LENNOX™

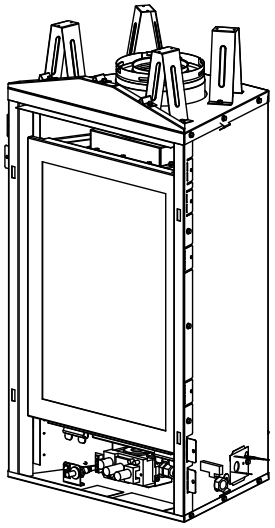
HEARTH PRODUCTS

INSTALLATION INSTRUCTIONS MANUAL

DAVE LENNOX signature™ COLLECTION

Direct-Vent Gas Fireplace Heaters

Millivolt Models **Electronic Model**
ADAGIO-MN **ADAGIO-EN**
ADAGIO-MP



Installer: Leave This Manual With The Appliance.
Consumer: Retain This Manual For Future Reference.

P/N 850,044M Rev. D, 06/2008

A French manual is available upon request. Order P/N 850,044CF.
Ce manuel d'installation est disponible en francais, simplement en faire la demande. Numéro de la pièce 850,044CF.

In the Commonwealth of Massachusetts:
- **Installation must be performed by a licensed plumber or gas fitter**
- **See Table of Contents for location of additional Commonwealth of Massachusetts requirements**

Tested & Listed By OTL Beaverton Oregon USA
c US
OMNI-Test Laboratories, Inc.
Report No. 116-F-48-5

Adagio™ Series

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

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

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS:

- **Do not 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 your gas supplier's instructions.**
- **If your gas supplier cannot be reached, call the fire department.**

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

AVERTISSEMENT : S'assurer de bien suivre les instructions données dans ce guide pour minimiser les risques d'incendie ou d'explosion pouvant entraîner des dommages matériels, des blessures ou la mort.

Ne pas entreposer ni utiliser d'essence ou d'autres produits ou liquides inflammables à proximité de cet appareil ou de tout autre appareil de chauffage.

QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

- **Ne pas tenter d'allumer l'appareil.**
- **Ne pas toucher aux interrupteurs électriques; ne pas utiliser un téléphone dans le bâtiment.**
- **Aller immédiatement chez un voisin pour téléphoner au fournisseur du gaz et suivre leurs instructions.**
- **Si le fournisseur de gaz n'est pas disponible, appeler les pompiers.**

L'installation et l'entretien doivent être assurés par un installateur certifié, une société de service spécialisée ou le fournisseur de gaz.

TABLE OF CONTENTS

This manual is part of a set of two supporting this product. Refer to manual 875,037M for Care and Operation.

Please read and understand these instructions before beginning your installation.

NATIONAL FIREPLACE INSTITUTE NFI CERTIFIED www.nficertified.org

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.

NATIONAL FIREPLACE INSTITUTE NFI CERTIFIED www.nficertified.org

Nous recommandons que nos foyers au gaz soient installés et que l'entretien soit effectué par des professionnels certifiés par le National Fireplace Institute® (NFI). (Etats-Unis seulement)

PACKAGING

The assembled vented gas fireplace heater is packaged with the following:

1 - The logs are packaged in a carton located within the firebox.
2 - One plastic bag of glowing embers, located in the bottom compartment.
3 - One envelope containing the literature package, which consists of the care and operation manual, installation instructions manual and the warranty. The envelope is located in the bottom compartment.
4 - One log support bracket is located inside the firebox of the appliance.

INTRODUCTION

These fireplaces are designed, tested and listed for operation and installation with, and only with, **Secure Vent**™ Direct Vent System Components, **Secure Flex**™ Flexible Vent Components manufactured by Security Chimneys International and **Z-Flex**™ Model GA Venting Systems, listed to UL1777 and ULCS635 manufactured by Flexmaster Canada Limited. These approved vent system components are labeled for identification. DO NOT use any other manufacturer's vent components with these appliances.

Millivolt appliances are designed to operate on natural or propane gas. A millivolt gas control valve with piezo ignition system provides safe, efficient operation. External electrical power is required to operate the optional blower if installed in these units.

Electronic appliances are designed to operate on natural or propane gas. An electronic intermittent pilot ignition system provides safe, efficient operation. External electrical power is required to operate these units.

These appliances comply with National Safety Standards and are tested and listed by OMNI-Test Laboratories (Report No. 116-F-48-5) to ANSI Z21.88 (in Canada, CSA-2.33), and CAN/CGA-2.17-M91 (Gas-Fired Appliances For Use At High Altitudes) in both USA and Canada, as vented gas fireplace heaters.

Both millivolt and electronic versions of these appliances are listed by OMNI-Test Laboratories for installation in bedrooms and manufactured (mobile) homes.

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

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

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

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.

GENERAL INFORMATION

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

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

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

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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.

Millivolt Models -
Millivolt models come standard with the manually-modulated gas valve; flame appearance and heat output can be controlled at the gas valve.

Input of millivolt models is shown in the following table:

Input (BTU/HR) Manually-Modulated Gas Valves (millivolt models)		
Model	**NATURAL GAS (BTU / HR)**	**PROPANE GAS (BTU / HR)**
ADAGIO-MN	**13,000 high 10,000 low**	----------
ADAGIO-MP	----------	**13,000 high 10,000 low**

Table 1

Electronic Models -
Electronic models have a manually modulated gas valve. Input of electronic models is shown in the following table:

Input (BTU/HR) Electronic Models		
Model	**NATURAL GAS (BTU / HR)**	**PROPANE GAS (BTU / HR)**
ADAGIO-EP *if field converted*	----------	**13,000 high 10,000 low**
ADAGIO-EN	**13,000 high 10,000 low**	----------

Table 2

Gas Pressure - All Models

Tables 3 and 4 **show the appliances' inlet and manifold gas pressure.**

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

Table 3

Manifold Gas Supply Pressure (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 4

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

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

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

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

These appliances are tested and approved for installation at elevations of 0-4500 feet (0-1372 meters) above sea level, using the standard burner orifice (See ***Table 5***). For elevations above 4500 feet, contact your gas supplier or qualified service technician. Install the appliance according to the regulations of the local authorities having jurisdiction and, in the USA, the National Fuel Gas Code NFPA 54 / ANSI Z223.1 - latest edition or , in Canada, the CAN1-B149.1 and .2 codes - latest edition.

Table 5 **shows the gas orifice size required for the elevations indicated.**

Burner Orifice Sizes Elevation 0-4500 feet (0-1372 meters)		
Model Series	**Nat.Gas** drill size (inches)	**Propane** drill size (inches)
ADAGIO-MN	**#51**	----------
ADAGIO-MP	----------	**#58**
ADAGIO-EN	**#51**	----------
ADAGIO-EP *if field converted*	----------	**#58**

Table 5

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

⚠ WARNING

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

The 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.

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

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

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

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

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning are similar to the flu with headaches, dizziness and/or nausea. If you have these signs, obtain fresh air immediately. Have the appliance serviced by a qualified technician as it may not be operating correctly. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

⚠ WARNING

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

⚠ WARNING

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

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

⚠ WARNING

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

⚠ AVERTISSEMENT

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

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.

REQUIREMENTS FOR THE COMMONWEALTH OF MASSACHUSETTS

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

For all side wall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than seven (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

Installation Of Carbon Monoxide Detectors

At the time of installation of the side wall horizontal vented gas fueled equipment, the installing plumber or gasfitter shall observe that a hard wired carbon monoxide detector with an alarm and battery back-up is installed on the floor level where the gas equipment is to be installed. In addition, the installing plumber or gasfitter shall observe that a battery operated or hard wired carbon monoxide detector with an alarm is installed on each additional level of the dwelling, building or structure served by the side wall horizontal vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors.

In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or an attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level.

In the event that the requirements of this subdivision can not be met at the time of completion of installation, the owner shall have a period of thirty (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

Approved Carbon Monoxide Detectors

Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and be ANSI/UL 2034 listed and IAS certified.

Signage

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

Inspection

The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspection, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CMR 5.08(2)(a)1 through 4.

Exemptions

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

- The equipment listed in Chapter 10 entitled "Equipment Not Required To Be Vented" in the most current edition of NFPA 54 as adopted by the Board; and
- Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.

MANUFACTURER REQUIREMENTS

Gas Equipment Venting System Provided

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

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

Gas Equipment Venting System NOT Provided

When the manufacturer of a Product Approved side wall horizontally vented gas fueled equipment does not provide the parts for venting the flue gases, but identifies "special venting systems", the following requirements shall be satisfied by the manufacturer:

- The referenced "special venting system" instructions shall be included with the appliance or equipment installation instructions; and
- The "special venting systems" shall be Product Approved by the Board, and the instructions for that system shall include a parts list and detailed installation instructions.

A copy of all installation instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions, and/or all venting design instructions shall remain with the appliance or equipment at the completion of the installation.

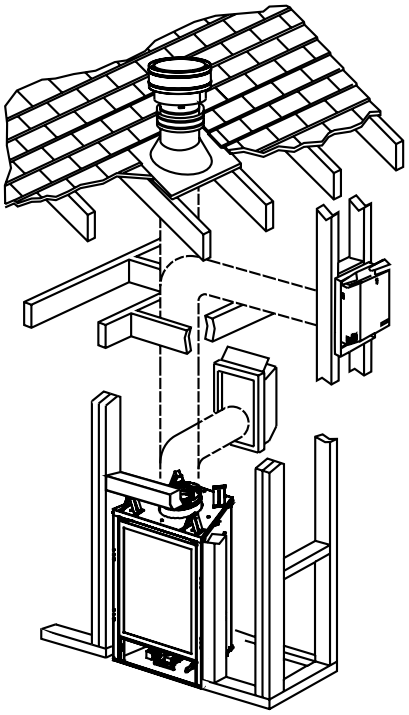
- Installation and repair must be done by a plumber or gas fitter licensed in the Commonwealth of Massachusetts.
- The flexible gas line connector used shall not exceed 36 inches (92 centimeters) in length.
- The individual manual shut-off must be a T-handle type valve.

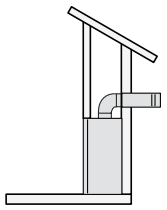
NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

LOCATION

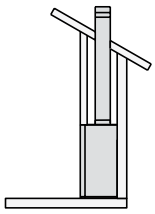
In selecting the location, the aesthetic and functional use of the appliance are primary concerns. However, vent system routing to the exterior and access to the fuel supply are also important. **Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies, etc.** ***(Figure 1). The location should also be free of electrical, plumbing or other heating/air conditioning ducting.***

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.



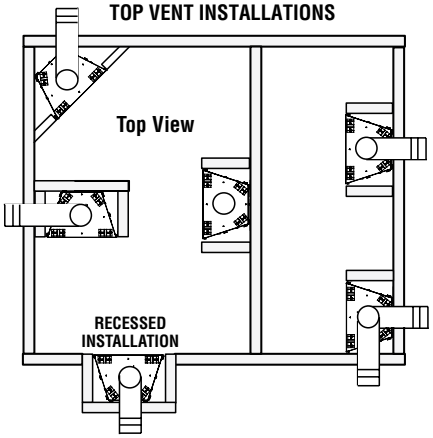


HORIZONTAL VENT (Top Vent Application)



VERTICAL VENT (Top Vent Application)

TOP VENT INSTALLATIONS



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

Figure 1 **- Typical Locations**

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. In cold climates, if the fireplace is being installed on a cement slab, a sheet of plywood or other raised platform can be placed underneath to prevent conducting cold up into the room. It also helps to sheetrock inside surfaces and tape for maximum air tightness and caulk firestops.

MANUFACTURED HOME REQUIREMENTS

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

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

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

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

⚠ CAUTIONS

Ensure that the cross members are not cut or weakened during installation. The structural integrity of the manufactured home floor, wall, and ceiling / roof must be maintained. This appliance must be grounded to the chassis of the manufactured home in accordance with local codes or in the absence of local codes, with the National Electrical Code ANSI / NFPA 70 - latest edition or the Canadian Electrical Code CSA C22.1 - latest edition.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

APPLIANCE AND VENT CLEARANCES

The appliance is approved with zero clearance to combustible materials on all sides (as detailed in ***Table 6)***, with the following exception: When the unit is installed with one side flush with a wall, the wall on the other side of the unit must not extend beyond the front edge of the unit. In addition, when the unit is recessed, the side walls surrounding the unit must not extend beyond the front edge of the unit. See ***Figure 1***.

MINIMUM CLEARANCES Inches (millimeters)	
Back	**1/2 in. (13 mm)**
Sides	**1/2 in. (13 mm)****
Top Spacers	**0 in. (0 mm)**
Floor	**0 in. (0 mm)*****
From Bottom of Unit To Ceiling	**64 in. (1626 mm)**
Vent	**3 (76) Top * 1 (25.4) Sides & Bottom**
SERVICE CLEARANCES Feet (meters)	
Front	**3 feet (0.9 meters)**

Table 6

****Note:*** *3 in. (75 mm) above any horizontal vent component. See Note ❶ in* ***Figure 2.***

*****Note:*** *See* ***Page 9, Step 1*** *for clearance requirements to the nailing flange located at each side of the unit and any screw heads adjacent to it.*

******Note: To ensure proper fit of the facade (required - sold separately). The appliance base will need to be elevated 3/4" minimum above the floor to allow for the proper fit of the facade (i.e. use 3/4" board as platform).***

SHELF HEIGHT

To provide for the lowest possible shelf surface, the venting attached to the top vent should be routed in a way to minimize obstructions to the space above the appliance. Do not insulate the space between the appliance and the area above it (see *Figure 2*). 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 the table in *Figure 2*.

MODELS Adagio-MN Adagio-MP Adagio-EN	
Combustible Shelf Height Inches (millimeters)	
Top Vent - with One 90 Degree Elbow	
Secure Vent	Secure Flex (flex elbow)
*52 (1321)	*53-3/4 (1365)
* Includes 4" clearance to combustibles (required above vent components)	

❶ 4" clearance is required above the elbow for installations that require an elbow at the top of the unit and that ends in a horizontal termination.

