



HEARTH PRODUCTS

P/N 506015-10 Rev. B 04/2013

This manual is one of a set of two supporting this product. Refer to P/N 506017-09 for Care and Operation Instructions.

Ce manuel est disponible en français, simplement en faire la demande. Numéro de la pièce 506223-56.

INSTALLATION INSTRUCTIONS

MLDVT Direct-Vent
Gas Fireplaces

MERIT™ SERIES

MODELS	MILLIVOLT:	ELECTRONIC:
MLDVT-30NM	MLDVT-30PM	MLDVT30NE-2
MLDVT-35NM	MLDVT-35PM	MLDVT35NE-2
MLDVT-35NM-FB	MLDVT-35PM-FB	MLDVT-35NE-FB
MLDVT-40NM	MLDVT-40PM	MLDVT40NE-2
MLDVT-40NM-FB	MLDVT-45PM	MLDVT-40NE-FB
MLDVT-45NM		MLDVT45NE-2



Intertek

Report No. 100326540PRT-001

Please read and understand these instructions before starting installation.

INSTALLER: Leave this manual with the appliance.
CONSUMER: Retain this manual for future reference.
INSTALLATEUR : Laissez cette notice avec l'appareil.
CONSOMMATEUR : Conservez cette notice pour consultation ultérieure.

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.

! WARNING / AVERTISSEMENT / AVISO

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



- UNE SURFACE VITRÉE CHAUDE PEUT CAUSER DES BRÛLURES.
- LAISSER REFROIDIR LA SURFACE VITRÉE AVANT D'Y TOUCHER.
- NE PERMETTEZ JAMAIS À UN ENFANT DE TOUCHER LA SURFACE VITRÉE.

- EL VIDRIO CALIENTE CAUSARÁ QUEMADURAS.
- USTED DEBE NUNCA TOCAR EL VIDRIO CALIENTE.
- LOS NIÑOS DEBEN NUNCA TOCAR EL VIDRIO.

WARNING: If the information in these instructions is not followed exactly, a fire or explosion may result, causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS:**
 - Do not try to light any appliance.
 - Do not touch any electrical switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

AVERTISSEMENT : Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

- Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.
- **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 trouvez.
 - 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 l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

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Please read and understand these instructions before beginning your installation.



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 set) Logs (Packaged in a carton inside the firebox)
- (1 bag) Volcanic Stone (In bottom compartment)
- (1 bag) Glowing Embers (In bottom compartment)
- Literature Kit (Envelope in bottom compartment containing Care and Operation Instructions, Installation Instructions, Safety-In-Operation Warning Labels, Warranty)
- (1) U-Shaped Vent Restrictor (Attached to Literature Kit envelope)
- (1) Hood (Inside firebox)

INTRODUCTION

Millivolt appliances have a millivolt gas control valve with piezo ignition system. 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.

Electronic appliances are designed to operate on natural or propane gas. An electronic intermittent pilot ignition system provides safe, efficient operation. External electrical power is required to operate these units. In the event of a power outage, four (4) "AA" batteries (in battery holder) provide backup power for appliance operation (excluding [optional] blower).

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 manufactured by Security Chimneys International,
- 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.

Use only the correct size venting (4 1/2 in. inner and 7 1/2 in. outer).

These approved vent system components are labeled for identification. DO NOT use any other manufacturer's vent components with these appliances.

GENERAL INFORMATION

! WARNING

Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at-risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces.

! AVERTISSEMENT

Les jeunes enfants devraient être surveillés étroitement lorsqu'ils se trouvent dans la même pièce que l'appareil. Les tout petits, les jeunes enfants ou les adultes peuvent subir des brûlures s'ils viennent en contact avec la surface chaude. Il est recommandé d'installer une barrière physique si des personnes à risques habitent la maison. Pour empêcher l'accès à un foyer ou à un poêle, installez une barrière de sécurité; cette mesure empêchera les tout petits, les jeunes enfants et toute autre personne à risque d'avoir accès à la pièce et aux surfaces chaudes.

NOTE: Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.

Remarqué : Les enfants et les adultes devraient être informés des dangers que posent les températures de surface élevées et se tenir à distance afin d'éviter des brûlures ou que leurs vêtements ne s'enflamment.

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.

! 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.

! WARNING

Failure to comply with these installation instructions will result in an improperly installed and operating appliance, voiding its warranty. Any change to this appliance and/or its operating controls is dangerous.

! WARNING

Clothing or other flammable material should not be placed on or near the appliance.

! AVERTISSEMENT

On ne devrait pas placer de vêtements ni d'autres matières inflammables sur l'appareil ni à proximité.

! WARNING

Any safety screen or guard removed for servicing the appliance must be replaced prior to operating the appliance.

! AVERTISSEMENT

Tout écran ou protecteur retiré pour permettre l'entretien de l'appareil doit être remis en place avant de mettre l'appareil en marche.

! WARNING

Improper installation or use of this appliance can cause serious injury or death from fire, burns, explosion or carbon monoxide poisoning.

! WARNING

Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this appliance may result in property damage or personal injury.

! AVERTISSEMENT

Risque de dommages ou de blessures si les pièces ne sont pas installées conformément à ces schémas et ou si des pièces autres que celles spécifiquement approuvées avec cet appareil sont utilisées.

NOTE: Installation and repair should be done by a qualified service person. The appliance should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etcetera. It is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.

Remarqué : L'installation et la réparation devrait être confiées à un technicien qualifié. L'appareil devrait faire l'objet d'une inspection par un technicien professionnel avant d'être utilisé et au moins une fois l'an par la suite. Des nettoyages plus fréquents peuvent être nécessaires si les tapis, la literie, et cetera produisent une quantité importante de poussière. Il est essentiel que les compartiments abritant les commandes, les brûleurs et les conduits de circulation d'air de l'appareil soient tenus propres.

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

Remarqué : Ne pas utiliser cet appareil s'il a été plongé, même partiellement, dans l'eau. Appeler un technicien qualifié pour inspecter l'appareil et remplacer toute partie du système de commande et toute commande qui a été plongée dans l'eau.

NOTE: Only trim kit(s) supplied by the manufacturer shall be used in the installation of this appliance.

Remarqué : Seules les troupes de garniture fournies par le fabricant doivent être utilisées pour l'installation de cet appareil.

Codes and Standards

These appliances comply with National Safety Standards and are tested and listed by ETL/Intertek. (Report No. 100326540PRT-001) to ANSI Z21.88 (in Canada, CSA-2.33), and CAN/CGA-2.17-M91 in both USA and Canada, as vented gas fireplace heaters.

These appliances are listed by ETL/Intertek for installation in bedrooms and manufactured homes.

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 (In Canada, the current CAN/CSA-B149.1 installation code).

The appliance, when installed, must be electrically grounded and 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.

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

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

It is advisable to have an alternate primary heat source when installed in a dwelling.

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

Electronic models come standard with a remotely-modulated gas valve. Flame appearance and heat output cannot be controlled at the gas valve. The BTU Input for these appliances is shown in **Table 1**.

Table 1: Input Rate, Gas Valves

Models	Input Rate (BTU/HR)	
	Natural Gas	Propane Gas
MLDVT-30	13,500 high 10,500 low	12,500 high 9,000 low
MLDVT-35	16,000 high 12,500 low	15,000 high 11,500 low
MLDVT-40	20,000 high 15,500 low	20,000 high 15,800 low
MLDVT-45	23,000 high 17,500 low	22,000 high 17,000 low

Gas Pressure

Table 2 and Table 3 show the appliance inlet and manifold gas pressure requirements.

Table 2: Inlet Gas Supply Pressure

Fuel	Minimum	Maximum
Natural Gas	4.5 in. WC (1.12 kPa)	10.5 in. WC (2.61 kPa)
Propane	11.0 in. WC (2.74 kPa)	13.0 in. WC (3.23 kPa)

Table 3: Manifold Gas Supply Pressure

Fuel	Low	High
Natural Gas	2.2 in. WC (0.55 kPa)	3.5 in. WC (0.87 kPa)
Propane	6.3 in. WC (1.57 kPa)	10.0 in. WC (2.49 kPa)

Test gauge connections are provided on the front of the electronic gas control valve (identified IN for the inlet and OUT for the manifold side). The control valves have a 3/8 in. (10 mm) NPT thread inlet and outlet side of the valve (Figure 1 and Figure 2).

Figure 1: SIT Millivolt Gas Valve

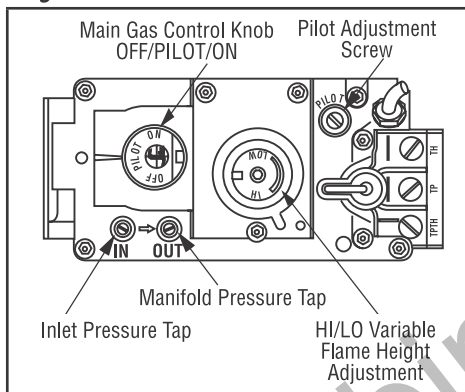
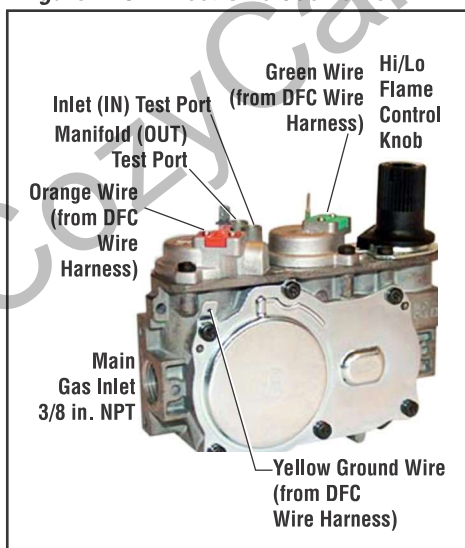


Figure 2: SIT Electronic Gas Valve



Propane tanks are at pressures that will cause damage to valve components. Verify that the tanks have step down regulators to reduce the pressure to safe levels.

The appliance and its appliance main gas valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).

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

Orifice Sizes—Sea Level to High Altitude

These appliances are tested and approved for installation at elevations of 0–4500 ft (0–1372 m) above sea level using the standard burner orifice sizes (marked with an “*” in Table 4).

For elevations above 4500 ft, contact your gas supplier or qualified service technician.

Deration

At higher elevations, the amount of BTU fuel value delivered must be reduced by either:

- Using gas that has been derated by the gas company.
- Changing the burner orifice to a smaller size as regulated by the local authorities having jurisdiction and by the (USA) National Fuel Gas Code NFPA 54/ANSI Z223.1—latest edition or, in Canada, the CAN/CSA-B149.1 codes—latest edition.

NOTE: Flame breadth, height and width will diminish 4% for every 1,000 feet of altitude.

Table 4: Burner Orifice Sizes, Elevation 0–4500 ft (0–1372 m)

Model	Natural Gas drill size (inches)	Propane drill size (inches)
MLDVT-30	#50 (0.070 in.)* H4873•	#59 (0.041 in.)* H7838•
MLDVT-35	(0.0748 in.)* H1355•	(0.045 in.)* 75L10•
MLDVT-40	#44 (0.086 in.)* 60J80•	#55 (0.052 in.)* 19L52•
MLDVT-45	(0.090 in.)* 37L70•	#54 (0.055 in.)* 99K79•

- * Standard size installed at factory
- Catalog number

In Canada—CAN/CGA-2.17-M91 (high altitude):

THE CONVERSION SHALL BE CARRIED OUT BY A MANUFACTURER’S AUTHORIZED REPRESENTATIVE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER, PROVINCIAL OR TERRITORIAL AUTHORITIES HAVING JURISDICTION AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CAN/CGA-B149.1 OR CAN/CGA-B149.2 INSTALLATION CODES.

REQUIREMENTS FOR THE COMMONWEALTH OF MASSACHUSETTS

These fireplaces are approved for installation in the U.S. state of Massachusetts if the following additional requirements are met:

- Install this appliance in accordance with Massachusetts Rules and Regulations 248 C.M.R..
- 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 in. (92 cm) in length.
- The individual manual shut-off must be a T-handle type valve.

Massachusetts Horizontal Vent Requirements

In the Commonwealth of Massachusetts, horizontal terminations installed less than seven (7) feet above the finished grade must comply with the following additional requirements:

- A hard wired carbon monoxide detector with an alarm and battery back-up must be installed on the floor level where the gas fireplace is installed. The carbon monoxide detector must comply with NFPA 720, be ANSI/UL 2034 listed and be ISA certified.
- A metal or plastic identification plate must be permanently mounted to the exterior of the building at a minimum height of eight (8) feet above grade and be directly in line with the horizontal termination. The sign must read, in print size no less than one-half (1/2) inch in size, GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS.

COLD CLIMATE INSULATION

For cold climate installations, seal all cracks around your 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 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 conduction of cold transferring to the fireplace and into the room. It also helps to sheetrock inside surfaces and tape for maximum air tightness and caulk firestops.

MANUFACTURED HOME REQUIREMENTS

This appliance may be installed in an aftermarket permanently located, manufactured home and must be installed in accordance with the manufacturer's instructions.

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.

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 le type de gaz indiqué sur la plaque signalétique. Cet appareil ne peut être converti à d'autres gaz, sauf si une trousse de conversion est utilisée.

CAUTION

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.

CAUTION

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.

LOCATION

In selecting the location, the aesthetic and functional use of the appliance are primary concerns. However, vent system routing to the exterior and access to the fuel supply are also important.

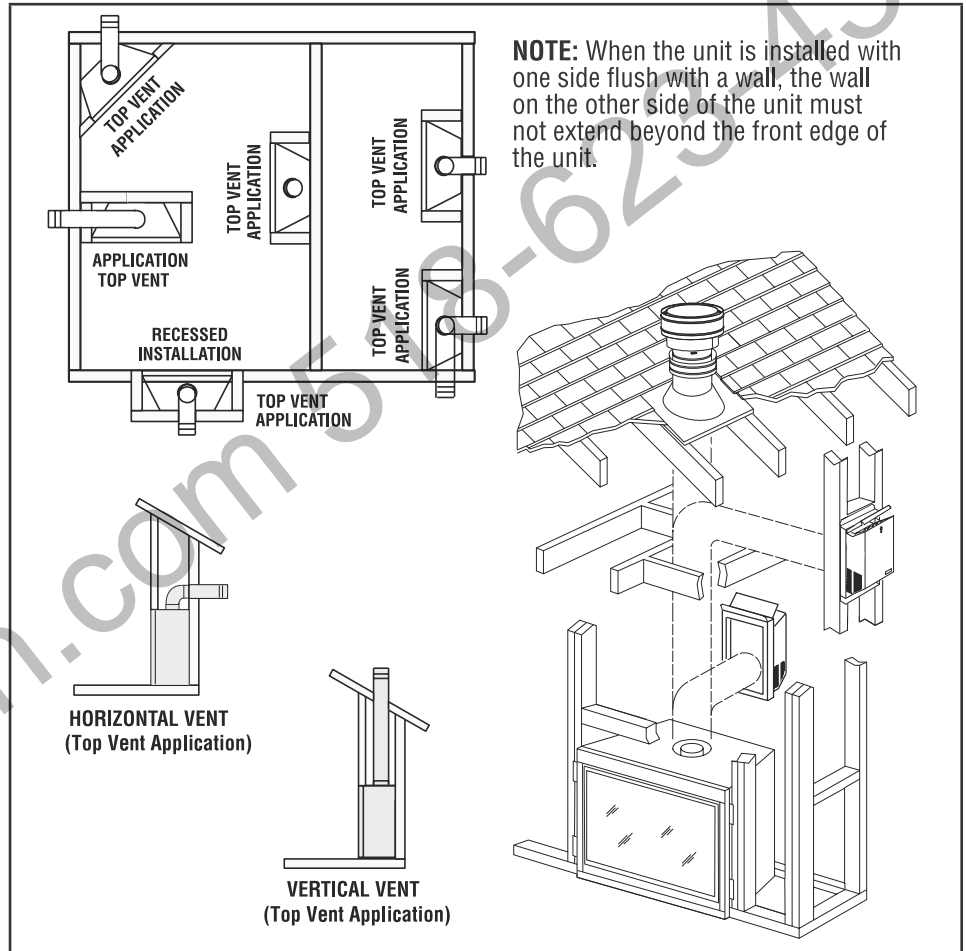
Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies (**Figure 3**).

En raison des températures élevées, l'appareil devrait être installé dans un endroit où il y a peu de circulation et loin du mobilier et des tentures (**Figure 3**).

The minimum height from the base of the appliance to the underside of combustible materials used to construct a utility shelf in this fashion is shown in **Table 8**.

The appliance must be mounted on a fully supported base extending the full width and depth of the unit. The appliance may be located on or near conventional construction materials. However, if installed on combustible materials, such as carpeting, vinyl tile or other combustible material other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth of the appliance.

Figure 3: Typical Locations



NOTE: When the unit is installed with one side flush with a wall, the wall on the other side of the unit must not extend beyond the front edge of the unit.

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.

Do not insulate the space between the appliance and the area above it (**Table 8**).

VENT TERMINATION CLEARANCES

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

Vertical Vent Termination Clearances

Terminate multiple vent terminations according to the installation codes listed above, **Figure 4**, **Figure 5**, and **Table 5**.

