

P/N 700037M Rev. F 01/2011

This manual is one of a set of two supporting this product. Refer to P/N 725035M for Care and Operation Instructions.

Ce manuel est disponible en français, simplement en faire la demande. Numéro de la pièce 700037CF.

INSTALLATION INSTRUCTIONS

SDVST Direct-Vent Gas Fireplaces

MODELS

MILLIVOLT:
SDVST-N-B
SDVVF-N-B



OTL Report No. 116-F-32-5

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

TABLE OF CONTENTS

Packaging	Page 2
Introduction	Page 2
General Information	Page 2
Requirements for the	
Commonwealth of Massachusetts	Page 4
New York City Approval.....	Page 4
Cold Climate Insulation	Page 5
Manufactured Homes.....	Page 5
Location.....	Page 5
Vent Termination Clearances	Page 6
Appliance and Vent Clearances	Page 8
Detailed Installation Steps.....	Page 9
Typical Installation Sequence	Page 9
Step 1. Framing.....	Page 9
Fireplace and Framing Specifications	Page 10
Step 2. Routing Gas Line	Page 12
Step 3. Install the Vent System	Page 13
Vent Restrictor Installation.....	Page 13
Vertical Termination Systems.....	Page 14
Vent Section Length Chart	Page 14
Vertical Vent Figures and Tables.....	Page 18
Horizontal Termination System	Page 20
Horizontal Vent Figures and Tables...	Page 22
Venting Using Flexible Vent Pipe.....	Page 25
Step 4. Field Wiring.....	Page 26
Step 5. Optional Blower Kit Wiring..	Page 27
Step 6. Connecting Gas Line.....	Page 28
Control Compartment Access	Page 28
Step 7. Verifying Appliance	
Operation	Page 29
Step 8. Install logs, Volcanic Stone	
and Embers	Page 29
Step 9. Installing Glass Doors	Page 31
Step 10. Burner Adjustments	Page 31
Step 11. Hood Installation.....	Page 32
Finishing Requirements	Page 32
Step 12. Attaching Safety-in-	
Operation Warnings	Page 33
Installation Accessories	Page 34
Gas Conversion Kits	Page 37

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 - One log set located in firebox area.
- 2 - One envelope containing the literature package, located in the firebox which consists of the care and operation manual, installation instructions, safety in operation warning labels, warranty, nailing flanges (8 for SDVST models and 4 for SDVPF models).
- 3 - One vent restrictor (to be applied as shown on **Page 13**; restrictor is taped to the envelope).
- 4 - Hoods (2 for SDVST models and 3 for SDVPF models), taped to the top of the fireplace.
- 5 - Carton Support (must be removed from the control compartment prior to first burning).
- 6 - One fuel conversion kit (Nat. Gas to LP Gas) located in the control area.
- 7 - One plastic bag of glowing embers and a plastic bag of volcanic stone located in the control compartment.

INTRODUCTION

These *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.

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

Use Only These Approved Vent Components

- These fireplaces are designed, tested and listed for operation and installation with, the following (4-1/2" inner and 7-1/2" outer) 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.

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.

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

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.

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.

Remarque : 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.

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.

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.

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

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

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

These millivolt appliances are listed by OMNI-Test Laboratories for installation in bedrooms and Manufactured Homes.

Misc. Codes / Standards -

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

These fireplaces are designed as supplemental heaters. Therefore, 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.

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

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

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

Table 1

Gas Pressure - All Models

Tables 2 and 3 show the appliances' gas pressure requirements:

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

Table 2

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

Table 3

Test gauge connections are provided on the front of the millivolt gas control valve, identified IN for the inlet and OUT for the manifold side.

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.

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

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

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

These appliances are tested and approved for installation at elevations of 0-4500 feet (0-1372 meters) above sea level using the standard burner orifice sizes (marked with an "*" in Table 4). For elevations above 4500 feet, 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.

Install the appliance according to the regulations of the local authorities having jurisdiction and, in the USA, the National Fuel Gas Code NFPA 54 / ANSI Z223.1 - latest edition or, in Canada, the CAN/CSA-B149.1 - latest edition.

NOTE: Flame appearance will diminish 4% per thousand feet.

NOTE: Each model has two burners and 2 Orifices.

Burner Orifice Sizes Elevation 0-4500 feet (0-1372 meters)		
Model Series	Nat. Gas drill size (inches)	Propane drill size (inches)
SDVST SDVPF	#44 (.086") * 60J80 •	#55 (.052")** 19L52 •

Table 4

* Standard size installed at factory
** Standard size in LP conversion kit
• Part /Cat. Number

Gas Valve Diagrams - See Figure 1.

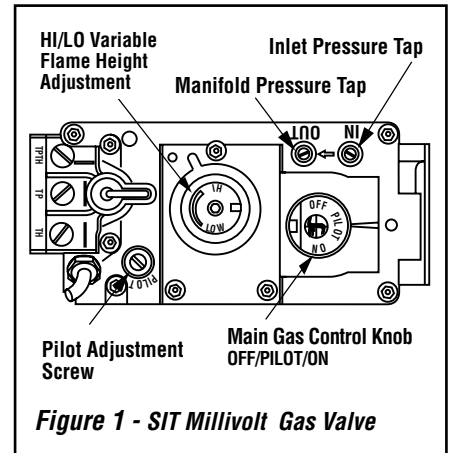


Figure 1 - SIT Millivolt Gas Valve

REQUIREMENTS FOR THE COMMONWEALTH OF MASSACHUSETTS

These fireplaces are approved for installation in the US 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 inches (92 centimeters) 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.

NEW YORK CITY, NEW YORK (MEA)

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

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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 cold transfer 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 (USA only) or Manufactured Home, where not prohibited by local codes.

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

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

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

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.

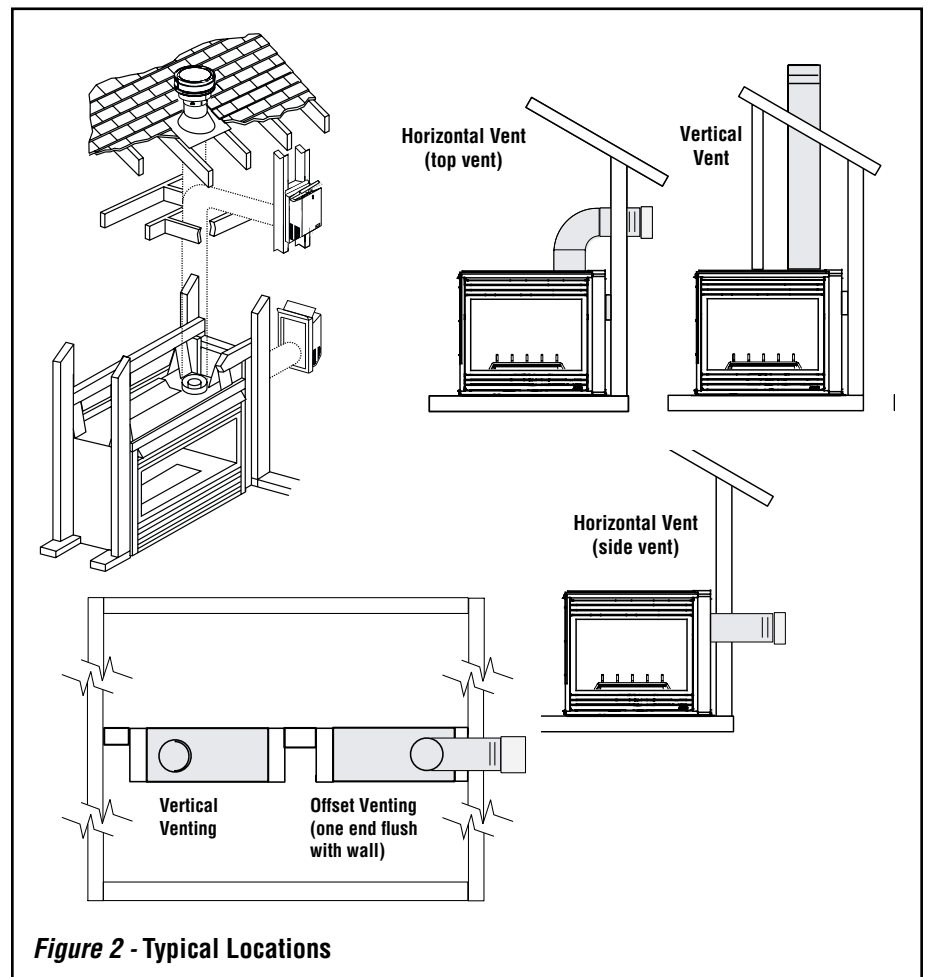


Figure 2 - Typical Locations

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 2).

En raison de 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 2).

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 (see Figure 8 on Page 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 **Figure 8 on Page 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.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

VENT TERMINATION CLEARANCES

These instructions should be used as a guideline and do not supersede local codes in any way. Install 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. Also see **Figure 3A**.

Terminate single vent caps relative to building components according to **Figure 3B**.

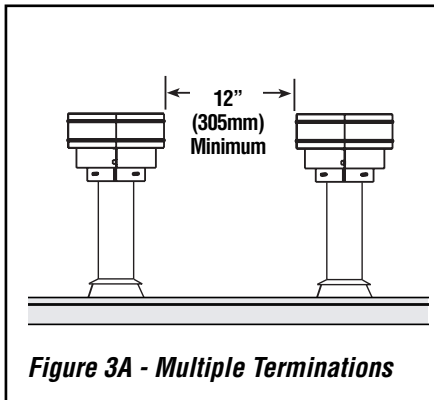
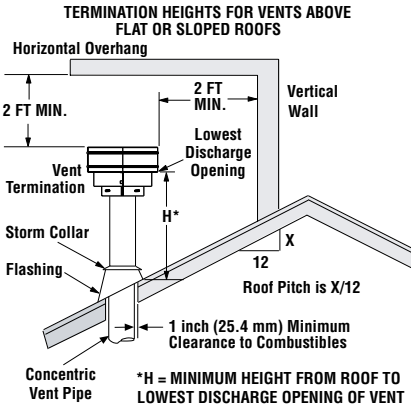


Figure 3A - Multiple Terminations

Vertical Vent Termination Clearances



The vent / air intake termination clearances above the high side of an angled roof is as shown in the following chart:

Figure 3B

Termination Heights For Vents Above Flat Or Sloped Roofs
Ref. NFPA 54 / ANSI Z223.1

Roof Pitch	* Feet	* Meters
Flat to 6/12	1.0	0.3
6/12 to 7/12	1.25	0.38
7/12 to 8/12	1.5	0.46
8/12 to 9/12	2.0	0.61
9/12 to 10/12	2.5	0.76
10/12 to 11/12	3.25	0.99
11/12 to 12/12	4.0	1.22
12/12 to 14/12	5.0	1.52
14/12 to 16/12	6.0	1.83
16/12 to 18/12	7.0	2.13
18/12 to 20/12	7.5	2.29
20/12 to 21/12	8.0	2.44

Horizontal Vent Termination Clearances

The horizontal vent termination must have a minimum of 6" (152 mm) clearance to any overhead combustible projection of 2-1/2" (64 mm) or less (see **Figure 4**). For projections exceeding 2-1/2" (64 mm), see **Figure 4**. For additional vent location restrictions refer to **Figure 5** on **Page 7**.

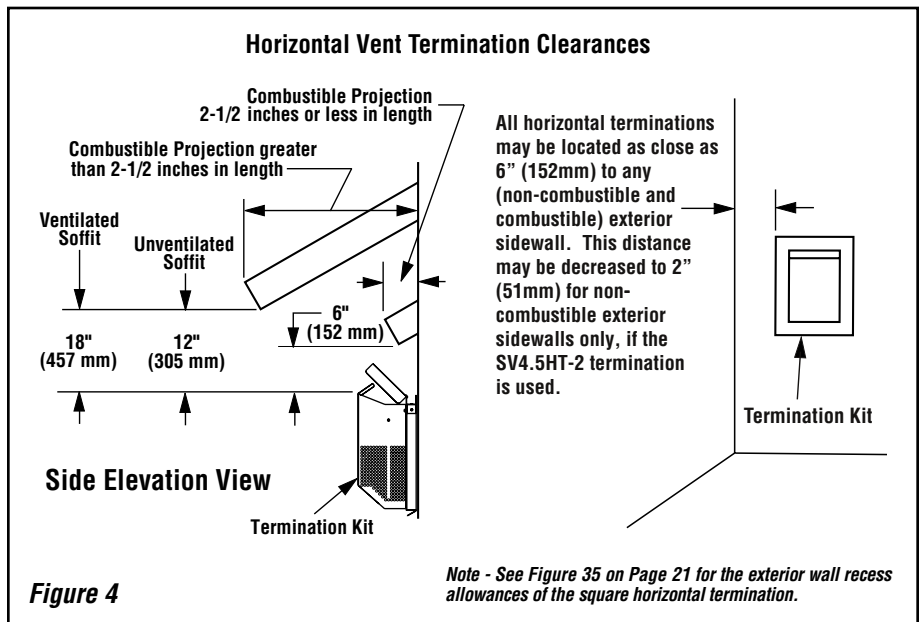
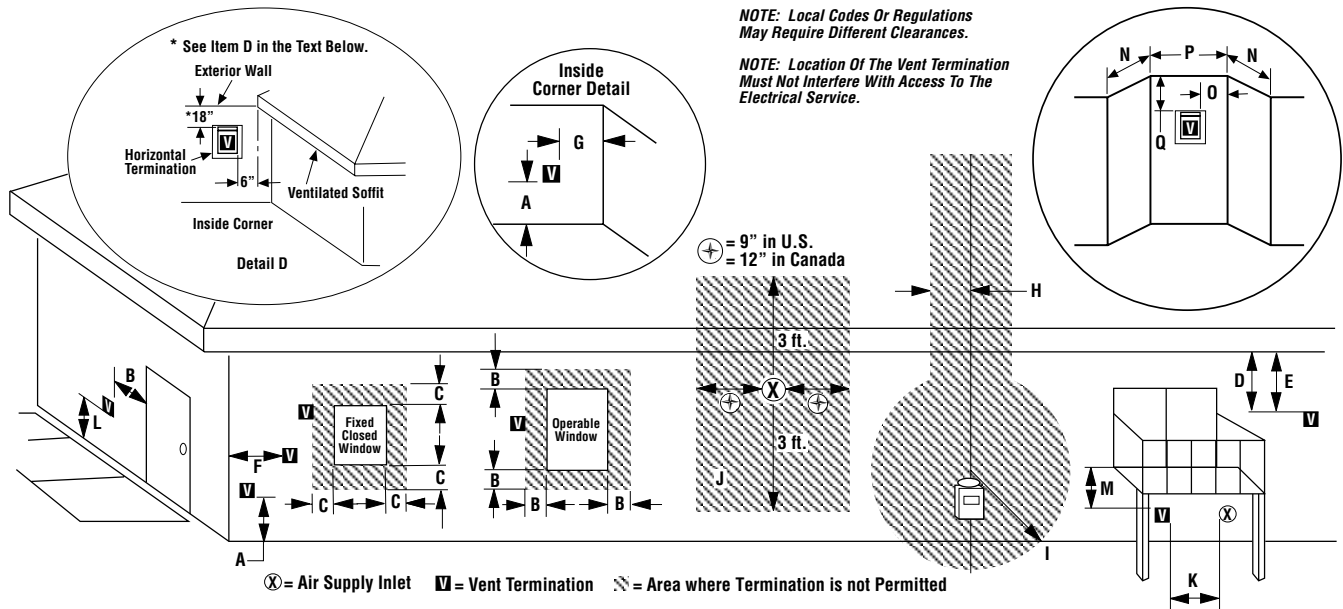


Figure 4

Note - See Figure 35 on Page 21 for the exterior wall recess allowances of the square horizontal termination.

VENT TERMINATION CLEARANCES

EXTERIOR HORIZONTAL VENT TERMINATION CLEARANCE REQUIREMENTS



	Canadian Installation*	US Installation**
A = Clearance above grade, veranda, porch, deck, or balcony.	12 inches (30cm)*	12 inches (30cm)**
B = Clearance to window or door that may be opened.	6 in (15cm) for appliances < 10,000 Btuh (3kW), 12 in (30cm) for appliances > 10,000 Btuh (3kW) and < 100,000 Btuh (30kW), 36 inches (91cm) for appliances > 100,000 Btuh (30kW)*	6 in (15cm) for appliances < 10,000 Btuh (3kW), 9 in (23cm) for appliances > 10,000 Btuh (3kW) and < 50,000 Btuh (15kW), 12 inches (30cm) for appliances > 50,000 Btuh (15kW)**
C = Clearance to permanently closed window	12" (305mm) recommended to prevent window condensation	9" (229mm) recommended to prevent window condensation
D = Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 18 inches (458mm) from the center line of the terminal	18" (458mm)	18" (458mm)
E = Clearance to unventilated soffit	12" (305mm)	12" (305mm)
F = Clearance to outside corner	5" (12.7cm) minimum	5" (12.7cm) minimum
G = Clearance to inside corner	2" (5.08cm) minimum - SV4.5HT-2 • 6" (15.2cm) minimum - SV4.5HTSS	2" (5.08cm) minimum - SV4.5HT-2 • 6" (15.2cm) minimum - SV4.5HTSS
H = Clearance to each inside of center line extended above meter/regulator assembly	3 feet (91cm) within a height of 15 feet above the meter/regulator assembly*	3 feet (91cm) within a height of 15 feet above the meter/regulator assembly**
I = Clearance to service regulator vent outlet	3 feet (91cm)*	3 feet (91cm)**
J = Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in (15cm) for appliances < 10,000 Btuh (3kW), 12 in (30cm) for appliances > 10,000 Btuh (3kW) and < 100,000 Btuh (30kW), 36 inches (91cm) for appliances > 100,000 Btuh (30kW)*	6 in (15cm) for appliances < 10,000 Btuh (3kW), 9 in (23cm) for appliances > 10,000 Btuh (3kW) and < 50,000 Btuh (15kW), 12 inches (30cm) for appliances > 50,000 Btuh (15kW)**
K = Clearance to a mechanical air supply inlet	6 feet (1.83m)*	3 feet (91cm) above if within 10 feet (3m) horizontally**
L = Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13m)‡	7 feet (2.13m)‡
M = Clearance under veranda, porch, deck or balcony	12 inches (30cm)*‡	12 inches (30cm)‡

* In accordance with the current CSA-B149.1 National Gas And Propane Installation Code.
 ** In accordance with the current ANSI Z223.1/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 2 sides beneath the floor:
 • 2" Clearance to Non-Combustibles for SV4.5HT-2 Only.

Figure 5

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

MINIMUM CLEARANCES TO COMBUSTIBLES

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

Wall Finishes / Surrounds / Mantels

Note: Combustible wall finish materials and/or surround materials must not be allowed to encroach the area defined by the appliance front and back faces (black sheet metal). Never allow combustible materials to be positioned in front of or overlapping the appliance front and back faces. See **Figure 58** on **Page 32**.

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

Vertical installation clearances to combustible mantels vary according to the depth of the mantel. See **Figure 6**. Mantels constructed of non-combustible materials may be installed at any height above the appliance opening; however, do not allow anything to hang below the hood.

