



INSTALLATION INSTRUCTIONS

RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE

A French manual is available upon request. Order P/N 700,031CF

Ce manuel d'installation est disponible en français, simplement en faire la demande. Numéro de la pièce 700,031CF.

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

In the Commonwealth of Massachusetts:

- Installation must be performed by a licensed plumber or gas fitter;
- See Table of Contents for location of additional Commonwealth of Massachusetts requirements.

WARNING: IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

FOR YOUR SAFETY: Do not store or use gasoline or other flammables or liquids in the vicinity of this or any other appliance.

FOR YOUR SAFETY: What to do if you smell gas:

- **DO NOT** light any appliance.
- **DO NOT** touch any electrical switches.
- Do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow your gas suppliers instructions.
- If your gas supplier cannot be reached, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Tested & Listed By  Beaverton Oregon USA
OMNI-Test Laboratories, Inc.

OTL Report No. 116-F-32-5

DIRECT VENT MULTI-OPEN SERIES

DIRECT VENT GAS FIREPLACE HEATERS

P/N 700,031M REV. C 11/2006

MODELS

Millivolt Models

SSDVST-CNM
SSDVPF-CNM

Electronic Models

SSDVST-CNE
SSDVPF-CNE

AVERTISSEMENT: ASSUREZ-VOUS DE BIEN SUIVRE LES INSTRUCTIONS DONNÉ DANS CETTE NOTICE POUR RÉDUIRE AU MINIMUM LE RISQUE D'INCENDIE OU POUR ÉVITER TOUT DOMMAGE MATÉRIEL, TOUTE BLESSURE OU LA MORT.

POUR VOTRE SÉCURITÉ: Ne pas entreposer ni utiliser d'essence ni d'autre vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

POUR VOTRE SÉCURITÉ: Que faire si vous sentez une odeur de gaz:

- Ne pas tenter d'allumer d'appareil.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le bâtiment où vous vous trouvez.
- Evacuez la pièce, le bâtiment ou la zone.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

L'installation et service doit être exécuté par un qualifié installateur, agence de service ou le fournisseur de gaz.

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This installation manual will help you obtain a safe, efficient, dependable installation for the appliance and vent system.

Please read and understand these instructions before beginning your installation.

The **Millivolt** appliances have a millivolt gas control valve with piezo ignition system which provides safe, efficient operation. If any optional accessories that will require electrical power are to be installed, the electrical power must be provided at the time of appliance installation.

The **Electronic** appliances have an electronic intermittent pilot ignition system which provides safe, efficient operation. External electrical power is required to operate these appliances.



We recommend 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.

PACKAGING

The assembled vented gas fireplace heater is packaged with:

- 1 - One log set located in firebox area.
- 2 - One plastic bag of glowing embers and a plastic bag of volcanic stone located in the control compartment.
- 3 - One envelope containing the literature package, located in the firebox which consists of the homeowner's manual, installation instructions, warranty, nailing flanges (8 for SSDVST models and 4 for SSDVPF models).
- 4 - One vent restrictor (to be applied as shown on **Page 13**; restrictor is taped to the envelope).
- 5 - Hoods (2 for SSDVST models and 3 for SSDVPF models), taped to the top of the fireplace.
- 6 - Carton Support (must be removed from the control compartment prior to first burning).

INTRODUCTION

These vented gas fireplace heaters are sealed combustion, air circulating gas fireplaces designed for residential applications.

Approved Vent Components - These fireplaces are designed, tested and listed for operation and installation with, the following vent components only:

- **Secure Vent™** Direct Vent System Components,
- **Secure Flex™** Flexible Vent Components manufactured by Security Chimneys International and
- **Z-FLEX™** Model GA Venting Systems listed to UL1777 and ULCS635 manufactured by Flexmaster Canada Limited.

These approved vent system components are labeled for identification. DO NOT use any other manufacturer's vent components with these appliances. Use only the correct size venting (4-1/2" inner & 7-1/2" outer).

These appliances comply with National Safety Standards and are tested and listed by OMNI-Test Laboratories, Inc. (Report No. 116-F-32-5) to ANSI Z21.88b-2003 (in Canada, CSA-2.33b-2003), and CAN/CGA-2.17-M91 in both USA and Canada, as vented gas fireplace heaters.

Both millivolt and electronic versions of these appliances are listed by OMNI-Test Laboratories for installation in bedrooms and Manufactured Homes.

Manufactured Homes -

See **Manufactured Home Requirements** on **Page 6** for additional information.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.



WARNING

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

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.

Cet appareil doit être utilisé uniquement avec les types de gaz indiqués sur la plaque signalétique. Ne pas l'utiliser avec d'autres gaz sauf si un kit de conversion certifié est installé.

Misc. Codes / Standards -

The Installation must conform to local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 / NFPA 54 - latest edition, or the Natural Gas and Propane Installation Code, CSA B149.1 - latest edition.

The appliance, when installed, must be electrically grounded & wired in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI / NFPA 70-latest edition, or the Canadian Electrical Code, CSA C22.1 - latest edition.

GENERAL INFORMATION

Note: Installation and repair should be performed by a qualified service person. The appliance should be inspected annually by a qualified professional service technician. More frequent inspections and cleanings may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that the control compartment, burners and circulating air passage ways of the appliance be kept clean.

S'assurer que le brûleur et le compartiment des commandes sont propres. Voir les instructions d'installation et d'utilisation qui accompagnent l'appareil.

Provide adequate clearances around air openings and adequate accessibility clearance for service and proper operation. Never obstruct the front or back viewing surfaces of the appliance.

These millivolt and electronic fireplaces are designed to operate on natural gas or propane gas only. The use of other fuels or combination of fuels will degrade the performance of this system and may be dangerous.

These fireplaces are designed as supplemental heaters. Therefore, it is advisable to have an alternate heat source when installed in a dwelling.

Millivolt Models - The millivolt appliances are manually controlled and feature a spark igniter (piezo) that allows the appliance's pilot gas to be lit without the use of matches or batteries. This system provides continued service in the event of a power outage.

Millivolt models come standard with a manually-modulated gas valve; flame appearance and heat output can be controlled at the gas valve. The BTU Input for these appliances is shown in **Table 1**.

Input (BTU) Manually-Modulated Gas Valves (millivolt models)		
Models	Fuel Type	Input Rate (BTU / HR)
SSDVST SSDVPF	Natural or Propane Gas	37,500 high 30,000 low

Table 1

Electronic Models - Electronic models have a fixed rate gas valve. The BTU input for the electronic models is shown in **Table 2**.

BTU Input - Electronic Models

Input (BTU) - Fixed Rate (electronic models)		
Models	Fuel Type	Input Rate (BTU / HR)
SSDVST SSDVPF	Natural or Propane Gas	37,500

Table 2

Gas Pressure - All Models

Tables 3, 4 and 5 show the appliances' gas pressure requirements:

Inlet Gas Supply Pressure (all models)		
Fuel #	Minimum	Maximum
Natural Gas	5.0" WC (1.24 kPa)	10.5" WC (2.61 kPa)
Propane	11.0" WC (2.74 kPa)	13.0" WC (3.23 kPa)

Table 3

Manifold Gas Supply Pressure (millivolt models)		
Fuel #	Low	High
Natural Gas	(Lo) 2.2" WC (.55 kPa)	(Hi) 3.5" WC (.87 kPa)
Propane	(Lo) 6.3" WC (1.57 kPa)	(Hi) 10.0" WC (2.49 kPa)

Table 4

Manifold Gas Supply Pressure (electronic models)	
Fuel #	Maximum Manifold Pressure
Natural Gas	(Hi) 3.5" WC (.87 kPa)
Propane	(Hi) 10.0" WC (2.49 kPa)

Table 5

Test gauge connections are provided on the front of the millivolt gas control valve, identified IN for the inlet and OUT for the manifold side. A 1/8" NPT Test gauge connection is provided at the inlet and outlet side of the electronic gas control valve.

These appliances must be isolated from the gas supply piping system (*by closing their 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).

These appliances and their individual shut-off valves *must be disconnected* from the gas supply piping system during any pressure testing of that system at pressures **greater than** 1/2 psig (3.5 kPa).

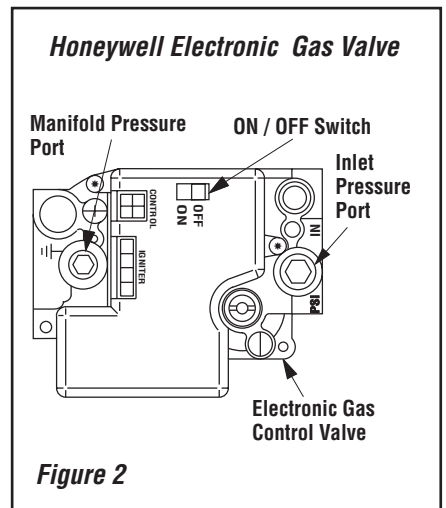
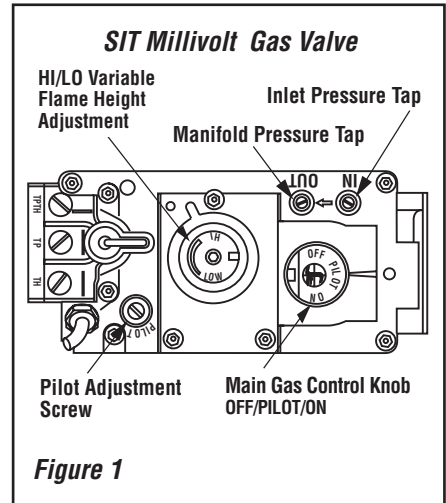
Orifice Sizes - Sea Level to High Altitude (All Models)

These appliances are tested and approved for installation at elevations of 0-4500 feet (0-1372 meters) above sea level using the standard burner orifice sizes (marked with an "*" in **Table 6**). For elevations above 4500 feet, contact your gas supplier or qualified service technician. Install the appliance according to the regulations of the local authorities having jurisdiction and, in the USA, the National Fuel Gas Code NFPA 54 / ANSI Z223.1 - latest edition or, in Canada, the CAN1-B149.1 and .2 codes - latest edition.

••Burner Orifice Sizes (all models)		
Elevation Feet (meters)	Natural Gas drill size (inches)	Propane Gas drill size (inches)
0-4500 (0-1372)	#44 (.086") * 60J8001 •	#55 (.052")* 19L5201 •

* Standard size installed at factory
• Part /Cat. Number
Table 6 •• Each model has two burners & 2 Orifices

Gas Valve Diagrams - See **Figure 1** for Millivolt models and **Figure 2** For Electronic Models.



New York City, New York (MEA)

Installation of these fireplaces are approved for installation in New York City in the US state of New York.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Note: The following requirements reference various Massachusetts and national codes not contained in this document.

Requirements for the Commonwealth of 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 (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

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.

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.

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 (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

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.

Signage

A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height of eight (8) feet above grade directly in line with the exhaust vent terminal for the horizontally vented gas fueled heating appliance or equipment. The sign shall read, in print size no less than one-half (1/2) inch in size, **"GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS."**

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.

Exemptions

The following equipment is exempt from 248 CMR 5.08(2)(a)1 through 4:

- 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
- 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.

MANUFACTURER REQUIREMENTS

Gas Equipment Venting System Provided

When the manufacturer of Product Approved side wall horizontally vented gas equipment provides a venting system design or venting system components with the equipment, the instructions provided by the manufacturer for installation of the equipment and the venting system shall include:

- Detailed instructions for the installation of the venting system design or the venting system components; and
- A complete parts list for the venting system design or venting system.

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:

- The referenced "special venting system" instructions shall be included with the appliance or equipment installation instructions; and
- 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 instructions.

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.

- Installation and repair must be done by a plumber or gas fitter licensed in the Commonwealth of Massachusetts.
- The flexible gas line connector used shall not exceed 36 inches (92 centimeters) in length.
- The individual manual shut-off must be a T-handle type valve.

SAFETY & WARNING INFORMATION

	! WARNING If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.
	

! WARNING
These fireplaces are vented heaters. Do not burn wood or other material in these appliances.

WARNING
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.

! AVERTISSEMENT
Cet appareil doit être utilisé uniquement avec les types de gaz indiqués sur la plaque signalétique. Ne pas l'utiliser avec d'autres gaz sauf si un kit de conversion certifié est installé.

! WARNING
Children and adults should be alerted to the hazards of high surface temperatures. Use caution around the appliance to avoid burns or clothing ignition. Young children should be carefully supervised when they are in the same room as the appliance.

Note: An Optional Screen Door or Screen Panel for the glass is available (see Homeowners Manual for ordering information).

! AVERTISSEMENT
Surveiller les enfants. Garder les vêtements, les meubles, l'essence ou autres liquides à vapeur inflammables loin de l'appareil.

! WARNING
Do not place clothing or other flammable materials on or near this appliance.

! AVERTISSEMENT
Pour utilisation uniquement avec les portes en verre certifiées avec l'appareil.

! WARNING
Carbon monoxide poisoning: early signs of carbon monoxide poisoning are similar to the flu with headaches, dizziness and/or nausea. If you have these signs, obtain fresh air immediately. Turn off the gas supply to the appliance and have it serviced by a qualified professional, as it may not be operating correctly.

! WARNING
Do not use these appliances if any part has been under water. Immediately call a qualified, professional service technician to inspect the appliances and to replace any parts of the control system and any gas controls which have been under water.

! AVERTISSEMENT
Ne pas se servir de cet appareil s'il a été plongé dans l'eau, complètement ou en partie. Appeler un technicien qualifié pour inspecter l'appareil et remplacer toute partie du système de contrôle et toute commande qui ont été plongés dans l'eau.

! IMPORTANT
These appliances must not be connected to a chimney or flue serving a separate solid fuel burning appliance.

! WARNING
This appliance may only be fitted with doors certified for use with the appliance.

! WARNING
Failure to comply with the installation and operating instructions provided in this document will result in an improperly installed and operating appliance, voiding its warranty. Any change to this appliance and/or its operating controls is dangerous. Improper installation or use of this appliance can cause serious injury or death from fire, burns, explosion or carbon monoxide poisoning.

! WARNING
Do not attempt to alter or modify the construction of the appliance or its components. Any modification or alteration may void the warranty, certification and listings of this unit.

COLD CLIMATE INSULATION

For cold climate installations, seal all cracks around the appliance with noncombustible material and wherever cold air could enter the room. It is especially important to insulate outside chase cavity between studs and under floor on which the appliance rests, if floor is above ground level. Gas line holes and other openings should be caulked or stuffed with unfaced fiberglass insulation. If the fireplace is being installed on a cement slab, in cold climates, a sheet of plywood or other raised platform can be placed underneath to prevent conducting cold up into the room. It also helps to sheetrock inside surfaces and tape for maximum air tightness and caulk firestops.

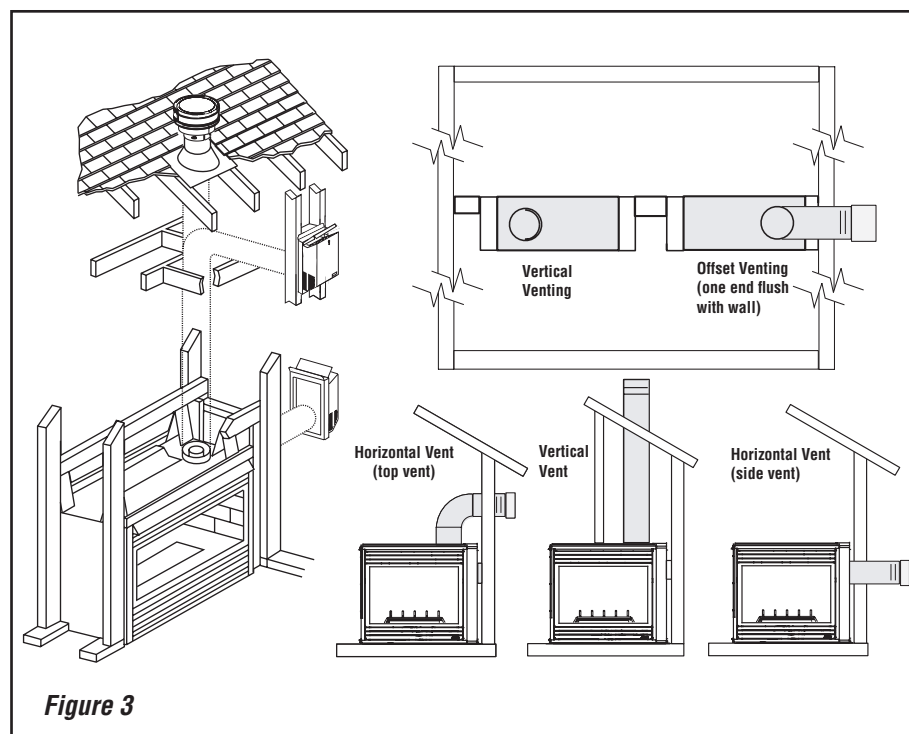
LOCATION

In selecting the location, the aesthetic and functional use of the appliance are primary concerns. However, vent system routing to the outside atmosphere and access to the fuel supply are also important. Consideration should be given to traffic ways, furniture, draperies, etc., due to high surface temperatures (see illustrations). The location should also be free of electrical, plumbing or other heating / air conditioning ducting.

These direct vent appliances are uniquely suited for installations requiring a utility shelf positioned directly above the fireplace. Utility shelves like these are commonly used for locating television sets and decorative plants. **Be aware that this is a heat producing appliance. Objects placed above the unit are exposed to elevated temperatures.**

If a shelf is to be installed above appliance, see *Shelf Height Minimum Clearances (Figure 8 on Page 9)*.

The appliance should be mounted on a fully supported base extending the full width and depth of the appliance. The appliance may be located on or near conventional construction materials. However, if installed on combustible materials, such as carpeting, vinyl tile, etc., a metal or wood barrier covering the entire bottom surface of the appliance must be used.



MANUFACTURED HOME REQUIREMENTS

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

This appliance may be installed as an OEM installation in a manufactured home (USA only) or mobile home and must be installed in accordance with the manufacturer's instructions and the Manufactured Home Construction and Safety Standard, Title 24 CPF, Part 3280 or Standard for Installation in Mobile Homes, CAN/CSA Z240 MH.

Cet appareil peut être installé comme du matériel d'origine dans une maison préfabriquée (É.-U. seulement) ou mobile et doit être installé selon les instructions du fabricant et conformément à la norme Manufactured Home Construction and Safety Standard, Title 24 CPF, Part 3280 ou à la norme CAN/CSA Z240 Série MM, Maisons Mobiles.

Cet appareil peut être installé dans un maison préfabriquée (É.-U. seulement) ou mobile déjà installée à demeure si les règlements locaux le permettent.

Manufactured Home installations must be installed in accordance with these instructions and the following standards / codes:

- Manufactured Home Construction and Safety Standard Title 24 CFR, Part 3280, or the current Standard for Fire Safety Criteria for Manufactured Home Installations, Sites and Communities ANSI / NFPA 501A in the USA, and CAN / CSA Z240 MH Mobile Home Standard in Canada
- (when applicable) The American National Standard for Manufactured Homes (NCS-BCS / ANSI A225.1 - latest edition).

CAUTIONS

Manufactured Home Installations: Ensure that the cross members are not cut or weakened during installation. The structural integrity of the manufactured home floor, wall, and ceiling / roof must be maintained.

This appliance must be grounded to the chassis of the manufactured home in accordance with local codes or in the absence of local codes, with the National Electrical Code ANSI / NFPA 70 - latest edition or the Canadian Electrical Code CSA C22.1 - latest edition.

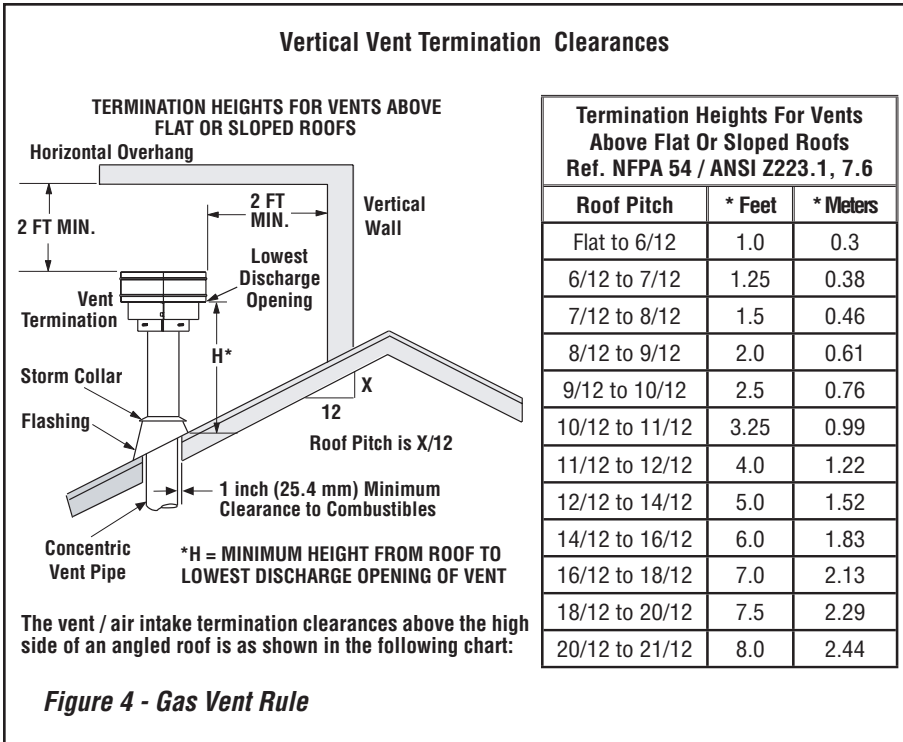
NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

VENT TERMINATION CLEARANCES

These instructions should be used as a guideline and do not supersede local codes in any way. Install vent according to local codes, these instructions, the current National Fuel Gas Code (ANSI-Z223.1) in the USA or the current standards of CAN/CGA-B149.1 and -B149.2 in Canada.

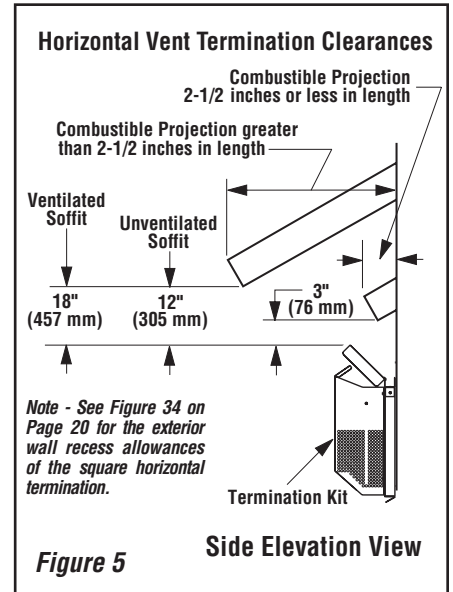
Terminate multiple vent terminations according to the installation codes listed above.

Terminate single vent caps relative to building components according to **Figure 4**.



