

# Installation Manual

## Installation & Appliance Set-Up

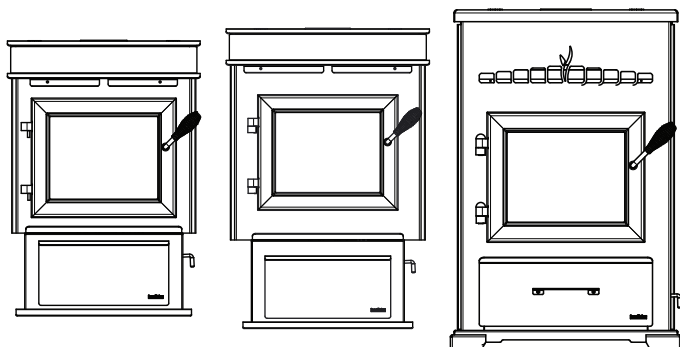
**INSTALLER:** Leave this manual with party responsible for use and operation.

**OWNER:** Retain this manual for future reference.

**NOTICE: DO NOT DISCARD THIS MANUAL**

 **heatilator**  
**ECOCHOICE™**  
PELLET BURNING APPLIANCE

Model(s):  
**ECO-ADV-PS35**  
**ECO-ADV-PS50**  
**ECO-CAB50**



### **WARNING**



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

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not over fire - If appliance or chimney connector glows, you are over firing. Over firing will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

### **WARNING**



#### **HOT SURFACES!**

Glass and other surfaces are hot during operation AND cool down.

**Hot glass will cause burns.**

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures
- **High temperatures may ignite clothing or other flammable materials.**
- Keep clothing, furniture, draperies and other flammable materials away.

### **CAUTION**

Tested and approved for wood pellets, Burning of any other type of fuel voids your warranty.

### **CAUTION**

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends HHT Factory Trained or NFI certified professionals.



### **NOTE**

To obtain a French translation of this manual, please contact your dealer or visit [www.quadrafire.com](http://www.quadrafire.com)

Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez [www.quadrafire.com](http://www.quadrafire.com)

[www.heatilatorecochoice.com](http://www.heatilatorecochoice.com) or Consumer Care 1-800-926-4356:  
Prior to calling, please have the model and serial number of the appliance you are calling about. Information can be found at the rear of the appliance.



**Safety Alert Key:**

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE:** Indicates practices which may cause damage to the appliance or to property.

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NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

Heatilator a registered trademark of Hearth & Home Technologies.

# 1 Important Safety Information

## A. Appliance Certification

<b>Model</b>	ECO-ADV-PS35, ECO-ADV-PS50 and ECO-CAB50
<b>Laboratory</b>	Intertek
<b>Report No.</b>	4001508
<b>Type</b>	Solid Fuel Room Appliance/Pellet Fuel BurningType
<b>Standard</b>	ASTM E1509-04 and ULC S627-00, ULC/ORD-C1482-M1990 Room Appliance Pellet Fuel Burning type and (UM) 84-HUD, Mobile Home Approved.
<b>FCC</b>	Complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTICE:** This installation must conform with local codes. In the absence of local codes you must comply with the **ASTM E1509-04, ULC S627-00, (UM) 84-HUD and ULC/ORD-C-1482.**

This pellet appliance needs periodic inspection and repair for proper operation. It is against federal regulations to operate this pellet appliance in a manner inconsistent with operating instructions in this manual.

## B. BTU & Efficiency Specifications

	PS35	PS50 CAB50	
EPA Certification #:	937-14	938-14	
EPA Certified Emissions:	2.1	1.7	grams/hour
*LHV Tested Efficiency:	N/A	N/A	%
**HHV Tested Efficiency:	N/A	N/A	%
***EPA BTU Output:	9,300 to 24,400	11,900 to 31,400	per hr.
****BTU Input:	12,900 to 34,400	16,300 to 43,000	per hr.
Vent Size:	3 or 4 inches, "L" or "PL"		
Hopper Capacity:	45	83/120	lbs.
Fuel	Wood Pellets		
* Weighted average LHV efficiency using data collected during EPA emissions test.			
**Weighted average HHV efficiency using data collected during EPA emissions test.			
***A range of BTU outputs based on EPA Default Efficiency and the burn rates from the low and high EPA tests.			
****Based on the maximum feed rate per hour multiplied by approximately 8600 BTU's which is the average BTU's from a pound of pellets.			

The Heatilator ECO Choice Pellet Appliance meets the U.S. Environmental Protection Agency's emission limits for pellet appliances sold after May 15, 2015.

## C. Glass Specifications

This appliance is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

## D. Electrical Rating (on high)

**Model PS35:** 115 VAC, 60 Hz, Start 3.8 Amps, Run 1.3 Amps

**Model PS50:** 115 VAC, 60 Hz, Start 5.1 Amps, Run 3.0 Amps

**Model CAB50:** 115 VAC, 60 Hz, Start 5.1 Amps, Run 3.0 Amps

## E. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home with #8 copper ground wire, and use only listed double-wall connector pipe.
- Outside Air Kit, part 811-0872 or OAK-3 must be installed in a mobile home installation.
- Appliance must be secured to mobile home structure.

**Note:** The appliance is also approved for installation into a shop

## WARNING



### Fire Risk

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with appliance).
- Do NOT Over fire - If appliance or chimney connector glows, you are over firing.

Any such action that may cause a fire hazard.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

For assistance or additional information, consult a qualified installer, service agency or your dealer.

# Install Guide

## 2 Getting Started

### A. Design, Installation & Location Considerations

#### 1. Appliance Location

**NOTICE:** Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

It is a good idea to plan your installation on paper, using exact measurements for clearances and floor protection, before actually beginning the installation. Location of the appliance and chimney will affect performance.

Consideration must be given to:

- Safety, convenience, traffic flow
- Placement of the chimney and chimney connector and to minimize the use of chimney offsets.
- Place the appliance where there will be a clear passage for a Listed chimney through the ceiling and roof (vertical) or through exterior wall (horizontal).
- Installing the required outside air kit will affect the location of the vent termination.

When locating vent and venting termination, the ideal location is to vent above roof line when possible. This minimizes the affects of wind loading.

Since pellet exhaust can contain ash, soot or sparks, you must consider the location of:

- Windows
- Air Intakes
- Air Conditioner
- Overhang, soffits, porch roofs, adjacent walls
- Landscaping, vegetation
- Horizontal or vertical vent termination

#### 2. Floor Support

The supporting floor under the appliance must be able to handle the weight of the appliance, fuel load and the weight of the chimney.

Ensure that your floor will support these weights prior to installation. Add sufficient additional support to meet this weight requirement prior to installation.

### WARNING



#### Risk of Fire

Damaged parts could impair safe operation. Do NOT install damaged, incomplete or substitute components.

### CAUTION

If burning shelled field corn, you must use approved venting specifically designed for corn to prevent corrosion or degradation. Follow the instructions from the venting manufacturer.

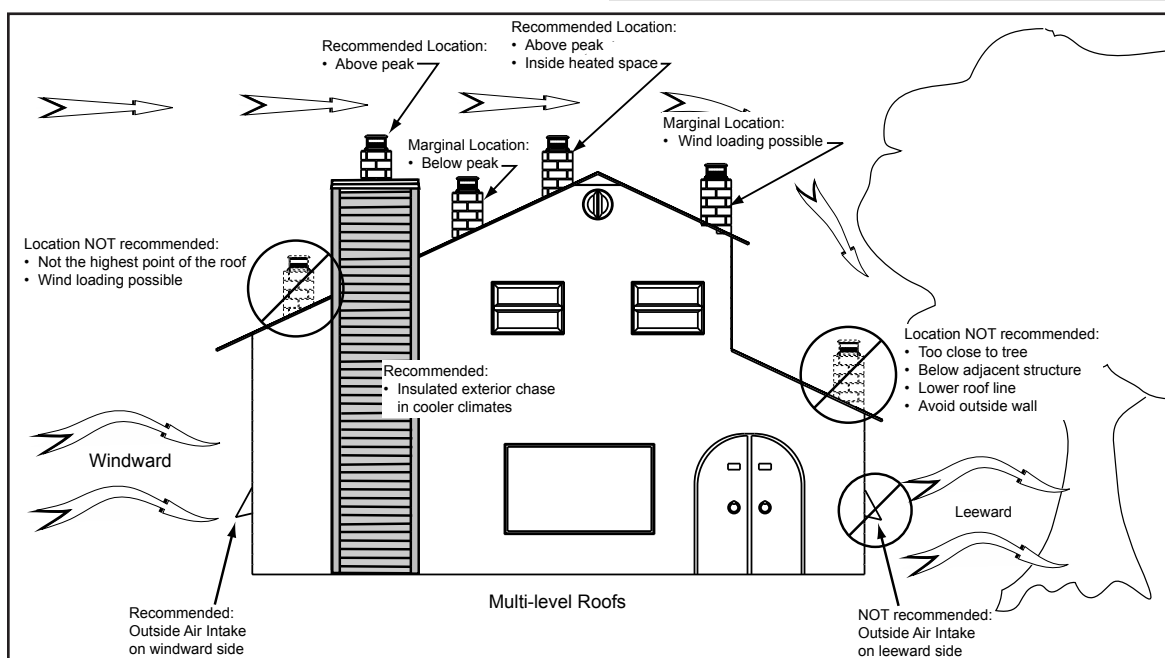


Figure 4.1

**B. Thermostat Wall Control Location**

The thermostat wall control's location will have some affect on the appliance's operation.

- Maximum wire length from appliance is 100 feet (30.48m) continuous not spliced wire. Recommended 20 gauge wire, solid copper .
- When located close to the appliance, it may require a slightly higher temperature setting to keep the rest of the house comfortable.
- When located in an adjacent room or on a different floor level, you will notice higher temperatures near the appliance.

**C. Tools And Supplies Needed**

**Tools and building supplies normally required for installation, unless installing into an existing masonry fireplace:**



Reciprocating Saw	Channel Locks
Hammer	Phillips Screwdriver
Tape Measure	Plumb Line
1/4" Self-Tapping Screws	Framing Material
Hi-temp Caulking Material	Gloves
Safety Glasses	Framing Square
Electric Drill & Bits (1/4")	Level



May also need:

Vent Support Straps	Venting Paint
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**D. Inspect Appliance and Components**

- Open the appliance and remove all the parts and articles packed inside the Component Pack. Inspect all the parts and glass for shipping damage.
- Report to your dealer any parts damaged in shipment.
- All labels have been removed from the glass door.
- Plated surfaces have been wiped clean with a soft cloth, if applicable.
- **Read all the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**
- **Follow pipe manufacturer instructions for installation and air clearance requirements.**

	<b>WARNING</b>
	<p><b>Risk of Fire</b></p> <p>Damaged parts could impair safe operation. Do NOT install damaged, incomplete or substitute components.</p>

	<b>WARNING</b>
	<p>Hearth &amp; Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:</p> <ul style="list-style-type: none"> <li>• Installation and use of any damaged appliance.</li> <li>• Modification of the appliance.</li> <li>• Installation other than as instructed by Hearth &amp; Home Technologies.</li> <li>• Installation and/or use of any component part not approved by Hearth &amp; Home Technologies.</li> <li>• Operating appliance without fully assembling all components.</li> <li>• Operating appliance without legs attached (if supplied with appliance).</li> <li>• Do NOT Over fire</li> </ul> <p><b>Or any such action that may cause a fire hazard.</b></p>

# HEATILATOR ECO-CHOICE

## E. Install Checklist

**ATTENTION INSTALLER:**  
**Follow this Standard Work Checklist**

This standard work checklist is to be used by the installer in conjunction with, not instead of, the instructions contained in this installation manual.

Customer: \_\_\_\_\_  
 Date Installed: \_\_\_\_\_  
 Lot/Address: \_\_\_\_\_  
 Location of Appliance: \_\_\_\_\_  
 Installer: \_\_\_\_\_  
 Dealer/ Distributor Phone #: \_\_\_\_\_  
 Serial #: \_\_\_\_\_  
 Model : \_\_\_\_\_

**WARNING! Risk of Fire or Explosion!** Failure to install appliance according to these instructions can lead to a fire or explosion.

**Appliance Install**

Verified clearances to combustibles.  
 Appliance is leveled and connector is secured to appliance.  
 Hearth extension size/height decided.  
 Outside air kit installed.  
 Floor protection requirements have been met.  
 If appliance is connected to a masonry chimney, it should be cleaned and inspected by a professional. If installed to a factory built metal chimney, the chimney must be installed according to the manufacturer's instructions and clearances.