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

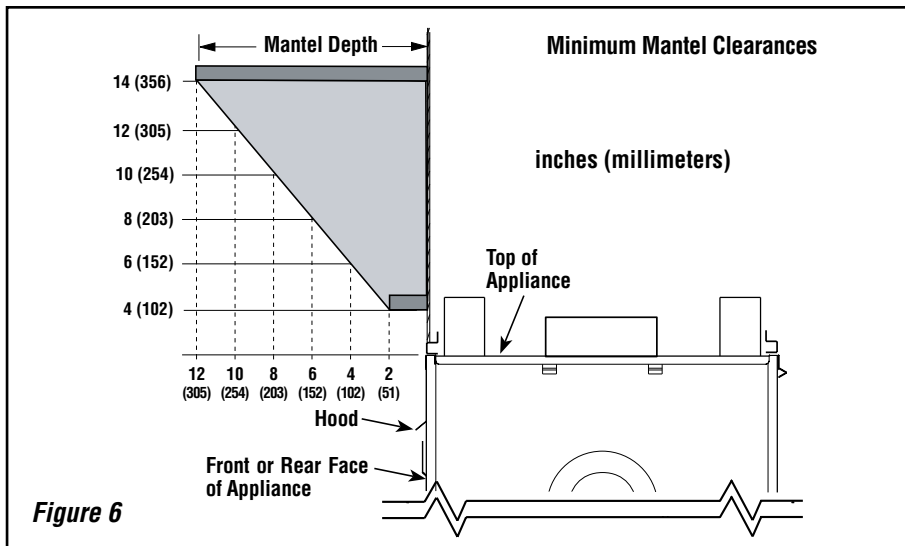


Figure 6

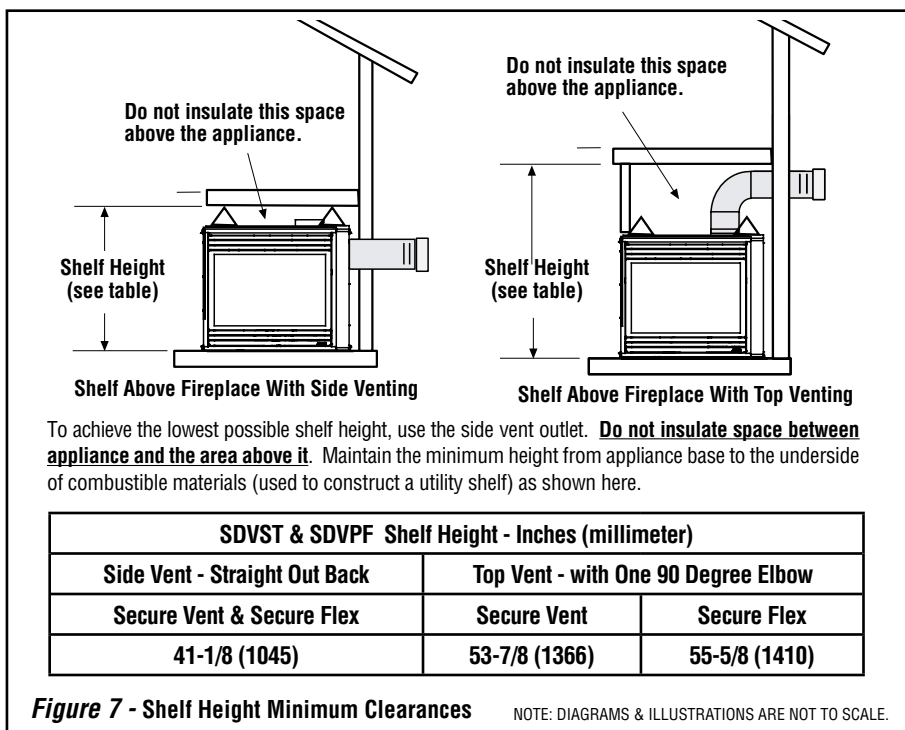


Figure 7 - Shelf Height Minimum Clearances

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Appliance and Vent Clearances

Maintain clearances from appliance to combustible materials as detailed in **Table 5**, with the following exception: **When the appliance is installed with one side flush with a wall, the wall on the other side of the appliance must not extend beyond the front edge of the appliance.** In addition, when the appliance is installed in the middle of a room, the side walls surrounding the appliance must not extend beyond the front edge of the appliance. See **Figure 2 on Page 5**.

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

Table 5

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

Side Clearances

Combustible materials may project beyond the sides of the fireplace opening as long as they are kept within the shaded areas illustrated in **Figure 8**.

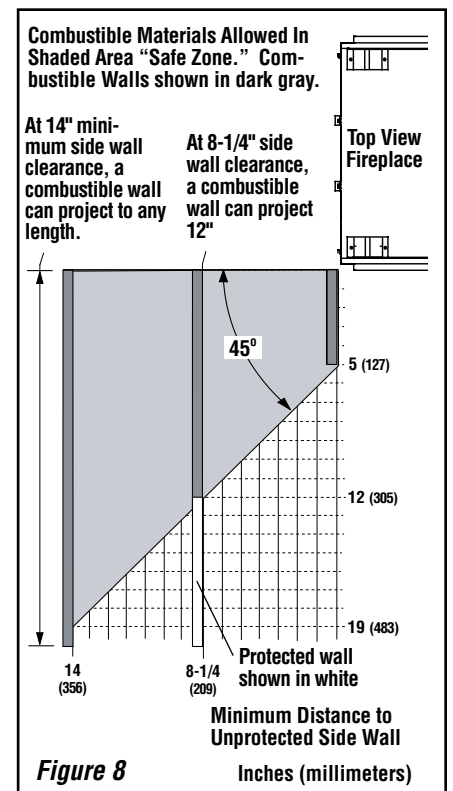


Figure 8

Inches (millimeters)

! 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.

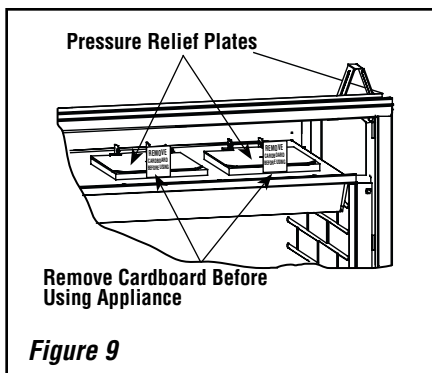
! AVERTISSEMENT

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.

DETAILED INSTALLATION STEPS

The appliance is shipped with all gas controls and components installed and pre-wired.

1. Remove the shipping carton. Remove the shipping pad, exposing the front glass door.
 2. Open the two latches (located under the firebox floor) securing the glass door. Remove the door by tilting it outward at the bottom and lifting it up. Set the door aside protecting it from inadvertent damage. See *Removing Glass Panels* on **Page 31**.
 2. Remove the top louvered panel and locate the pressure relief plates.
 3. Lift the pressure relief plates and remove the cardboard from beneath each plate (be careful not to damage the white gasket). See *Figure 9*.
- * **NOTE: INSTALLATION DIAGRAMS AND INSTRUCTIONS SHOW THE FRONT OF THE APPLIANCE AS THE SIDE WHICH HAS VALVE ACCESS, EXCEPT WHERE NOTED.**



TYPICAL INSTALLATION SEQUENCE

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

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

- Step 1.** (**Page 9**) Construct the appliance framing. Position the appliance within the framing and secure with nailing flanges.
- Step 2.** (**Page 12**) Route gas supply line to appliance location.
- Step 3.** (**Page 13**) Install the vent system and exterior termination.
- Step 4.** (**Page 26**) Field Wiring – Install the OFF/ON burner control switch and bring in electrical service line for forced air-circulating blower (optional equipment).
- Step 5.** (**Page 27**) Install blower kit (optional equipment).
- Step 6.** (**Page 28**) Make connection to gas supply.
- Step 7.** (**Page 29**) Verify appliance operation.
- Step 8.** (**Page 29**) Install the logs, decorative volcanic stone and glowing embers.
- Step 9.** (**Page 31**) Install glass door assemblies.
- Step 10.** (**Page 31**) Adjust burner primary air shutter to achieve proper flame appearance.
- Step 11.** (**Page 32**) Install the decorative trim and hoods.
- Step 12.** (**Page 33**) Attach Safety in Operation Warnings.

Step 1. FRAMING

Frame these appliances as illustrated in **Figures 11 or 12**. All framing details must allow for a minimum clearance to combustible framing members as shown in **Table 5** on **Page 8**.

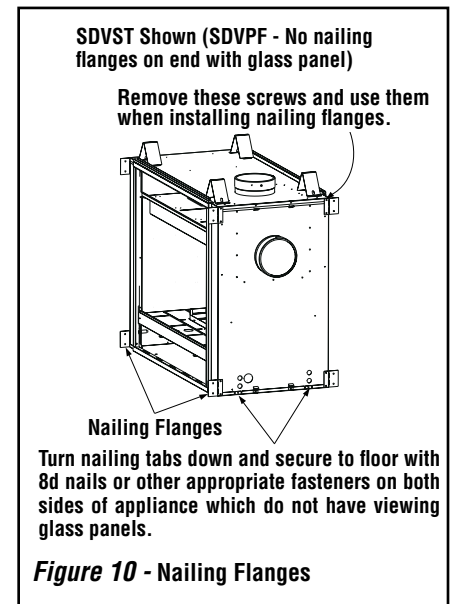
If the appliance is to be elevated above floor level, a solid continuous platform must be constructed below the appliance.

Headers may be in direct contact with the appliance top spacers but must not be supported by them or notched to fit around them. All construction above the appliance must be self-supporting, **DO NOT** use the appliance for structural support.

Side Nailing Flanges

The fireplace should be secured to the framing at the side(s) of the appliance using the factory-provided nailing flanges. Install the 8 nailing flanges as shown in **Figure 10** using the existing screws. Position the fireplace within the framing. When required, the tabs may be bent 90 degrees by hand or with the assistance of a hammer. Use wood screws to secure the nailing flanges to the framing. See **Table 5** on **Page 8** for clearances of framing members to cabinet parts. The nailing flange itself can directly contact framing.

Floor Nailing Tabs - Secure the fireplace to the floor as shown in **Figure 10**.



FIREPLACE SPECIFICATIONS - MODEL SDVST (SEE-THROUGH)

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

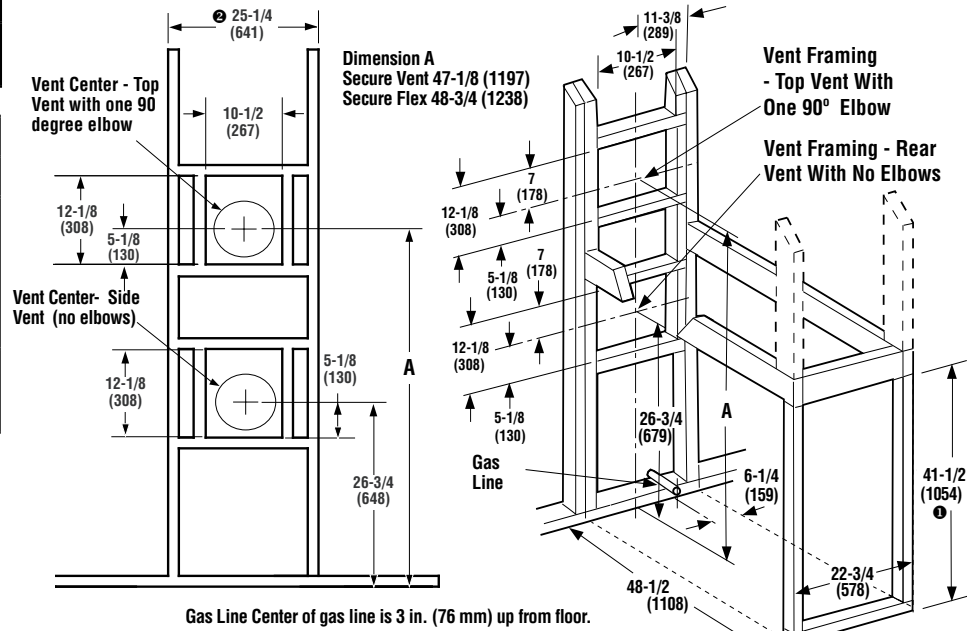
NOTES
• Annual Fuel Utilization Efficiency
Diagrams, illustrations and photographs are not to scale – consult installation instructions. Product designs, materials, dimensions, specifications, colors and prices are subject to change or discontinuance without notice.
Appliance has a factory-installed vent seal cap (see <i>Figures 14 and 15</i> on <i>Page 13</i>) in each flue outlet.

PRODUCT REFERENCE INFORMATION			
Cat. No.	Model	Ship Wt.	Ship. Volume
H4633	SDVST	282 lbs	52W x 27D x 44-1/2H (36.2 cu.ft.)

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

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

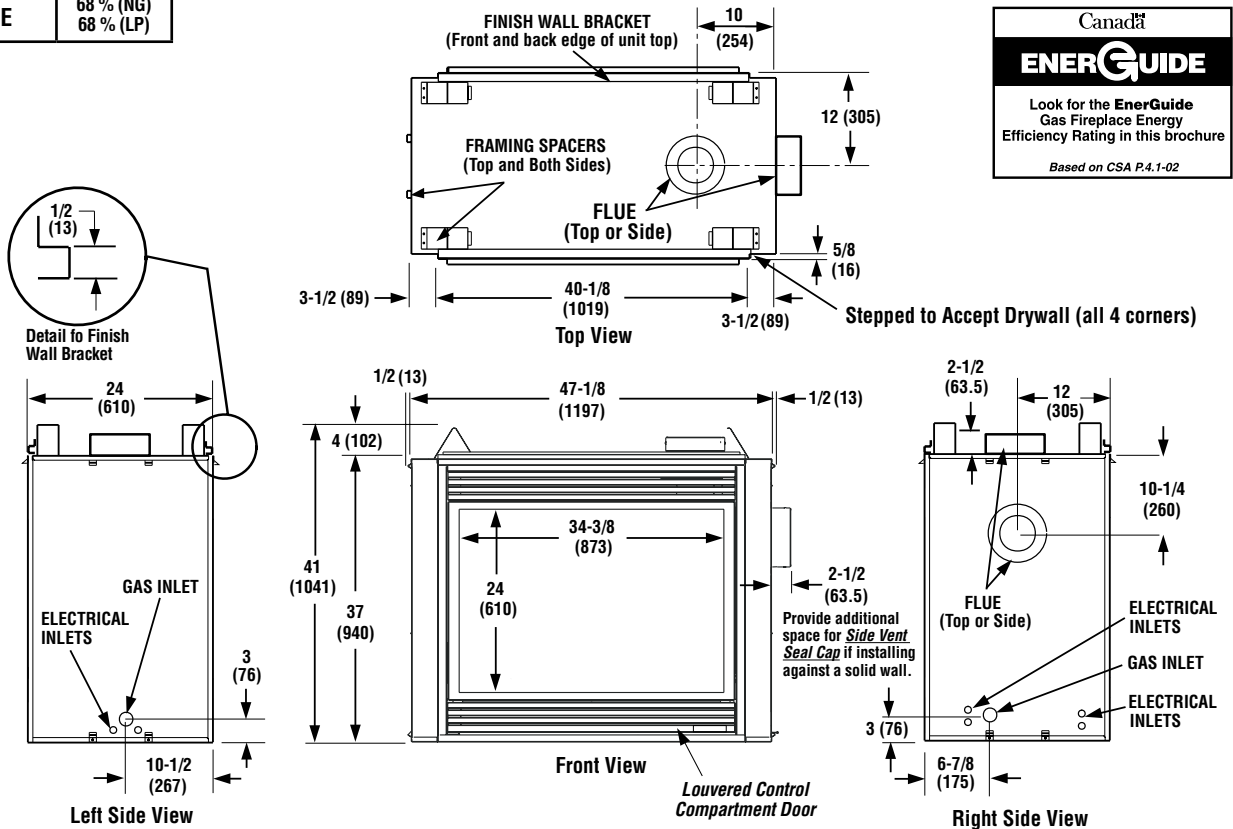
Fireplace Framing Specifications



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

Vertical Venting Through the Ceiling:

Frame ceiling opening - Use a plumb line from the ceiling above the appliance to locate center of the vertical run. Cut and/or frame an opening, 10-1/2" x 10-1/2" (267 mm x 267 mm) inside dimensions, about this center mark (see *Figure 18* on *Page 15*).



Canada
ENERGUIDE
Look for the **ENERGUIDE** Gas Fireplace Energy Efficiency Rating in this brochure
Based on CSA P.4.1-02

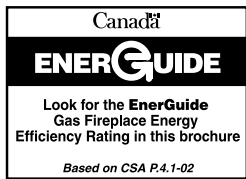
FIREPLACE SPECIFICATIONS - MODEL SDVPF (PENINSULA VIEW)

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

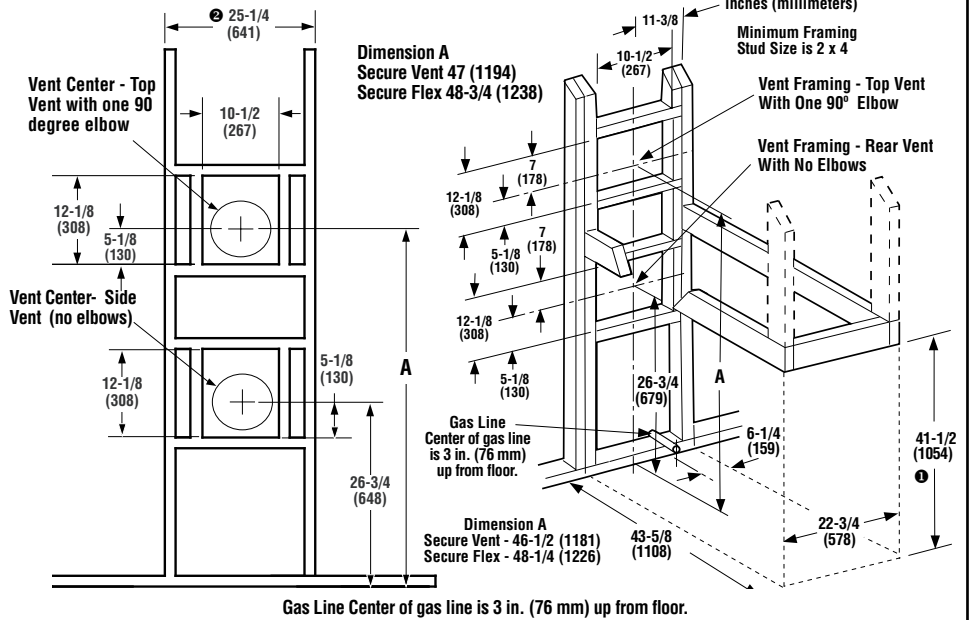
NOTES	
• Annual Fuel Utilization Efficiency	
Diagrams, illustrations and photographs are not to scale – consult installation instructions. Product designs, materials, dimensions, specifications, colors and prices are subject to change or discontinuance without notice.	
Appliance has a factory-installed vent seal cap (see Figures 14 and 15 on Page 13) in each flue outlet.	

PRODUCT REFERENCE INFORMATION			
Cat. No.	Model	Ship Wt.	Ship. Volume
H4634	SDVPF	270 lbs	52W x 27D x 44-1/2H (36.2 cu.ft.)

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



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



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

Vertical Venting Through the Ceiling:
Frame ceiling opening - Use a plumb line from the ceiling above the appliance to locate center of the vertical run. Cut and/or frame an opening, 10-1/2' x 10-1/2' (267 mm x 267 mm) inside dimensions, about this center mark (see Figure 18 on Page 15).