Figure 4: Multiple Terminations

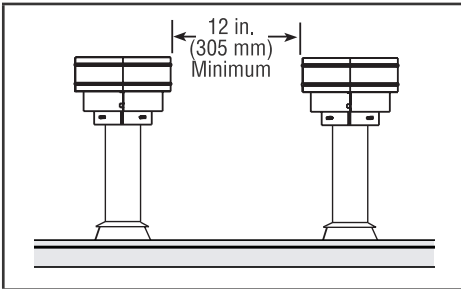


Figure 5: Vertical Vent Termination Clearances

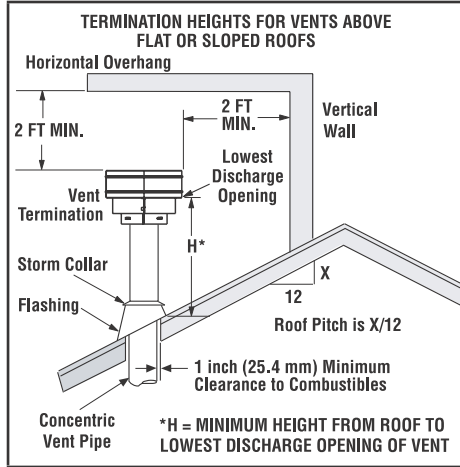


Table 5: Termination Heights for Vents above Flat or Sloped Roofs

Roof Pitch	Feet *	Meters *
Flat to 6 1/2	1	0.3
6 1/2 to 7 1/2	1 1/4	0.38
7 1/2 to 8 1/2	1 1/2	0.46
8 1/2 to 9 1/2	2	0.61
9 1/2 to 10 1/2	2 1/2	0.76
10 1/2 to 11 1/2	3 1/4	0.99
11 1/2 to 12 1/2	4	1.22
12 1/2 to 14 1/2	5	1.52
14 1/2 to 16 1/2	6	1.83
16 1/2 to 18 1/2	7	2.13
18 1/2 to 20 1/2	7 1/2	2.29
20 1/2 to 21 1/2	8	2.44

Horizontal Vent Termination Clearances

The horizontal vent termination must have a minimum of 6 in. (152 mm) clearance to any overhead combustible projection of 2 1/2 in. (64 mm) or less. For projections exceeding 2 1/2 in. (64 mm), see **Figure 7**. For additional vent location restrictions, refer to **Table 6**.

Figure 6: Horizontal Vent Termination Clearances, Side Elevation

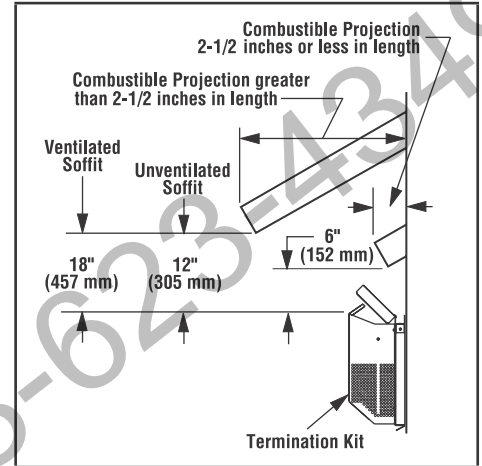


Figure 7: Horizontal Vent Termination Clearances

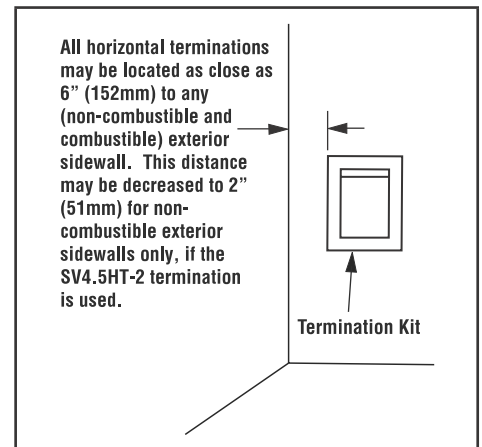
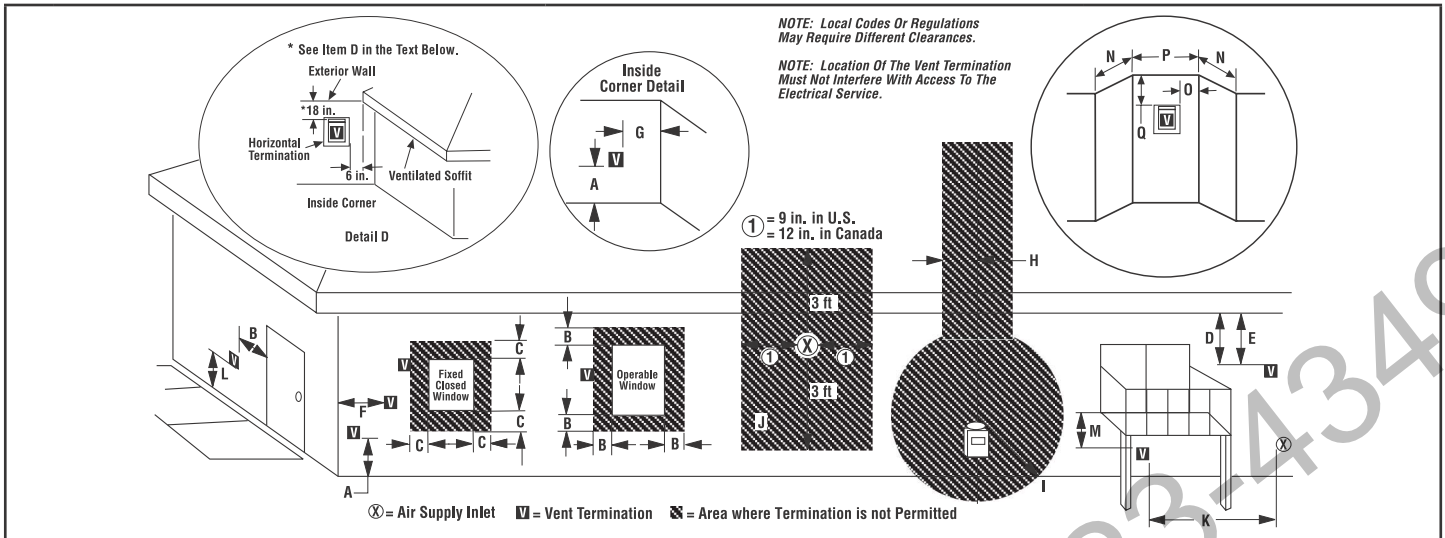


Table 6: Exterior Horizontal Vent Termination Clearances



	U.S. Installation **	Canadian Installation *
A Clearance above grade, veranda, porch, desk, or balcony	12 in. (300 mm) **	12 in. (300 mm) *
B Clearance to window or door that may be opened	6 in. (150 mm) for appliances < 10,000 Btuh (3 kW), 9 in. (230 mm) for appliances > 10,000 Btuh (3 kW), and < 50,000 Btuh (15 kW), 12 in. (300 mm) for appliances > 50,000 Btuh (15 kW) **	6 in. (150 mm) for appliances < 10,000 Btuh (3 kW), 12 in. (300 mm) for appliances > 10,000 Btuh (3 kW)
C Clearance to permanently closed window	9 in. (229 mm) recommended to prevent window condensation	12 in. (305 mm) recommended to prevent window condensation
D Vertical clearance to ventilated soffit located above the termination within a horizontal distance of 18 in. (458 mm)	18 in. (458 mm)	18 in. (458 mm)
E Clearance to unventilated soffit	12 in. (305 mm)	12 in. (305 mm)
F Clearance to outside corner	5 in. (127 mm) minimum	5 in. (127 mm) minimum
G Clearance to inside corner	2 in. (50.8 mm) minimum—SV4.5HT-2 • 6 in. (152 mm) minimum—SV4.5HTSS	2 in. (50.8 mm) minimum—SV4.5HT-2 • 6 in. (152 mm) minimum—SV4.5HTSS
H Clearance to each inside of center line extended above meter / regulator assembly	36 in. (910 mm) within a height of 15 ft above the meter / regulator assembly **	36 in. (910 mm) within a height of 15 ft above the meter / regulator assembly *
I Clearance to service regulator vent outlet	36 in. (910 mm) **	36 in. (910 mm) *
J Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in. (150 mm) for appliances < 10,000 Btuh (3 kW), 9 in. (230 mm) for appliances > 10,000 Btuh (3 kW) and < 50,000 Btuh (15 kW), 12 in. (300 mm) for appliances > 50,000 Btuh (15 kW) **	6 in. (150 mm) for appliances < 10,000 Btuh (3 kW), 12 in. (300 mm) for appliances > 10,000 Btuh (3 kW)
K Clearance to a mechanical air supply inlet	36 in. (910 mm) above if within 10 ft (3 m) horizontally **	72 in. (1830 mm) *
L Clearance above paved sidewalk or paved driveway located on public property	84 in. (2130 mm) ‡	84 in. (2130 mm) ‡
M Clearance under veranda, porch, deck or balcony	12 in. (300 mm) *‡	12 in. (300 mm) *‡
N Depth of alcove (maximum)	72 in. (1830 mm) **	72 in. (1830 mm) *
O Clearance to termination (alcove)	6 in. (15.2 mm) **	6 in. (15.2 mm) *
P Width of alcove (minimum)	36 in. (910 mm) **	36 in. (910 mm) *
Q Clearance to combustibles above (alcove)	18 in. (457 mm) **	18 in. (457 mm) *

* In accordance with the current CSA-B149.1 National Gas And Propane Installation Code

** In accordance with the current ANSI SZ223.1/NFPA 54 National Fuel Gas Codes

‡ 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 two sides beneath the floor

• 2 in. clearance to non-combustibles for SV4.5HT-2 only

MINIMUM CLEARANCE TO COMBUSTIBLES

The appliance is approved with zero clearance to combustible materials on all sides (**Table 7**), with the following exception: When the unit is installed with one side flush with a wall, the wall on the other side of the unit must not extend beyond the front edge of the unit. In addition, when the unit is recessed, the side walls surrounding the unit must not extend beyond the front edge of the unit (**Figure 3**).

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

Shelf Height—To provide for the lowest possible shelf surface, use the alternate rear vent outlet, the venting attached to the top vent should be routed in a way to minimize obstructions to the space above the appliance. Do not insulate the space between the appliance and the area above it (**Table 8**). The minimum height from the base of the appliance to the underside of combustible materials used to construct a utility shelf in this fashion is shown in **Table 8**.

The appliance should be mounted on a fully supported base extending the full width and depth of the unit. 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 must be used.

Table 7: Minimum Clearances *

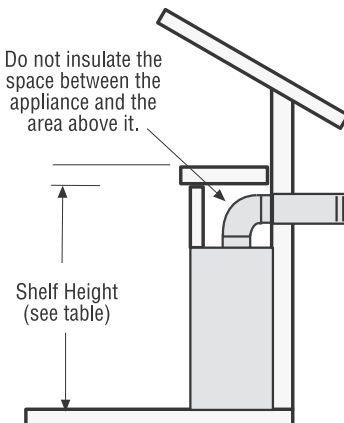
Back	1/2 in. (13 mm) 0 in. (0 mm) from Spacers or Dimples
Sides	1/2 in. (13 mm) 0 in. (0 mm) from Spacers or Dimples **
Top of Fireplace	3 in. (76 mm) 0 in. (0 mm) with standoff(s) in vertical position (Figure 10)
Floor	0 in. (0 mm)
From Bottom of Unit To Ceiling	minimum of 64 in. (1626 mm)
Vent	3 in. (76 mm)—Top * *** 1 in. (25.4 mm)—Sides and Bottom
Front Service	36 in. (914 mm)

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

** Note: See **Frame the Fireplace on Page 9** for clearance requirements to the nailing flange located at each side of the unit and any screw heads adjacent to it.

*** Note: Top vent clearance can be reduced to 2 in. on horizontal runs when first elbow is located at least 6 ft above the fireplace.

Table 8: Shelf Height Minimum Clearances



Models	Top Vent—with One 90° Elbow	
	Secure Vent	Secure Flex
MLDVT-30/35	46 1/2 in. (1181 mm)	48 1/4 in. (1226 mm)
MLDVT-40/45	51 1/2 in. (1308 mm)	53 1/4 in. (1349 mm)

Wall Finishes, Surrounds, and Mantels

NOTE: Combustible wall finish materials and/or surround materials must not be allowed to encroach the area defined by the appliance front face (black sheet metal). Never allow combustible materials to be positioned in front of or overlapping the appliance face (**Figure 39 on Page 31**).

Non-combustible materials, such as surrounds and other appliance trim, may be installed on the appliance face, but they must not cover any portion of the removable glass panel or control compartment.

Vertical installation clearances to combustible mantels vary according to the depth of the mantel (**Figure 8**). 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 fireplace hood.

Minimum clearance requirements include any projections such as shelves, window sills, mantels, etc. above the appliance.

NOTE: We recommend the use of high temperature paint (rated 175 °F, or higher) on the underside of the mantel.

Figure 8: Minimum Mantel Clearances

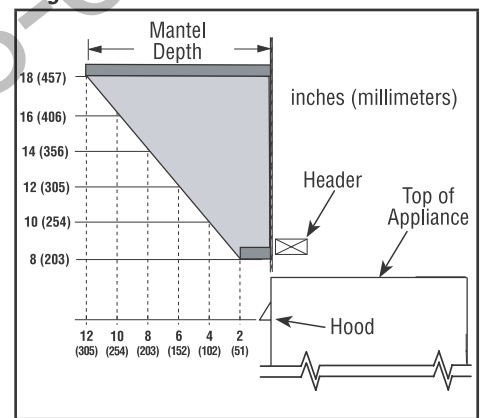
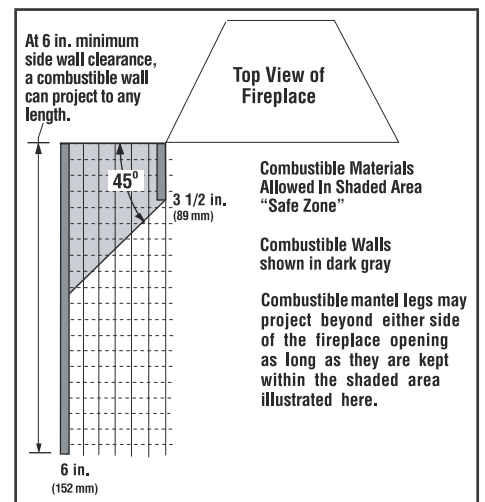


Figure 9: Minimum Distance to Side Wall



PRE-INSTALLATION STEPS

The appliance is shipped with all gas controls and components installed and pre-wired. Before installing the appliance, follow these steps:

1. Remove the shipping carton.
2. Remove the shipping pad, exposing the front glass door.

TYPICAL INSTALLATION SEQUENCE

The typical sequence of installation is outlined below; however, each installation is unique and may result in variations to the steps described.

1. **Wire the [Optional] Blower Kit Before Installation in the Framing**
2. **Frame the Fireplace**
3. **Route the Gas Line**
4. **Install the Vent System**
5. **Field Wiring**
6. **Wire the [Optional] Blower Kit After Installation in the Framing**
7. **Connect the Gas Line**
8. **Verify Proper Appliance Operation**
9. **Install the Logs, Volcanic Stone, and Embers**
10. **Install the Glass Door**
11. **Adjust the Burner**
12. **Install the Hood**
13. **Attach the Safety-in-Operation Warnings**

DETAILED INSTALLATION STEPS

Follow these steps to complete fireplace installation:

Wire the [Optional] Blower Kit Before Installation in the Framing

Remove the left side blower cover panel screw, and blower cover panel (**Table 11**). Retain the panel and screw for later reinstallation.

Slide the blower through the opening and position it with the bracket oriented to the front of the firebox and the blower discharge to the rear of the firebox. Bend the two tabs in the firebox floor to secure the blower to the floor.

Reinstall the blower cover panel and secure with the removed screw.

Access the blower supply wiring through the front of the firebox and plug it into the junction box in the right, rear of the firebox (**Figure 28**).

Install the blower control switch according to its included instructions.

Frame the Fireplace

Frame the appliance as illustrated in **Table 9** on **Page 10**. For corner framing installations, use **Table 10** on **Page 10**. All framing details must allow for a minimum clearance to combustible framing members as shown in **Table 7** on **Page 8**.

If the appliance is to be elevated above floor level, a solid continuous platform must be constructed below the appliance.

Bend up the outer pair for 1/2 in. materials and the inner pair for 5/8 in. materials.

Headers may be in direct contact with the appliance top standoff spacers when they are bent up vertically, maintaining the 3 in. clearance to the fireplace top, 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.

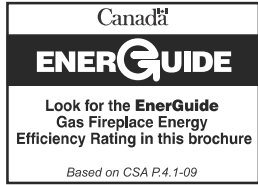
Bend out the appropriate nailing flanges for the drywall/finish material to be used (**Figure 10**). Nailing flanges are provided for:

- flush framing,
- 1/2 in., and
- 5/8 in. framing depths.

Secure the fireplace to the side framing members using the unit's nailing flanges—one top and bottom on each side of the fireplace front (**Figure 10**). Use 8d nails or their equivalent.

Table 9: Fireplace Framing Specifications

Model		A	B	C	D
MLDVT-30	in.	30 1/4	35 1/4	38 3/4	16
	mm	768	895	984	406
MLDVT-35	in.	35 1/4	35 1/4	38 3/4	16
	mm	895	895	984	406
MLDVT-40	in.	40 1/4	40 1/4	43 3/4	16
	mm	1022	1022	1111	406
MLDVT-45	in.	45 1/4	40 1/4	43 3/4	16
	mm	1149	1022	1111	406



Note:

Diagrams, illustrations and photographs are not to scale. Consult installation instructions. Product designs, materials, dimensions, specifications, colors, and prices are subject to change or discontinuation without notice.

