

**5. REAR VENTING**

Remove the back cover plate, outer cover plate and inner cover plate by removing the screws. Place the 5" inner collar onto the appliance with the screws removed from the cover plates. Attach the 8" outer collar to the appliance top using the screws removed. Make sure that the gaskets for the outer collars seal tightly. Place the 12" top cover plate with an 8" hole over the outer collar and secure with the screws removed. Place the insulated top cover plate without the 8" hole on the top of the appliance and secure. See Figures 14 and 15.

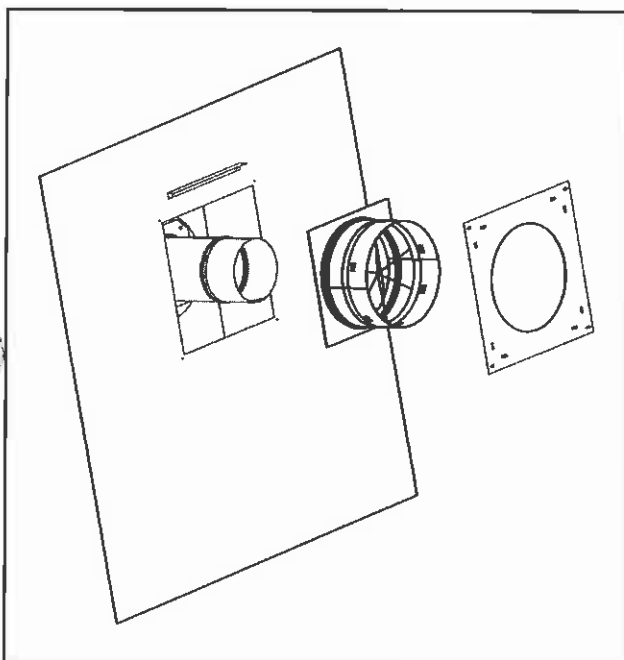


Figure 14

**6. TOP VENTING**

Remove the outer cover plate, then the inner cover plate by removing the screws. Place the 5" inner collar into the appliance with the screws removed from the cover plate. Attach the 8" outer collar to the appliance top using the screws removed. Make sure that the gaskets for the outer collars seal tightly. Place the 12" insulated top cover plate with an 8" hole over the outer collar and secure. See Figure 16.

**WARNING!**

If not sealed, a fire hazard will be created and the appliance will not operate properly.

When rear venting, seal the unused top opening with the insulated solid cover. (Install with the insulation down.)

When top venting, use the plate with an 8" opening and insulation. (Install with the insulation down.)

The opening on the top of the appliance must be sealed with an insulated cover.

Figure 15

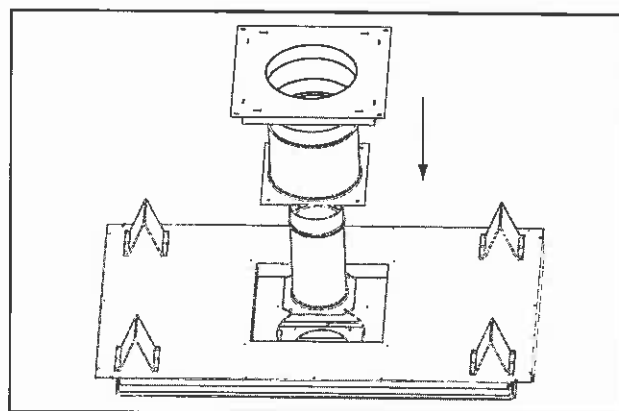


Figure 16  
Placement of Inner and Outer Collars

The first name in fireplaces

## E. VENTING

**WARNING!**

Always maintain minimum clearances or greater around the vent system. Do NOT pack air spaces with insulation or other material.

**WARNING!**

The horizontal run of vent must have a  $\frac{1}{4}$ " rise for every 1' of run towards the termination. Never allow the vent to run downward. This could cause high temperatures and may present a fire hazard.

**CAUTION:**

Provisions must be made to provide adequate combustion and ventilation air.