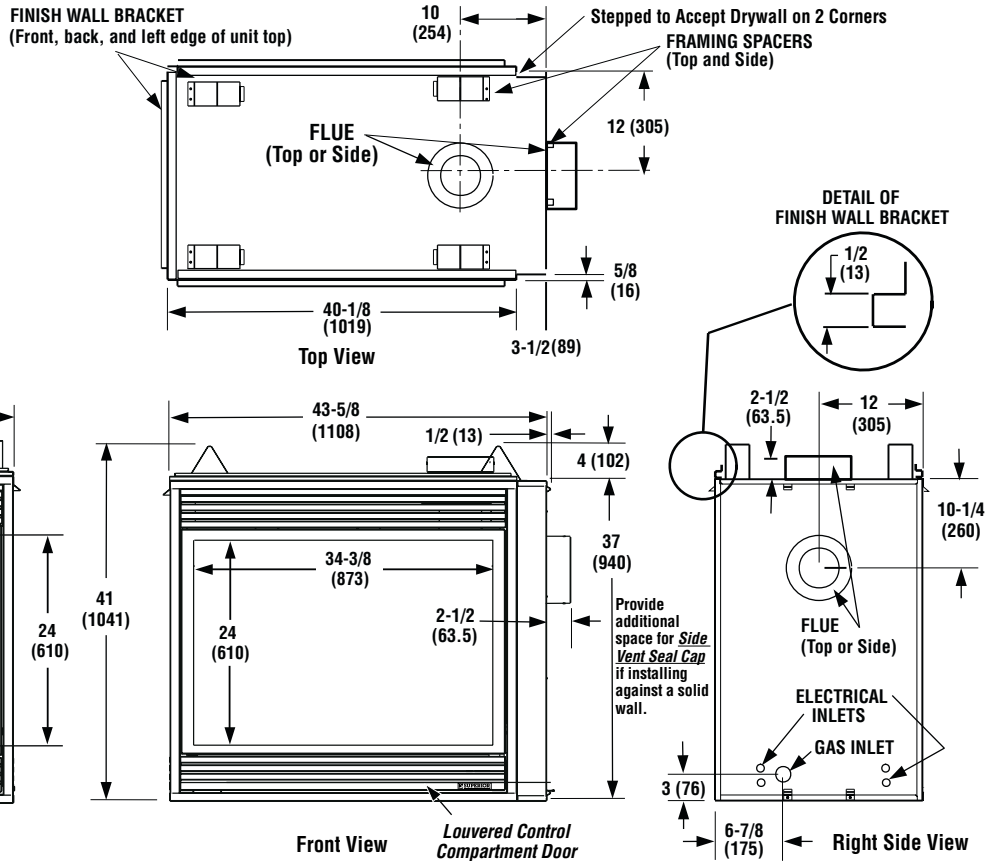
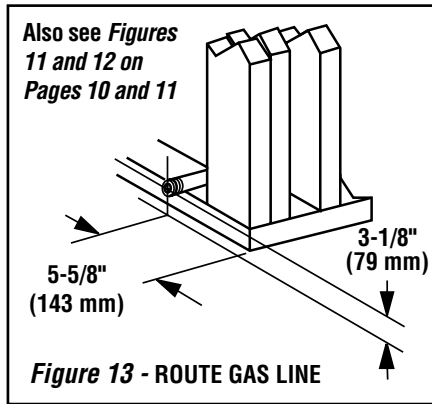


Figure 12

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 2. ROUTING GAS LINE

Route a gas line along the inside of the right side framing as shown in **Figure 13**. Gas lines must be routed, constructed and made of materials that are in strict accordance with local codes and regulations.



Proper Sizing of Gas Line

Properly size and route the gas supply line from the supply regulator to the area where the appliance is to be installed per requirements outlined in the National Fuel Gas Code, NFPA 54 - latest edition (USA) or CAN/CSA-B149.1 - latest edition (Canada).

Never use galvanized or plastic pipe. Refer to **Table 6** for proper sizing of the gas supply line, if black iron pipe is being used. Gas lines must be routed, constructed and made of materials that are in strict accordance with local codes and regulations. We recommend that a qualified individual such as a plumber or gas fitter be hired to correctly size and route the gas supply line to the appliance. Installing a gas supply line from the fuel supply to the appliance involves numerous considerations of materials, protection, sizing, locations, controls, pressure, sediment, and more. Certainly no one unfamiliar and unqualified should attempt sizing or installing gas piping.

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

Table 6

Notes:

- All appliances are factory-equipped with a flexible gas line connector and 1/2 inch shutoff valve (see **Figure 47** on **Page 28**).
- See **Massachusetts 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 **Step 6 (Page 28)**.
- A pipe joint compound rated for gas should be used on the threaded joints. **Ensure propane resistant compounds are used in propane applications.** Be very careful that the pipe compound does not get inside the pipe.
- It is recommended to install a sediment trap in the supply line as close as possible to the appliance (see **Figure 47**). Appliances using Propane should have a sediment trap at the base of the tank.
- Check with local building official for local code requirements (i.e. are below grade penetrations of the gas line allowed?, etc).

IMPORTANT: If propane is used, be aware that if tank size is too small (i.e. under 100-lbs, if this is the only gas appliance in the dwelling. Ref. 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.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 3. INSTALL THE VENT SYSTEM

General Information

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.

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 venting components. See *Approved Vent Components* on Page 2.

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 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.

REMOVE VENT SEAL CAP

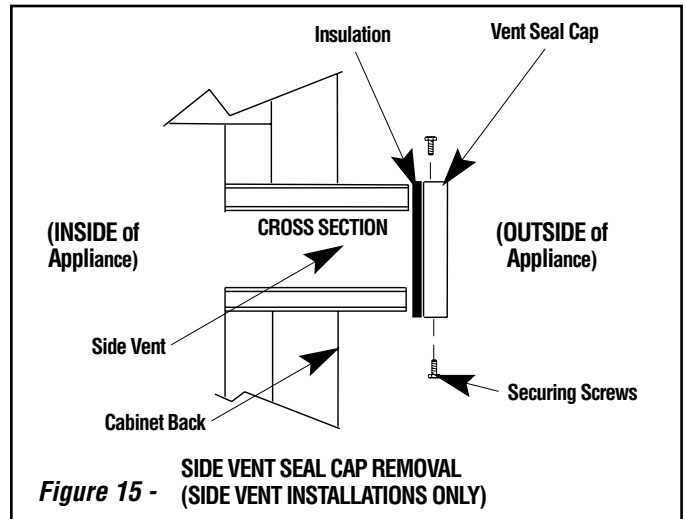
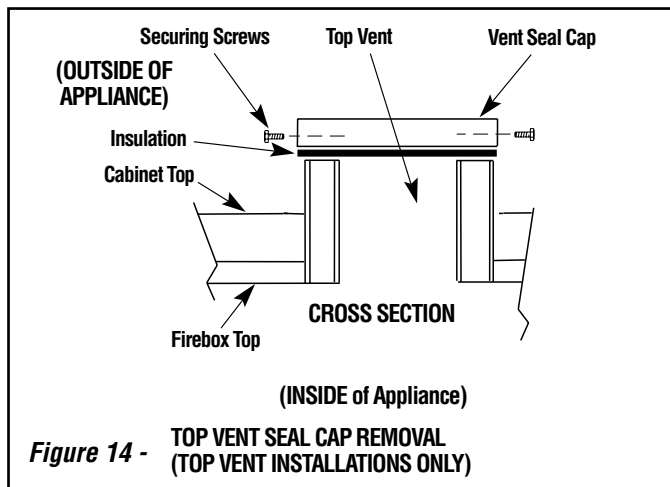
(From the vent that will be used only)

Top Vent - See *Figure 14* and Side Vent - See *Figure 15*

Preparing the Appliance Vent Collar

Each of the appliances' two vent collars are sealed with a seal cap which must be removed from the vent collar being used. Refer to *Figure 14* for top vent installations and *Figure 15* for side vent installations and the following steps to prepare the appropriate collar for use.

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



WARNING

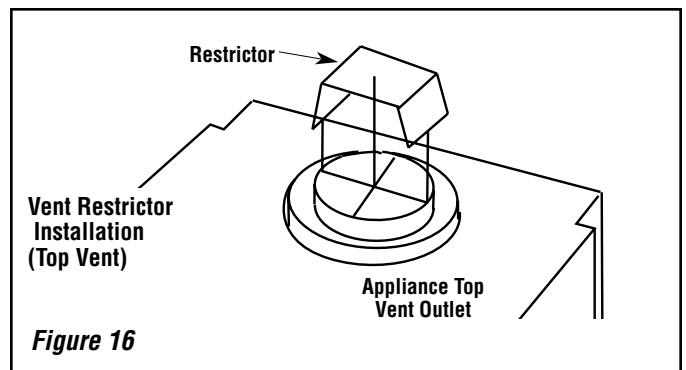
The VENT SEAL CAP must remain securely installed on unused vent collar. Failure to do so could result in leakage of flue products into living space.

Installation of Vent Restrictor

(Top Vent Installations with Vertical Terminations Only)

A vent restrictor (provided) may be needed with this appliance. If needed, install the vent restrictor (provided) in the appliance top flue outlet as shown in *Figure 16* when vertically terminating the vent system above the roof. It may be installed either from inside or outside the appliance, in the inner fireplace collar. It is press-fitted in place.

Note: The restrictor is included within 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 is shown on Pages 34 to 36.

VERTICAL TERMINATION SYSTEMS (ROOF)

See **Figure 17** and **Figures 28 to 32 (Pages 18 and 19)** and their associated Vertical Vent Tables illustrate the vertical venting configurations that are allowed to be used with these appliances. **Secure Vent™** pipe applications are shown in these figures; **Secure Flex™** pipe may also be used. **See Page 25.** 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-(latest edition) (In Canada, the current CAN/CSA-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 (refer to **Figure 3B on Page 6**).

A vent restrictor will need to be installed when vertical termination is used. See *Installation of Vent Restrictor* on **Page 13** for guidelines.

Vertical (Straight) Installation

Determine the number of straight vent sections required. 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm) net section lengths are available (see **Table 7** and **Page 34 - Item 3**). It is recommended that you plan the vent lengths so that a section joint does not occur within the space defined by ceiling joists or roof rafters. Refer to the Vent Section Length Chart.

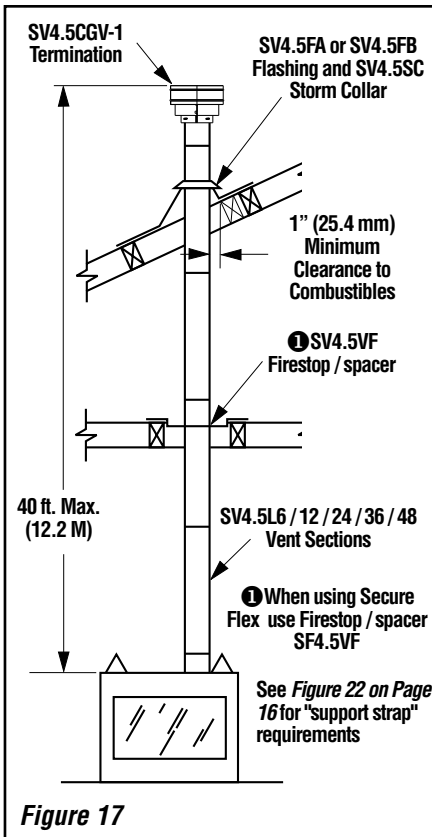


Figure 17

VENT SECTION LENGTH CHART							TOTAL QTY
Nominal Section Length (inches)	6	12	24	36	48		
Net Section Length (inches)	4 ½	10 ½	22 ½	34 ½	46 ½		
Height of Vent	Number of Vent Sections						
inch	feet						
4.5	0.375	1	0	0	0	0	1
9	0.75	2	0	0	0	0	2
10.5	0.875	0	1	0	0	0	1
15	1.25	1	1	0	0	0	2
19.5	1.625	2	1	0	0	0	3
21	1.75	0	2	0	0	0	2
22.5	1.875	0	0	1	0	0	1
25.5	2.125	1	2	0	0	0	3
31.5	2.625	0	3	0	0	0	3
34.5	2.875	0	0	0	1	0	1
37.5	3.125	1	1	1	0	0	3
43.5	3.625	0	2	1	0	0	3
45	3.75	0	0	2	0	0	2
46.5	3.875	0	0	0	0	1	1
49.5	4.125	1	0	2	0	0	3
51	4.25	1	0	0	0	1	2
55.5	4.625	0	1	2	0	0	3
57	4.75	0	0	1	1	0	2
66	5.25	0	2	2	0	0	4
67.5	5.625	0	0	3	0	0	3
69	5.75	0	0	0	2	0	2
72	6	1	0	3	0	0	4
73.5	6.125	1	0	0	2	0	3
79.5	6.625	0	1	0	2	0	3
81	6.75	0	0	0	1	1	2
90	7.5	0	2	1	0	1	4
91.5	7.625	0	0	2	0	1	3
93	7.75	0	0	0	0	2	2
96	8	1	0	1	2	0	4
97.5	8.125	1	0	0	0	2	3
102	8.5	2	0	0	0	2	4
103.5	8.625	0	0	0	3	0	3
108	9	1	0	0	3	0	4
114	9.5	0	2	0	0	2	4
117	9.75	1	0	5	0	0	6
118.5	9.875	1	1	0	3	0	5
126	10.5	0	0	1	3	0	4
130.5	10.875	1	0	1	3	0	5
135	11.25	0	0	6	0	0	6
138	11.5	0	0	0	4	0	4
139.5	11.625	0	0	0	0	3	3
142.5	11.875	1	0	0	4	0	5

* Convert inches into metric equivalent measure, as follows:

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

VENT SECTION LENGTH CHART							TOTAL QTY
Nominal Section Length (inches)	6	12	24	36	48		
Net Section Length (inches)	4 ½	10 ½	22 ½	34 ½	46 ½		
Height of Vent	Number of Vent Sections						
inch	feet						
144	12	1	0	0	0	3	4
150	12.5	0	1	0	0	3	4
154.5	12.875	1	1	0	0	3	5
160.5	13.375	0	2	0	0	3	5
172.5	14.375	0	0	0	5	0	5
177	14.75	1	0	0	5	0	6
183	15.25	0	1	0	5	0	6
186	15.5	0	0	0	0	4	4
190.5	15.875	1	0	0	0	4	5
196.5	16.375	0	1	0	0	4	5
205.5	17.125	0	1	1	5	0	7
207	17.25	0	0	0	6	0	6
211.5	17.625	1	0	0	6	0	7
217.5	18.125	0	1	0	6	0	7
229.5	19.125	0	0	1	6	0	7
232.5	19.375	0	0	0	0	5	5
237	19.75	1	0	0	0	5	6
241.5	20.125	0	0	0	7	0	7
246	20.5	1	0	0	7	0	8
252	21	0	1	0	7	0	8
264	22	0	0	1	7	0	8
276	23	0	0	0	8	0	8
279	23.25	0	0	0	0	6	6
280.5	23.375	1	0	0	8	0	9
283.5	23.625	1	0	0	0	6	7
289.5	24.125	0	1	0	0	6	7
301.5	25.125	0	0	1	0	6	7
310.5	25.875	0	0	0	9	0	9
315	26.5	1	0	0	9	0	10
325.5	27.125	0	0	0	0	7	7
330	27.5	1	0	0	0	7	8
336	28	0	1	0	0	7	8
345	28.75	0	0	0	10	0	10
349.5	29.125	1	0	0	10	0	11
372	31	0	0	0	0	8	8
376.5	31.375	1	0	0	0	8	9
379.5	31.625	0	0	0	11	0	11
418.5	34.875	0	0	0	0	9	9
423	35.25	1	0	0	0	9	10
465	38.75	0	0	0	0	10	10

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

Table 7

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Vertical (Offset) Installation

Analyze the vent routing and determine the number of vent sections and elbows required. Refer to **Vertical Vent Figures and Tables on Pages 18 and 19** to select the type of vertical installation desired. Vent sections are available in net lengths of 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm). Refer to the **Vent Section Length Charts on Page 14** for an aid in selecting vent length combinations. Elbows are available in 45° and 90° configurations. Refer to **Figure 24 on Page 16** for the SV4.5E45 and SV4.5E90 elbow dimensional specifications.

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

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

A. Frame ceiling opening - Use a plumb line from the ceiling above the appliance to locate center of the vertical run. Cut and/or frame an opening, 10-1/2" x 10-1/2" (267 mm x 267 mm) inside dimensions, about this center mark (**Figure 18**).

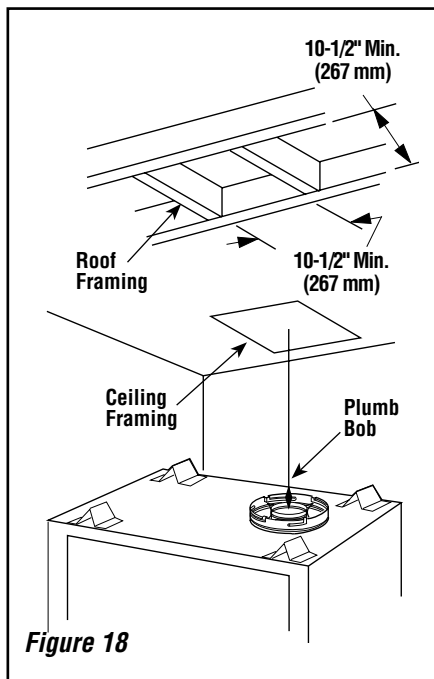


Figure 18

B. Attach vent components to appliance - Secure Vent

SV4.5 direct-vent system components are unitized concentric pipe components featuring positive twist lock connections (see **Figure 19**).

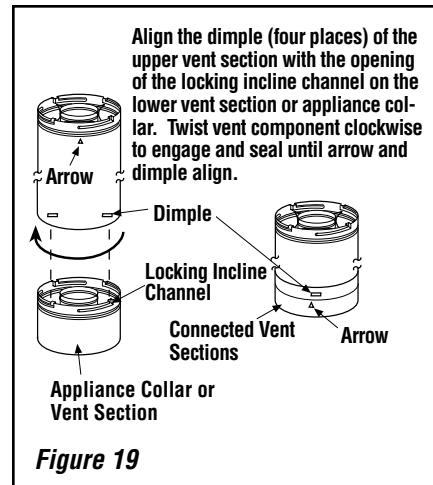


Figure 19

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 (refer to **Figure 19**). Push the vent component against the collar until it fully engages, then twist the component clockwise, running the dimples down and along the incline channels until they seat at the end of the channels. The unitized design of the **Secure Vent** components will engage and seal both the inner and outer pipe without the need for sealant or screws. If desired a #6 x 1/2" screw may be used at the joint, but it not required as the pipe will securely lock when twisted.

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

C. Attach vent components to each other

Other vent sections may be added to the previously installed section in accordance with the requirements of the vertical vent Figures and Tables. To add another vent component to a length of vent run, align the dimpled end over the inclined channel end of the previously installed section, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels of the previous section.

Push the vent component against the previous section until it fully engages, then twist the component clockwise running the dimples down and along the incline channels until they seat at the end of the channels. **This seating position is indicated by the alignment of the arrow and dimple as shown in Figure 19.**

D1. Install firestop/spacer at ceiling between stories

Install a firestop/spacer (catalog no. H2247 - Secure Vent; catalog no. H2249 - Secure Flex) at the bottom side of the ceiling to the ceiling joists. Route the vent sections through the framed opening and secure the firestop/spacer with appropriate fasteners at each corner.

Remember to maintain 1" (25 mm) clearance between vertical chimney sections and combustibles, framing members, and attic or ceiling insulation.

D2. Install firestop thimble at the ceiling to roof location

Position appropriate firestop thimble (see **Table on Page 36**) at the bottom side of ceiling and secure temporarily with two appropriate fasteners. Attach permanently, using at least two more fasteners, after vent sections have been assembled through the firestop thimble and after any necessary adjustments have been made.

Ensure the thimble penetrates the roof opening. The thimble must extend completely through the ceiling or roof cavity to the outermost plane of the roof. Use thimble extension SVTE26 when the distance between the outside of the roof and the inside of the ceiling exceeds the height of the firestop thimble. The thimble provides for zero clearances to combustibles and must be used at the ceiling/roof in manufactured homes with Secure Vent double wall vent sections. **Maintain 1 in. (25.4 mm) clearance between the thimble and the outer pipe of the secure vent chimney system.** See **Figure 21 (Page 16)** for pitched roofs or flat roofs with flat ceilings or **Figure 20** for pitched roofs with cathedral ceilings.

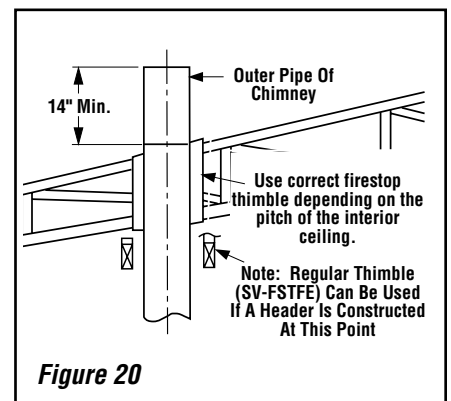


Figure 20

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

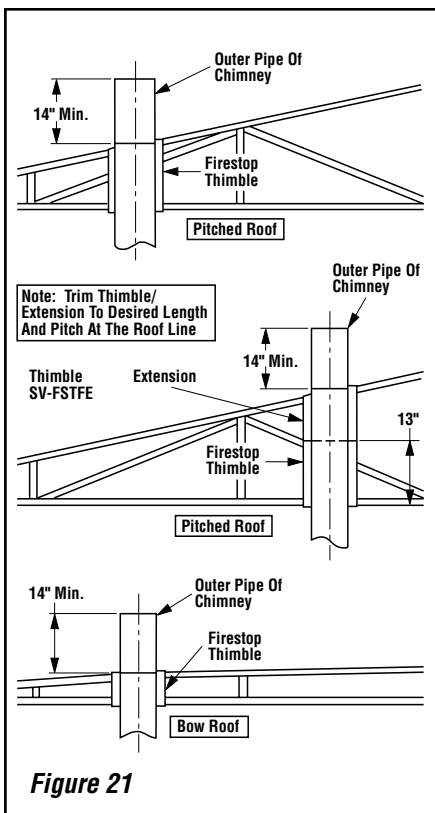


Figure 21

E. Support the vertical vent run sections -

Note - Proper venting support is very important. The weight of the vent must not be supported by the fireplace in any degree.

