

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

QUADRA-FIRE®

CASTILE-B PELLET STOVE

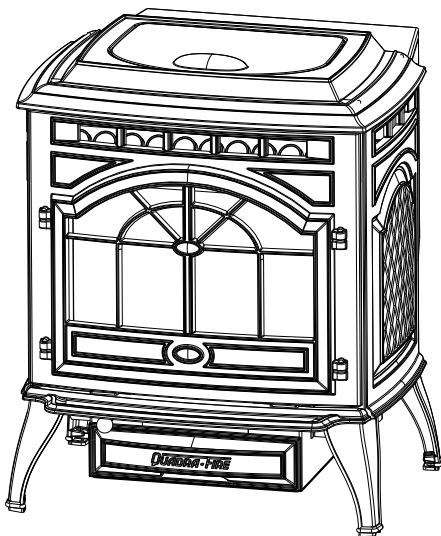
Model(s):

CASTILE-MBK-B

CASTILE-CWL-B

CASTILE-CSB-B

CASTILE-PMH-B



Tested and
Listed by  Portland
Oregon USA
OMNI-Test Laboratories, Inc.

CAUTION

Tested and approved for wood pellets or shelled corn only.
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.



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 overfire - If heater or chimney connector glows, you are overfiring. Overfiring 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.

NOTE

To obtain a French translation of this manual, please contact your dealer or visit www.quadrafire.com

Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.quadrafire.com



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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1 Important Safety Information

A. Appliance Certification

Model	Castile Pellet Stove
Laboratory	OMNI Test Laboratories, Inc.
Report No.	061-S-77d-6.2
Type	Solid Fuel Room Heater/Pellet Fuel Burning Type
Standard	ASTM E1509-04, ULC S627-00 and ULC/ORD-C1482-M1990 Room Heater Pellet Fuel Burning type and (UM) 84-HUD, Mobile Home Approved.
FCC	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.**

The Quadra-Fire Castile Pellet Heater meets the U.S. Environmental Protection Agency's emission limits for pellet heaters sold after May 15, 2015.

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

B. BTU & Efficiency Specifications

EPA Certification #:	940-14
EPA Certified Emissions:	1.8 grams per hour
*LHV Tested Efficiency:	N/A
**HHV Tested Efficiency:	N/A
***EPA BTU Output:	8,500 to 28,200 / hr.
****BTU Input:	11,600 to 38,700 / hr.
Vent Size:	3 or 4 inches, L or PL
Hopper Capacity:	40 lbs. +/- 5 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.	

C. Glass Specifications

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

D. Electrical Rating

115 VAC, 60 Hz, Start 4.1 Amps, Run 1.1 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 and use only Listed pellet vent Class "L" or "PL" connector pipe.
- Outside Air Kit, part OAK-ACC must be installed in a mobile home installation.

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 unit).
- Do NOT Overfire - If appliance or chimney connector glows, you are overfiring.

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.

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

Quadra-Fire is a registered trademark of Hearth & Home Technologies.

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. The weight of the appliance is 258 lbs.



WARNING



Fire Risk.

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

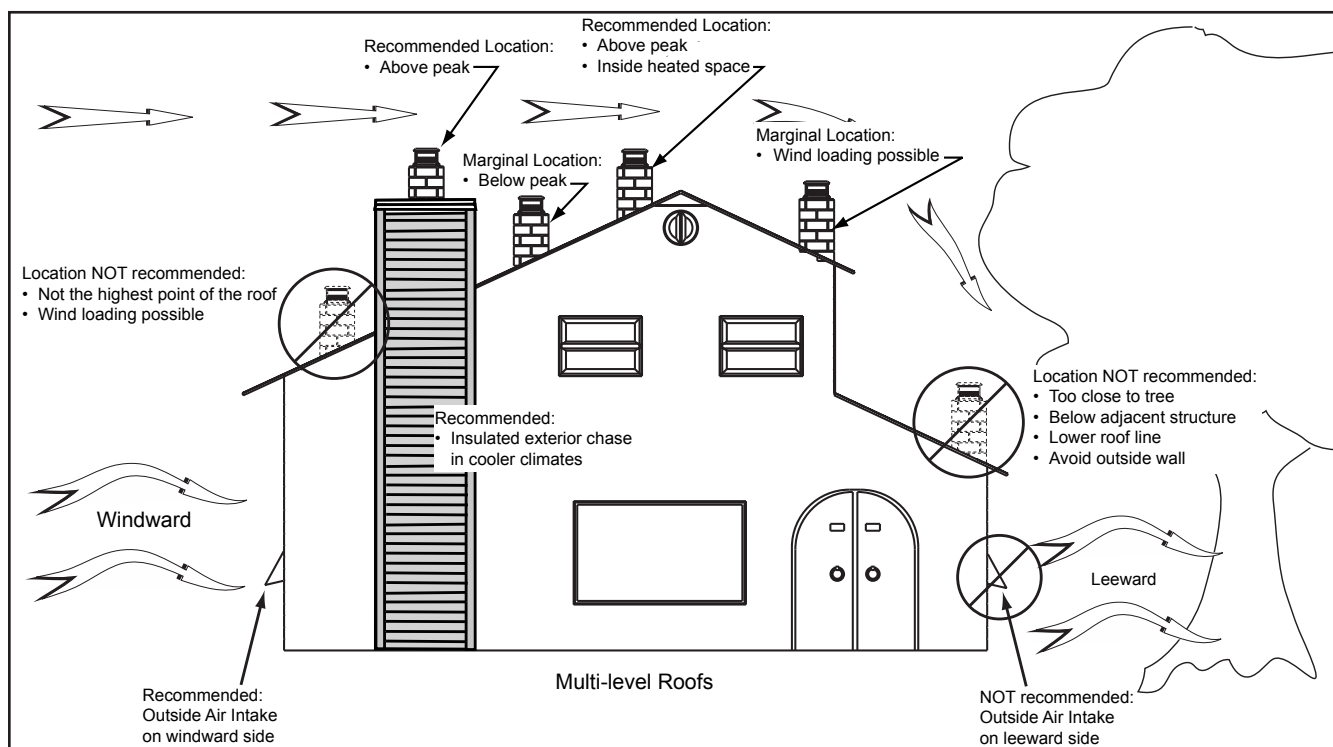


Figure 4.1

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 unspliced 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
---------------------	---------------

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.**



WARNING



Fire Risk.

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



WARNING



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- 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 unit).
- Do NOT Overfire

Or any such action that may cause a fire hazard.

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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 Fireplace: _____

Installer: _____

Dealer/ Distributor Phone #: _____

Serial #: _____

Model (circle one): CASTILE-MBK-B CASTILE-CWL-B CASTILE-CSB-B CASTILE-PMH-B

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

Appliance Install

Verified clearances to combustibles. (Pg. 8)

Outside air kit installed. (Pg. 19)

Floor protection requirements have been met.

The masonry chimney is inspected by a professional and is clean or the factory built metal chimney is installed according to the manufacturer's instructions and clearances.

YES

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

IF NO, WHY?

Chimney Section 4 (Pg. 10)

Chimney configuration complies with diagrams.