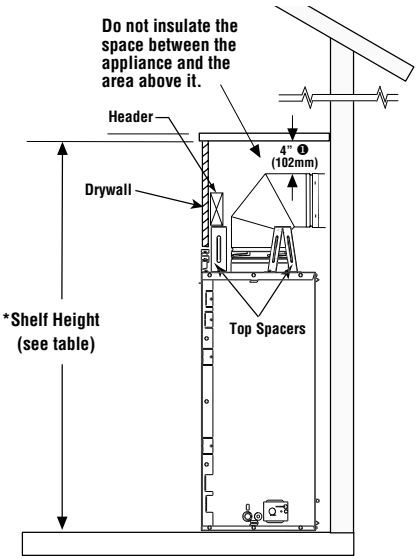


Figure 2 - Minimum Shelf Height Above Fireplace

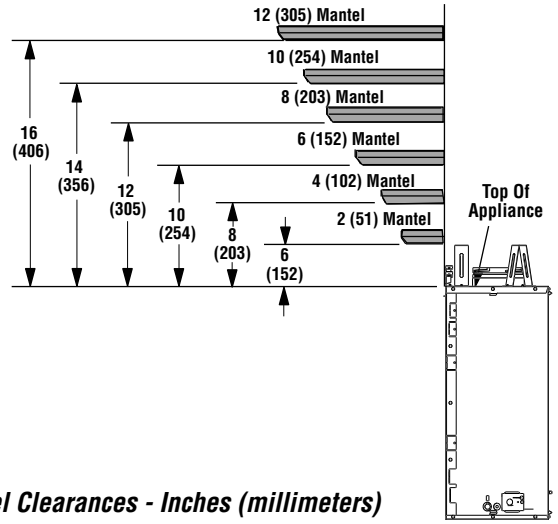
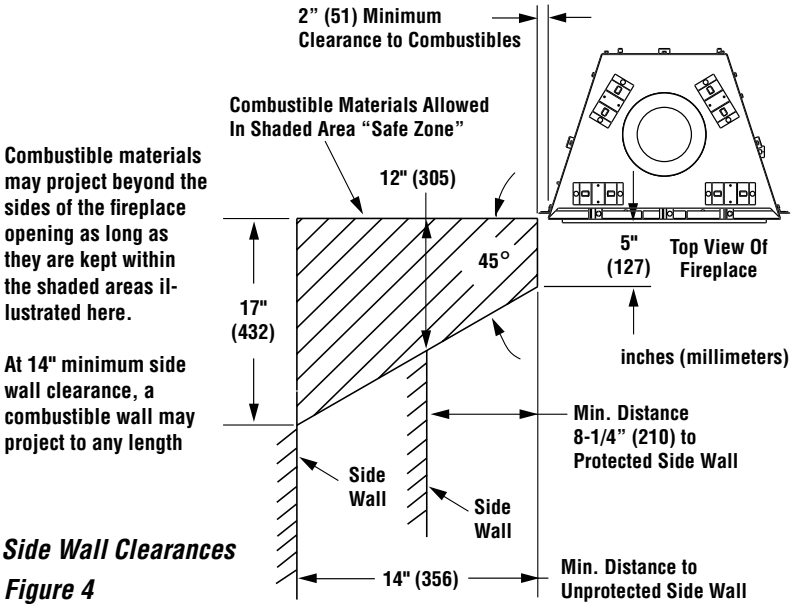


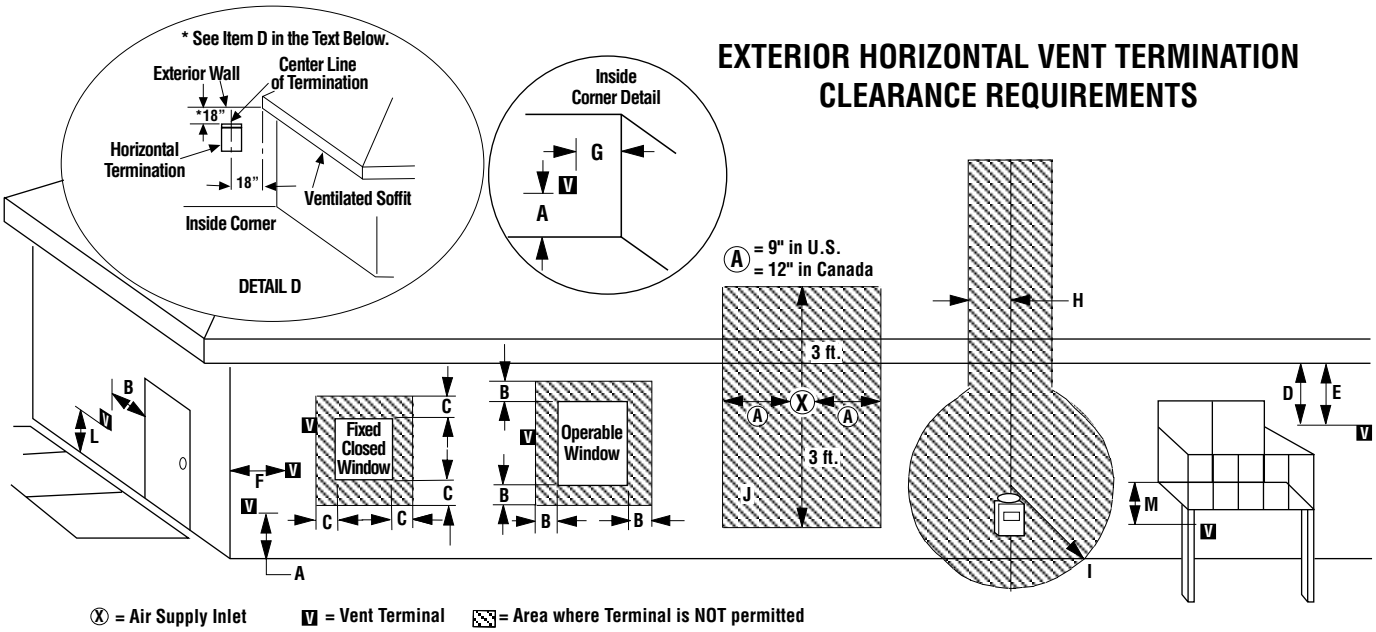
Figure 3 - Mantel Clearances - Inches (millimeters)



Side Wall Clearances
Figure 4

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

VENT TERMINATION CLEARANCES



Minimum Clearances	Canadian Installation *	US Installation **
A = Clearance above grade, veranda, porch, deck or balcony.	12 inches (30 cm) *	12 inches (30 cm) **
B = Clearance to window or door that may be opened.	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 12 in. (30 cm) for appliances > 10,000 BTU/hr (3kW) and < 100,000 BTU/hr (30kW), 36 inches (91 cm) for appliances > 100,000 BTU/hr (30kW)*	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 9 in. (23 cm) for appliances > 10,000 BTU/hr (3kW) and < 50,000 BTU/hr (15kW), 12 inches (30 cm) for appliances > 50,000 BTU/hr (15kW)*
C = Clearance to permanently closed window	12 inches (305 mm) recommended to prevent window condensation	9 inches (229 mm) to prevent window condensation
D = Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 18 in. (458 mm) from the center line of the terminal	18 inches (458 mm)	18 inches (458 mm)
E = Clearance to unventilated soffit	12 inches (30 cm)	12 inches (30 cm)
F = Clearance to outside corner	5 inches (12.7 cm)	5 inches (12.7 cm)
G = Clearance to inside corner	2" (5.08cm) Min. to Non-Combustible - SV4.5HT-2 • 6" (15.24cm) Min. to Combustible - SV4.5HT-2	2" (5.08cm) Min. to Non-Combustible - SV4.5HT-2 • 6" (15.24cm) Min. to Combustible - SV4.5HT-2
H = Clearance to each inside of center line extended above meter / regulator assembly	3 feet (91 cm) within a height of 15 feet above the meter / regulator assembly *	3 feet (91 cm) within a height of 15 feet above the meter / regulator assembly **
I = Clearance to service regulator vent outlet	3 feet (91 cm) *	3 feet (91 cm) **
J = Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 12 in. (30 cm) for appliances > 10,000 BTU/hr (3kW) and < 100,000 BTU/hr (30kW), 36 inches (91 cm) for appliances > 100,000 BTU/hr (30kW)*	6 in. (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 9 in. (23 cm) for appliances > 10,000 BTU/hr (3kW) and < 50,000 BTU/hr (15kW), 12 inches (30 cm) for appliances > 50,000 BTU/hr (15kW)*
K = Clearance to mechanical air supply inlet	6 feet (1.8 meters) *	3 feet (91 cm) above, if within 10 feet (3 m) horizontally**
L = Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13 m) ‡	7 feet (2.13 m) ‡
M = Clearance under veranda, porch, deck or balcony	12 in. (30 cm) * ‡	12 in. (30 cm) ** ‡
* In accordance with the current CSA-B149.1 National Gas and B149.2 Propane Installation Code - Latest Editions.		
** In accordance with the current ANSI Z223.1 / NFPA 54 National Fuel Codes - Latest Edition.		
‡ A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.		
*‡ Only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor.		
• 2" clearance to Non-combustibles for SV4.5HT-2		

Figure 5

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

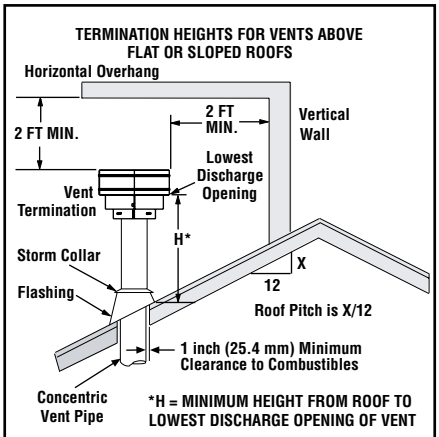
These instructions should be used as a guideline and do not supersede local codes in any way. Install vent according to local codes, these instructions, the current National Fuel Gas Code (ANSI-Z223.1) in the USA or the current standards of CAN/CGA-B149.1 and -B149.2 in Canada.

Horizontal Vent Termination Clearances

The horizontal vent termination must have a minimum of 3" (76 mm) clearance to any overhead combustible projection of 2-1/2" (64 mm) or less. See ***Figure 7.*** For projections exceeding 2-1/2" (64 mm), see ***Figure 5***. For additional vent location restrictions refer to ***Figure 5 on Page 7***.

Vertical Vent Termination Clearances

Terminate single vent caps relative to building components according to ***Figure 6***.



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

Termination Heights For Vents Above Flat Or Sloped Roofs Ref. NFPA 54 / ANSI Z223.1, 7.6		
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

Figure 6

Terminate multiple vent terminations according to the installation codes listed at the top of **this Page**.

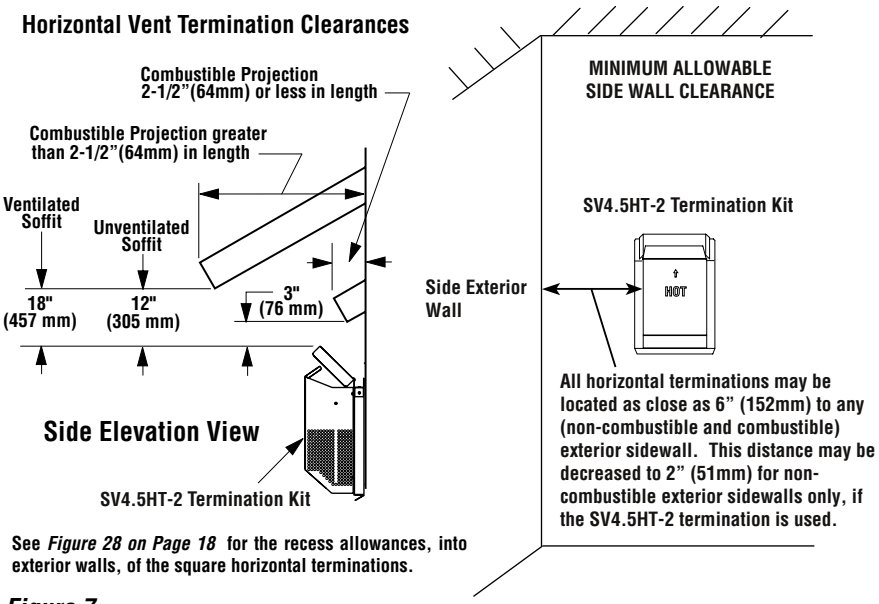


Figure 7

TYPICAL INSTALLATION SEQUENCE

The typical sequence of installation follows, however, each installation is unique resulting in variations to those described. See the page numbers references in the following steps for detailed procedures.

Step 1. ***(Page 9)*** Construct the appliance framing. Position the appliance within the framing and secure with nailing brackets.

Step 2. ***(Page 12)*** Route gas supply line to appliance location.

Step 3. ***(Page 12)*** Install the vent system and exterior termination.

Step 4. ***(Page 22)*** Field Wiring
- **a.** Millivolt Appliances – The operating control switch is factory installed.
- **b.** Electronic Appliances – Connect 120 Vac electrical power to the appliance receptacle.

Step 5. ***(Page 23)*** Install blower kit (optional equipment).

Step 6. ***(Page 23)*** Remove glass door frame assembly.

Step 7. ***(Page 24)*** Make connection to gas supply.

Step 8. BEFORE PROCEEDING TO STEP 9, INSTALL A FIREBOX LINER KIT PER INSTRUCTIONS PROVIDED IN THE KIT (REQUIRED - SOLD SEPARATELY).

Step 9. ***(Page 25)*** Install the logs and glowing embers.

Step 10. ***(Page 27)*** Checkout appliance operation.

Step 11. ***(Page 27)*** Adjust burner to ensure proper flame appearance.

DETAILED INSTALLATION STEPS

The appliance is shipped with all gas controls and components installed and pre-wired. Remove the shipping carton, exposing the front glass door. Pull out the two spring loaded latches securing the glass door (located under the firebox floor). Remove the door by tilting it outward at the bottom and lifting it up and off. Set the door aside protecting it from inadvertent damage. *See* ***Figure 38a and 38b on Page 23***.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

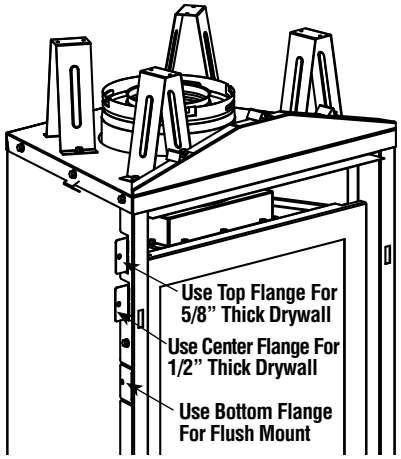
Step 1. FRAMING

Frame these appliances as illustrated in ***Figure 9***, unless the appliance is to be installed in a corner.

See ***Figure 10*** for corner framing installations. All framing details must allow for a minimum clearance to combustible framing members as shown in ***Table 6 on Page 6***.

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

The fireplace should be secured to the side framing members using the unit's nailing flanges on each side of the fireplace front. See ***Figure 8.*** Use 8d nails or their equivalent.