Support the vertical portion of the venting system every 8 feet (2.4 m) above the fireplace vent outlet.

One method of support is by utilizing field provided support straps (conventional plumber's tape). Secure the plumber's tape to the framing members with nails or screws. Loop the tape around the vent, securing the ends of the tape to the framing. If desired, sheet metal screws #6 x 1/2" length may be used to secure the support straps to the vent pipe. See Figure 22.

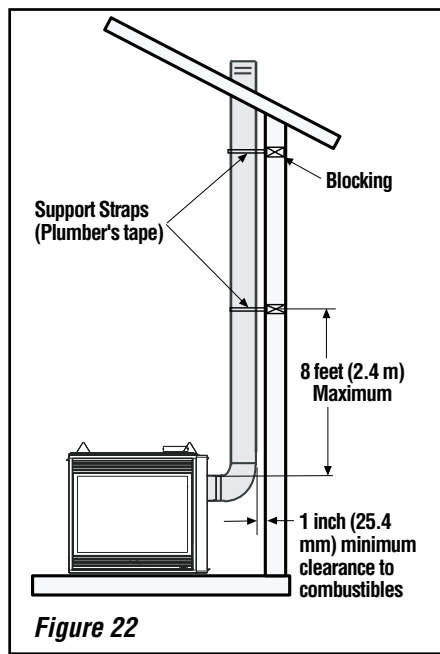


Figure 22

Another method, where the vent is not adjacent to a wall, is illustrated in Figure 23. Here, support straps (96K93) and support plates (96K92) can be used to support the weight of the vent.

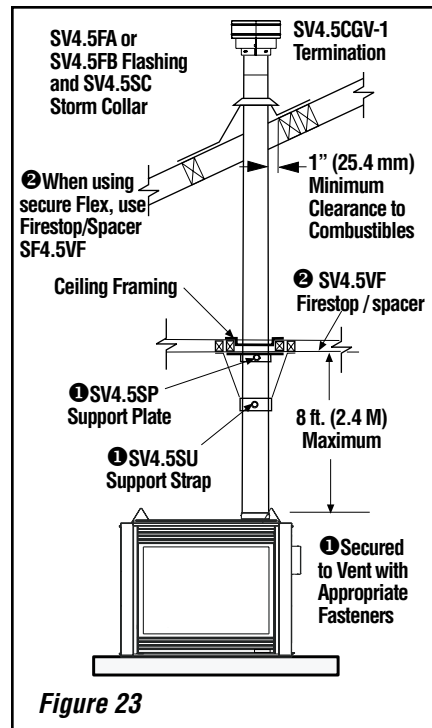


Figure 23

F. Change vent direction to horizontal / inclined run - At transition from or to a horizontal / inclined run, install the SV4.5E45 and SV4.5E90 elbows in the same manner as the straight vent sections. The elbows feature a twist section to allow them to be routed about the center axis of their initial collar section to align with the required direction of the next vent run element. **Twist elbow sections in a clockwise direction only so as to avoid the possibility of unlocking any of the previously connected vent sections.** See Figure 24.

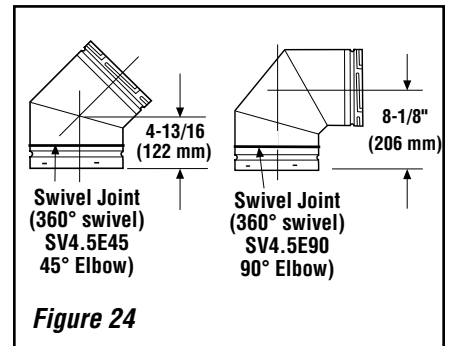


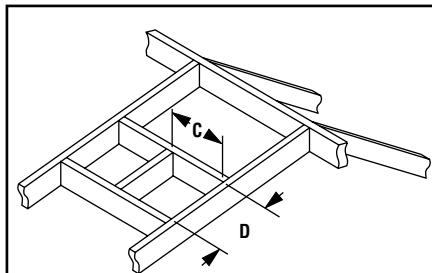
Figure 24

G. Continue installation of horizontal / inclined sections - Continue with the installation of the straight vent sections in horizontal / inclined run as described in Step C. Install support straps every 5 feet (1.52 m) along horizontal / inclined vent runs using conventional plumber's tape. See Page 20, Figure 33. It is very important that the horizontal / inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter) which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level.

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

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

H. Frame roof opening - Identify location for vent at the roof. Cut and/or frame opening per Roof Framing Chart and **Figure 25**.



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

Figure 25 - Roof Framing

I. Install the roof flashing - Extend the vent sections through the roof structure. Install the roof flashing over the vent section and position such that the vent column rises vertically (use carpenters level - see **Figure 26**). Nail along perimeter to secure flashing or adjust roofing to overlap the flashing edges at top and sides only and trim where necessary. Seal the top and both sides of the flashing with waterproof caulking.

J. Install the storm collar - Install the storm collar, supplied with the flashing, over the vent / flashing joint. See **Figure 26**. Loosen the storm collar screw. Slide collar down until it meets the top of the flashing. Tighten the adjusting screw. Apply non-combustible caulking or mastic around the circumference of the joint to provide a water tight seal.

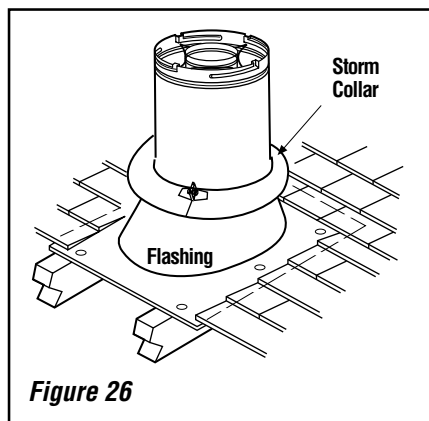


Figure 26

K. Install the vertical termination - The final Step involves installation of the SV4.5CGV-1 Vertical Termination. Extend the vent sections to the height as shown in the "Vertical vent termination section" (**Page 6, Figures 3A and 3B**). The SV4.5CGV-1 Vertical Termination (**Figure 27**) can be installed in the exact same fashion as any other **Secure Vent** section. Align the termination over the end of the previously installed section, adjusting the radial alignment until the four locking dimples of the termination are aligned with the inlets of the four incline channels of the last vent section. Push the termination down until it fully engages, then twist the termination clockwise running the dimples down and along the incline channels until they are seated at the end of the channels.

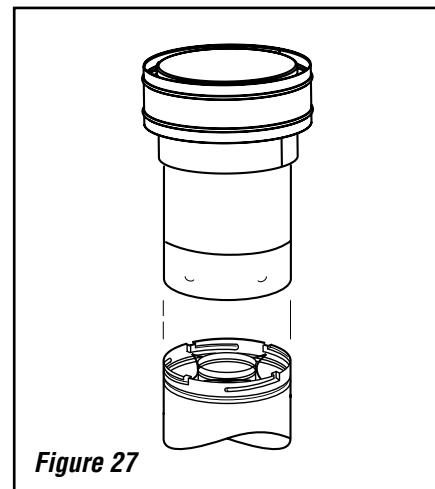


Figure 27

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

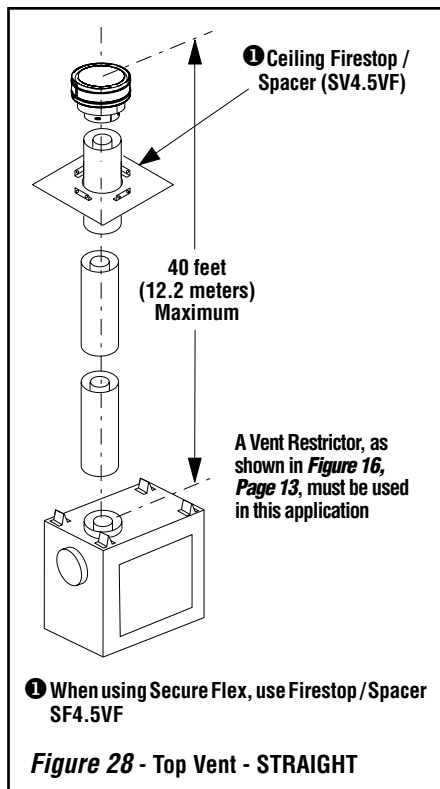
VERTICAL VENT FIGURES/TABLES

Notes:

- **Secure Vent™ (rigid vent pipe)** is shown in the Figures; **Secure Flex™ (flexible vent pipe)** may also be used.
- It is very important that the horizontal/inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter) which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level.
- SV4.5VF (Secure Vent), SF4.5VF (Secure Flex) firestop/spacer must be used anytime vent pipe passes through a combustible floor or ceiling. SV4.5HF (Secure Vent), SF4.5HF (Secure Flex) firestop/spacer must be used anytime vent pipe passes through a combustible wall.
- Two 45 degree elbows may be used in place of one 90 degree elbow. The same rise to run ratios, as shown in the venting Figures for 90 elbows, must be followed if 45 degree elbows are used.
- **AN ELBOW IS ACCEPTABLE AS 1 FOOT OF VERTICAL RISE EXCEPT WHERE AN ELBOW IS THE ONLY VERTICAL COMPONENT IN THE SYSTEM (See Figure 37).**

WARNING

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



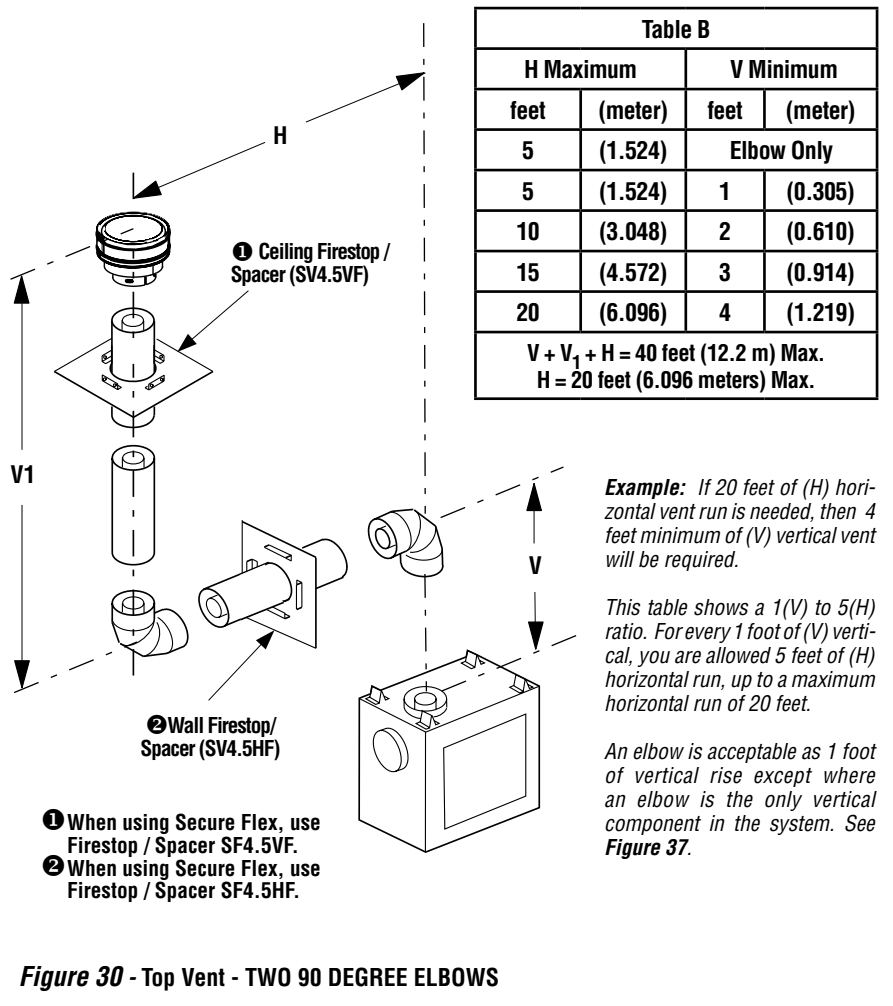
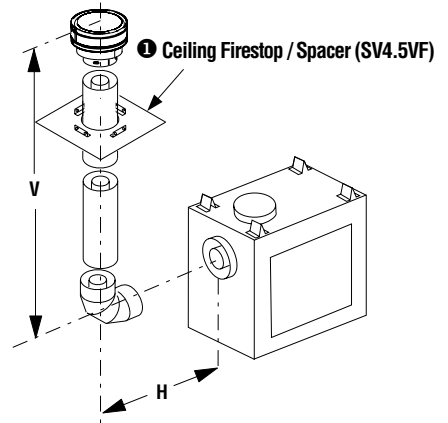
H Maximum		V Minimum	
feet	(meter)	feet	(meter)
2	(0.610)	1	(0.305)
4	(1.219)	2	(0.610)
6	(1.829)	3	(0.914)
8	(2.438)	4	(1.219)
V + H = 40 feet (12.2 meters) Max. H = 8 feet (2.4 meters) Max. Ratio V to H ratio is 1:2			

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

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

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

Figure 29 - Side Vent - ONE 90 DEGREE ELBOW



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

VERTICAL VENT FIGURES / TABLES (CONTINUED)

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

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

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

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

Figure 31 - Side Vent - THREE ELBOWS

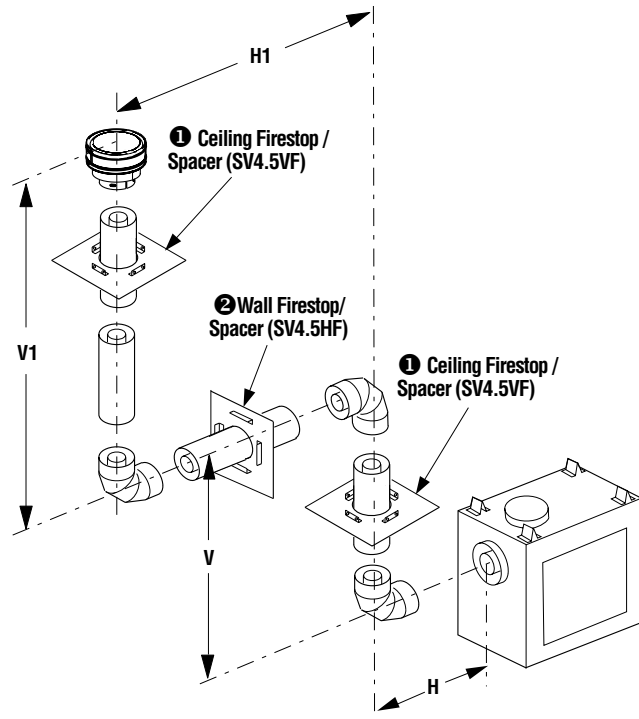


Table D			
H + H ₁ Maximum		V Minimum	
feet	(meter)	feet	(meter)
5	(1.524)	Elbow Only	
5	(1.524)	1	(0.305)
10	(3.048)	2	(0.610)
15	(4.572)	3	(0.914)
20	(6.096)	4	(1.219)
H + H ₁ = 20 feet (6.096 m) Max. V + V ₁ + H + H ₁ = 40 ft. (12.192 m) Max.			

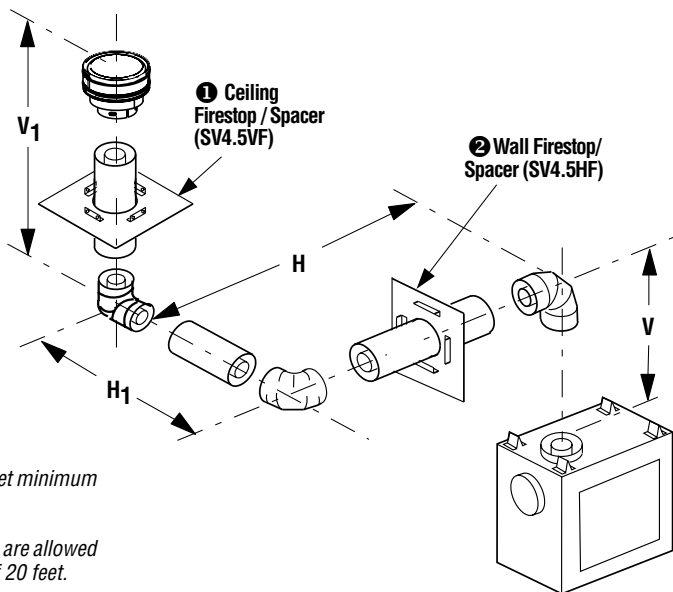
- ① When using Secure Flex, use Firestop / Spacer SF4.5VF
- ② When using Secure Flex, use Firestop / Spacer SF4.5HF

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

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

An elbow is acceptable as 1 foot of vertical rise except where an elbow is the only vertical component in the system. See Figure 37.

Figure 32 - Top Vent - THREE ELBOWS



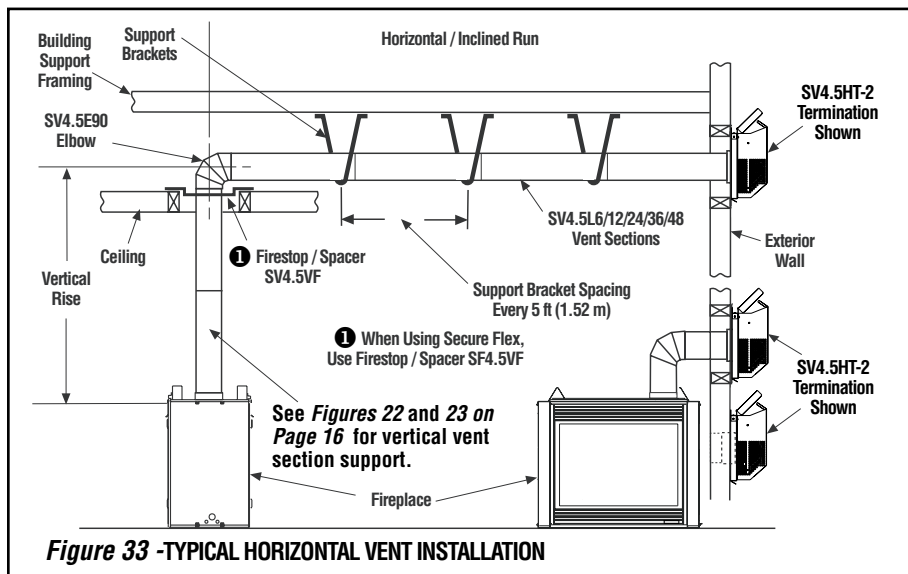


Figure 33 - TYPICAL HORIZONTAL VENT INSTALLATION

HORIZONTAL (OUTSIDE WALL) TERMINATION SYSTEM

See **Figure 33**, and **Figures 36 to 41 (Pages 22 to 24)** and their associated Horizontal Vent Table which illustrates the horizontal venting configurations that are allowed to be used with these appliances. **Secure Vent** pipe applications are shown in these figures; **Secure Flex** pipe may also be used (see **Page 25**). 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 5 on Page 7** for location guidelines.

Secure Vent SV4.5 direct-vent system components are unitized concentric pipe components featuring positive twist lock connection, (refer to **Figure 19 on Page 15**). All of the appliances covered in this document are fitted with collars having locking inclined channels. The dimpled end of the vent components fit over the appliance collar to create the positive twist lock connection.

A. Plan the vent run -

Analyze the vent routing and determine the types and quantities of sections required 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm) net section lengths are available. It is recommended that you plan the vent lengths so that a section joint does not occur within the space defined by ceiling joists, roof rafters or wall studs. Make allowances for elbows as indicated in **Figure 24 on Page 16**.

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

B. Frame exterior wall opening -

Locate the center of the vent outlet on the exterior wall according to the dimensions shown in **Figures 11 and 12 on Pages 10 and 11**.