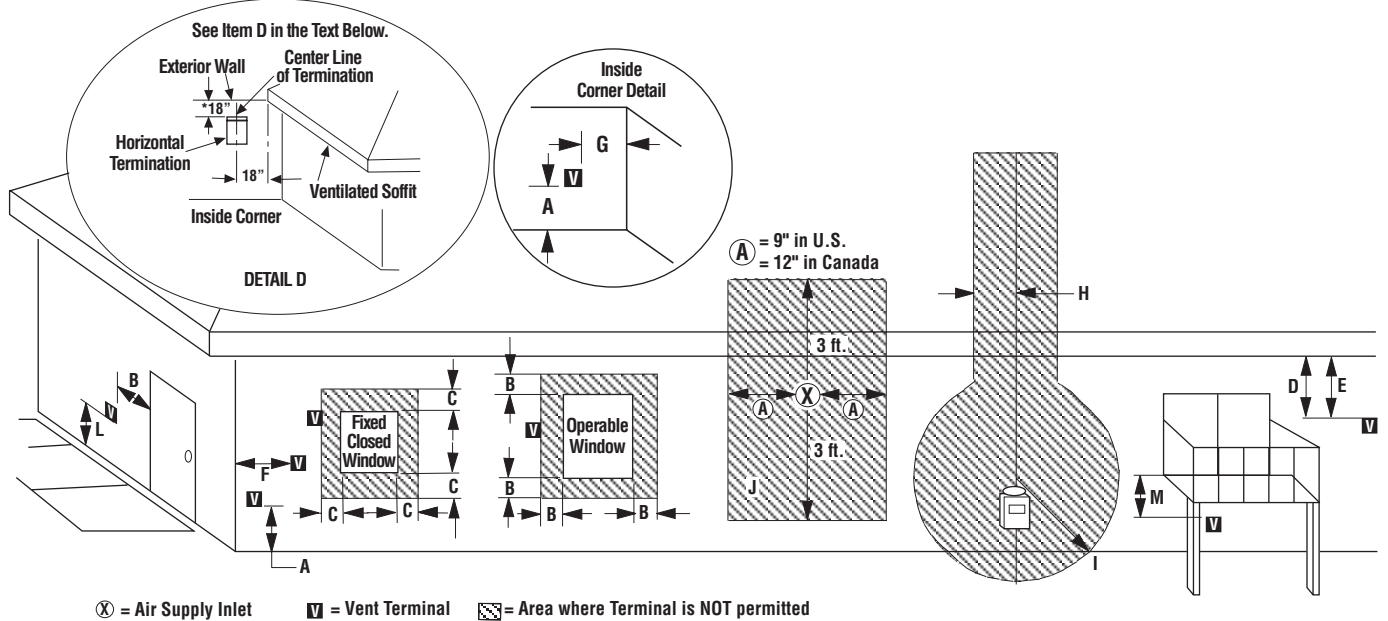
Horizontal Vent Termination Clearances

The horizontal vent termination must have a minimum of 3" (76 mm) clearance to any overhead combustible projection of 2 1/2" (64 mm) or less. See **Figure 5**. For projections exceeding 2 1/2" (64 mm), see **Figure 5**. For additional vent location restrictions refer to **Figure 6 on Page 8**.



VENT TERMINATION CLEARANCES

EXTERIOR HORIZONTAL VENT TERMINATION CLEARANCE REQUIREMENTS



⊗ = Air Supply Inlet V = Vent Terminal [Hatched Box] = Area where Terminal is NOT permitted

Minimum Clearances	Canadian Installation *	US Installation **
A = Clearance above grade, veranda, porch, deck or balcony.	12 inches (30 cm) *	12 inches (30 cm) **
B = Clearance to window or door that may be opened.	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 12 in. (30 cm) for appliances > 10,000 BTU/hr (3kW) and < 100,000 BTU/hr (30kW), 36 inches (91 cm) for appliances > 100,000 BTU/hr (30kW)*	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 9 in. (23 cm) for appliances > 10,000 BTU/hr (3kW) and < 50,000 BTU/hr (15kW), 12 inches (30 cm) for appliances > 50,000 BTU/hr (15kW)*
C = Clearance to permanently closed window	12 inches (305 mm) recommended to prevent window condensation	9 inches (229 mm) recommended to prevent window condensation
D = Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 18 in. (458 mm) from the center line of the terminal	18 inches (458 mm)	18 inches (458 mm)
E = Clearance to unventilated soffit	12 inches (30 cm)	12 inches (30 cm)
F = Clearance to outside corner	5 inches (12.7 cm)	5 inches (12.7 cm)
G = Clearance to inside corner	6 in. (15 cm)	6 in. (15 cm)
H = Clearance to each inside of center line extended above meter / regulator assembly	3 feet (91 cm) within a height of 15 feet above the meter / regulator assembly *	3 feet (91 cm) within a height of 15 feet above the meter / regulator assembly **
I = Clearance to service regulator vent outlet	3 feet (91 cm) *	3 feet (91 cm) **
J = Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 12 in. (30 cm) for appliances > 10,000 BTU/hr (3kW) and < 100,000 BTU/hr (30kW), 36 inches (91 cm) for appliances > 100,000 BTU/hr (30kW)*	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 9 in. (23 cm) for appliances > 10,000 BTU/hr (3kW) and < 50,000 BTU/hr (15kW), 12 inches (30 cm) for appliances > 50,000 BTU/hr (15kW)*
K = Clearance to mechanical air supply inlet	6 feet (1.8 meters) *	3 feet (91 cm) above, if within 10 feet (3 m) horizontally**
L = Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13 m) ‡	7 feet (2.13 m) ‡
M = Clearance under veranda, porch, deck or balcony	12 in. (30 cm) * ‡	12 in. (30 cm) ** ‡

* In accordance with the current CSA-B149.1 National Gas and B149.2 Propane Installation Code - Latest Editions.

** In accordance with the current ANSI Z223.1 / NFPA 54 National Fuel Codes - Latest Edition.

‡ A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.

*‡ Only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor.

Figure 6

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

MINIMUM CLEARANCES TO COMBUSTIBLES

Hearth Extension - A hearth extension is not required with this appliance. If a hearth extension is used, do not block the lower control compartment access door. Any hearth extension used is for appearance only and does not have to conform to standard hearth extension installation requirements.

Wall Finishes / Surrounds / Mantels

Note: Combustible wall finish materials and/or surround materials must not be allowed to encroach the area defined by the appliance front and back faces (black sheet metal). Never allow combustible materials to be positioned in front of or overlapping the appliance front and back faces. See **Figure 57** on **Page 30**.

Non-combustible materials, such as surrounds and other appliance trim, may be installed on the appliance front and back faces with the following exception: If the optional radiant panels are installed, the non-combustible material may cover any portion of the top radiant panel or the air gaps surrounding the top radiant panel down to the top edge of eyebrow hood. **The material must NOT cover any portion of the glass door or louvered panels.**

Vertical installation clearances to combustible mantels vary according to the depth of the mantel. See **Figure 7**. Mantels constructed of non-combustible materials may be installed at any height above the appliance opening; however, do not allow anything to hang below the hood.

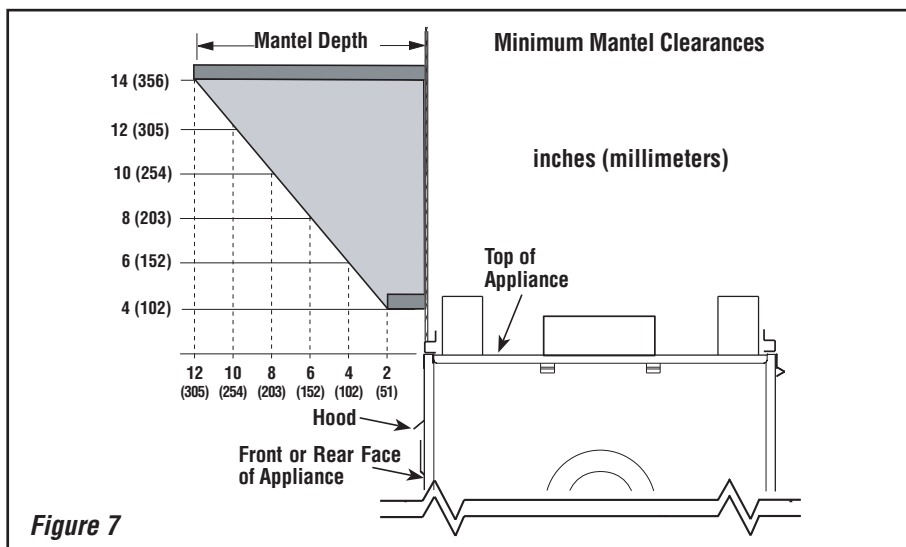


Figure 7

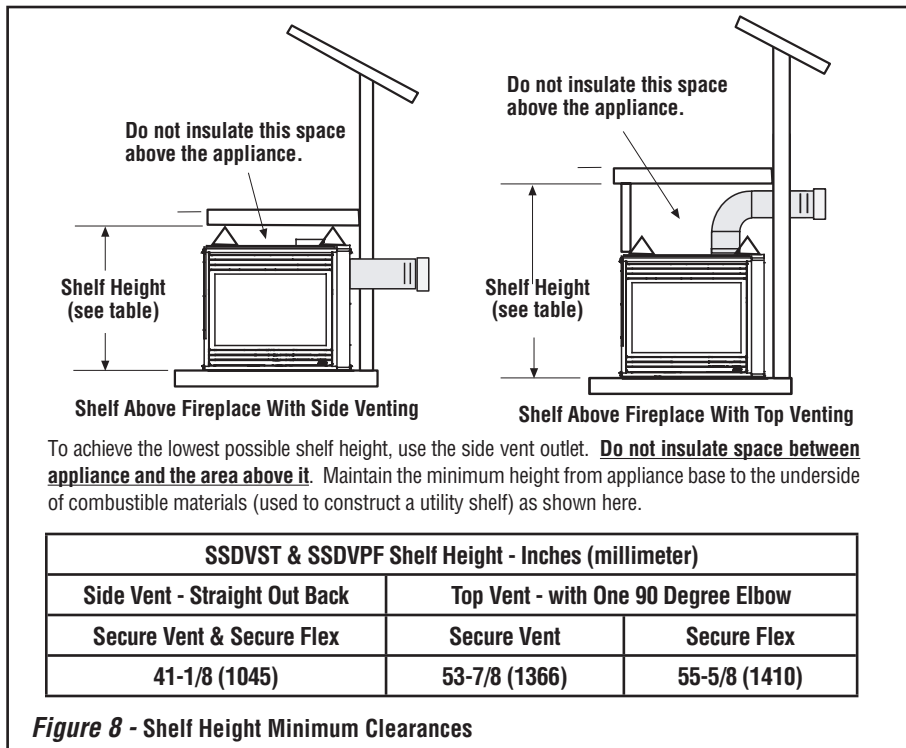


Figure 8 - Shelf Height Minimum Clearances

Appliance and Vent Clearances

Maintain clearances from appliance to combustible materials as detailed in **Table 7**, with the following exception: When the appliance is installed with one side flush with a wall, the wall on the other side of the appliance must not extend beyond the front edge of the appliance. In addition, when the appliance is installed in the middle of a room, the side walls surrounding the appliance must not extend beyond the front edge of the appliance. See **Figure 3**.

MINIMUM CLEARANCES Inches (millimeters)	
Sides	1/2 (13)
Top Spacers	0 (0)
Floor	0 (0)
Bottom of Appliance To Ceiling	64 (1626)
Vent	3 (76) Top * 1 (25.4) Sides & Bottom
SERVICE CLEARANCES Feet (meters)	
Front & Back Faces	3 ft. (0.9 m)

Table 7

***Note:** 3 in. (75 mm) above any horizontal / inclined vent component.

Side Clearances

Combustible materials may project beyond the sides of the fireplace opening as long as they are kept within the shaded areas illustrated in **Figure 9**.

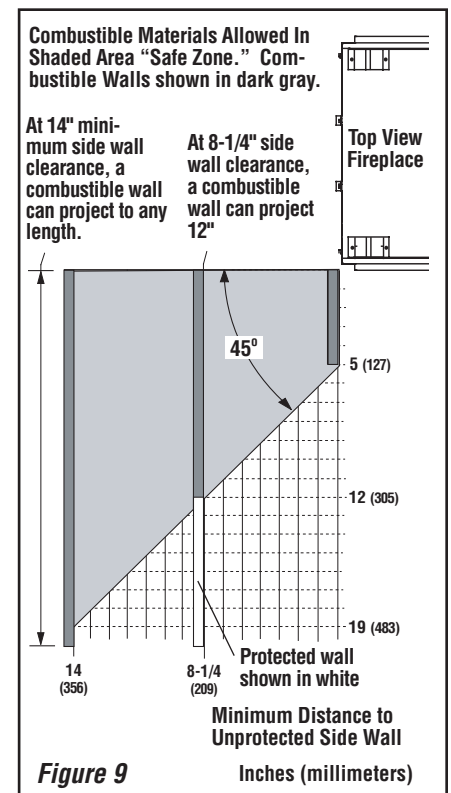
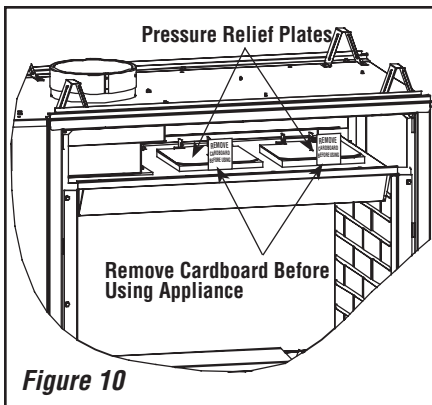


Figure 9

DETAILED INSTALLATION STEPS

1. Remove the shipping carton.
2. Remove the top louvered panel and locate the pressure relief plates.
3. Lift the pressure relief plates and remove the cardboard from beneath each plate (be careful not to damage the white gasket). See *Figure 10*.

* **NOTE: INSTALLATION DIAGRAMS AND INSTRUCTIONS SHOW THE FRONT OF THE APPLIANCE AS THE SIDE WHICH HAS VALVE ACCESS, EXCEPT WHERE NOTED.**



TYPICAL INSTALLATION SEQUENCE

The typical sequence of installation follows, however, each installation is unique resulting in variations to those described.

See the Page numbers references in the following steps for detailed procedures.

- Step 1. (Page 10)** Construct the appliance framing. Position the appliance within the framing and secure with nailing flanges.
- Step 2. (Page 10)** Route gas supply line to appliance location.
- Step 3. (Page 13)** Install the vent system and exterior termination.
- Step 4. (Page 25)** Field Wiring
- a. Millivolt Appliances – Install the OFF/ON burner control switch.
 - b. Electronic Appliances – Connect 120 VAC electrical power to the appliance receptacle.
- Step 5. (Page 26)** Install blower kit (optional equipment).
- Step 6. (Page 27)** Make connection to gas supply.
- Step 7. (Page 28)** Checkout appliance operation.
- Step 8. (Page 28)** Install embers, volcanic stone and embers.
- Step 9. (Page 29)** Install glass enclosure panels.
- Step 10. (Page 29)** Adjust burner primary air shutter to achieve proper flame appearance.
- Step 11. (Page 30)** Install the decorative trim and hoods.

Step 1. FRAMING

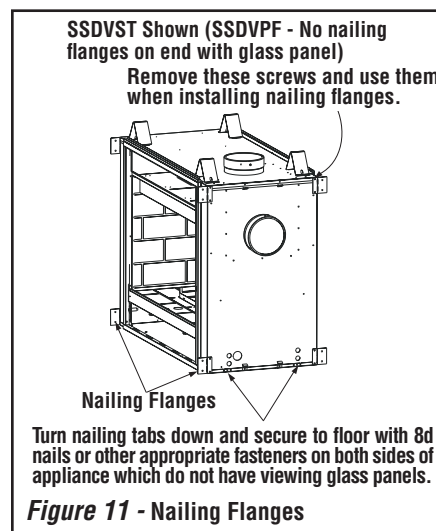
Frame these appliances as illustrated in *Figures 13 & 14*. All framing details must allow for a minimum clearance to combustible framing members as shown in *Table 7* on *Page 9*.

If the appliance is to be elevated above floor level, a solid continuous platform must be constructed. Headers may be in direct contact with the appliance top spacers but must not be supported by them or notched to fit around them. All construction above the appliance must be self supporting, **DO NOT USE THE APPLIANCE FOR STRUCTURAL SUPPORT.**

Side Nailing Flanges

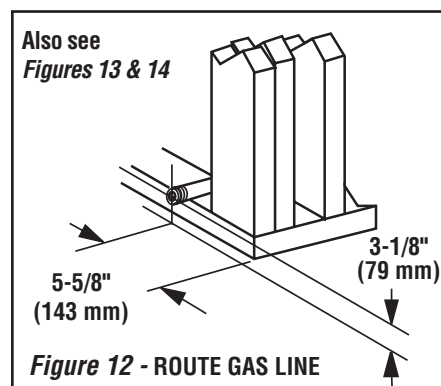
The fireplace should be secured to the framing at the side(s) of the appliance using the factory-provided nailing flanges. Install the 8 nailing flanges as shown in *Figure 11* using the existing screws. Position the fireplace within the framing. When required, the tabs may be bent 90 degrees by hand or with the assistance of a hammer. Use wood screws to secure the nailing flanges to the framing. See *Table 7* on *Page 9* for clearances of framing members to cabinet parts. The nailing flange itself can directly contact framing.

Floor Nailing Tabs - Secure the fireplace to the floor as shown in *Figure 11*.



Step 2. ROUTING GAS LINE

Route a gas line along the inside of the right side framing as shown in *Figure 12*. Gas lines must be routed, constructed and made of materials that are in strict accordance with local codes and regulations.



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Proper Sizing of Gas Line

Properly size and route the gas supply line from the supply regulator to the area where the appliance is to be installed per requirements outlined in the National Fuel Gas Code, NFPA 54 - latest edition (USA) or B149 - latest edition (Canada). Never use galvanized or plastic pipe. Refer to *Table 8* for proper sizing of the gas supply line, if black iron pipe is being used. Gas lines must be routed, constructed and made of materials that are in strict accordance with local codes and regulations. We recommend that a qualified individual such as a plumber or gas fitter be hired to correctly size and route the gas supply line to the appliance. Installing a gas supply line from the fuel supply to the appliance involves numerous considerations of materials, protection, sizing, locations, controls, pressure, sediment, and more. Certainly no one unfamiliar and unqualified should attempt sizing or installing gas piping.

Schedule 40 / Black Iron Pipe Inside Diameter (Inches)		
Schedule 40 Pipe Length (feet)	Natural Gas	Propane Gas
0-10	1/2	3/8
10-40	1/2	1/2
40-100	1/2	1/2
100-150	3/4	1/2
150-200	3/4	1/2

Table 8

Notes:

- All appliances are factory-equipped with a flexible gas line connector and 1/2 inch shutoff valve (see *Figure 47* on *Page 27*).
- See *Massachusetts Requirements* on *Page 3* for additional requirements for installations in the state of Massachusetts in the USA.
- The gas supply line should Not be connected to the appliance until **Step 6 (Page 27)**.
- A pipe joint compound rated for gas should be used on the threaded joints. **Ensure** propane resistant compounds are used in propane applications. Be very careful that the pipe compound does not get inside the pipe.
- It is recommended to install a sediment trap in the supply line as close as possible to the appliance (see *Figure 47*). Appliances using Propane should have a sediment trap at the base of the tank.
- Check with local building official for local code requirements (i.e. are below grade penetrations of the gas line allowed?, etc).

IMPORTANT: If propane is used, be aware that if tank size is too small (i.e. under 100-lbs, if this is the only gas appliance in the dwelling. Ref. NFPA 58), there may be loss of pressure, resulting in insufficient fuel delivery (which can result in sooting, severe delayed ignition or other malfunctions). Any damage resulting from an improper installation, such as this, is not covered under the limited warranty.

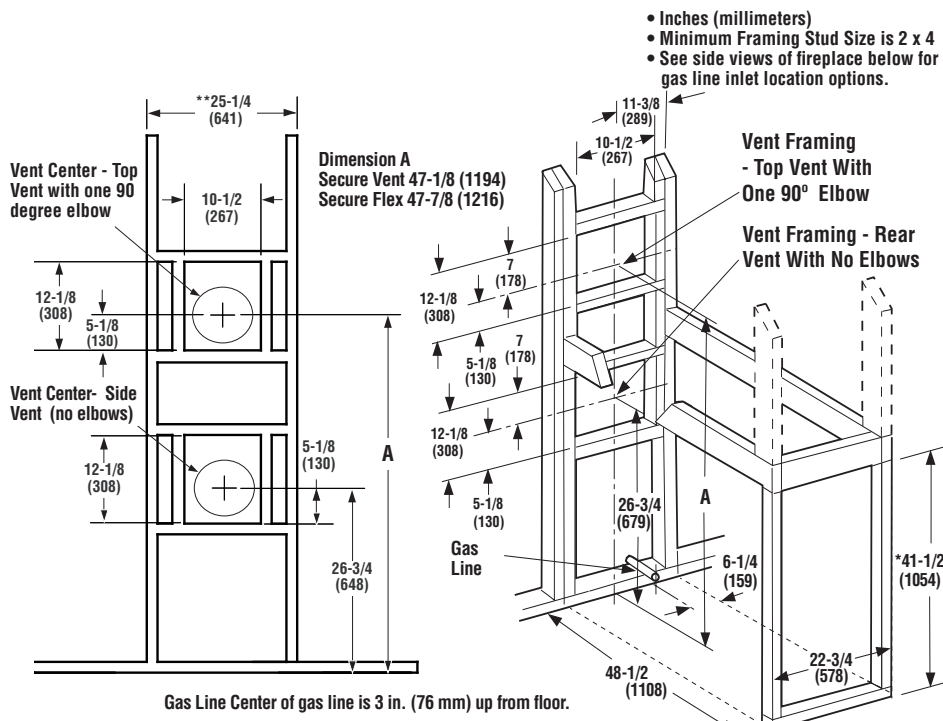
FIREPLACE SPECIFICATIONS - SSDVST (SEE-THROUGH)

SPECIFICATIONS	
Natural & Propane Gas BTU Input	37,500 (MV Low 30,000)
Co-axial DV Vent Size	4-1/2" Inner 7-1/2" Outer

NOTES
• Annual Fuel Utilization Efficiency
Due to Lennox' ongoing commitment to quality, all specifications, ratings and dimensions are subject to change without notice.
Appliance has a factory-installed vent seal cap (see Figures 15 & 16 on Page 13) in each flue outlet.

PRODUCT REFERENCE INFORMATION			
Cat. No.	Model	Ship Wt.	Ship. Volumn
H3333	SSDVST-CNM	282 lbs	52W x 27D x 44-1/2H (36.2 cu.ft.)
H3334	SSDVST-CNE	282 lbs	52W x 27D x 44-1/2H (36.2 cu.ft.)