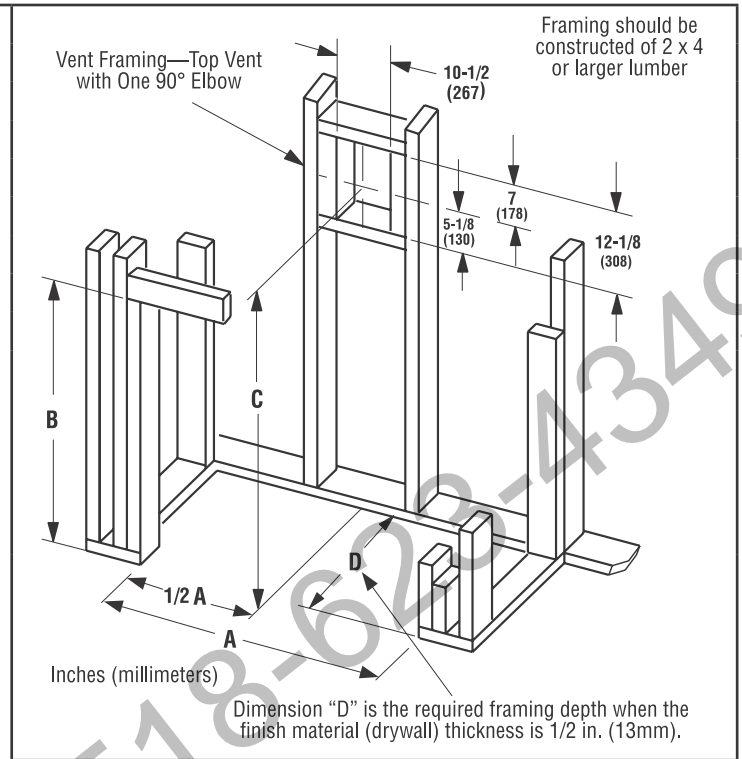


Table 10: Fireplace Framing Specifications—Corner Installation with Horizontal Termination

Model		A	B	C	D	E
MLDVT-30	in.	30 1/4	53 3/16	37 29/32	26 13/16	12 1/4
	mm	768	1350	963	681	311
MLDVT-35	in.	35 1/4	57 1/2	40 5/8	28 3/4	13 3/4
	mm	895	1461	1032	730	349
MLDVT-40	in.	40 1/4	61 13/16	43 11/32	30 11/16	15 1/8
	mm	1022	1554	1101	779	384
MLDVT-45	in.	45 1/4	66 1/8	46 1/16	32 5/8	16 1/2
	mm	1149	1680	1170	829	419

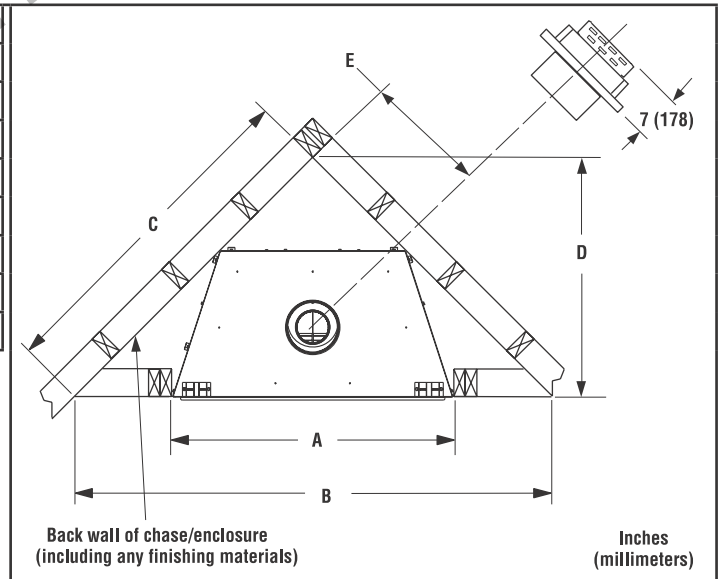


Table 11: Fireplace Specifications

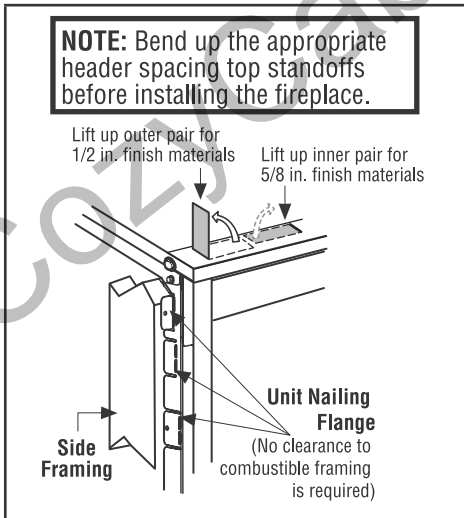
NOTE: It is recommended that the gas be stubbed in from the left side only.

Model		E	F	G	H	J	K	L	M
MLDVT-30	in.	32 1/4	28 1/8	23 1/4	27	30 1/4	20	10	28
	mm	819	714	590	686	768	508	254	711
MLDVT-35	in.	32 1/4	28 1/8	23 1/4	32	35 1/4	25	12 1/2	33
	mm	819	714	590	813	895	635	317	838
MLDVT-40	in.	37 1/4	33 1/8	28 1/4	37	40 1/4	30	15	38
	mm	946	841	718	940	1022	762	381	965
MLDVT-45	in.	37 1/4	33 1/8	28 1/4	42	45 1/4	35	17 1/2	43
	mm	946	841	718	1067	1149	889	445	1092

Table 12: Thermal Efficiency (%)

Model	Natural Gas		Propane	
	AFUE	P4	AFUE	P4
MLDVT-30	62	51	62.8	54
MLDVT-35	63	59	63.2	61
MLDVT-40	65.8	61	66.6	61
MLDVT-45	68.1	59	68.9	61

Figure 10: Unit Secured to Framing by Nailing Flange



NOTE: The nailing flanges, combustible members, and screw heads in areas directly adjacent to the nailing flanges are EXEMPT from the 1/2 in. (13 mm) clearance to combustible requirements for the firebox outer wrapper.

Combustible framing may be in direct contact with the nailing flanges and may be located closer than 1/2 in. (13 mm) from screw heads and the firebox wrapper in areas adjacent to the nailing flanges.

Frame the opening to the exact dimensions specified in the framing details in this manual.

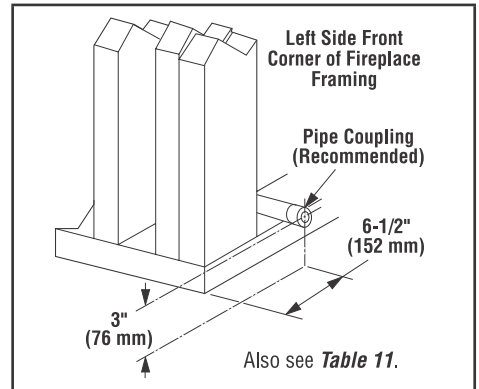
Vertical Venting through the Ceiling

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 in. (267 x 267 mm) inside dimensions, about this center mark (**Figure 14**).

Route the Gas Line

Route a 1/2 in. (13 mm) gas line to the left side of the appliance as shown in **Figure 11**. Gas lines must be routed, constructed, and made of materials that are in strict accordance with local codes and regulations. All appliances are factory-equipped with a flexible gas line connector and 1/2 in. shutoff valve. (see **Connect the Gas Line** on **Page 24**).

Figure 11: Route the 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 CAN/CSA-B149.1—latest edition (Canada).

Never use galvanized or plastic pipe. Refer to **Table 13** 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.

**Table 13: Schedule 40 Black Iron Pipe—
Inside Diameter**

Schedule 40 Pipe Length (feet)	Natural Gas	Propane Gas
0–10	1/2 in.	3/8 in.
10–40	1/2 in.	1/2 in.
40–100	1/2 in.	1/2 in.
100–150	3/4 in.	1/2 in.
150–200	3/4 in.	1/2 in.

NOTE:

- All appliances are factory-equipped with a flexible gas line connector and 1/2 in. shutoff valve (*Figure 29*).
- See *Massachusetts Horizontal Vent Requirements on Page 4* 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 **Connect the Gas Line on Page 24**.
- 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.
- Check with local building official for local code requirements.

NOTE: 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. NPFA 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.

Install the Vent System

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

Ensure clearances are in accordance with local installation codes and the requirements of the gas supplier.

Dégagement conforme aux codes d'installation locaux et aux exigences du fournisseur de gaz.

Use only approved vent components (*Page 2*).

NOTE: These fireplaces must be vented directly to the outside.

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

Installation of Vent Restrictor

A vent restrictor may be needed with this appliance, install vent restrictor (provided) in the appliance top flue outlet as shown in *Figure 12*. It is held in place by friction, only.

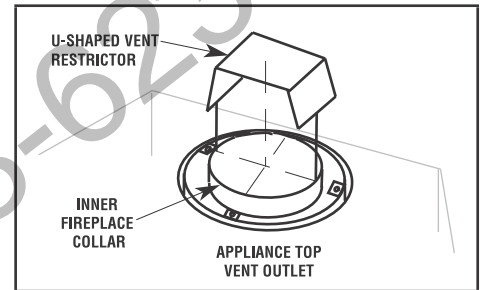
NOTE: The vent restrictor is included in the firebox.

**Select 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 are shown on *Page 33*.

A vent restrictor may be needed when vertically terminating the vent system above the roof (when using the appliance top vent), install vent restrictor in the top vent of the fireplace outlet (top vent units). If needed, install the restrictor orientated as shown, either from inside or outside the unit, in the inner fireplace collar.

**Figure 12: Vent restrictor installation—
Top vent**



Vertical Termination Systems

See *Figure 13, Figure 20, Table 17, and Table 18 on Page 16* that illustrate the various vertical venting configurations that are possible for use with these appliances. Secure Vent® pipe applications are shown in these Figures; Secure Flex® pipe may also be used. 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. The minimum vent height above the roof and/or adjacent walls is specified in ANSI Z223.1 (In Canada, the current CAN/GSA-B149.1 installation code) by major building codes. Always consult your local codes for specific requirements. A general guide to follow is the Gas Vent Rule (*Figure 6 on Page 6*).

Vertical (Straight) Installation

Determine the number of straight vent sections required:

- 4 1/2 in. (114 mm),
- 10 1/2 in. (267 mm),
- 22 1/2 in. (572 mm),
- 34 1/2 in. (876 mm), and
- 46 1/2 in. (1181 mm)

net section lengths are available (**Table 14** and **Installation Accessories on Page 33**). Plan the vent lengths so that a joint does not occur at the intersection of ceiling or roof joists (**Table 14**).

Figure 13: Vertical (Straight) Installation

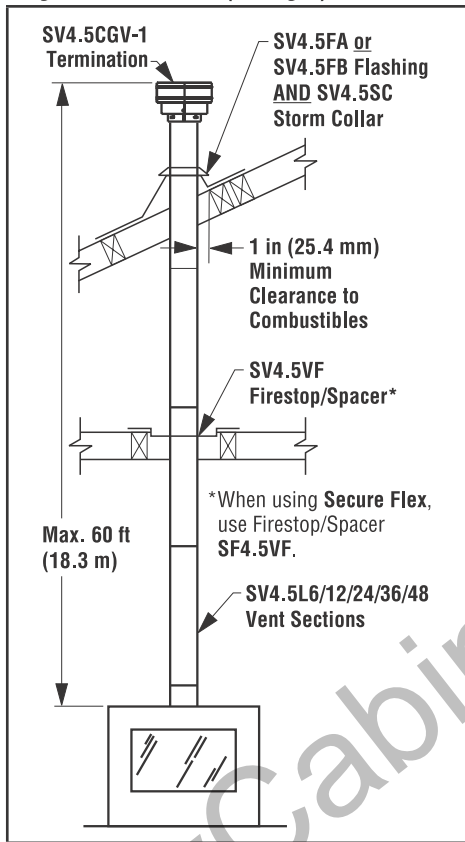


Table 14: Vent Section Length

Nominal Section Length (in.)	6	12	24	36	48	Total Qty	
Net Section Length (in.)	4.5	10.5	22.5	34.5	46.5		
Height of Vent	Number of Vent Sections						
in.	ft						
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
22.5	1.875	0	0	1	0	0	1
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

Table 14: Vent Section Length

Nominal Section Length (in.)	6	12	24	36	48	Total Qty	
Net Section Length (in.)	4.5	10.5	22.5	34.5	46.5		
Height of Vent	Number of Vent Sections						
in.	ft						
45	3.75	0	0	2	0	0	2
46.5	3.875	0	0	0	0	1	1
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
67.5	5.625	0	0	3	0	0	3
69	5.75	0	0	0	2	0	2
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
91.5	7.625	0	0	2	0	1	3
93	7.75	0	0	0	0	2	2
97.5	8.125	1	0	0	0	2	3
103.5	8.625	0	0	0	3	0	3
108	9	1	0	0	3	0	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
139.5	11.625	0	0	0	0	3	3
142.5	11.875	1	0	0	4	0	5
144	12	1	0	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
186	15.5	0	0	0	0	4	4
196.5	16.375	0	1	0	0	4	5
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
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
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
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
325.5	27.125	0	0	0	0	7	7
330	27.5	1	0	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
379.5	31.625	0	0	0	11	0	11

Table 14: Vent Section Length

Nominal Section Length (in.)	6	12	24	36	48	Total Qty	
Net Section Length (in.)	4.5	10.5	22.5	34.5	46.5		
Height of Vent	Number of Vent Sections						
in.	ft						
465	38.75	0	0	0	0	10	10
475.5	39.625	0	1	0	0	10	11
480	40	1	1	0	0	10	11
492	41	1	0	1	0	10	12
499.5	41.625	0	0	0	1	10	11
504	42	1	0	0	1	10	12
511.5	42.625	0	0	0	0	11	11
520.5	43.375	0	2	0	1	11	14
531	44.25	0	2	2	0	11	15
538.5	44.875	1	0	0	2	11	14
549	45.75	1	0	2	1	11	15
558	46.5	0	0	0	0	12	12
562.5	46.875	1	0	0	0	12	13
568.5	47.375	0	1	0	0	12	13
573	47.75	1	1	0	0	12	14
580.5	48.375	0	0	1	0	12	13
589.5	49.125	0	1	2	2	10	15
595.5	49.625	1	1	1	0	12	15
604.5	50.375	0	0	0	0	13	13
615	51.25	0	1	0	0	13	14
625.5	52.125	0	2	0	0	13	15
631.5	52.625	1	0	1	0	13	15
637.5	53.125	0	1	1	0	13	15
651	54.25	0	0	0	0	14	14
655.5	54.625	1	0	0	0	14	15
672	56	0	2	0	0	14	16
678	56.5	1	0	1	0	14	16
688.5	57.375	1	1	1	0	14	17
697.5	58.125	0	0	0	0	15	15
702	58.5	1	0	0	0	15	16
712.5	59.375	1	1	0	0	15	17
720	60	0	0	1	0	15	16

Table 15: Effective Vent Length

Model	Effective Length
SV4,5L6	4 1/2 in.
SV4,5L12	10 1/2 in.
SV4,5L24	22 1/2 in.
SV4,5L36	34 1/2 in.
SV4,5L48	46 1/2 in.

Vertical (Offset) Installation

Analyze the vent routing and determine the quantities of vent sections and number of elbows required. Refer to **Table 14** to select the type of vertical installation desired. Vent sections are available in net lengths of

- 4 1/2 in. (114 mm),
- 10 1/2 in. (267 mm),
- 22 1/2 in. (572 mm),
- 34 1/2 in. (876 mm), and
- 46 1/2 in. (1181 mm).

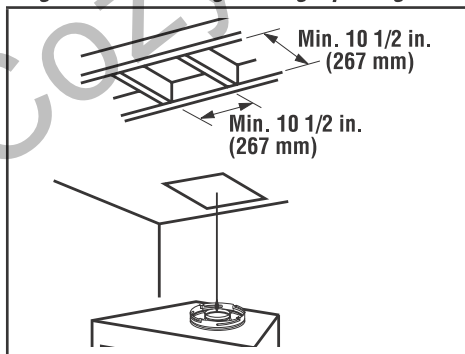
Refer to **Table 14** for an aid in selecting length combinations. Elbows are available in 90° and 45° configurations. Refer to **Figure 17** for the SV4.5E45 and SV4.5E90 elbow dimensional specifications.

Where required, a telescopic vent section (SV4.5LA) may be used to provide the installer with an option of 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 in. (38 mm) to 7 1/2 in. (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 (3) screws.

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

1. **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 in. (267 x 267 mm) inside dimensions, about this center mark (**Figure 14**).

Figure 14: Framing Ceiling Opening



2. **Attach vent components to appliance**—Secure Vent® SV4.5 direct vent system components are unitized concentric pipe components featuring positive twist lock

connections (**Figure 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.

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 (**Figure 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 without the need for sealant or screws. If desired a #6 x 1/2 in. screw may be used at the joint, but it is 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 a vent section.

3. **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 (**Figure 15**).

4. **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.

Maintain 1 in. (25 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections.