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

C. Frame ceiling opening -

If the vertical route is to penetrate a ceiling, use plumb line to locate the center above the appliance. Cut and/or frame an opening, 10-1/2" x 10-1/2" (267 mm x 267 mm) inside dimensions, about this center (refer to **Figure 18 on Page 15**).

D. Attach vent components to appliance -

To attach a vent component to the appliance collar, align the dimpled end over the collar, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels on the collar (refer to **Figure 19 on Page 15**).

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

E. Attach vent components to each other -

Other vent sections may be added to the previously installed section in accordance with the requirements of the vent tables.

To add another vent component to a length of vent run, align the dimpled end of the component over the inclined channel end of the previously installed section, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels of the previous section.

Push the vent component against the previous section until it fully engages, then twist the component clockwise running the dimples down and along the incline channels until they seat at the end of the channels. **This seating position is indicated by the alignment of the arrow and dimple as shown in Figure 19 on Page 15.**

F. Install firestop / spacer at ceiling -

Install a **Secure Vent SV4.5VF** firestop/spacer at the bottom side of the ceiling to the ceiling joists. Route the vent sections through the framed opening and secure the firestop/spacer with appropriate fasteners at each corner.

If there is living space above the ceiling level, the firestop/ spacer must be installed on the bottom side of the ceiling. If attic space is above the ceiling, the firestop/ spacer must be installed on the top side of the joist. Route the vent sections through the framed opening and secure the firestop / spacer with 8d nails or other appropriate fasteners at each corner.

Remember to maintain 1" (25 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections. Attic insulation shield (H3907) may be used to obtain the required clearances indicated here. See installation accessories tables on Pages 34 through 36.

G. Support the vertical run sections - See Step E on Page 16.

H. Change vent direction -

At transition from or to a horizontal / inclined run, install the SV4.5E45 and SV4.5E90 elbows in the same manner as the straight vent sections. The elbows feature a twist section to allow them to be routed about the center axis of their initial collar section to align with the required direction of the next vent run element. **Twist elbow sections in a clockwise direction only so as to avoid the possibility of unlocking any of the previously connected vent sections. See Figure 24 on Page 16.**

I. Continue installation of horizontal / inclined sections -

Continue with the installation of the straight vent sections in horizontal / inclined run as described in **Step E**. Install support straps every 5 ft. (1.52 m) along horizontal / inclined vent runs using conventional plumber's tape. See **Figure 33**. **It is very important that the horizontal / inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter)** which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level. Use a carpenter's level to measure from a constant surface and adjust the support straps as necessary.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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

J. Assemble vent run to exterior wall - If not previously measured, locate the center of the vent at the exterior wall. Prepare an opening as described in **Step B**. Assemble the vent system to point where the terminus of the last section is located relative to the exterior surface to which the termination is to be attached as shown in **Figure 34**.

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 35**, refer to **Table 8 on Page 22**. This Table lists the additional venting components needed (in addition to the termination and adapter) for a particular range of wall thicknesses.

K. Attach termination adapter - Attach the adapter (SV4.5RCH - provided with the termination) to the vent section or telescoping vent section), elbow or appliance collar as shown in **Figures 34 and 35** in the same manner as any SV4.5 vent component (refer to **Step E**).

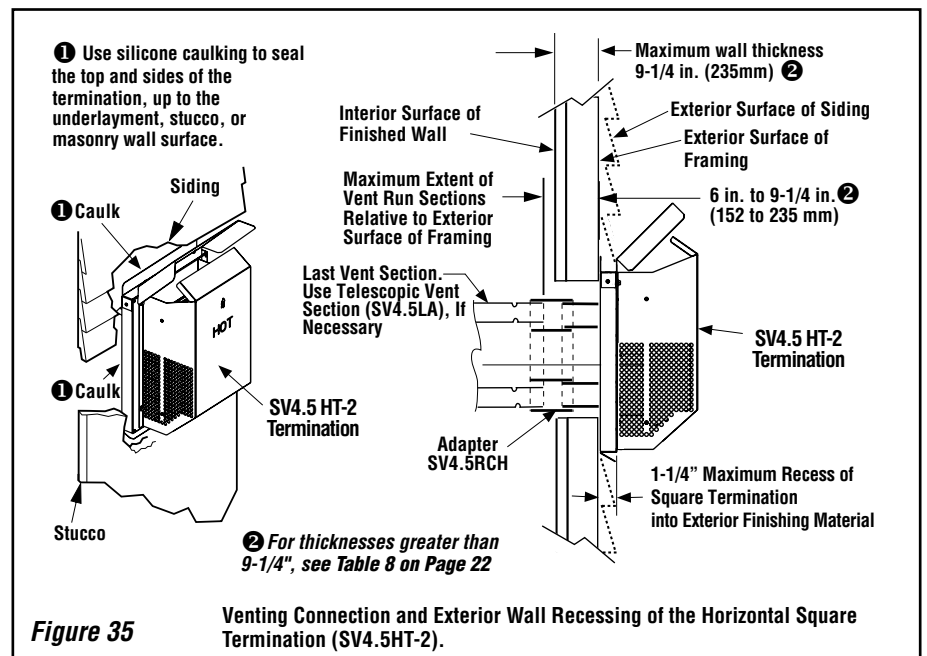
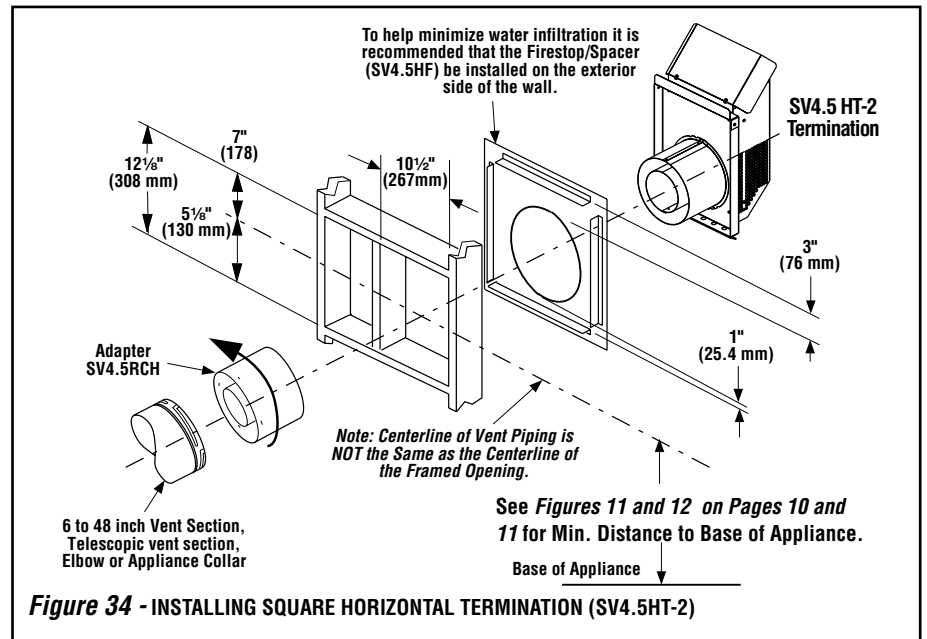
L. Install Firestop / Spacer at exterior wall - When using the square termination, install SV4.5HF (Secure Vent), SF4.5HF (Secure Flex) Firestop / Spacer over the opening at the exterior side of the framing, long side up, with the 3 inch spacer clearance at the top as shown in **Figure 34**, and nail into place.

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

M. Install the Square Termination (SV4.5HT-2)

For the last step, from outside the exterior wall, slide the collars of the termination onto the adapter until the termination seats against the exterior wall surface to which it will be attached. Orient the housing of the termination with the arrow pointed upwards. Secure the termination to the exterior wall. **The horizontal termination must not be recessed into the exterior wall or siding** by more than the 1-1/4" (32 mm) as shown in **Figure 35**.

IMPORTANT: The vent termination is hot while in operation and for a period of time following the use of the fireplace. Young children should be carefully supervised when they are in the same area as a hot termination. To prevent contact with hot surfaces, we recommend the use of a Termination Guard. See Page 34. 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 silicon caulking where required.

See Table 8 as an aid in venting component selection for a particular range of exterior wall thicknesses.

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

Table 8 Note: See Figure 35 on Page 21 showing wall thickness range when using SV4.5HT-2 termination kit only.

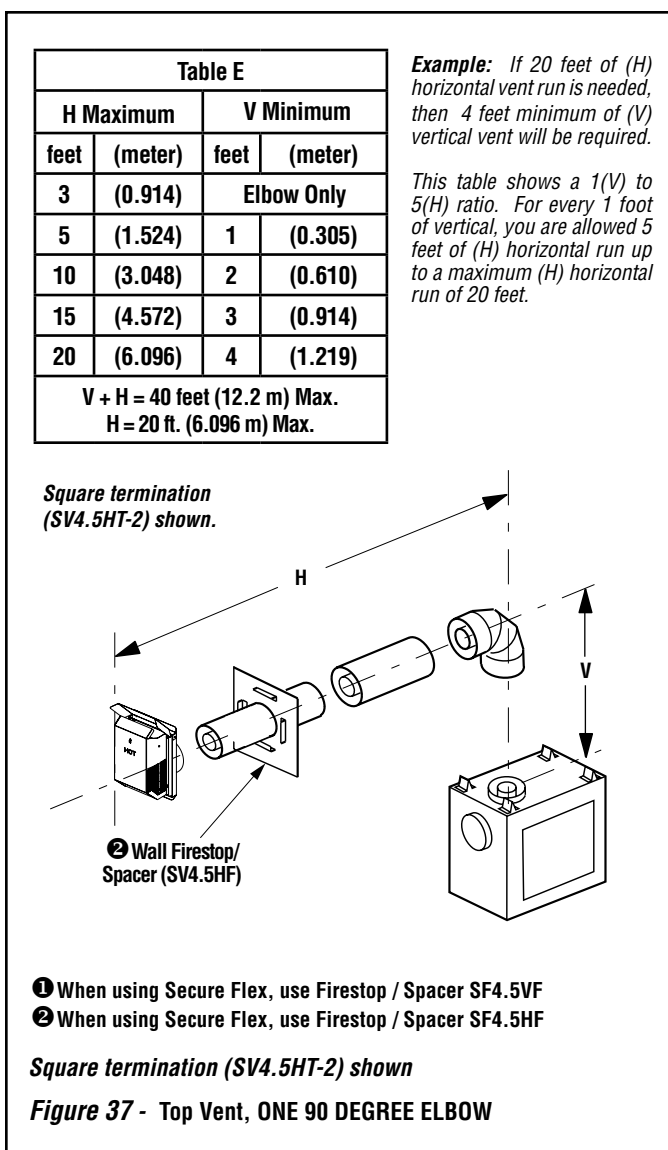
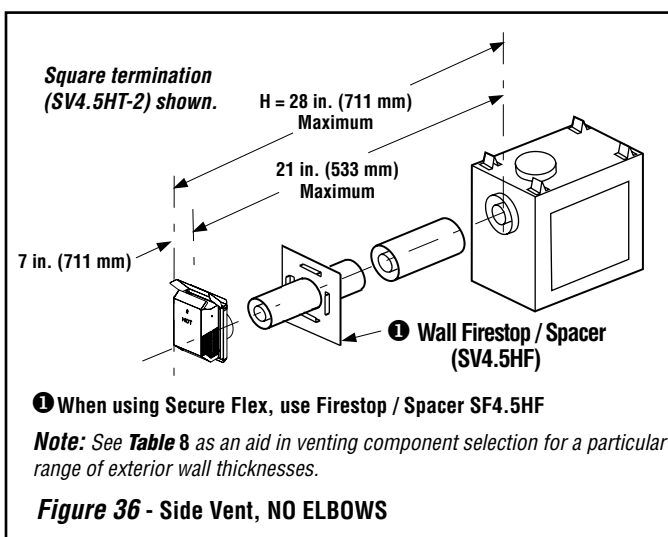
HORIZONTAL VENT FIGURES/TABLES

Notes:

- **Secure Vent™** components (rigid vent pipe and terminal) are shown in the Figures; **Secure Flex™** components (flexible vent pipe and terminal) may also be used.
- Two 45 degree elbows may be used in place of one 90 degree elbow. The same rise to run ratios, as shown in the venting Figures for 90 elbows, must be followed if 45 degree elbows are used.
- SV4.5VF (**Secure Vent**), SF4.5VF (**Secure Flex**) firestop/spacer must be used anytime vent pipe passes through a combustible floor or ceiling. SV4.5HF (**Secure Vent**), SF4.5HF (**Secure Flex**) firestop/spacer must be used anytime vent pipe passes through a combustible wall.
- **It is very important that the horizontal/inclined run be maintained in a straight (no dips) and recommended to be in a slightly elevated plane, in a direction away from the fireplace of 1/4" rise per foot (20 mm per meter) which is ideal, though rise per foot run ratios that are smaller are acceptable all the way down to at or near level.**
- The tables show a 1(V) to 5(H) ratio up to a maximum horizontal run of 20 feet except for installations where an elbow is the only vertical vent section in the system (see Figure 37).
- **AN ELBOW IS ACCEPTABLE AS 1 FOOT OF VERTICAL RISE EXCEPT WHERE AN ELBOW IS THE ONLY VERTICAL COMPONENT IN THE SYSTEM. See Figure 37.**

⚠ WARNING

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



HORIZONTAL VENT FIGURES / TABLES (CONTINUED)

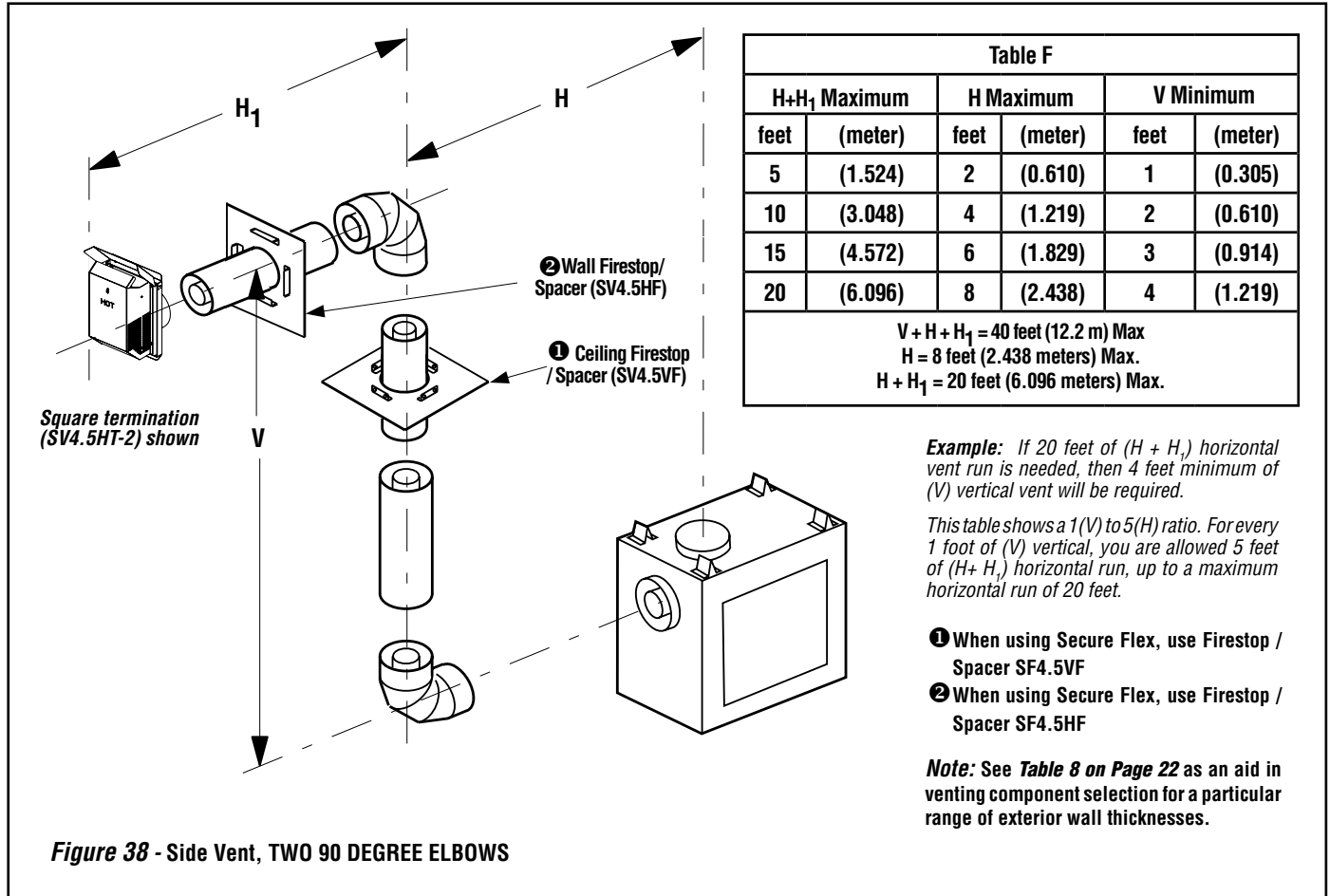
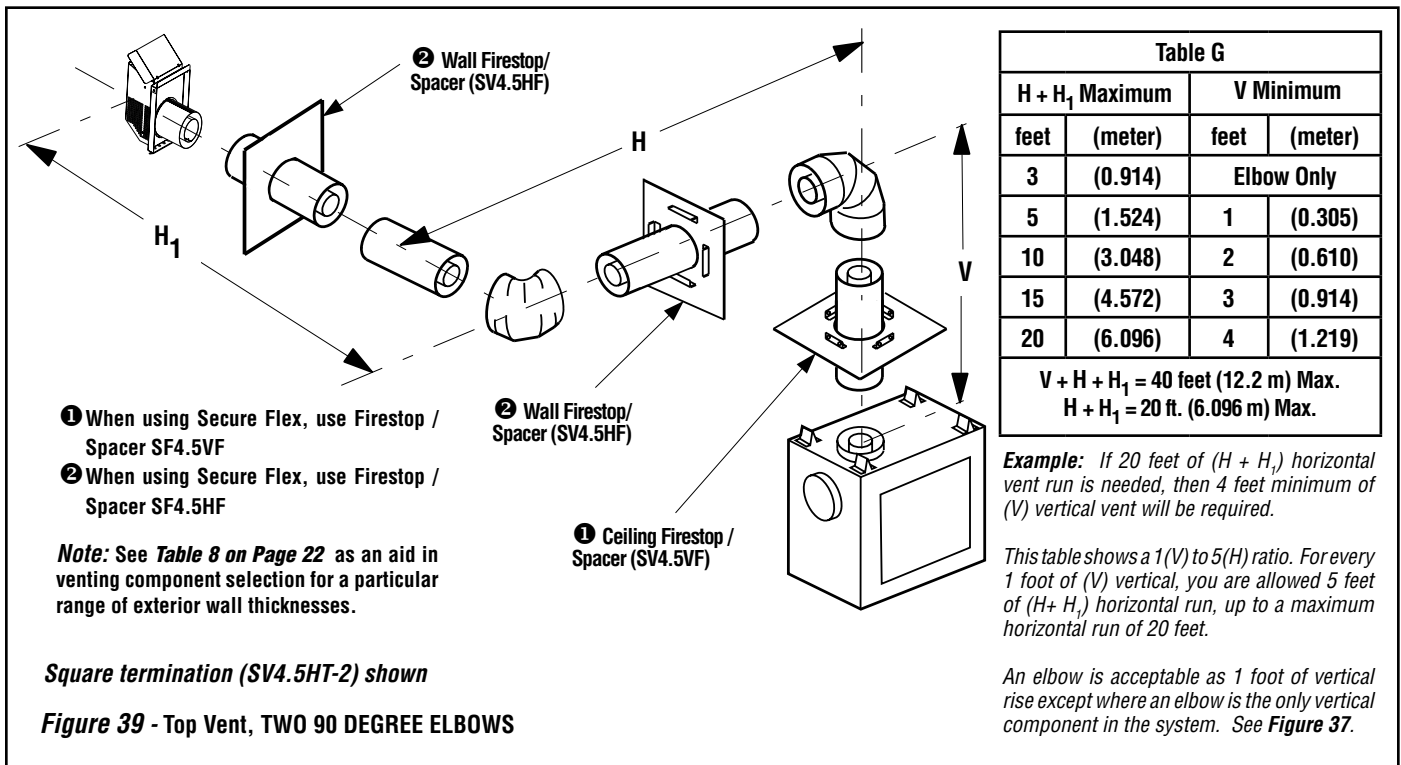


Figure 38 - Side Vent, TWO 90 DEGREE ELBOWS



Square termination (SV4.5HT-2) shown

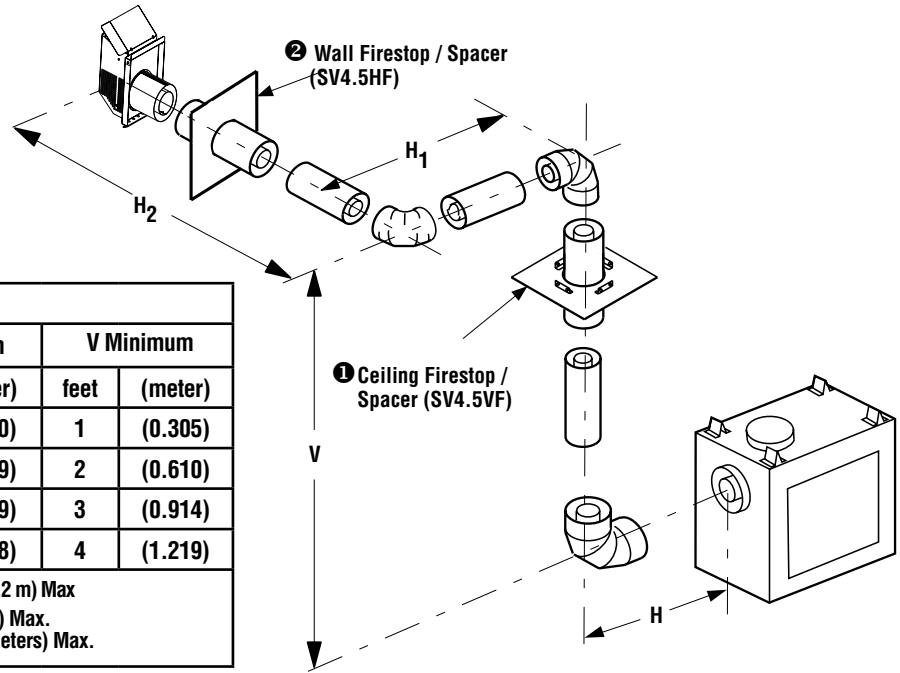
Figure 39 - Top Vent, TWO 90 DEGREE ELBOWS

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

HORIZONTAL VENT FIGURES / TABLES (CONTINUED)

- ❶ When using Secure Flex, use Firestop / Spacer SF4.5VF
- ❷ When using Secure Flex, use Firestop / Spacer SF4.5HF

Note: See Table 8 on Page 22 as an aid in venting component selection for a particular range of exterior wall thicknesses.