**Note:** Horizontal runs will require the use of one vent support (or metal plumbers' strap) for every 3' of vent.

**Note:** To ensure proper operation, verify that the venting and termination are unobstructed.

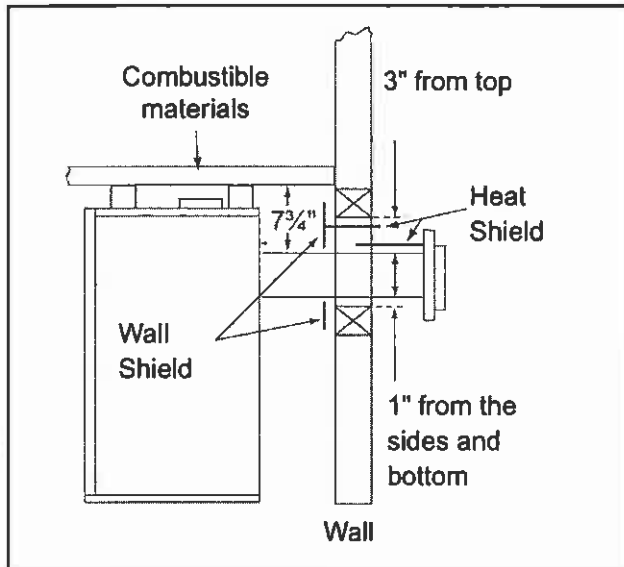
### 1. HORIZONTAL VENTING TERMINATION (See pages 17 and 18 for vertical termination.)

a. Clearances

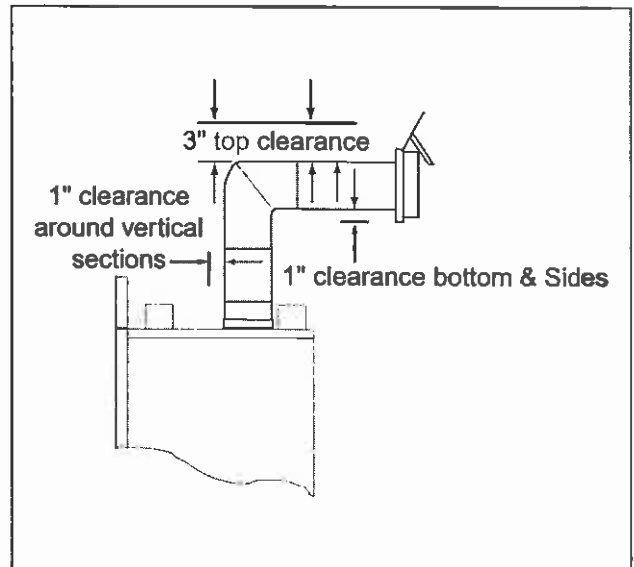
See Figures 17 and 18 for clearance information.

**WARNING!**

If you have chosen horizontal termination, be sure there are no future obstructions from trees, bushes, snow drifts, etc.



**Figure 17**  
Venting Clearances to Combustible Materials  
Rear Venting



**Figure 18**  
Venting Clearances to Combustible Materials  
Top Venting

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b. Vent Lengths for Top Vent (For rear vent, see page 16.)

Various venting configurations are shown in Figures 19-22 from which maximum vent lengths can be determined.

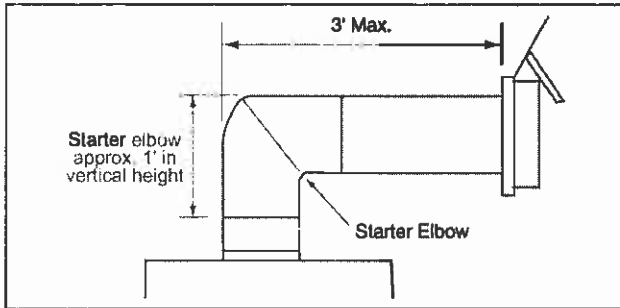


Figure 19 - Vent Lengths with One Elbow (Minimum Vertical)