Attic insulation shield (H3907) may be used to obtain the required clearances indicated here (**Installation Accessories on Page 33**). The gap between the vent pipe and a vertical firestop can be sealed with non-combustible caulking.

5. **Support the vertical vent run sections**—Support the vertical portion of the venting system every 8 ft (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 in. length may be used to secure the support straps to the vent pipe (**Figure 16**).

NOTE: Proper venting support is very important. The weight of the vent must not be supported by the fireplace.

Figure 15: Twist Lock Vent Pipes

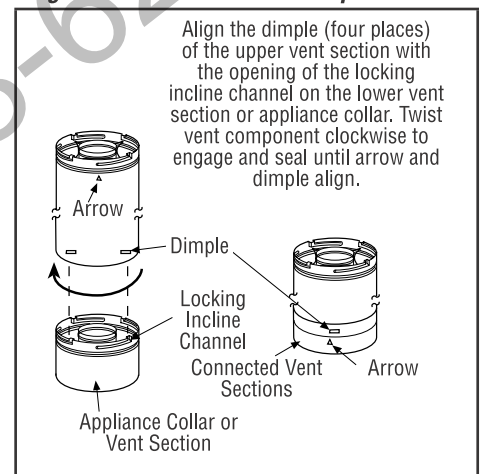
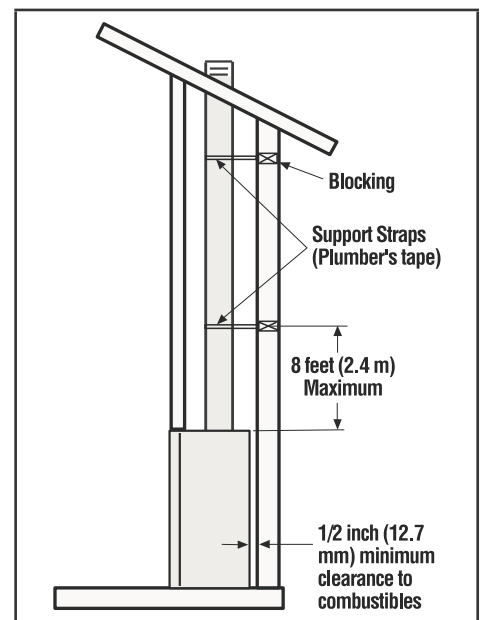
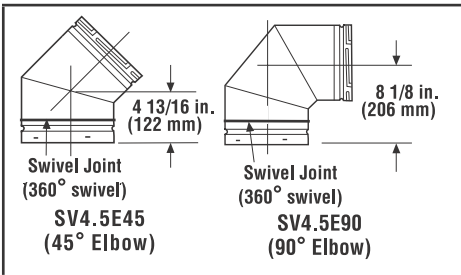


Figure 16: Supporting the Vertical Vent Run



6. 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 (*Figure 15*).

Figure 17: Vent Elbows



7. Continue installation of horizontal/inclined sections—Continue with the installation of the straight vent sections in horizontal/inclined run as described on **Page 14**. Install support straps every 5 ft (1.52 m) along horizontal/inclined vent runs using conventional plumber's tape.

It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4 in. per foot (20 mm per meter) horizontal, in a direction away from the fireplace. 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 in. (25 mm) at all sides for all vertical runs; and
- 3 in. (76 mm) at the top,
- 1 in. (25 mm) at sides, and
- 1 in. (25 mm) at the bottom for all horizontal/inclined runs.

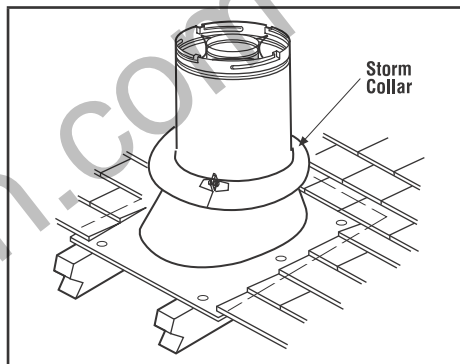
8. Frame roof opening—Identify location for vent at the roof. Cut and/or frame opening (*Table 16*).

Table 16: Framing Dimensions for Roof

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)

9. 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) (*Figure 18*). 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.

Figure 18: Installing the Roof Flashing and Storm Collar

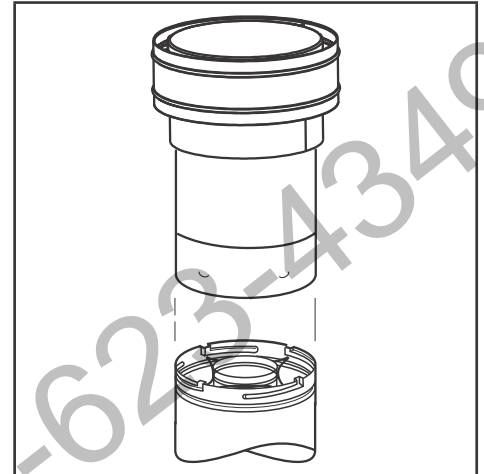


10. Install the storm collar—Install the storm collar, supplied with the flashing, over the vent/flashing joint (*Figure 18*). Loosen the storm collar screw. Slide collar down until it meets the top of the flashing. Tighten the adjusting screw. Apply non-combustible caulking or mastic around the circumference of the joint to provide a water tight seal.

11. 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 **Vertical Vent Termination Clearances on Page 6**. The SV4.5CGV-1 vertical termination (*Figure 19*) installs 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 19: SV4.5CGV-1 Vertical Termination



NOTE: If the vent system extends more than 5 ft (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 Tables and Figures

NOTE: Secure Vent® rigid vent pipe is shown in the figures. Secure Flex® flexible vent pipe may also be used.

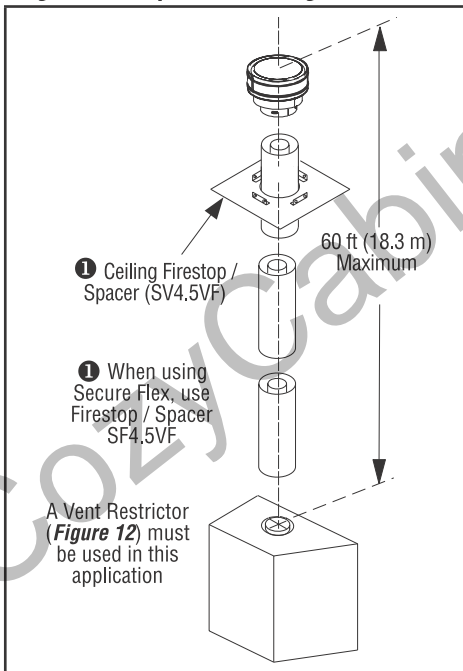
NOTE: It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4 in. per foot (20 mm per meter) horizontal, in a direction away from the fireplace. The rise per foot run ratios that are smaller are acceptable all the way down to at or near level.

NOTE: 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.

NOTE: Two 45° elbows may be used in place of one 90° elbow. The same rise to run ratios, as shown in the venting figures for 90°, must be followed if 45° elbows are used.

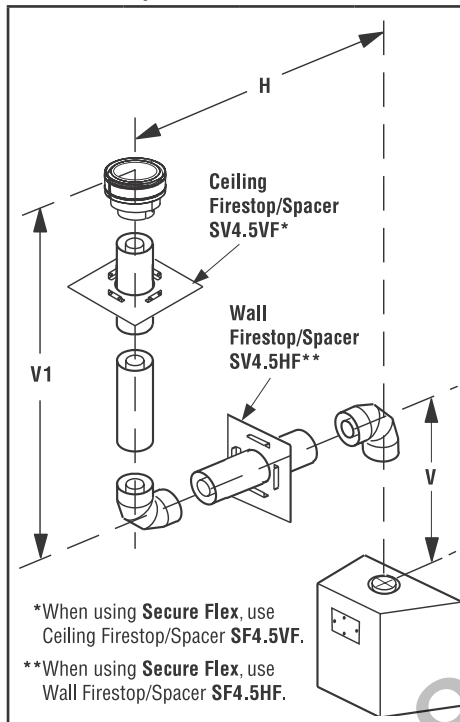
NOTE: An elbow is acceptable as 1 foot of vertical rise, except where an elbow is the only vertical component in the system (**Table 20**).

Figure 20: Top Vent—Straight



A Vent Restrictor (**Figure 12**) must be used in this application.

Table 17: Top Vent—Two 90° Elbows



H Maximum		V Maximum	
feet	meters	feet	meters
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

V + V₁ + H = 60 ft (18.3 m) maximum

H = 20 ft (6.096 m) maximum

Install the U-shaped vent restrictor in any vent run with more than 8 ft of vertical rise (**Figure 12**).

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

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

An elbow is acceptable as 1 ft of vertical rise except where an elbow is the only vertical component in the system (**Table 20**).

! WARNING

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

Table 18: Top Vent—Three Elbows

H + H ₁ Maximum		V Minimum	
feet	meters	feet	meters
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

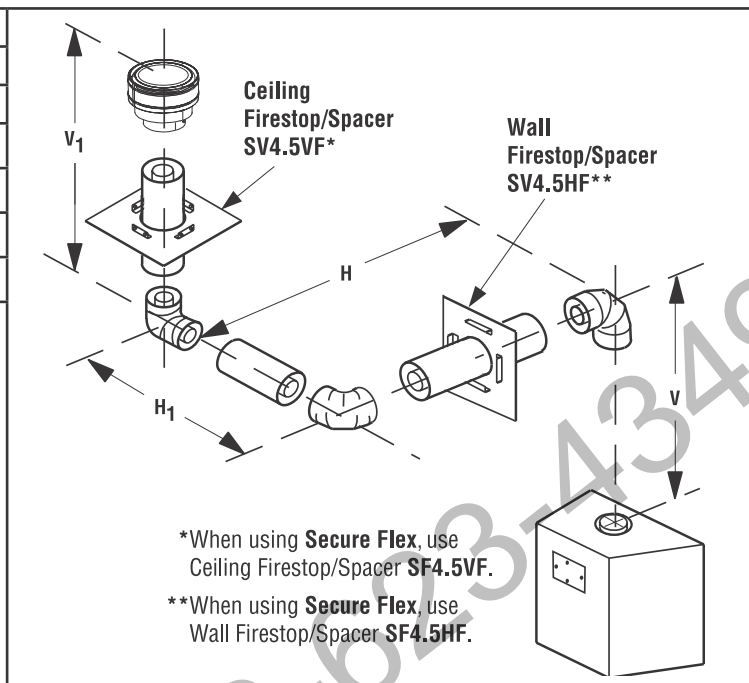
H + H₁ = 20 ft (6.1 m) maximum
 V + V₁ + H + H₁ = 60 ft (18.3 m) maximum

Install the U-shaped vent restrictor in any vent run with more than 8 ft of vertical rise (**Figure 12**).

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

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

An elbow is acceptable as 1 ft of vertical rise except where an elbow is the only vertical component in the system (**Table 20**).



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Horizontal Termination System

Figure 21, and **Table 20** to **Table 23** on **Page 20** illustrate the various horizontal venting configurations that are possible for use with these appliances. Secure Vent® pipe applications are shown in these figures; Secure Flex® pipe may also be used. 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 3** on **Page 5** for location guidelines.

Secure Vent SV4.5 direct vent system components are unitized concentric pipe components featuring positive twist lock connection (**Figure 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.

1. Plan the vent run—Analyze the vent routing and determine the types and quantities of sections required:

- 4 1/2 in. (114 mm),
- 10 1/2 in. (267 mm),
- 22 1/2 in. (572 mm),
- 34 1/2 in. (876 mm), and
- 46 1/2 in. (1181 mm)

net section lengths are available. It is recommended that you plan the venting so that a joint does not occur in the ceiling or roof joists. Allow for elbows as indicated in (**Figure 17**).

Maintain a minimum 1 in. (25 mm) clearance to combustibles on the vertical sections. Clearances for the horizontal runs are:

- 3 in. (76 mm) on top,
- 1 in. (25 mm) on sides, and
- 1 in. (25 mm) at the bottom.

NOTE: Top vent clearance can be reduced to 2 in. on horizontal runs when first elbow is located at least 6 ft above the fireplace.

2. Frame exterior wall opening—

Locate the center of the vent outlet on the exterior wall according to the dimensions shown in **Table 9** on **Page 10**. Cut and/or frame an opening, 10 1/2 x 12 1/8 in. (267 x 308 mm) inside dimensions, about this center.

3. 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 in. (267 x 267 mm) inside dimensions, about this center (**Figure 14**).

4. 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 (**Figure 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 are seated 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.

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

5. 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 15**).

6. 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.

NOTE: Maintain 1 in. (25 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections.

7. Support the vertical run sections—On the vertical run, support the venting system every 8 ft (2.4 m) above the fireplace vent outlet with field provided support straps (Plumber's tape). Attach the straps to the vent pipe and secure to the framing members with nails or screws (**Figure 16**).

DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

8. 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 (**Figure 17**).

9. Continue installation of horizontal/inclined sections—Continue with the installation of the straight vent sections in horizontal/inclined run as described in **Step 5**. Install support straps every 5 ft. (1.52 m) along horizontal/inclined vent runs using conventional plumber's tape (**Figure 21**). It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4 in. per foot (20 mm per meter) horizontal, in a direction away from the fireplace. Rise per foot run ratios are acceptable 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 in. (25 mm) on all sides for all vertical runs; and
- 3 in. (76 mm) at the top,
- 1 in. (25 mm) on sides, and
- 1 in. (25 mm) at the bottom for all horizontal/inclined runs.

NOTE: Top vent clearance can be reduced to 2 in. on horizontal runs when first elbow is located at least 6 ft above the fireplace.

10. 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 2**. Assemble the vent system to point where the terminus of the last section is within 7 in. (178 mm) to 11 1/4 in. (286 mm) inboard of the exterior surface to which the SV4.5HT termination is to be attached (**Figure 23**). If the terminus of the last section is not within this distance, use the telescopic vent section SV4.5LA, as the last vent section. For wall thicknesses greater than that shown in **Figure 23**, refer to **Table 19** on **Page 20**. This table lists the additional venting components needed (in addition to the termination and adaptor) for a particular range of wall thicknesses.

11. Attach termination adaptor—Attach the adaptor (SV4.5RCH, provided with the termination) to the vent section or telescoping vent section), elbow or appliance collar as shown in **Figure 23** in the same manner as any SV4.5 vent component (**Step 5**).

12. 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 in. spacer clearance at the top (**Figure 22**), and nail into place. The firestop/spacer may also be installed over the opening at the interior side of the framing.

13. Install the desired termination

- a. **SV4.5HT-2 or SV4.5HTSS Square termination**—For the last step, from outside the exterior wall, slide the collars of the termination onto the adaptor (the outer over the outer and the inner inside the inner) until the termination seats against the exterior wall surface to which it will be attached. Orient the housing of the termination with the arrow pointed upwards. Secure the termination to the exterior wall. The horizontal termination must not be recessed into the exterior wall or siding by more than the 1 1/4 in. (32 mm) as shown in **Figure 23**.
- b. **SVHRK Snorkel Cap**—The snorkel cap is designed to be fitted into a basement window box. The SVHRK cap is for use with flex vent. The vertical distance between the inlet and outlet of the cap is 28 in. (711 mm).

NOTE: 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, use a termination guard (**Page 33**). 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.