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

V + H + H₁ + H₂ = 40 feet (12.2 m) Max
 H = 8 feet (2.438 meters) Max.
 H + H₁ + H₂ = 20 feet (6.096 meters) Max.

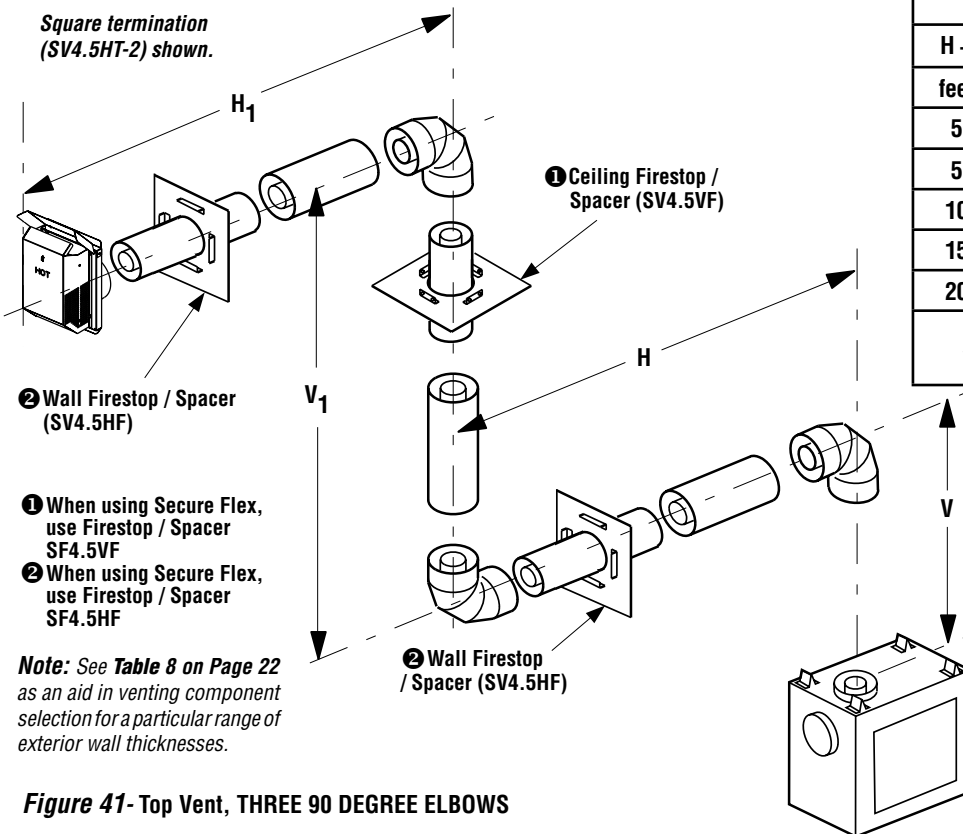
Example: If 20 feet total (H+H₁+H₂) horizontal vent run is needed, then 4 feet minimum of (V) vertical vent will be required.

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

Square termination (SV4.5HT-2) shown

Figure 40 - Side Vent, THREE 90 DEGREE ELBOWS

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



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

H + H₁ = 20 feet (6.096 m) Max.
 V + V₁ + H + H₁ = 40 ft. (12.192 m) Max.

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

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

An elbow is acceptable as 1 foot of vertical rise except where an elbow is the only vertical component in the system. See Figure 37.

Note: See Table 8 on Page 22 as an aid in venting component selection for a particular range of exterior wall thicknesses.

Figure 41 - Top Vent, THREE 90 DEGREE ELBOWS

VERTICAL OR HORIZONTAL VENTING USING **SECURE FLEX** KITS AND COMPONENTS

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

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

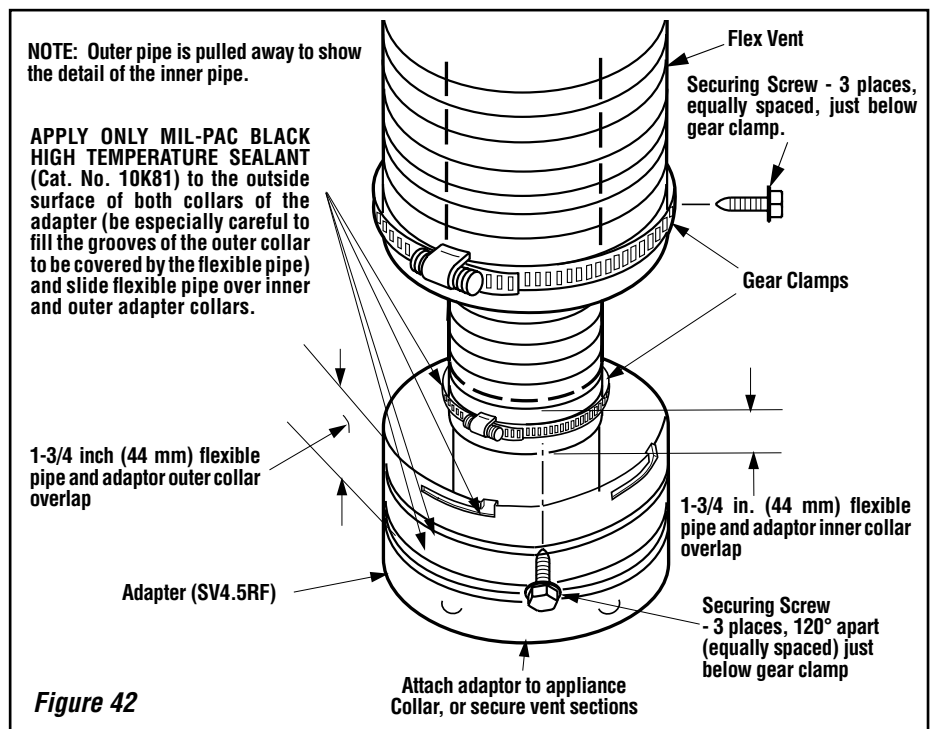
Secure Flex kits come with an adapter that can be fitted to the inclined channel end of the last **Secure Vent** (SV4.5) vent section in a rigid system in the exact same fashion as any other **Secure Vent** section.

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

Attach the flexible vent to the adapter as follows (see also Figure 42):

A. Install the Inner Flex Pipe -

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



B. Install the Outer Flex Pipe -

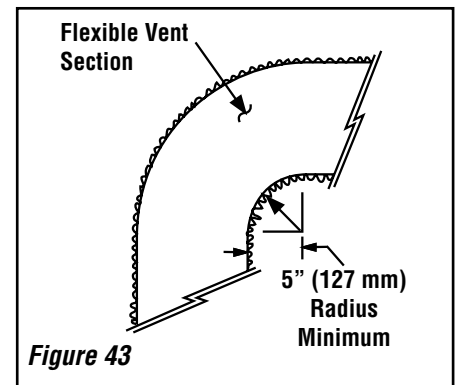
1. Install the large gear clamp loosely around the outer flexible vent pipe, push it back out of the way.
2. Apply a bead of **Mill-Pac Black (700° F, high temperature sealant - Catalog No. 10K81)** to the outer adapter collar; to the grooves of the collar which extend approximately 1 inch from the end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

C. Route Flex Vent -

Ensure that the flex vent is properly routed to provide the required clearance. **Do not** allow the flexible vent to bend in a radius tighter than 5" (127 mm). Refer to **Figure 43**. Space out the internal flex vent spacers evenly - approximately every 6 inches - and avoid kinking of inner pipe. Support horizontal sections of flex with metal straps at 2 foot (0.61 m) intervals.

D. Install Firestop / Spacers at ceilings and walls

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



E. Attach Flex Vent to Termination -

Secure Flex components can be purchased separately and attached to bulk lengths of **Secure Flex** flexible tubing cut to size at the job site. Secure the flexible vent to the **Secure Flex** terminations in the same manner (see **Figure 42**) as it was attached to the adapter.

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

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 4. FIELD WIRING

CAUTION

Ground supply lead must be connected to the wire attached to the green ground screw located on the outlet box. See Figure 45. 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.

Note: The gas valve is set in place and pre-wired at the factory.

A. SIT and Honeywell Millivolt Wiring (See Figure 44)

1. Select any of the following optional controls: wall-mounted switch, wall thermostat or remote control kit. If appliance-mounted ON/OFF control is selected mount it in the gas valve mounting bracket.
2. If wall-mounted ON/OFF control or thermostat is selected mount it in a convenient location on a wall near the fireplace.
3. Wire the control within the millivolt control circuit using the 15 feet of 2 conductor wire supplied with the unit. **Caution: Do NOT connect the optional wall switch to a 120V power supply.**
4. Alternatively, the appliance may be operated without the use of the controls indicated in **Step 1**, solely by manipulating the gas valve control knob. In order to use this method, twist the free ends of the two conductor wire (which would otherwise go to an Optional Control Switch) together as shown in **Figure 44**.

Note: Wire is located inside the control compartment.

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

Receptacle, Junction Box and Cover Plate Installation

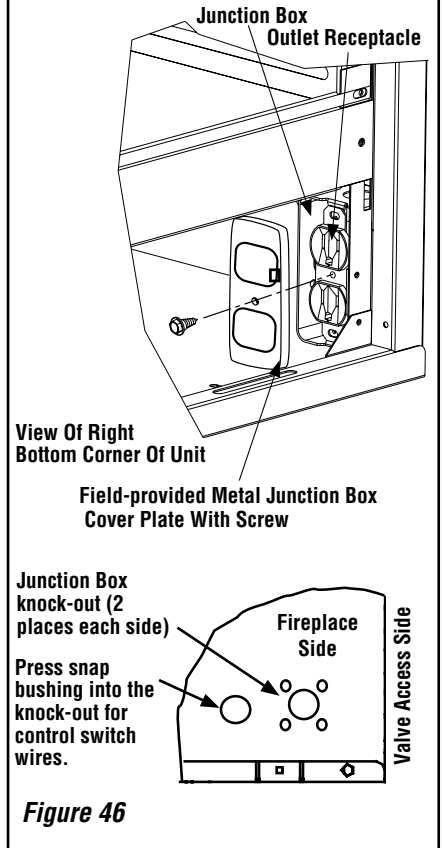
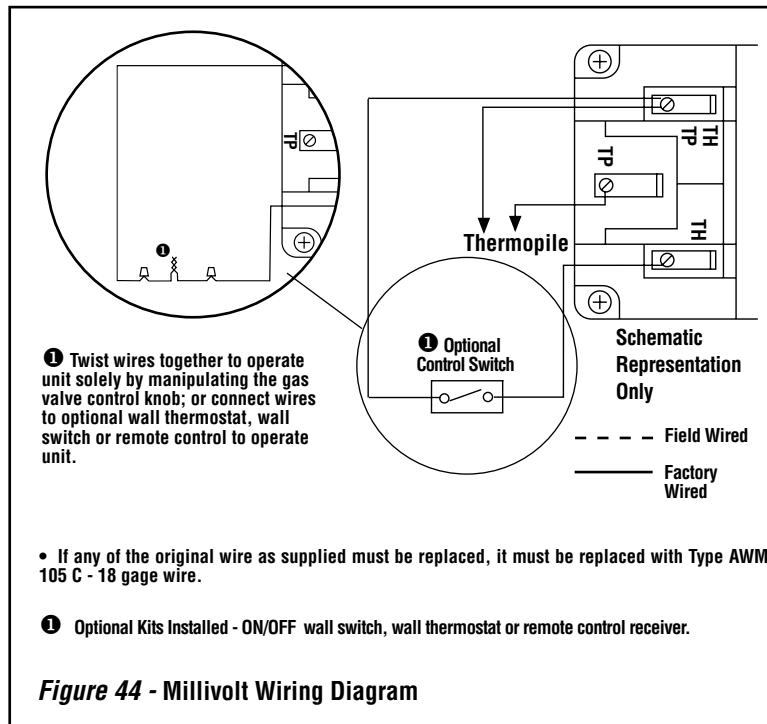
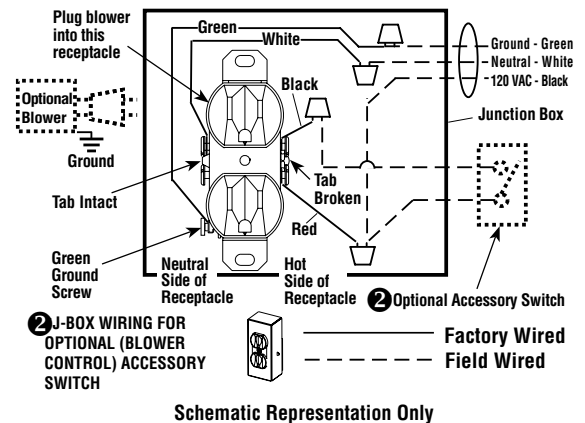


Figure 46



Wiring Diagram Showing the Blower Wiring for the Optional FBK-100 Kit

1. If any of the original wire as supplied must be replaced, it must be replaced with Type AWM 105°C - 18 GA. wire.
2. 120V, 60Hz - Less than 3 amps.



CAUTIONS

- Remove the carton support from the control compartment before operating the appliance.
- Ensure that wires are positioned away from hot surfaces and sharp edges.
- Do not connect the optional wall switch to a 120 Volt AC power supply.

Step 5. WIRING - OPTIONAL FORCED AIR BLOWER (FBK-100) (See Figure 45) -

An optional ON/Off (FRS) control switch is also available (installs on bracket below valve). An electrical outlet box is factory installed for the connection of the electrical power supply to the blower.

1. Route a 3-wire, 120Vac 60Hz 1ph power line to the lower right rear corner of the appliance.
2. Connect the black supply wire to the top outlet's black pigtail lead and to the switch's black lead. Connect the white supply wire to the neutral terminal of the outlet box.

See *Figure 45*. It is not necessary to remove the outlet box.

3. Connect the ground supply wire to the outlet box green ground screw as shown.
4. Plug the blower cord into the bottom receptacle of the outlet box.

Step 6. CONNECTING GAS LINE

All codes require a shut-off valve mounted in the supply line. The orientation of the shut-off valve should face the front. **Figure 47** illustrates two methods for connecting the gas supply. A Sediment Trap is recommended to prevent moisture and debris in gas line from damaging the valve.

The flex-line method is acceptable in the U.S.A. where local codes permit, 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 in connecting the unit to the gas line. The flex-line is rated for both natural gas and propane gas. A manual shut off valve is also provided with the flex-line.

The gas control valve is located in the lower control compartment.

Access the valve compartment by removing the lower control compartment panel (see **Figure 49**).

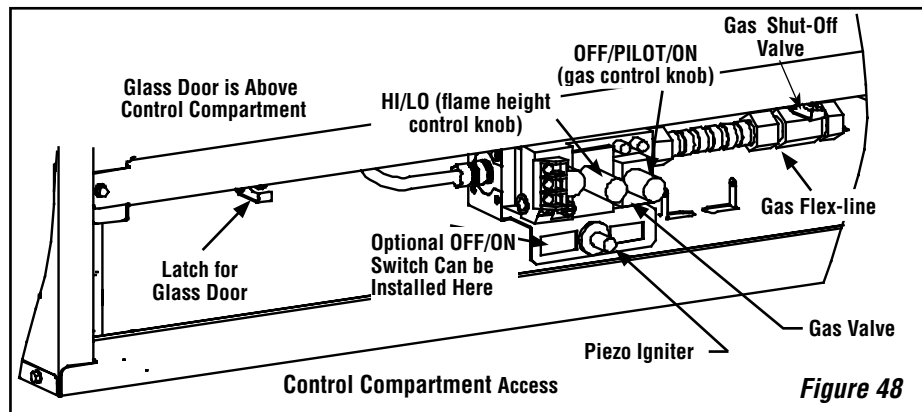
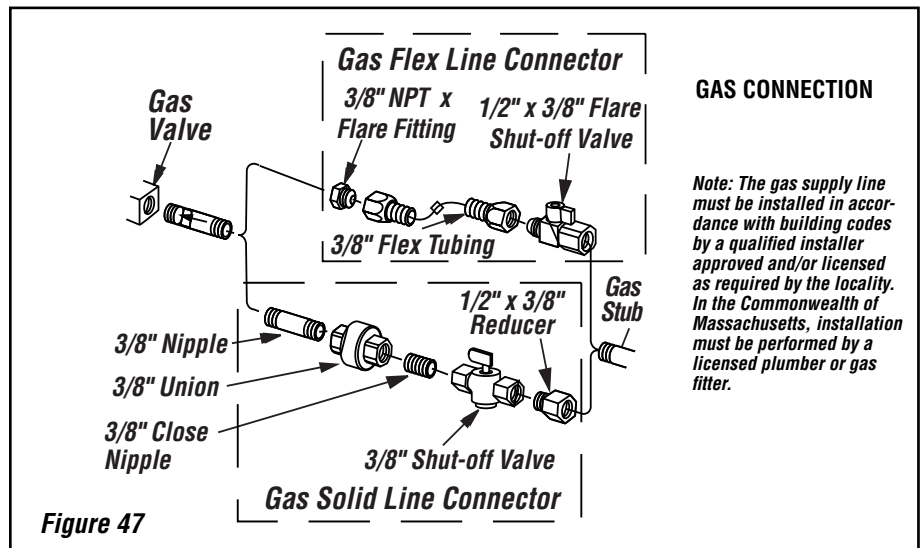
The incoming gas line should be piped into the valve compartment and connected (see **Figures 47 and 48**). The millivolt control valve has a 3/8" (10 mm) NPT thread inlet port. The electronic control valve has a 1/2" (13 mm) NPT thread inlet port and is fitted with a 1/2" x 3/8" (13 mm x 10 mm) NPT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

Secure all joints tightly using appropriate tools and sealing compounds (ensure propane resistant compounds are used in propane applications). It is recommended to seal around the gas line to prevent cold air leakage.