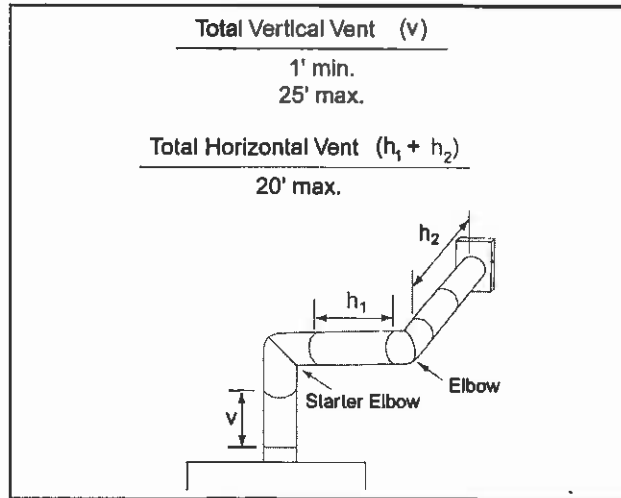


Figure 21 Vent Lengths with Two Elbows

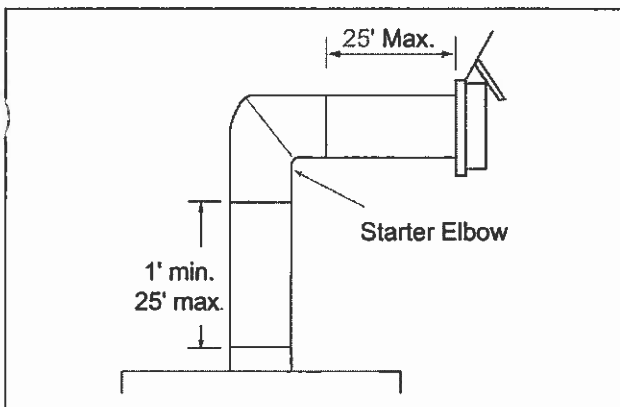


Figure 20 - Vent Lengths with One Elbow (2' vertical or more, 25' maximum)

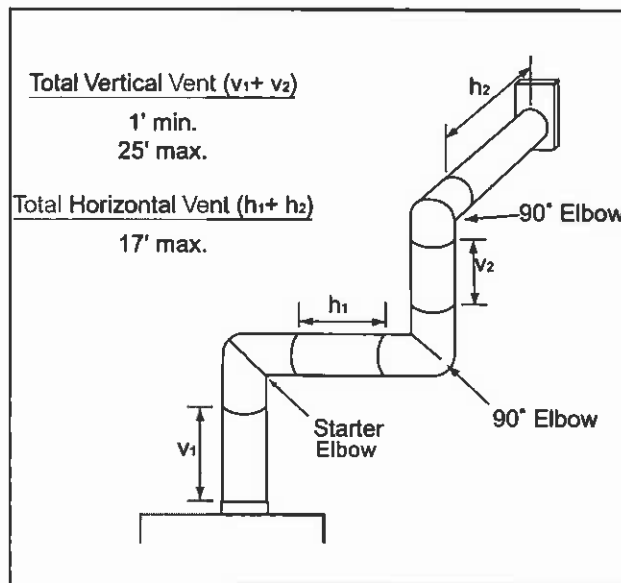


Figure 22 Vent Lengths with Three Elbows

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c. Vent Lengths for Rear Vent

1) No Elbows

The maximum horizontal run, with no vertical sections of vent, is 24" from the back of the appliance to the base of the cap. See Figure 23.

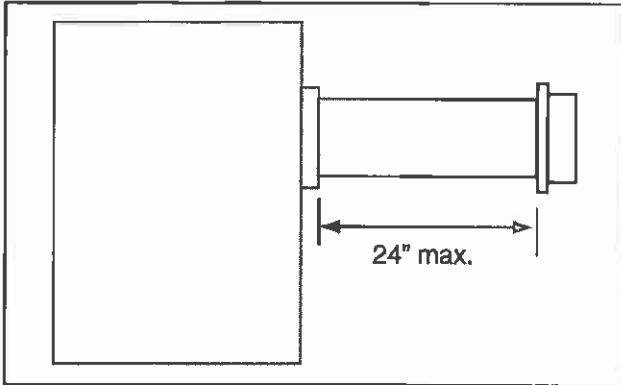


Figure 23  
No Elbows

2) Two Elbows

Elbows used on rear vent configurations should be either a 90° elbow or a 45° elbow. **Starter elbows cannot be used in any rear vent configuration.** Figure 24 shows various venting configurations using two elbows to terminate horizontally.