EFFICIENCIES	
	SSDVST
ENERGUIDE	61% (NG) 62% (LP)
	72% (NG) 73% (LP)
Steady State	68% (NG) 68% (LP)
	• AFUE



- Inches (millimeters)
- Minimum Framing Stud Size is 2 x 4
- See side views of fireplace below for gas line inlet location options.

* This dimension can be reduced to 41 inches (1041 mm). This results in 0 in. (0 mm) clearance between framing and unit framing spacers. (The 41-1/2 in. dimension permits easier fireplace installation, if unit is installed after framing is erected).

** This dimension based on 5/8" drywall. For 1/2" drywall use 25-1/2" (648 mm). The finished dimension should be 26-1/2" (673 mm). See also, *Side Vent Seal Cap* note below.

Vertical Venting Through the Ceiling:
Frame ceiling opening - Use a plumb line from the ceiling above the appliance to locate center of the vertical run. Cut and/or frame an opening, 10-1/2" x 10-1/2" (267 mm x 267 mm) inside dimensions, about this center mark (see Figure 19).

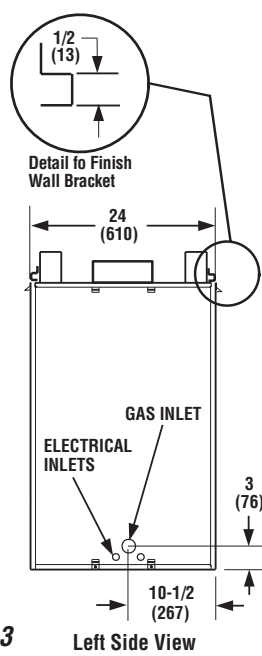
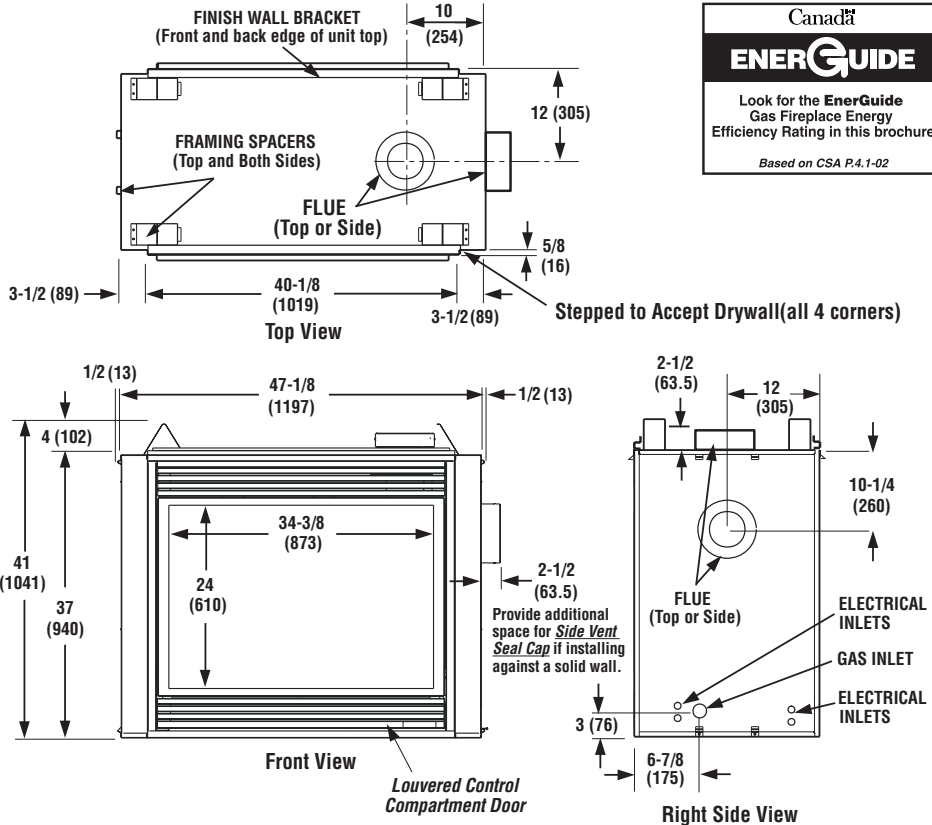


Figure 13



Canada

ENERGUIDE

Look for the **EnerGuide**
Gas Fireplace Energy
Efficiency Rating in this brochure

Based on CSA P.4.1-02

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

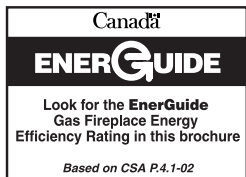
FIREPLACE SPECIFICATIONS - SSDVPF (PENINSULA VIEW)

SPECIFICATIONS	
Natural & Propane Gas BTU Input	37,500 (MV Low 30,000)
Co-axial DV Vent Size	4-1/2" Inner 7-1/2" Outer

NOTES	
• Annual Fuel Utilization Efficiency	
Due to Lennox' ongoing commitment to quality, all specifications, ratings and dimensions are subject to change without notice.	
Appliance has a factory-installed vent seal cap (see Figures 15 & 16 on Page 13) in each flue outlet.	

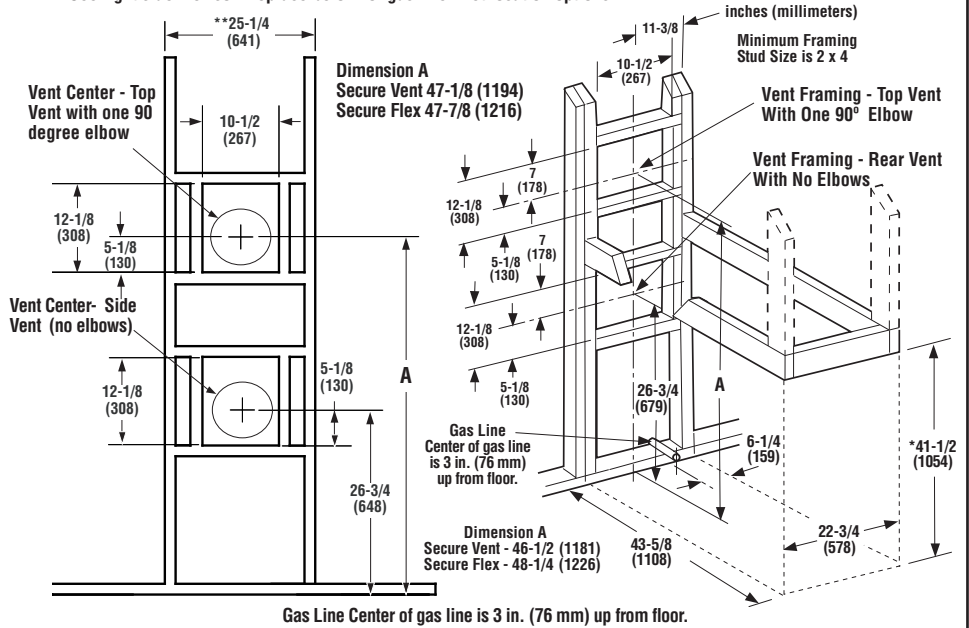
PRODUCT REFERENCE INFORMATION			
Cat. No.	Model	Ship Wt.	Ship. Volume
H3335	SSDVPF-CNM	270 lbs	52W x 27D x 44-1/2H (36.2 cu.ft.)
H3336	SSDVPF-CNE	270 lbs	52W x 27D x 44-1/2H (36.2 cu.ft.)

EFFICIENCIES	
	SSDVPF
ENERGUIDE	58 % (NG) 61 % (LP)
	72 % (NG) 73 % (LP)
Steady State	68 % (NG) 68 % (LP)
	• AFUE



Fireplace Framing Specifications

- Inches (millimeters)
- Minimum Framing Stud Size is 2 x 4
- See right side views of fireplace below for gas line inlet location options.



- * This dimension can be reduced to 41 inches (1041 mm). This results in 0 in. (0 mm) clearance between framing and unit framing spacers. (The 41-1/2 in. dimension permits easier fireplace installation, if unit is installed after framing is erected).
- ** This dimension based on 5/8" drywall. For 1/2" drywall use 25-1/2" (648 mm). The finished dimension should be 26-1/2" (673 mm). See also, *Side Vent Seal Cap* note below.

Vertical Venting Through the Ceiling:
Frame ceiling opening - Use a plumb line from the ceiling above the appliance to locate center of the vertical run. Cut and/or frame an opening, 10-1/2" x 10-1/2" (267 mm x 267 mm) inside dimensions, about this center mark (see Figure 19).

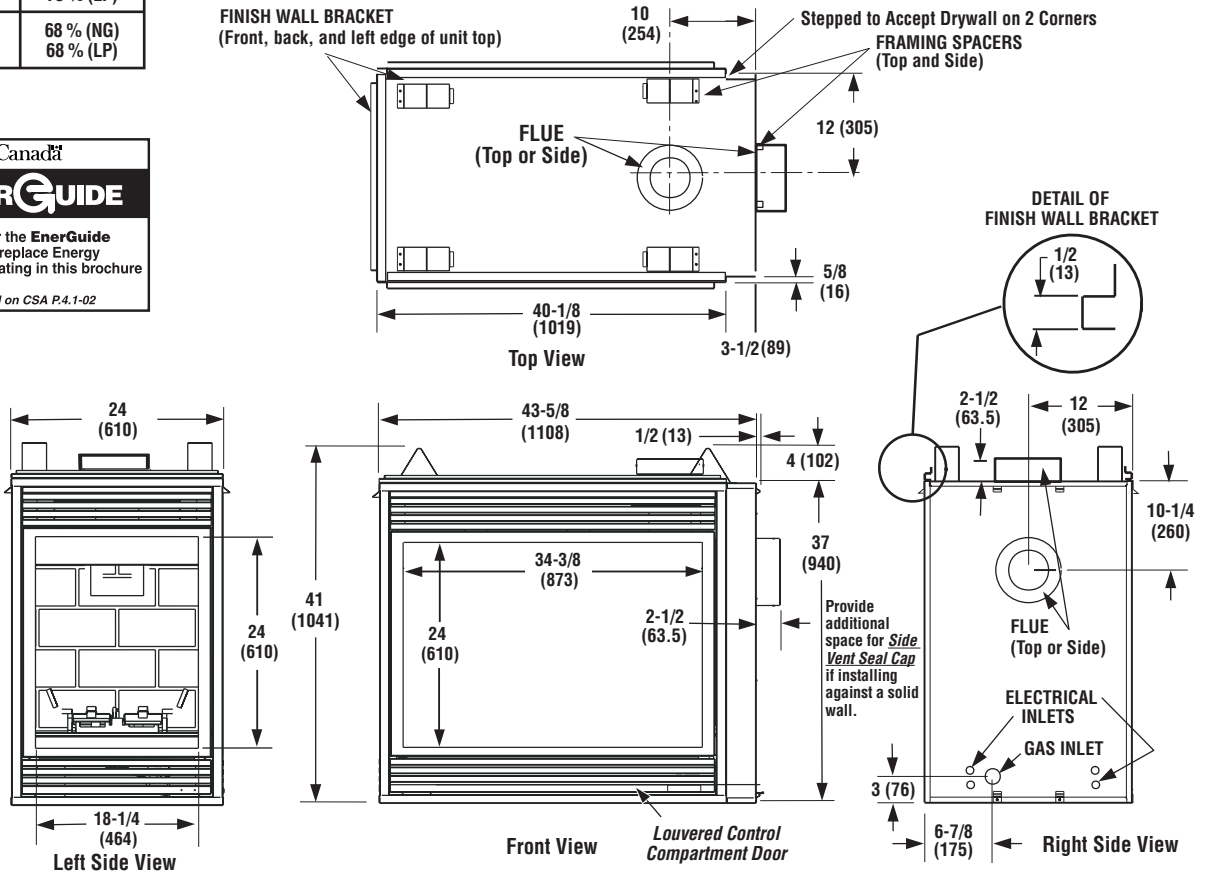


Figure 14

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 3. INSTALL THE VENT SYSTEM

These instructions should be used as a guideline and do not supersede local codes in any way. Install vent according to local codes, these instructions, the current National Fuel Gas Code (ANSI-Z223.1) in the USA or the current standards of CAN/CGA-B149.1 and -B149.2 in Canada.

- Use only approved venting components. See *Approved Vent Components, Page 2*.
- These fireplaces must be vented directly to the outside.

The vent system must **NOT** service multiple appliances, and must never be connected to a flue serving a solid fuel burning appliance. The vent pipe is tested to be run inside an enclosure (such as a chase). There is no requirement for inspection openings in the enclosure at any of the joints in the vent pipe.

REMOVE VENT SEAL CAP

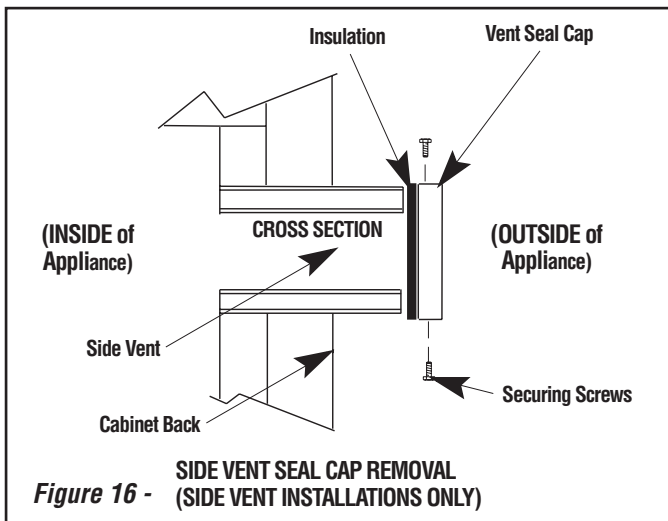
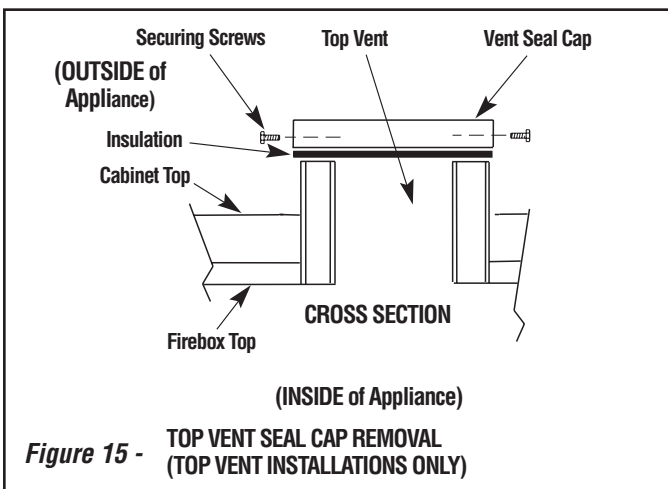
(From the vent that will be used only)

Top Vent - See *Figure 15* and Side Vent - See *Figure 16*

Preparing the Appliance Vent Collar

Each of the appliances' two vent collars are sealed with a seal cap which must be removed from the vent collar being used. Refer to *Figure 15* for top vent installations and *Figure 16* for side vent installations and the following steps to prepare the appropriate collar for use.

From the vent collar being used, remove the two screws securing the vent seal cap. Twist the cap counterclockwise. Pull it away from the appliance and discard, along with the piece of insulation.



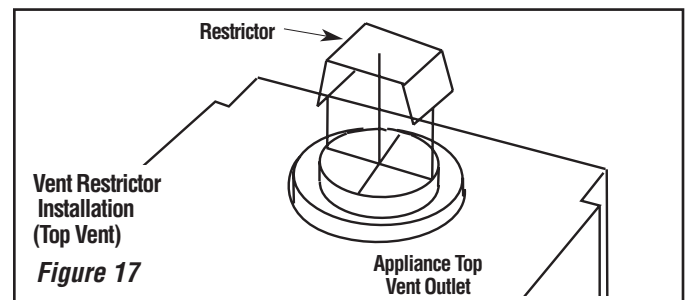
! WARNING

The VENT SEAL CAP must remain securely installed on unused vent collar. Failure to do so could result in leakage of flue products into living space.

INSTALLING VENT RESTRICTOR

(Top Vent Installations with Vertical Terminations Only)

A vent restrictor (provided) may be needed with this appliance. If needed, install the vent restrictor (provided) in the appliance top flue outlet as shown in *Figure 17* when vertically terminating the vent system above the roof. It may be installed either from inside or outside the appliance, in the inner fireplace collar. It is press-fitted in place.



VENTING SYSTEM - HORIZONTAL OR VERTICAL

With the appliance secured in framing, determine vent routing and identify the exterior termination location. The following sections describe vertical (roof) and horizontal (exterior wall) vent applications. Refer to the section relating to your installation. **A list of approved venting components is shown on Pages 31 and 32.**

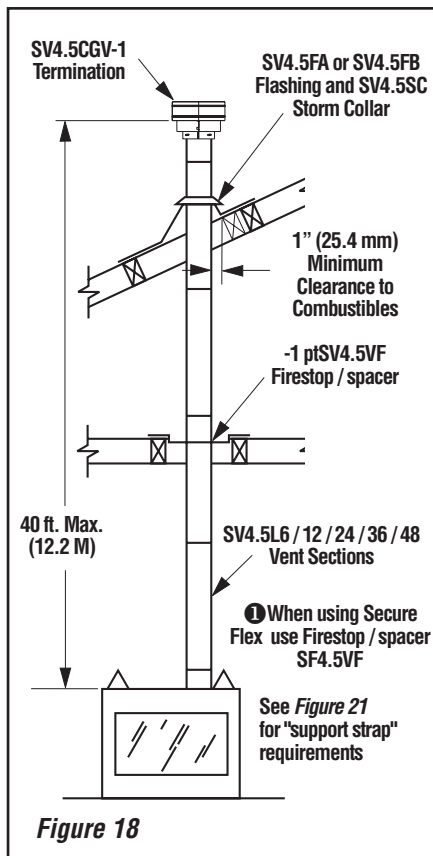
VERTICAL TERMINATION SYSTEMS (ROOF)

See **Figure 18** and **Figures 27 to 31** and their associated Vertical Vent Tables illustrate the vertical venting configurations that are allowed to be used with these appliances. **Secure Vent** pipe applications are shown in these figures; **Secure Flex** pipe may also be used. **See Page 24.** A Vertical Vent Table 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.

Both these vertical vent systems terminate through the roof. In the USA, the minimum vent height above the roof and/or adjacent walls is specified in ANSI Z223.1 (latest edition); in Canada, by the current CAN-1 B149 installation code. It is also specified in major building codes. Always consult your local codes for specific requirements. A general guide to follow is the Gas Vent Rule (refer to **Figure 4 on Page 7**).

Vertical (Straight) Installation

Determine the number of straight vent sections required. 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) net section lengths are available (see **Table 10** and **Page 31 - Item 3**). Plan the vent lengths so that a section joint does not occur within the space defined by ceiling joists or roof rafters. Refer to the Vent Section Length Chart.



Nominal Section Length (inches)		6	12	24	36	48	TOTAL QTY
Net Section Length (inches)		4 1/2	10 1/2	22 1/2	34 1/2	46 1/2	
Height of Vent		Number of Vent Sections					
*inches	feet						
4.5	0.375	1	0	0	0	0	1
9	0.75	2	0	0	0	0	2
10.5	0.875	0	1	0	0	0	1
15	1.25	1	1	0	0	0	2
19.5	1.625	2	1	0	0	0	3
21	1.75	0	2	0	0	0	2
22.5	1.875	0	0	1	0	0	1
25.5	2.125	1	2	0	0	0	3
31.5	2.625	0	3	0	0	0	3
34.5	2.875	0	0	0	1	0	1
37.5	3.125	1	1	1	0	0	3
43.5	3.625	0	2	1	0	0	3
45	3.75	0	0	2	0	0	2
46.5	3.875	0	0	0	0	1	1
49.5	4.125	1	0	2	0	0	3
51	4.25	1	0	0	0	1	2
55.5	4.625	0	1	2	0	0	3
57	4.75	0	0	1	1	0	2
66	5.25	0	2	2	0	0	4
67.5	5.625	0	0	3	0	0	3
69	5.75	0	0	0	2	0	2
72	6	1	0	3	0	0	4
73.5	6.125	1	0	0	2	0	3
79.5	6.625	0	1	0	2	0	3
81	6.75	0	0	0	1	1	2
90	7.5	0	2	1	0	1	4
91.5	7.625	0	0	2	0	1	3
93	7.75	0	0	0	0	2	2
96	8	1	0	1	2	0	4
97.5	8.125	1	0	0	0	2	3
102	8.5	2	0	0	0	2	4
103.5	8.625	0	0	0	3	0	3
108	9	1	0	0	3	0	4
114	9.5	0	2	0	0	2	4
117	9.75	1	0	5	0	0	6
118.5	9.875	1	1	0	3	0	5
126	10.5	0	0	1	3	0	4
130.5	10.875	1	0	1	3	0	5
135	11.25	0	0	6	0	0	6
138	11.5	0	0	0	4	0	4
139.5	11.625	0	0	0	0	3	3
142.5	11.875	1	0	0	4	0	5

Table 9a

* Convert inches into metric equivalent measure, as follows:

Millimeters (mm) = Inches x 25.4
Centimeters (cm) = Inches x 2.54
Meters (M) = Inches x .0254

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Nominal Section Length (inches)		6	12	24	36	48	TOTAL QTY
Net Section Length (inches)		4 1/2	10 1/2	22 1/2	34 1/2	46 1/2	
Height of Vent		Number of Vent Sections					
*inches	feet						
144	12	1	0	0	0	3	4
150	12.5	0	1	0	0	3	4
154.5	12.875	1	1	0	0	3	5
160.5	13.375	0	2	0	0	3	5
172.5	14.375	0	0	0	5	0	5
177	14.75	1	0	0	5	0	6
183	15.25	0	1	0	5	0	6
186	15.5	0	0	0	0	4	4
190.5	15.875	1	0	0	0	4	5
196.5	16.375	0	1	0	0	4	5
205.5	17.125	0	1	1	5	0	7
207	17.25	0	0	0	6	0	6
211.5	17.625	1	0	0	6	0	7
217.5	18.125	0	1	0	6	0	7
229.5	19.125	0	0	1	6	0	7
232.5	19.375	0	0	0	0	5	5
237	19.75	1	0	0	0	5	6
241.5	20.125	0	0	0	7	0	7
246	20.5	1	0	0	7	0	8
252	21	0	1	0	7	0	8
264	22	0	0	1	7	0	8
276	23	0	0	0	8	0	8
279	23.25	0	0	0	0	6	6
280.5	23.375	1	0	0	8	0	9
283.5	23.625	1	0	0	0	6	7
289.5	24.125	0	1	0	0	6	7
301.5	25.125	0	0	1	0	6	7
310.5	25.875	0	0	0	9	0	9
315	26.5	1	0	0	9	0	10
325.5	27.125	0	0	0	0	7	7
330	27.5	1	0	0	0	7	8
336	28	0	1	0	0	7	8
345	28.75	0	0	0	10	0	10
349.5	29.125	1	0	0	10	0	11
372	31	0	0	0	0	8	8
376.5	31.375	1	0	0	0	8	9
379.5	31.625	0	0	0	11	0	11
418.5	34.875	0	0	0	0	9	9
423	35.25	1	0	0	0	9	10
465	38.75	0	0	0	0	10	10

Table 9b

Effective Vent Length	
Model	Effective Length
SV4.5L6	4-1/2"
SV4.5L12	10-1/2"
SV4.5L24	22-1/2"
SV4.5L36	34-1/2"
SV4.5L48	46-1/2"

Table 10

Vertical (offset) Installation

Analyze the vent routing and determine the number of vent sections and elbows required. Refer to *Vertical Vent Figures and Tables* on **Pages 17 and 18** to select the type of vertical installation desired. Refer to the *Vent Section Length Charts* on **Page 14** for an aid in selecting vent length combinations. Elbows are available in 45° and 90° configurations. Refer to **Figure 23** for the SV4.5E45 and SV4.5E90 elbow dimensional specifications.