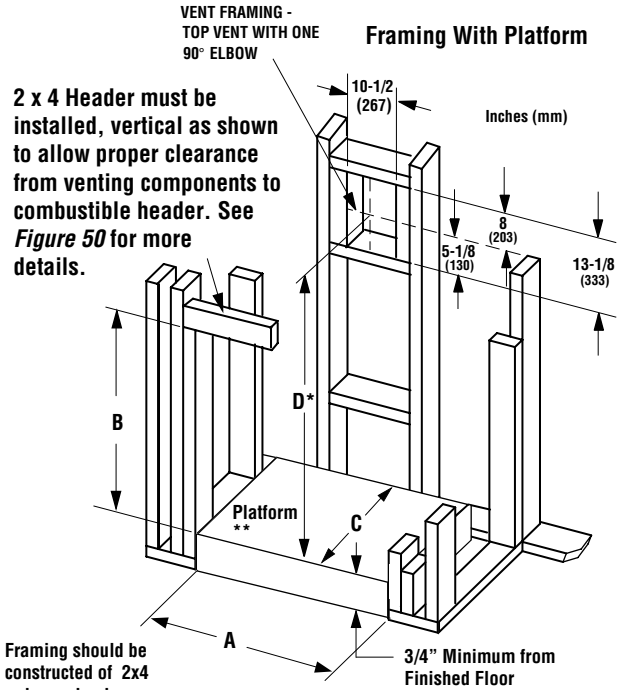
Left Side Front Corner of Fireplace Shown (Right Side Requirements the Same)

Unit Being Secured By Its Nailing Flanges To The Framing

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

Figure 8

FIREPLACE FRAMING SPECIFICATIONS



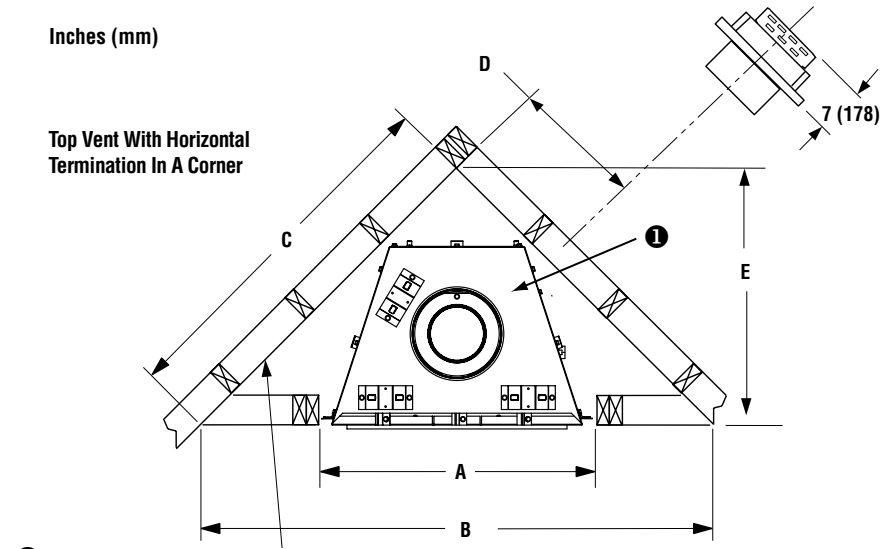
*** D shown here is not dimensioned to the vertical center of the horizontal framing. This is to allow for the required 4" clearance above the vent and the 1" required clearance below the vent. This does not include the suggested 1/4" rise per foot for horizontal runs.**

**** With the facade installed (required - sold separately), the appliance base will need to be elevated a minimum of 3/4" above the floor to allow for the proper fit of the facade (i.e. use 3/4" board minimum as platform).**

The platform should extend the full width and depth of the fireplace base.

Framing Dimensions - All Models				
	A	B	C	D
in.	22-1/8	40-1/4	15-3/4	44-1/8
mm	562	1022	400	1121

Figure 9 - Framing



❶ **When installing in a corner configuration, one of the rear stand-offs will need to be removed.**

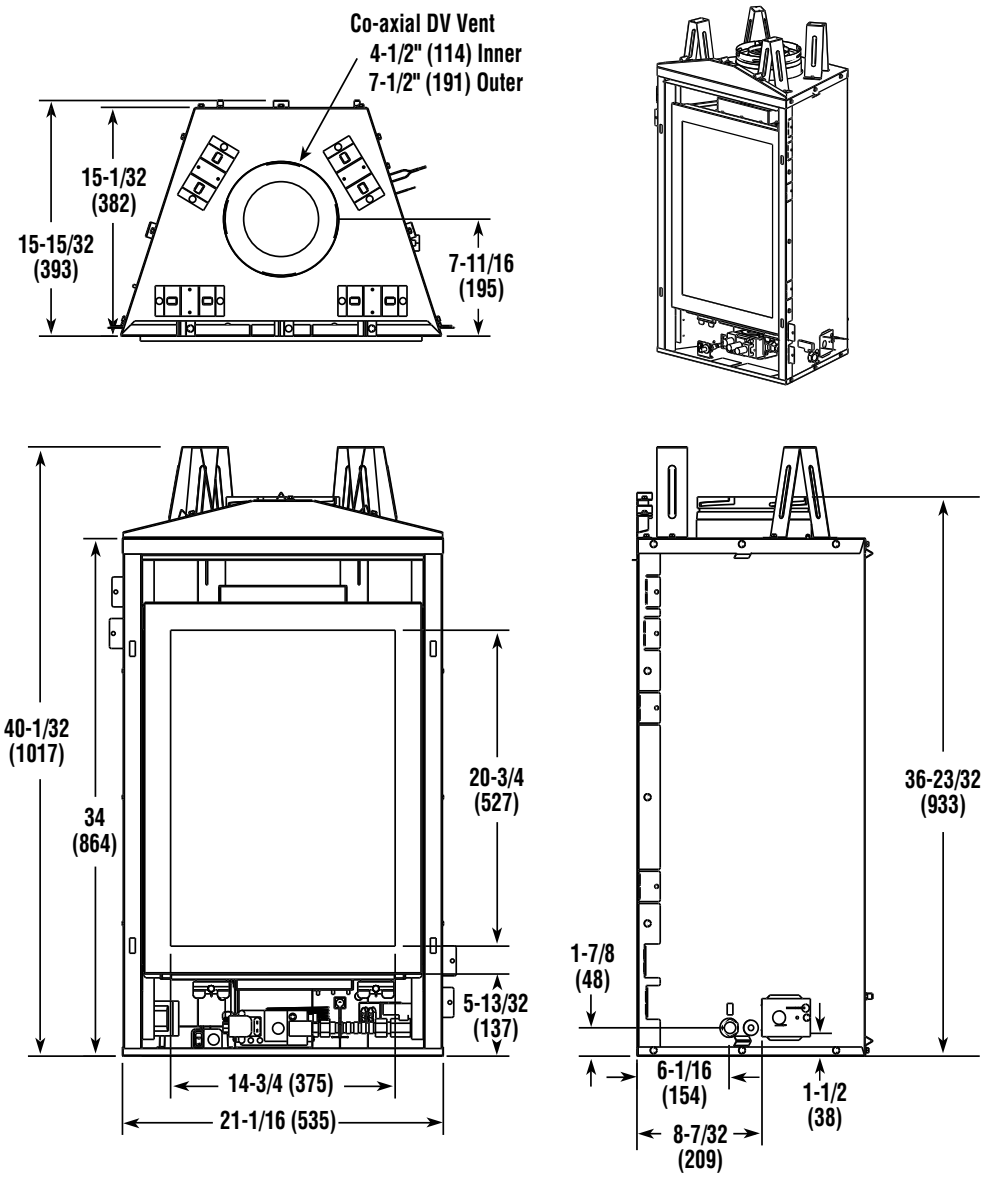
Corner Framing Dimensions - All Models					
	A	B	C	D	E
in.	22-1/8	41-5/8	29-1/2	10	20-7/8
mm	562	1057	749	254	530

***Figure 10* - Corner Framing with Square Termination (SV4.5HT-2)**

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

FIREPLACE SPECIFICATIONS

Fireplace Dimensions - Inches (millimeters)



Due to Lennox' ongoing commitment to quality, all specifications, ratings and dimensions are subject to change without notice.

Figure 11A

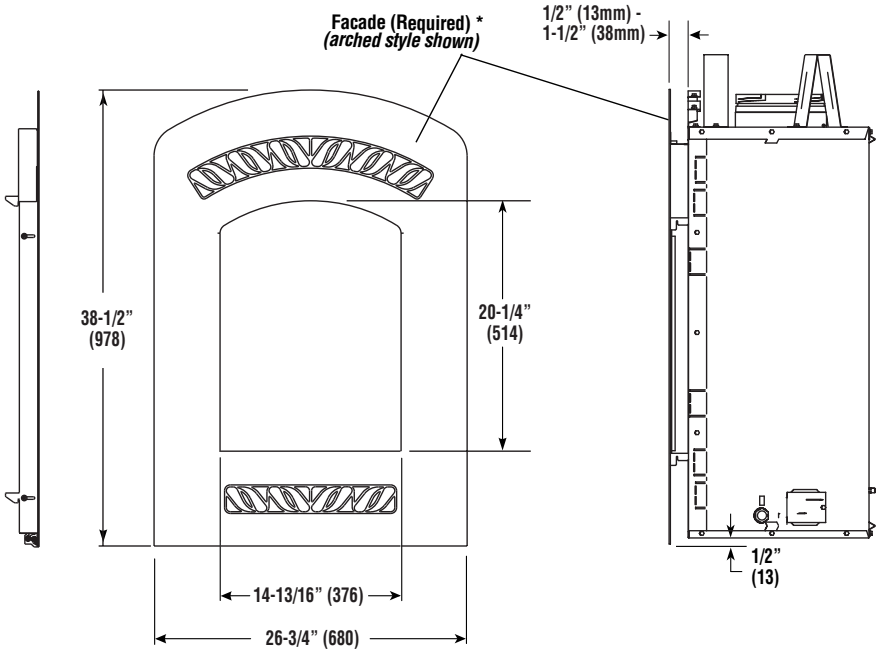
NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

FACADE SPECIFICATIONS

Arch Facades**
Black and Brushed Nickel Finishes

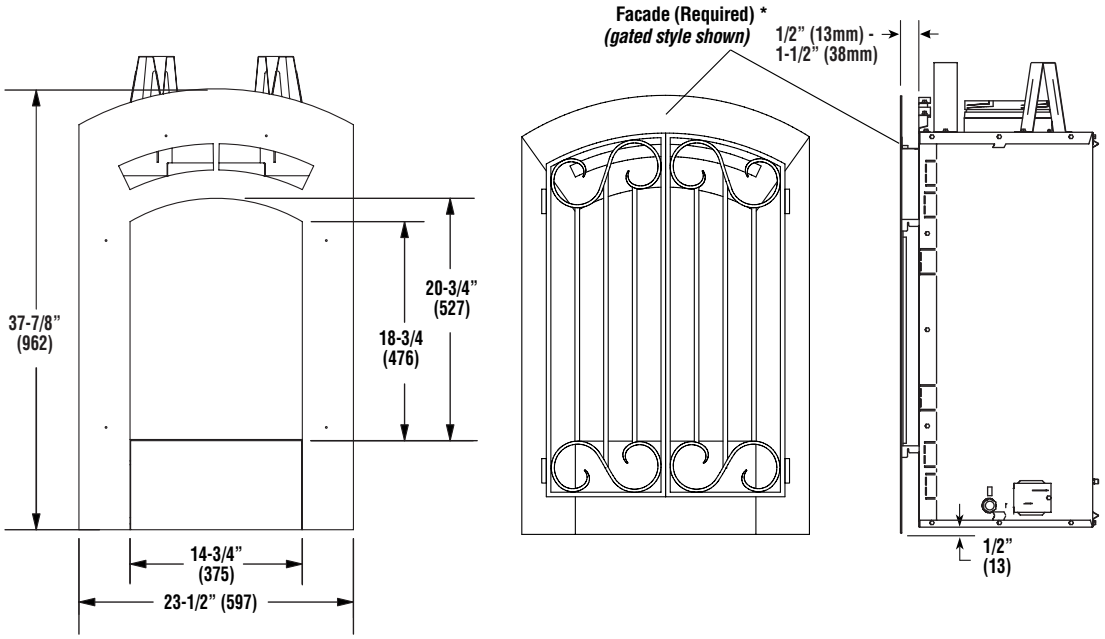
Cat. No.	Model	Description
H5773	ADAGIO-AG	Arch Black
H5774	ADAGIO-PF	Arch Br. Nickel

** A filigree inset kit is also required (sold separately). See *Care and Operation Manual* for ordering information.



Gated Facades
Copper and Iron Gates

Cat. No.	Model	Description
H5775	ADAGIO-IG	Iron Gates
H5776	ADAGIO-CPD	Copper Gates



Notes
Due to Lennox' ongoing commitment to quality, all specifications, ratings and dimensions are subject to change without notice.
** With the facade installed (required - sold separately), the appliance base will need to be elevated a minimum of 3/4" above the floor to allow for the proper fit of the facade (i.e. use 3/4" board minimum as platform).*

Figure 11B

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 2. ROUTING GAS LINE

Route a 1/2" (13 mm) gas line along the inside of the left side framing as shown in ***Figure 12***. Gas lines must be routed, constructed and made of materials that are in strict accordance with local codes and regulations.

All appliances are factory-equipped with a flexible gas line connector and 1/2 inch shutoff valve. **(See *Step 7* on *Page 24)***.

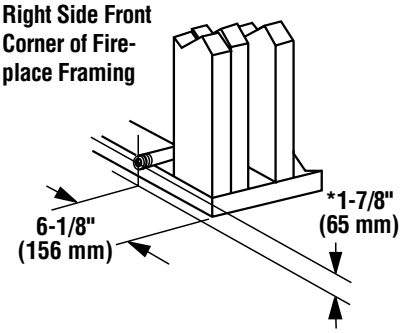


Figure 12

**** Measured from the top of platform that unit is installed on to pipe center (see Figure 9)***

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 vent according to local codes, these instructions, the current National Fuel Gas Code (ANSI-Z223.1) in the USA or the current standards of CAN/CSA-B149 in Canada.

These fireplaces are designed, tested and listed for operation and installation with, and only with, Secure Vent™ Direct Vent System Components, Secure Flex™ Flexible Vent Components manufactured by Security Chimneys International and Z-FLEX™ Model GA Venting Systems listed to UL1777 and ULCS635 manufactured by Flexmaster Canada Limited. These approved vent system components are labeled for identification. DO NOT use any other manufacturer's vent components with these appliances.

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 enclosing 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.

Select Venting System - Horizontal or Vertical

With the appliance secured in framing, determine vent routing and identify the exterior termination location. The following sections describe vertical (roof) and horizontal (exterior wall) vent applications. Refer to the section relating to your installation. **A list of approved venting components are shown in the tables on *Page 30*.**

VERTICAL TERMINATION SYSTEMS (ROOF)

Figures 17, and 23 through 25 on Pages 14 and 16 and their associated Vertical Vent Tables illustrate the various vertical venting configurations that are possible for use with these appliances. **Secure Vent** pipe applications are shown in these figures; **Secure Flex** pipe may also be used.

A Vertical Vent Table summarizes each system's minimum and maximum vertical and horizontal length values that can be used to design and install the vent components in a variety of applications.