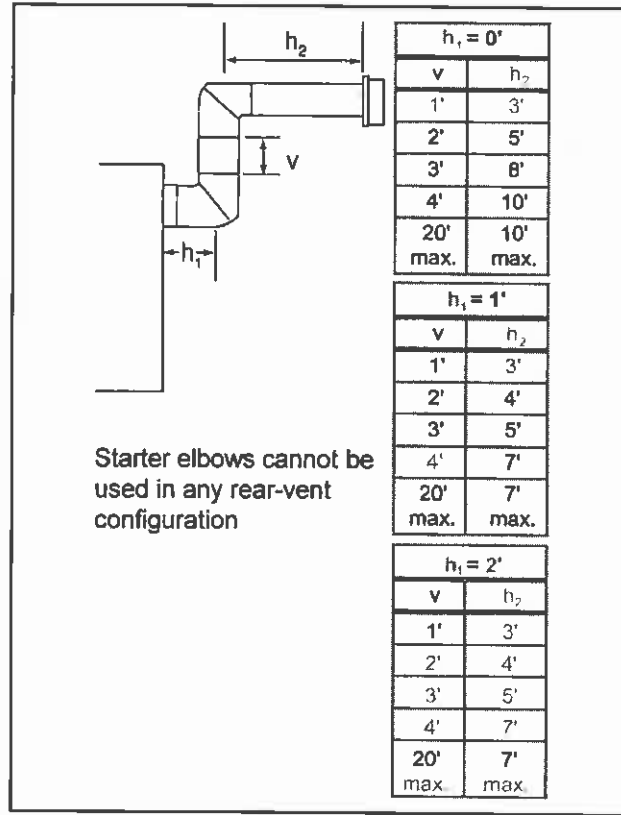


Figure 24 - Two Elbows

3) Three Elbows

Elbows used on rear vent configurations should be either a 90° elbow or a 45° elbow. **Starter elbows cannot be used in any rear vent venting configuration.**

Figure 25 shows various venting configurations using three elbows to terminate horizontally.

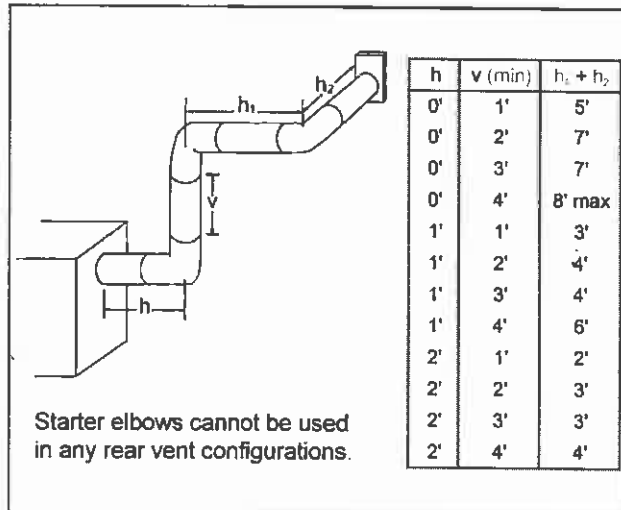


Figure 25 - Three Elbows

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**d. Assembling Vent Sections**

Attach either a straight section or an elbow, depending on your specific installation.

Do not pack air spaces with insulation or other material.

Illustrations on page 4 show how to install a typical vent system. Use only pipe tested and listed for use with this appliance.

If the wall being penetrated is of noncombustible materials, a 9" diameter hole is acceptable.

**Note:** Horizontal runs will require the use of one vent support (or metal plumber's strap) for every 3' of vent.



**Figure 26**  
Vent Wall Shield and Termination Cap

**e. Installing the Rear Vent Heat Shield**

For rear vented appliances, a heat shield **MUST** be placed 1 inch above the top of the vent between the wall shield and the base of the termination cap. There are two sections of the heat shield. One section attaches to the wall shield with two screws. The remaining section is attached to the cap in the same manner. The sections of the heat shield will overlap to match the wall thickness (depth). The small leg on the shield should rest on the top of the vent to properly space it from the pipe section (this heat shield is not necessary on top vented appliances). See Figure 26.

**f. Termination**

Vent termination must not be recessed in the wall. Siding may be brought to the edge of the cap base.

Install the cap as shown in Figure 7, page 8. Cap pipe sections should overlap the vent pipe by 1/2". Caulk outside edges of cap.