Chimney installed, locked and secured in place with proper clearance.

Chimney meets the minimum height requirements.

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 Section 3 (Pg. 7)

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 Section 6 (Pg. 19)

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 fireplace.

Manual bag and all of its contents are removed from inside/under the fireplace and given to the party responsible for use and operation.

<input type="checkbox"/>
<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 fireplace 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)

Part # 4017-254 • Rev B • 01/29/13

3 Dimensions and Clearances

A. Appliance Dimensions

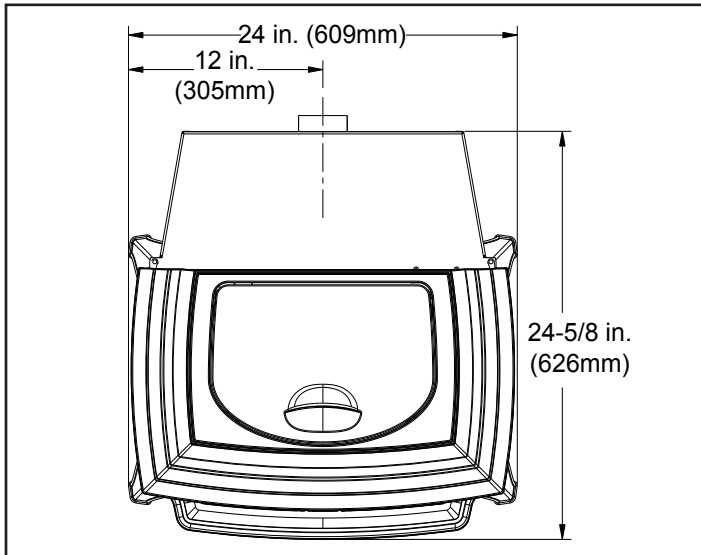


Figure 7.1 - Top View

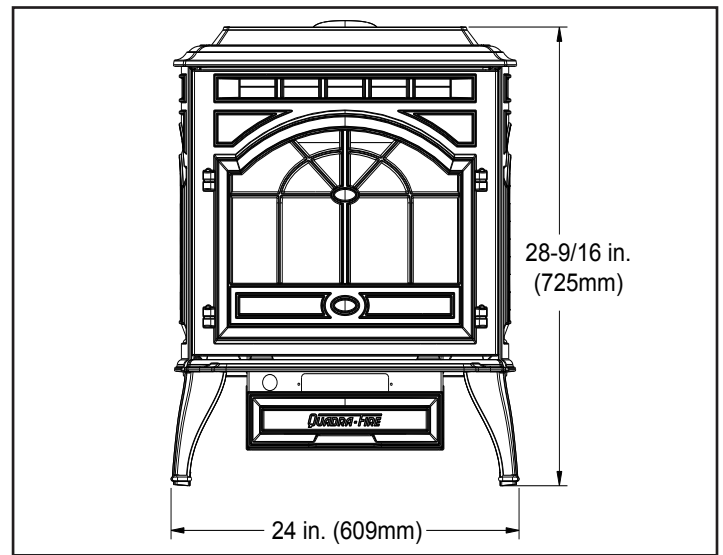


Figure 7.2- Front View

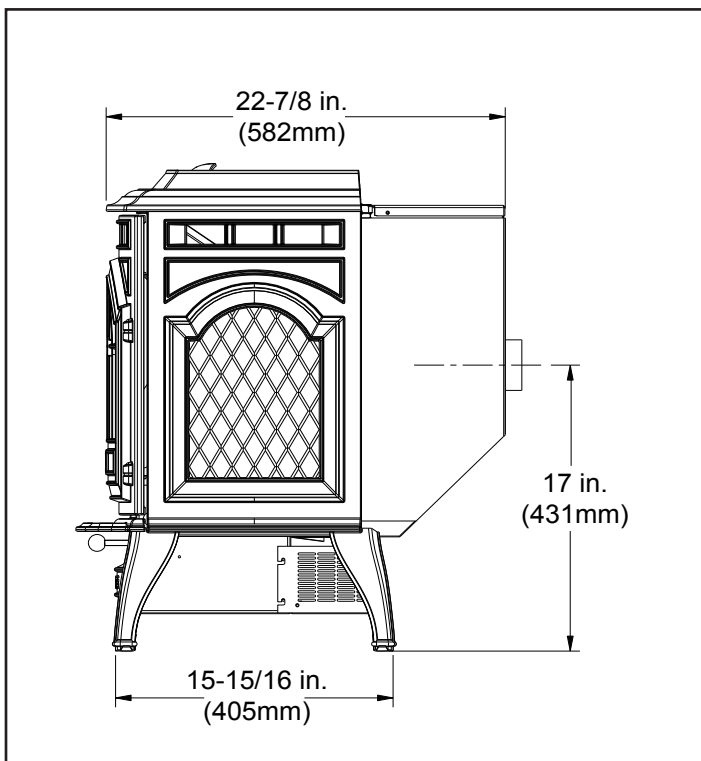


Figure 7.3 -Side View

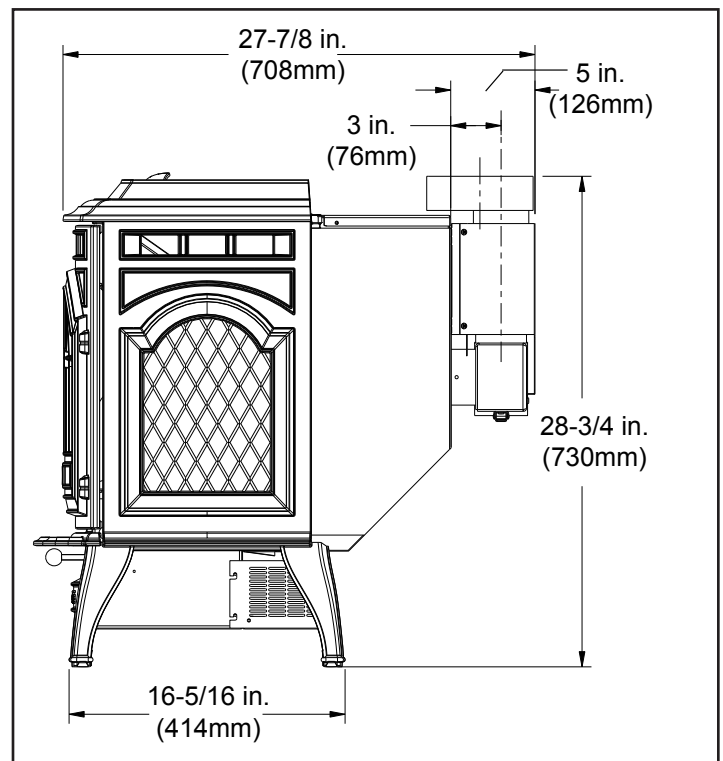
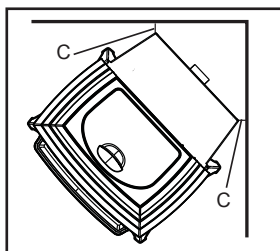
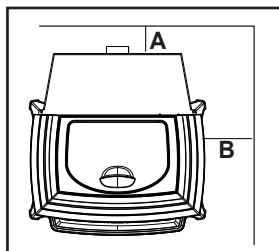