**YES**      **IF NO, WHY?**

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

**Chimney**

Chimney configuration complies with diagrams.  
 Chimney installed, locked and secured in place with proper clearance.  
 Chimney meets recommended height requirements (14-16 feet).  
 Roof flashing installed and sealed.  
 Terminations installed and sealed.

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

**Clearances**

Combustible materials not installed in non-combustible areas.  
 Verified all clearances meet installation manual requirements.  
 Mantels and wall projections comply with installation manual requirements.  
 Protective hearth strips and hearth extension installed per manual requirements.

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

**Appliance Setup**

All packaging and protective materials removed.  
 Firebrick, baffle and ceramic blanket installed correctly.  
 All labels have been removed from the door.  
 All packaging materials are removed from inside/under the appliance.  
 Manual bag and all of its contents are removed from inside/under the appliance and given to the party responsible for use and operation.

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

**Hearth & Home Technologies recommends the following:**

- Photographing the installation and copying this checklist for your file.
- That this checklist remain visible at all times on the appliance until the installation is complete.

**Comments:** Further description of the issues, who is responsible (Installer/Builder/Other Trades, etc.) and corrective action needed:

Comments communicated to party responsible \_\_\_\_\_ by \_\_\_\_\_ on \_\_\_\_\_  
(Builder/Gen. Contractor) (Installer) (Date)