Both these vertical vent systems terminate through the roof. The minimum vent height above the roof and/or adjacent walls is specified in ANSI Z223.1-(latest edition) (In Canada, the current CAN/CSA-B149 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 6* on *Page 8)*.**

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. Plan the vent lengths so that a joint does not occur at the intersection of ceiling or roof joists. Refer to the Vent Section Length Chart.

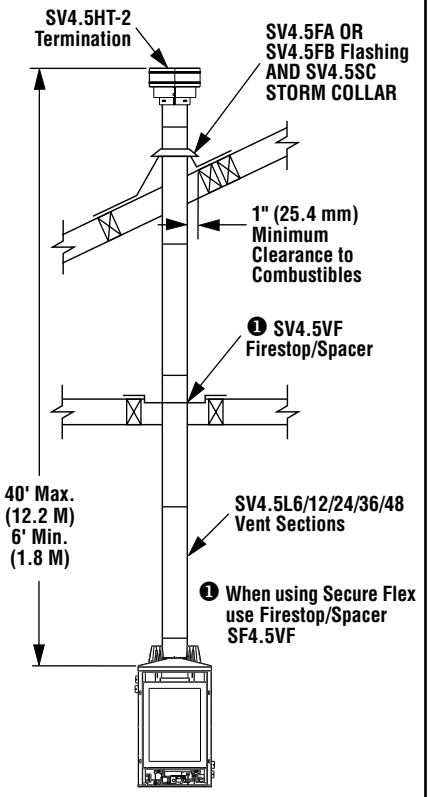


Figure 13

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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

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

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Vertical (Offset) Installation

Analyze the vent routing and determine the quantities of vent sections and number of elbows required. Refer to **Vertical Vent Figures and Tables on *Page 16*** 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 Chart on this page** for an aid in selecting length combinations. Elbows are available in 90° and 45° configurations. Refer to ***Figure 18*** 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 vent components. Clearances for all horizontal vent components 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 14)***.

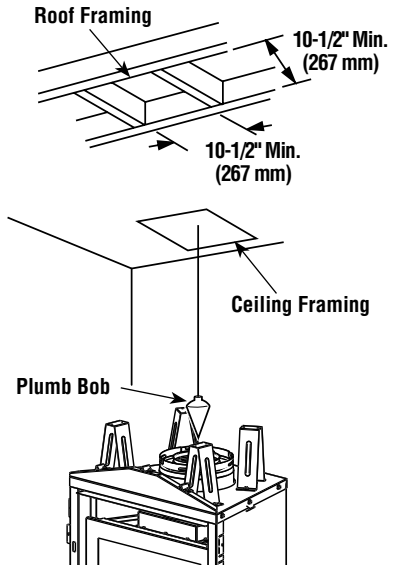


Figure 14

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 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.

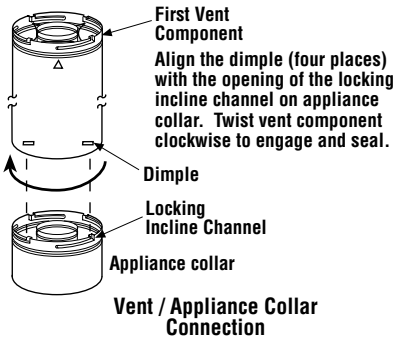


Figure 15

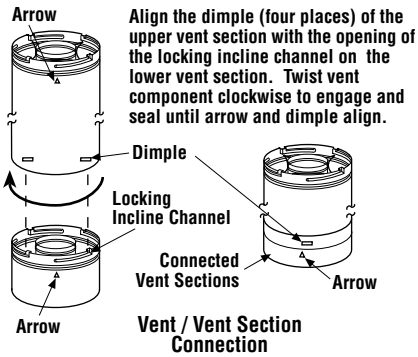


Figure 16

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 15***).

Push the vent component against the collar until it fully engages, then twist the component clockwise, running the dimples down and along the incline channels until they seat at the end of the channels.

The unitized design of the **Secure Vent** components will engage and seal both the inner and outer pipe without the need for sealant or screws. If desired a #6 x 1/2" screw may be used at the joint, but it is not required as the pipe will securely lock when twisted.

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 16*.**

D. Install firestop/spacer at ceiling - When using Secure Vent, use SV4.5VF firestop/spacer at ceiling joists; when using Secure Flex, use SF4.5VF firestop/spacer. If there is living space above the ceiling level, the firestop/spacer must be installed on the bottom side of the ceiling. If attic space is above the ceiling, the firestop/spacer must be installed on the top side of the joist.

Route the vent sections through the framed opening and secure the firestop/spacer with 8d nails or other appropriate fasteners at each corner. **Remember to maintain 1" (25 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections. Attic insulation shield may be used to obtain the required clearances indicated here (order H3907, SV4.5ARSA, Attic insulation shield with adjustable height from 12"-22"). See installation accessories table on *Page 30*.**

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 (2.4m) 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 17***.

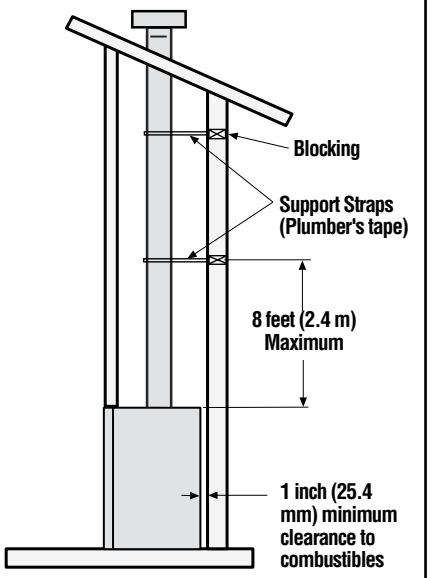


Figure 17

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 18***.

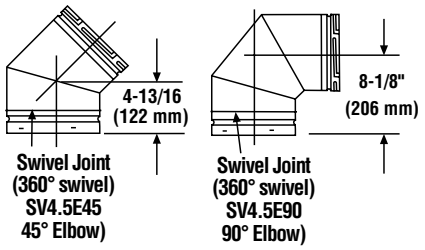


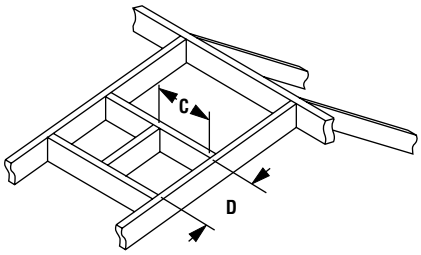
Figure 18

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' (1.52 m) along horizontal/inclined vent runs using conventional plumber's tape. **It is very important that the horizontal/inclined run be maintained in a straight (no dips) 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.

H. Frame roof opening - Identify location for vent at the roof. Cut and/or frame opening per Roof Framing Chart and ***Figure 19***.



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 19

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) (***Figure 20***). Nail along perimeter to secure flashing or adjust roofing to overlap the flashing edges at top and sides only and trim where necessary. Seal the top and both sides of the flashing with waterproof caulking.

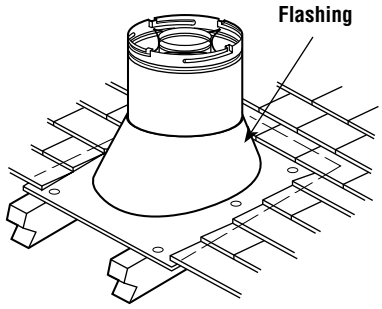


Figure 20

J. Install the storm collar - Install the storm collar, supplied with the flashing, over the vent/flashing joint. See ***Figure 21.*** 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.

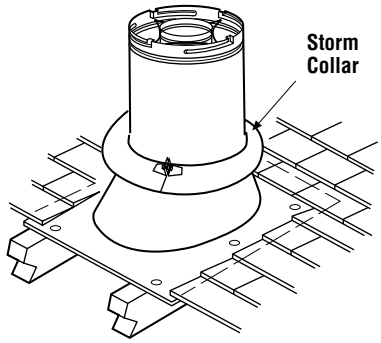


Figure 21

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" on ***Page 7***. The SV4.5CGV-1 Vertical Termination ***(Figure 22)*** installs in the exact same fashion as any other **Secure Vent** section. Align the termination over the end of the previously installed section, adjusting the radial alignment until the four locking dimples of the termination are aligned with the inlets of the four incline channels of the last vent section. Push the termination down until it fully engages, then twist the termination clockwise running the dimples down and along the incline channels until they seat at the end of the channels.

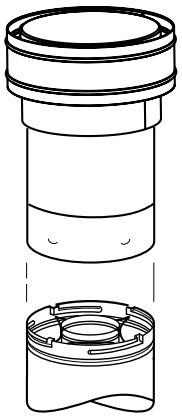


Figure 22

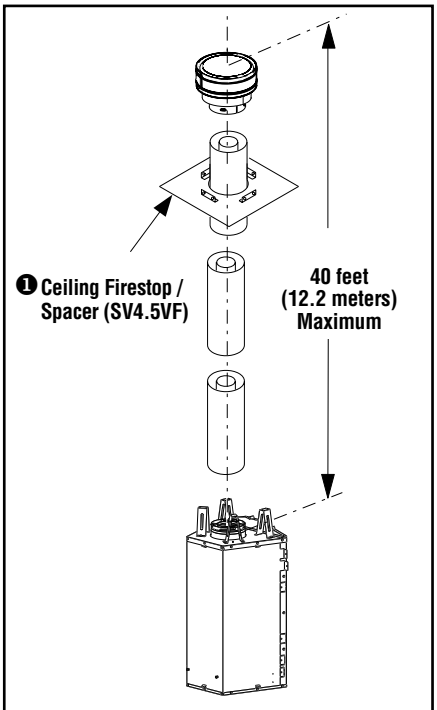
If the vent system extends more than 5' (1.5 m) above the roof flashing, stabilizers may be necessary. Additional screws may be used at section joints for added stability. Guide wires may be attached to the joint for additional support on multiple joint configurations.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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 29).***

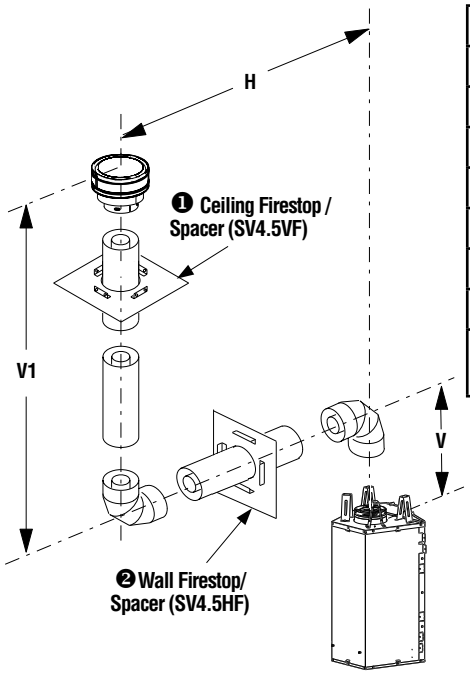


❶ When using Secure Flex, use Firestop / Spacer SF4.5VF

Figure 23 **- Top Vent - STRAIGHT**

⚠ WARNING

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



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

Table A			
H 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)
$V + V_1 + H = 40$ feet (12.2 m) Max. H = 20 feet (6.096 meters) Max.			

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

This table shows a 1(V) to 5(H) ratio. For every 1 foot of (V) vertical, you are allowed 5 feet of (H) 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 29****.*

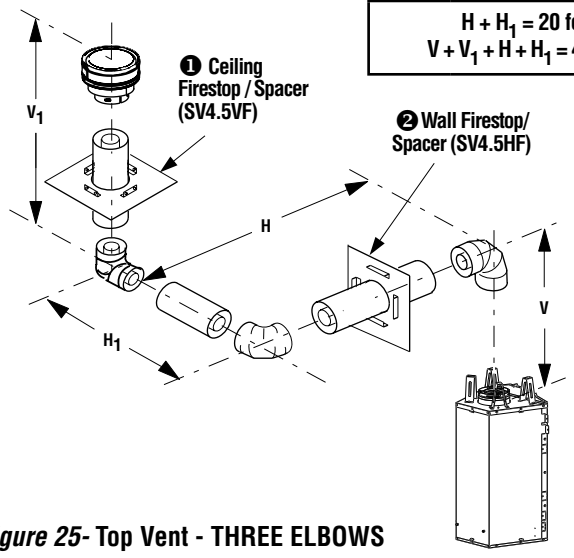
Figure 24 **- Top Vent - TWO 90 DEGREE ELBOWS**

Example: *If 20 feet total ($H+H_1$) 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 ($H+H_1$) 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 29****.*

Table B			
$H + H_1$ 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. $V + V_1 + H + H_1 = 40$ feet (12.192 m) Max.			



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

Figure 25 **- Top Vent - THREE ELBOWS**

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

HORIZONTAL (OUTSIDE WALL) TERMINATION SYSTEM

Figures 26, and Figures 29 to 32 on Pages 17, 19 and 20 and their associated Horizontal Vent Table illustrate the various horizontal venting configurations that are possible for use with these appliances. **Secure Vent™** pipe applications are shown in these figures; **Secure Flex™** pipe may also be used. A Horizontal Vent Table summarizes each system's minimum and maximum vertical and horizontal length values that can be used to design and install the vent components in a variety of applications.

Both of these horizontal vent systems terminate through an outside wall. Building Codes limit or prohibit terminating in specific areas. Refer to ***Figure 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* ***Figures 15 and 16*** **on** ***Page 14***). All of the appliances covered in this document are fitted with collars having locking inclined channels. The dimpled end of the vent components fit over the appliance collar to create the positive twist lock connection.

A. Plan the vent run -
Analyze the vent routing and determine the types and quantities of sections required 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm) net section lengths are available. Plan the vent lengths so that a joint does not occur at the intersection of ceiling or roof joists. Make allowances for elbows as indicated in ***Figure 18 on Page 14***.

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 ***Figure 9*** **on** ***Page 9***. 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 14*** **on** ***Page 13***).

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 15*** **on** ***Page 14***).