Where required, a *Telescopic Vent Section* (SV4.5LA) may be used to provide the installer with an option in installing in tight and confined spaces or where the vent run made up of fixed length pieces develops a joint in a undesirable location, or will not build up to the required length. The SV4.5LA *Telescopic Vent Section* has an effective length of from 1- 1/2" (38 mm) to 7-1/2" (191 mm). The SV4.5LA is fitted with a locking inclined channel end (identical to a normal vent section component) and a plain end with 3 pilot holes. Slip the plain end over the locking channel end of a standard SV4.5 vent component the required distance and secure with three screws.

Maintain a minimum 1" (25 mm) clearance to combustible materials for all vertical elements. Clearances for all horizontal elements are 3" (76 mm) on top, 1" (25 mm) on sides and 1" (25 mm) on the bottom.

A. Frame ceiling opening - Use a plumb line from the ceiling above the appliance to locate center of the vertical run. Cut and/or frame an opening, 10-1/2" x 10-1/2" (267 mm x 267 mm) inside dimensions, about this center mark (**Figure 19**).

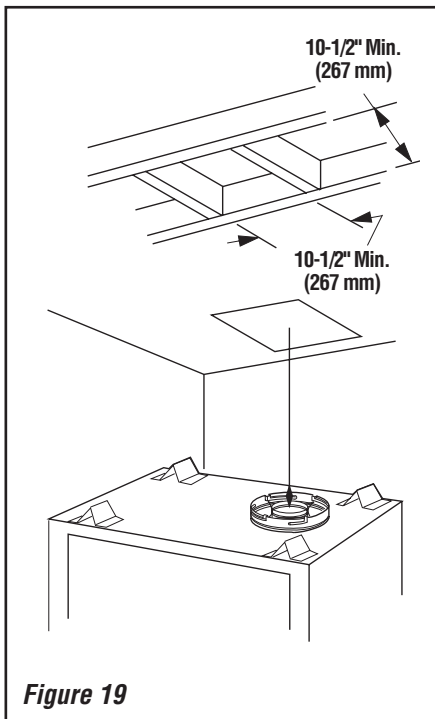


Figure 19

B. Attach vent components to appliance - Secure Vent SV4.5 direct vent system components are unitized concentric pipe components featuring positive twist lock connections (*see Figure 20*). All of the appliances covered in this document are fitted with collars having locking inclined channels. The dimpled end of the vent components fit over the appliance collar to create the positive twist lock connection.

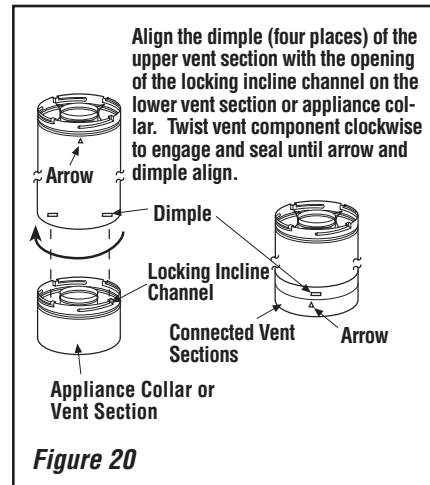


Figure 20

To attach a vent component 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 20*). Push the vent component against the collar until it fully engages, then twist the component clockwise, running the dimples down and along the incline channels until they seat at the end of the channels. The unitized design of the **Secure Vent** components will engage and seal both the inner and outer pipe without the need for sealant or screws. If desired a #6 x 1/2" screw may be used at the joint, but it not required as the pipe will securely lock when twisted.

Note: An elbow may also be attached to the appliance collar. Attach in the same manner as you would a vent section.

C. Attach vent components to each other - Other vent sections may be added to the previously installed section in accordance with the requirements of the vertical vent Figures and Tables. To add another vent component to a length of vent run, align the dimpled end over the inclined channel end of the previously installed section, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels of the previous section. Push the vent component against the previous section until it fully engages, then twist the component clockwise running the dimples down and along the incline channels until they seat at the end of the channels. **This seating position is indicated by the alignment of the arrow and dimple as shown in Figure 20.**

D. Install firestop / spacer at ceiling - When using Secure Vent, use SV4.5VF firestop / spacer at ceiling joists; when using Secure Flex, use SF4.5VF firestop / spacer. If there is living space above the ceiling level, the firestop / spacer must be installed on the bottom side of the ceiling. If attic space is above the ceiling, the firestop / spacer must be installed on the top side of the joist. Route the vent sections through the framed opening and secure the firestop / spacer with 8d nails or other appropriate fasteners at each corner. **Remember to maintain 1" (25 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections. Attic insulation shield (96K94) may be used to obtain the required clearances indicated here. See installation accessories on Pages 31 and 32.**

E. Support the vertical vent run sections - **Note** - Proper venting support is very important. The weight of the vent must not be supported by the fireplace in any degree.

Support the vertical portion of the venting system every 8 feet (2.4 m) above the fireplace vent outlet. One method of support is by utilizing field provided support straps (conventional plumber's tape). Secure the plumber's tape to the framing members with nails or screws. Loop the tape around the vent, securing the ends of the tape to the framing. If desired, sheet metal screws #6 x 1/2" length may be used to secure the support straps to the vent pipe. *See Figure 21.*

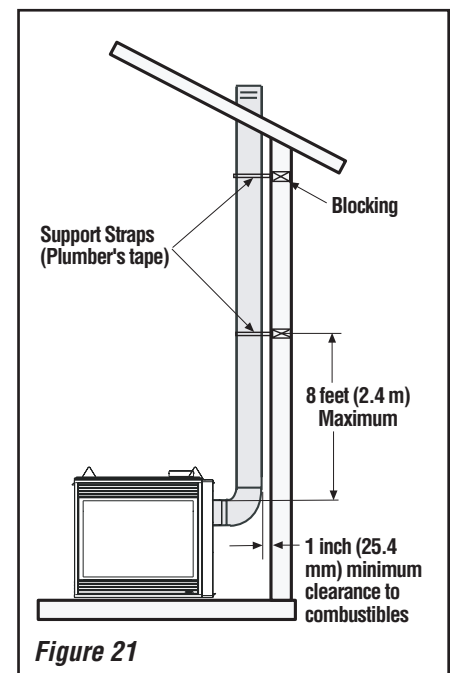


Figure 21

Another method, where the vent is not adjacent to a wall, is illustrated in **Figure 22**. Here, support straps (96K93) and support plates (96K92) can be used to support the weight of the vent.

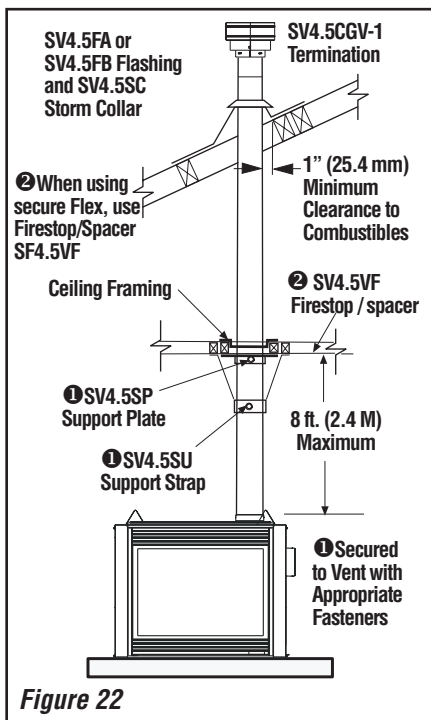


Figure 22

F. Change vent direction to horizontal / inclined run - At transition from or to a horizontal / inclined run, install the SV4.5E45 and SV4.5E90 elbows in the same manner as the straight vent sections. The elbows feature a twist section to allow them to be routed about the center axis of their initial collar section to align with the required direction of the next vent run element. **Twist elbow sections in a clockwise direction only so as to avoid the possibility of unlocking any of the previously connected vent sections.** See *Figure 23*.

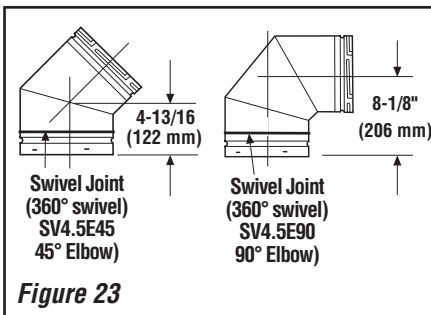


Figure 23

G. Continue installation of horizontal / inclined sections - Continue with the installation of the straight vent sections in horizontal / inclined run as described in **Step C**. Install support straps every 5 feet (1.52 m) along horizontal / inclined vent runs using conventional plumber's tape. **See Page 19, Figure 32. It is very important that the horizontal / inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter) which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level.**

Use a carpenter's level to measure from a constant surface and adjust the support straps as necessary.

It is important to maintain the required clearances to combustibles: 1" (25 mm) at all sides for all vertical runs; and 3" (76 mm) at the top, 1" (25 mm) at sides, and 1" (25 mm) at the bottom for all horizontal / inclined runs.

H. Frame roof opening - Identify location for vent at the roof. Cut and/or frame opening per Roof Framing Chart and *Figure 24*.

Framing Dimensions for Roof Inches (millimeters)		
Pitch	C	D
0/12	10-1/2 in. (267 mm)	10-1/2 in. (267 mm)
6/12	10-1/2 in. (267 mm)	12 in. (305 mm)
12/12	10-1/2 in. (267 mm)	17-3/4 in. (451 mm)

Figure 24 - Roof Framing

I. Install the roof flashing - Extend the vent sections through the roof structure. Install the roof flashing over the vent section and position such that the vent column rises vertically (use carpenter's level - see *Figure 25*). Nail along perimeter to secure flashing or adjust roofing to overlap the flashing edges at top and sides only and trim where necessary. Seal the top and both sides of the flashing with waterproof caulking.

J. Install the storm collar - Install the storm collar, supplied with the flashing, over the vent / flashing joint. See *Figure 25*. Loosen the storm collar screw. Slide collar down until it meets the top of the flashing. Tighten the adjusting screw. Apply non-combustible caulking or mastic around the circumference of the joint to provide a water tight seal.

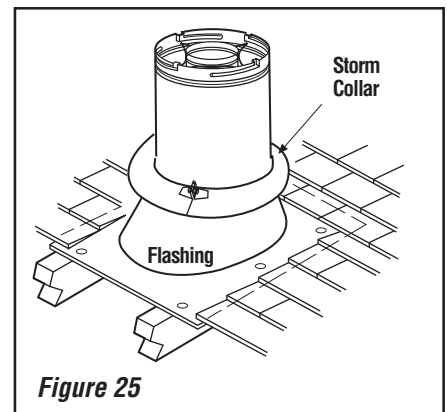


Figure 25

K. Install the vertical termination - The final Step involves installation of the SV4.5CGV-1 Vertical Termination. Extend the vent sections to the height as shown in the "Vertical vent termination section" (*Page 7, Figure 4*). The SV4.5CGV-1 Vertical Termination (*Figure 26*) can be installed in the exact same fashion as any other **Secure Vent** section. Align the termination over the end of the previously installed section, adjusting the radial alignment until the four locking dimples of the termination are aligned with the inlets of the four incline channels of the last vent section. Push the termination down until it fully engages, then twist the termination clockwise running the dimples down and along the incline channels until they are seated at the end of the channels.

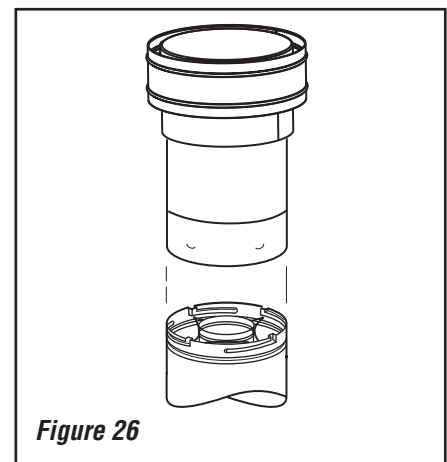


Figure 26

If the vent system extends more than 5 feet (1.5 m) above the roof flashing, stabilizers may be necessary. Additional screws may be used at section joints for added stability. Guide wires may be attached to the joint for additional support on multiple joint configurations.

VERTICAL VENT FIGURES/TABLES

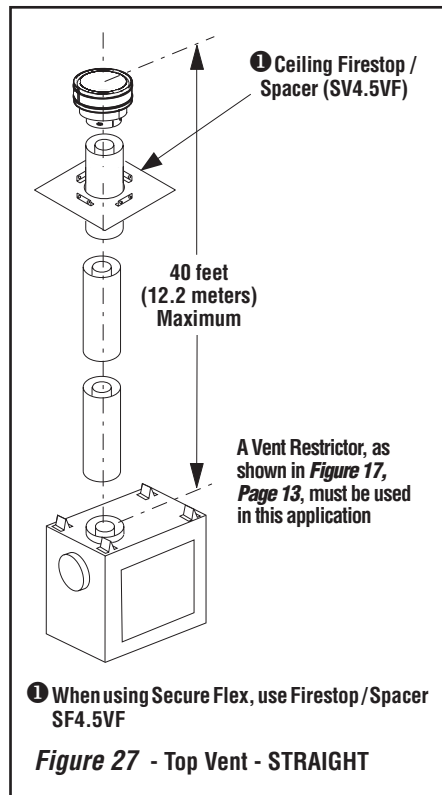
Note: *Secure Vent* (rigid vent pipe) is shown in the Figures; *Secure Flex* (flexible vent pipe) may also be used.

⚠ WARNING

Under No Circumstances, May Separate Sections of Concentric Flexible Vent Pipe Be Joined Together.

Notes:

- It is very important that the horizontal/inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter) which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level.
- SV4.5VF (Secure Vent), SF4.5VF (Secure Flex) firestop/spacer must be used anytime vent pipe passes through a combustible floor or ceiling. SV4.5HF (Secure Vent), SF4.5HF (Secure Flex) firestop/spacer must be used anytime vent pipe passes through a combustible wall.
- Two 45 degree elbows may be used in place of one 90 degree elbow. The same rise to run ratios, as shown in the venting Figures for 90 elbows, must be followed if 45 degree elbows are used.
- **AN ELBOW IS ACCEPTABLE AS 1 FOOT OF VERTICAL RISE EXCEPT WHERE AN ELBOW IS THE ONLY VERTICAL COMPONENT IN THE SYSTEM (See Figure 36).**



H Maximum		V Minimum	
feet	(meter)	feet	(meter)
2	(0.610)	1	(0.305)
4	(1.219)	2	(0.610)
6	(1.829)	3	(0.914)
8	(2.438)	4	(1.219)

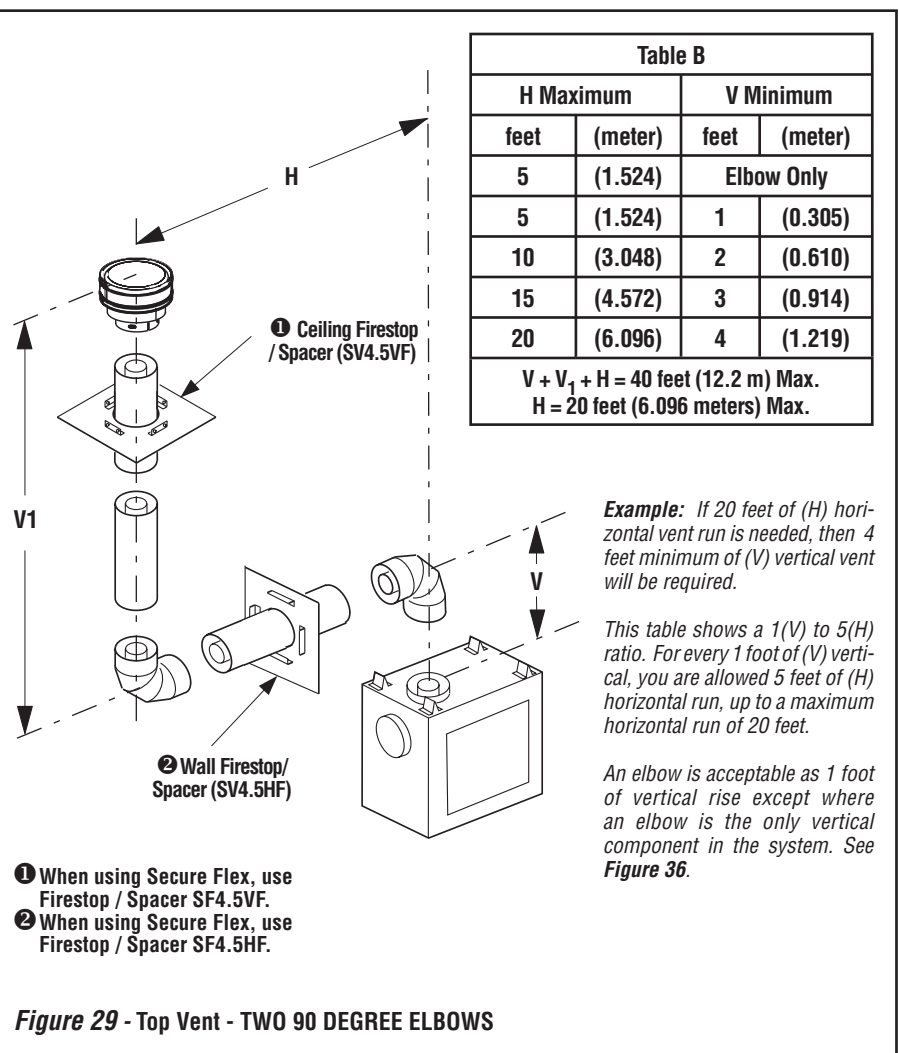
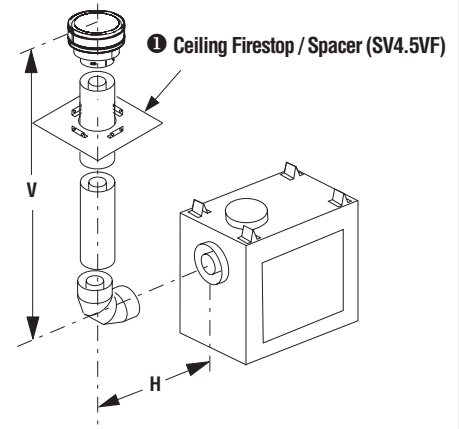
V + H = 40 feet (12.2 meters) Max.
H = 8 feet (2.4 meters) Max.
Ratio V to H ratio is 1:2

Example: If 8 feet of (H) horizontal vent run is needed, then 4 feet minimum (V) vertical vent will be required.

This table shows a 1(V) to 2(H) ratio. For every 1 foot of (V) vertical, you are allowed 2 feet of (H) horizontal run, up to a maximum horizontal run of 8 feet.

Figure 28 - Side Vent - ONE 90 DEGREE ELBOW

① When using Secure Flex, use Firestop / Spacer SF4.5VF



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

VERTICAL VENT FIGURES / TABLES (CONTINUED)

Table C					
H+H ₁ Maximum		H Maximum		V Minimum	
feet	(meter)	feet	(meter)	feet	(meter)
5	(1.524)	2	(0.610)	1	(0.305)
10	(3.048)	4	(1.219)	2	(0.610)
15	(4.572)	6	(1.829)	3	(0.914)
20	(6.096)	8	(2.438)	4	(1.219)
V + V ₁ + H + H ₁ = 40 feet (12.2 m) Max H = 8 feet (2.438 meters) Max. H + H ₁ = 20 feet (6.096 meters) Max.					

- ① When using Secure Flex, use Firestop / Spacer SF4.5VF
- ② When using Secure Flex, use Firestop / Spacer SF4.5HF

Example: If 20 feet total (H+H₁) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

This table shows a 1(V) to 5(H) ratio. For every 1 foot of (V) vertical, you are allowed 5 feet of (H+H₁) horizontal run up to a maximum total horizontal run of 20 feet.

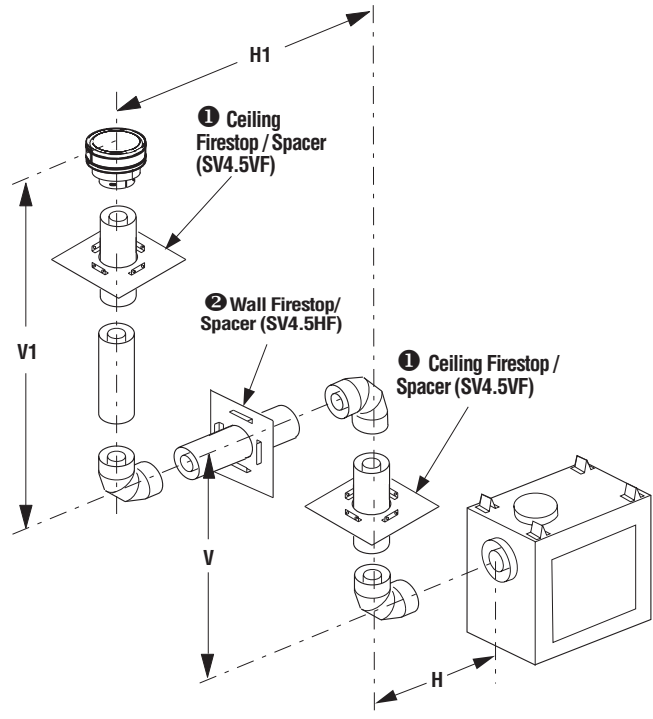


Figure 30 - Side Vent - THREE ELBOWS

Table D			
H + H ₁ Maximum		V Minimum	
feet	(meter)	feet	(meter)
5	(1.524)	Elbow Only	
5	(1.524)	1	(0.305)
10	(3.048)	2	(0.610)
15	(4.572)	3	(0.914)
20	(6.096)	4	(1.219)
H + H ₁ = 20 feet (6.096 m) Max. V + V ₁ + H + H ₁ = 40 ft. (12.192 m) Max.			

Example: If 20 feet total (H+H₁) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

This table shows a 1(V) to 5(H) ratio. For every 1 foot of (V) vertical, you are allowed 5 feet of (H+H₁) horizontal run up to a maximum total horizontal run of 20 feet.