# 3 Dimensions and Clearances

## A. Appliance Dimensions

MODEL: ECO-ADV-PS35

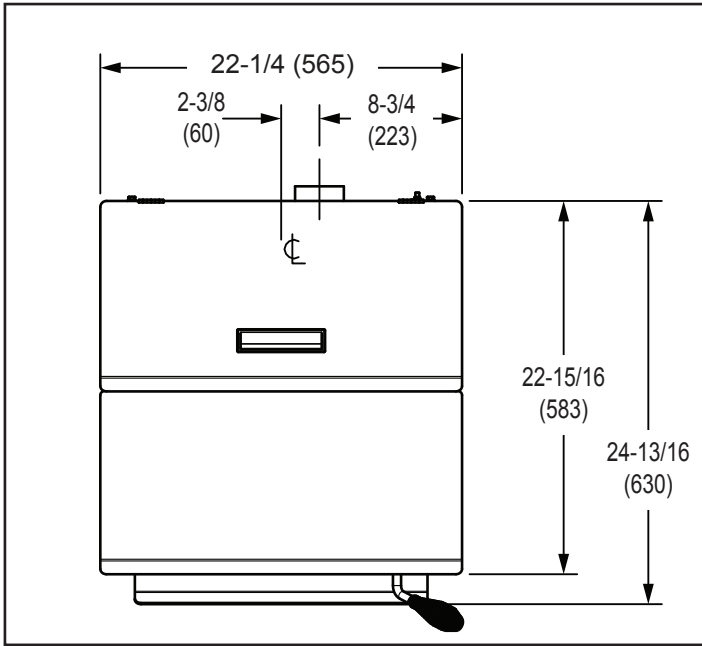


Figure 7.1 - Top View

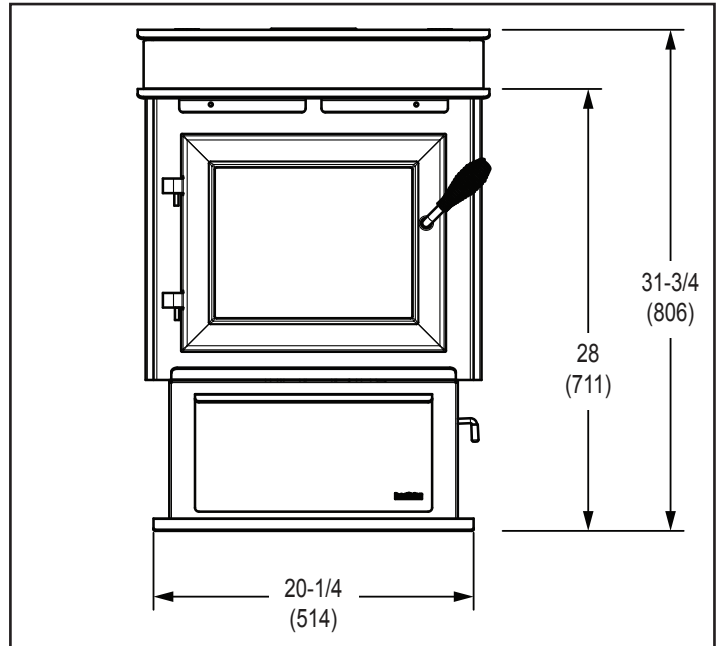


Figure 7.2 - Front View

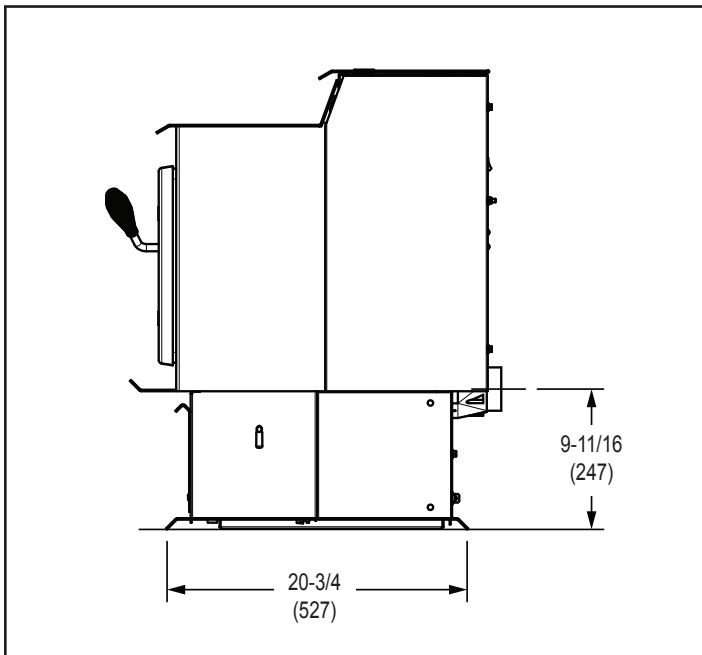


Figure 7.3 - Side View

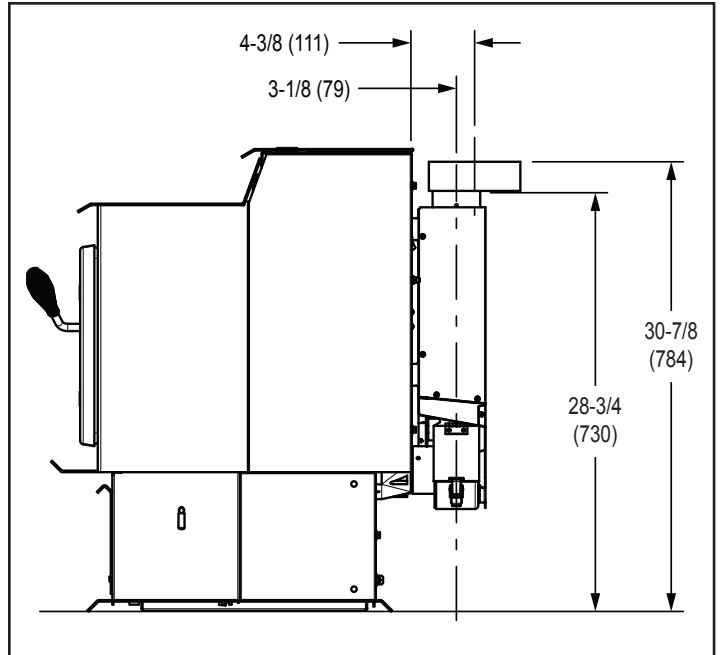


Figure 7.4 - Side View with Top Vent Adapter

MODEL: ECO-ADV-PS50

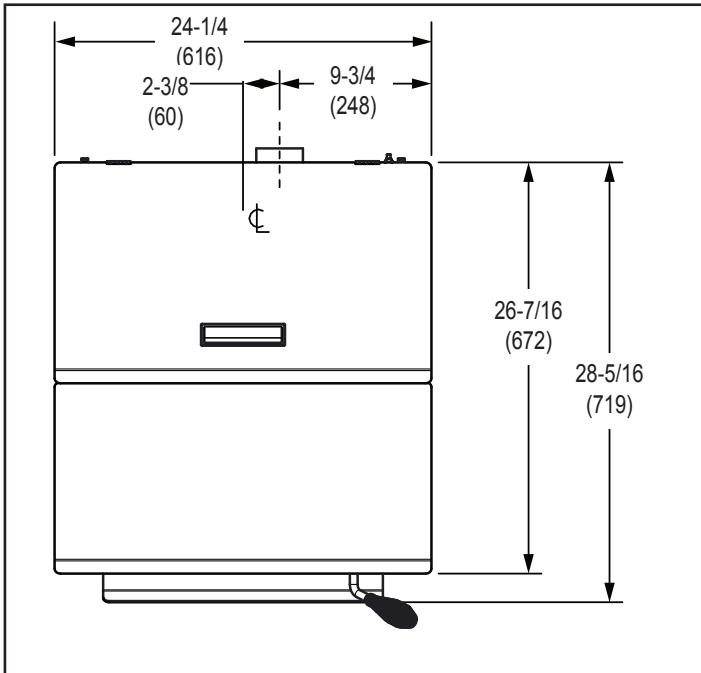


Figure 8.1 - Top View

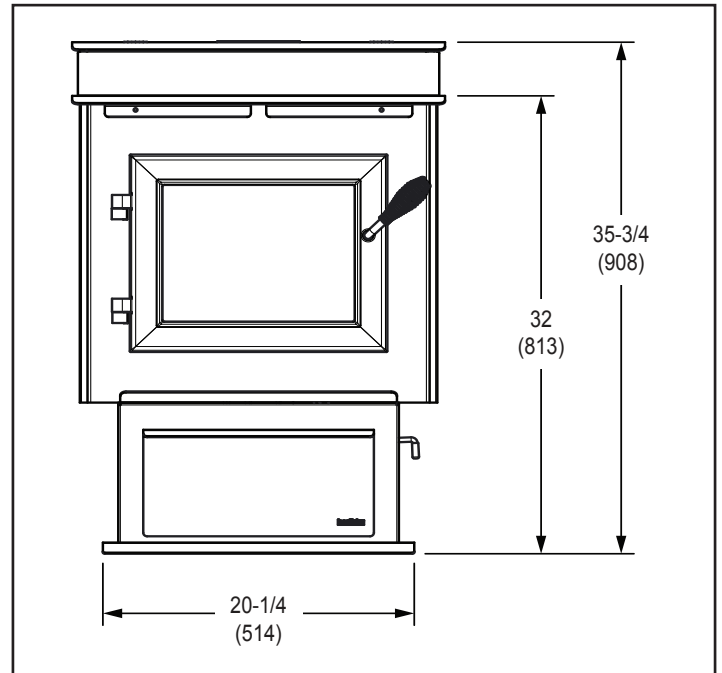


Figure 8.2- Front View

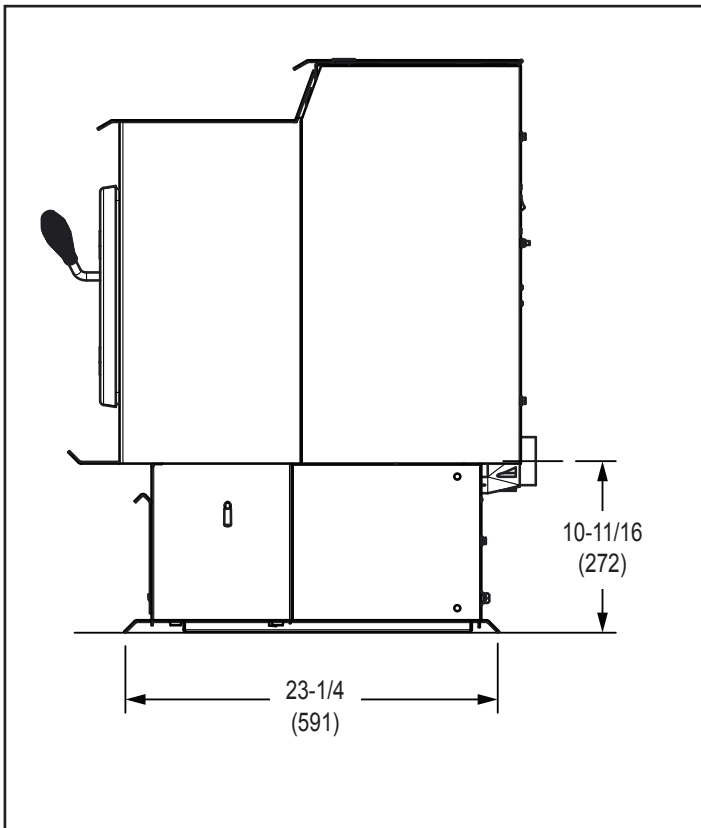


Figure 8.3 -Side View

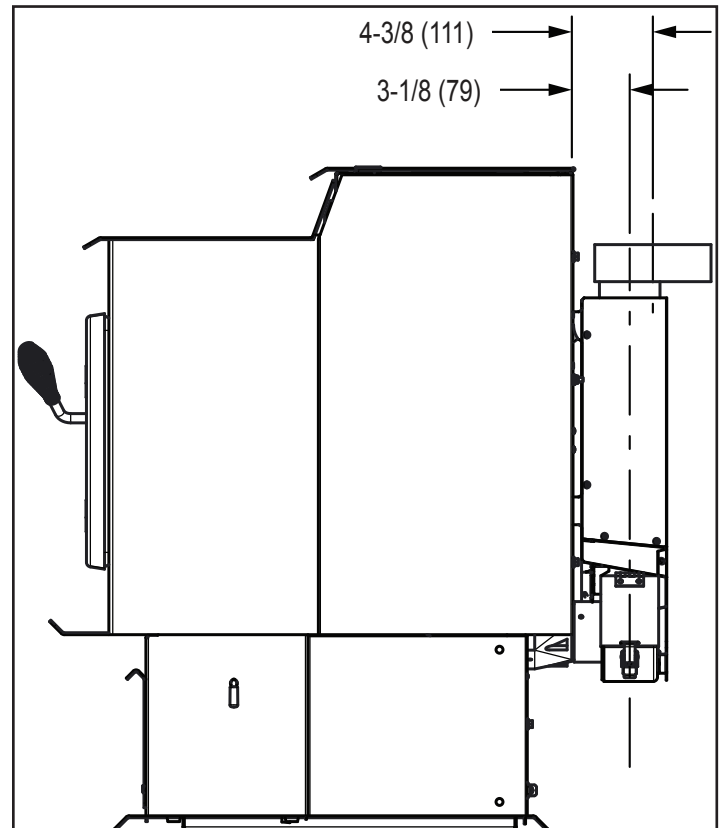


Figure 8.4 - Side View with Top Vent Adapter



MODEL: ECO-CAB50

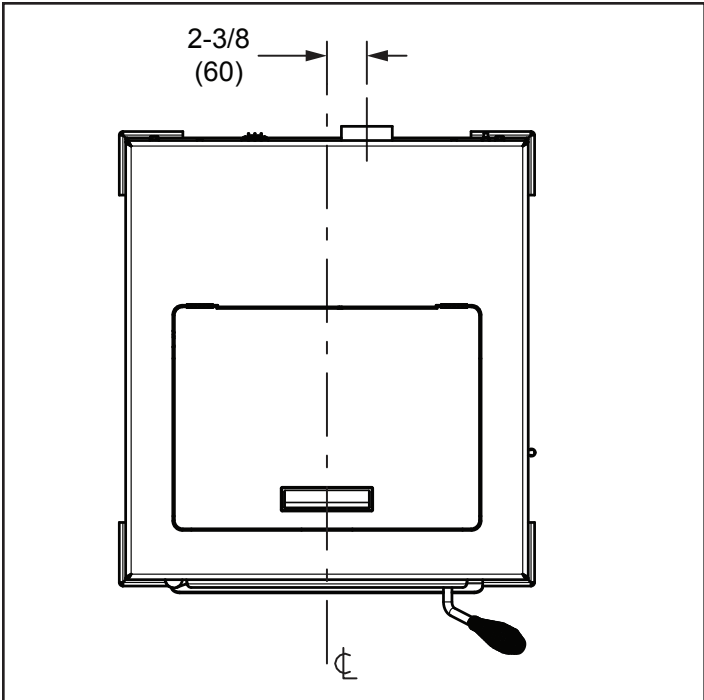


Figure 9.1 - Top View

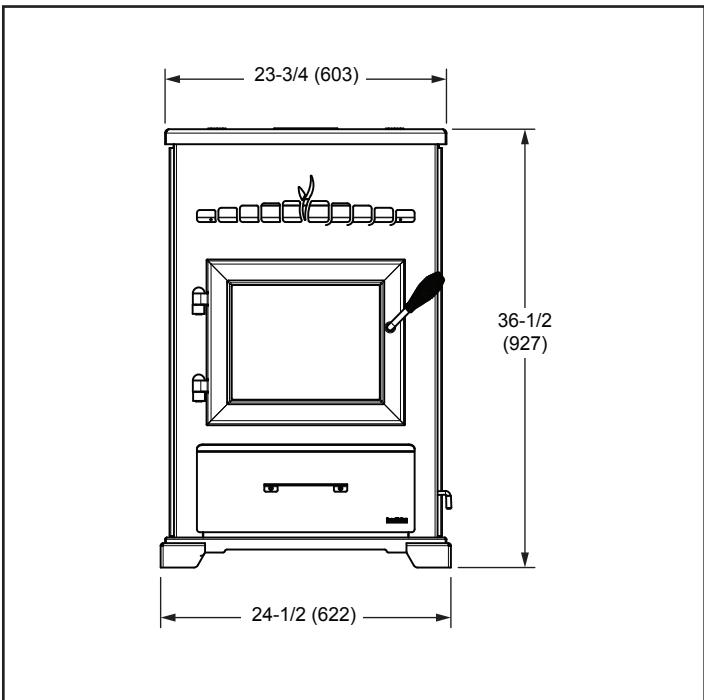


Figure 9.2- Front View

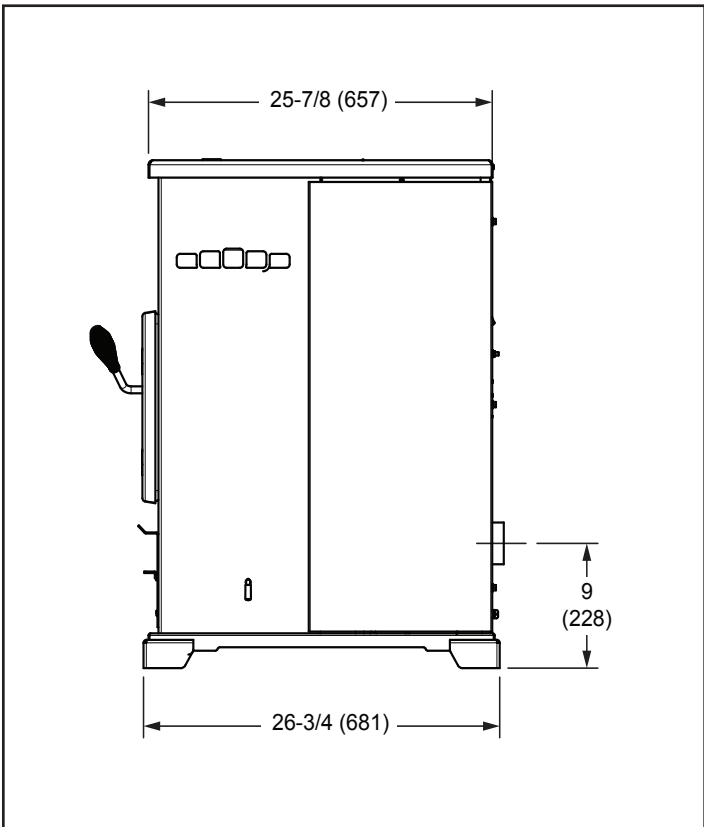


Figure 9.3 -Side View

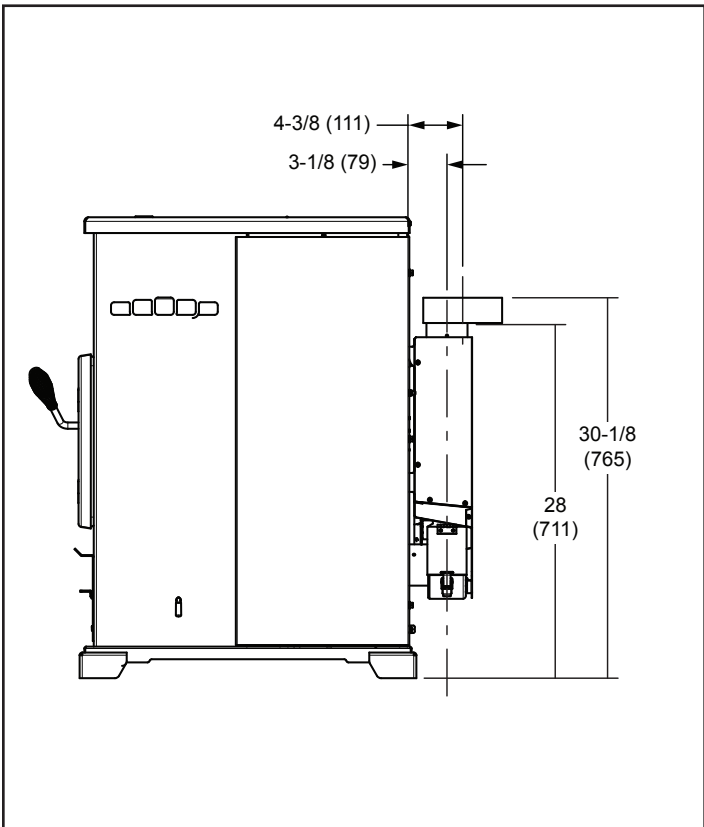
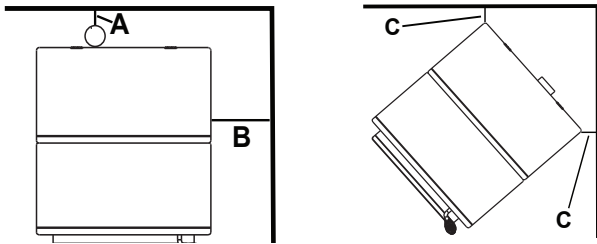


Figure 9.4 - Side View with Top Vent Adapter

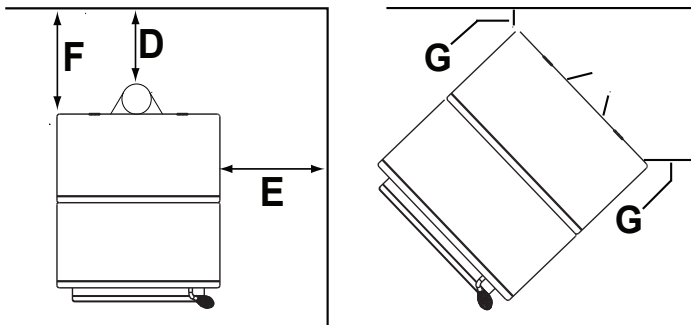
**B. Clearances to Combustibles (UL and ULC)**



Straight Back Against Wall		Inches	Millimeters
A	Back Wall to Appliance	2	51
B	Side Wall to Appliance	14	356

Corner Installation		Inches	Millimeters
C	Walls to Appliance	2	51

**Installations with  
3 to 3 inch Top Vent Adapter**



Vertical Installation		Inches	Millimeters
D	Back Wall to Adapter	1	25
E	Side Wall to Appliance	14	356
F	Back Wall to Appliance	6-1/4	159

Corner Installation		Inches	Millimeters
G	Walls to Appliance	2	51

**Installations with  
3 to 6 inch Offset Adapter**

Vertical Installation		Inches	Millimeters
D	Back Wall to Adapter	3	76
E	Side Wall to Appliance	14	356
F	Back Wall to Appliance	10-3/4	274

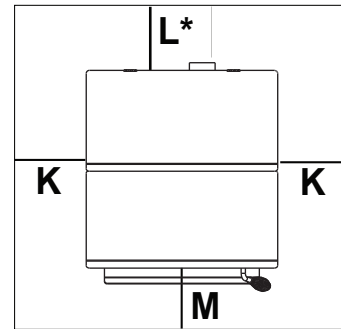
Corner Installation		Inches	Millimeters
G	Walls to Appliance	2	51

**NOTE:**

- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

**C. Hearth Pad Requirements (UL and ULC)**

Use a Type I non-combustible floor protector, extending beneath appliance and to the front, sides and rear as indicated. Measure front distance "M" from the surface of the glass door.