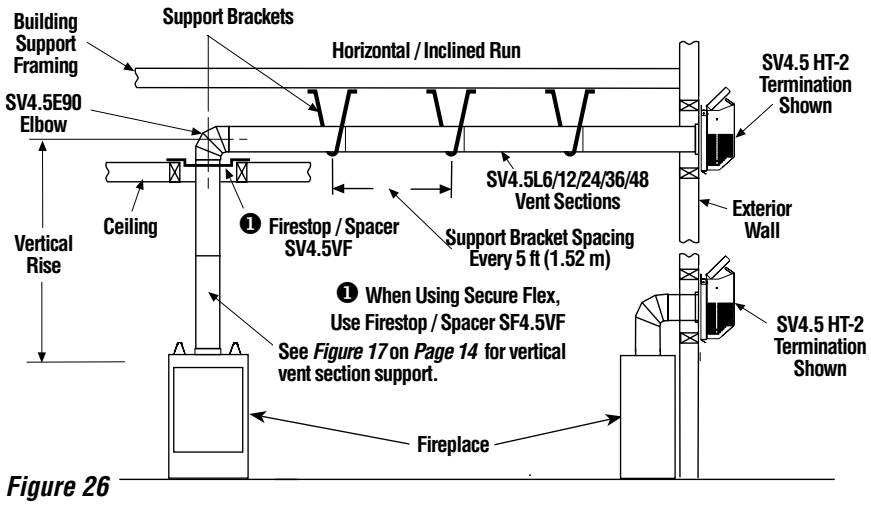


Figure 26

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 16 on Page 14.***

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

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

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

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 16 on Page 14***.

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 26*****, 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 within 6 in. (152 mm) to 9-1/4 in. (235 mm) inboard of the exterior surface to which the SV4.5 HT termination is to be attached, see ***Figure 28***. 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 28***, refer to ***Table 7 on Page 19***. 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 ***Figure 27*** 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 27***, and nail into place.

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

M. Install the desired termination -
1. 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 (the outer over the outer and the inner inside the inner) until the termination seats against the exterior wall surface to which it will be attached. Orient the housing of the termination with the arrow pointed upwards. Secure the termination to the exterior wall. **The horizontal termination must not be recessed into the exterior wall or siding** by more than the 1-1/4" (32 mm) as shown in ***Figure 28***.

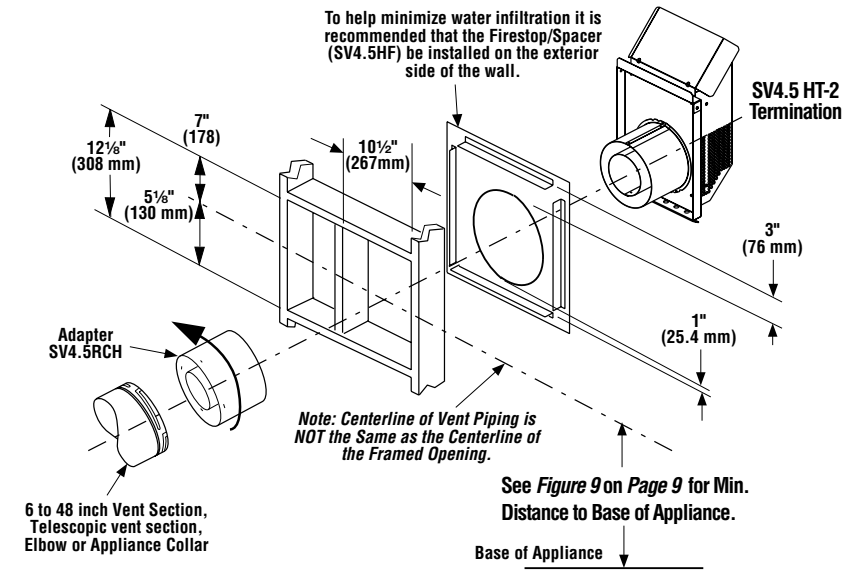


Figure 27 **- INSTALLING SQUARE HORIZONTAL TERMINATION (SV4.5HT-2)**

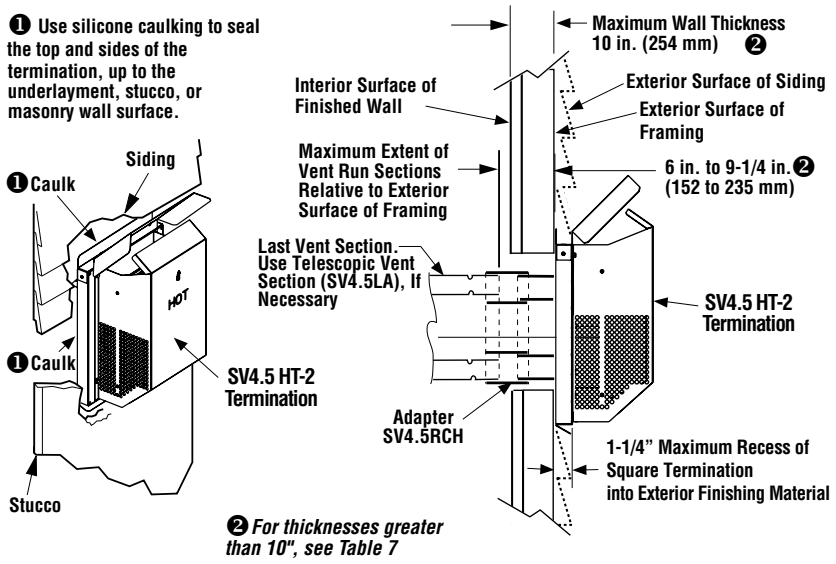


Figure 28

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

⚠ IMPORTANT

The vent termination is hot while in operation and for a period of time following the use of the fireplace. To prevent contact with hot surfaces, we recommend the use of a *Termination Guard*. *This can be purchased at your local dealer.*

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

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

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

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

See Table 7 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 7	***Note: See Figure 28 showing wall thickness range when using SV4.5HT-2 termination kit only.***

HORIZONTAL VENT FIGURES/TABLES

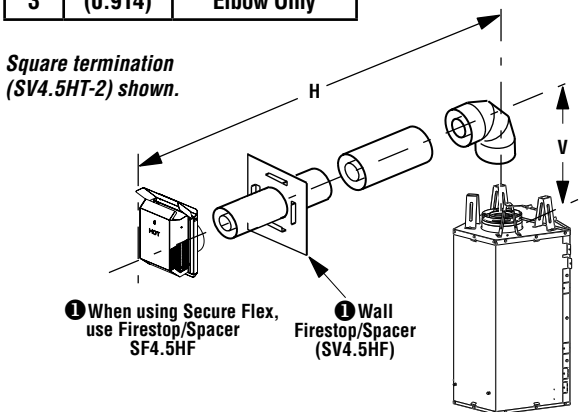
Notes:

- ***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 29**).*
- ***AN ELBOW IS ACCEPTABLE AS 1 FOOT OF VERTICAL RISE EXCEPT WHERE AN ELBOW IS THE ONLY VERTICAL COMPONENT IN THE SYSTEM. See Figure 29.***

⚠ WARNING

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

Table C			
H Maximum		V Minimum	
feet	(meter)	feet	(meter)
3	(0.914)	Elbow Only	



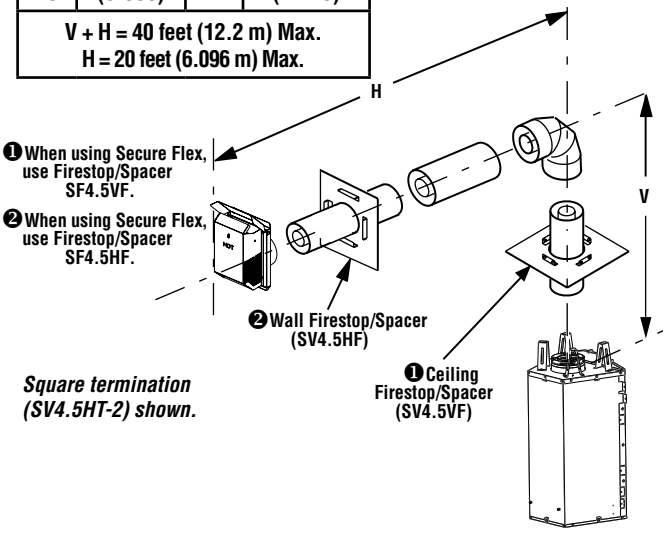
See Table 7 as an aid in venting component selection for a particular range of exterior wall thicknesses.

Figure 29 **- Top Vent - ONE 90 DEGREE ELBOW - ELBOW CONNECTION AT APPLIANCE**

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

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

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



See Table 7 as an aid in venting component selection for a particular range of exterior wall thicknesses.

Figure 30 **- Top Vent - ONE 90 DEGREE ELBOW - ELBOW CONNECTION NOT DIRECTLY AT APPLIANCE**

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

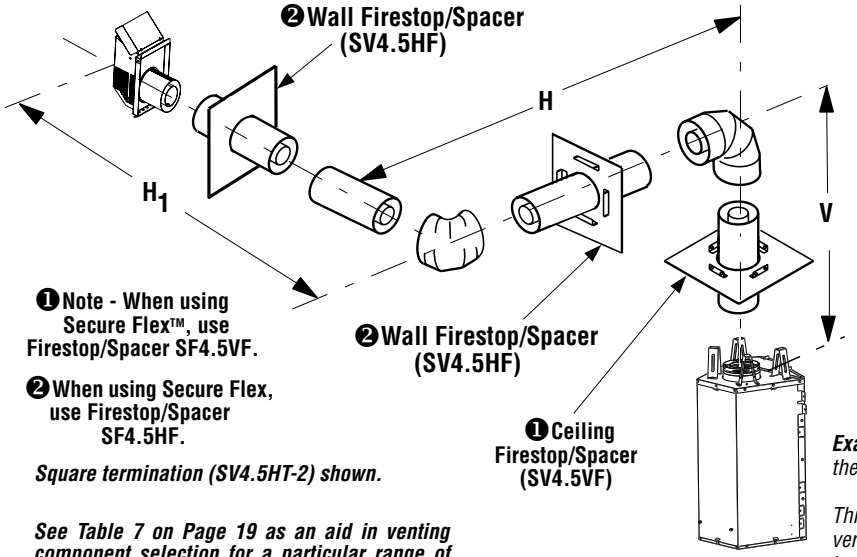


Table E			
H + H_1 Maximum		V Minimum	
feet	(meter)	feet	(meter)
3	(0.914)	Elbow Only	
5	(1.524)	1	(0.305)
10	(3.048)	2	(0.610)
15	(4.572)	3	(0.914)
20	(6.096)	4	(1.219)
V + H + H_1 = 40 feet (12.2 m) Max. H + H_1 = 20 feet (6.096 m) Max.			

Example: *If 20 feet of (H + H_1) 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+ H_1) 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 29****.*

Figure 31 **- Top Vent - TWO 90 DEGREE ELBOWS**

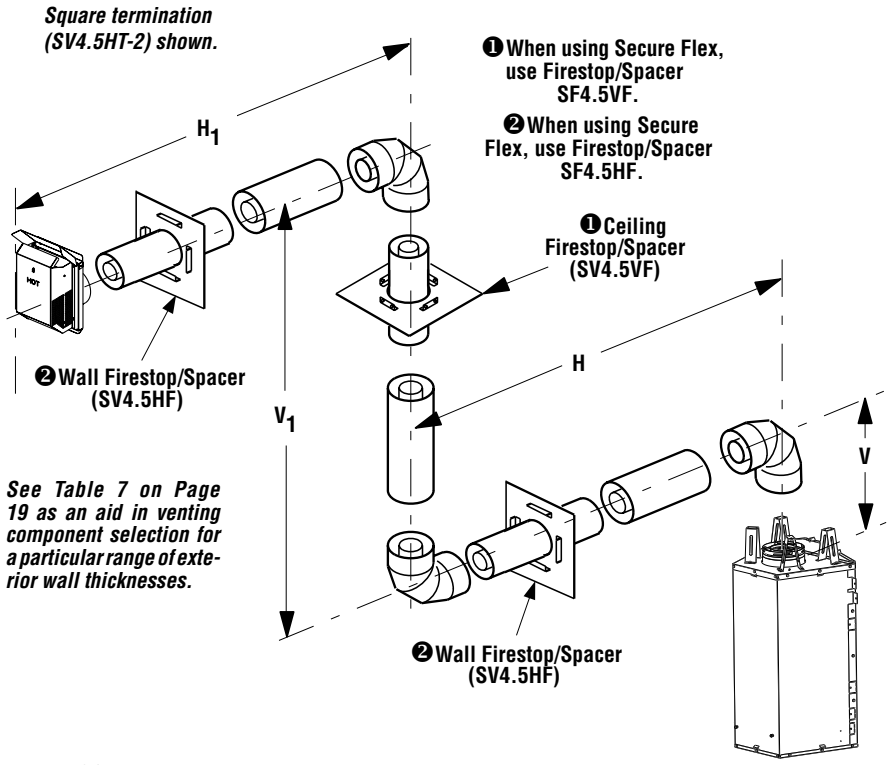


Table F			
H + H_1 Maximum		V Minimum	
feet	(meter)	feet	(meter)
5	(1.524)	Elbow Only	
5	(1.524)	1	(0.305)
10	(3.048)	2	(0.610)
15	(4.572)	3	(0.914)
20	(6.096)	4	(1.219)
H + H_1 = 20 feet (6.096 m) Max. V + V_1+ H + H_1 = 40 feet (12.192 m) Max.			

Example: *If 20 feet total (H+H_1) 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+ H_1) 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 29****.*

Figure 32 **- Top Vent - THREE 90 DEGREE ELBOWS**

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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

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

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 33**):*

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.

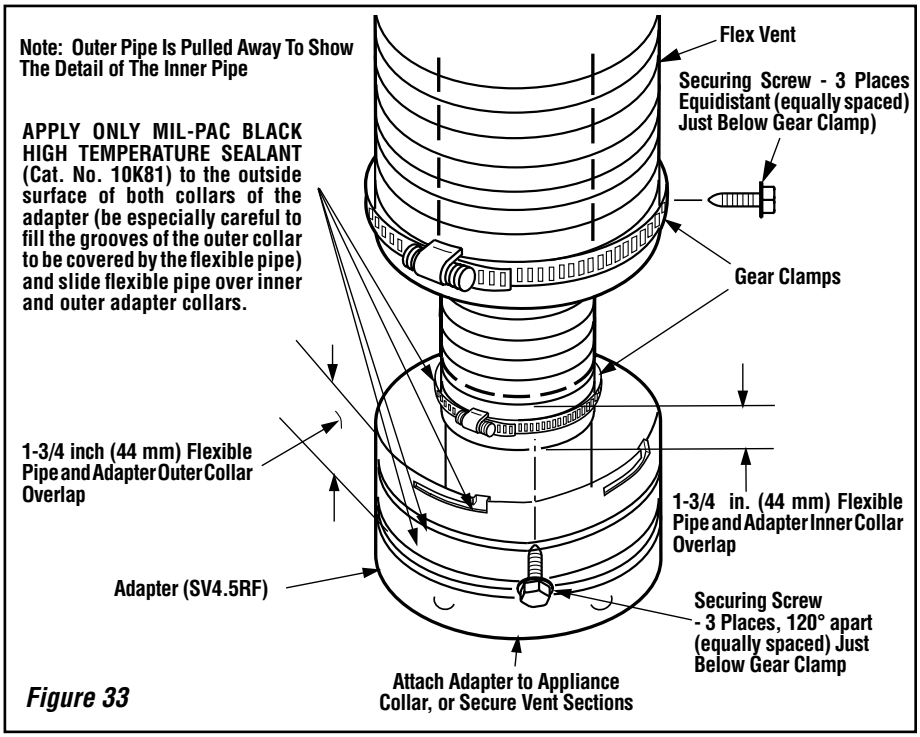


Figure 33

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 34***. 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.