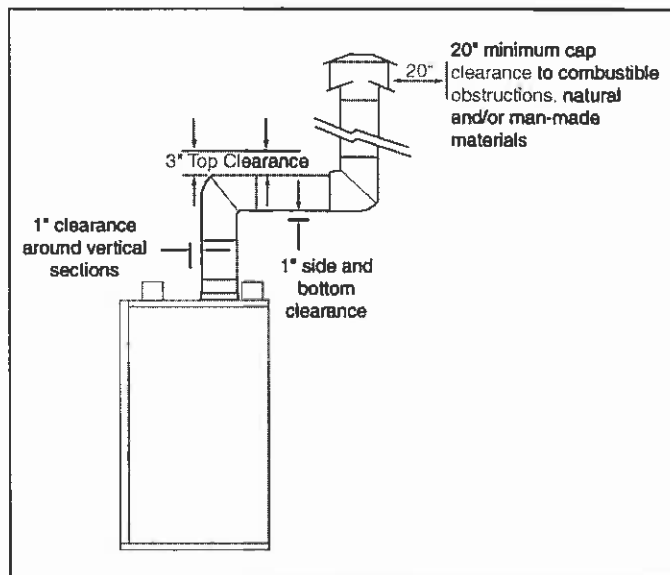
Local codes may require the installation of a shield (CS) which prevents anything or anyone from touching the hot cap.

Figure 11 on page 11 illustrates cap locations as prescribed by current **ANSI Z223.1** and **CAN/CGA-B149 Installation Codes**.

**2. TOP VENT VERTICAL TERMINATION**

**a. Clearances**

See Figure 27 for clearance information.



**Figure 27**  
Vertical Termination Clearances  
(Top Vent Shown)

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### b. Vent Lengths

Various venting configurations are shown in Figures 28 and 29 from which maximum vent runs can be determined.

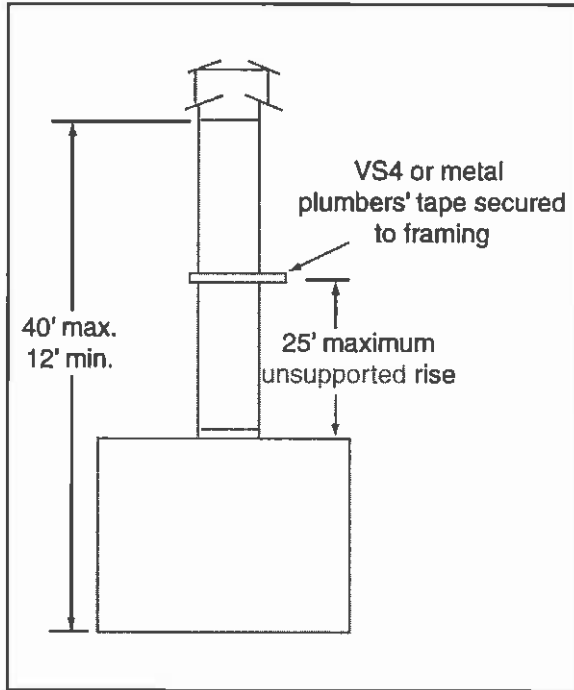


Figure 28 - Vertical Termination Vent Lengths

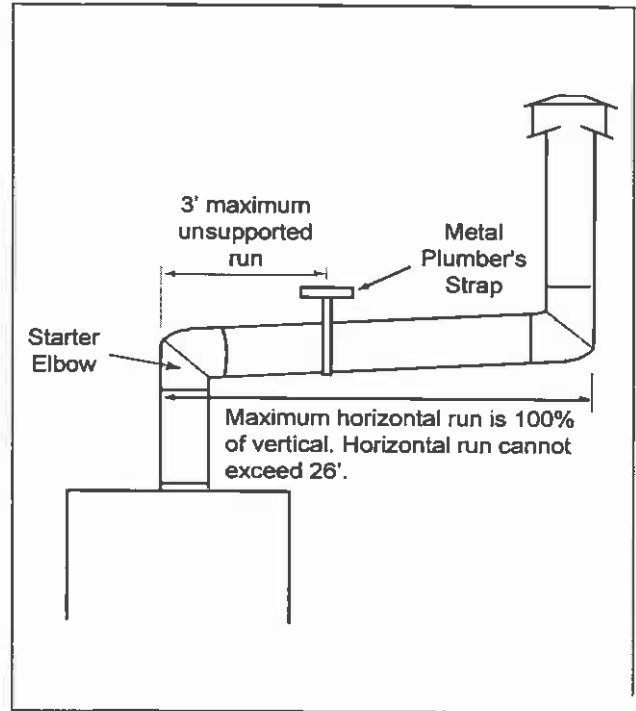


Figure 29 - Vertical Termination Vent Lengths

### 3. REAR VENT VERTICAL TERMINATION

#### a. Clearances

See Figure 30 for clearance information.

#### b. Vent Lengths

A venting configuration is shown in Figure 31 from which maximum vent runs can be determined.