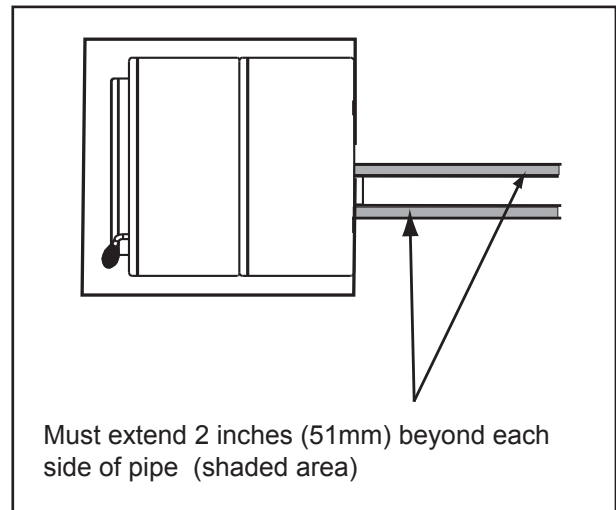


Hearth Pad Requirements		Inches	Millimeters
K	Sides	2	51
L*	Back	2	51
M	Front	6	152

**\*L Exception for Horizontal Installations:**

**USA INSTALLATIONS:** A non-combustible floor protection is recommended extending beneath the flue pipe when installed with horizontal venting or under the Top Vent Adapter with vertical installation.

**CANADA INSTALLATIONS:** A non-combustible floor protection extending beneath the flue pipe is **required** with horizontal venting or under the Top Vent Adapter with vertical installation.



Must extend 2 inches (51mm) beyond each side of pipe (shaded area)

**WARNING**



**Fire Risk**

Comply with all minimum clearances to combustibles as specified.

Failure to comply may cause house fire.

**D. Alcove**

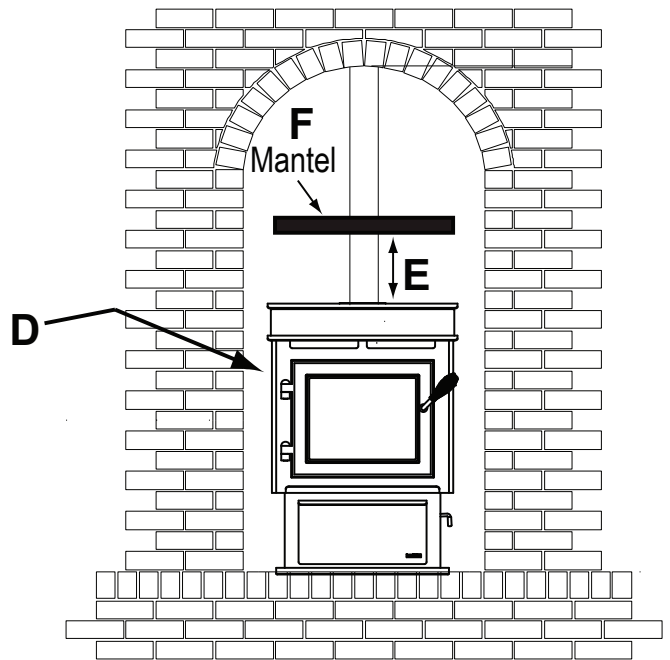
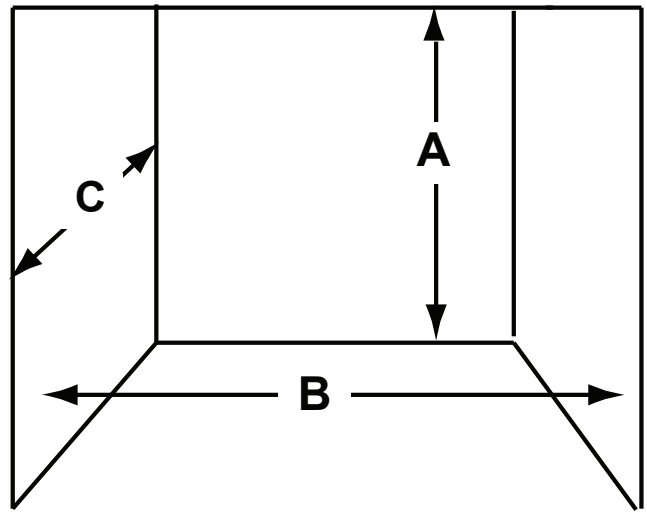
**Installations Into Alcove**

All minimums listed are to a combustible surface.

Model: PS35		Minimum		Maximum	
		Inches	Millimeters	Inches	Millimeters
<b>A</b>	Height	51-3/4	1314	n/a	n/a
<b>B</b>	Width	50-1/4	1276	n/a	n/a
<b>C</b>	Depth	n/a	n/a	48	1219
<b>D</b>	Side Wall	14	356	n/a	n/a
<b>E</b>	Top	16	533	n/a	n/a
<b>F</b>	Mantel Depth	n/a	n/a	36	914

Model: PS50		Minimum		Maximum	
		Inches	Millimeters	Inches	Millimeters
<b>A</b>	Height	56-3/4	1441	n/a	n/a
<b>B</b>	Width	53	1346	n/a	n/a
<b>C</b>	Depth	n/a	n/a	48	1219
<b>D</b>	Side Wall	14	356	n/a	n/a
<b>E</b>	Top	16	533	n/a	n/a
<b>F</b>	Mantel Depth	n/a	n/a	36	914

Model: CAB50		Minimum		Maximum	
		Inches	Millimeters	Inches	Millimeters
<b>A</b>	Height	56-3/4	1441	n/a	n/a
<b>B</b>	Width	53	1346	n/a	n/a
<b>C</b>	Depth	n/a	n/a	48	1219
<b>D</b>	Side Wall	14	356	n/a	n/a
<b>E</b>	Top	16	533	n/a	n/a
<b>F</b>	Mantel Depth	n/a	n/a	36	914



# 4 Vent Information

## A. Venting Termination Minimum Requirements

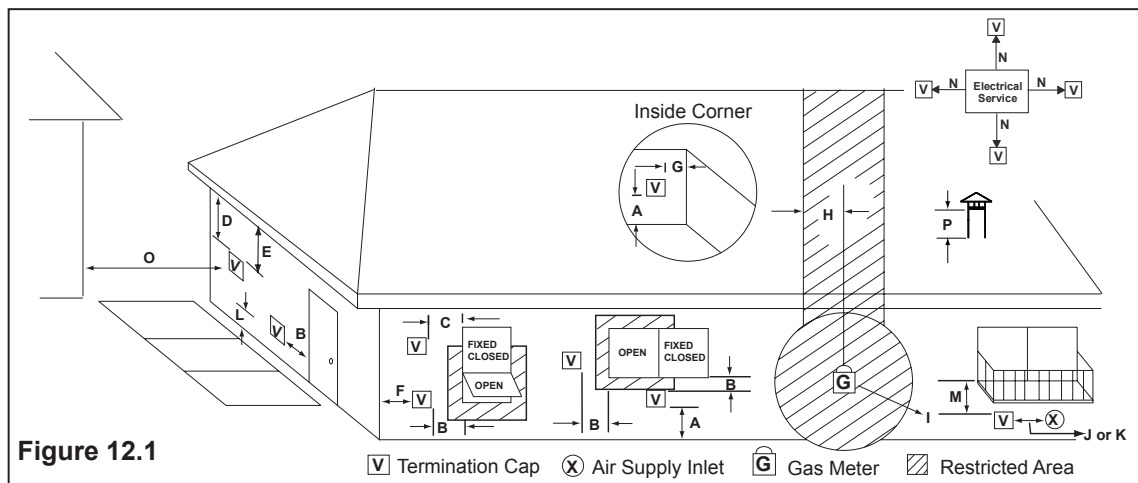


Figure 12.1

All minimum clearances are listed with an Outside Air Kit (OAK) installed, unless otherwise noted in table below.

A	12 in.	Above Finish Grade (the grade surface must be a non-combustible material)
B	12 in. 48 in. no OAK	Open door or window: below or to the side
B	12 in.	Open door or window: above
C	6 in.	Permanently closed window: above, below or to the side
D	18 in. 36 in. no OAK	Vertical clearance to a ventilated soffit located above the terminal within a horizontal distance of 2 ft from the center-line of the terminal
E	12 in.	Clearance to unventilated soffit
F	12 in.	Clearance to outside corner
G	12 in.	Clearance to inside corner
H	36 in.	Above gas meter/regulator measured from horizontal center-line of regulator
I	36 in. USA 72 in. Canada	Clearance to service regulator vent outlet
J	12 in. 48 in. no OAK	Clearance to non-mechanical air supply inlet to the building or the combustions air inlet to any other appliance
K	10 ft horizontal 3 ft vertical	Clearance to mechanical air supply
L	7 ft.	Above paved sidewalk, paved driveway located on <b>public</b> property
M	12 in.	Under an open veranda, porch, deck or balcony
N	See Note below*	Electric service: above, below or to the side (location must not obstruct or interfere with access)
O	24 in.	Adjacent building, fences and protruding parts of the structure
P	12 in.	Clearance above roof line for vertical terminations

24 in.	Above grass, top of plants, wood or any other combustible
12 in. 36 in. no OAK	Clearance from any forced air intake of other appliance
12 in.	Clearance horizontally from combustible wall
15 in.	Vented directly through a wall, minimum length of horizontal pipe
6 in. horizontal 12 in. vertical	Minimum horizontal or vertical terminations must protrude from wall

**NOTICE:**

**Do NOT Terminate Vent:**

- In any location that will allow flue gases or soot from entering or staining the building
- In any location which could create a nuisance or hazard
- In any enclosed or semi-enclosed area such as a carport, garage, attic, crawl space, under a sun deck or porch, narrow walkway
- Closely fenced area, or any location that can build up a concentration of fumes such as a stairwell, covered breezeway, etc.

**NOTICE:**

**Termination must exhaust above air inlet elevation.**

- It is recommended that at least 60 inches (1.52m) of vertical pipe be installed when appliance is vented directly through a wall. This will create a natural draft, which will help prevent the possibility of smoke or odor venting into the home during a power outage.
- It will also keep exhaust from causing a nuisance or hazard by exposing people or shrubs to high temperatures.
- The safest and preferred venting method is to extend the vent vertically through the roof or above the roof.

\*NOTE: Consult local building, fire officials or authorities having jurisdiction. Local codes or regulations may require different clearances.

## B. Avoiding Smoke and Odors

### Negative Pressure, Shut-Down and Electrical Power Failure

To reduce the probability of back-drafting or burn-back in the pellet appliance during power failure or shut down conditions, it must be able to draft naturally without exhaust blower operation.

Negative pressure in the house will resist this natural draft if not accounted for in the pellet appliance installation.

Heat rises in the house and leaks out at upper levels. This air must be replaced with cold air from outdoors which flows into lower levels of the house.

Vents and chimneys into basements and lower levels of the house can become the conduit for air supply and reverse under these conditions.

### Outside Air

An outside air kit is recommended in all installations. The Outside Air Kit must be ordered separately.

Per national building codes, consideration must be given to combustion air supply to all combustion appliances. Failure to supply adequate combustion air for all appliance demands may lead to back drafting of those and other appliances.

When the appliance is roof vented (strongly recommended):

The air intake is best located on the exterior wall oriented towards the prevailing wind direction during the heating season.

When the appliance is side-wall vented:

The air intake is best located on the same exterior wall as the exhaust vent outlet and located lower on the wall than the exhaust vent outlet.

The outside air supply kit can supply most of the demands of the pellet appliance, but consideration must be given to the total house demand.

House demand may consume the air needed for the appliance. It may be necessary to add additional ventilation to the space in which the pellet appliance is located.

Consult with your local HVAC professional to determine the ventilation demands for your house.

### Vent Configurations

To reduce probability of reverse drafting during shut-down conditions Hearth & Home Technologies strongly recommends:

- Installing the pellet vent with a minimum vertical run of 5 feet (1.52m). Preferably terminating above the roof line.
- Installing the outside air kit at least 4 feet (1.22m) below the vent termination.