Gas line connection may be performed largely outside of the confines of the control compartment and without having to enter the firebox behind the glass. Proceed as follows:

Acquire the shut-off valve and gas flex line and pull the assembly forward out of the compartment. Separate the shut-off valve from the gas flex-line. Determine the length of pipe needed to route the gas line from the last fitting (shown in **Figure 13** on **Page 12**) to a point within the control compartment that will allow the shut-off valve to be easily attached by hand to the gas flex-line.

Using pipe-dressing materials appropriate for the gas type, securely affix the shut-off valve to this determined pipe length at a convenient location **outside** of the appliance lower control compartment.



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

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

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

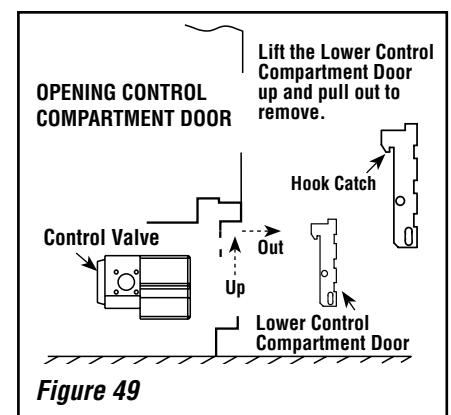
Removing Control Compartment Door:

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

On millivolt systems, the piezo igniter, HI/LO flame adjustment knob, and pilot and main gas OFF/ON control knob are located below the glass panel enclosure.

Reinstalling Control Compartment Door:

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



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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

! WARNING

Never use an open flame to check for leaks.

Turn on gas supply and test for gas leaks using a gas leak test solution (also referred to as bubble leak solution).

Note: Using a soapy water solution 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.

- A. Light the appliance (refer to the lighting instructions label in the control compartment or in the Care and Operation Instructions manual).
- B. Brush all joints and connections with the gas leak test solution to check for leaks. If bubbles are formed, or gas odor is detected, turn the gas control knob (off/pilot/on) to the "OFF" position. Either tighten or refasten the leaking connection, then retest as described above.
- C. When the gas lines are tested and leak free be sure to rinse off the leak testing solution.

Step 7. VERIFYING APPLIANCE OPERATION

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

With the gas line installed, run initial system checkout before closing up the front of the appliance. Follow the pilot lighting instructions provided in the Care and Operation Instructions manual. For piezo igniter location see **Figure 48**.

Note: The (pull-out) Lighting instructions label can be found in the control compartment (see **Figure 48 on Page 28**).

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

Millivolt Appliance Checkout

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

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

The flame should project 1" (25 mm) beyond the hood at all three ports (**Figure 50**).

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

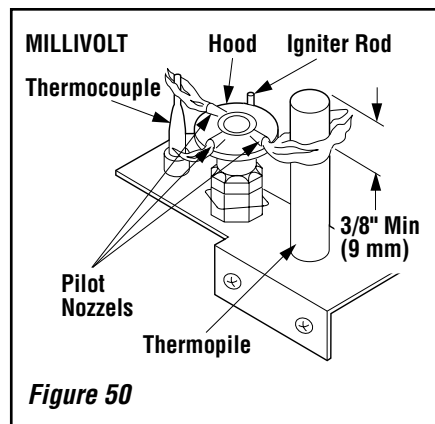


Figure 50

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 8. INSTALLING LOG SET, VOLCANIC STONE AND GLOWING 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, soot-ing, 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, vermiculite, 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.**

LOG AND VOLCANIC STONE INSTALLATION PROCEDURE:

The log set foam package is located in the firebox and the bags of decorative volcanic stone and the glowing embers (rockwool) are located in the control compartment. Refer to the following information and **Figures 51 to 54** for detailed placement instructions.

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

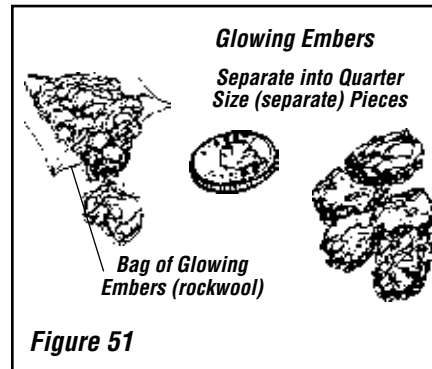
Spread the decorative volcanic stone on the simulated brick floor of the firebox around the burners to simulate ashes. Maintain a 1/2 inch (13 mm) gap between the bottom of the horizontal grate section and the top of the pile of decorative volcanic stone. Place a few quarter-sized pieces of the glowing ember material on the pan burner in front of the burned out area on both sides of the log set.

Install the unitized log set:

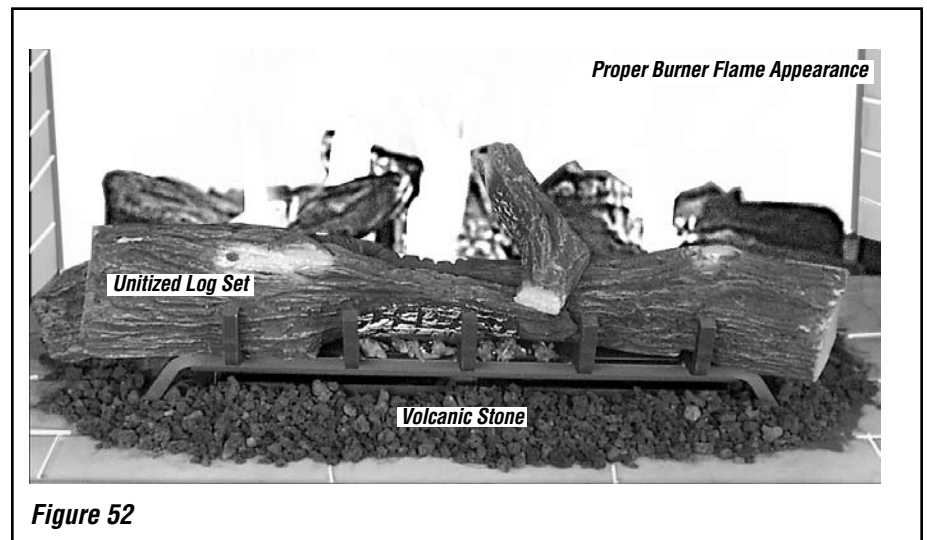
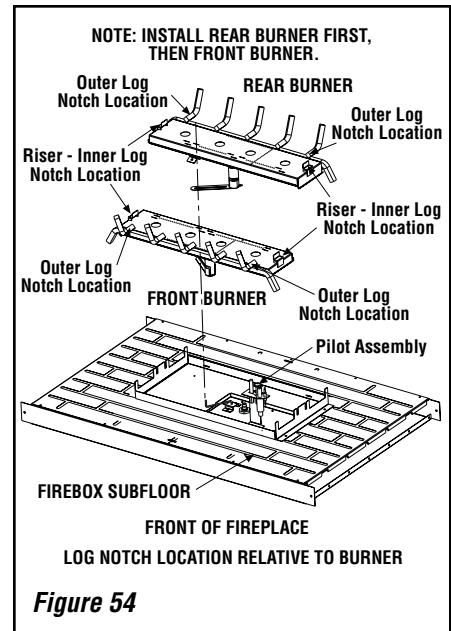
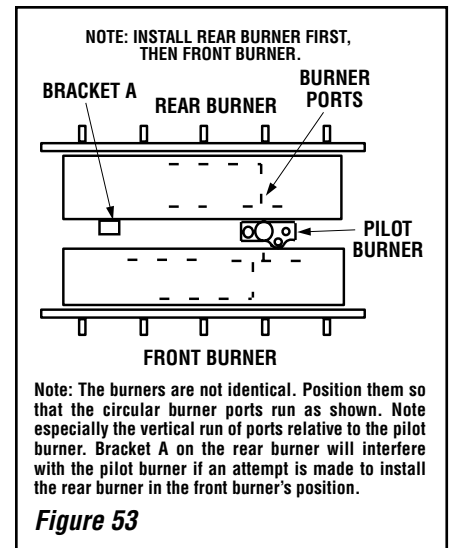
- The bottom of the log set is notched to accommodate the pilot.
- Place the log set so that the four inner notches on the underside of the log set fit over the four risers located on the burner ends. See **Figure 54**. This procedure is accomplished primarily by feel, as the log set masks the burner risers as it is being installed.
- As a final check for correct log set placement, check that the four outer notches on the underside of the log set fit over the burner tines as indicated in **Figure 52**.

Burner / Grate Location Reference (see Figures 52 to 54)

Note: If the burners have been removed for any reason, rear burner must be installed before front burner. See Figures 52 to 54.



REFERENCE Firebox Accessories / Parts		
Cat. No.	Model No.	Description
88L53	FGE	Bag of Glowing Embers
80L42	FDVS	Bag of Decorative Volcanic Stone



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 9. INSTALLATION AND REMOVAL OF 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(s) 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.

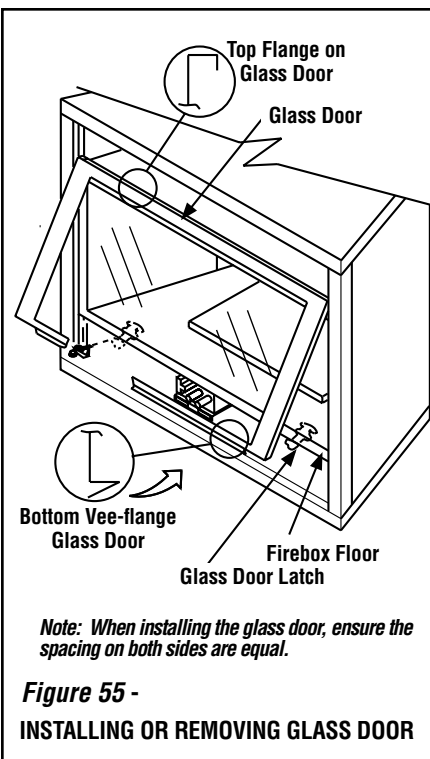
CAUTION: DO NOT abuse glass door by striking or slamming shut.

Removing Glass Enclosure Panels (see Figure 55)

1. Remove the top louver assembly by lifting it up and pulling it out.
2. Remove the control compartment access door (see removal instructions on **Page 28 - Removing Control Compartment Door**).
3. Locate the two (2) latches at the top of the control compartment. To disengage the two latches from the bottom vee-flange of the glass enclosure panel, reach for the handles located towards the back of the latches and pull the handles down toward the front of the appliance.
4. Swing the bottom of the door out and raise it slightly to lift the top flange of the door frame away from the appliance.

Installing Glass Enclosure Panels (see Figure 55)

1. Visually inspect the gasket on the backside of the glass panel. The gasket surface must be clean, free of irregularities and seated firmly.
2. Position the glass enclosure panel in front of the firebox opening at a 45 degree angle and engage the top flange over the lip at the top of the firebox opening. **See Figure 55**.
3. Swing the glass enclosure panel down and back. Ensure the gasket seats evenly as the panel draws shut. Engage the Vee-flange at the bottom of the panel with the latches and close the latches to secure the panel.
4. Reinstall top louver assembly and control compartment door see installation instructions on **Page 28, Reinstalling Control Compartment Door**.



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 10. BURNER ADJUSTMENTS

Flame Appearance and sooting

Proper flame appearance is a flame which is blue at the base and becomes yellowish-orange in the body of the flame.

When the appliance is first lit, the entire flame may be blue and will gradually turn yellowish-orange during the first 15 minutes of operation. After 15 minutes of operation, if the flame is blue, or if the flame is orange with evidence of sooting (black tip), the air shutter opening may need to be adjusted.

If the air shutter openings are closed too far, sooting may develop. Sooting is indicated by black puffs developing at the tips of very long orange flames. Sooting results in black deposits forming on the logs, appliance inside surfaces and on exterior surfaces adjacent to the vent termination.

Sooting is caused by incomplete combustion in the flames and lack of combustion air entering the air shutter opening. To achieve a warm yellowish-orange flame with an orange body that does not soot, the shutter opening must be adjusted between these two extremes.

Air Shutter Adjustment Guidelines

- If there is smoke or soot present, first check the log set positioning to ensure that the flames are not impinging on any of the logs. If the log set is properly positioned and a sooting condition still exists, then the air shutter opening should be increased.
- The more offsets in the vent system, the larger the air shutter opening will need to be.
- An appliance operated with the air shutter opened too far, may have flames that appear blue and transparent. These weak, blue and transparent flames are termed anemic.
- Propane models may exhibit flames which candle or appear stringy. If this is present and persists, adjust the air shutter to a more closed position, then operate the appliance for a few more minutes to ensure that the flame normalizes and the flames do not appear sooty.

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

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

Burner Air Shutter Adjustment Procedure

! WARNINGS

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

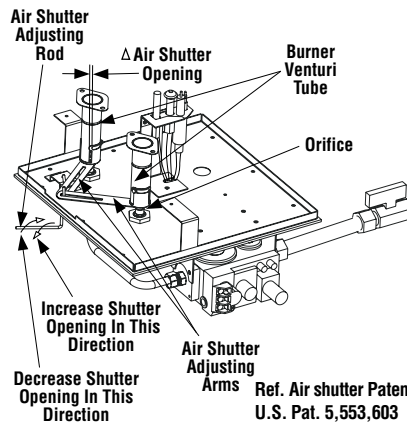
! CAUTIONS

- Soot will be produced if the air shutter is closed too much. Any damage due to carboning 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.

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

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

2. Light appliance (follow lighting procedure on lighting label in control compartment or see care and operation manual).
3. Allow the burner to operate for at least 15 minutes while observing the flame continuously to ensure that the proper flame appearance has been achieved (see **Figure 57**). If the following conditions are present, adjust accordingly.
 - If flame appears weak or sooty, adjust the air shutter, incrementally, to a more open position until the proper flame appearance is achieved.
 - If flame stays lowered blue, adjust the air shutter, incrementally, to a more closed position until the proper flame appearance is achieved.
4. Leave the control knob (off/pilot/on) in the ON position and the burner OFF/ON switch OFF (and remote switches, if applicable).
5. When satisfied that the burner flame appearance is normal, close the lower control compartment door then proceed to finish the installation.



Δ Note - Both air shutters open and close simultaneously when the air shutter adjusting rod is moved.

Note - Burners are omitted in this view for clarity.

Figure 56 - Burner Air Shutter Adjustment

***Main Burner Factory Air Shutter Opening Setting - All Models	
Natural Gas inches (millimeters)	Propane Gas inches (millimeters)
* TWO 1/8 (3) Slots	** TWO 11/16 (17) Slots

Adjustment Rod Positions, viewed from above:

* Natural Gas - fully clockwise

** Propane- fully counter clockwise

***Settings are shown for each burner.



Figure 57 - Burner Flame Appearance

Step 11. HOOD INSTALLATION

All of these appliances must have hoods installed prior to operating (see Figure 58).

Slide the hood into the slots on the lower edge of the cabinet top (see **Figure 58**).

FINISHING REQUIREMENTS Wall Details

Complete finished interior wall. To install the appliance facing flush with the finished wall, position framework to accommodate the thickness of the finished wall (**Figure 58**).

See Page 5 for Cold Climate Insulation and Page 8 for Clearances.

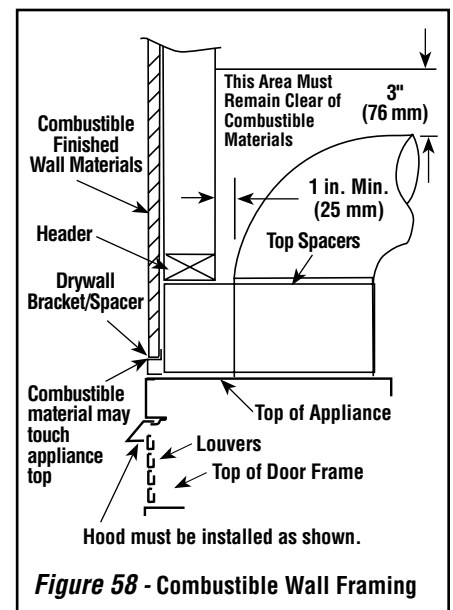


Figure 58 - Combustible Wall Framing

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 12. ATTACHING SAFETY-IN-OPERATION WARNINGS

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

Your fireplace has been furnished with safety instruction labels that are to be affixed to the operation and control point of the fireplace. A safety instruction label should be affixed to the wall switch plate where the fireplace is turned on and off (*See Figure A*) or wall thermostat (*See Figure B*) and if used on the remote control handheld transmitter (*Figure C*). The warnings should already have been put in place when the fireplace initial set-up was completed. If they are not affixed at these spots, locate the multi-lingual adhesive labels provided with these 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.
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.
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
1-800-9-LENNOX

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

Votre foyer a été livré avec des étiquettes de sécurité qui doivent être 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 (*voir Figure A*) ou sur le thermostat mural (*voir Figure B*) et, le cas échéant, sur le boîtier de la télécommande (*Figure C*). Les mises en garde auraient dû être collées au moment de l'installation initiale du foyer. Si ce n'est pas le cas, prenez les étiquettes adhésives multilingues fournies avec ces instructions et procédez comme suit:

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.
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.
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
1-800-9-LENNOX

Remarque : 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

Su chimenea incluye etiquetas de instrucciones de seguridad que deben colocarse en el punto de operación y control de la chimenea. 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 (*ver la Figura A*) o en el termostato de pared (*ver la Figura B*) y en el transmisor de control remoto (*Figura C*) si se usa. Las advertencias ya deben haberse colocado cuando se completó la instalación inicial de la chimenea. Si no están colocadas en estos lugares, encuentre las etiquetas adhesivas multilingües proporcionadas con estas instrucciones y prosiga de la siguiente manera:

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 (*Figura A*) o en el termostato de pared (*Figura B*). Seleccione el idioma que más se habla en la casa.
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 (*Figura C*). Seleccione el idioma que más se habla en la casa.
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
1-800-9-LENNOX

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



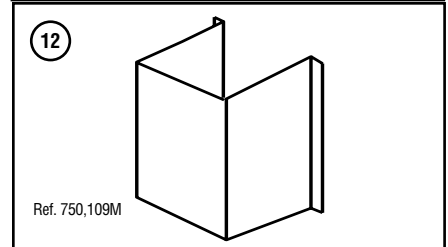
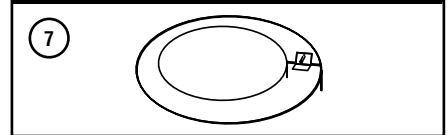
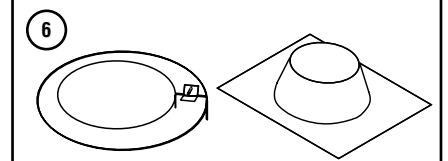
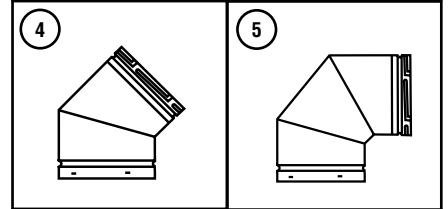
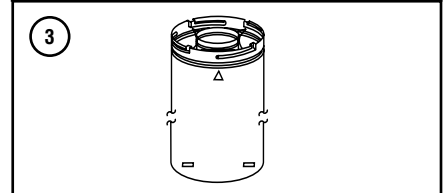
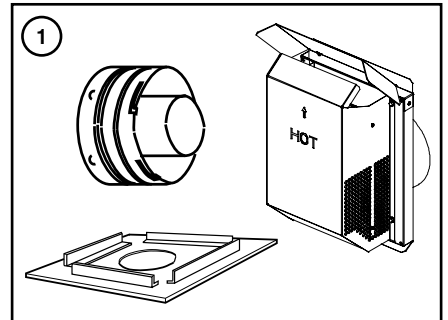
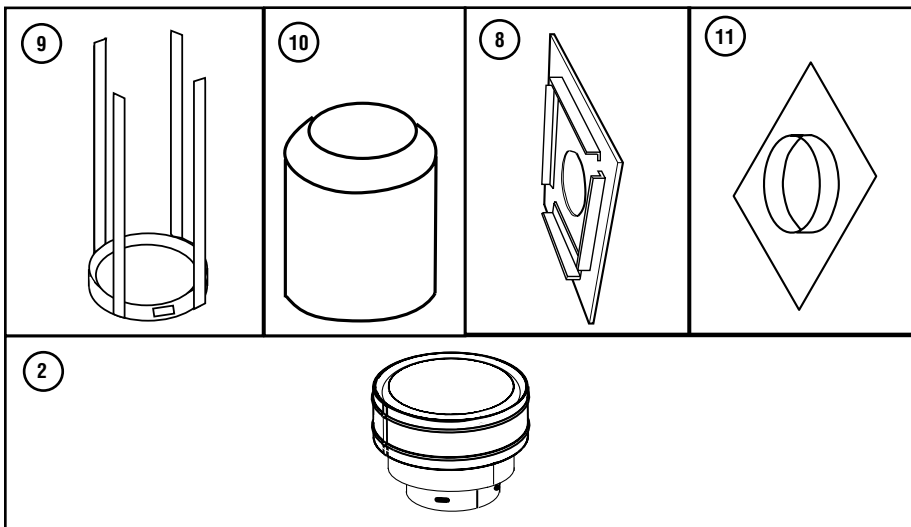
INSTALLATION ACCESSORIES