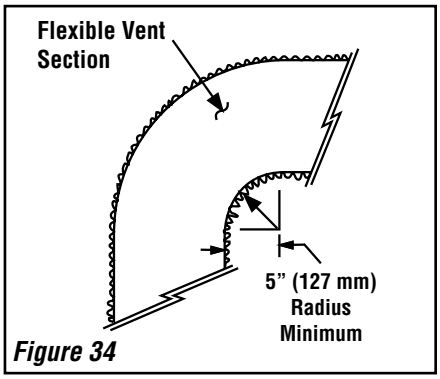


Figure 34

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 33)*** 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: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

Refer to Section A for millivolt appliances and Section B for electronic appliances. The gas valve is set in place and pre-wired at the factory on both models.

A. Millivolt Wiring *(See Figure 35)* –

1. Appliance-mounted ON/OFF burner control switch (rocker switch) is factory installed in the control compartment. An optional wall-mounted switch, wall thermostat, or one of the optional remote control kits may also be used.
2. If a 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 switch within the millivolt control circuit using the 15 feet of 2 conductor wire supplied with the unit.

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 bottom compartment.*

Caution: Do Not connect the optional wall switch to a 120V power supply.

4. If an optional control switch is installed, turn the appliance-mounted ON/OFF burner control switch to the OFF position.

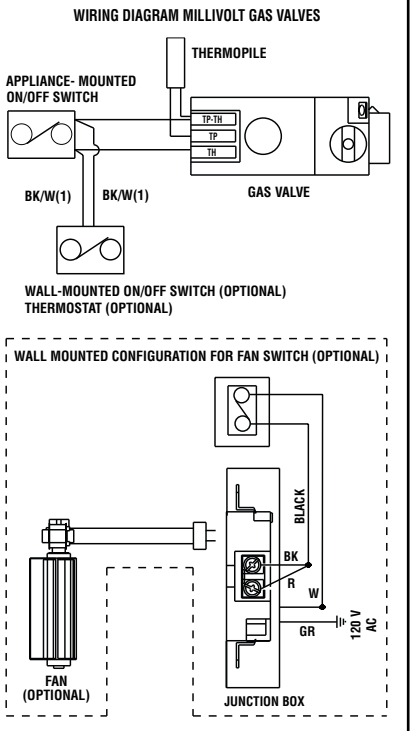


Figure 35

B. Electronic Wiring (See *Figure 36)* –

Note: *The electronic appliance must be connected to the main power supply.*

1. Route a 3-wire 120VAC 60Hz 1ph power supply to the appliance junction box.
2. Remove the electrical inlet cover plate from the side of the unit by removing the plate's securing screws. ***See Figure 11A on Page 10.***
3. Remove the cover plate's knockout and then feed the power supply wire through the knockout opening and into the unit junction box.
4. Connect the black power supply wire to the **red pigtail lead** and the white power supply wire to the **common** terminal of the outlet as shown in ***Figures 36 and 37.***
5. **Connect the ground supply wire to the pigtail lead attached to outlet's green ground screw.**
6. Appliance-mounted ON/OFF burner control switch (rocker switch) is factory installed behind the bottom panel.
   Optional wall-mounted switch, wall thermostat, or one of the optional remote control kits may also be used.
7. If wall-mounted ON/OFF control or thermostat is to be used, mount it in a convenient location on a wall near the fireplace.
8. If an optional wall-mounted control is to be used, wire it in the low voltage circuit as shown in ***Figure 36***.

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 bottom compartment.*

9. If an optional control switch is installed, turn the appliance-mounted ON/OFF burner control switch to the OFF position.
10. After the wiring is complete, replace the cover plate.

OPTIONAL BLOWER KIT
(millivolt models only)

If the blower kit is to be installed at the time of installation or at a later date, the main power supply and wall switch must be installed at the time of installation. **This will require that the electrical connections must be made BEFORE the fireplace is framed and enclosed in the finished walls.** Route a 3-wire, 120 VAC, 60 Hz, 1 ph power supply and connect to electrical receptacle wires and wall switch or wall rheostat.

⚠ CAUTION

Ground supply lead must be connected to the wire attached to the green ground screw located on the outlet box. See *Figure 37*. 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).

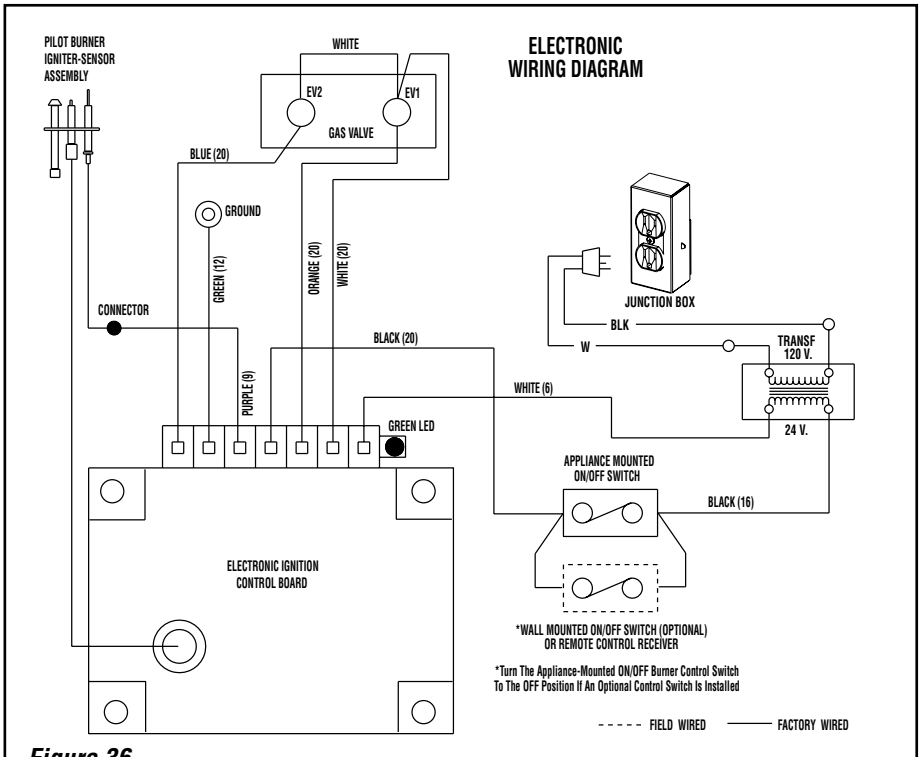


Figure 36

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

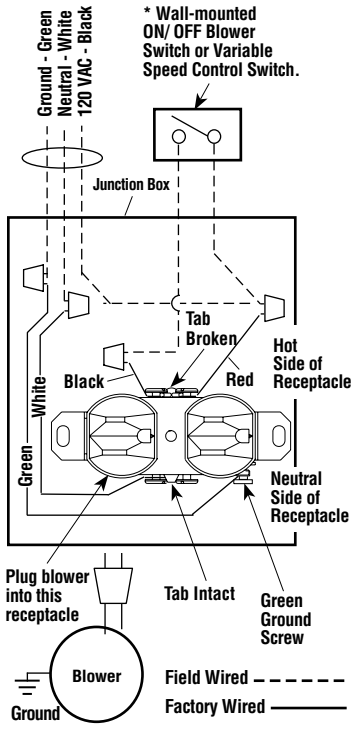


Figure 37 - J-BOX WIRING

Step 5. WIRING - OPTIONAL FORCED AIR BLOWER KIT *(See Figure 35 on Page 22)*

An electrical outlet box is provided for the installation of the **LBLK-100** forced air blower kit. Electrical power must be provided to this box to operate these blowers. Install the blower kit according to the installation instructions provided with the kit.

Step 6. REMOVING GLASS DOOR FRAME ASSEMBLY

⚠ WARNING

Be careful not to abuse the glass enclosure assembly by striking or slamming it. Handle this glass with extreme care! Glass is susceptible to damage – Do not scratch or handle roughly while reinstalling the glass door frame.

⚠ WARNING

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

⚠ WARNING

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

⚠ WARNING

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

Remove the glass door assembly before proceding to Step 7.

A required firebox liner kit must be installed prior to installing the glass door. Install the liner per instructions provided in kit.

These are direct-vent appliances. They are designed to operate only when the front glass enclosure panel is installed. Generally the front glass enclosure panel should not be removed except to gain access to the components within the firebox.

During this appliance checkout and adjustment period, a potential safety hazard exists - **EXERCISE EXTREME CAUTION** to prevent the occurrence of any burn injuries from the exposed flames or hot surfaces. Also note, that while the front glass enclosure panel is removed, the flame appearance will appear to be smaller than normal.

Removing Glass Enclosure Panel (see *Figure 38a and 38b*)

1. Remove the facade assembly by lifting it up and toward you (see the installation instruction sheet provided with the facade for additional information).
2. Locate the two (2) latches at the top of the control compartment (see ***Figure 38a***). To disengage the two latches, pull the spring-loaded latches forward then down as shown in ***Figure 38a***.
3. Swing the bottom of the door out (see ***Figure 38b***) and raise it slightly to lift the top flange of the door frame away from the appliance.

Installing Glass Enclosure Panels (see *Figure 38a and 38b)*

Note: This appliance is not approved for operation without a log set (provided) or a firebox liner kit installed (sold separately).

1. Visually inspect the gasket on the backside of the glass panel. The gasket surface must be clean, free of irregularities and seated firmly.
   IMPORTANT NOTE: Be very careful not to damage the refractory firebox liner when installing the door. Take care when seating the top door gasket so that it is not obstructed by the refractory panel. If the door feels restricted when latching, the top door gasket may not be properly seated.
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 (read important note above). ***See Figure 38b.***
3. Swing the glass enclosure panel down and back. Ensure the gasket seats evenly as the panel draws shut. Close the latches to secure the panel.
4. Reinstall the facade assembly.

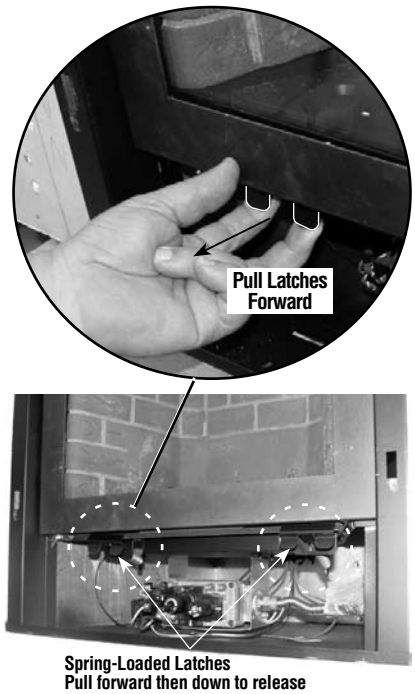


***Figure 38a* - Glass Door Latches**

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Figure 38b - **Glass Door Removal**

Step 7. CONNECTING GAS LINE

Make gas line connections. Codes require a shut-off valve mounted in the supply line. ***Figure 40*** illustrates two methods for connecting the gas supply. The flex-line method is acceptable in the U.S., however, Canadian requirements vary depending on locality. Installation must be in compliance with local codes.

These appliances are equipped with a gas flex line for use (where permitted) in connecting the unit to the gas line. A gas flex line is provided to aid in attaching the direct vent appliance to the gas supply. The gas flex line can only be used where local codes permit. See ***Figure 40*** for flex line description. The flex line is rated for both natural and propane gas. A manual shut off valve is also provided with the flex line.

If required, access the valve (see ***Figure 39***) by opening the lower control panel (see instruction sheet provided with the facade kit for additional information about the control panel).

The millivolt and electronic control valve has a 3/8" (10 mm) NPT thread inlet port.

Bring the shutoff valve on the end of the flex line over to the hard pipe and tighten with wrenches from above through the firebox opening.

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

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

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

⚠ 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 (50% dish soap, 50% water) is an effective leak test solution but it is not recommended, because the soap residue that is left on the pipes/fittings can result in corrosion over time.

A. Light the appliance (refer to the lighting instructions label in control compartment or care and operation 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,
D. 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.

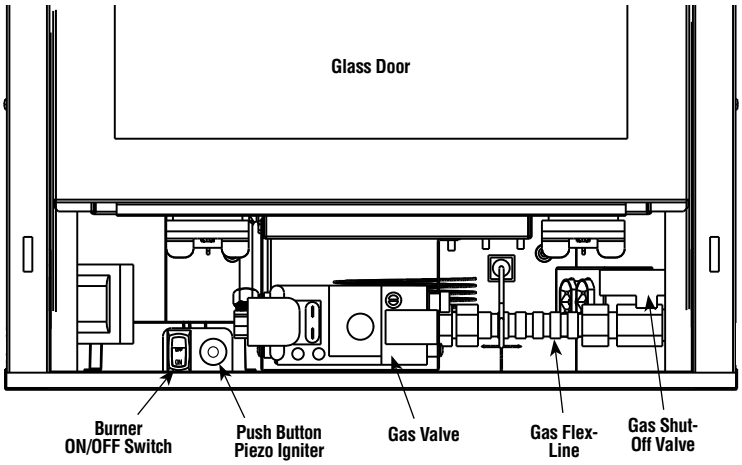
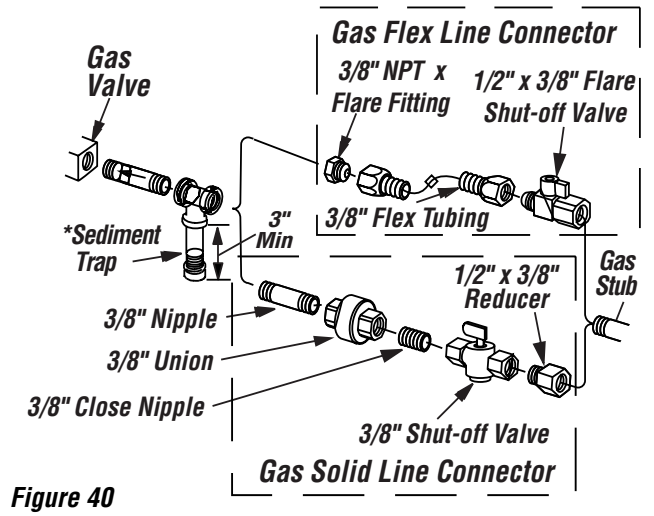


Figure 39 - Control Compartment



GAS CONNECTION

Note: The gas supply line must be installed in accordance with building codes by a qualified installer approved and/or licensed as required by the locality. In the Commonwealth of Massachusetts, installation must be performed by a licensed plumber or gas fitter.