An elbow is acceptable as 1 foot of vertical rise except where an elbow is the only vertical component in the system. See **Figure 36**.

- ① When using Secure Flex, use Firestop / Spacer SF4.5VF
- ② When using Secure Flex, use Firestop / Spacer SF4.5HF

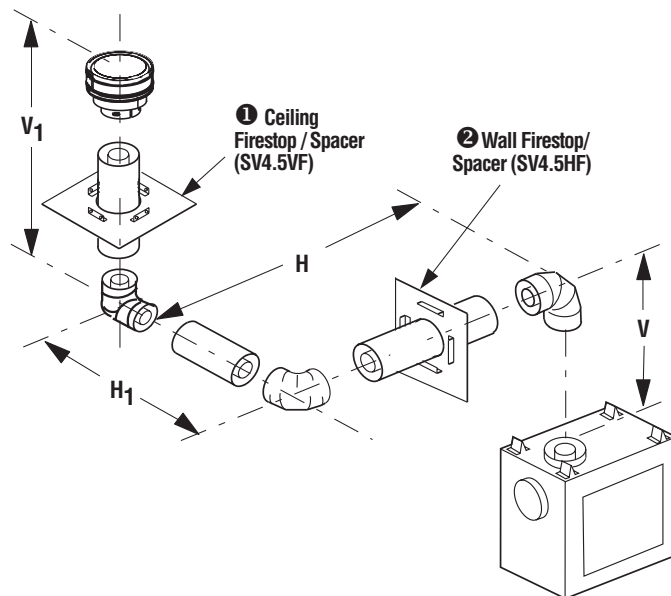


Figure 31 - Top Vent - THREE ELBOWS

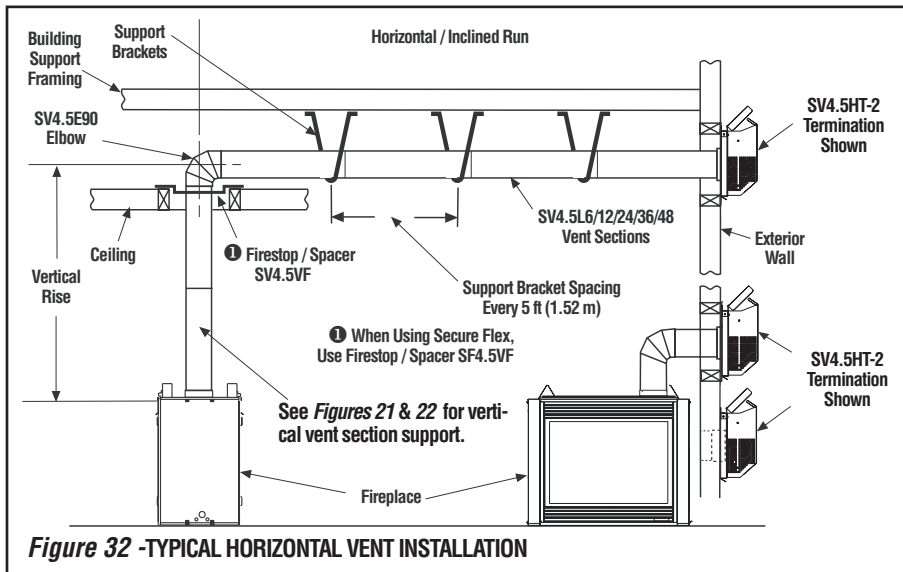


Figure 32 -TYPICAL HORIZONTAL VENT INSTALLATION

HORIZONTAL (OUTSIDE WALL) TERMINATION SYSTEM

See **Figure 32**, and **Figures 35 to 40** and their associated Horizontal Vent Table which illustrates the horizontal venting configurations that are allowed to be used with these appliances. **Secure Vent** pipe applications are shown in these figures; **Secure Flex** pipe may also be used (see **Page 24**). A Horizontal Vent Table 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.

Both of these horizontal vent systems terminate through an outside wall. Building Codes limit or prohibit terminating in specific areas. Refer to **Figure 6** on **Page 8** for location guidelines.

Secure Vent SV4.5 direct vent system components are unitized concentric pipe components featuring positive twist lock connection, (refer to **Figure 20** on **Page 15**). All of the appliances covered in this document are fitted with collars having locking inclined channels. The dimpled end of the vent components fit over the appliance collar to create the positive twist lock connection.

A. Plan the vent run -

Analyze the vent routing and determine the types and quantities of sections required 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) net section lengths are available. Plan the vent lengths so that a section joint does not occur within the space defined by ceiling joists, roof rafters or wall studs. Make allowances for elbows as indicated in **Figure 23** on **Page 16**.

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.

B. Frame exterior wall opening -

Locate the center of the vent outlet on the exterior wall according to the dimensions shown in **Figures 13 & 14** on **Pages 11 & 12**.

Cut and/or frame an opening, 10-1/2" x 12 1/8" (267 mm x 308 mm) inside dimensions, about this center.

C. Frame ceiling opening - If the vertical route is to penetrate a ceiling, use plumb line to locate the center above the appliance. Cut and/or frame an opening, 10-1/2" x 10-1/2" (267 mm x 267 mm) inside dimensions, about this center (refer to **Figure 19** on **Page 15**).

D. Attach vent components to appliance - To attach a vent component to the appliance collar, align the dimpled end over the collar, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels on the collar (refer to **Figure 20** on **Page 15**).

Push the vent component against the collar until it fully engages, then twist the component clockwise, running the dimples down and along the incline channels until they seat at the end of the channels. The unitized design of the **Secure Vent** components will engage and seal both the inner and outer pipe elements with the same procedure. Sealant and securing screws are not required.

E. Attach vent components to each other - Other vent sections may be added to the previously installed section in accordance with the requirements of the vent tables.

To add another vent component to a length of vent run, align the dimpled end of the component over the inclined channel end of the previously installed section, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels of the previous section. Push the vent component against the previous section until it fully engages, then twist the component clockwise running the dimples down and along the incline channels until they seat at the end of the channels. **This seating position is indicated by the alignment of the arrow and dimple as shown in Figure 20 on Page 15.**

F. Install firestop / spacer at ceiling -

When using **Secure Vent**, use SV4.5VF firestop / spacer at ceiling joists; when using **Secure Flex**, use SF4.5VF firestop / spacer. If there is living space above the ceiling level, the firestop/ spacer must be installed on the bottom side of the ceiling. If attic space is above the ceiling, the firestop/ spacer must be installed on the top side of the joist. Route the vent sections through the framed opening and secure the firestop / spacer with 8d nails or other appropriate fasteners at each corner.

Remember to maintain 1" (25 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections. Attic insulation shield (96K94) may be used to obtain the required clearances indicated here. See installation accessories Tables on Pages 31 and 32.

G. Support the vertical run sections - See Step E on Page 15.

H. Change vent direction - At transition from or to a horizontal / inclined run, install the SV4.5E45 and SV4.5E90 elbows in the same manner as the straight vent sections. The elbows feature a twist section to allow them to be routed about the center axis of their initial collar section to align with the required direction of the next vent run element. **Twist elbow sections in a clockwise direction only so as to avoid the possibility of unlocking any of the previously connected vent sections. See Figure 20 on Page 15.**

I. Continue installation of horizontal / inclined sections - Continue with the installation of the straight vent sections in horizontal / inclined run as described in **Step E**. Install support straps every 5 ft. (1.52 m) along horizontal / inclined vent runs using conventional plumber's tape. See **Figure 32**. **It is very important that the horizontal / inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter) which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level. Use a carpenter's level to measure from a constant surface and adjust the support straps as necessary.**

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

It is important to maintain the required clearances to combustibles: 1" (25 mm) at all sides for all vertical runs; and 3" (76 mm) at the top, 1" (25 mm) at sides, and 1" (25 mm) at the bottom for all horizontal / inclined runs.

J. Assemble vent run to exterior wall - If not previously measured, locate the center of the vent at the exterior wall. Prepare an opening as described in **Step B**. Assemble the vent system to point where the end of the last section is within 5 in. (127 mm) to 9-1/4 in. (235 mm) inboard of the exterior surface to which the SV4.5HT-2 termination is to be attached, see **Figure 34**. If the end 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 34**, refer to **Table 11 on Page 21**. This Table lists the additional venting components needed (in addition to the termination and adapter) for a particular range of wall thicknesses.

K. Attach termination adapter - Attach the adapter (SV4.5RCH - provided with the termination) to the vent section or telescoping vent section), elbow or appliance collar as shown in **Figures 33 & 34** in the same manner as any SV4.5 vent component (refer to **Step E**).

L. Install Firestop / Spacer at exterior wall - When using the **square** termination, install SV4.5HF (Secure Vent), SF4.5HF (Secure Flex) Firestop / Spacer 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 33**, and nail into place. The Firestop / Spacer may also be installed over the opening at the interior side of the framing.

M. Install the Square Termination (SV4.5HT-2)
Install the square termination - For the last step, from outside the exterior wall, slide the collars of the termination onto the adapter 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 horizontal termination must not be recessed into the exterior wall or siding** by more than the 1-1/4" (32 mm) as shown in **Figure 34**.

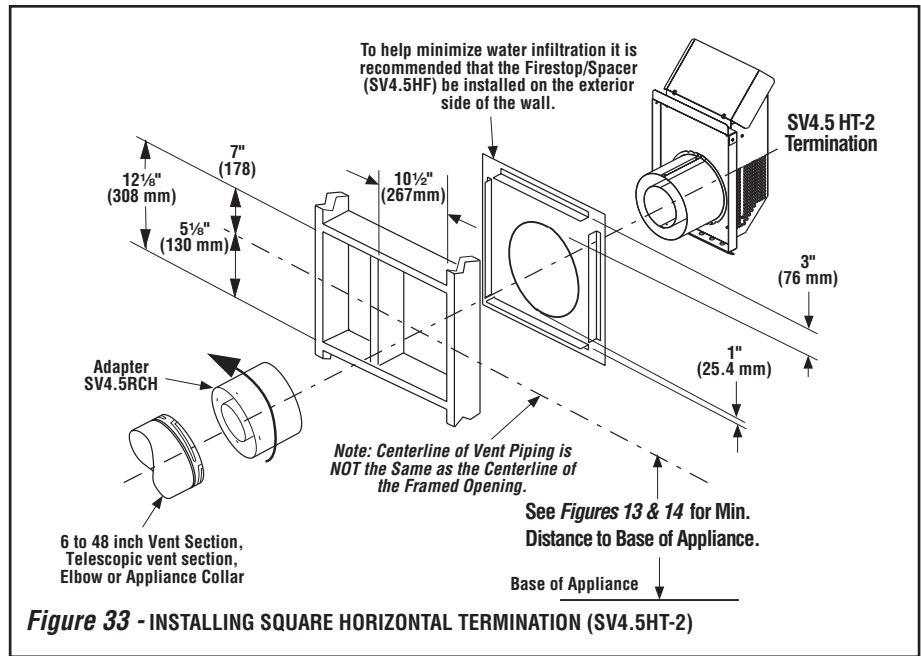


Figure 33 - INSTALLING SQUARE HORIZONTAL TERMINATION (SV4.5HT-2)

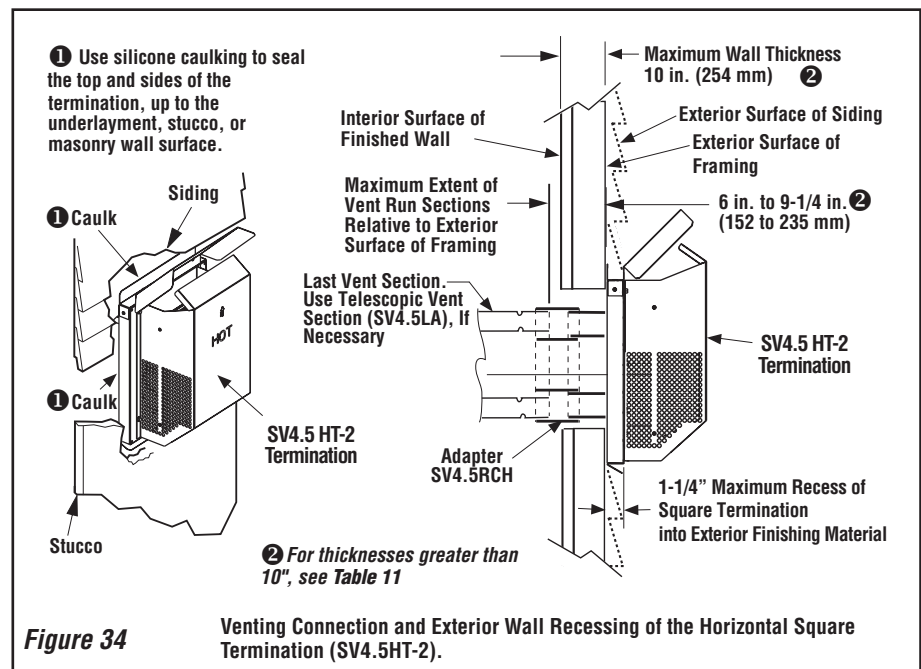


Figure 34 - Venting Connection and Exterior Wall Recessing of the Horizontal Square Termination (SV4.5HT-2).

! IMPORTANT
The vent termination is hot while in operation and for a period of time following the use of the fireplace. To prevent contact with hot surfaces, we recommend the use of a Termination Guard. See Items 12 and 13 on Page 31. This can be purchased at your local dealer.

Horizontal terminations have been designed to perform in a wide range of weather conditions. Our terminations meet or exceed industry standards.

When selecting the locations of your horizontal terminations, do not place the termination where water from eaves and adjoining rooflines may create a heavy flow of cascading water onto the termination cap. If the cap 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.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

HORIZONTAL VENT FIGURES/TABLES

Notes:

- **Secure Vent** components (rigid vent pipe and terminal) are shown in the Figures; **Secure Flex** components (flexible vent pipe and terminal) may also be used.
- Two 45 degree elbows may be used in place of one 90 degree elbow. The same rise to run ratios, as shown in the venting Figures for 90 elbows, must be followed if 45 degree elbows are used.
- SV4.5VF (**Secure Vent**), SF4.5VF (**Secure Flex**) firestop/spacer must be used anytime vent pipe passes through a combustible floor or ceiling. SV4.5HF (**Secure Vent**), SF4.5HF (**Secure Flex**) firestop/spacer must be used anytime vent pipe passes through a combustible wall.
- **It is very important that the horizontal/inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter) which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level.**
- The tables show a 1(V) to 5(H) ratio up to a maximum horizontal run of 20 feet except for installations where an elbow is the only vertical vent section in the system (see **Figure 36**).
- **AN ELBOW IS ACCEPTABLE AS 1 FOOT OF VERTICAL RISE EXCEPT WHERE AN ELBOW IS THE ONLY VERTICAL COMPONENT IN THE SYSTEM. See Figure 36.**

Venting Components Required for Various Exterior Wall Thicknesses, when using Square Termination Kit (SV4.5HT-2)	
Vent Components Required	Exterior Wall Thickness - inches (mm)
Termination Kit Only	6 to 9-1/4 (152 to 235)
Termination Kit and 6 In. Vent Section (SV4.5L6)	10-3/4 to 14 (273 to 356)
Termination Kit and 12 in. Vent Section (SV4.5L12)	16-3/4 to 20 (426 to 508)
Termination Kit and Telescopic Section (SV4.5L12)	11-3/4 to 20 (299 to 508)

Table 11 Note: See Figure 34 showing wall thickness range when using SV4.5HT-2 termination kit only.

See Table 11 as an aid in venting component selection for a particular range of exterior wall thicknesses.

WARNING

Under no circumstances, may separate sections of concentric flexible vent pipe be joined together.

Square termination (SV4.5HT-2) shown.

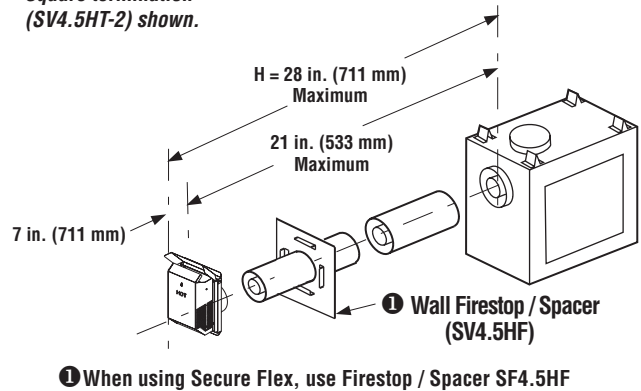


Figure 35 - Side Vent, NO ELBOWS

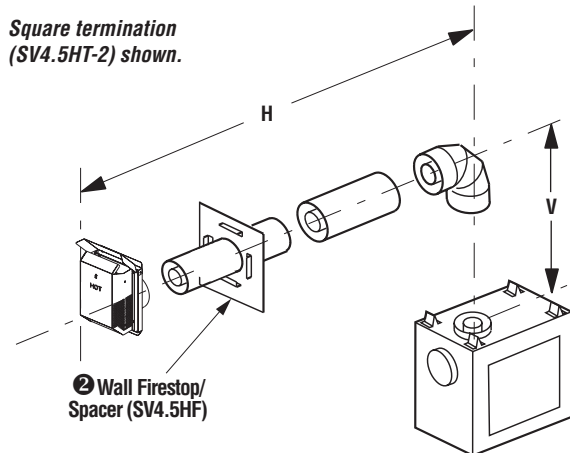
Table E			
H Maximum		V Minimum	
feet	(meter)	feet	(meter)
3	(0.914)	Elbow Only	
5	(1.524)	1	(0.305)
10	(3.048)	2	(0.610)
15	(4.572)	3	(0.914)
20	(6.096)	4	(1.219)

V + H = 40 feet (12.2 m) Max.
H = 20 ft. (6.096 m) Max.

Example: If 20 feet of (H) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

This table shows a 1(V) to 5(H) ratio. For every 1 foot of vertical, you are allowed 5 feet of (H) horizontal run up to a maximum (H) horizontal run of 20 feet.

Square termination (SV4.5HT-2) shown.



- ① When using Secure Flex, use Firestop / Spacer SF4.5VF
- ② When using Secure Flex, use Firestop / Spacer SF4.5HF

Square termination (SV4.5HT-2) shown

Figure 36 - Top Vent, ONE 90 DEGREE ELBOW

HORIZONTAL VENT FIGURES / TABLES (CONTINUED)

Table F

H+H ₁ Maximum		H Maximum		V Minimum	
feet	(meter)	feet	(meter)	feet	(meter)
5	(1.524)	2	(0.610)	1	(0.305)
10	(3.048)	4	(1.219)	2	(0.610)
15	(4.572)	6	(1.829)	3	(0.914)
20	(6.096)	8	(2.438)	4	(1.219)

V + H + H₁ = 40 feet (12.2 m) Max
 H = 8 feet (2.438 meters) Max.
 H + H₁ = 20 feet (6.096 meters) Max.

Example: If 20 feet of (H + H₁) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

This table shows a 1(V) to 5(H) ratio. For every 1 foot of (V) vertical, you are allowed 5 feet of (H+ H₁) horizontal run, up to a maximum horizontal run of 20 feet.

- ① When using Secure Flex, use Firestop / Spacer SF4.5VF
- ② When using Secure Flex, use Firestop / Spacer SF4.5HF

Note: See Table 11 as an aid in venting component selection for a particular range of exterior wall thicknesses.

Square termination (SV4.5HT-2) shown

Figure 37 - Side Vent, TWO 90 DEGREE ELBOWS

Table G

H + H ₁ Maximum		V Minimum	
feet	(meter)	feet	(meter)
3	(0.914)	Elbow Only	
5	(1.524)	1	(0.305)
10	(3.048)	2	(0.610)
15	(4.572)	3	(0.914)
20	(6.096)	4	(1.219)

V + H + H₁ = 40 feet (12.2 m) Max.
 H + H₁ = 20 ft. (6.096 m) Max.

Example: If 20 feet of (H + H₁) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

This table shows a 1(V) to 5(H) ratio. For every 1 foot of (V) vertical, you are allowed 5 feet of (H+ H₁) horizontal run, up to a maximum horizontal run of 20 feet.

An elbow is acceptable as 1 foot of vertical rise except where an elbow is the only vertical component in the system. See Figure 36.

- ① When using Secure Flex, use Firestop / Spacer SF4.5VF
- ② When using Secure Flex, use Firestop / Spacer SF4.5HF

Note: See Table 11 as an aid in venting component selection for a particular range of exterior wall thicknesses.

Square termination (SV4.5HT-2) shown

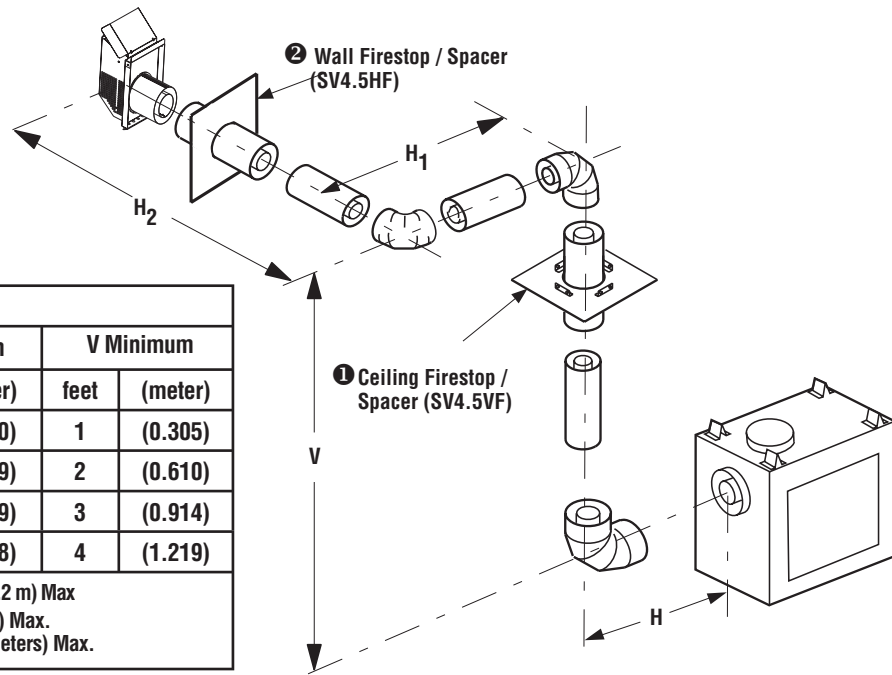
Figure 38 - Top Vent, TWO 90 DEGREE ELBOWS

HORIZONTAL VENT FIGURES / TABLES (CONTINUED)

- ① When using Secure Flex, use Firestop / Spacer SF4.5VF
- ② When using Secure Flex, use Firestop / Spacer SF4.5HF

Note: See **Table 11** as an aid in venting component selection for a particular range of exterior wall thicknesses.