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

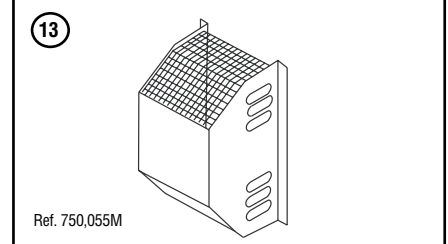
The following flashings come packaged with a storm collar:

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

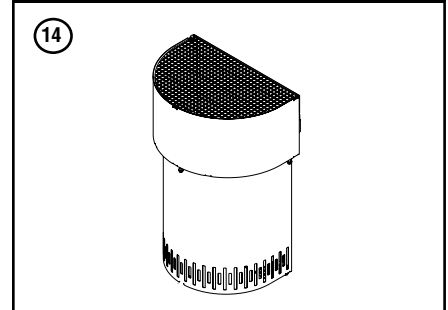
7	77L81	SV4.5SC6	Storm Collar (6 per box)
8	H2246	SV4.5HF	Firestop / Spacer-Horizontal (3-1-1 spacing), 10 Pack
8	H2247	SV4.5VF	Firestop / Spacer-Vertical (1-1-1 spacing), 10 Pack
9	96K93	SV4.5SU	Support Strap
10	H3907	SV4.5RSA	Attic Insulation Shield, w/adjustable height, 12"-22"
11	96K92	SV4.5SP	Support Plate
12	17M52	SV4.5HGS-1	Termination Guard, Square (1 pack) (for square termination)
12	17M53	SV4.5HGS-12	Termination Guard, Square (12 pack) (for square termination)
13	87L02	SV4.5HGS	Termination Guard for Square Termination (Deluxe) (1 pack) (for square termination)
14	H5820	4.5HTSK	Termination Shroud (Guard) for Horizontal Square Termination (1 pack)



Ref. 750.109M

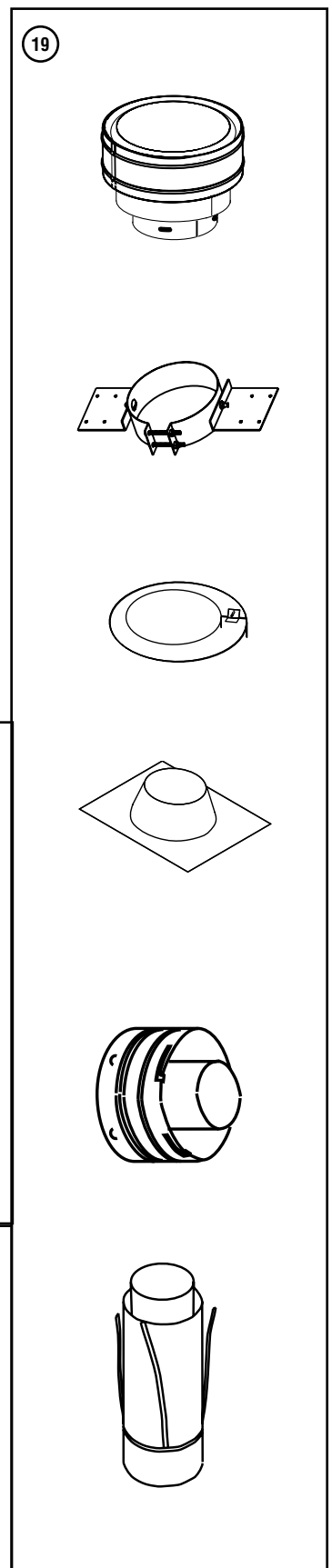
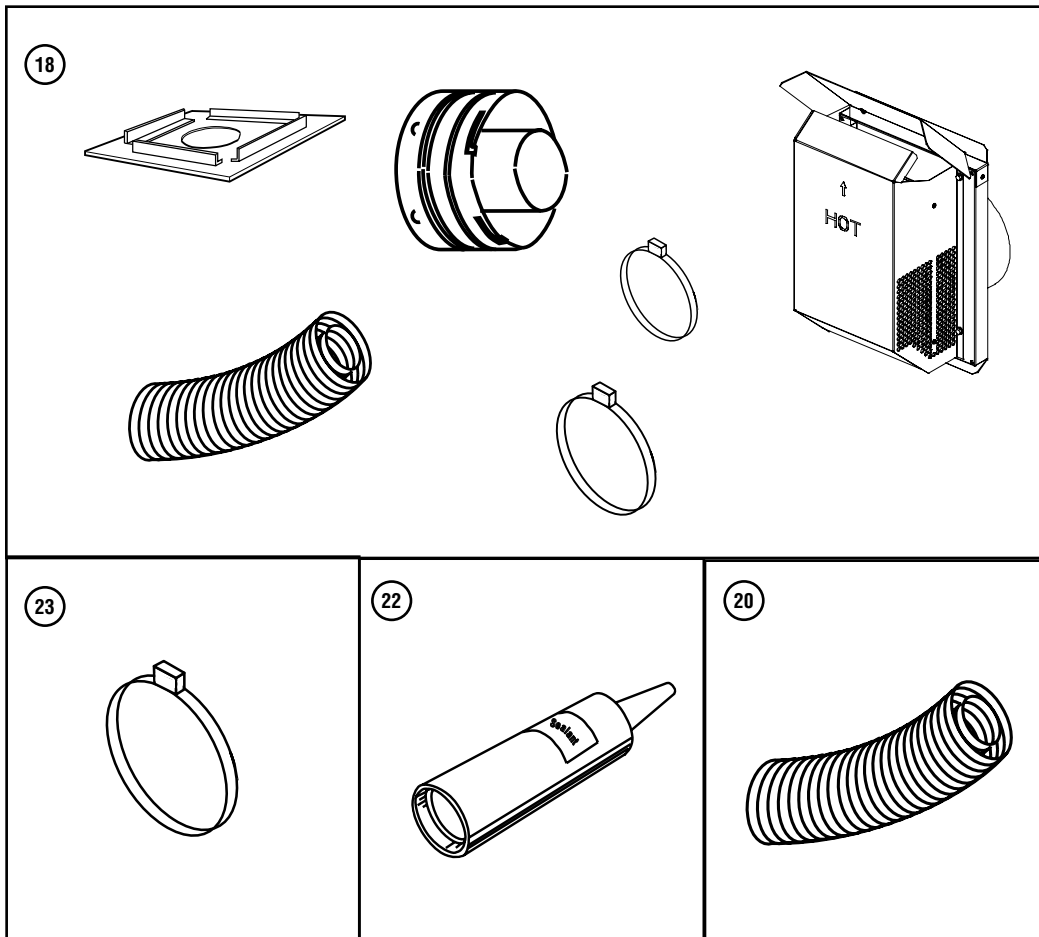


Ref. 750.055M



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

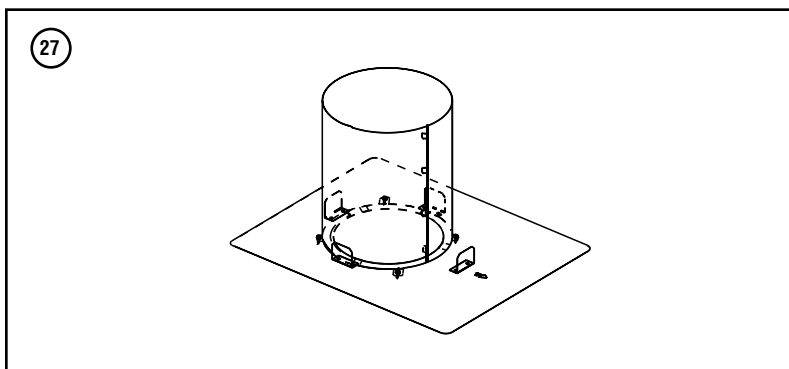
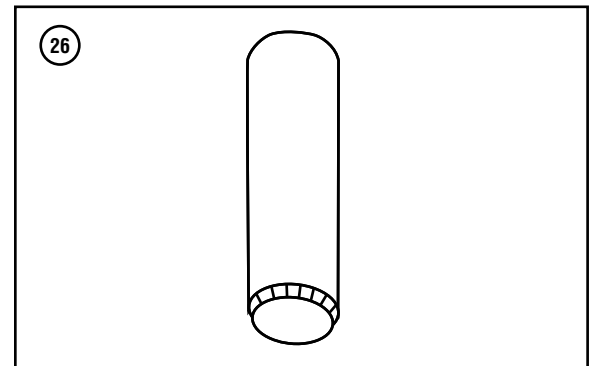
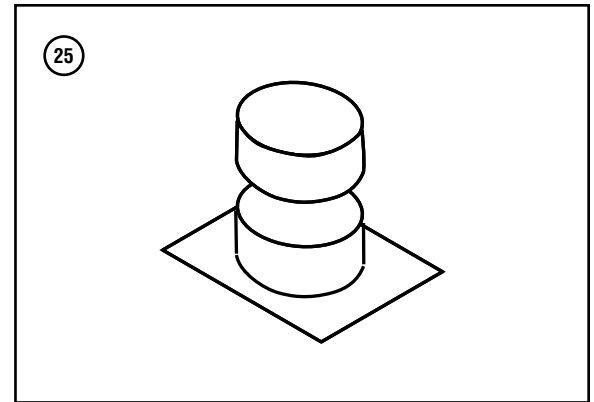
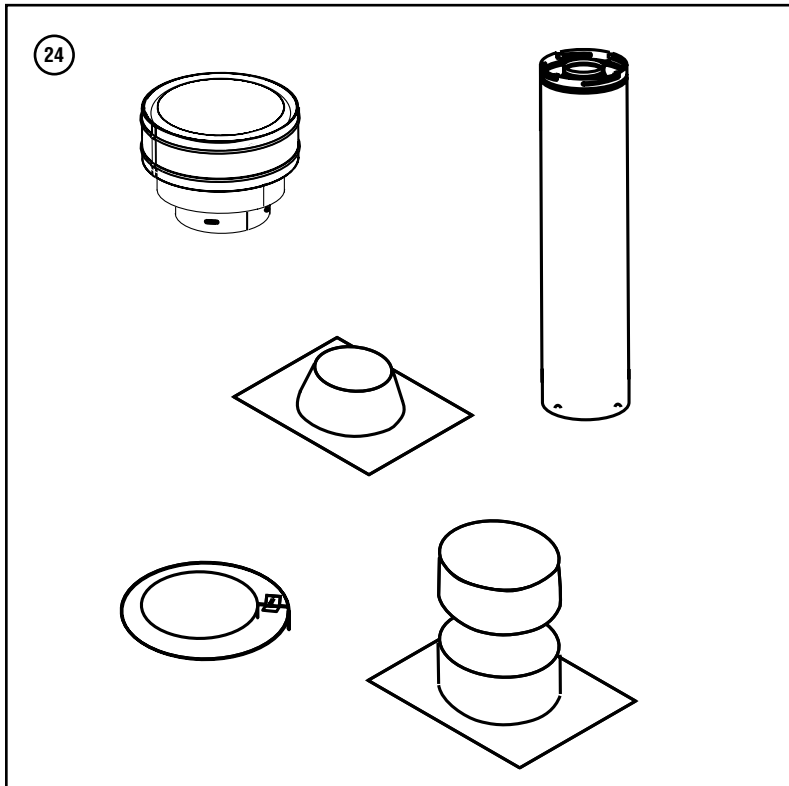
* All compressed flex vents can be expanded up to two times.



NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

INSTALLATION ACCESSORIES

Item	Cat. No.	Model	Description
24	92L07	SV-MHPK1	Manufactured Home Pipe Kit (SV) - 1/12 Pitch
24	92L08	SV-MHPK2	Manufactured Home Pipe Kit (SV) - 2/12 Pitch
25	92L09	SV-FSTFE	Firestop Thimble (SV) - Flat, with Extension
25	92L10	SV-FST1E	Firestop Thimble (SV) - 1/12 Pitch, with Extension
25	92L11	SV-FST2E	Firestop Thimble (SV) - 2/12 Pitch, with Extension
26	92L06	SVTE26	Thimble Extension (SV) - 26 inches
27	H5816	SV4.5-TWSK	Through Wall Shield Kit (used to shield the direct-vent pipe from blown insulation)



⚠ 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 IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROVINCIAL AUTHORITIES HAVING JURISDICTION AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CAN/CSA-B149.1 INSTALLATION CODE.

LA CONVERSION DEVRA ÊTRE EFFECTUÉE CONFORMÉMENT AUX RECOMMANDATIONS DES AUTORITÉS PROVINCIALES AYANT JURISDICTION 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.

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

Propane Gas to Natural Gas Conversion Kits	
Fireplace Type	Cat. No. (model)
Millivolt	85L72 FGCK-DMOMP

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

INSTALLATION INSTRUCTIONS

Step 1. TURN OFF THE GAS SUPPLY TO THE APPLIANCE and disconnect power supply at the circuit breaker. Ensure appliance is cold.

CAUTION: THE GAS SUPPLY SHALL BE SHUT OFF PRIOR TO DISCONNECTING THE ELECTRICAL POWER, BEFORE PROCEEDING WITH THE CONVERSION.

ATTENTION : AVANT D'EFFECTUER LA CONVERSION, COUPEZ D'ABORD L'ALIMENTATION EN GAZ, ENSUITE, COUPEZ L'ALIMENTATION ÉLECTRIQUE.

Step 2. Remove the front glass door assembly from the appliance (see *Removing Glass Enclosure Panels* on **Page 31**). Remove the control compartment door (see *Control Compartment Door Removal* on **Page 28**).

Step 3. Carefully remove the logs. **Exercise care so as not to break the logs.**

Step 4. Refer to **Figure 59**. Remove the front burner and then the rear burner.

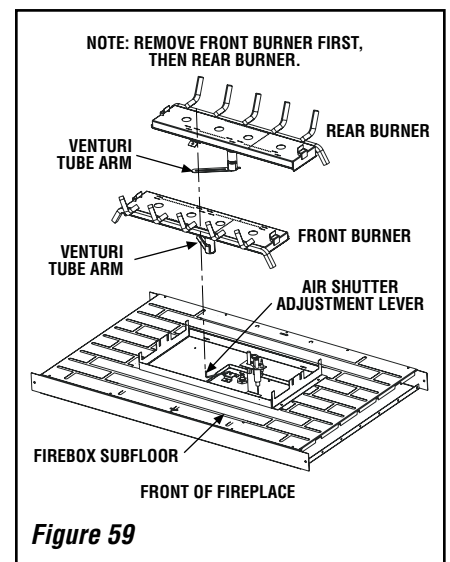


Figure 59

Millivolt Appliances

Step 5. - SIT Systems - Refer to **Figure 60** and the instructions provided with the kit. Using a Torx T20 (with 1/4" shank and center hole), tool or standard flat screwdriver remove and discard the three pressure regulator mounting screws. Remove the pressure regulator, spring, poppet, diaphragm and bushing. **Discard all removed components.**

Ensure the rubber gasket installed on the back of the replacement pressure regulator is properly positioned and install the new pressure regulator using the new screws supplied with the kit. Tighten screws to 25 In. lb. torque.

SIT Millivolt Gas Valve

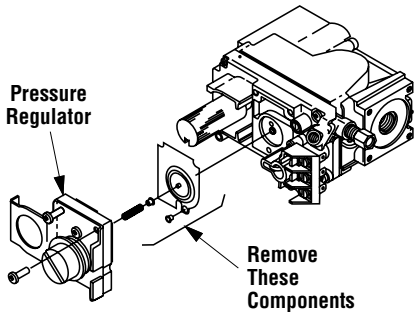


Figure 60

Step 6. See **Figure 61** and remove the pilot hood assembly to access the hexed pilot orifice. Remove and replace the orifice with the one provided with the kit.

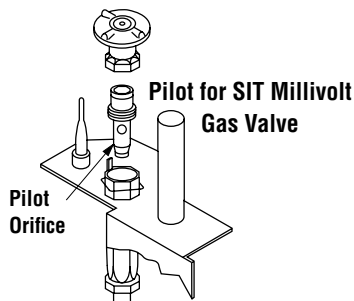


Figure 61

Step 7. (Refer to **Figure 59** on **Page 37** and **Figure 62**)

VERIFY THE PROPER ORIFICE SIZES BEFORE INSTALLING THEM.

A. Remove the two orifices from the manifold and replace them with the ones provided in the kit. **Table 9** shows the orifice sizes for natural and propane models. **Figure 62** illustrates the orifice. Use pipe joint compound or Teflon tape on all pipe fittings before installing (ensure propane resistant compounds are used in propane applications, do not use pipe joint compounds on flare fittings).

B. Install rear burner first, followed by front burner, as shown in **Figure 63**. Ensure that the arm of the venturi of each burner is hooked onto the air shutter adjustment lever (refer to **Figure 59** on **Page 37**). The primary air opening can be adjusted by rotating the adjustment lever from beneath the firebox floor. Refer to **Figure 56** on **Page 32** for the recommended minimum primary air opening setting.

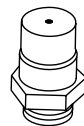
NOTE: Flame appearance will diminish 4% per thousand feet.

NOTE: Each model has two burners and 2 Orifices.

Burner Orifice Sizes Elevation 0-4500 feet (0-1372 meters)		
Elevation Feet (meters)	Natural Gas drill size (inches)	Propane Gas drill size (inches)
0-4500 (0-1372)	#44 (.086") * 60J80 •	#55 (.052") ** 19L52 •

Table 9

* Standard size installed at factory
 ** Standard size in LP conversion kit
 • Part /Cat. Number



BURNER ORIFICE

Figure 62

Step 8. Reassemble the remaining components by reversing the procedures outlined in the preceding steps.

Step 9. Attach the conversion label provided in the conversion kit to the rating plate on the appliance.

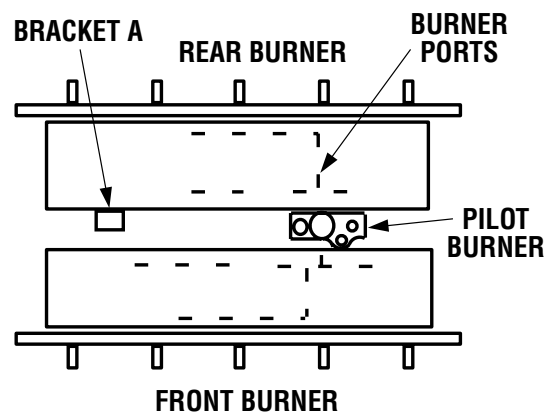
Step 10. Turn on gas supply and test for gas leaks. See *Test All Connections For Gas Leaks* on **Page 29**.

Step 11. Attach manometer to the manifold side pressure test fitting and verify manifold pressure reads 3.5 inches water column (0.87 kPa) for natural gas, and 10.0 inches water column (2.49 kPa) for propane gas.

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

BURNER POSITIONING

NOTE: INSTALL REAR BURNER FIRST, THEN FRONT BURNER.



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

Figure 63

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

NOTES

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.



HEARTH PRODUCTS

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