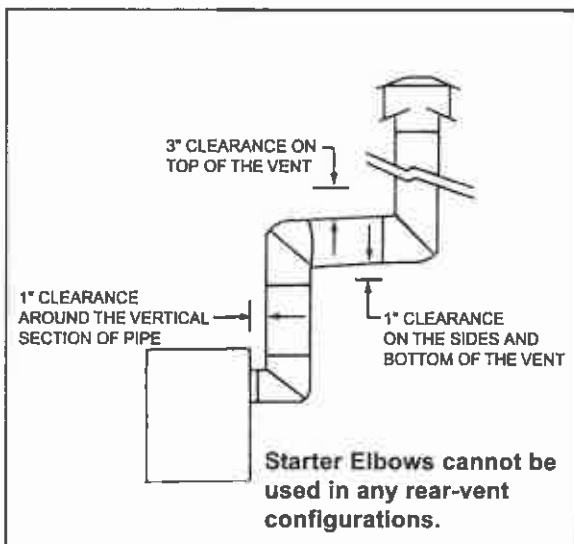


Figure 30 - Vertical Termination Clearances

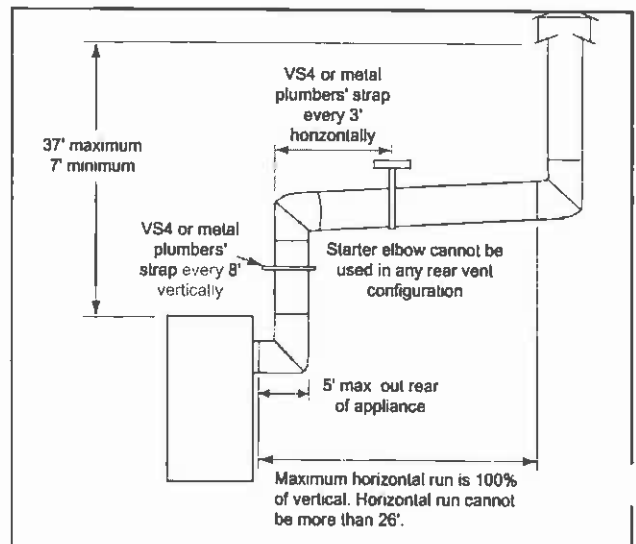


Figure 31 - Vertical Termination Vent Lengths

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## F. ASSEMBLING THE VENT SECTIONS

### 1. ATTACHING THE VENTING TO THE APPLIANCE

To attach the first VP section to the appliance collars, slide the flared end of the inner flue of the VP section over the inner collar on the appliance. At the same time, insert the outer flue into the outer collar on the appliance. Push the vent section into the appliance collar until all the lances have snapped into place. Tug slightly on the vent to confirm it has completely locked in place.

### 2. ASSEMBLING VENT SECTIONS

- a. Start the flared inner flue of Section "A" over the inner flue of Section "B".
- b. Insert the outer flue of Section "A" into the outer flue of Section "B". See Figure 32.

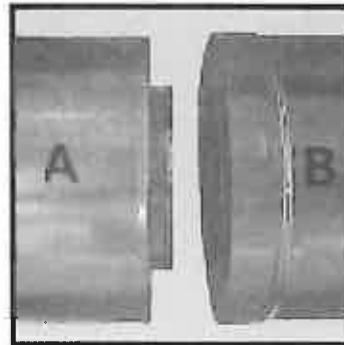


Figure 32

**Note:** Squeezing the pipe slightly to fit may be necessary.

Once both inner and outer flues are started, press Section "A" into Section "B" firmly until all lances have snapped into place. Tug slightly on Section "A" to confirm it has completely locked into place. See Figure 33.



Figure 33

**Note:** Make sure that the seams are not aligned in order to prevent unintentional disconnection.

### 3. ASSEMBLING MINIMUM INSTALLATION (MI) SECTIONS

MI sections are non-unitized so that they can be cut to a certain length. To use these sections, they must be cut to length from the non-expanded end. See Figure 34. They can then be attached by first connecting the expanded end of the MI inner flue with the inner flue from the adjacent vent section and securing with three screws. The expanded portion of the MI inner flue must overlap completely with the untreated end of the adjacent vent section. The outer flue can then be inserted into the adjacent outer flue expanded end and attached to the next vent section with three screws. The other end of the MI vent section can then be attached by fitting a snap lock section to it and snapping it together as normal.