Figure 21: Typical Horizontal Vent Installation

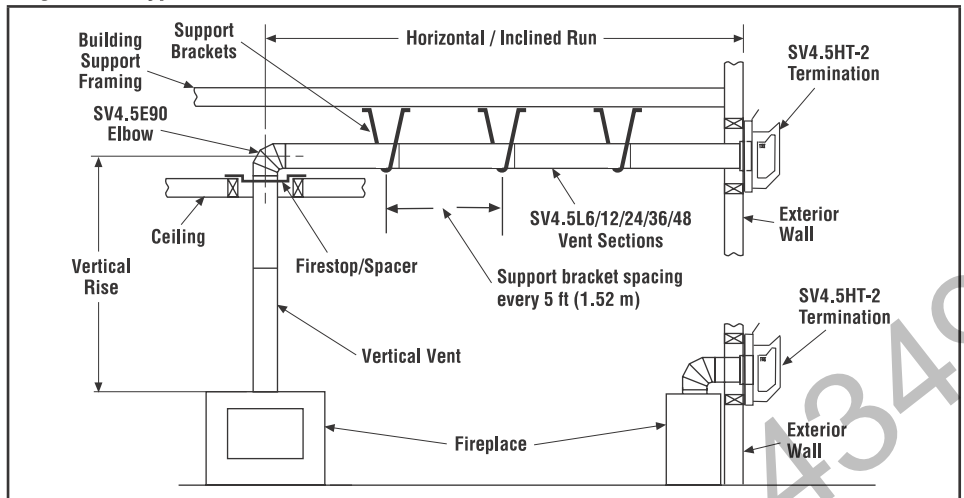


Figure 22: Installing the Square Horizontal Termination

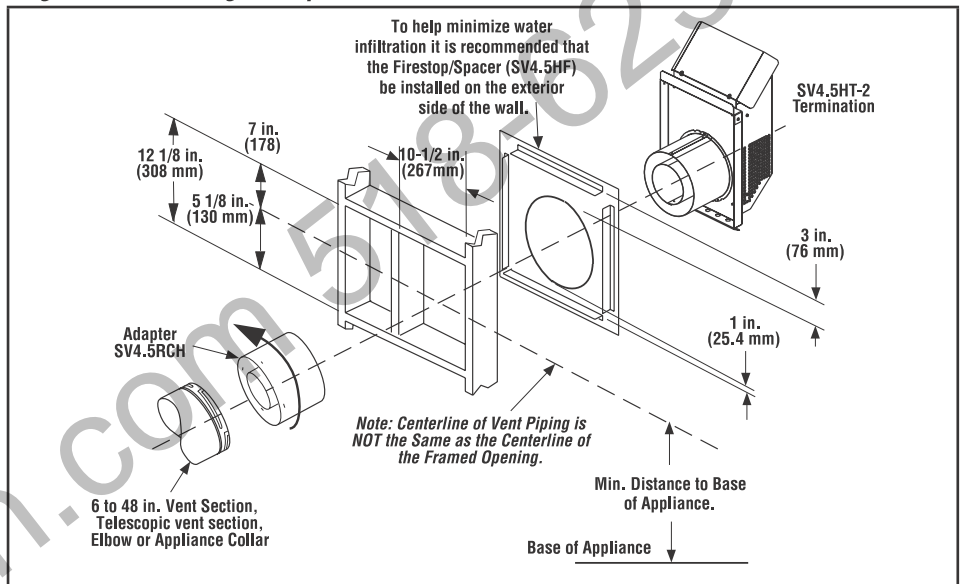
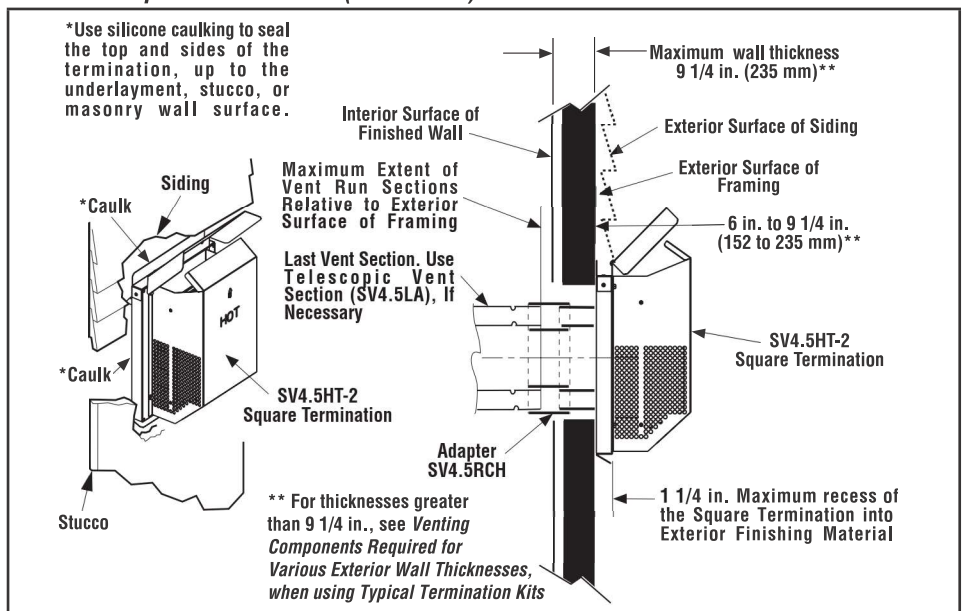


Figure 23: Venting Connection and Exterior Wall Recessing of the Horizontal Square Termination (SV4.5HT-2)



Horizontal Vent Tables and Figures

NOTE: 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.

NOTE: Two 45° elbows may be used in place of one 90° elbow. The same rise to run ratios, as shown in the venting figures for 90° elbows, must be followed if 45° elbows are used.

NOTE: It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4 in. per foot (20 mm per meter) horizontal, in a direction away from the fireplace. Rise per foot run ratios are acceptable to at or near level.

NOTE: 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.

! WARNING

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

Table 19: Venting Components Required for Various Exterior Wall Thicknesses, when using Typical Termination Kits

Vent Components Required	Exterior Wall Thickness
Termination Kit Only	6–9 1/4 in. (152–235 mm)
Termination Kit and 6 in. Vent Section (SV4.5L6)	10 3/4–14 in. (2733–356 mm)
Termination Kit and 12 in. Vent Section (SV4.5L12)	16 3/4–20 in. (426–508 mm)
Termination Kit and Telescopic Section (SV4.5L12)	11 3/4–20 in. (299–508 mm)

Table 20: Top Vent—One 90° Elbow, Elbow Connection at Appliance

H Maximum		V Minimum	
feet	meters	feet	meters
3	0.914	Elbow Only (30/35/40 Models)	
2.5	0.762	Elbow Only (45 Model)	

Install the U-shaped vent restrictor in any vent run with more than 8 ft of vertical rise (Figure 12).

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

See Table 19 as an aid in venting component selection for a particular range of exterior wall thicknesses.

Table 21: Top Vent—One 90° Elbow, Elbow Connection NOT at Appliance

H Maximum		V Minimum	
feet	meters	feet	meters
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 = 60 ft (18.3 m) maximum

H = 20 ft (6.096 m) maximum

Install the U-shaped vent restrictor in any vent run with more than 8 ft of vertical rise (Figure 12).

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

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

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

Table 22: Top Vent—Two 90° Elbows

H + H ₁ Maximum		V Minimum	
feet	meters	feet	meters
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 = 60 ft (18.3 m) maximum

H + H₁ = 20 ft (6.096 m) maximum

Install the U-shaped vent restrictor in any vent run with more than 8 ft of vertical rise (**Figure 12**).

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

See **Table 19** as an aid in venting component selection for a particular range of exterior wall thicknesses.

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

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

An elbow is acceptable as 1 foot of vertical rise except where an elbow is the only vertical component in the system (**Table 20**).

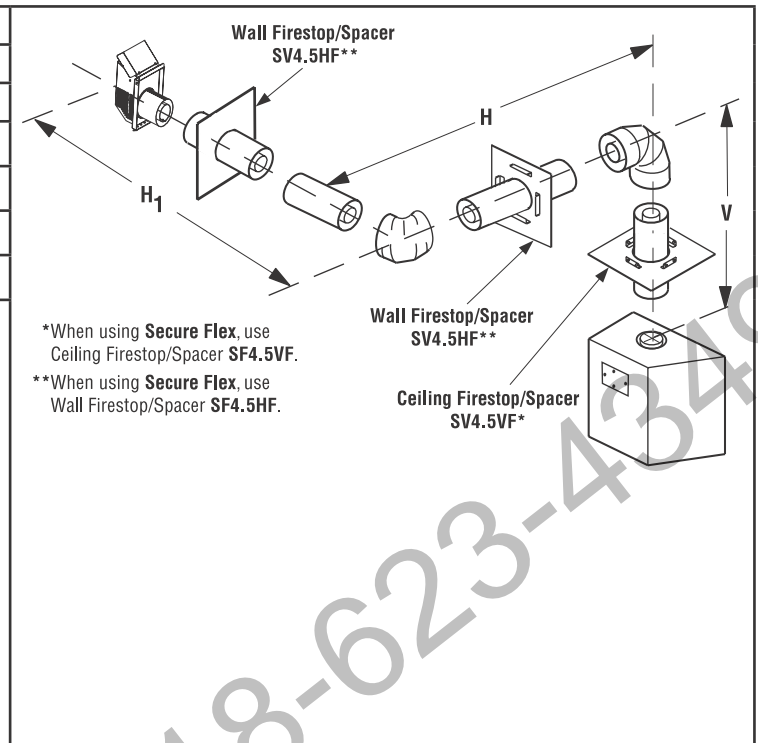


Table 23: Top Vent—Three 90° Elbows

H Maximum		V Minimum	
feet	meters	feet	meters
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 + H₁ = 20 ft (6.096 m) maximum

V + V₁ + H + H₁ = 60 ft (18.3 m) maximum

Install the U-shaped vent restrictor in any vent run with more than 8 ft of vertical rise (**Figure 12**).

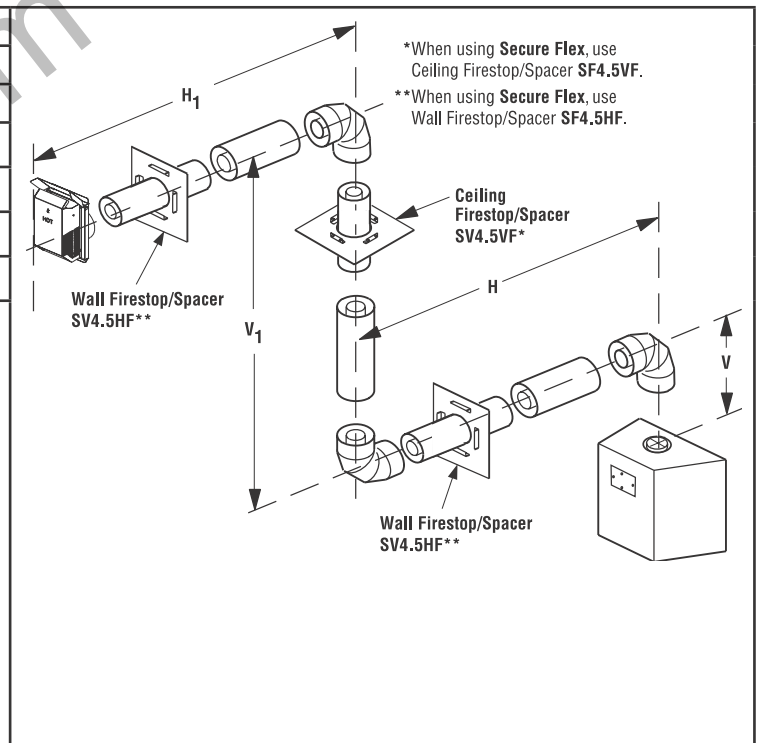
Square termination (SV4.5HT-2) shown.

See **Table 19** as an aid in venting component selection for a particular range of exterior wall thicknesses.

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

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

An elbow is acceptable as 1 foot of vertical rise except where an elbow is the only vertical component in the system (**Table 20**).



Venting Using Flexible Vent Pipe

Secure Flex® venting kits and components may be used in any venting application where rigid Secure Vent® (SV4.5) direct vent components can be used. 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. 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.

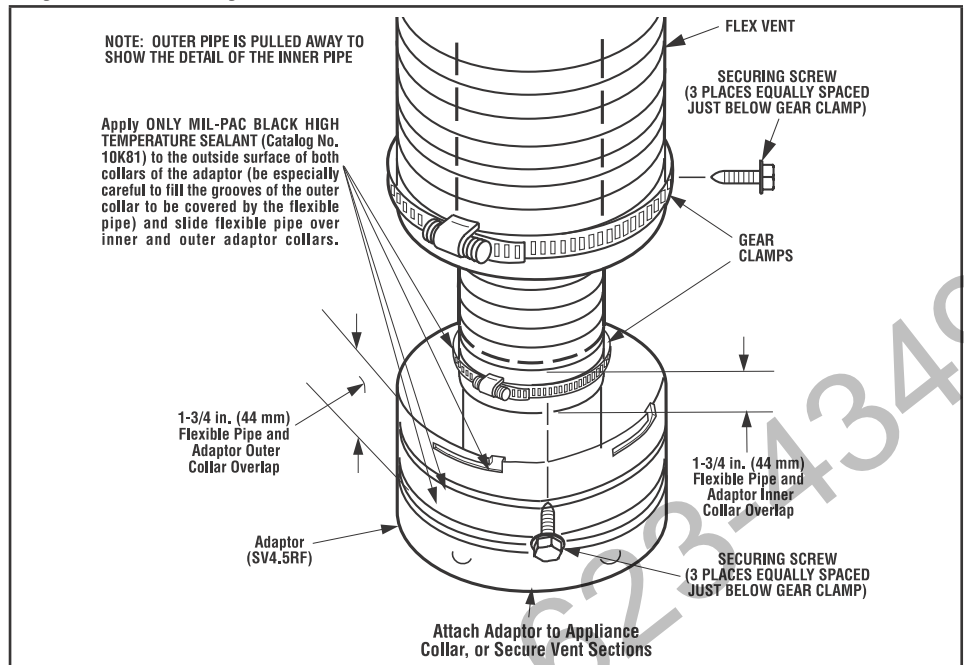
Secure Flex kits come with an included adaptor that can be fitted to the appliance collar or the inclined channel end of the last Secure Vent (SV4.5) vent section in a rigid system in the exact same fashion as any other Secure Vent section. Align the dimpled end of the adaptor over the previously installed section or appliance collar, adjusting the radial alignment until the four locking dimples of the adaptor are aligned with the inlets of the four incline channels of the last vent section or collar. Push on the adaptor until it fully engages, then twist the adaptor 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 adaptor as follows (**Figure 24**):

1. Install the Inner Flex Pipe

- Install the small gear clamp loosely around the inner flexible vent pipe, push it back out of the way.
- Apply a bead of Mill-Pac Black (700 °F) high temperature sealant (P/N 10K81) to the inner adaptor collar, approximately 1/2 in. from the end.
- Pull and extend the inner flexible vent pipe.
- Slide the inner flex pipe over the adaptor collar. Ensure the flexible vent pipe completely engages the adaptor collar to a distance of 1 3/4 in. from the end, and that it is free from damage or tears.
- Slide the gear clamp down and tighten it fully to secure the flexible vent to the adaptor inner collar approximately 3/4 in. from the end of the flex.
- Install three screws 120° apart through the flexible vent pipe and into the adaptor collar just below the gear clamp to provide additional security to the connection.

Figure 24: Attaching the Flexible Vent



2. Install the Outer Flex Pipe

- Install the large gear clamp loosely around the outer flexible vent pipe, push it back out of the way.
- Apply a bead of Mill-Pac Black (700 °F) high temperature sealant (P/N 10K81) to the outer adaptor collar; to the grooves of the collar which extend approximately 1 inch from the end and to the flat surface, approximately 1 3/8 in. from the end.
- Pull and extend the outer flexible vent pipe.
- Slide the outer flex pipe over the adaptor collar. Ensure the flexible vent pipe completely engages the adaptor collar to a distance of 1 3/4 in. from the end, and that it is free from damage or tears.
- Slide the gear clamp down and tighten it fully to secure the flexible vent to the adaptor outer collar approximately 3/4 in. from the end of the flex.
- Install three (3) screws 120° apart through the flexible vent pipe and into the adaptor collar just below the gear clamp to provide additional security to the connection.

3. Route Flex Vent

- Ensure 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 in. (127 mm) (**Figure 25**). Place the internal flex vent spacers evenly and avoid kinking the inner pipe. Support horizontal sections of flex vent with metal straps at 24 in. (610 mm) intervals.

4. Install Firestop/Spacers at ceilings and walls

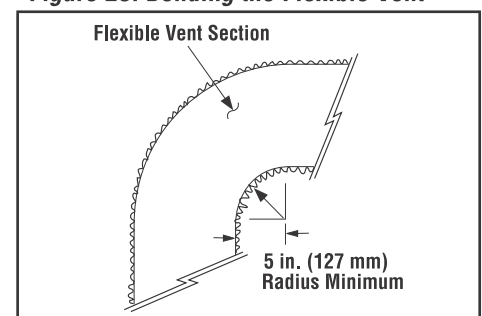
- When Secure Flex penetrates a wall or ceiling, a firestop/spacer is required. Use the SF4.5 VF firestop/spacer for ceilings and the SF4.5 HF firestop/spacer for walls. See the appropriate sections and figures shown throughout the venting section for their installation requirements.

5. 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 (**Figure 24**) as it was attached to the adaptor.

NOTE: Secure Flex vent must be attached to Secure Flex terminations only. DO NOT substitute Secure Vent terminations or the Secure Vent adaptor for Secure Flex components. The collars of Secure Flex terminations and adaptors have a different circumference 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.

Figure 25: Bending the Flexible Vent



Field Wiring

CAUTION

The ground supply lead must be connected to the wire attached to the green ground screw located on the outlet box (see wiring diagrams). 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

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

ATTENTION

Au moment de l'entretien des commandes, étiquetez tous les fils avant de les débrancher. Des erreurs de câblage peuvent entraîner un fonctionnement inadéquat et dangereux.

Verify proper operation after servicing.

S'assurer que l'appareil fonctionne adéquatement une fois l'entretien terminé.

The gas valve is set in place and pre-wired at the factory for both millivolt and electronic models.

Millivolt Wiring

Millivolt units are not provided with factory-installed controls; therefore, one of the optional control switches is required to operate the unit (**Figure 26**):

- ON/OFF Wall Switch,
- Unit-Mountable ON/OFF Switch *,
- Thermostat, or
- Remote Control.

See the fireplace Care and Operation Instructions for details.

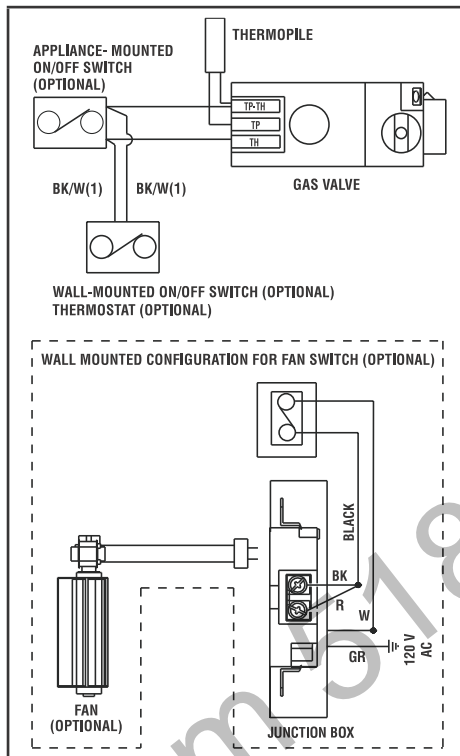
* If using a unit-mountable ON/OFF rocker switch with an optional Style View Door, mount the rocker switch on the door instead of the unit.