To prevent soot damage to exterior walls of the house and to prevent re-entry of soot or ash into the house:

- Maintain specified clearances to windows, doors and air inlets, including air conditioners.
- Vents should not be placed below ventilated soffits. Run the vent above the roof.
- Avoid venting into alcove locations.
- Vents should not terminate under overhangs, decks or onto covered porches.
- Maintain minimum clearance of 12 inches (305mm) from the vent termination to the exterior wall. If you see deposits developing on the wall, you may need to extend this distance to accommodate your installation conditions.



### CAUTION

- DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE.
- DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

## C. Negative Pressure

Negative pressure results from the imbalance of air available for the appliance to operate properly. It can be strongest in lower levels of the house.

Causes include:

- Exhaust fans (kitchen, bath, etc.)
- Range hoods
- Combustion air requirements for furnaces, water appliances and other combustion appliances
- Clothes dryers
- Location of return-air vents to furnace or air conditioning
- Imbalances of the HVAC air handling system
- Upper level air leaks such as:
  - Recessed lighting
  - Attic hatch
  - Duct leaks

To minimize the effects of negative air pressure:

- Install the outside air kit with the intake facing prevailing winds during the heating season
- Ensure adequate outdoor air for all combustion appliances and exhaust equipment
- Ensure furnace and air conditioning return vents are not located in the immediate vicinity of the appliance
- Avoid installing the appliance near doors, walkways or small isolated spaces
- Recessed lighting should be a “sealed can” design
- Attic hatches weather stripped or sealed
- Attic mounted duct work and air handler joints and seams taped or sealed

### **WARNING**

#### **Risk of Asphyxiation!**

Negative pressure can cause spillage of combustion fumes and soot.

## D. Draft

Draft is the pressure difference needed to vent an appliance successfully. When an appliance is drafting successfully, all combustion byproducts are exiting the home through the chimney.

Install through the warm airspace enclosed by the building envelope. This helps to produce more draft, especially during lighting and die-down of the fire.

Considerations for successful draft include:

- Preventing negative pressure
- Location of appliance and chimney

## Minimum Vacuum Requirements per Appliance

MODEL	Minimum Vacuum Requirements
ECO-ADV-PS35	.065 inches W.C.
ECO-ADV-PS50	.075 inches W.C.
ECO-CAB50	.075 inches W.C.

## E. Chimney and Exhaust Connection

1. **Chimney & Connector:** Use 3 or 4 inch (76-102mm) diameter type “L” or “PL” venting system. It can be vented vertically or horizontally.
2. **Mobile Home:** Approved for all Listed pellet vent. If using the 3 inch (76mm) vertical Top Vent Adapter Kit or the 3 to 6 inch (76-152mm) Top Vent Offset Adapter, use Listed double wall flue connector. A Quadra-Fire Outside Air Kit must be used with manufactured home installations.
3. **Residential:** The 3 inch (76mm) vertical Top Vent Adapter Kit and the 3 to 6 inch (76-152mm) Top Vent Offset Adapter are tested to use 24 gauge single wall flue connector or Listed double wall flue connector to Class A Listed metal chimneys, or masonry chimneys meeting International Residential Code standards for solid fuel appliances.
4. **INSTALL VENT AT CLEARANCES SPECIFIED BY THE VENT MANUFACTURER.**
5. Secure exhaust venting system to the appliance with at least 3 screws. Also secure all connector pipe joints with at least 3 screws through each joint.
6. **DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS Appliance.**
7. **DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

**NOTE: All pipe must be welded seam pipe whenever possible. Seal pipe joints with high temperature silicone (500°F [260°C] minimum rated only).**

### **NOTICE**


HEARTH & Home Technologies assumes no responsibility for the improper performance of the chimney system caused by:

- Inadequate draft due to environmental conditions
- Down drafts
- Tight sealing construction of the structure
- Mechanical exhausting devices

### F. Equivalent Feet of Pipe

The table below can help you calculate the equivalent feet of pipe which is a method used to determine pellet vent size. **Figure 15.1.**

**⚠ WARNING**



Vent surfaces get HOT, can cause burns if touched. Non-combustible shielding or guards may be required.

#### Example of 3 Elbow-Rear Vent Termination Calculation

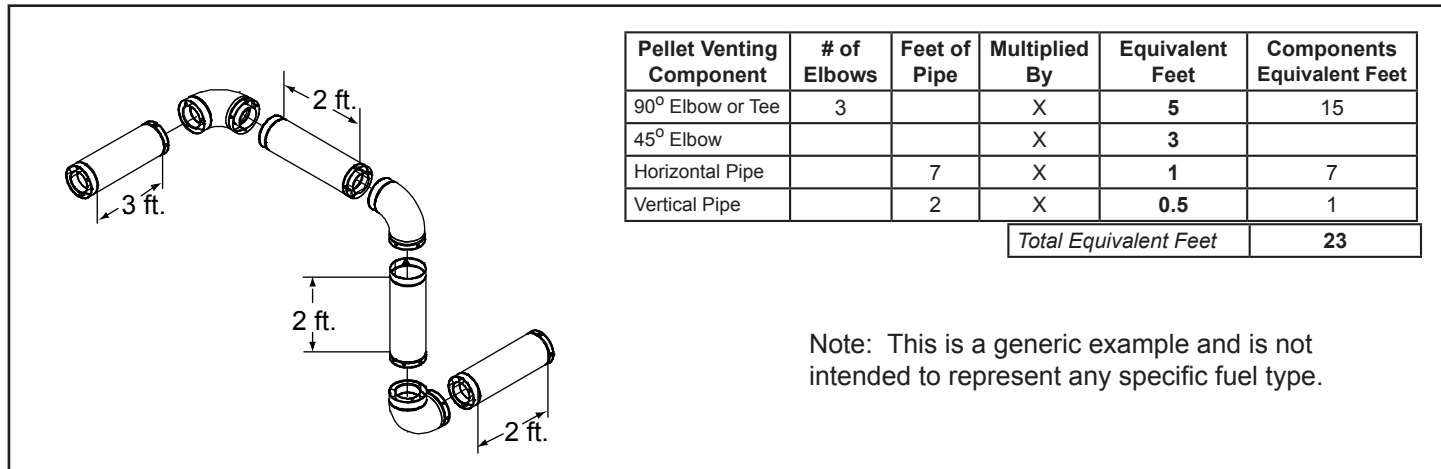


Figure 15.1

### G. Pipe Selection Chart

The chart will help you in determining proper venting size according to the equivalent feet of pipe calculated previously and the altitude above sea level of this installation. **Figure 15.2.**

Figure 15.2.

- Locate the calculated equivalent feet of pipe on the vertical left side of the chart.
- Move to the right horizontally on the chart until you reach your altitude above sea level.
- If you fall below the diagonal line, 3 or 4 inch (76 to 102mm) pipe may be used.
- If it is anywhere above the diagonal line, a 4 inch (102mm) diameter pipe is required.

**NOTICE:**

- A 90° elbow is 5 times as restrictive to the flow of exhaust gases under positive pressure as 1 foot (305mm) of horizontal pipe.
- A foot of horizontal pipe is twice as restrictive as a foot of vertical pipe.

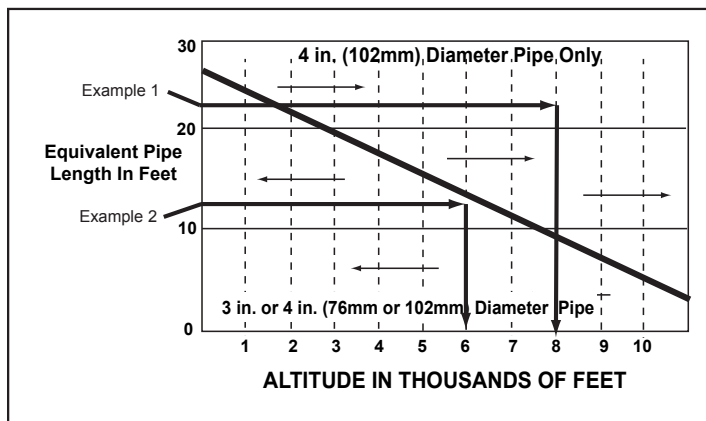



Figure 15.2

**Example 1:** If the equivalent length of pipe is 23 feet (7m) with altitude of 8,000 feet (2438m) you must use 4 inch (102mm) diameter type “L” or “PL” vent.

**Example 2:** If the equivalent length of pipe is 12 feet (3.7m) with altitude of 6,000 feet (1829m) you may use 3 or 4 inch (76 to 102mm) diameter type “L” or “PL” vent.

**⚠ WARNING**



**Fire Risk**

- Only LISTED venting components may be used.
- NO OTHER vent components may be used. Substitute or damaged vent components may impair safe operation.

**⚠ WARNING**

**RISK OF INJURY OR PROPERTY DAMAGE!**


- Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.
- Refer to the owner’s information manual provided with this appliance.
- For assistance or additional information consult a qualified installer, service agency or your dealer.




**H. Pellet Venting Charts**

The maximum horizontal venting allowed with no vertical venting attached is 48 inches (1219mm) including one 90° elbow or two 45° elbows. This is our recommended horizontal venting installation. Addition of any horizontal venting beyond 48 inches (1219mm) requires a minimum 60 inches (1524mm) of additional vertical vent. Horizontal sections of vent pipe should have a 1/4 inch (6.35mm) rise per foot.

Hearth & Home Technologies recommends any installation requiring more than two 90° elbows, or more than 15 feet (4.5m) of venting to use 4 inch (102mm) vent.


WARNING



**Fire Risk.**

- Only LISTED venting components may be used.
- NO OTHER vent components may be used. Substitute or damaged vent components may impair safe operation.

45° elbow is equivalent to 3 feet of horizontal pipe  
 90° elbow is equivalent to 5 feet of horizontal pipe

ONE 90° ELBOW (fig. 15.1)		
Total Horizontal	Minimum Vertical	Vent Diameter
4	0	3
5	5	3
6	6	3
7	7	3
8	8	4
9	9	4
10	10	4
11	11	4
12	12	4
13	13	4
14	14	4
15	15	4
16	16	4
17	17	4
18	18	4
19	19	4

TWO 90° ELBOWS (fig. 15.2)		
Total Horizontal	Minimum Vertical	Vent Diameter
2	5	3
3	6	3
4	7	3
5	8	3
6	9	3
7	10	4
8	11	4
9	12	4
10	13	4
11	14	4
12	15	4
13	16	4
14	17	4
15	18	4

THREE 90° ELBOWS (fig. 15.3)		
Total Horizontal	Minimum Vertical	Vent Diameter
2	11	4
3	12	4
4	13	4
5	14	4
6	15	4
7	16	4
8	17	4
9	18	4
10	19	4

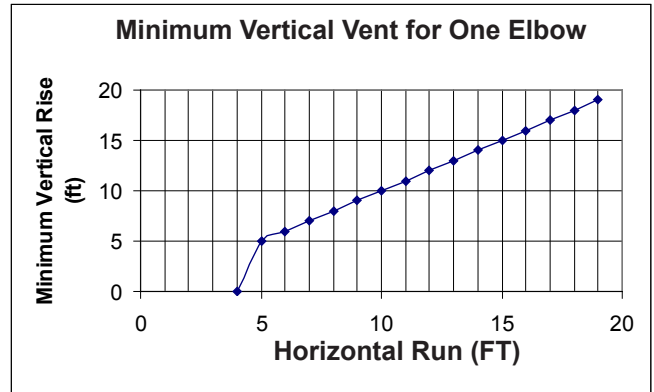


Figure 16.1

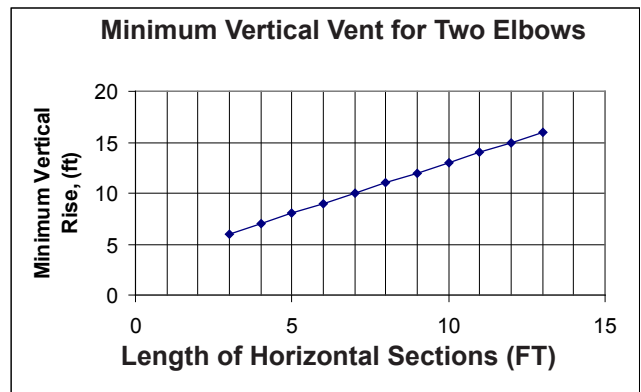


Figure 16.2

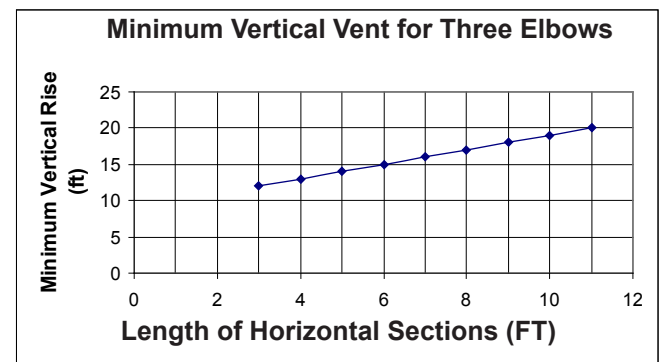


Figure 16.3

**NOTICE:** These are guidelines for successful venting of your pellet appliance. The more vertical rise you can obtain in your system, the better it will perform. Horizontal vent runs can accumulate ash and will need to be cleaned more often. Try to keep them as short as possible.