**A Sediment Trap is recommended to prevent moisture and debris in gas line from damaging the valve.*

Figure 40

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 8. Install the firebox liner kit (sold separately), per instructions provided in kit, before proceeding to Step 9.

Step 9. INSTALLING THE LOGS AND GLOWING EMBERS

A FIREBOX LINER KIT MUST BE INSTALLED BEFORE INSTALLING LOGS. THIS APPLIANCE IS NOT APPROVED FOR OPERATION WITHOUT A FIREBOX LINER KIT INSTALLED (SOLD SEPARATELY). SEE PAGE 12 IN CARE AND OPERATION MANUAL FOR ORDERING INFORMATION. INSTALL LINER KIT AND LOG SUPPORT BRACKET PER INSTRUCTIONS PROVIDED IN KIT.

The logs are packaged in a carton located within the firebox. One plastic bag of glowing embers is located in the bottom compartment. Refer to the **Log Set Placement Instructions** ***(Figures 41 to 47)*** for detailed placement instructions for the logs and glowing embers.

Proper log and ember placement is critical to encourage outstanding flame appearance and prevent sooting. These fires are designed to provide a rich orange/red glow on the logs.

Note: *Log setup is by design asymmetric. The fire is intentionally positioned off center to provide a natural fire look.*

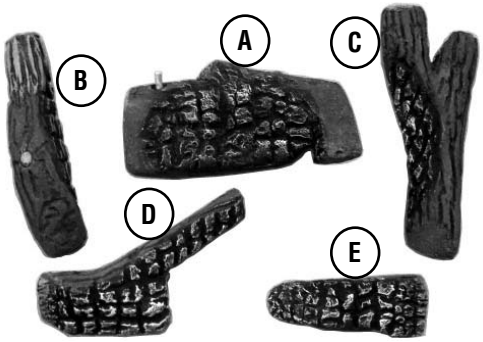
⚠ WARNING

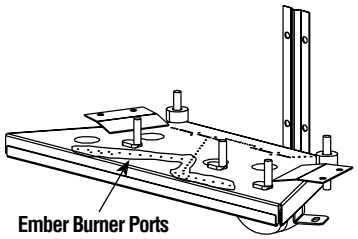
- **DO NOT attempt to install the logs until the appliance installation has been completed, the gas line connected and tested for leaks and the initial burner operation has been checked out.**
- **Logs get very hot and will remain hot up to one hour after gas supply is turned off. Handle only when logs are cool. Turn off all electricity to the appliance before you install logs and embers.**
- **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.**
- **The size and position of the log set was engineered to give the appliance a safe, reliable and attractive flame pattern. Any attempt to use a different log set in the fireplace will void the warranty and will result in incomplete combustion, sooting, and poor flame quality.**

Complete the following before starting the log installation.

- **READ WARNINGS ON THIS PAGE BEFORE PROCEEDING**
- ***Remove the front glass enclosure panel*** (see *Glass Enclosure Panel Removal Instructions*, ***Page 23***).
- ***Remove the log set from the firebox and the bag of embers from the control compartment. Handle logs carefully to prevent breakage.***

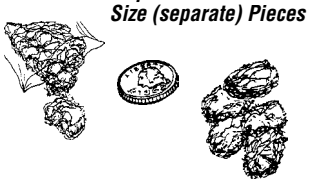
LOG SET Catalog Number H1237	
* Item	Description
A	Log, Rear
B	Log, Left Middle
C	Log, Right Middle
D	Log, Left Front
E	Log, Right Front
** Item "letters" above correspond to photos*	



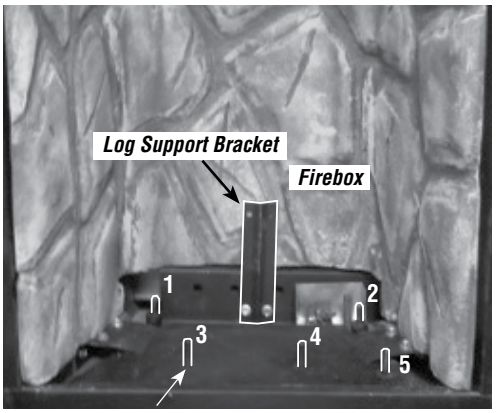


Glowing Embers

Separate into Quarter Size (separate) Pieces



This appliance is provided with enough Glowing Embers for several applications, do not use all that is in a new bag at one time. For best glowing effect, replace the ember material annually.



Locating Pins - 5 Places

Figure 41 - Log Set and Glowing Embers

1. ***Place the rear log (A) as shown in Figure 42***. Position the 2 holes on the bottom of the log over the corresponding locating pins (#1 & #2) and against the log support bracket. See ***Figures 41 and 42*** for pin and rear bracket locations.

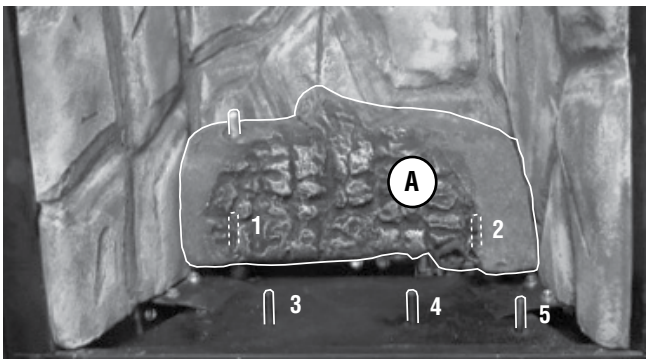


Figure 42 - Install Rear Log (A)

2. ***Place the left middle log (B) as shown in Figure 43***. Position the hole on the bottom of log B over the corresponding locating pin on Log A.

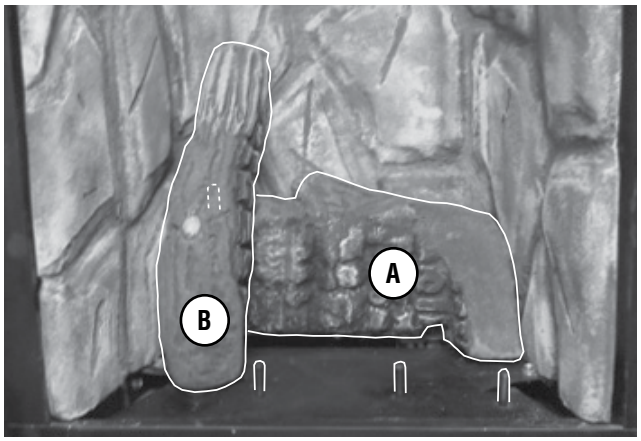


Figure 43 - Install Left Middle Log (B)

3. ***Place the left front log (D) as shown in Figure 44***. Position the hole on the bottom of log D over pin# 3.

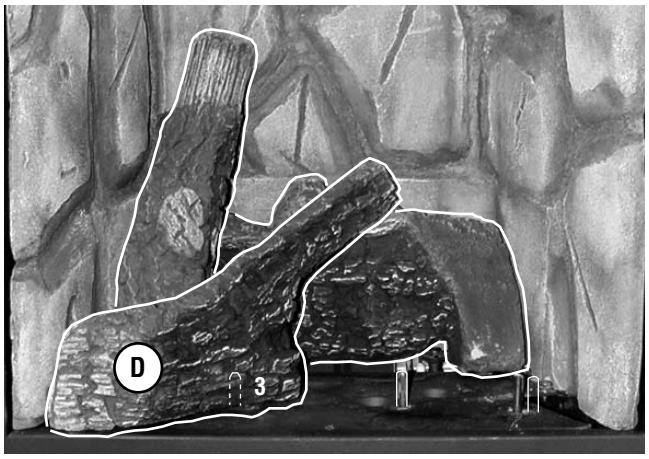


Figure 44 - Install Left Front Log (D)

4. ***Place the right front log (E) as shown in Figure 45***. Position the hole on the bottom of log E over pins #4 and # 5.

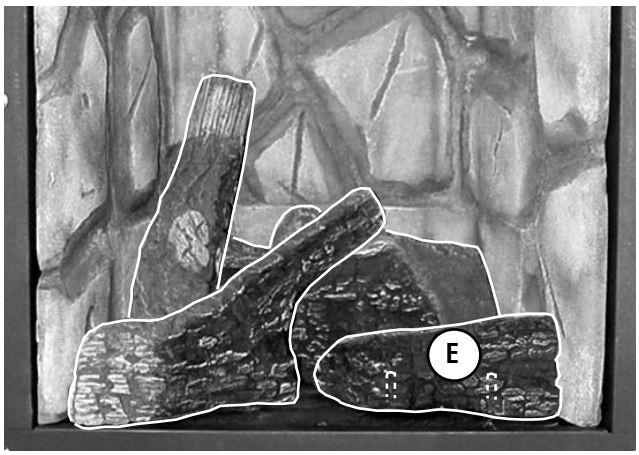


Figure 45 - Install Right Front Log (E)

5. ***Place the right middle log (C) as shown in Figure 46***. Position log C behind Log E and resting on the "flat" on Log A.

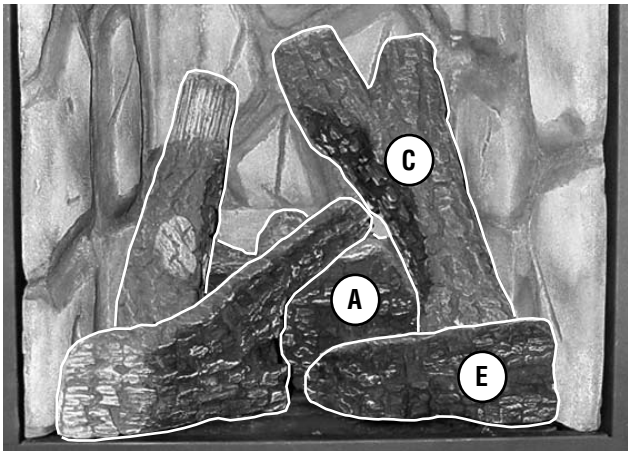
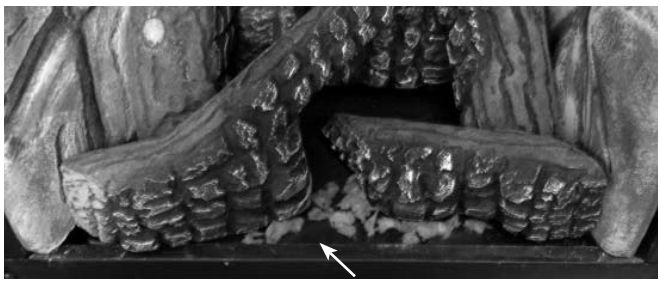


Figure 46 - Install Right Middle Log (C)

6. ***Ember Placement -*** Separate the Embers (rockwool) into pieces about the size of a quarter (see ***Figure 41***). Keep the pieces fluffed up, not matted. Distribute these pieces over the surface of the burner, as shown in ***Figure 47***. Do not use more than is necessary. **Ensure that the main burner ports remain uncovered by the ember material (see *Figure 41*).**



DO NOT place ember material directly over the ember burner ports.

Figure 47 - Ember Placement

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 10. CHECKING APPLIANCE OPERATION

With gas line installed run initial system checkout before closing up the front of the unit. Follow the pilot lighting instructions provided in the Care and Operation Manual. For piezo igniter location see ***Figure 39 on Page 24*** (millivolt appliances only).

Note: *Lighting Instructions are also found on the literature tag tied to the gas piping next to the gas valve. To access the tag, open the bottom control panel (see instruction sheet provided with the facade kit for additional information about the control panel). See* ***Figure 39 on Page 24****.*

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 (remove logs, if necessary, handling carefully).

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 pilot hood at all three ports ***(Figure 48).*** Replace logs if removed for pilot inspection.

To light the burner; rotate the gas valve control knob counterclockwise to the "ON" position and turn "ON" the appliance mounted ON/OFF switch (or optional remote switch, if installed).

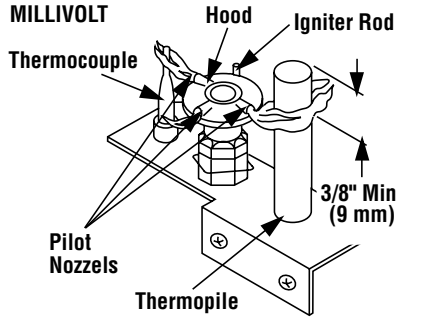


Figure 48

Electronic Appliance Checkout

To light the burner, turn 'ON' the unit mounted On/Off switch or the optional remote wall switch. Ensure the igniter lights the pilot. The pilot flame should engulf the flame rod as shown in ***Figure 49***.

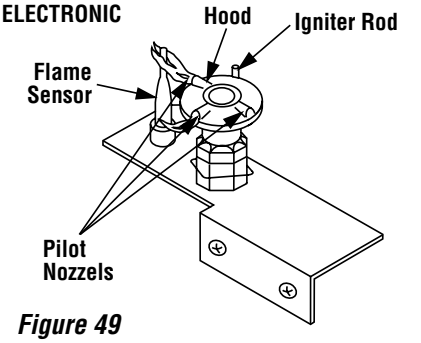


Figure 49

Step 11. BURNER ADJUSTMENTS

⚠ WARNING

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

⚠ IMPORTANT

Ensure front glass panel are in place and sealed during adjustment.

⚠ CAUTION

The air shutter and appliance surfaces are hot. Exercise caution to avoid injury while adjusting air shutter.

Flame Appearance and sooting

Proper flame appearance is a matter of taste. Generally, most people prefer the warm glow of a yellow to orange flame. Appliances operated with air shutter openings that are too large will exhibit flames that are blue and transparent. These weak, blue and transparent flames are termed anemic.

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

No smoke or soot should be present. These logs are designed to be involved in the fire. Flames will impinge the top tips of the right and left logs.

If the logs are properly positioned and sooting conditions exist, the air shutter opening on the main burner tube should be adjusted. Normally, the more offsets in the vent system, the greater the need for the air shutter to be opened further.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Burner Adjustment

To adjust the flame, move the lever arm up or down (located in the lower control area as shown in ***Figure 51***). *When the arm is positioned all the way down it is fully open. When the arm is positioned all the way up, it is closed.*

Ensure that the air shutter is closed (push lever all the way up).

CAUTION: DO NOT BEND THE AIR SHUTTER ROD. MAKE SURE THE AIR SHUTTER MOVES WHEN THE LEVER ARM IS OPERATED.

Observe the flame continuously. If it appears weak or sooty as previously described, adjust the air shutter up or down until the flame appearance is as desired.

The adjustment rod and associated adjustable air shutter is patented technology. Flame adjustments can be made quickly and accurately to taste without the need of disassembling the appliance and waiting for 30 minutes after each adjustment.