1. If installing an ON/OFF wall switch or thermostat, mount it in a convenient location on a wall near the fireplace.
2. Wire the control switch within the millivolt control circuit using the 15 ft of 2-conductor wire supplied with the unit.

NOTE: The supplied 15 ft 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 inside the bottom compartment.

Figure 26: Wiring Diagram—Millivolt Gas Valves



CAUTION

In millivolt systems, do NOT connect a wall switch to a 120 V power supply.

Electronic Wiring

One of the following optional controls may be used:

- ON/OFF Wall Switch,
- Thermostat, or
- Remote Control.

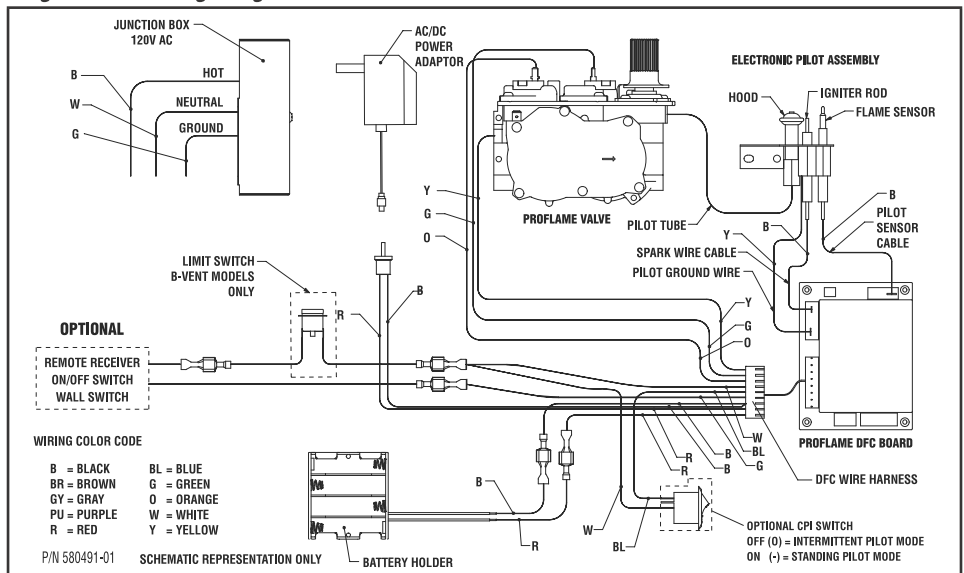
See the fireplace Care and Operation Instructions for details.

NOTE: Electronic models must be connected to the main power supply.

1. Route a 3-wire, 120 Vac, 60 Hz, 1 ph power supply to the appliance junction box.
2. Remove the electrical inlet cover plate from the side of the unit by removing the plate's securing screws (**Table 11** on **Page 11**).
3. Remove the cover plate knockout. Then, feed the power supply wire through the knockout opening and into the unit junction box.
4. Connect the black power supply wire to the lower outlet's red pigtail lead (**Figure 27** and **Figure 28**). Connect the white power supply wire to the outlet's common terminal.
5. Connect the ground supply wire to the pigtail lead attached to the outlet's green ground screw.

NOTE: Remote receiver should be located in the wall, or if installed in the control compartment, pulled all the way forward and completely to the left or right against the corner posts.

Figure 27: Wiring Diagram—Electronic Gas Valves



6. If a wall-mounted ON/OFF control or thermostat is to be used, mount it in a convenient location on a wall near the fireplace.
7. If an optional control is to be used, wire it in the low voltage circuit as shown in **Figure 27**.

NOTE: The supplied 15 ft 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 inside the bottom compartment.

8. After the wiring is complete, replace the cover plate.

! WARNING

Electronic models of these appliances are equipped with a three-prong (grounding) plug utilized in connecting the electronic components to the junction box in the lower compartment. This grounding plug provides protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. DO NOT cut or remove the grounding prong from the plug.

Wire the [Optional] Blower Kit After Installation in the Framing

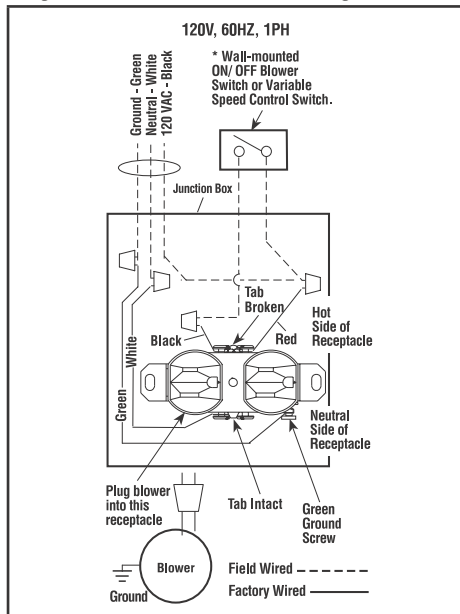
FBK-100, FBK-200, and FBK-300 Kits

An electrical outlet box is provided for the installation of the FBK-100, FBK-200, and FBK-300 forced air blower kits. Electrical power must be provided to the box to operate the blower. Install the blower kit according to the installation instructions provided with the kit.

NOTE: The tab connecting the receptacles of the outlet box must be broken in FBK-100 and FBK-200 blower kit applications (**Figure 28**).

NOTE: For fireplace models including a factory-installed blower (models with FB designation), an FBK2/FBK3 kit should be installed for proper control. Refer to the included instructions for more information.

Figure 28: Junction Box Wiring



Connect the Gas Line

All codes require a shut-off valve mounted in the supply line. **Figure 29** 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 unit 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. The flex line is rated for both natural and propane gas. A manual shut off valve is also provided with the flex line.

The gas control valve is located in the lower control compartment (**Figure 30**).

Remove Control Compartment Door

Open the panel by grasping the control compartment door on both sides and gently pulling the top away from the fireplace to disengage the magnetic fasteners. The door is hinged at the bottom. If greater access to the control compartment is required, slide the door, first to one side and then the other, so the tabs clear both of the locating holes.

Millivolt and electronic control valves have a 3/8 in. (10 mm) NPT thread inlet port.

Secure all joints tightly using appropriate tools and sealing compounds (ensure propane resistant compounds are used in propane applications). Optionally, seal around the gas line to prevent cold air leakage. Gas line holes and other openings can be caulked or stuffed with unfaced fiberglass insulation.

All codes require a shut-off valve mounted in the supply line. The orientation of the shut-off valve should face the front.

Figure 29 illustrates two methods for connecting the gas supply. A sediment trap is recommended to prevent moisture and debris in the gas line from damaging the valve.

! WARNING

Never use an open flame to check for leaks.

Figure 29: Gas Line Connection

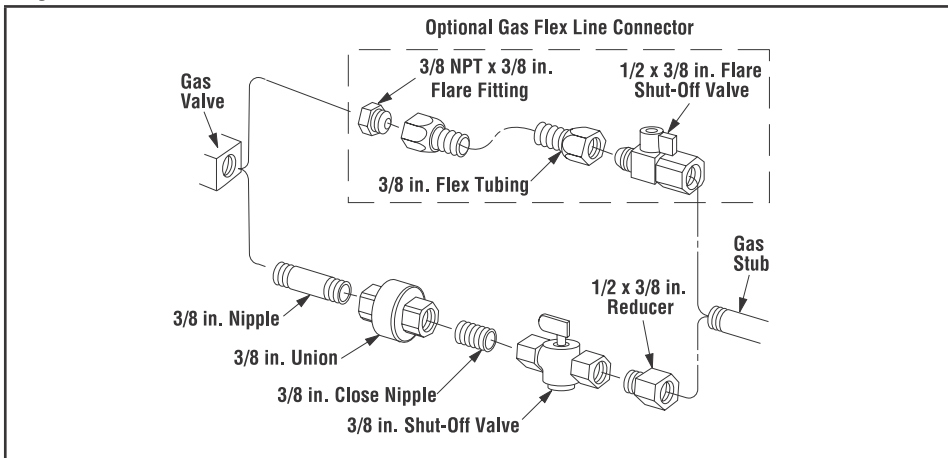
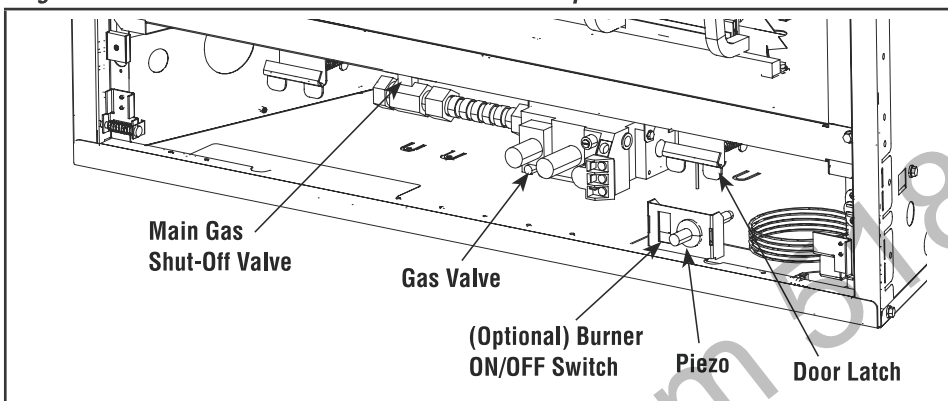


Figure 30: Millivolt Gas Valve—Lower Control Compartment



Test Factory and Field Connections for Gas Leaks

Turn on gas supply and test for gas leaks, using a gas leak test solution—also known as bubble leak solution.

NOTE: Using a soapy water solution 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.

1. Light the appliance (refer to the lighting instructions label, in the control compartment or in the Care and Operation Instructions manual).
2. 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 (millivolt units), or turn the receiver or remote control to the OFF position (electronic units). Either tighten or refasten the leaking connection, and then retest as described above.
3. When the gas lines are tested and leak free, rinse off the leak testing solution.

Verify Proper Appliance Operation

⚠ WARNING

For all electronic ignition models, remove all firebox contents, set the gas shutoff valve in the closed position, remove batteries from the battery holder, and ensure the remote / wall receiver is in the OFF position until ready to test/light the fireplace.

With gas line installed, run initial system checkout before closing up the front of the unit. Follow the pilot lighting instructions provided in the Care and Operation Instructions. For piezo igniter location on millivolt appliances, see **Figure 30**.

NOTE: Lighting instructions may be found on the tags attached to a cable in the control compartment. To access the instructions, open the lower control compartment door (**Figure 30**) by pulling simultaneously on the left and right top corners of the door. The door is hinged at the bottom (**Remove Control Compartment Door on Page 24**).

When lighting the appliance for the first time, 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

DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

as indicated in the instruction manual. Subsequent lighting of the appliance will not require such purging. Inspect the pilot flame (remove logs, if necessary, handling carefully).

Millivolt Appliance Inspection

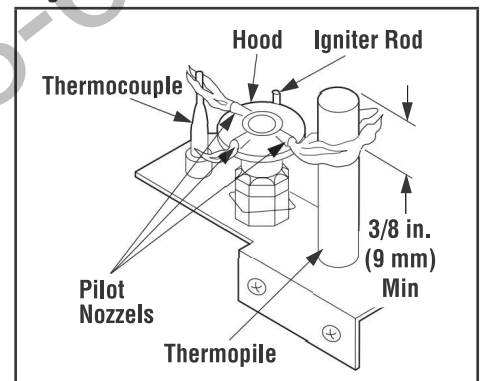
The pilot flame should be steady, not lifting or floating. Flame should be blue in color with traces of orange at the outer edge.

The top 3/8 in. (10 mm) at the pilot generator (thermocouple) and the top 1/8 in. (3.175 mm) minimum (tip) of the quick drop out thermocouple should be engulfed in the pilot flame.

The flame should project 1 in. (25 mm) beyond the hood at all three ports (**Figure 31**). Replace logs if removed for pilot inspection.

To light the burner, turn ON the remote wall switch and rotate the gas valve control knob counterclockwise to the ON position (ON will be at the top side of the valve).

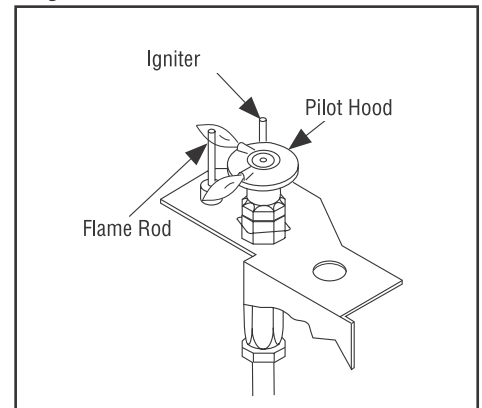
Figure 31: Millivolt Pilot



Electronic Appliance Inspection

To light the burner, turn ON the wall or remote control switch. Ensure the igniter lights the pilot. The pilot flame should engulf the flame rod (**Figure 32**).

Figure 32: Electronic Pilot



Install the Logs, Volcanic Stone, and Embers

! WARNING

- **DO NOT attempt to install the 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.**
- **The size and position of the log set was engineered to give the appliance a safe, reliable and attractive flame pattern. Any attempt to use a different log set in the fireplace will void the warranty and will result in incomplete combustion, sooting, and poor flame quality.**
- **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, volcanic stone, embers and logs.**
- **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.**
- **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.**

! WARNING

Turn OFF all electricity to the appliance before installing logs, volcanic stone, and embers.

Table 24: Firebox Accessories

Catalog Number	Model Number	Description
88L53	FGE	Bag of Glowing Embers
80L42	FDVS	Bag of Decorative Volcanic Stone

2. Remove the log set box from the firebox, and volcanic stone and embers from the control compartment.
- NOTE:** Handle the logs carefully to prevent breakage.
3. Sprinkle the decorative volcanic stone in a pleasing pattern. The volcanic stone should be placed directly on the firebox bottom, along the front and to the back at the right and left sides of the burner (**Figure 33**).
- NOTE:** Position any optional fireplace liners before placing the stone. Logs should be positioned after the volcanic stone.

Figure 33: Positioning the Volcanic Stone



4. Separate the glowing embers (rockwool) into pieces about the size of a quarter (**Figure 34**). Keep the pieces fluffed up, not matted. Distribute these pieces over the front surface of the burner, as shown in **Figure 35**. Do not use more than is necessary. **Ensure that the large burner slots remain uncovered by the ember material.** Position the embers on the small holes of the ember bed area.
- NOTE:** This appliance is provided with enough glowing embers for several applications, do not feel compelled to use all that is in a new bag. For best glowing effect, replace the ember material annually. Replacement glowing embers are available (P/N 88L53).

Figure 34: Separating Glowing Embers

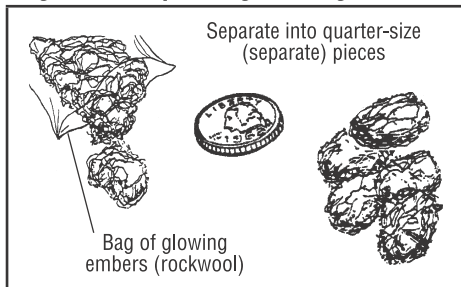
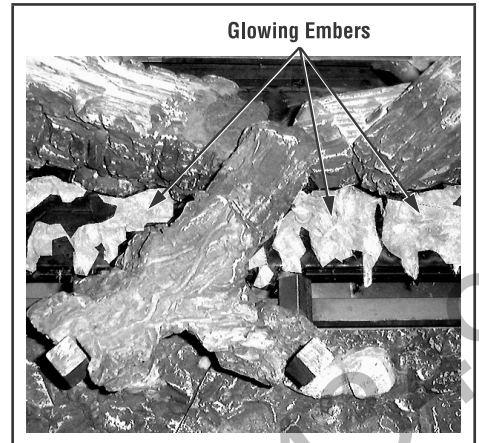


Figure 35: Placing Glowing Embers



5. Place the logs. All top logs that rest on lower logs, do so over notches, indentations, or nubs. Proper log placement is critical to prevent sooting. Logs should be placed in the gaps between the flame peaks and should be positioned so they do not impinge the flames.
6. Position the individual logs as shown on the following pages. Logs should be placed in the order shown. All logs that have notches to fit over the grate tines should be positioned with these notches directly against the grate. Handle logs carefully to prevent breakage.

Proper log placement is critical to encourage outstanding flame appearance and prevent sooting. When positioned properly as shown, logs will be positioned between flame peaks and will not impinge any flames.