H + H ₁ + H ₂ Maximum		H Maximum		V Minimum	
feet	(meter)	feet	(meter)	feet	(meter)
5	(1.524)	2	(0.610)	1	(0.305)
10	(3.048)	4	(1.219)	2	(0.610)
15	(4.572)	6	(1.829)	3	(0.914)
20	(6.096)	8	(2.438)	4	(1.219)
V + H + H ₁ + H ₂ = 40 feet (12.2 m) Max H = 8 feet (2.438 meters) Max. H + H ₁ + H ₂ = 20 feet (6.096 meters) Max.					

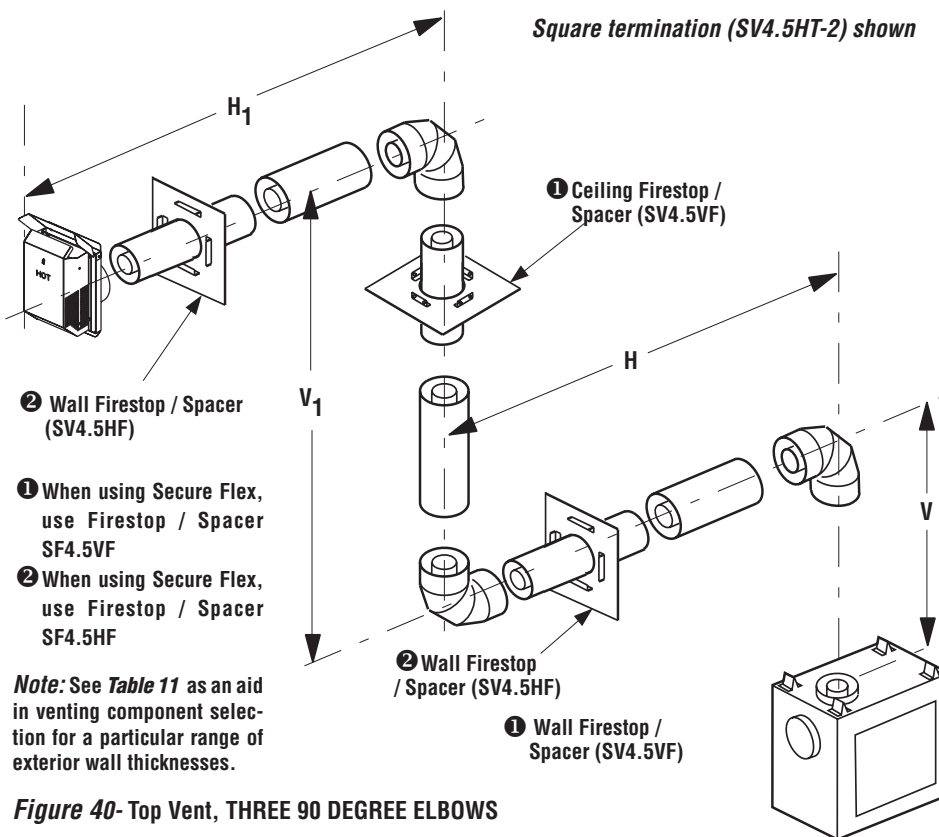


Example: If 20 feet total (H+H₁+H₂) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

This table shows a 1(V) to 5(H) ratio. For every 1 foot of (V) vertical, you are allowed 5 feet of horizontal run up to a maximum total (H+H₁+H₂) horizontal run of 20 feet.

Square termination (SV4.5HT-2) shown

Figure 39 - Side Vent, THREE 90 DEGREE ELBOWS



H + H ₁ Maximum		V Minimum	
feet	(meter)	feet	(meter)
5	(1.524)	Elbow Only	
5	(1.524)	1	(0.305)
10	(3.048)	2	(0.610)
15	(4.572)	3	(0.914)
20	(6.096)	4	(1.219)
H + H ₁ = 20 feet (6.096 m) Max. V + V ₁ + H + H ₁ = 40 ft. (12.192 m) Max.			

Example: If 20 feet total (H+H₁) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

This table shows a 1(V) to 5(H) ratio. For every 1 foot of (V) vertical, you are allowed 5 feet of (H+H₁) horizontal run, up to a maximum horizontal run of 20 feet.

An elbow is acceptable as 1 foot of vertical rise except where an elbow is the only vertical component in the system. See **Figure 36**.

Figure 40- Top Vent, THREE 90 DEGREE ELBOWS

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

VERTICAL OR HORIZONTAL VENTING USING SECURE FLEX KITS AND COMPONENTS

Secure Flex venting kits and components may be used in any venting application in place of rigid **Secure Vent** (SV4.5) direct vent components. All restrictions, clearances and allowances that pertain to the rigid piping apply to the flexible venting. **Secure Flex kits may not be modified; also, under no circumstances may separate sections of flex pipe be joined together.**

Using adapter (SV4.5RF), **Secure Flex** kits may be added to the end of a vent run made up of rigid **Secure Vent** (SV4.5) vent sections provided that doing so does not violate any of the venting length, height, routing, horizontal to vertical ratio requirements or clearance considerations detailed in this manual.

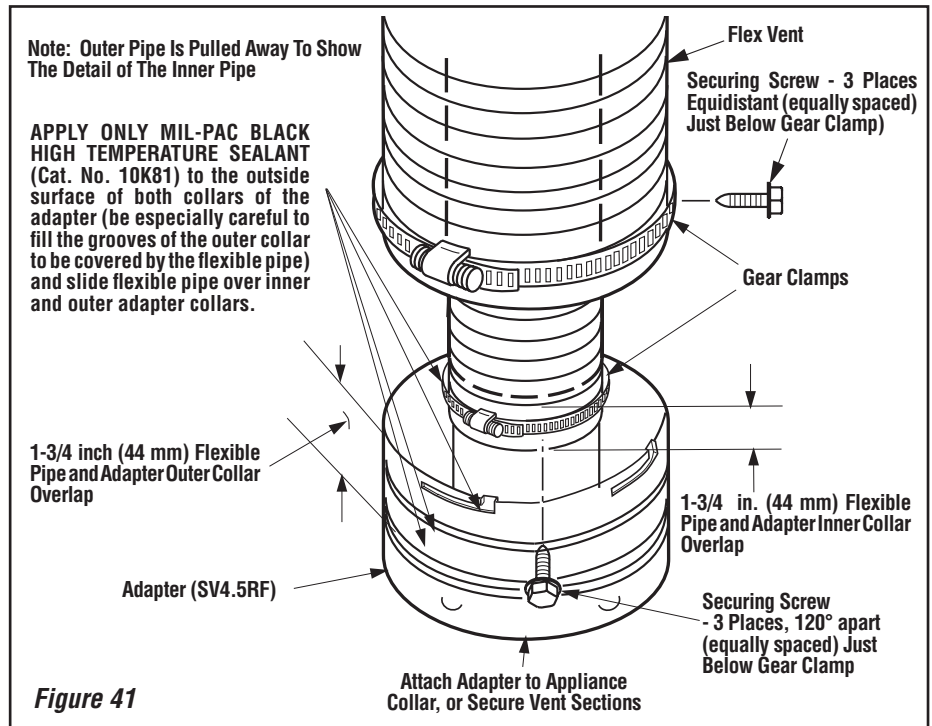
Secure Flex kits come with an adapter that can be fitted to the inclined channel end of the last **Secure Vent** (SV4.5) vent section in a rigid system in the exact same fashion as any other **Secure Vent** section.

Align the dimpled end of the adapter over the previously installed section or appliance collar, adjusting the radial alignment until the four locking dimples of the adapter are aligned with the inlets of the four incline channels of the last vent section or collar. Push on the adapter until it fully engages, then twist the adapter clockwise running the dimples down and along the incline channels until they seat at the end of the channels.

Attach the flexible vent to the adapter as follows (see also **Figure 41**):

A. Install the Inner Flex Pipe -

1. Install the small gear clamp loosely around the inner flexible vent pipe, push it back out of the way.
2. Apply a bead of **Mill-Pac Black (700° F) high temperature sealant - Catalog No. 10K81** to the inner adapter collar, approximately 1/2 inch from the end.
3. Pull and extend the inner flexible vent pipe.
4. Slide the inner flex pipe over the adapter collar. Ensure the flexible vent pipe completely engages the adapter collar to a distance of 1 3/4 inches from the end, and that it is free from damage or tears.
5. Slide the gear clamp down and tighten it fully to secure the flexible vent to the adapter inner collar approximately 3/4 inch from the end of the flex.
6. Install **three screws 120 degrees apart** through the flexible vent pipe and into the adapter collar just below the gear clamp to provide additional security to the connection.



B. Install the Outer Flex Pipe -

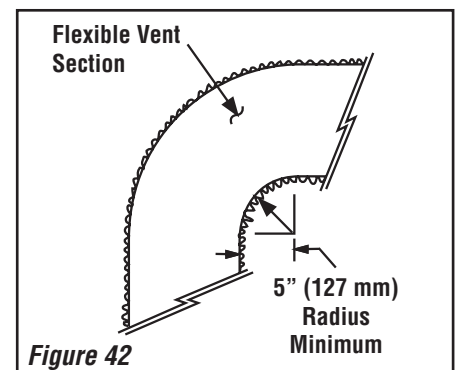
1. Install the large gear clamp loosely around the outer flexible vent pipe, push it back out of the way.
2. Apply a bead of **Mill-Pac Black (700° F) high temperature sealant - Catalog No. 10K81** to the outer adapter collar; to the grooves of the collar which extend approximately 1 inch from the end and to the flat surface, approximately 1-3/8 inches from the end.
3. Pull and extend outer flexible vent pipe.
4. Slide the outer flex pipe over the adapter collar. Ensure the flexible vent pipe completely engages the adapter collar to a distance of 1-3/4 inches from the end, and that it is free from damage or tears.
5. Slide the gear clamp down and tighten it fully to secure the flexible vent to the adapter outer collar approximately 3/4 inch from the end of the flex.
6. Install **three screws 120 degrees apart** through the flexible vent pipe and into the adapter collar just below the gear clamp to provide additional security to the connection.

C. Route Flex Vent -

Ensure that the flex vent is properly routed to provide the required clearance. **Do not** allow the flexible vent to bend in a radius tighter than 5" (127 mm). Refer to **Figure 42**. Space out the internal flex vent spacers evenly - approximately every 6 inches - and avoid kinking of inner pipe. Support horizontal sections of flex with metal straps at 2 foot (0.61 m) intervals.

D. Install Firestop / Spacers at ceilings and walls

- When **Secure Flex** penetrates a wall or ceiling, a firestop / spacer is required: use the SF4.5 VF firestop / spacer for ceilings and the SF4.5 HF firestop / spacer for walls. See the appropriate sections and **Figures** shown throughout the venting section for their installation requirements.



E. Attach Flex Vent to Termination -

Secure Flex components can be purchased separately and attached to bulk lengths of **Secure Flex** flexible tubing cut to size at the job site. Secure the flexible vent to the **Secure Flex** terminations in the same manner (see **Figure 41**) as it was attached to the adapter.

Note: *Secure Flex vent must be attached to Secure Flex terminations only. DO NOT substitute Secure Vent terminations or the Secure Vent adapter for Secure Flex components. The collars of Secure Flex terminations and adapters have a different diameter than that used with the Secure Vent pipe. Additionally, Secure Flex components have an extended length center tube for use in attaching the flexible vent.*

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 4. FIELD WIRING



Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous appliance operation

Refer to Section A for millivolt appliances and Section B for electronic appliances.

A. Millivolt Wiring (See Figure 43):

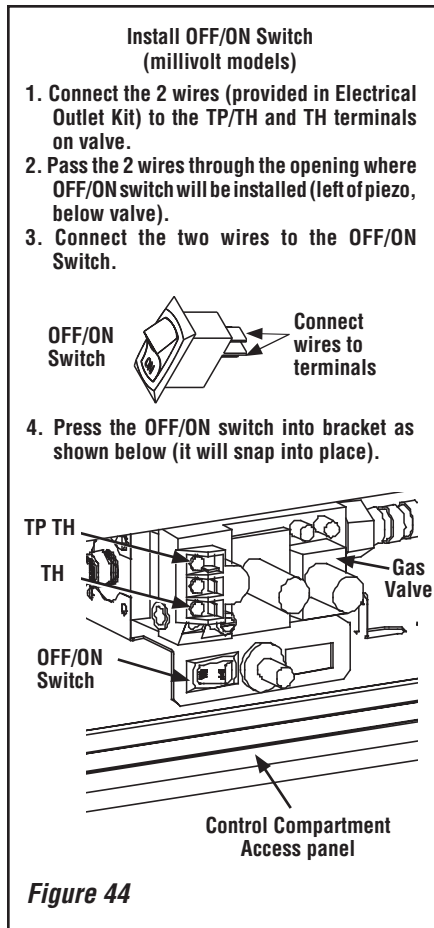
1. Install and wire in the burner control switch. Install either "a" or "b" below, NOT BOTH (installing both may result in improper burner operation).

a. Optional OFF/ON Switch - Install the OFF/ON burner control switch (rocker switch) as shown in **Figures 43 & 44**.

b. Optional Wall Switch, Wall Thermostat Or Remote Control Receiver - Install snap bushing (provided in Electrical Outlet Kit) into control switch knockout in side panel (see **Figures 13, 14 & 45**). Wire the optional control switch within the millivolt control circuit (as shown in **Figure 43**) using the 15 feet of 2 conductor wire supplied (route wires through the snap bushing to the optional control switch). Mount the optional control switch or wall thermostat in a convenient location on a wall near the fireplace.

CAUTION: DO NOT CONNECT OPTIONAL CONTROL SWITCH TO 120VAC POWER SUPPLY.

2. Install the junction box and receptacle outlet to the left of the valve in the front (for optional blower kit). See junction box and receptacle outlet as explained in steps 1-11 for (B) Electronic Wiring (on this page).



B. Electronic Wiring (See Figures 45 & 46)

Notes:

- The electronic appliance must be connected to the main 120 VAC power supply.
- The junction box can be installed in any of the 4 outside corners of the control compartment (it can be found factory installed in the right front corner viewed from the valve access side (where it should be reinstalled if an optional blower kit is installed).

1. Route a 3-wire, 120 VAC, 60 Hz, 1 ph power supply to the location on appliance where junction box is to be installed.
2. Open the control compartment access panel (see *Control Compartment Access Instructions* on **Page 27**).
3. Remove the junction box/outlet receptacle assembly by removing the securing screw at the front right corner of the unit. See **Figure 45**.
4. Remove the outlet receptacle from the junction box by removing the two securing screws.
5. Install a field-provided strain relief in the cabinet knockout opening for the protection of the power supply wires.
6. Connect the power supply wires to the receptacle as shown in **Figure 46** on **Page 26**.
7. Connect the ground supply wire to the green wire attached to the outlet receptacle's green ground screw.
8. Wire and install the outlet receptacle to junction box. Next, install into the chosen corner of the control compartment as shown in **Figure 45**.
9. After the receptacle/junction box wiring is complete, install the field-provided metal junction box cover plate (see **Figure 45**).

Note: The supplied 15 feet of 2 conductor wire has one end of each conductor connected to the gas valve circuit and the other end of each conductor placed loose on top of the appliance.

! IMPORTANT NOTE

The gas valve OFF/ON switch is shown in **Figure 46** on **Page 26**. It is integral with the gas valve and should be set to the ON position.

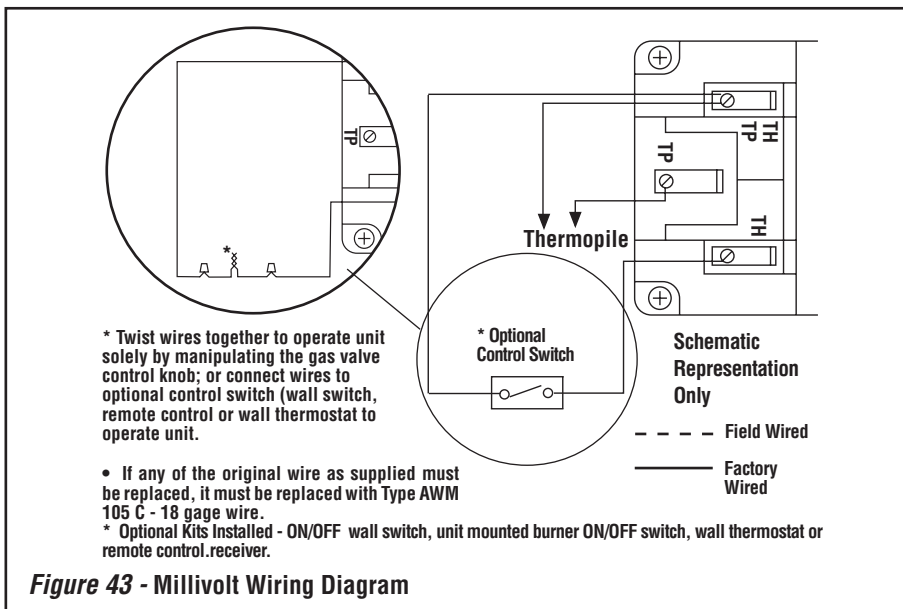
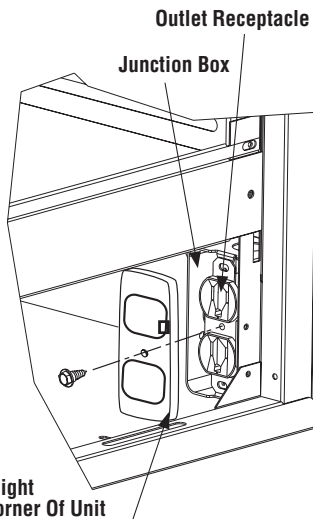


Figure 43 - Millivolt Wiring Diagram

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Receptacle, Junction Box and Cover Plate Installation



Field-provided Metal Junction Box Cover Plate With Screw

Junction Box knock-out (2 places each side)
Press snap bushing into the knock-out for control switch wires.

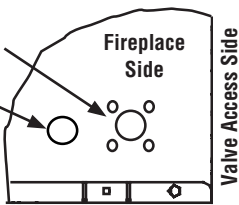


Figure 45

Step 5. WIRING - OPTIONAL FORCED AIR BLOWER KIT

FBK-100, FBK-200 and FBK-250 Kits
(See **Figure 46** for wiring) -

An electrical receptacle is provided for the installation of the **FBK-100, FBK-200 and FBK-250** forced air blower kits. Electrical power must be connected to this receptacle in order to operate these blowers. Install the blower kits according to the installation instructions provided with the kits.

CAUTION

Remove the carton support from the control compartment before operating the appliance.

CAUTION

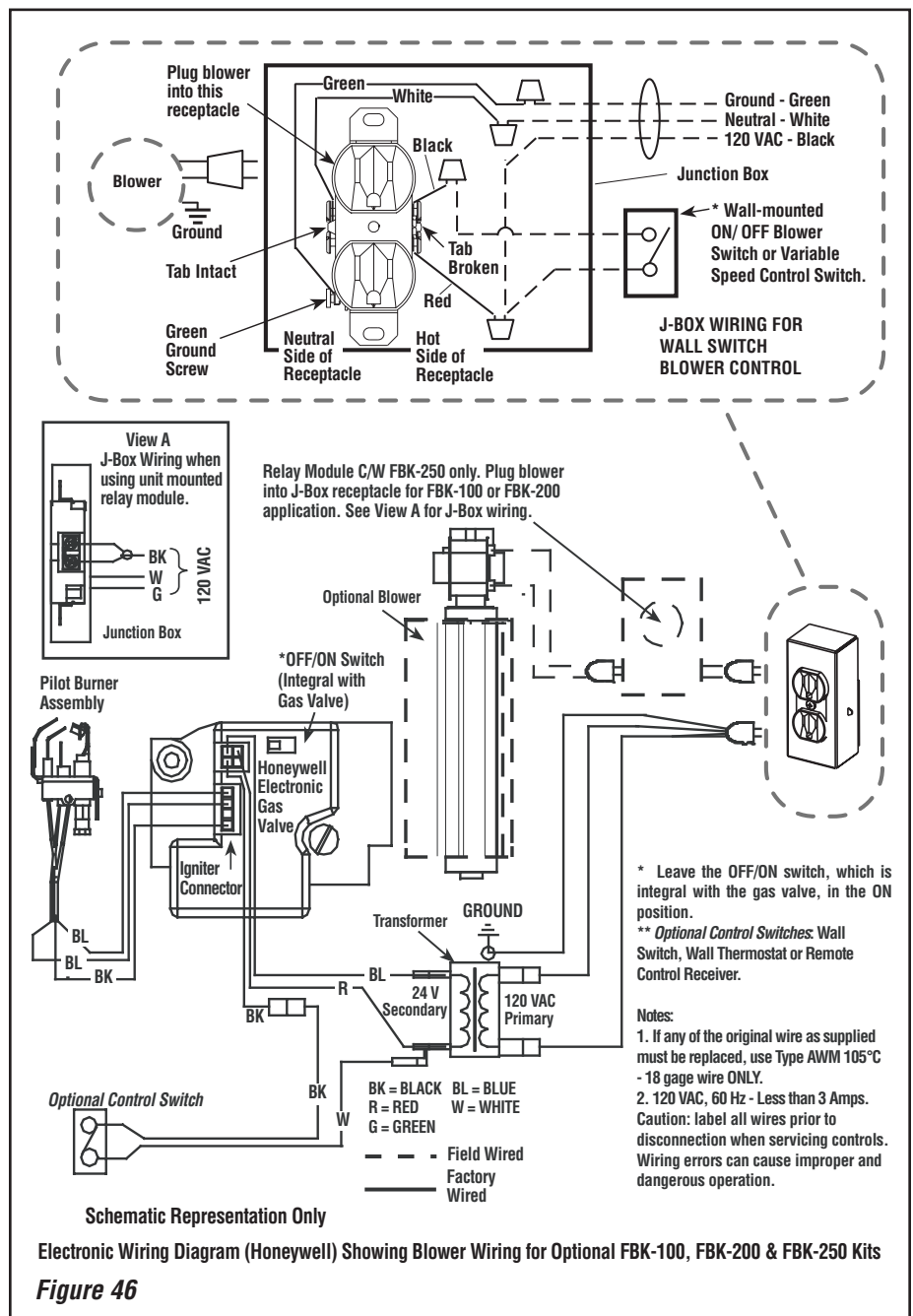
Ground supply lead must be connected to the wire attached to the green ground screw located on the outlet box. See **Figure 46**. Failure to do so will result in a potential safety hazard. The appliance must be electrically grounded in accordance with local codes or, in the absence of local codes, the National Electrical Code, ANSI/NFPA 70-latest edition. (In Canada, the current CSA C22-1 Canadian Electrical Code).

CAUTION

Ensure that wires are positioned away from hot surfaces and sharp edges.

CAUTION

Do not connect the optional wall switch to a 120 Volt AC power supply.



Step 6. CONNECTING GAS LINE

Make gas line connections. All codes require a shut-off valve mounted in the supply line. **Figure 47** illustrates two methods for connecting the gas supply. The flex-line method is acceptable in the U.S., however, Canadian requirements vary depending on locality. Installation must be in compliance with local codes.