Figure 7.4 - Side View with Top Vent Adapter

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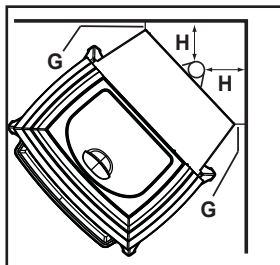
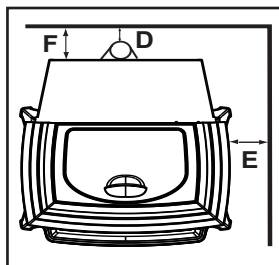
B. Clearances to Combustibles (UL and ULC)



Straight Back Against Wall		Inches	Millimeters
A	Back Wall to Appliance	2	51
B	Side Wall to Appliance	6	152

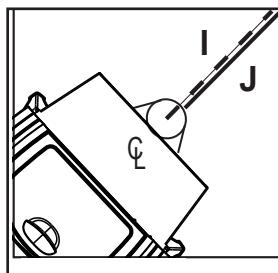
Corner Installation		Inches	Millimeters
C	Walls to Appliance	2	51

Installations with: 3 to 3 inch Top Vent Adapter and 3 to 6 inch Offset Adapter Kit



Vertical Installation		Inches	Millimeters
D	Back Wall to Flue Pipe	3	76
E	Side Wall to Appliance	6	152
F	Back Wall to Appliance	7	178

Corner Installation		Inches	Millimeters
G	Side Wall to Unit Corner	2	51
H	Side Wall to Flue Pipe	3	76



Dimension to Corner		Inches	Millimeters
I	Flue Center Line	10-3/8	264
J	Back of Top Vent Adapter	9-1/8	232

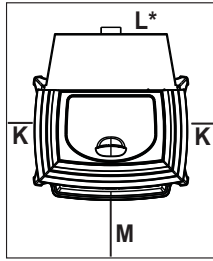
Alcove Installation	Inches	Millimeters
Minimum Alcove Height	43	1092
Minimum Alcove Side Wall	6	152
Minimum Alcove Width	38	965
Maximum Alcove Depth	36	914

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 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.

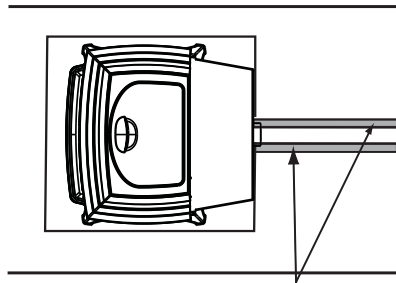


Hearth Pad Requirements		Inches	Millimeters
K	Sides	2	51
L*	Back	2	51
M	Front	6	152

*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

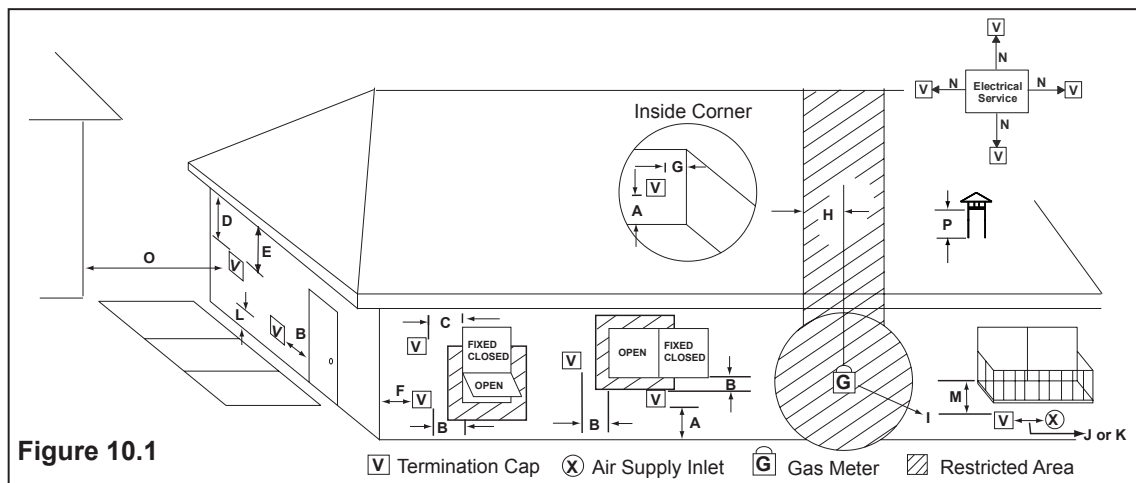


Fire Risk.

Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

4 Vent Information

A. Venting Termination Minimum Requirements



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

Hearth & Home Technologies assumes no responsibility for, nor does the warranty extend to, smoke damage caused by reverse drafting of pellet appliances under shut down or power failure conditions.

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 heaters 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



WARNING

Risk of Asphyxiation!

Negative pressure can cause spillage of combustion fumes and soot.

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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

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

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

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

E. Chimney and Exhaust Connection

NOTE: The appliance exhaust outlet is designed to accommodate 3 inch venting. Use of 4 inch venting requires the use of a 3-to-4 inch exhaust vent increaser in addition to any other venting components needed, sold separately.

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 UNIT.
7. DO NOT CONNECT THIS UNIT 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).

F. Venting Termination Requirements

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.

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.

G. 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 13.1.**

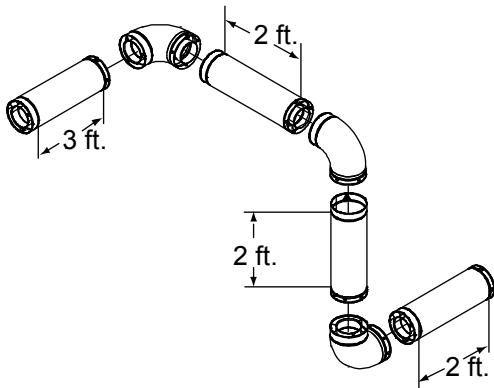


WARNING



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



Pellet Venting Component	# of Elbows	Feet of Pipe	Multiplied By	Equivalent Feet	Components Equivalent Feet
90° Elbow or Tee	3		X	5	15
45° Elbow			X	3	
Horizontal Pipe		7	X	1	7
Vertical Pipe		2	X	0.5	1
Total Equivalent Feet					23

Note: This is a generic example and is not intended to represent any specific fuel type.

Figure 13.1

H. 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 13.2.**

- 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.