1. Remove the appliance front glass door (**Page 29**).

Table 25: MLDVT-30 and MLDVT-35 Log Placement

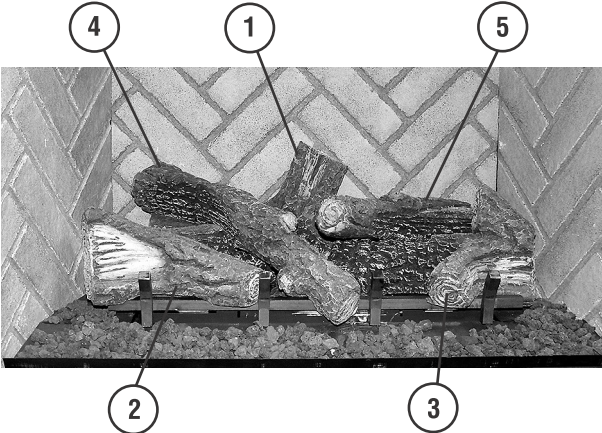
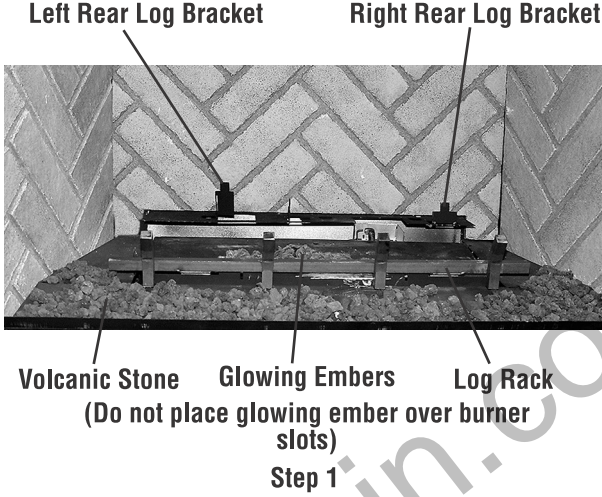
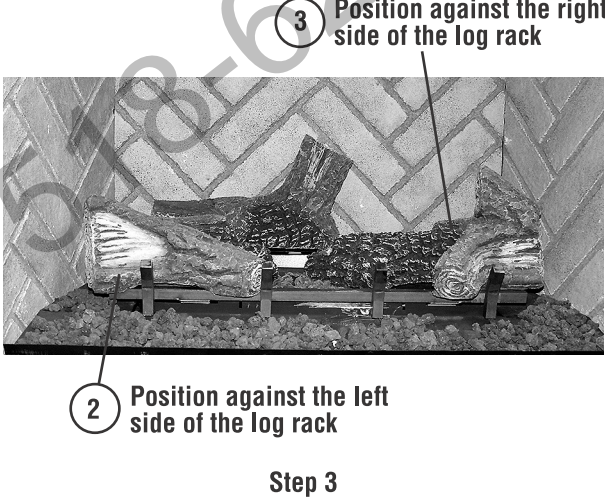

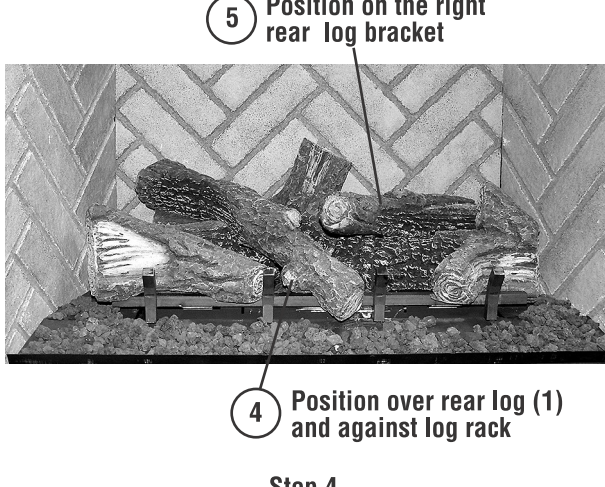
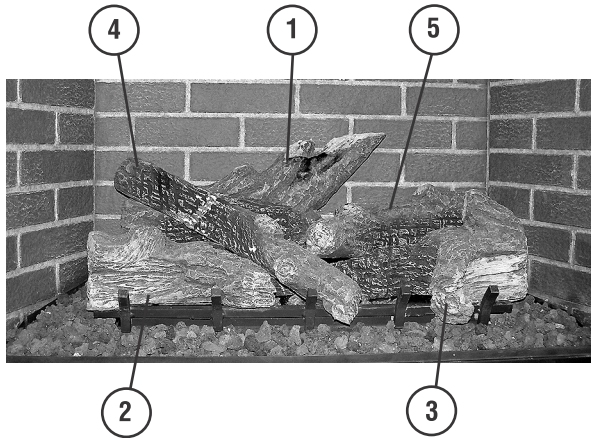
	Log Number 1 2 3 4 5	Description Rear Log Left Front Log Right Front Log Left Cross Log Right Cross Log
	Catalog Number for the entire log set: • MLDVT-30—H7839 • MLDVT-35—H7666 Position the individual logs as shown below. Logs should be placed in the order shown. Position the rear log on the brackets at the rear of the firebox with the log's notches directly over the brackets. Proper log and twig placement is critical to encourage outstanding flame appearance and prevent sooting.	
		
		

Table 26: MLDVT-40 and MLDVT-45 Log Placement



Log Number	Description
1	Rear Log
2	Left Front Log
3	Right Front Log
4	Left Cross Log
5	Right Cross Log

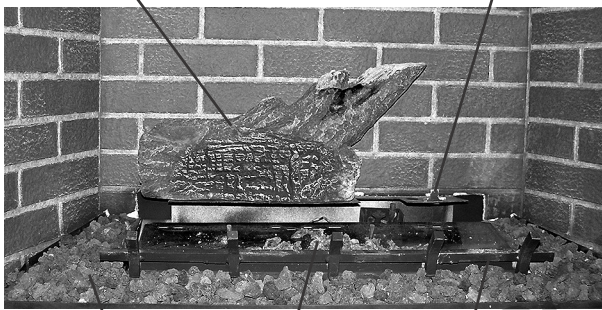
Catalog Number for the entire log set:

- MLDVT-40—H7667
- MLDVT-45—H7840

Position the individual logs as shown below. Logs should be placed in the order shown. Position the rear log on the brackets at the rear of the firebox with the log's notches directly over the brackets.

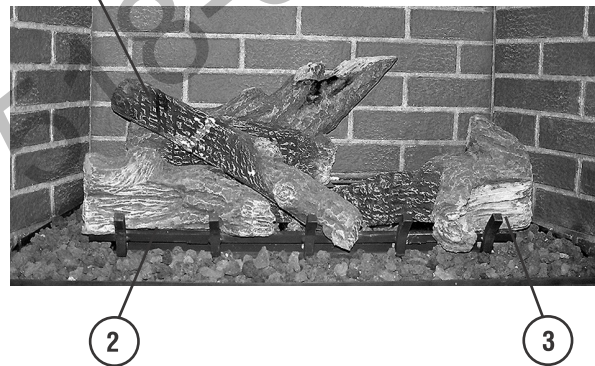
Proper log and twig placement is critical to encourage outstanding flame appearance and prevent sooting.

Position on the left rear log bracket (1) Right Rear Log Bracket



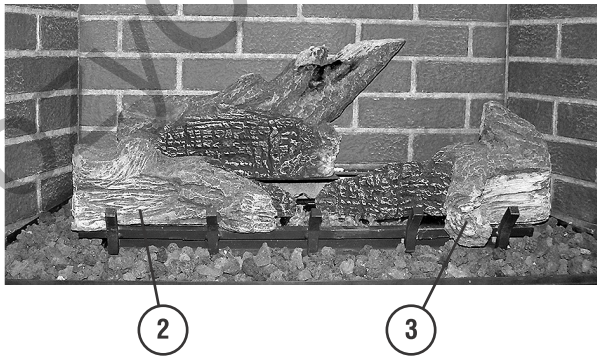
Volcanic Stone Glowing Embers Log Rack
(Do not place glowing embers over burner slots)
Step 1

(4) Rest over log (1) and log (2) with the front resting on the log rack.



Step 3

Position the left front log (2) and the right front log (3) against the log rack.



Step 2

Position on the right rear log bracket and over log (3) (5)



Step 4

Install the Glass Door

! WARNING

- Do not attempt to substitute the materials used on these doors, or replace cracked or broken glass.
- Handle this glass with extreme care! Glass is susceptible to damage—Do not scratch or handle roughly while reinstalling the glass door frame.
- 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.
- Do not attempt to touch the front enclosure glass with your hands while the fireplace is in use.

! WARNING

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

! AVERTISSEMENT

Ne pas utiliser l'appareil si le panneau frontal en verre n'est pas en place, est craqué ou brisé.

Only doors certified with the appliance shall be used.

Seules des portes certifiées pour cet appareil doivent être utilisées.

CAUTION

DO NOT abuse glass door by striking or slamming shut.

NOTE: Visually inspect the gasket on the backside of the glass door. The gasket surface must be clean, free of irregularities, and seated firmly. Ensure it is properly located. Make sure the bead is not rolled into the channel at the top of the door, but remains flat against the top of the glass.

Open the lower control compartment door (Page 24).

Position the glass door in front of the firebox opening with the bottom of the door held away from the fireplace at approximately a 45° angle. Hook the top flange of the glass door over the top of the firebox frame.

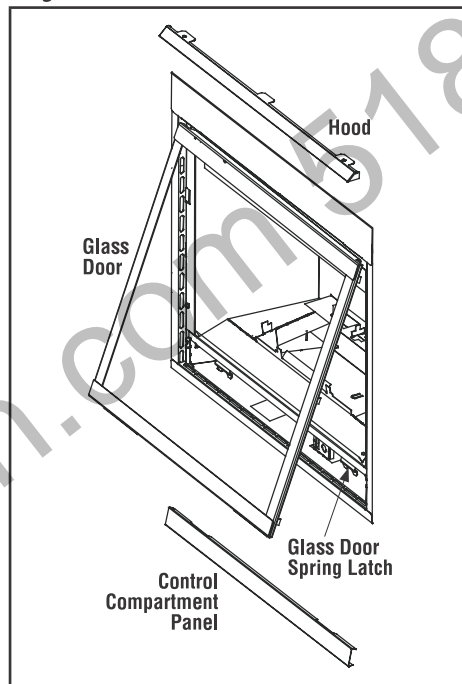
Let the bottom of the glass door swing gently in towards the fireplace ensuring that the gasket seats evenly as the glass door draws shut. Fasten the two latches located beneath the firebox floor to the door vee-flange.

Install the hood. Use a screwdriver to open the hood clips slightly if needed. Engage the back edge of the hood into the clips.

NOTE: The three hood clips are located inside the top air channel above the door. The clips are equally-spaced on the top surface of the air channel opening.

Reinstall the lower control compartment door.

Figure 36: Glass Door



Remove the Glass Door

Open the lower control compartment door (Remove Control Compartment Door on Page 24). Locate the two (2) latches at the top of the control compartment and disengage them from the door frame bottom vee-flange.

Pull the bottom of the glass door out a few inches and grasp it on the right and left. Gently lift to release the door from the channel above the door. Pull the door forward.

Adjust the Burner

Flame Appearance and Sooting

The flame should be blue at the base, and yellow-orange in the body of the flame.

When the appliance is first lit, the entire flame may be blue and will gradually turn yellow-orange during the first 15 minutes of operation. If the flame remains 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 opening is 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 yellow-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.
- 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.

! WARNING

- Air shutter adjustment should only be performed by a qualified professional service technician.
- Ensure front glass panel in place and sealed during adjustment.

CAUTION

- Soot will be produced if the air shutter is closed too much. Any damage due to sooting, resulting from improperly setting the air shutter, is not covered under the warranty.
- The air shutter door and nearby appliance surfaces are hot. Exercise caution to avoid injury while adjusting flame appearance.

Figure 37: Burner Flame Appearance, MLDVT-30/35



Figure 38: Burner Flame Appearance, MLDVT-40/45



1. Move the adjustment rod down to decrease air flow and up to increase it. (rod located in the lower control area). Position the air shutter to the factory setting as shown in **Table 28**.
2. Light the appliance (follow the lighting procedure on the lighting label in the control compartment or in the Care and Operation Instructions).
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 (**Figure 37**, and **Figure 38**). 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 remains blue, adjust the air shutter, incrementally, to a more closed position until the proper flame appearance is achieved.

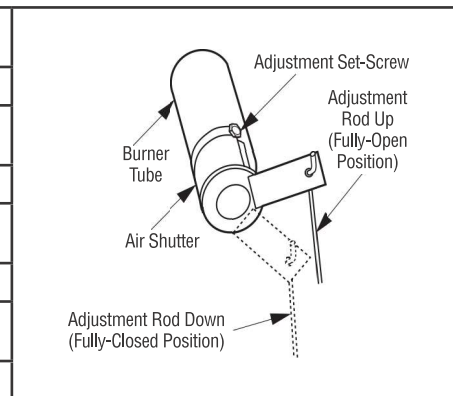
Table 27: Air Shutter Adjustment Guidelines

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

4. When satisfied that the burner flame appearance is normal, reinstall the lower control compartment door, then proceed to finish the installation.

Table 28: Factory Air Shutter Settings

Models	Gas Type	Factory Air Shutter Setting
MLDVT-30/35	Natural Gas	Closed
	Propane	1/16 in. (1.574 mm)
MLDVT-40	Natural Gas	Closed
	Propane	3/32 in. (2.362 mm)
MLDVT-45	Natural Gas	Closed
	Propane	1/8 in. (3.175 mm)

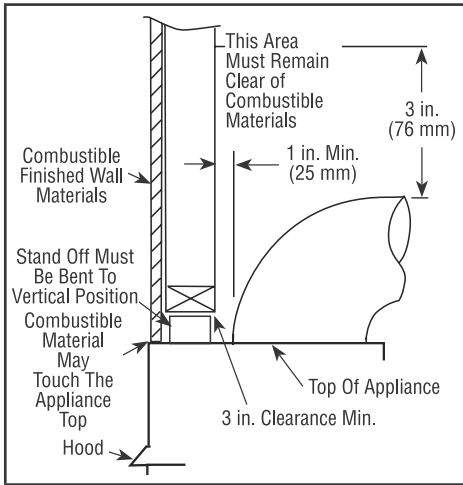


Install the Hood

All models must have a hood installed prior to operation.

Install the hood by sliding it into the slots on the lower edge of the cabinet top.

Figure 39: Combustible Wall Framing



Finishing Requirements

Complete finished interior wall. To install the appliance facing flush with the finished wall, position framework to accommodate the thickness of the finished wall.

NOTE:

See **Cold Climate Insulation on Page 4** and **Vent Termination Clearances on Page 6.**

CozyCabin.com 518-623-4349

Attach the Safety-in-Operation Warnings

NOTE: It is the installer's responsibility to ensure these warnings are properly affixed during installation. These warning labels are a critical step in informing consumers of safe operation of this appliance.

Attaching Safety-in-Operation Warnings

It is required that the safety instruction labels furnished with the fireplace be affixed to the operation and control point of the fireplace. A safety instruction label must be affixed to the wall switch plate where the fireplace is turned on and off (**Figure A**) or wall thermostat (**Figure B**) and if used on the remote control handheld transmitter (**Figure C**). To properly complete the installation of this fireplace, locate the multi-lingual adhesive labels provided with the Care and Operation Instructions and proceed as follows:

1. Locate the wall switch or wall thermostat that controls the fireplace (verify the switch operates the fireplace by turning it on and off). Clean the wall switch plate or wall thermostat thoroughly to remove any dust and oils. Affix the label to the surface of the plate of the wall switch that controls the fireplace (**Figure A**) or the wall thermostat (**Figure B**). Choose the language primarily spoken in the home. If unknown, affix the English language label.
2. If a remote control is used to control the fireplace, locate the transmitter and clean it thoroughly to remove any dust and oils. Affix the label to the surface of handheld transmitter (**Figure C**). Choose the language primarily spoken in the home. If unknown, affix the English language label.
3. If you are unable to locate the labels, please call Lennox Hearth Products or your nearest Lennox Hearth Products dealer to receive additional safety instruction labels free of charge.

Cat. No. H8024 Replacement Label Kit

LENNOX HEARTH PRODUCTS
1-800-655-2008

NOTE: English is red text on clear label. French and Spanish are white text on black label.

SAFETY LABEL DIAGRAMS



Figure A



Apposition des mises en garde relatives à la sécurité d'utilisation

Il est impératif que les étiquettes de sécurité fournies avec le foyer soient collées à côté des dispositifs de contrôle du foyer. Une étiquette de sécurité doit être collée sur la plaque de l'interrupteur contrôlant l'allumage du foyer (**Figure A**) ou sur le thermostat mural (**Figure B**) et, le cas échéant, sur le boîtier de la télécommande (**Figure C**). Pour achever l'installation correcte de ce foyer, procédez comme suit avec les étiquettes adhésives en langues étrangères fournies avec les instructions d'utilisation et d'entretien :

1. Repérez l'interrupteur ou le thermostat mural qui contrôle le foyer (vérifiez que l'interrupteur contrôle le fonctionnement du foyer en le faisant basculer de Marche à Arrêt, et vice-versa). Nettoyez soigneusement la plaque murale de l'interrupteur ou le thermostat mural pour éliminer la poussière et les traces de graisse ou d'huile. Collez l'étiquette sur la surface de la plaque de l'interrupteur mural qui contrôle le foyer (**Figure A**) ou du thermostat mural (**Figure B**). Choisissez la langue qui est principalement parlée dans la résidence du propriétaire. En cas de doute, collez l'étiquette en anglais.
2. Si une télécommande est utilisée pour contrôler le foyer, nettoyez la soigneusement pour éliminer la poussière et les traces de graisse ou d'huile. Collez l'étiquette sur le boîtier de la télécommande (**Figure C**). Choisissez la langue qui est principalement parlée dans la résidence du propriétaire. En cas de doute, collez l'étiquette en anglais.
3. Si vous ne trouvez pas les étiquettes, veuillez appeler Lennox Hearth Products ou votre distributeur Lennox Hearth Products local pour recevoir gratuitement des étiquettes supplémentaires.