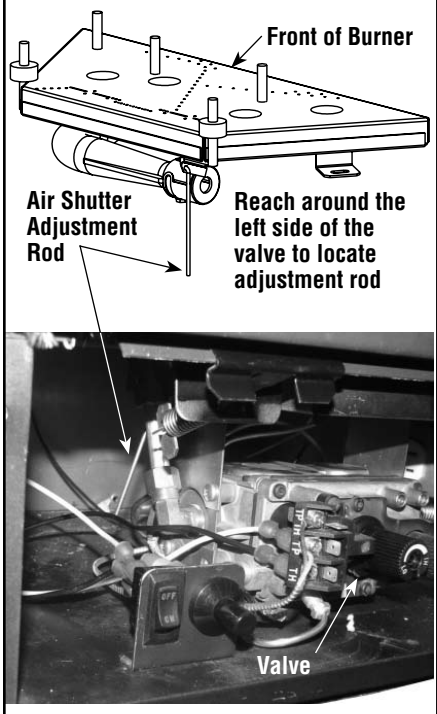
When satisfied that the appliance operates properly, proceed to finish the installation. Leave the control knob in the ON position and the burner ON/OFF switch (or optional remote switch) in the OFF position. Close the lower control compartment panel.

*Note: See **Figure 50** for proper burner flame appearance.*

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.

Figure 50 - Burner Flame Appearance



Adjustment
All the way up = CLOSED
All the way down = OPEN

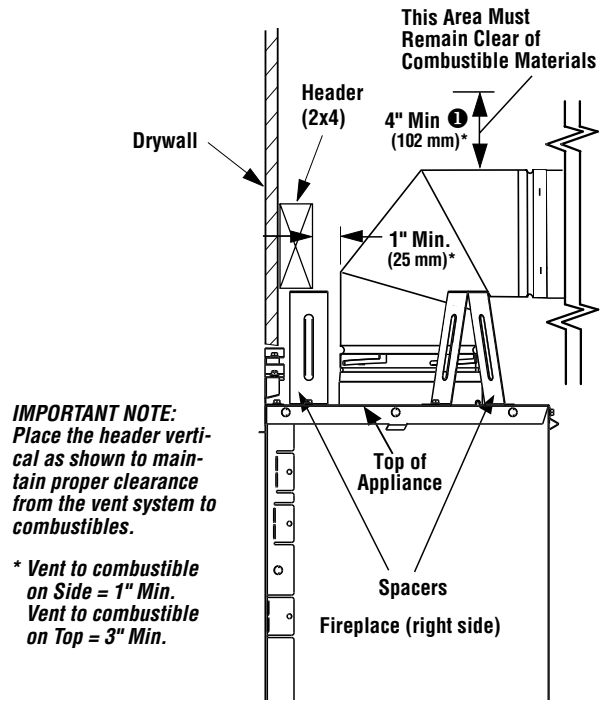
Adjust the rod to the full closed position for both Natural Gas and Propane. Light the fireplace, then adjust accordingly after heat-up.

Figure 51 - Burner Air Shutter

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

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 52***).



❶ 4" clearance is required above the elbow for installations that require an elbow at the top of the unit and that ends in a horizontal termination.

Figure 52

Hearth Extension

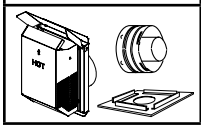
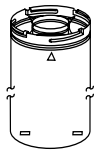
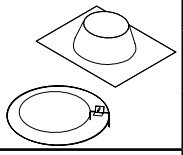
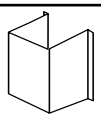
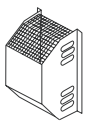
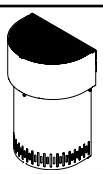
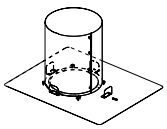
A hearth extension is not required with this appliance. If a hearth extension is used, do not block the lower control compartment panel. Any hearth extension used is for appearance only and does not have to conform to standard hearth extension installation requirements.

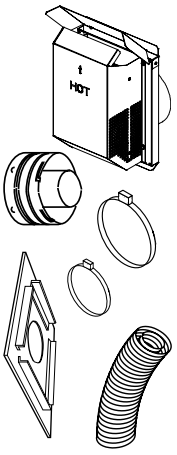
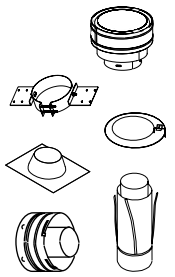
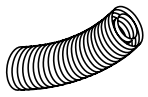
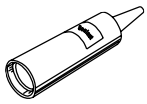
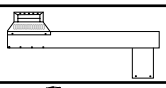
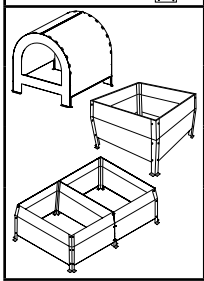
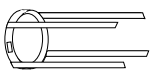
Note: *Combustible wall finish materials and/or surround materials must not be allowed to encroach the area defined by the appliance front face (black sheet metal). Never allow combustible materials to be positioned in front of or overlapping the appliance front face.*

Non-combustible materials, such as surrounds and other appliance trim, may be installed on the appliance front face with these exceptions: they must not cover any portion of the glass or the air gaps above the glass door.

Vertical installation clearances to combustible mantels vary according to the depth of the mantel. Mantels constructed of non-combustible materials may be installed above the appliance opening as outlined in ***Figure 3 on Page 6***.

INSTALLATION ACCESSORIES

Listed Secure Vent™ Components			
	Cat. No.	**Model**	**Description**
	H1968	SV4.5HT-2	Horizontal Square Termination With Firestop / spacer (H2246) & Adapter (74L61)
	H2152	SV4.5CGV-1	Vertical Termination Cap
Vent Sections 	77L70	SV4.5L6	6 Inch (152 mm)
	77L71	SV4.5L12	12 Inch (305 mm)
	77L72	SV4.5L24	24 Inch (610 mm)
	77L73	SV4.5L36	36 Inch (914 mm)
	77L74	SV4.5L48	48 Inch (1219 mm)
	77L75	SV4.5LA	Telescopic Section (1-1/2" to 7-1/2" effective length)
	77L76	SV4.5E45	45 Degree Elbow
	77L77	SV4.5E90	90 Degree Elbow
The following flashings come packaged with a storm collar:			
	77L78	SV4.5F	Flat Roof Flashing
	77L79	SV4.5FA	1/12 to 7/12 Adjustable Flashing
	77L80	SV4.5FB	7/12 to 12/12 Adjustable Flashing
	77L81	SV4.5SC6	Storm Collar (6 per box)
	H2246	SV4.5HF	Firestop/Spacer-Horizontal (3-1-1 spacing), 10 Pack
	H2247	SV4.5VF	Firestop/Spacer-Vertical (1-1-1 spacing), 10 Pack
	H2248	SF4.5HF	Firestop/Spacer - Horizontal (flex) (3-1-1 spacing), 10 Pack
	H2249	SF4.5VF	Firestop/Spacer-Vertical (flex)(1-1-1 spacing), 10 Pk
	96K92	SV4.5SP	Support Plate
	17M52	SV4.5HGS-1	Termination Guard, Square (1 pack)
	17M53	SV4.5HGS-12	Termination Guard, Horizontal Square (12 pack)
	87L02	SV4.5HGS	Termination Guard for Horizontal Square Termination (Deluxe) (1 pack)
	H5820	4.5HTSK	Termination Shroud (Guard) for Horizontal Square Termination (1 pack)
	H5816	SV4.5-TWSK	Through Wall Shield Kit (used to shield the direct-vent pipe from blown insulation) *Ref. instr. # 750,247M*

Listed Secure Vent Components			
	Cat. No.	**Model**	**Description**
These termination kits include firestop/spacer, gear clamps and flex adapter			
	H1969	SF4.5HT-2	Horizontal Square Termination (without flex)
	77L87	SFKIT12S	Flex Square Term. (with 12 inch [305 mm] * compressed flex)
	77L88	SFKIT18S	Flex Square Term. (with 18 inch [457 mm] * compressed flex)
	77L89	SFKIT24S	Flex Square Term. (with 24 inch [610 mm] * compressed flex)
	77L90	SFKIT36S	Flex Square Term. (with 36 inch [914 mm] * compressed flex)
	77L91	SFKIT48S	Flex Square Term. (with 48 inch [1219 mm] * compressed flex)
	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.
	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.
	60L10	SF-18	18 feet (5.49 m) * compressed flex
	98K03	SF-12	12 feet (3.66 m) * compressed flex
	10K81	SFMP	Mill-Pac, Black, High Temperature Sealant
	89L40	SFMP-12	Mill-Pac, Black, High Temperature Sealant - Bulk 12 pack
	91L66	SF-GC4-6	Gear Clamp 4.5 in. (114 mm) for flex (6 pieces)
	91L67	SF-GC7-6	Gear Clamp 7.5 in. (190.5 mm) for flex (6 pieces)
	99L02	SV4.5HRK14	Horizontal Riser Kit, 14"
	99L03	SV4.5HRK36	Horizontal Riser Kit, 36"
	H1988	CTSA-33	Chase Top Shroud Kit, Arch Top 3 X 3 Ft.
	H1985	CTSO-33	Chase Top Shroud Kit, Open Top 3 X 3 Ft.
	H1987	CTSO-44	Chase Top Shroud Kit, Open Top 4 X 4 Ft.
	H1986	CTSO-46	Chase Top Shroud Kit, Open Top 4 X 6 Ft.
	96K93	SV4.5SU	Support Strap
	H3907	SV4.5ARSA	Attic Insulation Shield w/ adjustable height, 12"-22"
* **All compressed flex vents can be expanded up to two times.**			

GAS CONVERSION KITS

⚠ WARNING

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

⚠ AVERTISSEMENT

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

⚠ IMPORTANT/CANADA

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

⚠ ATTENTION/CANADA

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

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.

Millivolt **SIT Systems Natural Gas To Propane Gas Conversion Kits**	
Models	**Cat. No.**
ACKMV-NGLP	H5778

Millivolt **SIT Systems Propane to Natural Gas Conversion Kits**	
Models	**Cat. No.**
ACKMV-LPNG	H5779

Electronic **SIT Systems Natural Gas To Propane Gas Conversion Kits**	
Models	**Cat. No.**
ACKE-NGLP	H5780

Step 1. Turn off the gas supply to the appliance.

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

Step 3. Refer to ***Figure 53.***
Remove the burner assembly with attached venturi tube.

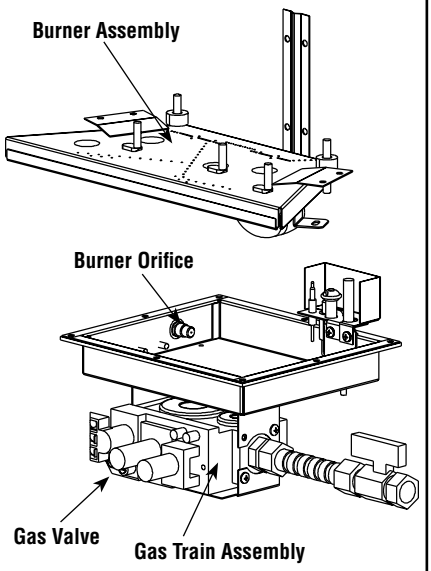


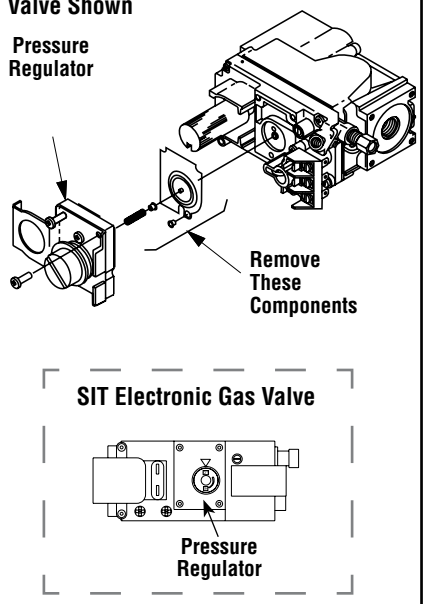
Figure 53

Millivolt Appliances

Step 4. SIT Systems - Refer to ***Figure 54 on Page 32*** and the instructions provided with the kit. Using a Torx T20 (with 1/4" shank and center hole), remove and discard the three pressure regulator mounting screws. Remove the pressure regulator, spring, poppet, diaphragm and bushing. **Discard all removed components.**

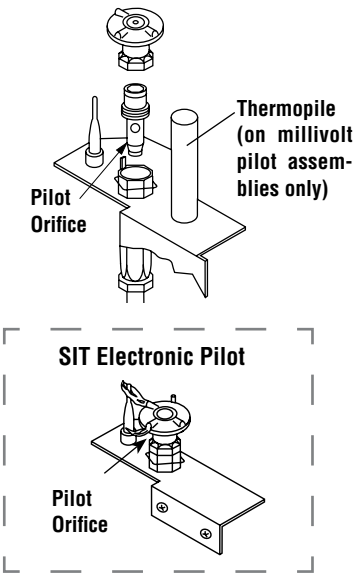
Ensure the rubber gasket installed on the back of the replacement pressure regulator is properly positioned and install the new pressure regulator using the new screws supplied with the kit. Tighten screws to 25 In. lb. torque.

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.



Millivolt & Electronic Gas Valves

Figure 54



Millivolt & Electronic Pilot Assemblies

Figure 55

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

Step 6. Refer to ***Figure 55*** and remove the pilot hood assembly to access the hexed pilot orifice. Remove and replace the orifice with the one provided with the kit.

Step 7. (Refer to *Figure 53 on Page 31)*

A. Remove the orifice from the manifold and replace it with the one provided in the kit. See ***Table 8*** for orifice sizes for natural and propane models. ***Figure 56*** illustrates the orifice. Use pipe joint compound or teflon tape when installing the orifice.

B. Retrieve the burner and slide the venturi tube over the orifice (see ***Figure 53***). Set the burner assembly into its position and secure it.

Burner Orifice Sizes
Elevation 0-4500 feet (0-1372 meters)

Model Series	Nat.Gas drill size (inches)	Propane drill size (inches)
ADAGIO-MN	.067" (#51)	----------
ADAGIO-MP	----------	.042" (#58)
ADAGIO-EN	.067" (#51)	----------
ADAGIO-EP *if field converted*	----------	.042" (#58)

Table 8

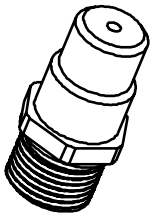


Figure 56 - Burner Orifice

Step 8. Reassemble the remaining components by reversing the procedures outlined in the preceding steps. Use pipe joint compound or Teflon tape on all pipe fittings before installing (ensure propane resistant compounds are used in propane applications, do not use pipe joint compounds on flare fittings).

Step 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.

LENNOX™
HEARTH PRODUCTS

P/N 850,044M REV. D 06/2008
1110 West Taft Avenue • Orange, CA 92865