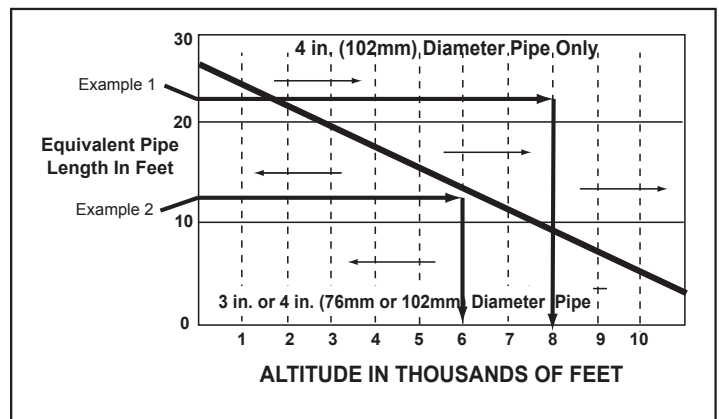


Figure 13.2

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



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.

I. 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) Hearth & Home Technologies strong recommends a minimum of 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.

ONE 90° ELBOW		
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

see fig. 14.1

TWO 90° ELBOWS		
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

see fig. 14.2

THREE 90° ELBOWS		
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
11	20	4

see fig. 14.3



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 1 foot (30.48cm) of straight pipe
90° elbow is equivalent to 3 feet (91.44cm) of straight pipe

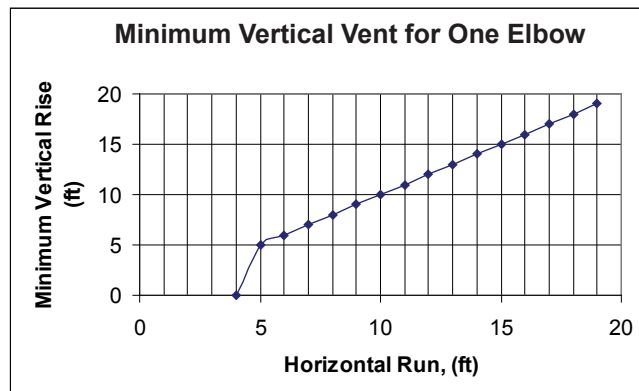


Figure 14.1

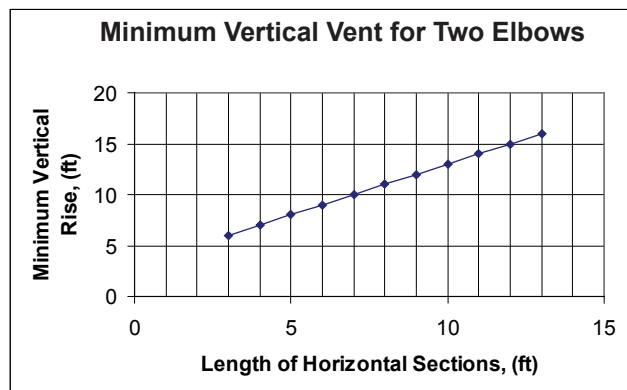


Figure 14.2

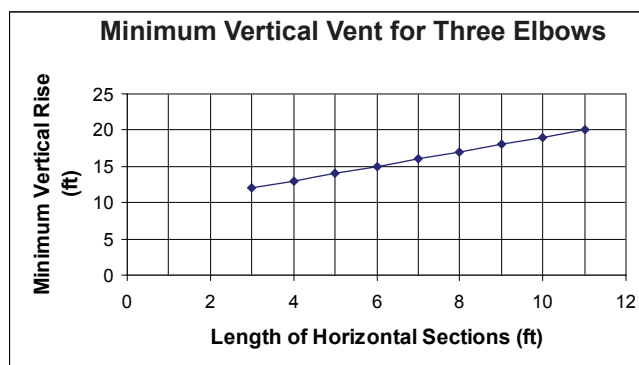


Figure 14.3

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.

5 Venting Systems

A. Alcove

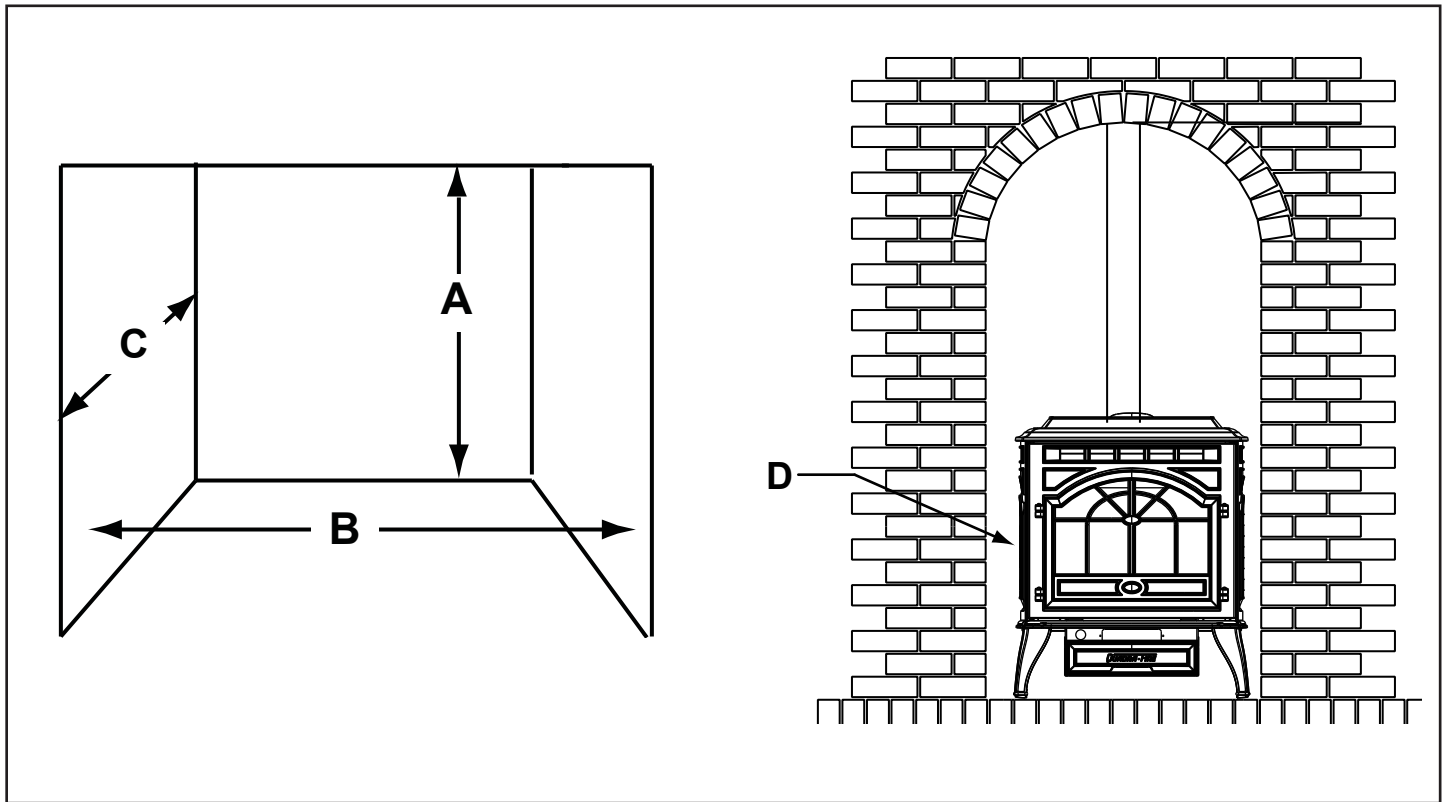


Figure 15.1

		Minimum*		Maximum	
		Inches	Millimeters	Inches	Millimeters
A	Height	43	1092	n/a	n/a
B	Width	38	965	n/a	n/a
C	Depth	n/a	n/a	36	914
D	To Side Wall	6	152	n/a	n/a

*All minimums listed are to a combustible surface.