These appliances are equipped with a gas flex line for use (where permitted) in connecting the appliance to the gas line. A gas flex line is provided to aid in attaching the direct vent appliance to the gas supply. The gas flex line can only be used where local codes permit. See **Figure 47** for flex line description. The flex line is rated for both natural gas and propane gas. A manual shut off valve is also provided with the flex line.

The incoming gas line should be piped into the valve compartment and connected (see **Figures 47 & 48**). The millivolt control valve has a 3/8" (10mm) NPT thread inlet port. The electronic control valve has a 1/2" (13 mm) NPT thread inlet port and is fitted with a 1/2" x 3/8" (13 mm x 10mm) NPT fitting.

Secure all joints tightly using appropriate tools and sealing compounds (ensure propane resistant compounds are used in propane applications).

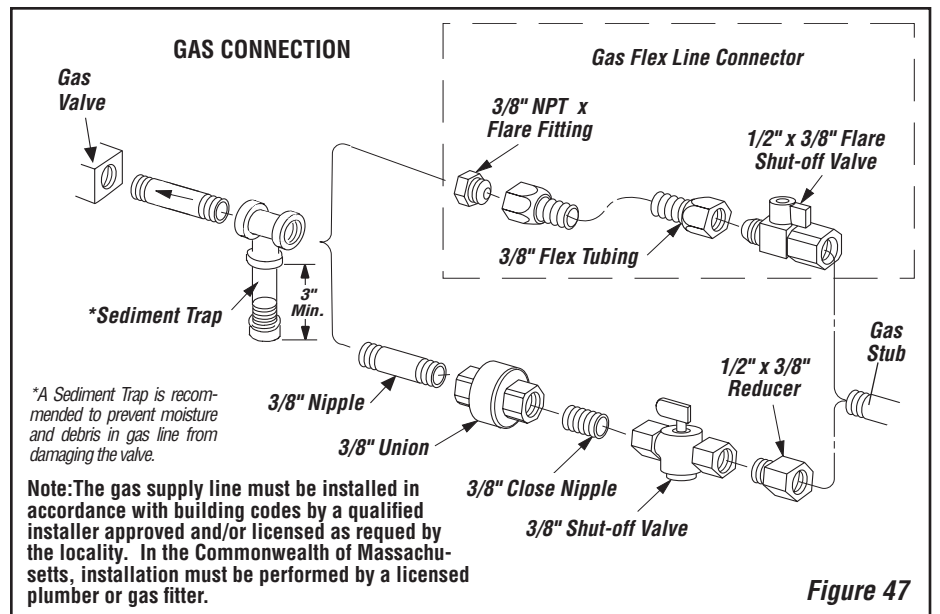
Optional: Seal around the gas line to prevent cold air leakage.

TEST ALL CONNECTIONS FOR GAS LEAKS (FACTORY AND FIELD):

Turn on gas supply and test for gas leaks using a gas leak test solution (also referred to as bubble leak solution). **Note:** Using a soapy water solution (50% dish soap, 50% water) is an effective leak test solution but it is not recommended, because the soap residue that is left on the pipes/fittings can result in corrosion over time.

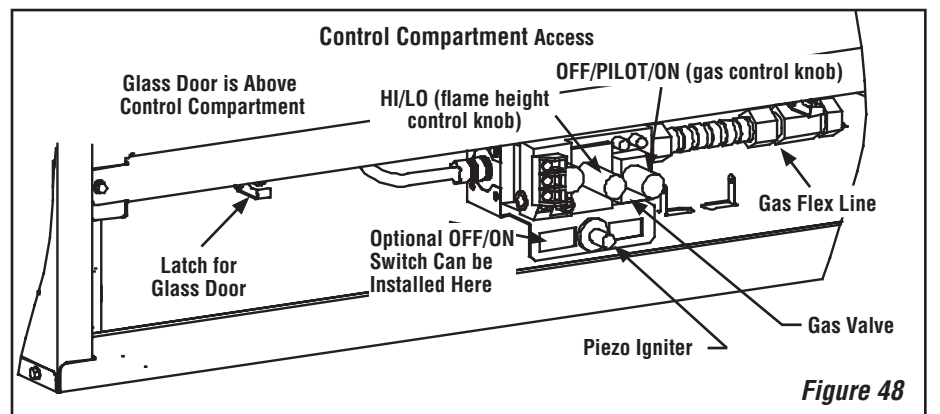
Turn on gas supply and test for gas leaks using a gas leak test solution.

- Light the appliance (refer to the lighting instructions label in control compartment or homeowner's manual).
- Brush all joints and connections with the gas leak test solution to check for leaks. If bubbles are formed, or gas odor is detected, turn the gas control knob (off/pilot/on) to the "OFF" position. Either tighten or refasten the leaking connection, then retest as described above.
- When the gas lines are tested and leak free be sure to rinse off the leak testing solution,
- Turn on burner then observe the individual tongues of flame on the burner. Make sure all ports are open and producing flame evenly across the burner. If any ports are blocked, or partially blocked, clean out the ports.



WARNING

Never use an open flame to check for leaks.



CONTROL COMPARTMENT ACCESS/LOUVER PANEL INSTRUCTIONS (Ref. Figure 49)

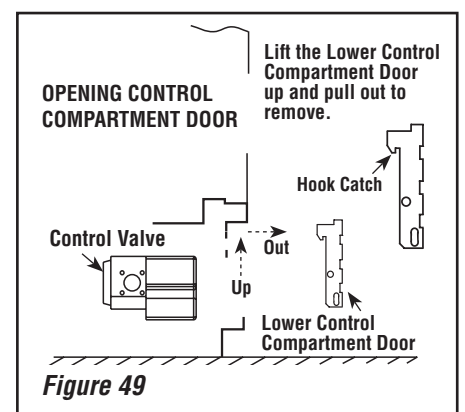
NOTE: The top louvered panel and the bottom louvered control panel door remove and install the same way as follows:

The gas controls can be found behind the control compartment access door.

Removing Control Compartment Door:

Open the door by gently lifting it upward until the hook catches on both sides clear the locating slots. Then pull door out to remove.

On millivolt systems, the piezo igniter, HI/LO flame adjustment knob, and pilot and main gas OFF/ON control knob are located below the glass panel enclosure. The gas valve for electronic systems is also located below the glass enclosure panel. See **Figure 48**.



Reinstalling Control Compartment Door:

To reinstall, insert the hook catches on each side of the door into the corresponding slots in the control compartment opening, then gently push forward and slide down until it locks in place.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 7. CHECK APPLIANCE OPERATION

With the gas line installed, run initial system checkout before closing up the front of the appliance. Follow the pilot lighting instructions provided in the Homeowner's Care and Operation Instructions. For piezo igniter location see **Figure 48** (millivolt appliances only).

Note: The (pull-out) Lighting instructions label can be found in the control compartment (see **Figure 48**).

When first lighting the appliance, it will take a few minutes for the line to purge itself of air. Once purging is complete, the pilot and burner will light and operate as indicated in the instruction manual. Subsequent lightings of the appliance will not require such purging. Inspect the pilot flame.

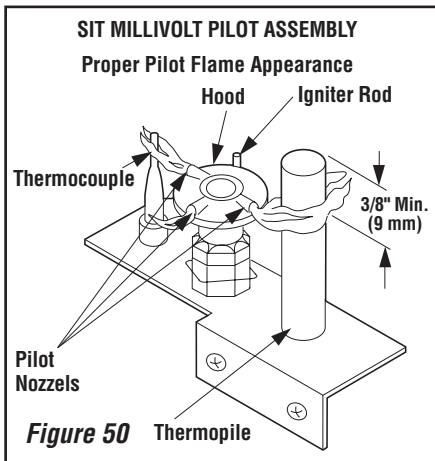
Millivolt Appliance Checkout

The pilot flame should be steady, not lifting or floating. Flame should be blue in color with traces of orange at the outer edge.

The top 3/8" (10 mm) at the pilot generator (thermopile) and the top 1/8" min (tip) of the quick drop out thermocouple should be engulfed in the pilot flame. The flame should project 1" (25 mm) beyond the hood at all three ports (**Figure 50**).

To light the burner; rotate the gas valve control knob counterclockwise to the "ON" position then turn "ON" the OFF/ON switch (installed at **Step 4**).

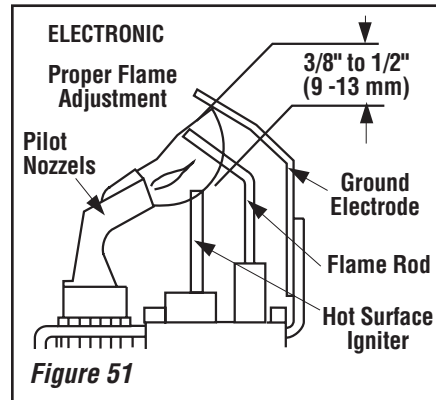
Observe the individual tongues of flame on the burner. Make sure all ports are open and producing flame evenly across the burner. If any ports are blocked, or partially blocked, clean out the ports.



Electronic Appliance Checkout

To light the burner, turn 'ON' the OFF/ON switch (located in the control compartment). Ensure the igniter lights the pilot. The pilot flame should engulf the flame rod as shown in **Figure 51**.

Observe the individual tongues of flame on the burner. Make sure all ports are open and producing flame evenly across the burner. If any ports are blocked, or partially blocked, clean out the ports.



Step 8. INSTALLING LOG SET, VOLCANIC STONE AND GLOWING EMBERS

WARNING

DO NOT attempt to install logs until the appliance installation has been completed, the gas line connected and tested for leaks and the initial burner operation has been checked out.

WARNING

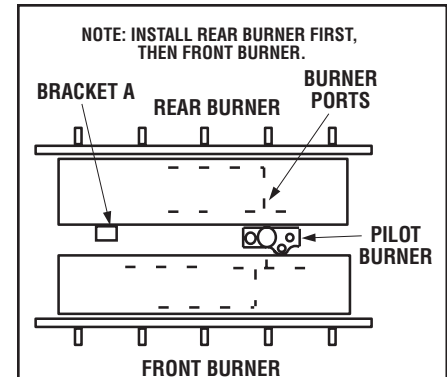
Logs get very hot and will remain hot up to one hour after gas supply is turned off. Handle only when logs are cool. Turn off all electricity to the appliance before you install grate and logs.

WARNING

This appliance is not designed to burn wood. Any attempt to do so could cause irreparable damage to the appliance and prove hazardous to your safety.

Burner / Grate Location Reference (see **Figures 53 & 54**)

Note: If the burners have been removed for any reason, rear burner must be installed before front burner. See **Figures 53 and 54**.



Note: The burners are not identical. Position them so that the circular burner ports run as shown. Note especially the vertical run of ports relative to the pilot burner. Bracket A on the rear burner will interfere with the pilot burner if an attempt is made to install the rear burner in the front burner's position.

Figure 53

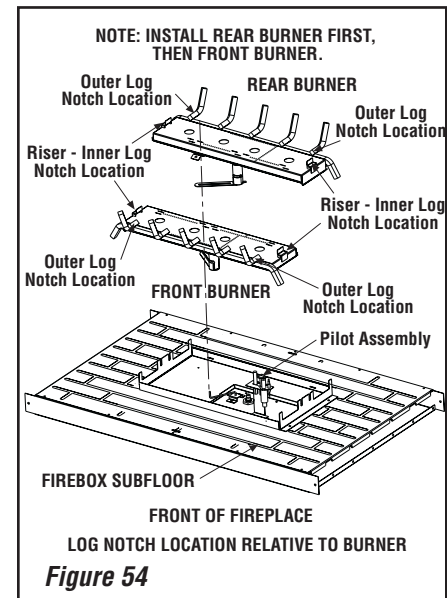
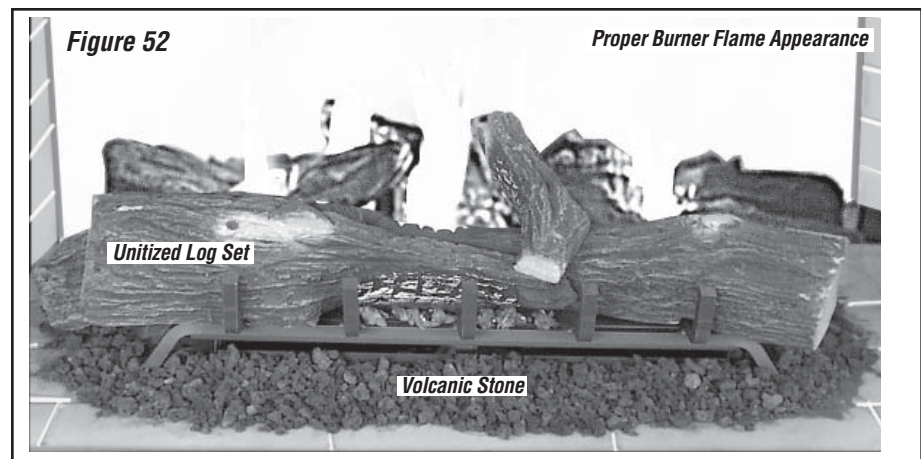


Figure 54



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

LOG & VOLCANIC STONE INSTALLATION PROCEDURE:

! WARNING

If logs are not installed according to the log installation instructions, flame impingement and improper combustion could occur and result in soot and/or excessive production of carbon monoxide (CO), a colorless, odorless, toxic gas.

The log set foam package is located in the firebox and the bags of decorative volcanic stone and the glowing embers (rockwool) are located in the control compartment. Refer to the following information and *Figures 52 and 54* for detailed placement instructions.

Install the decorative volcanic stone and glowing embers (rockwool):

Spread the decorative volcanic stone on the simulated brick floor of the firebox around the burners to simulate ashes. Maintain a 1/2 inch (13 mm) gap between the bottom of the horizontal grate section and the top of the pile of decorative volcanic stone. Place a few dime-sized pieces of the glowing ember material on the pan burner in front of the burned out area on both sides of the log set. The glowing embers may touch one another, but should not overlap each other.

Install the unitized log set:

- The bottom of the log set is notched to accommodate the pilot.
- Place the log set so that the four inner notches on the underside of the log set fit over the four risers located on the burner ends. See *Figure 52*. This procedure is accomplished primarily by feel, as the log set masks the burner risers as it is being installed.
- As a final check for correct log set placement, check that the four outer notches on the underside of the log set fit over the burner tines as indicated in *Figure 52*.

Step 9. INSTALLING THE GLASS DOOR

! WARNING

Do not operate appliance with the glass front removed, cracked or broken. Replacement of the glass should be done by a licensed or qualified service technician.

! WARNING

Do not attempt to substitute the materials used on this door, or replace cracked or broken glass with any materials other than those provided by the appliance manufacturer.

! WARNING

Handle this glass with extreme care! Tempered glass is susceptible to damage – do not scratch or handle roughly while reinstalling the glass door frame.

! WARNING

The glass door of this appliance must only be replaced as a complete unit as provided by the manufacturer. Do not attempt to replace broken, cracked or chipped glass separately.

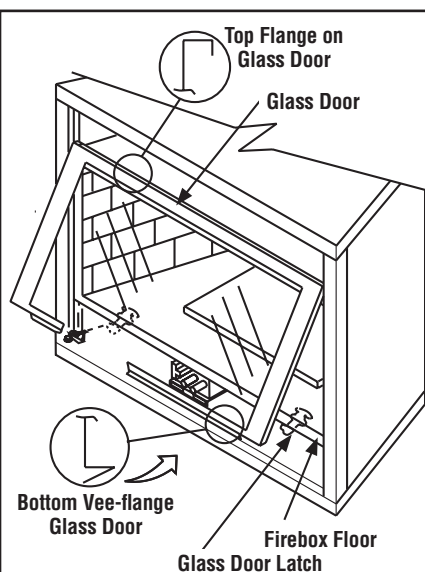


Figure 55 - INSTALLING GLASS DOOR

! WARNING

Do not attempt to touch the front enclosure glass with your hands while the fireplace is in use.

Removing Glass Enclosure Panels (see *Figure 55*)

- Remove the top louver assembly by lifting it up and pulling it out.
- Remove the control compartment access door (see removal instructions on *Page 27 - Removing Control Compartment Door*).
- Locate the two (2) latches at the top of the control compartment. To disengage the two latches from the bottom vee-flange of the glass enclosure panel, reach for the handles located towards the back of the latches and pull the handles down toward the front of the appliance.
- Swing the bottom of the door out and raise it slightly to lift the top flange of the door frame away from the appliance.

Installing Glass Enclosure Panels (see *Figure 55*)

- Visually inspect the gasket on the backside of the glass panel. The gasket surface must be clean, free of irregularities and seated firmly.
- Position the glass enclosure panel in front of the firebox opening at a 45 degree angle and engage the top flange over the lip at the top of the firebox opening. See *Figure 55*.
- Swing the glass enclosure panel down and back. Ensure the gasket seats evenly as the panel draws shut. Engage the Vee-flange at the bottom of the panel with the latches and close the latches to secure the panel.
- Reinstall top louver assembly and control compartment door see installation instructions on *Page 27, Reinstalling Control Compartment Door*).

Step 10. BURNER ADJUSTMENTS

Flame Appearance and sooting

Proper flame appearance is a flame which is blue at the base and becomes yellowish-orange in the body of the flame. When the appliance is first lit, the entire flame may be blue and will gradually turn yellowish-orange during the first 15 minutes of operation. If after a short period the flame stays lowered blue, or if the flame is orange with evidence of sooting (black tip), the air shutter opening may need to be adjusted.

If the air shutter openings closed too far, sooting may develop. Sooting is indicated by black puffs developing at the tips of very long orange flames. Sooting results in black deposits forming on the logs, appliance inside surfaces and on exterior surfaces adjacent to the vent termination. Sooting is caused by incomplete combustion in the flames and lack of combustion air entering the air shutter opening. To achieve a warm yellowish-orange flame with an orange body that does not soot, the shutter opening must be adjusted between these two extremes.

Air Shutter Adjustment Guidelines

- If there is smoke or soot present, first check the log set positioning to ensure that the flames are not impinging on any of the logs. If the log set is properly positioned and a sooting condition still exists, then the air shutter opening should be increased.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

- The more offsets in the vent system, the larger the air shutter opening will need to be.
- An appliance operated with the air shutter opened too far, may have flames that appear blue and transparent. These weak, blue and transparent flames are termed anemic.
- Propane models may exhibit flames which candle or appear stringy. If this is present and persists, adjust the air shutter to a more closed position, then operate the appliance for a few more minutes to ensure that the flame normalizes and the flames do not appear sooty.

The following chart is provided to aid you in achieving the correct air shutter adjustment for your installation.

Air Shutter Adjustment Guidelines:		
Amount of Primary Air	Flame Color	Air Shutter Adjustment
If air shutter is closed too far →	Flame will be orange →	Air shutter gap should be increased
If air shutter is open too far →	Flame will be blue →	Air shutter gap should be decreased

WARNING
Air shutter adjustment should only be performed by a qualified professional service technician.

WARNING
Ensure glass panels are in place and sealed during adjustment.

CAUTION
Carbon/soot will be produced if the air shutter is closed too much. Any damage due to carbon/sooting resulting from improperly setting the air shutter is not covered under the warranty.

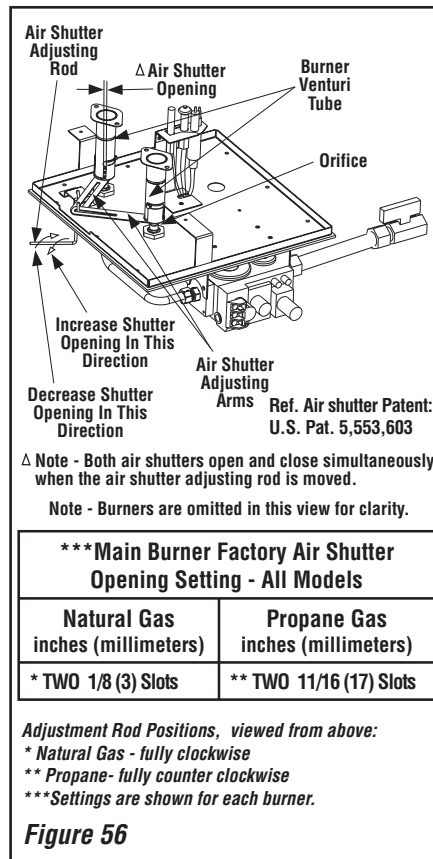
CAUTION
The air shutter door and nearby appliance surfaces are hot. Exercise caution to avoid injury while adjusting flame appearance.

Burner Air Shutter Adjustment Procedure

1. Locate adjustment rod and adjust air shutter to the standard setting as shown in **Figure 56** (adjustment rod is located in the lower control area).

Note: Rotating the adjustment rod counterclockwise decreases air and clockwise increases air.

2. Light appliance (follow lighting procedure on lighting label in control compartment or see homeowners manual).
3. Allow the burner to operate for at least 15 minutes while observing the flame continuously to ensure that the proper flame appearance has been achieved (see **Figure 52**). If the following conditions are present, adjust accordingly.
 - If flame appears weak or sooty, adjust the air shutter, incrementally, to a more open position until the proper flame appearance is achieved.
 - If flame stays lowered blue, adjust the air shutter, incrementally, to a more closed position until the proper flame appearance is achieved.
4. Leave the control knob (off/pilot/on) in the ON position and the burner OFF/ON switch OFF (& remote switches, if applicable).
5. When satisfied that the burner flame appearance is normal, close the lower control compartment door then proceed to finish the installation.



Step 11. HOOD INSTALLATION

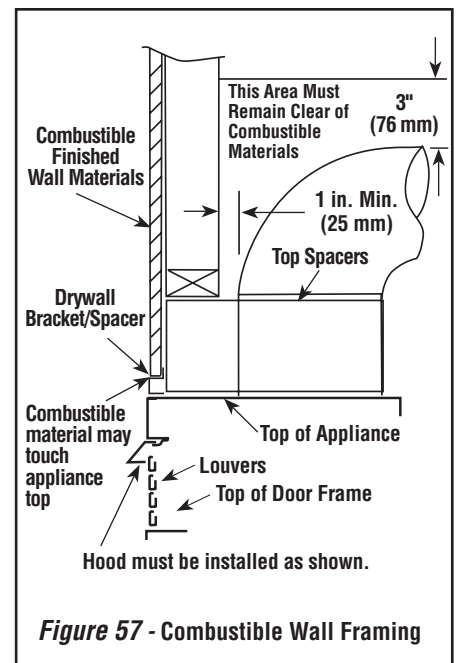
All of these appliances must have hoods installed prior to operating (see **Figure 57**).

Slide the hood into the slots on the lower edge of the cabinet top (see **Figure 57**).

FINISHING REQUIREMENTS Wall Details

Complete finished interior wall. To install the appliance facing flush with the finished wall, position framework to accommodate the thickness of the finished wall (**Figure 57**).

See Page 5 for Cold Climate Insulation and Page 9 for Clearances.