## I. Venting Termination Requirements

### CAUTION

**Do not terminate vent** in any enclosed or semi-enclosed area such as a carport, garage, attic, crawl space, under a sun deck or porch, narrow walkway or closely fenced area, or any location that can build up a concentration of fumes such as a stairwell, covered breezeway, etc.

1. Termination must exhaust above air inlet elevation. **It is strongly recommended that at least 60 inches (1.5m) of vertical pipe be installed when appliance is vented directly through a wall.** This will create a natural draft, which will help prevent the possibility of smoke or odor venting into the home during a power outage. It will also keep exhaust from causing a nuisance or hazard by exposing people or shrubs to high temperatures. The safest and preferred venting method is to extend the vent vertically through the roof.
2. Distance from doors and opening windows, or gravity or ventilation air inlets into building:
  - a. Not less than 48 inches (1.2m) below;
  - b. Not less than 48 inches (1.2m) horizontally from;
  - c. Not less than 12 inches (305mm) above.
3. Distance from permanently closed windows;
  - a. Not less than 12 inches (305mm) below; horizontally from or above.
4. Distance between bottom of termination and grade should be 12 inches (305mm) minimum. This is conditional upon plants in the area, and nature of grade surface. The grade surface must be a non-combustible material (i.e., rock, dirt). The grade surface must not be lawn. Distance between bottom of termination and public walkway should be 7 feet (2.13m) minimum.
5. Distance to combustible materials must be 24 inches (610mm) minimum. This includes adjacent buildings, fences, protruding parts of the structure, roof overhang, plants and shrubs, etc.
6. Termination Cap Location (Home Electrical Service)
  - Side-to-side clearance is to be the same as minimum clearance to vinyl inside corners.
  - Clearance of a termination cap below electrical service shall be the same as minimum clearance to vinyl soffits.
  - Clearance of a termination cap above electrical service will be 12 inches (305mm) minimum.
  - Location of the vent termination must not obstruct or interfere with access to the electrical service.

# 5 Venting Systems

## A. Vertical - Interior - Typical Installation PREFERRED METHOD #1

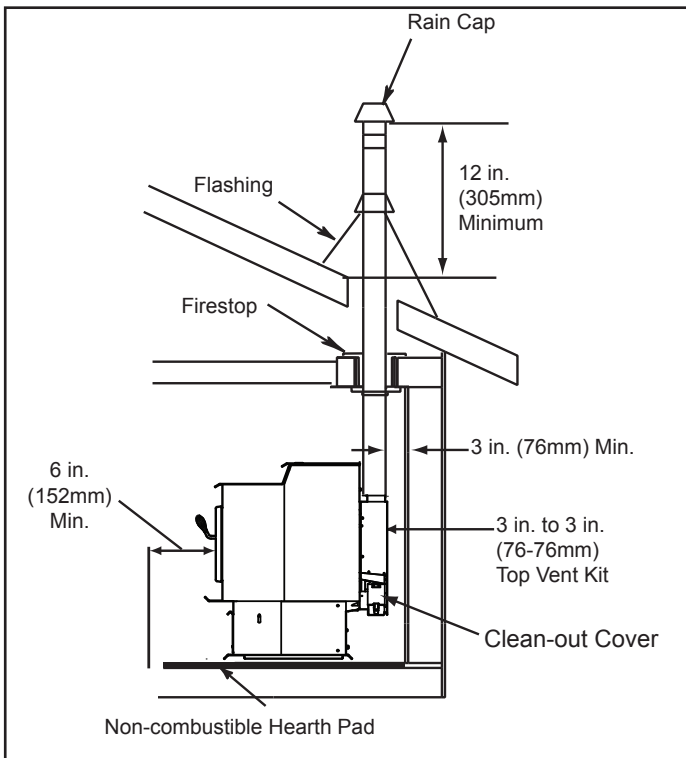


Figure 18.1

## B. Through The Wall & Vertical - External PREFERRED METHOD #2

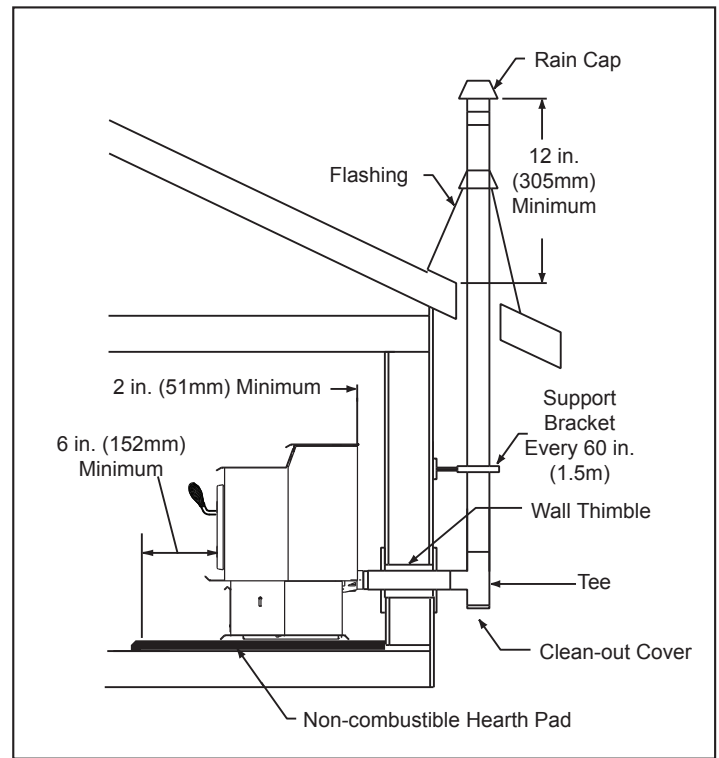


Figure 18.2

## C. Vertical into Existing Class A Chimney

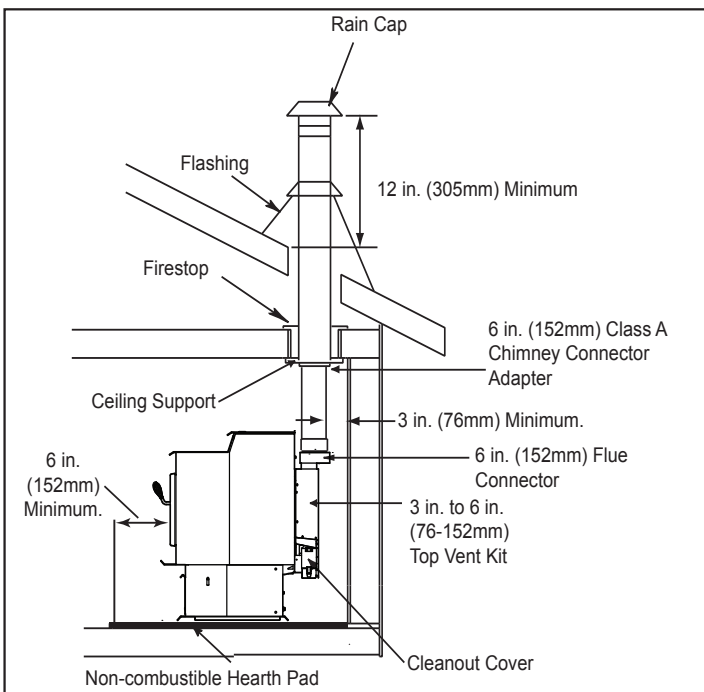


Figure 18.3

**We strongly recommend a minimum of 60 inches (1.5m) vertical, however above the eave is preferred.**

Both installations are approved for mobile home installations. Must use 3 or 4 inch (76 to 102mm) "L" or "PL" Listed pellet venting or Listed double wall pipe and authorized Outside Air Kit in mobile homes. Single wall pipe is approved for residential installations only.

### Air Clearance to Pipe:

This appliance was tested with standard 3 inch (76mm) Listed pellet vent.

Pellet pipe manufactures Listed reduce clearance pipe may be use for reduce clearance from 3 inch (76mm) air clearance to no less than 1 inch (25mm) air clearance to combustibles for approved Listed pellet pipe.

Follow pipe manufactures listed air clearances to combustibles and installation instructions for all reduced air clearances installations.

**NOTE:** In Canada, where passage through a wall or partition of combustible construction is desired, the installation shall conform to CAN/CSA-B365

**D. Through The Wall**

Horizontal termination cap must be a minimum of 6 inches. (152mm) from the wall. Approved for mobile home installations. Must use 3 or 4 inch (76-102mm) "L" or "PL" listed pellet venting or Listed double wall pipe and an authorized Outside Air Kit in mobile homes.

In Canada, where passage through a wall or partition of combustible construction is desired, the installation shall conform to CAN/CSA-B365

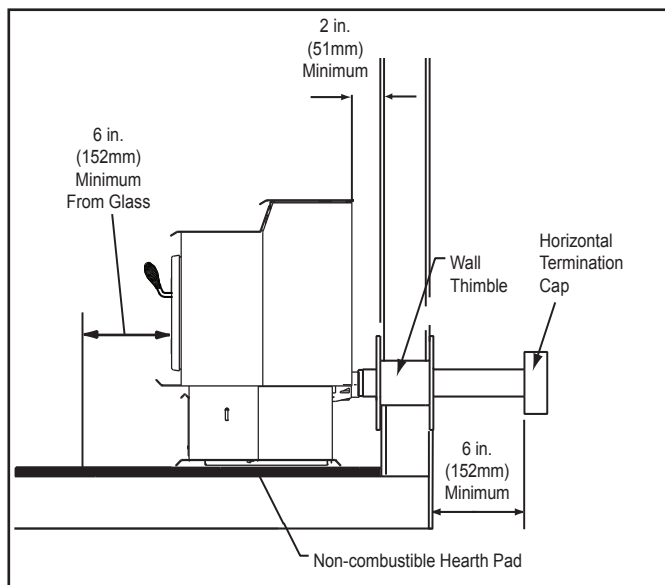
**NOTICE:** Please note that while the minimum clearance for the termination cap is 6 inches (152mm) there is the possibility of soot build-up around the termination area. If this occurs we suggest to move the termination further away from the house to prevent it. The suggested minimum is 12 inches.