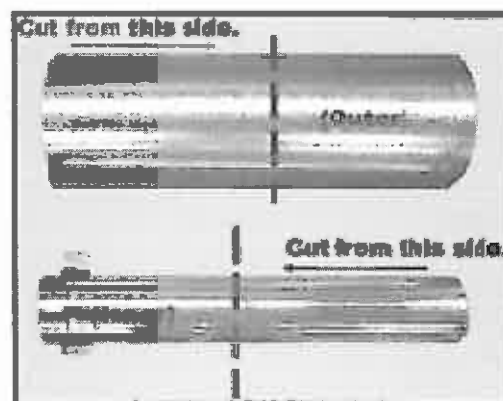


Figure 34

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#### 4. ASSEMBLING THE SLIP SECTIONS

Slip sections should be snapped into the first mating piece, then expanded to their desired length, making sure that a 1½" overlap is maintained between the two sections of the slip section. The two sections of the slip section then need to be secured by driving two screws through the overlapping portions of the vent. See Figure 35. This will secure the slip section to the desired length and prevent it from separating. The slip section can then be attached to the next section of vent.

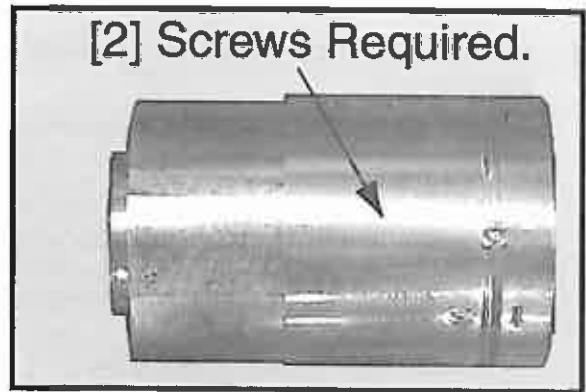


Figure 35

#### 5. DISASSEMBLING VENT SECTIONS (only if necessary)

To disassemble any two pieces of pipe, rotate either section so that the seams on both pipe sections are aligned as shown in Figure 36. They can then be carefully pulled apart.

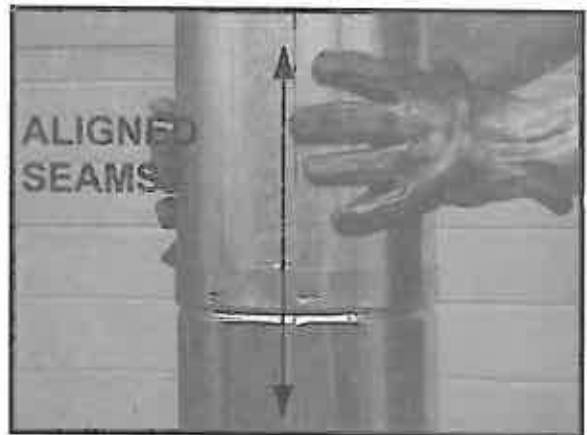


Figure 36



## G. UTILITIES

### 1. HIGH ALTITUDE INSTALLATION

For U.S. installation, appliances are tested and approved for elevations from 0-2000 feet. When installing this appliance at an elevation above 2000 feet, National Fuel Gas Codes require a decrease of the input rating by changing the existing burner orifice to a smaller size. Input should be reduced 4% for each 1000 feet above sea level. Check with the local gas utility for proper orifice size identification. The correct orifice is available from your Heatilator distributor.

For Canada, appliances are certified for elevations from 0-4500 feet. When installing this appliance at an elevation between 0-4500 feet in Canada, the input rating does not need to be reduced. When installing this appliance at an elevation above 4500 feet in Canada, check with local authorities.

### 2. GAS LINE CONNECTION

Open the control access panel as shown in Figures 37 and 38. The appliance is provided with a stainless steel flexible connector and manual shutoff valve. The incoming gas line should be piped into the valve compartment and connected to the 1/2" FIP connection provided on the manual shutoff valve. All connections must be tightened and checked for leaks with a soap and water solution or leak detector. Bleed the gas line to extract any air that may have been trapped inside the pipe. See Figures 39 and 40 to connect the gas line.

All connections must be checked for leaks with a soap and water solution or a leak detector.

Bleed the gas line to extract any air that may have been trapped inside the pipe.