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.

B. 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 a Quadra-Fire Outside Air Kit in mobile homes.

CAUTION

We strongly recommend that you DO NOT DOWNWARD VENT.

The following may occur:

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

NOTE:

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.

Straight Out

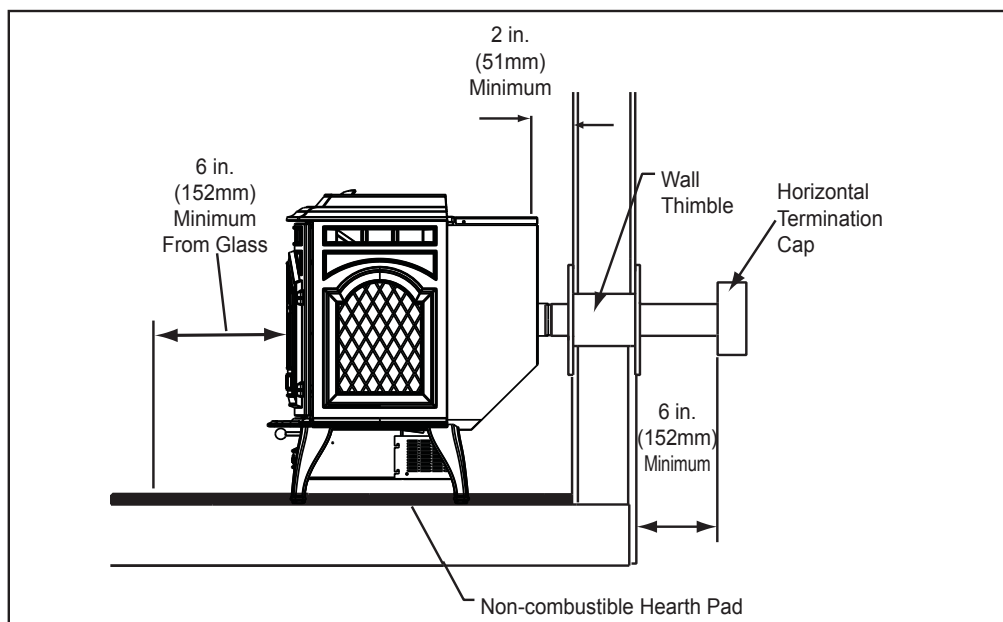


Figure 16.1

45 Degree

Illustration shows venting going in both directions. Choose which one is best for your installation.

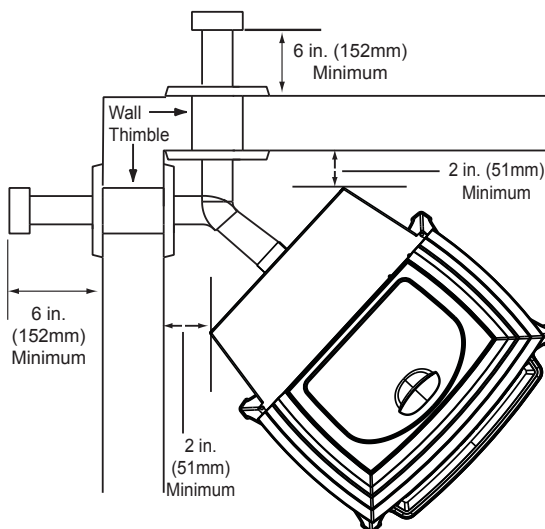


Figure 16.2

C. Vertical into Existing Class A Chimney

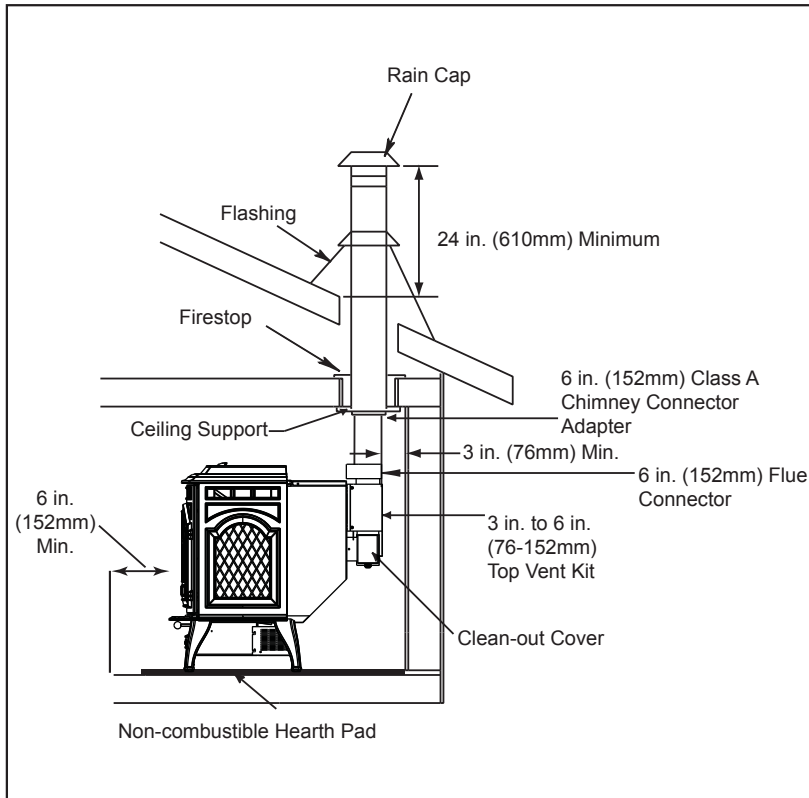


Figure 17.1

We recommend a minimum of 60 inches (1524mm) vertical, however above the eave is preferred.

All three 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 Quadra-Fire Outside Air Kit in mobile homes. Single wall pipe is approved for residential installations only.

***NOTE:** Clearance to combustibles are for standard pellet pipe. If pellet pipe manufacturer allows reduced clearances to their pipe, reduced clearances are allowed.

NOTE:

A chimney connector shall not pass through an attic or roof space, closet or similar concealed space, or a floor or ceiling.

