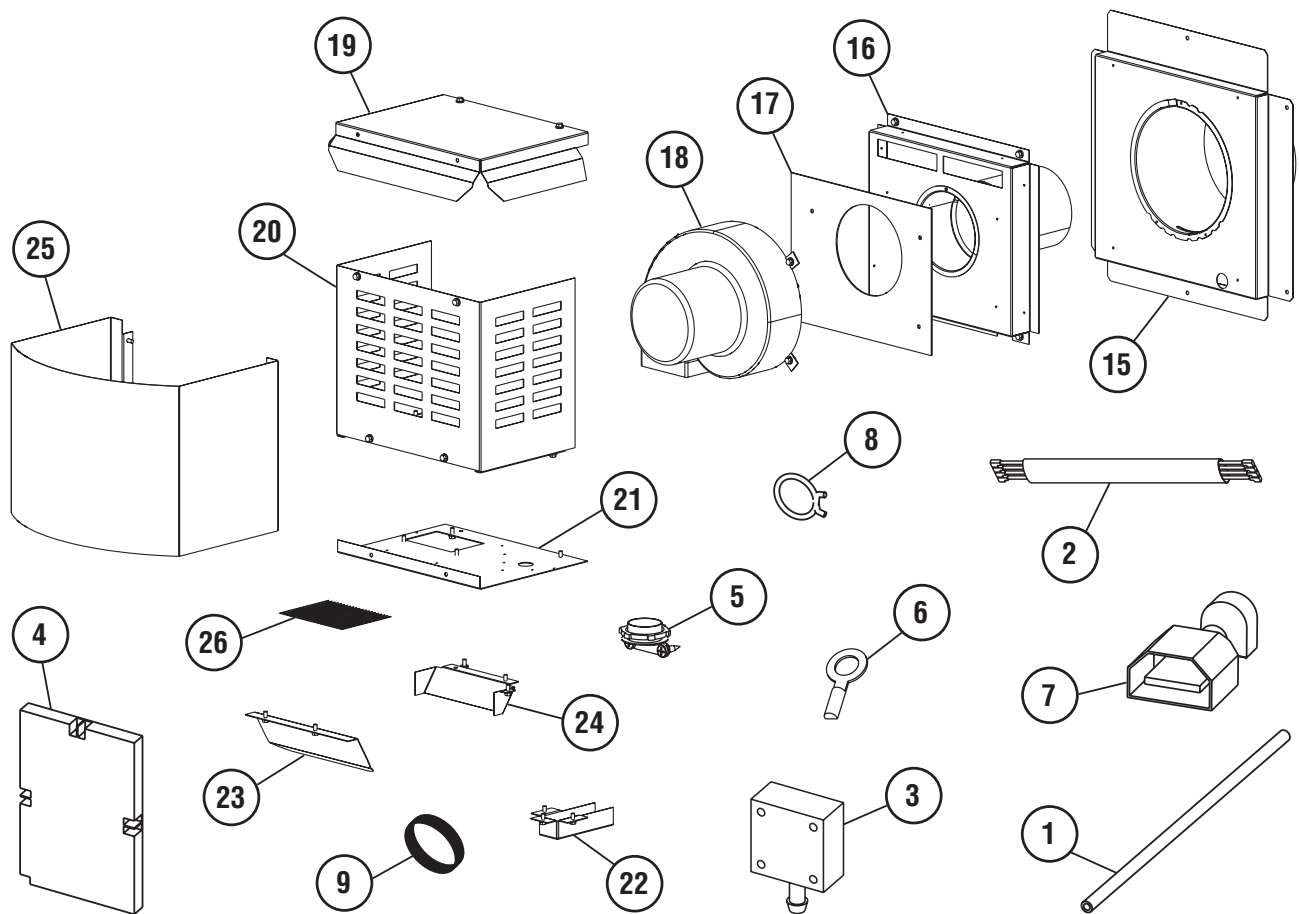


WARNING: Never Jump The Pressure Switch Out Of This System. Property Damage, Injury Or Death May Result.

POWER VENT REPLACEMENT PARTS

Item	Part Number	Description	Qty.
1	H7383	Vacuum Hose	1
2	H7369	Wire Harness	1
3	H7366	Pressure Switch	1
4	H7367	Control Module	1
5	H7368	Strain Relief - 3/8"	2
6	H7370	Ring Terminal - #10	2
7	H7384	Insulated 1/4" Male Terminal	4
8	H7371	Hose Clamp - 11/32"	2
9	P-8-7102	Snap Bushing	1
15	H7372	Base Assembly (Power Vent)	1

Item	Part Number	Description	Qty.
16	H7378	Kicker Assembly	1
17	H7382	Blower Gasket	1
18	H7365	Blower Assembly	1
19	H7375	Wrapper - Top	1
20	H7373	Wrapper	1
21	H7374	Wrapper - Bottom	1
22	H7377	J-Box	1
23	H7379	Diverter - Front	1
24	H7380	Diverter - Back	1
25	H7376	Wrapper Cover	1
26	H7381	Wire Mesh	1



NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

LISTED VENT COMPONENTS

The Power Vent Kit (LPVK-110) is designed and listed for use with Security Chimneys® SV4.5 Secure-Vent™ direct-vent systems. The following list details the SV4.5 components available for use in developing vent runs for the power vent system.

SECURE VENT COMPONENTS		
Catalog Number	Model Number	Description
77L70	SV4.5L6	6" Pipe Length
77L71	SV4.5L12	12" Pipe Length
77L72	SV4.5L24	24" Pipe Length
77L73	SV4.5L36	36" Pipe Length
77L74	SV4.5L48	48" Pipe Length
77L75	SV4.5LA	6" Pipe, Adjustable
77L76	SV4.5E45	Swivel 45° Elbow
77L77	SV4.5E90	Swivel 90° Elbow
96K92	SV4.5SP	Support Plate
96K93	SV4.5SU	Universal Support
H5816	SV4.5TWSK10	Through Wall Shield Kit
H3907	SV4.5RSA	Attic Insulation Shield
H2247	SV4.5VF	Firestop, Vertical (10 Pack)
H2246	SV4.5HF	Firestop, Horizontal (10 Pack)

NOTE: This list is not complete, but is representative of components most frequently used. Refer to Lennox Hearth Products catalog sheets and individual fireplace installation instructions for a complete listing of SV4.5 vent components listed for use in venting of this product.

The manufacturer reserves the right to make changes at any time, without notice, in design, materials, specifications, prices and also to discontinue colors, styles and products.
Consult your local distributor for fireplace code information.

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