**CAUTION**

**DO NOT DOWNWARD VENT.**  
 The following will occur:

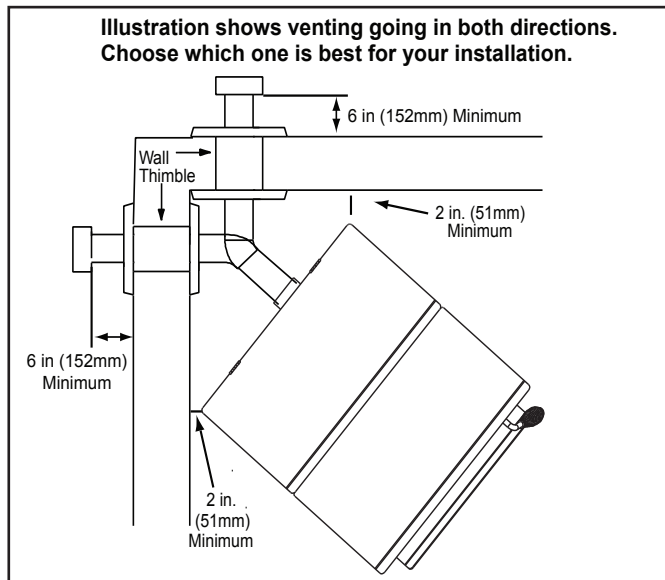
- The appliance will not vent properly
- Smoke spillage in the house
- Excessive sooting

**Straight Out**




**Figure 19.1**

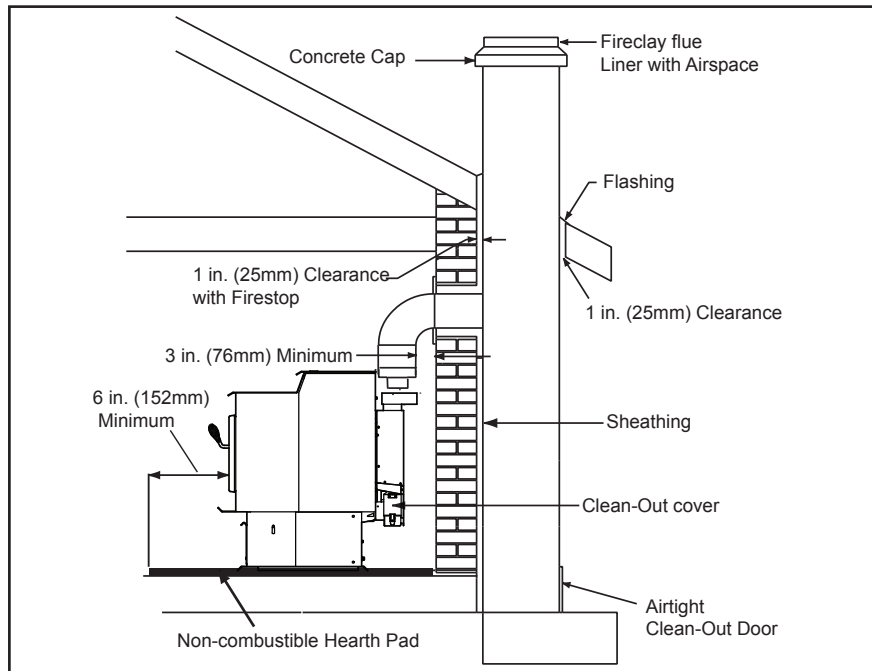
**45 Degree**



**Figure 19.2**

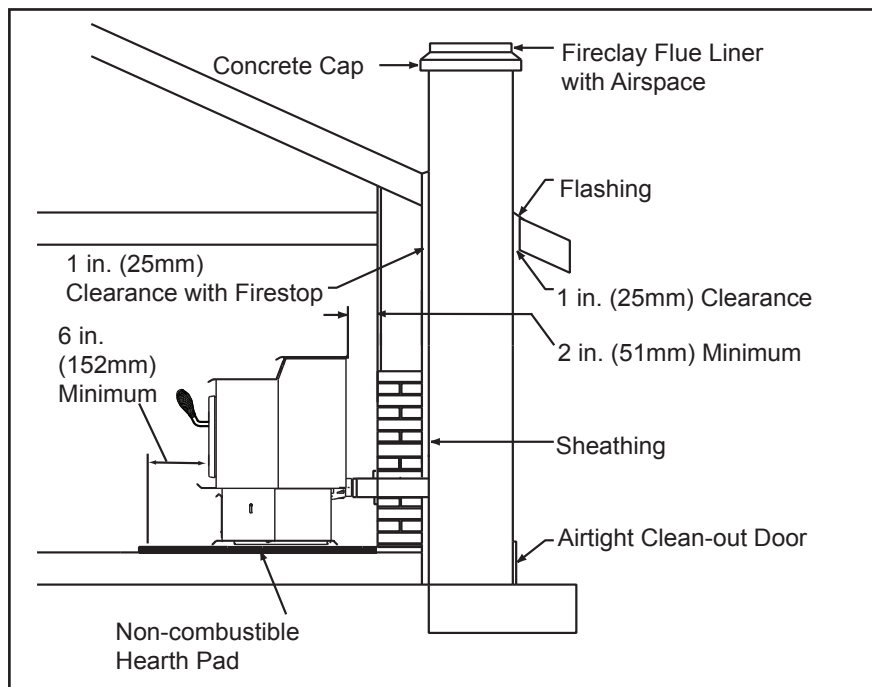
<b>⚠ WARNING</b>	
	<p><b>Fire Risk</b></p> <p>Inspection of Chimney:</p> <ul style="list-style-type: none"> <li>• Masonry chimney must be in good condition.</li> <li>• Meets minimum standard of NFPA 211</li> <li>• Factory-built chimney must be a minimum 6 inch (152mm) UL103 HT.</li> </ul>

**E. Masonry**



**Figure 20.1**

**F. Alternate Masonry**



**Figure 20.2**

# 6 Appliance Set-Up

## A. Outside Air Kit

There are two Outside Air Kits available for purchase with this appliance. Kit 811-0872 uses a 2 inch flex hose (which is included in the kit) and uses hose clamps to secure the hose. The OAK-3 uses 3 inch flex hose (which is not included in the kit) and uses wire ties to secure the hose.

**Parts Included in 2 inch Kit 811-0872:** 1 piece of 2 inch x 3 ft. flex hose, 2 hose clamps, 1 collar assembly, 1 termination cap assembly, trim ring, 1 intake air channel, fasteners (Discard the air intake channel, it is not needed for this appliance).

**Parts Included in 3 inch Kit OAK-3:** 2 wire ties, 1 collar assembly, 1 termination cap assembly, 1 trim ring, fasteners.

**Tools Needed:** Phillips Head screw driver; wire cutters; hole saw or jig saw, and the length of flex hose needed for your installation if using the 3 inch kit.

1. Measure distance from floor to air vent opening in appliance and mark location on wall.  
Use saw to cut opening in wall.  
**2 inch kit:** Cut a 2-1/2 to 3 inch opening on inside wall and a 3 to 3-1/2 inch opening on outside of house.  
**3 inch kit:** Cut a 3-1/2 to 4 inch opening on inside wall and a 4 to 4-1/2 inch opening on outside of house.
2. Use wire tie or hose clamp depending on the Outside Air Kit to secure flex pipe to collar assembly.
3. Slide trim ring over flex pipe and run pipe through wall.
4. Attach flex pipe to outside termination cap with second wire tie or hose clamp.
5. Secure termination cap to outside surface.
6. Secure trim ring to interior wall.

<b>CAUTION</b>
<p>Never draw outside combustion air from:</p> <ul style="list-style-type: none"> <li>• Wall, floor or ceiling cavity</li> <li>• Enclosed space such as an attic, garage, or crawl space</li> </ul>

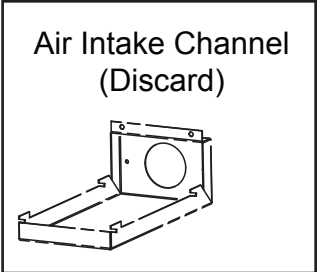
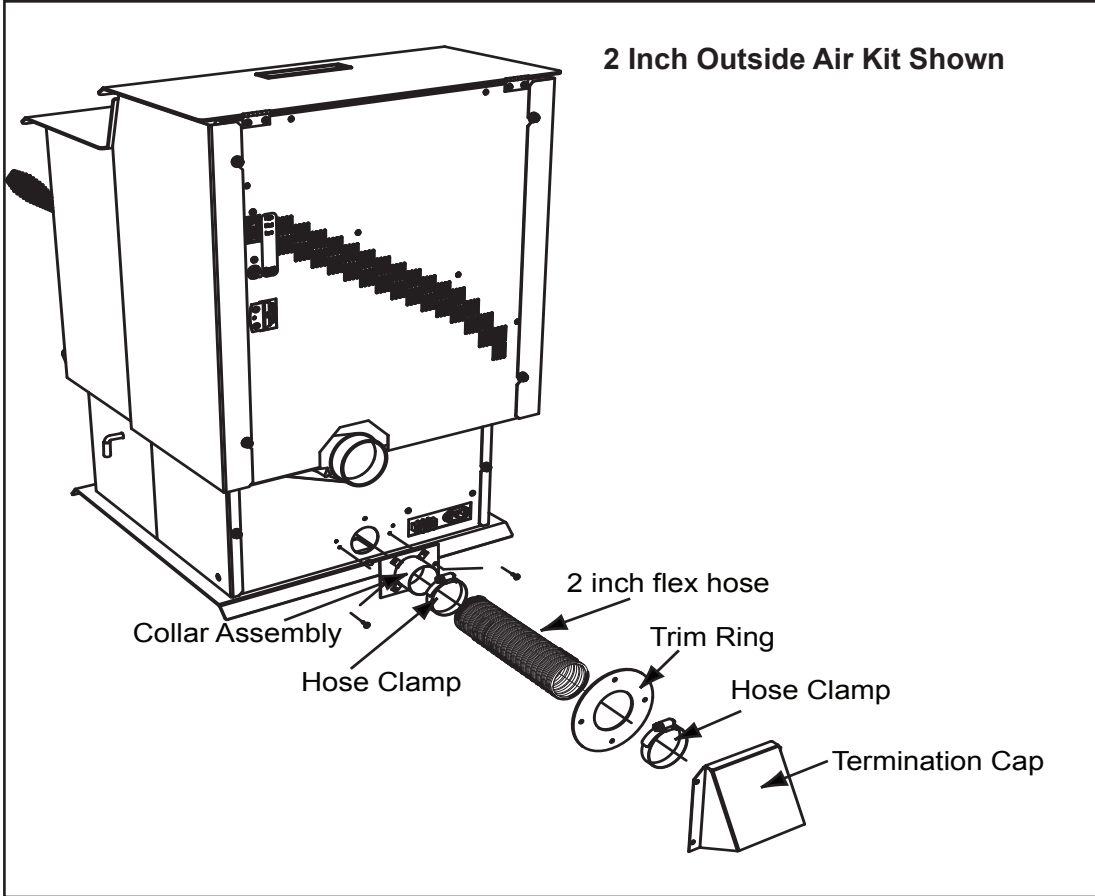


Figure 21.2

Figure 21.1 - 2 Inch Outside Air Kit

## B. Top Vent Adapter Installation

### 3 to 3 inch Top Vent Adapter

### 3 to 6 inch Top Vent Offset Adapter

#### Installing the Top Vent Adapter

1. Put a layer of high temperature silicone on the 3 inch (76mm) exhaust outlet. **Do not put silicone inside of pipe. Figure 22.1**
2. Slide the top vent adapter onto the rear exhaust outlet and adjust the assembly to a vertical position. **Figure 22.1.**
3. Drill 4 holes with #26 drill bit (provided) into the back of the appliance using the outer shield as a pattern (make sure the assembly is vertical). **Figure 22.1.**
4. Install the 4 mounting screws.
5. Drill 2 holes with #26 drill bit through the rear exhaust outlet using the 2 holes already in the short horizontal pipe in the top vent adapter as a guide. Install the 2 screws. **Figure 22.1.**
6. Install the vent pipe into the top vent adapter (be sure to silicone all joints).
7. To clean the top vent adapter open the clean-out cover. **Figure 22.1.**

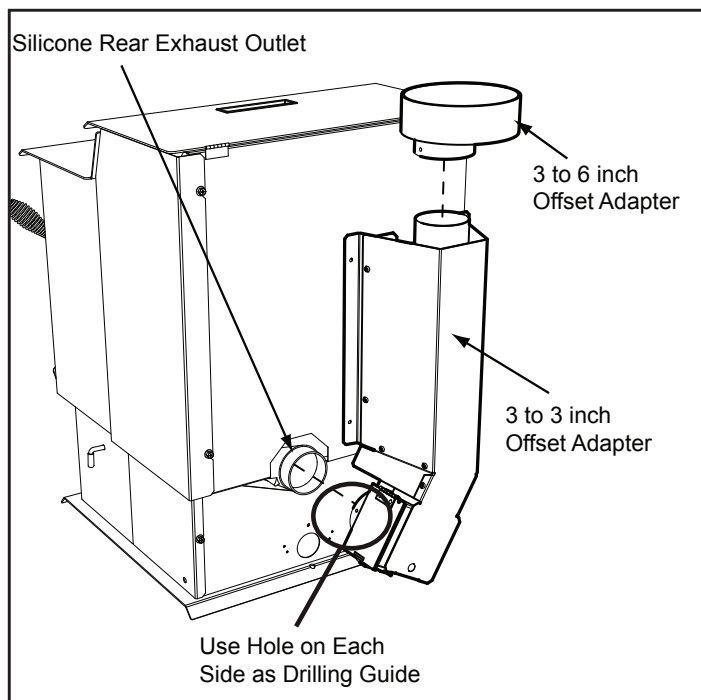


Figure 22.1

## C. Rear Vent & Rear Vent to Top Vent Adapter Installation

1. Put a layer of high temperature silicone on the 3 inch (76mm) exhaust outlet. **Do not put silicone inside of pipe. Figure 22.1.**
2. Slide the adapter onto the rear exhaust outlet and adjust the assembly to the appropriate position.
3. Install the vent pipe into the adapter (be sure to silicone all joints)