D. Through The Wall & Vertical - Exterior

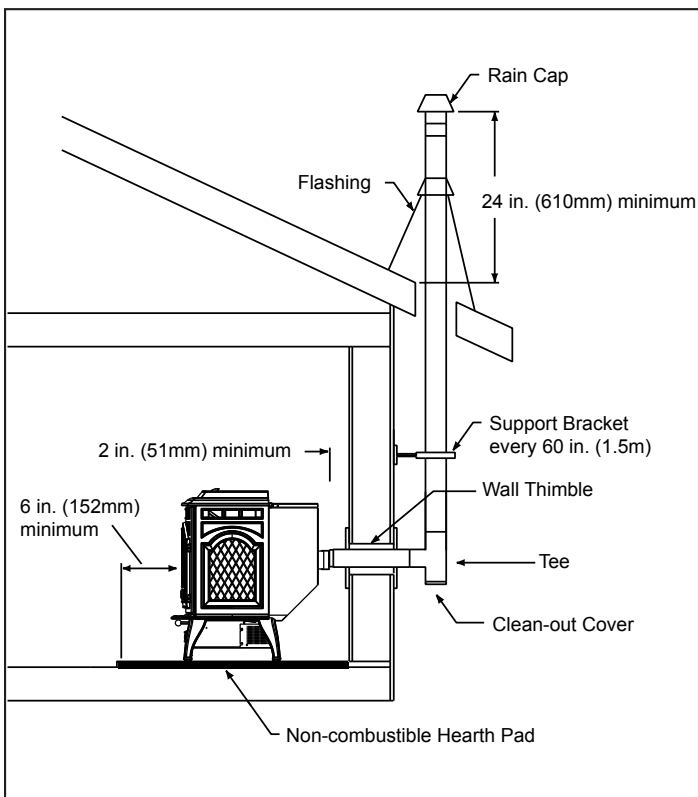


Figure 17.2

E. Vertical - Interior - Typical Installation

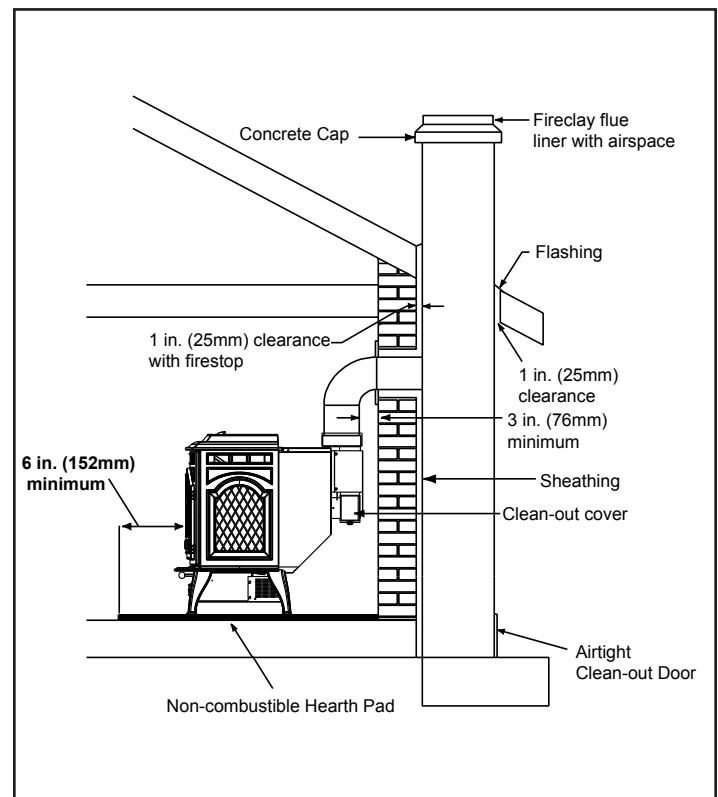




Figure 17.3


WARNING



Fire Risk

Inspection of Chimney:

- Masonry chimney must be in good condition.
- Meets minimum standard of NFPA 211
- Factory-built chimney must be a minimum 6 inch (152mm) UL103 HT.