Étiquettes de remplacement, n° cat. H8024

LENNOX HEARTH PRODUCTS
1-800-655-2008

Remarqué : Le texte anglais est rouge sur un support transparent. Le texte français et espagnol est blanc sur un support noir.

DIAGRAMMES DES ÉTIQUETTES DE SÉCURITÉ



Figure B



Colocación de advertencias de seguridad en operación

Se requiere que las etiquetas de instrucciones de seguridad incluidas con la chimenea se coloquen en el punto de operación y control de la misma. Se debe colocar una etiqueta de instrucciones de seguridad en la placa del interruptor de pared desde el cual se enciende y se apaga la chimenea (**Figure A**) o en el termostato de pared (**Figure B**) y en el transmisor de control remoto (**Figure C**) si se usa. Para completar correctamente la instalación de esta chimenea, encuentre las etiquetas adhesivas multilingües incluidas con las instrucciones de cuidado y operación y haga lo siguiente:

1. Identifique el interruptor o el termostato de pared que controla la chimenea (verifique que el interruptor opera la chimenea encendiéndola y apagándola). Limpie bien la placa del interruptor o el termostato de pared para quitar el polvo y aceite. Pegue la etiqueta en la superficie de la placa del interruptor que controla la chimenea (**Figure A**) o en el termostato de pared (**Figure B**). Seleccione el idioma que más se habla en la casa. Si no sabe cuál es, use la etiqueta en inglés.
2. Si se usa un control remoto para controlar la chimenea, encuentre el transmisor y límpielo bien para quitar el polvo y aceite. Pegue la etiqueta en la superficie del transmisor (**Figure C**). Seleccione el idioma que más se habla en la casa. Si no sabe cuál es, use la etiqueta en inglés.
3. Si no puede encontrar las etiquetas, sírvase llamar a Lennox Hearth Products o al distribuidor de Lennox Hearth Products más cercano para recibir etiquetas de instrucciones de seguridad adicionales gratuitas.

Juego de etiquetas de repuesto - N° de cat. H8024

LENNOX HEARTH PRODUCTS
1-800-655-2008

Nota: La etiqueta en inglés es transparente con texto rojo. Las etiquetas en francés y español son negras con texto blanco.

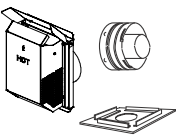
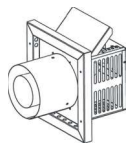
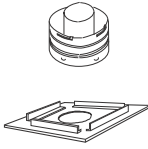

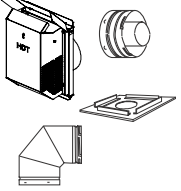
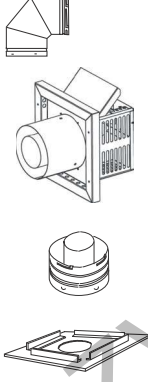
DIAGRAMAS DE ETIQUETAS DE SEGURIDAD

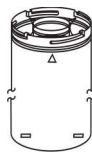


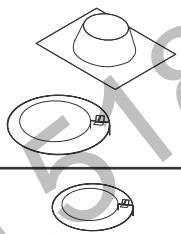


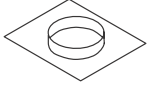


Figure C



INSTALLATION ACCESSORIES

Listed Secure Vent® Components			
	Catalog Number	Model	Description
	H1968	SV4.5HT-2	Horizontal Square Termination with Firestop/Spacer (H2246), and Adaptor (74L61)
	94L10	SV4.5HTSS	Rigid, Horizontal, Small Square Termination with Firestop/Spacer (H2246), Adaptor (74L61) (Ref. Instruction P/N 750204M)
	H5817	SV4.5-20SSWSK	Rigid, Small, Square Termination, 20 in. with Shield and Firestop (Ref. Instruction P/N 750247M and 750204M)
	H2152	SV4.5CGV-1	Vertical Termination Cap, High Wind
	H8914	SV4.5TK90HT2	Horizontal Termination Kit HT-2 with 90° elbow
	H8915	SV4.5TK90SS	Horizontal Termination Kit Small Square with 90° elbow

Listed Secure Vent® Components			
	Catalog Number	Model	Description
Vent Sections (Rigid)			
	77L70	SV4.5L6	6 in. (152 mm)
	77L71	SV4.5L12	12 in. (305 mm)
	77L72	SV4.5L24	24 in. (610 mm)
	77L73	SV4.5L36	36 in. (914 mm)
	77L74	SV4.5L48	48 in. (1219 mm)
	77L75	SV4.5LA	Telescopic Length Slip Section (2-7 1/2 in. rigid)
	77L76	SV4.5E45	45° Elbow
	77L77	SV4.5E90	90° Elbow
The following flashing comes packaged with a storm collar			
	77L78	SV4.5F	Flat Roof Flashing
	77L79	SV4.5FA	1/12 to 7/12 Adjustable Flashing
	77L80	SV4.5FB	7/12 to 12/12 Adjustable Flashing
	77L81	SV4.5SC6	Storm Collar (6 per box)
	H6183	SV4.5HF5	Firestop Spacer, 5 in., rigid
	H6184	SF4.5HF5	Firestop Spacer, 5 in., flex
	H2246	SV4.5HF-10	Firestop/Spacer-Horizontal, rigid (3-1-1 spacing), 10 Pack
	H2247	SV4.5VF-10	Firestop/Spacer-Vertical, rigid (1-1-1 spacing), 10 Pack
	96K92	SV4.5SP	Support Plate

Listed Secure Vent® Components			
	Catalog Number	Model	Description
	17M52	SV4.5HGS-1	Termination Guard, Square (1 pack) (ref. Instruction P/N 750109M)
	17M53	SV4.5HGS-12	Termination Guard, Horizontal Square (12-pack) (ref. Instruction P/N 750109M)
	87L02	SV4.5HGS	Termination Guard for Horizontal Square Termination (Deluxe)(1 pack) (ref. Instruction P/N 750055M)
	H5820	SV4.5HTSK	Termination Shroud (Guard) for Horizontal Square Termination (1 pack) (ref. Instruction P/N 750246M)
	H5816 750,247M	SV4.5- TWSK10	Through Wall Shield Kit (to shield direct-vent pipe from blown insulation)(ref. Instruction P/N 750247M)
	H3907	SV4.5ARSA	Attic Insulation Shield with adjustable height, 12–22 in.
	96K93	SV4.5SU	Support Strap
	10K81	SFMP	Mill-Pac, Black, High-Temperature Sealant
	89L40	SFMP-12	Mill-Pac, Black, High-Temperature Sealant (bulk 12-pack)
	99L02	SV4.5HRK14	Horizontal Riser Kit, 14 in. (ref. Instruction P/N 750146M)
	99L03	SV4.5HRK36	Horizontal Riser Kit, 36 in. (ref. Instruction P/N 750146M)
	H1988	CTSA-33	Chase Top Shroud Kit, Arch Top 3 x 3 ft (ref. Instruction P/N 750194M)
	H1985	CTSO-33	Chase Top Shroud Kit, Open Top 3 x 3 ft (ref. Instruction P/N 750193M)
	H1987	CTSO-44	Chase Top Shroud Kit, Open Top 4 x 4 ft. (ref. Instruction P/N 750193M)
	H1986	CTSO-46	Chase Top Shroud Kit, Open Top 4 x 6 ft (ref. Instruction P/N 750193M)

Listed Secure Flex® Components			
	Catalog Number	Model	Description
These termination kits include firestop/spacer, gear clamps, and flex adaptor.			
	60L10	SF-18	18 ft (5.49 m)* compressed flex (ref. Instruction P/N 750053M)
	98K03	SF-12	12 ft (3.66 m)* compressed flex (ref. Instruction P/N 750052M)

	H2248	SF4.5HF-10	Firestop/Spacer, Horizontal, flex (3-1-1 spacing), 10-Pack
	H2249	SF4.5VF-10	Firestop/Spacer, Vertical, flex (1-1-1 spacing), 10-Pack
	H1969	SF4.5HT-2	Horizontal Square Termination for flex (without flex)
	77L87	SFKIT12S	Square Term. for flex with 12 in. (305 mm)* compressed flex
	77L88	SFKIT18S	Square Term. for flex with 18 in. (457 mm)* compressed flex
	77L89	SFKIT24S	Square Term. for flex with 24 in. (610 mm)* compressed flex
	77L90	SFKIT36S	Square Term. for flex with 36 in. (914 mm)* compressed flex
	77L91	SFKIT48S	Square Term. for flex with 48 in. (1219 mm)* compressed flex
	94L04	SFKIT12SS	Small Square Termination for flex, with 12 in. (305 mm) of *compressed flex vent (ref. Instruction P/N 750204M)
	94L05	SFKIT18SS	Small Square Termination for flex, with 18 in. (457 mm) of *compressed flex vent (ref. Instruction P/N 750204M)
	94L06	SFKIT24SS	Small Square Termination for flex, with 24 in. (610 mm) of *compressed flex vent (ref. Instruction P/N 750204M)
	94L07	SFKIT36SS	Small Square Termination for flex, with 36 in. (914 mm) of *compressed flex vent (ref. Instruction P/N 750204M)
	94L08	SFKIT48SS	Small Square Termination for flex, with 48 in. (1219 mm) of *compressed flex vent (ref. Instruction P/N 750204M)
	94L09	SF-HTSS	Horizontal Small Square Termination for flex, without flex vent (ref. Instruction P/N 750204M)
	56L74	SFVT30	Vertical Termination for flex (flat to 6/12) with flex adaptor, section of rigid vent, roof support collar assembly, roof flashing and storm collar. (ref. Instruction P/N 750052M)
	56L75	SFVT45	Vertical Termination for flex (6/12 to 12/12) with flex adaptor, section of rigid vent, roof support collar assembly, roof flashing and storm collar. (ref. Instruction P/N 750052M)
	91L66	SFGC4-6	Gear Clamp 4.5 in. (114 mm) for flex (6-pack)
91L67	SFGC7-6	Gear Clamp 7.5 in. (190.5 mm) for flex (6 pack)	
	H7748	H7748	36 in. Flex Connector Kit. 36 in. of flex with two adapters for mating two rigid sections of vent together.

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

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 authority 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 qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer's instructions supplied with the kit. The qualified service agency performing this installation assumes responsibility for this conversion.

! AVERTISSEMENT

Cette trousse de conversion doit être installée par un technicien agréé, selon les instructions du fabricant et selon toutes les exigences et tous les codes pertinents de l'autorité compétente. Assurez-vous de bien suivre les instructions dans cette notice pour réduire au minimum le risque d'incendie, d'explosion ou la production de monoxyde de carbone pouvant causer des dommages matériels, des blessures ou la mort. Le technicien agréé est responsable de l'installation de cette trousse. L'installation n'est pas adéquate ni complète tant que le bon fonctionnement de l'appareil converti n'a pas été vérifié selon les instructions du fabricant fournies avec la trousse. Le fournisseur de service qualifié ayant réalisé l'installation assume les responsabilités liées à la conversion.

In Canada:

THE CONVERSION SHALL BE CARRIED OUT BY A MANUFACTURER'S AUTHORIZED REPRESENTATIVE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER, PROVINCIAL OR TERRITORIAL AUTHORITIES HAVING JURISDICTION AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CAN/CGA-B149.1 OR CAN/CGA-B149.2 INSTALLATION CODES.

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

Gas conversion kits are available to adapt your 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. Refer to the instructions provided with the conversion kit when performing any gas conversion.

Table 29: Millivolt SIT Systems, Natural Gas To Propane Gas Conversion Kits

Model	Catalog Number
MLDVT-30	H7672
MLDVT-35	H7292
MLDVT-40	H7673
MLDVT-45	H7546

Table 30: Millivolt SIT Systems, Propane Gas to Natural Gas Conversion Kits

Model	Catalog Number
MLDVT-30	H6165
MLDVT-35	H7293
MLDVT-40	H7294
MLDVT-45	85L66

Table 31: Electronic SIT Systems, Natural Gas To Propane Gas Conversion Kits

Model	Catalog Number
MLDVT30NE-2	H8920
MLDVT35NE-2	H8917
MLDVT40NE-2	H8634
MLDVT45NE-2	H8919

Table 32: Electronic SIT Systems, Propane Gas To Natural Gas Conversion Kits

Model	Catalog Number
MLDVT30NE-2	H8923
MLDVT35NE-2	H8924
MLDVT40NE-2	H8846
MLDVT45NE-2	H8925

Installing Gas Conversion Kits

! WARNING

The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion.

! AVERTISSEMENT

Avant d'effectuer la conversion, coupez d'abord l'alimentation en gaz, ensuite, coupez l'alimentation électrique.

1. TURN OFF THE GAS SUPPLY TO THE APPLIANCE and disconnect power supply at the circuit breaker. Ensure appliance is cold.
2. Open the lower control compartment door (**Figure 30** on **Page 25**) by pushing on the right top corner of the door. The door is hinged at the bottom.

[Optional] Remove the control compartment door by sliding the hinge pin, located at the door's left side, to the right until it disengages from the left corner post hole. Pull the control compartment door diagonally to the left, away from the fireplace.

3. Remove the front glass door/frame from the appliance (**Page 29**).
4. Carefully remove the logs. Exercise care so as not to break the logs (**Page 26**).
5. Remove the grate and sub floor.
6. Remove the two (2) screws securing the burner assembly. Remove the burner assembly with the attached venturi tube.

Millivolt and Electronic Ignition System Appliances

7. **SIT Systems**—Refer to **Figure 40**, **Figure 41**, and the instructions provided with the SIT Regulator Conversion Kit. Using a Torx T20 driver (with 1/4 in. shank) or slotted screwdriver, remove and discard the pressure regulator mounting screws (two screws for electronic models, three screws for millivolt models),

pressure regulator tower, the diaphragm assembly (if applicable) and the spring. Discard all removed components.

Figure 40: Millivolt Valve Regulator Conversion

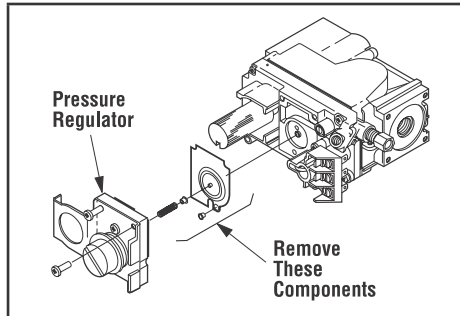
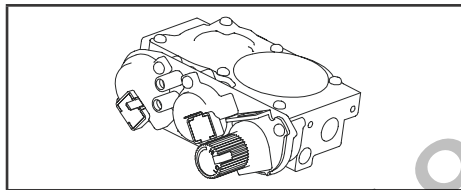
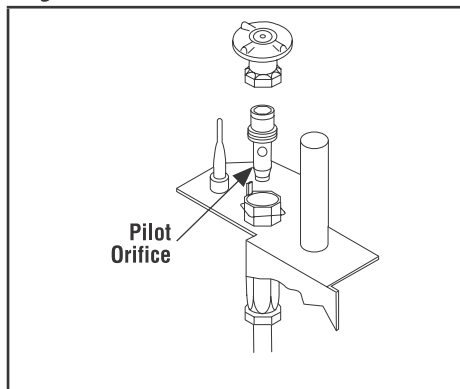


Figure 41: Electronic Valve Regulator Conversion



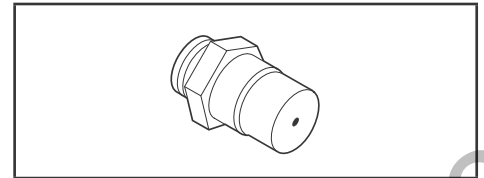
8. Install the new pressure regulator assembly using the supplied screws. Tighten the screws to 25 lb-in.
9. Install the enclosed identification label to the valve body where it can be easily seen.
10. Remove the pilot hood assembly to access the hexed pilot orifice (**Figure 42**). Remove and replace the orifice with the one provided with the kit. Exercise extreme care to prevent damage to or breakage of the igniter assembly.

Figure 42: Millivolt Pilot



11. Remove the orifice from the manifold and replace it with the one provided in the kit (**Figure 43**). See **Table 4** on **Page 4** for orifice sizes.

Figure 43: Orifice



12. Use pipe joint compound or Teflon® tape on all pipe fittings before installing.

NOTE: Ensure propane resistant compounds are used in propane applications, do not use pipe joint compounds on flare fittings.

13. Retrieve the burner and hold the venturi tube above the orifice. Place the shutter adjusting rod in the slot of the shutter arm (see **Table 28** on **Page 30**). Set the burner assembly into its position and secure the trapezoidal plate with the two screws previously removed.
14. Reinstall the baffle with the two baffle securing screws.
15. Reassemble the remaining components.
16. Turn on gas supply and test for gas leaks (**Page 25**).
17. Relight the main burner. The lighting instructions can be found on the lighting label in the control compartment or in the Care and Operation Manual provided with the appliance. Verify proper burner ignition and operation (**Page 25**).
18. Inspect the pilot system for proper flame. The pilot flame should engulf the flame sensor (**Page 25**).
19. Using a manometer, test the inlet and manifold gas pressures (**Table 2** and **Table 3**).

ALWAYS TEST PRESSURES WITH THE VALVE REGULATOR CONTROL AT THE HIGHEST SETTING.

Lennox Hearth Products 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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