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

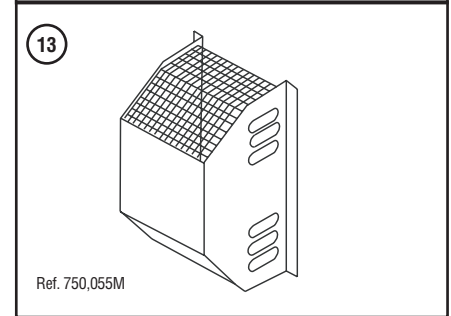
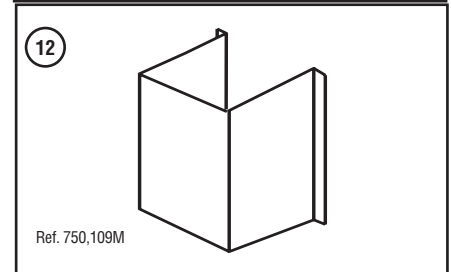
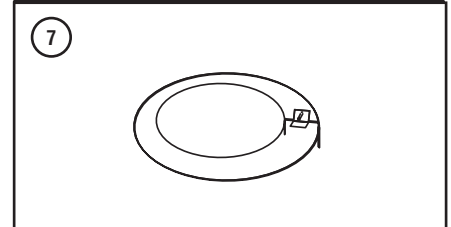
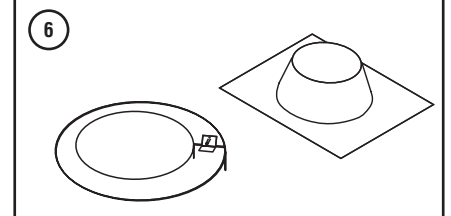
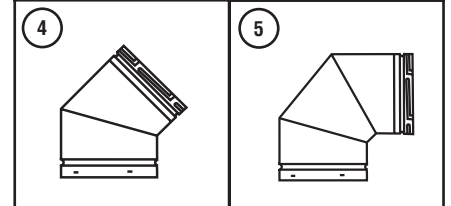
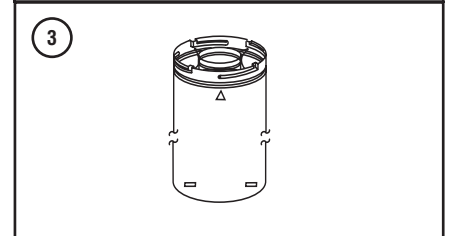
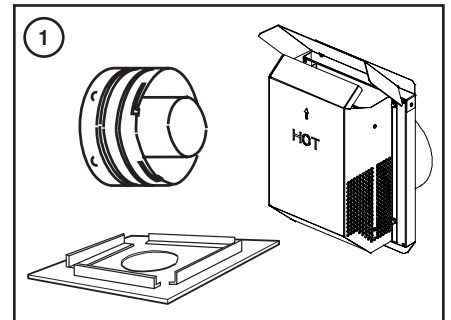
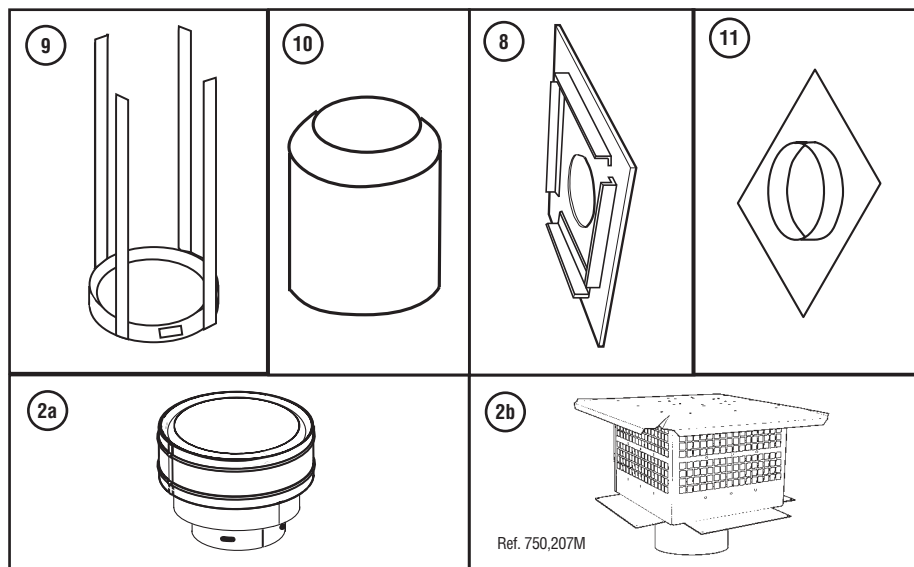
INSTALLATION ACCESSORIES

Item	Cat. No.	Model	Description
1	H1968	SV4.5HT-2	Horizontal Square Termination With Firestop / spacer (H2246) & Adapter (74L61)
2a	H2152	SV4.5CGV-1	Vertical Termination Cap
2b	H4687	SV4.5CTS	Chase Top Termination Square
2b	H4716	SV4.5CTS-B	Chase Top Termination Square, Black
2b	H4717	SV4.5CTS-TC	Chase Top Termination Square, Terra Cotta
3	77L70	SV4.5L6	6 Inch (152 mm) Vent Section
3	77L71	SV4.5L12	12 Inch (305 mm) Vent Section
3	77L72	SV4.5L24	24 Inch (610 mm) Vent Section
3	77L73	SV4.5L36	36 Inch (914 mm) Vent Section
3	77L74	SV4.5L48	48 Inch (1219 mm) Vent Section
3	77L75	SV4.5LA	Telescopic Section (1-1/2" to 7-1/2" effective length)
4	77L76	SV4.5E45	45 Degree Elbow
5	77L77	SV4.5E90	90 Degree Elbow

The following flashings come packaged with a storm collar:

6	77L78	SV4.5F	Flat Roof Flashing
6	77L79	SV4.5FA	1/2 to 7/12 Adjustable Flashing
6	77L80	SV4.5FB	7/2 to 12/12 Adjustable Flashing

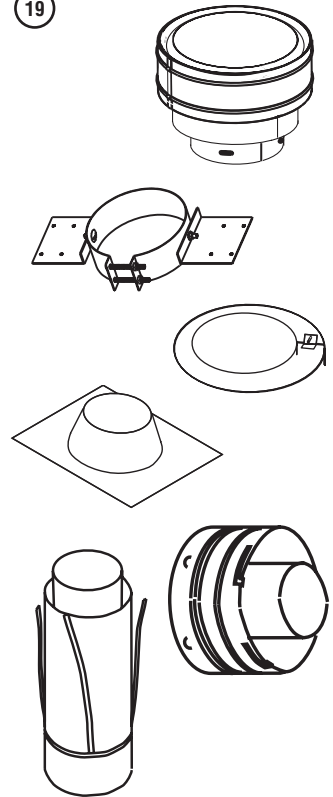
7	77L81	SV4.5SC6	Storm Collar (6 per box)
8	H2246	SV4.5HF	Firestop / Spacer-Horizontal (3-1-1 spacing), 10 Pack
8	H2247	SV4.5VF	Firestop / Spacer-Vertical (1-1-1 spacing), 10 Pack
9	96K93	SV4.5SU	Support Strap
10	96K94	SV4.5RSA	Attic Insulation Shield
11	96K92	SV4.5SP	Support Plate
12	17M52	SV4.5HGS-1	Termination Guard, Square (1 pack) (for square termination)
12	17M53	SV4.5HGS-12	Termination Guard, Square (12 pack) (for square termination)
13	87L02	SV4.5HGS	Termination Guard for Square Termination (Deluxe) (1 pack) (for square termination)



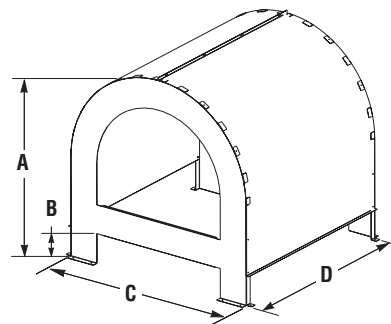
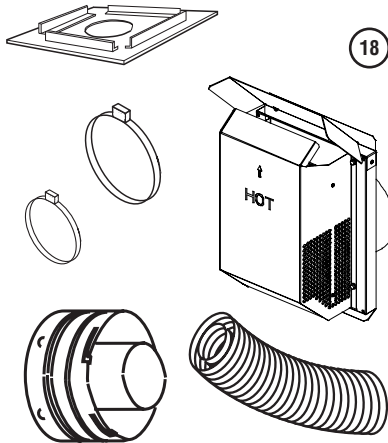
NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Item	Cat. No.	Model	Description
18	H1969	SF4.5HT-2	Horizontal Square Termination (without flex)
18	77L87	SFKIT12S	Flex Square Term. (with 12 inch [305 mm] * compressed flex)
18	77L88	SFKIT18S	Flex Square Term. (with 18 inch [457 mm] * compressed flex)
18	77L89	SFKIT24S	Flex Square Term. (with 24 inch [610 mm] * compressed flex)
18	77L90	SFKIT36S	Flex Square Term. (with 36 inch [914 mm] * compressed flex)
18	77L91	SFKIT48S	Flex Square Term. (with 48 inch [1219 mm] * compressed flex)
19	56L74	SFVT30	Vertical Termination for flex (flat to 6/12) with flex adapter, section of rigid vent, roof support collar assembly, roof flashing and storm collar.
19	56L75	SFVT45	Vertical Termination for flex (6/12 to 12/12) with flex adapter, section of rigid vent, roof support collar assembly, roof flashing and storm collar.
*20	60L10	SF-18	18 ft. (5.49 m) * compressed flex
*20	98K03	SF-12	12 ft. (3.66 m) * compressed flex
22	10K81	SFMP	Mill-Pac, Black, High Temperature Sealant
22	89L40	SFMP-12	Mill-Pac, Black, High Temperature Sealant - Bulk 12 pack
23	91L66	SF-GC4-6	Gear Clamp 4.5 in. (114 mm) for flex (6 pieces)
23	91L67	SF-GC7-6	Gear Clamp 7.5 in. (190.5 mm) for flex (6 pieces)
25	H1988	CTSA-33	Chase Top Shroud Kit, Arch Top 3 X 3
26	H1985	CTSO-33	Chase Top Shroud Kit, Open Top 3 X 3
26	H1987	CTSO-44	Chase Top Shroud Kit, Open Top 4 X 4
26	H1986	CTSO-46	Chase Top Shroud Kit, Open Top 4 X 6
8	H2248	SF4.5HF	Firestop / Spacer - Horizontal (flex) (3-1-1 spacing), 10 Pack
8	H2249	SF4.5VF	Firestop / Spacer - Vertical (1-1-1 spacing), 10 Pack

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* All compressed flex vents can be expanded up to two times.

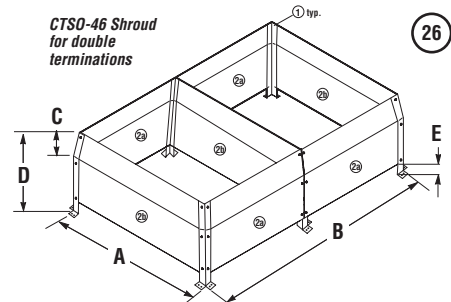


Ref. Form #750,194M

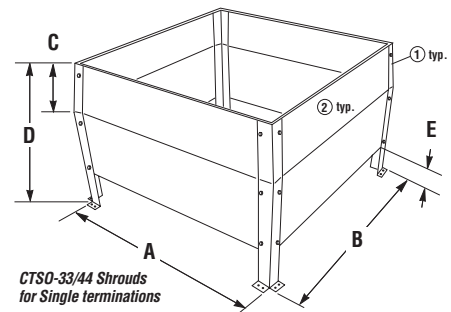
Closed Top Shroud Termination Kits
Inches (millimeters)

Model	A	B	C	D
CTSA-33	34" (864)	5" (127)	34" (864)	34" (864)

CTSO-46 Shroud
for double terminations



Ref. Form #750,193M



CTSO-33/44 Shrouds
for Single terminations

Open Top Shroud Kits
Inches (millimeters)

Model	A	B	C	D	*E
CTSO-33	37-5/8 (955)	37-5/8 (955)	7-1/2 (191)	24-1/2 (622)	3 (76)
CTSO-44	48-5/8 (1235)	48-5/8 (1235)	7-1/2 (191)	24-1/2 (622)	3 (76)
CTSO-46	48-5/8 (1235)	73 1/4 (1860)	7-1/2 (191)	24-1/2 (622)	3 (76)

GAS CONVERSION KITS

⚠ WARNING

This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authorized having jurisdiction. If the information in these instructions is not followed exactly, a fire, explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the owner instructions supplied with the kit. The qualified service agency performing this installation assumes responsibility for this conversion.

⚠ AVERTISSEMENT

Cet Équipement de conversion sera installé par une agence qualifiée de service conformément aux instructions du fabricant et toutes exigences et codes applicables de l'autorisés avoir la juridiction. Si l'information dans cette Instruction n'est pas suivie exactement, un feu, explosion ou production de protoxyde de carbone peut résulter le dommages causer de propriété, perte ou blessure personnelle de vie. L'agence qualifiée de service est esponsable de l'installation propre de cet Équipement. L'installation n'est pas propre et complète jusqu'à l'opération de l'appareil converti est chÉque suivant les critères Établis dans les instructions de propriétaire provisionnées avec l'Équipement.

⚠ IMPORTANT CANADA ONLY

The conversion shall be carried out in accordance with the requirements of the provincial authorities having jurisdiction and in accordance with the requirements of the CAN1-B149.1 And B149.2 Installation code.

⚠ ATTENTION LE CANADA SEULEMENT

La conversion devra être effectuée conformément aux recommandations des autorités provinciales ayant juridiction et conformément aux exigences du code d'installation CAN1-B149.1 Et.2.

Natural Gas to Propane Gas Conversion Kits	
Fireplace Type	Cat. No. (model)
Millivolt	85L65 FGCK-DMOMNP
Electronic	85L79 FGCK-DMOENP

Table 12

Propane Gas to Natural Gas Conversion Kits	
Fireplace Type	Cat. No. (model)
Millivolt	85L72 FGCK-DMOMPN
Electronic	85L86 FGCK-DMOEPN

Table 13

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

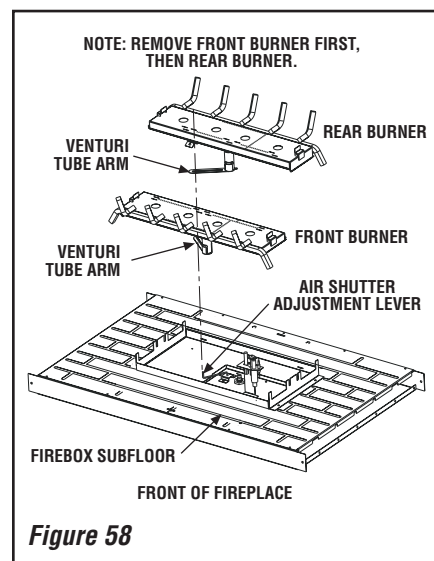
Gas conversion kits are available to adapt the appliance from the use of one type of gas to the use of another. These kits contain all the necessary components needed to complete the task including labeling that must be affixed to ensure safe operation.

Kit part numbers are listed here and the following steps detail the conversion procedure.

Step 1. Turn off the gas supply to the appliance. Remove the front glass door/frame from the appliance (see *Removing Glass Enclosure Panels* on **Page 29**). Remove the control compartment door (see *Control Compartment Door Removal* on **Page 27**).

Step 2. Carefully remove the logs. Exercise care so as not to break the logs.

Step 3. Referring to **Figure 58**, remove the front burner and then the rear burner.



Step 4. Millivolt Appliances - SIT Systems

a. See **Figure 59** and the instructions provided with the kit. Using a Torx T20, tool or or standard flat screwdriver remove and discard the three pressure regulator mounting screws. Remove the pressure regulator, spring, poppet, diaphragm and bushing. Discard all removed components. Ensure the rubber gasket installed on the back of the replacement pressure regulator is properly positioned and install the new pressure regulator using the new screws supplied with the kit. Tighten screws to 25 In. lb. torque.

b. Attach manometer to the manifold side pressure test fitting and verify manifold pressure reads 3.5 inches water column (0.87 kPa) for natural gas, and 10.0 inches water column (2.49 kPa) for propane gas.

c. Refer to **Figure 60** and remove the pilot hood assembly to access the hexed pilot orifice. Remove and replace the orifice with the one provided with the kit.

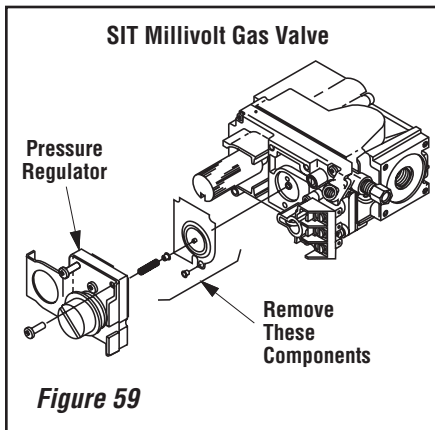


Figure 59

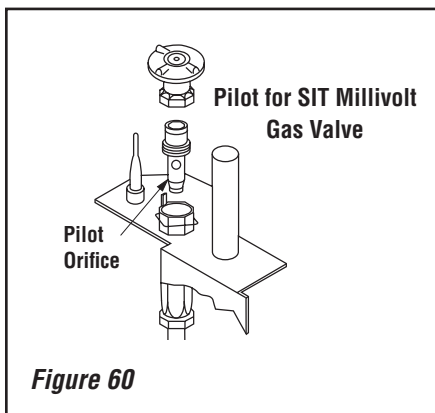


Figure 60

Step 5. Attach manometer to the manifold side pressure test fitting and verify manifold pressure reads 3.5 inches water column (0.87 kPa) for natural gas, and 10.0 inches water column (2.49 kPa) for propane gas.

Step 6. Refer to **Figure 60** and remove the pilot hood assembly to access the hexed pilot orifice. Remove and replace the orifice with the one provided with the kit.

Electronic Appliances

Step 7. Honeywell Electronic Valves - See **Figure 61** and the instructions provided with the kit. Remove the slotted cap screw, o-ring, pressure-regulating adjusting screw and spring. Retain all parts for possible later use. Install new components from the kit. Black cap and red spring for propane gas appliances. Silver cap and stainless steel spring for natural gas appliances. Before installing the cap, attach manometer to the manifold side pressure test fitting and adjust screw until pressure reads 3.5 inches water column (0.87 kPa) for natural gas, and 10.0 inches water column (2.49 kPa) for propane gas.

See **Figure 62** and replace the pilot orifice as follows: Remove the igniter assembly retainer clip, and carefully remove the igniter assembly.

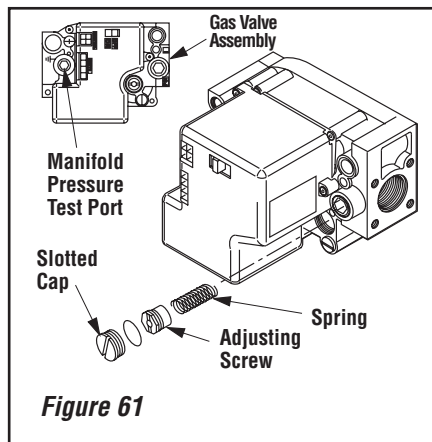


Figure 61

Exercise extreme care to prevent damage to or breakage of the igniter assembly.

Remove the screw securing the pilot assembly to its mounting bracket. Back off the flare nut at the end of the pilot gas line to free the pilot assembly from the gas line. Remove the pilot orifice and replace it with the one provided with the conversion kit. Reinstall the pilot assembly by reversing the **steps** detailed here.

When reinstalling the igniter assembly, use extreme care to prevent damage and breakage. Do not apply any leverage to the igniter assembly while restoring the retainer clip to its original position.

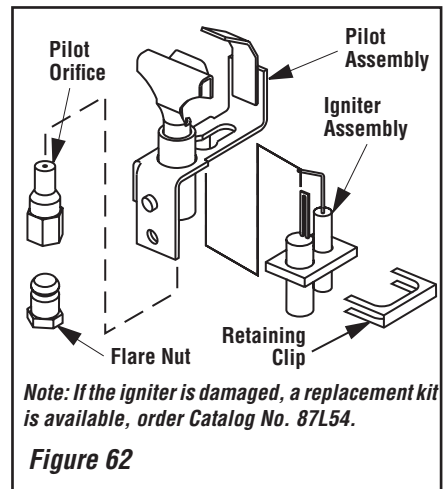


Figure 62

All Models

Step 8. (Refer to **Figure 58** on **Page 33**)

A. Remove the two orifices from the manifold and replace them with the ones provided in the kit. **Table 14** shows the orifice sizes for natural and propane models. **Figure 63** illustrates the orifice.

B. Install rear burner first, followed by front burner, as shown in **Figure 64**. Ensure that the arm of the venturi of each burner is hooked onto the air shutter adjustment lever (refer to **Figure 58** on **Page 33**). The primary air opening can be adjusted by rotating the adjustment lever from beneath the firebox floor. Refer to **Figure 56** on **Page 30** for the recommended minimum primary air opening setting.

•• Burner Orifice Sizes (all models)		
Elevation Feet (meters)	Natural Gas drill size (inches)	Propane Gas drill size (inches)
0-4500 (0-1372)	#44 (.086") * 60J8001 •	#55 (.052") * 19L5201 •
* Standard size installed at factory • Part /Cat. Number		

Table 14 •• Each model has two burners & 2 Orifices

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

BURNER ORIFICE

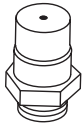


Figure 63

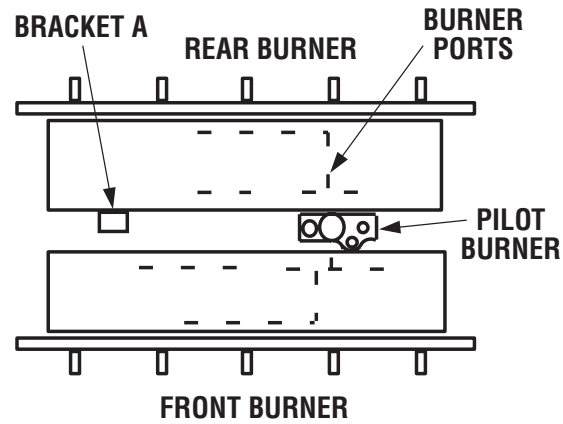
Step 9. Reassemble the remaining components by reversing the procedures outlined in the preceding steps. Use pipe joint compound or Teflon tape on all pipe fittings before installing (ensure propane resistant compounds are used in propane applications, do not use pipe joint compounds on flare fittings).

Step 10. Attach the conversion label provided in the conversion kit to the rating plate on the appliance.

Step 11. Turn on gas supply and test for gas leaks.

BURNER POSITIONING

NOTE: INSTALL REAR BURNER FIRST, THEN FRONT BURNER.



Note: The burners are not identical. Position them so that the circular burner ports run as shown. Note especially the vertical run of ports relative to the pilot burner. Bracket A on the rear burner will interfere with the pilot burner if an attempt is made to install the rear burner in the front burner's position.

Figure 64

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

LHP 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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