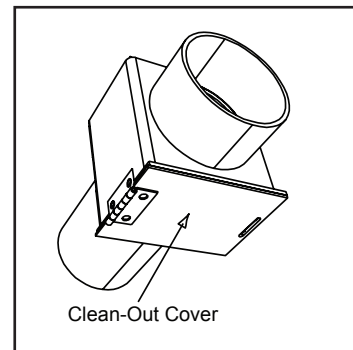


Figure 22.2 - Rear Vent Adapter

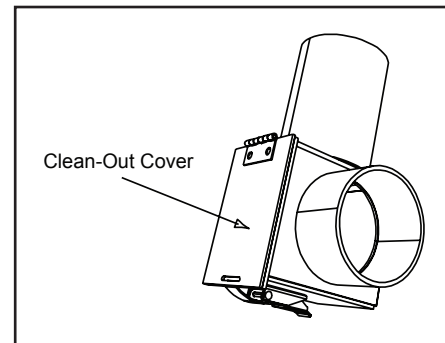


Figure 22.3 - Rear to Top Vent Adapter - 90°



**D. Thermostat Installation**

1. A low voltage thermostat is required to operate this pellet appliance. You may use the included wall mount thermostat (**Figure 23.2**) or purchase an optional programmable thermostat or remote control. It is equipped with an adjustable heat anticipator. The current rating is .05 amps. The anticipator needs to be adjusted to the lowest setting available.
2. When mounting a thermostat on a wall, be sure to follow your thermostat installation instructions carefully.

**NOTE: Thermostat must be mounted level for accurate readings. The thermostat should be mounted on an inside wall and not in direct line with the appliance convection air.**

**NOTE: If the thermostat is located too close to the appliance, you may need to set the temperature setting slightly higher to maintain the desired temperature in your home.**

3. There is a 4 screw terminal block located on the back lower left corner of the appliance directly above the power cord inlet. The center 2 screws are for the thermostat wires. **Figure 23.1.**

 <b>CAUTION</b>	
	<b>Shock hazard</b>
	• Do NOT remove grounding prong from plug.
	• Plug directly into properly grounded 3 prong receptacle.
	• Do NOT route cord under or in front of appliance.

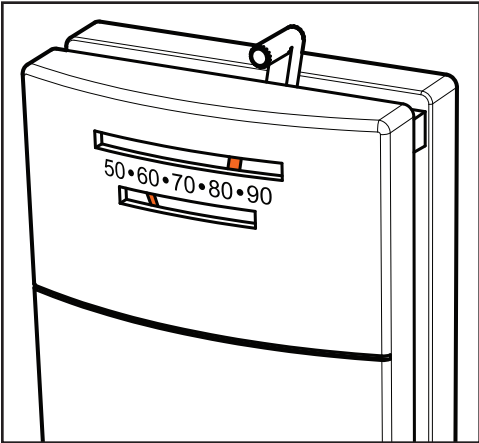


Figure 23.2

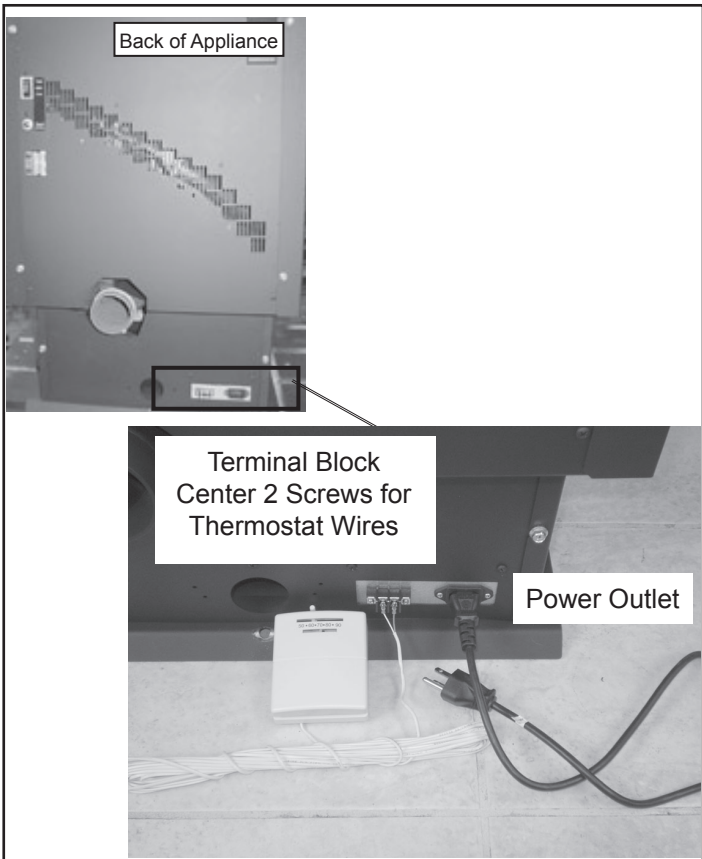


Figure 23.1

# 7 Mobile Home Installation

## You must use a Quadra-Fire Outside Air Kit for installation in a mobile home.

1. An outside air inlet must be provided for the combustion air and must remain clear of leaves, debris, ice and/or snow. It must be unrestricted while the appliance is in use to prevent room air starvation which causes smoke spillage. Smoke spillage can also set off smoke alarms.
2. The combustion air duct system must be made of metal. It must permit zero clearance to combustible construction and prevent material from dropping into the inlet or into the area beneath the dwelling and contain a rodent screen.
3. The appliance must be secured to the mobile home structure by bolting it to the floor (using lag bolts). Use the same holes that secured the appliance to the shipping pallet.
4. The appliance must be grounded with #8 solid copper grounding wire or equivalent, terminated at each end with an NEC approved grounding device.
5. Refer to Clearances to Combustibles and floor protection requirements on **page 10** for listings to combustibles and appropriate chimney systems.
6. Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
7. Follow the chimney manufacturer's instructions when installing the vent system for use in a mobile home.
8. Installation shall be in accordance with the Manufacturers Home & Safety Standard (HUD) CFR 3280, Part 24.

<b>CAUTION</b>
<p>THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED</p> <p>Do NOT cut through:</p> <ul style="list-style-type: none"> <li>Floor joist, wall, studs or ceiling trusses.</li> <li>Any supporting material that would affect the structural integrity.</li> </ul> <p>This appliance is to be connected to a factory-built chimney conforming to CAN/ULC-S629, Standard for 650°C Factory-Built Chimneys.</p> <p>For removal of the chimney for mobile home transportation, contact the proper transportation officials.</p>

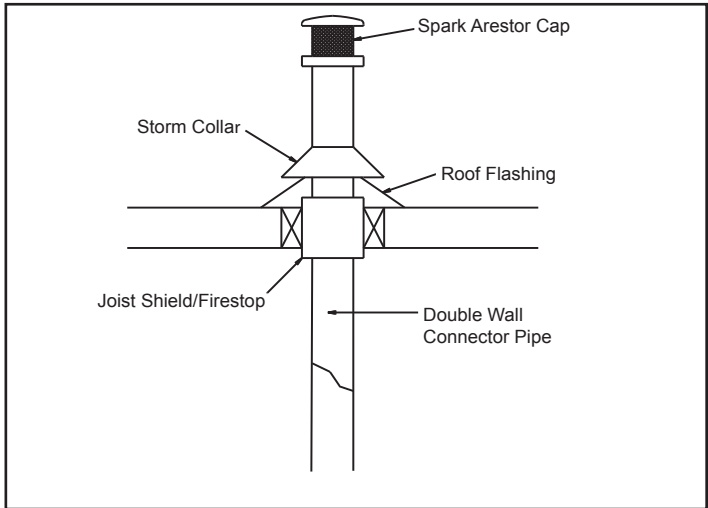


Figure 24.1

<b>CAUTION</b>
<p>Never draw outside combustion air from:</p> <ul style="list-style-type: none"> <li>Wall, floor or ceiling cavity</li> <li>Enclosed space such as an attic or garage</li> </ul>

<b>WARNING</b>
<p><b>It is critical to have a working smoke detector installed in the home of appliance operation.</b></p> <ul style="list-style-type: none"> <li>Smoke alarms that are properly installed and maintained play a vital role in reducing fire deaths and injuries. Having a working smoke alarm reduces the chance of fire related injuries..</li> </ul>

<b>WARNING</b>
<p>Products of combustion generate carbon monoxide and different fuels generate different levels. Carbon monoxide</p> <ul style="list-style-type: none"> <li>Only use approved fuels in this appliance.</li> <li>Always keep door shut during operation. Operating this appliance with doors open can allow CO to leak into the home.</li> </ul> <p>CO can kill you before you are aware it is in your home. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.</p>

<b>WARNING</b>
<p>NEVER INSTALL IN A SLEEPING ROOM.</p>



# 8 Accessory List



## Service Parts

## ECO-ADV-PS35

Beginning Manufacturing Date: Apr 2010  
Ending Manufacturing Date: Active

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers.** Provide model number and serial number when requesting service parts from your dealer or distributor.



Stocked  
at Depot

Item	Description	Comments	Part Number	Stocked at Depot
<b>ACCESSORIES</b>				
	Collar, Offset, Top Vent		812-3570	
	Damper, 3"	For Tall Vertical Runs Only	PEL-DAMP3	Y
	Damper, 4"		PEL-DAMP4	
	Outside Air Kit, 3"		OAK-3	
	Outside Air Kit, 2"		811-0872	
	Hose, Alum Flex, 2 Inch X 3 Ft	3 Ft	200-0860	
	Outside Air Cap Assembly		7001-044	
	Outside Air Collar Assembly		7001-045	
	Trim Plate, Outside Air Kit		412-7100	
	Smart-Batt II		841-0970	
	Smart-Stat II		841-0960	
	Thermostat, Mechanical		812-3760	Y
	Thermostat, Programmable		811-0520	
	Top Vent Adapter		TPVNT-5	
	Component Pack		SRV7058-054	
	Vent Adapter, 3-4"		811-0720	
	Vent Adapter, 90, Cleanout		811-0610	
<b>Fastener Packs</b>				
	Rivnut Repair Kit 1/4 -20 & 3/8-16 Rivnut Tools		RIVNUT-REPAIR	Y
	Bolt, Hex Head	Pkg of 10	25221A/10	Y
	Guide Pin Sleeve	Pkg of 25	31120/25	Y
	Nut SER FL SMALL 1/4-20	Pkg of 24	226-0130/24	Y
	Nut, 2-WY SIDE-LOCK JAM 3	Pkg of 24	226-0100/24	Y
	Nut, Lock 1/4-20	Pkg of 25	226-0090/25	Y
	Screw HWH MS 1/4-20 X3/4 NS	Pkg of 25	220-0080/25	Y
	Screw PH PHL TC 8-32X1/2	Pkg of 25	220-0030/25	Y
	Screw, Wing Thumb, 8-32X1/2	Pkg of 24	7000-223/24	Y
	SMS #8 X 1/2 S-GRIP BO	Pkg of 40	12460/40	Y
	Thumb Screw, 1/4-20 x3/4	Pkg of 10	844-5070	
	Washer, 1/4 SAE	Pkg of 24	28758/24	Y
	Washer, SAE	Pkg of 25	227-0080/25	Y







**CONTACT INFORMATION**

Hearth & Home Technologies  
1445 North Highway  
Colville, WA 99114  
Division of HNI INDUSTRIES

**Please contact your Heatilator Eco-Choice dealer with any questions or concerns.  
For the number of your nearest Heatilator dealer  
log onto <http://www.heatilatorecochoice.com/>**

**CAUTION**



**DO NOT DISCARD THIS MANUAL**

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation.



**We recommend that you record the following pertinent information for your heating appliance.**

Date purchased/installed: \_\_\_\_\_

Serial Number: \_\_\_\_\_ Location on appliance: \_\_\_\_\_

Dealership purchased from: \_\_\_\_\_ Dealer phone: \_\_\_\_\_

Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.