F. Masonry

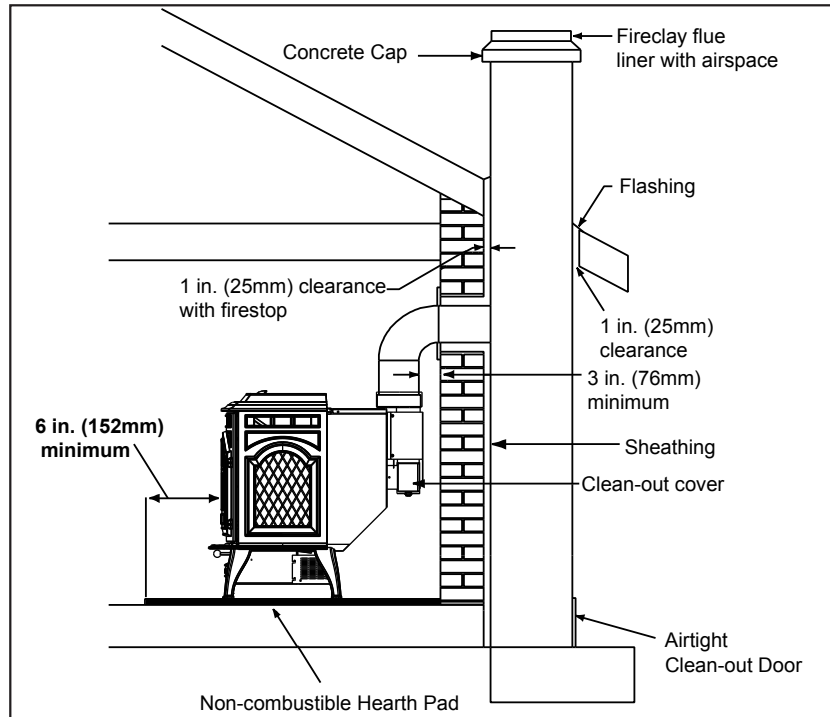


Figure 18.1

G. Alternate Masonry

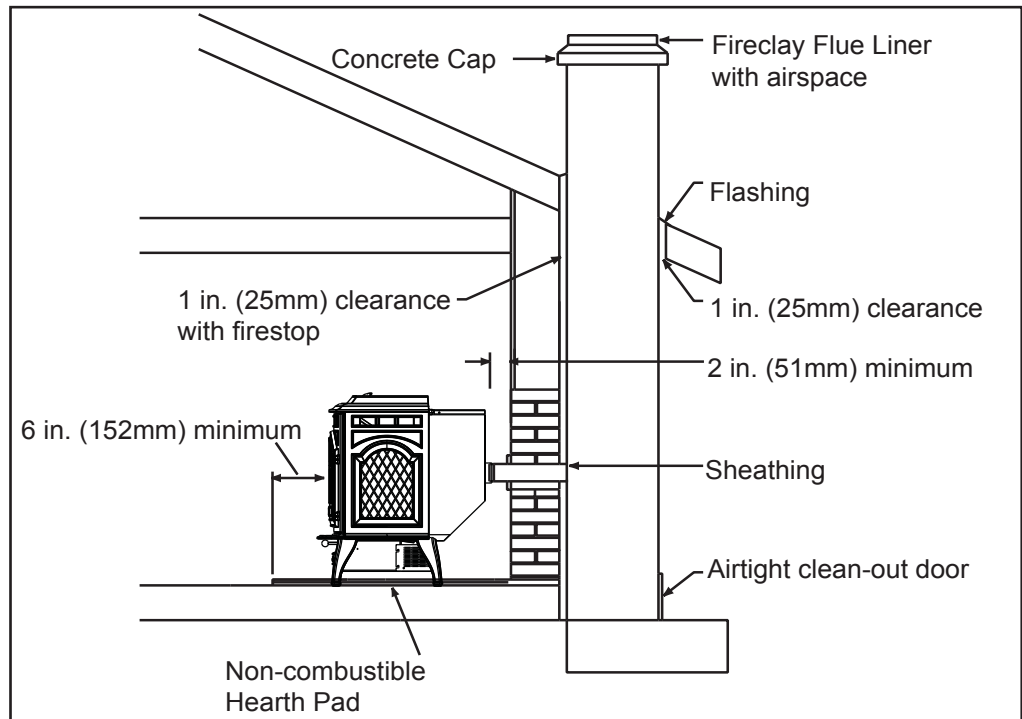


Figure 18.2

6 Appliance Set-Up

A. Outside Air Kit Instructions

Parts Included in Kit: 1 piece of 2 inch x 3 foot flex hose, 2 hose clamps, 1 collar assembly, 1 termination cap assembly, 1 trim ring, 12 screws.

Tools Needed: Phillips head screwdriver; wire cutters; hole saw or jig saw.

1. **Figure 19.1** shows bottom of convection blower mount and pre-cut air vent opening for reference only. Air channel should be mounted with stove in upright position.
2. Align hooks in air channel with slots in convection blower mount and ash box, **Figure 19.2**. Push up and slide forward.
3. Secure air channel to appliance with 2 screws and secure the collar assembly to the air channel with 2 screws. **Figure 19.3**.

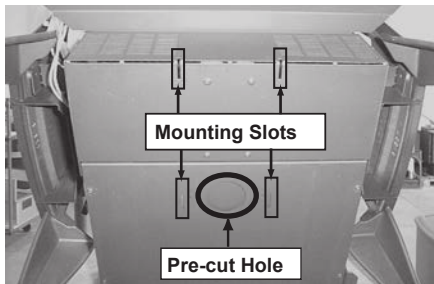


Figure 19.1

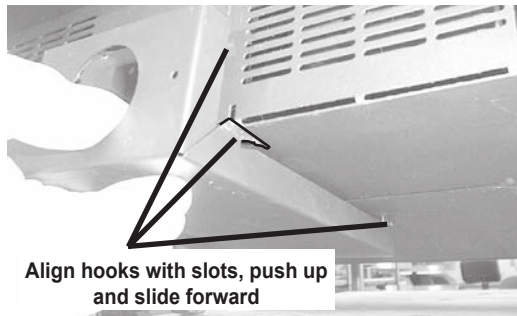


Figure 19.2

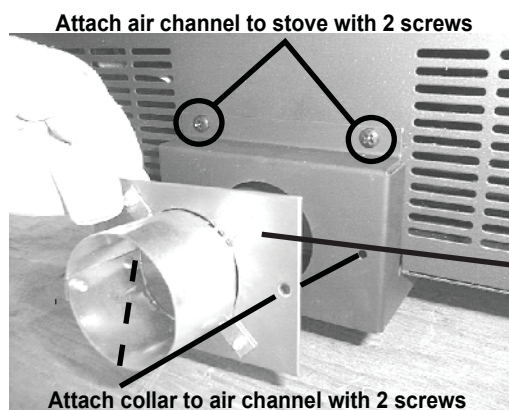


Figure 19.3

CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

1. Measure distance from floor to air vent opening in appliance and mark location on wall.
Use saw to cut opening in wall. Cut a 2-1/2 to 3 inch (64-76mm) opening on inside wall and a 3 to 3-1/2 inch (76-89mm) opening on outside of house.
2. Use hose clamp to secure flex pipe to collar assembly.
3. Slide trim ring over flex pipe and run pipe through wall.
4. Attach hose to outside termination cap with second hose clamp.
5. Secure termination cap to outside surface.
6. Secure trim ring to interior wall.

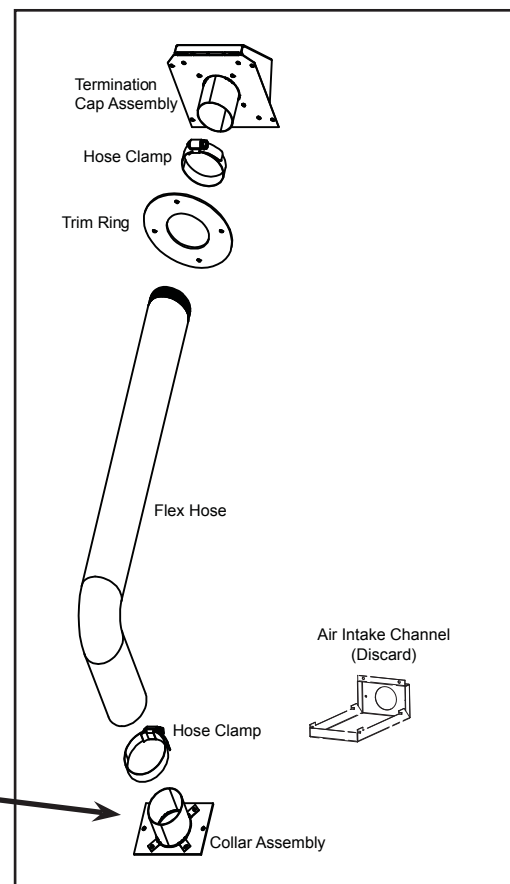


Figure 19.4

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) rear exhaust outlet. **Do not put silicone inside of pipe. Figure 20.1**
2. Slide the top vent adapter onto the rear exhaust outlet and adjust the assembly to a vertical position. **Figure 20.1.**
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 20.1.**
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 4 screws. **Figure 20.2.**
6. Install the vent pipe into the top vent adapter (be sure to silicone all joints).

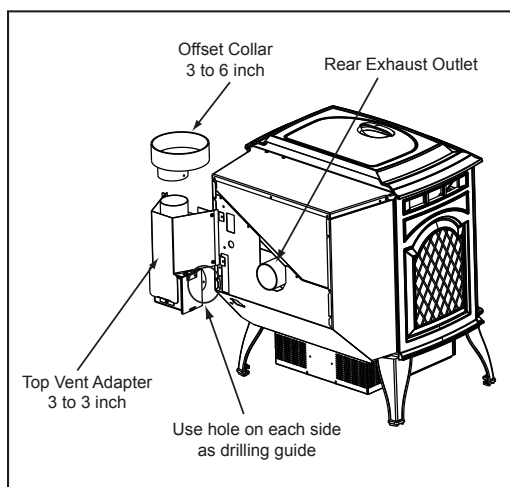


Figure 20.1

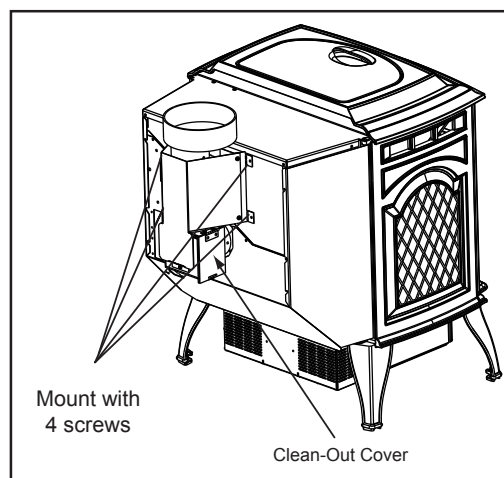


Figure 20.2

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 20.1**
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)