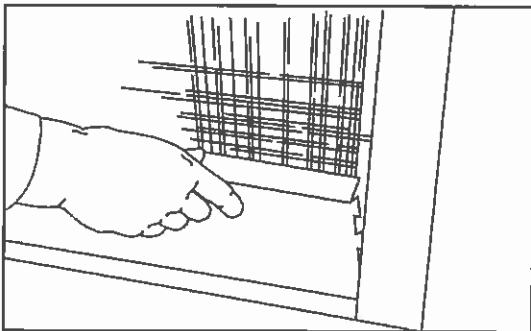


Figure 37 - Opening the Control Access Panel

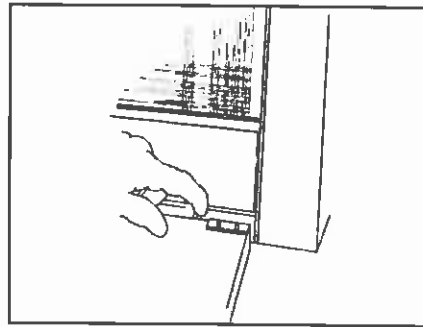


Figure 38 - Spring Latch

**Note:** This appliance and its manual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa). The appliance must be isolated from the gas supply piping system by closing its manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).

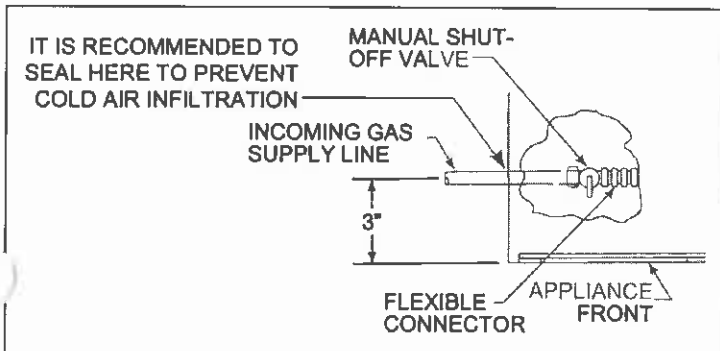


Figure 39 - Gas Line

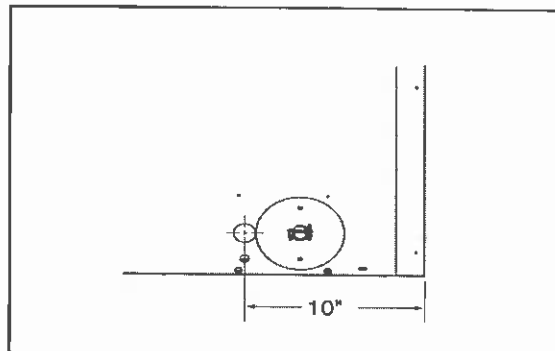


Figure 40 - Chesapeake Gas Line Location

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**WARNING!**  
 This valve has been preset at the factory. Altering settings may result in fire hazard or bodily injury.

### 3. GAS PRESSURE

On both the standing pilot and the electronic ignition gas valves, the Inlet pressure and a pressure tap are available on the face of the valve. Pressure taps are immediately upstream of the gas supply connection and accessible for test gauge connection. Table 2 shows optimum gas pressure information. Consult your local gas company for assistance in determining the proper orifice for your altitude or refer to **ANSI Z223.1-latest edition, Appendix F.**

### 4. FUEL CONVERSIONS

Natural or propane gas conversions necessary to meet the application need to be made by a qualified service technician using Hearth & Home Technologies specified and approved parts.

In the event your appliance must be converted to use propane, you must use a CKVP Conversion Kit. To be converted to use natural gas, you must use a CKVN Conversion Kit.

<b>Caliber Direct Vent Designer</b>	
Inlet Gas Supply Pressure (N.G.)	4.5 (min.) - 7.0 (max.) in. w.c.
Optimal Manifold Pressure (N.G.)	3.5 in. w.c.
Inlet Gas Supply Pressure (L.P.)	11.0 (min.) - 14.0 (max.) in. w.c.
Optimum Manifold Pressure (L.P.)	10.0 in. w.c.
Input Rate (N.G.)	24,000 - 34,000 BTU/hr.
Input Rate (L.P.)	22,000 - 30,000 BTU/hr.
Orifice Size (N.G.)	.115 in. / 2.92 mm
Orifice Size (L.P.)	.067 in / 1.70 mm

**Table 2**  
**Gas Information for Electronic and Standing Pilot Appliances**