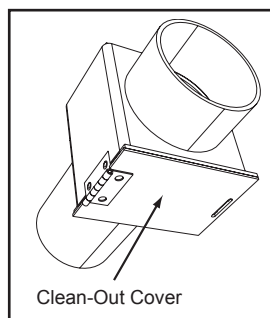


Figure 20.3 - Rear Vent Adapter

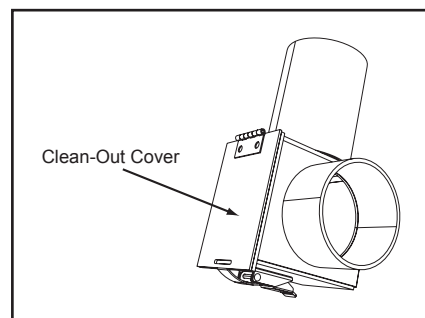


Figure 20.4 - Rear to Top Vent Adapter - 90°

D. Leg Leveling System

1. Thread Allen bolts through nuts until flush. **Figure 20.5.** The Allen bolts and nuts are included in the component pack inside the stove firebox.
2. Slide assembled nuts and bolts into slots on legs with the nuts on the bottom. **Figure 20.6.** Use a 5/32 in. (3.96mm) Allen wrench to adjust legs up and down to desired level. **Figure 20.7.**

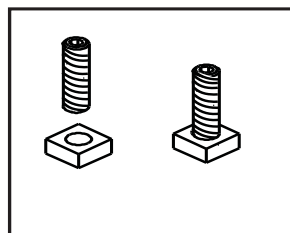


Figure 20.5

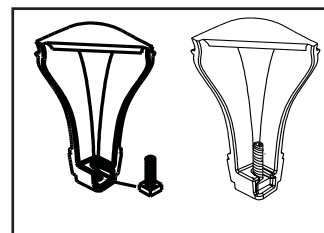


Figure 20.6

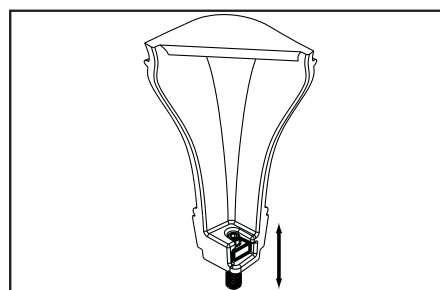


Figure 20.7 - Bolt fully extended

E. Optional Log Set Placement Instructions

2 Piece Log Set Installation

1. Open door to expose the firebox.
2. Install the left log first and then the right log. **Figure 21.1**
3. Lean the logs against the cast iron brick in the back of the firebox.
4. Push the logs to the far left and far right against the sides of the firebox. **Figure 21.2.**
5. To clean the logs, use a vacuum and a soft brush attachment or a paint brush.

CAUTION

Logs are FRAGILE. Use extreme care when handling or cleaning logs.

NOTE:

Due to the abrasive nature of a pellet appliance fire, the logs are not covered under warranty. Any placement variation other than shown here can cause excessive heat and shall void the appliance warranty.



Figure 21.1

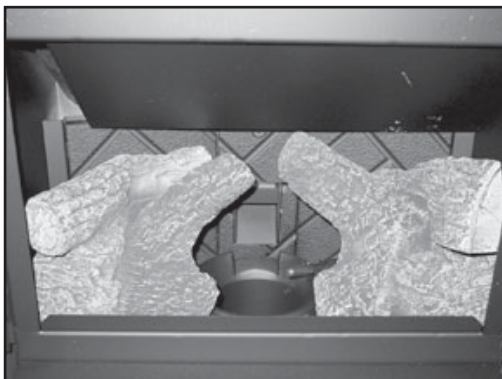


Figure 21.2

F. Thermostat Installation

There is a 4 screw terminal block located on the back lower left corner of the stove directly above the power cord inlet. The center 2 screws are for the thermostat wires (see **Figure 22.1**).

The appliance comes standard with a wall thermostat and 25' of wire. If you need to run more than 25' make sure you use a continuous strand of 18 to 22 gauge thermostat wire. For optimum performance your thermostat should be located on an inside wall approximately 5' up from the floor.

How to Install Your Wall Thermostat

1. Separate the body of the thermostat from the mounting plate by gently pulling the two pieces apart
2. Connect your thermostat wire to the W and R terminals (see **Figure 22.2**)
3. Screw the backer plate to the wall using the hardware included
4. Snap the thermostat to the backer plate
5. Connect the wires to the 2 center screws on the terminal block on the back of the product

Battery Installation and Replacement

NOTE: 2 AA batteries are included with the thermostat and must be installed before the appliance can be operated (see **Figure 22.3**).

Install fresh batteries immediately when the **REPLACE BATTERY** warning begins flashing. The warning flashes about two months before the batteries are depleted. Even if the warning does not appear, you should replace batteries once a year.

If batteries are inserted within two minutes, the time and day will not have to be reset. All other settings are permanently stored in memory.



CAUTION



Shock hazard.

- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

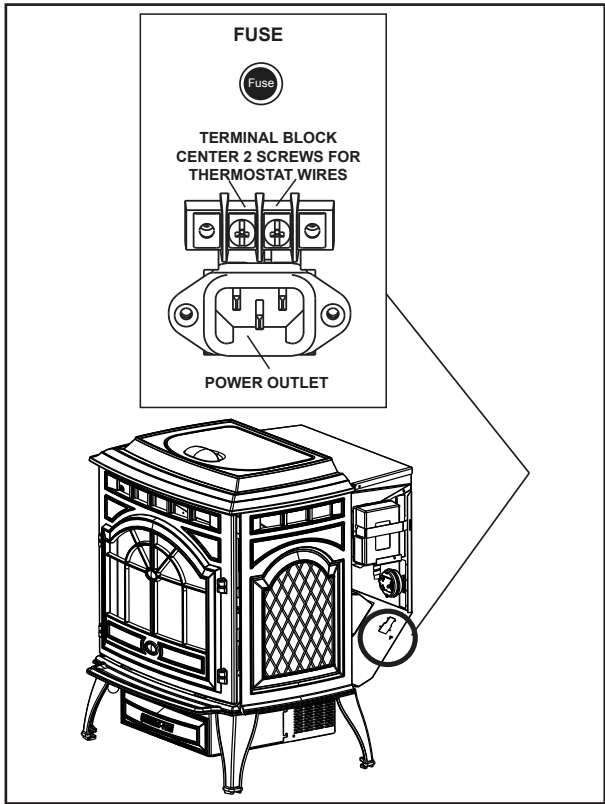


Figure 22.1



Figure 22.3

Thermostat Operation

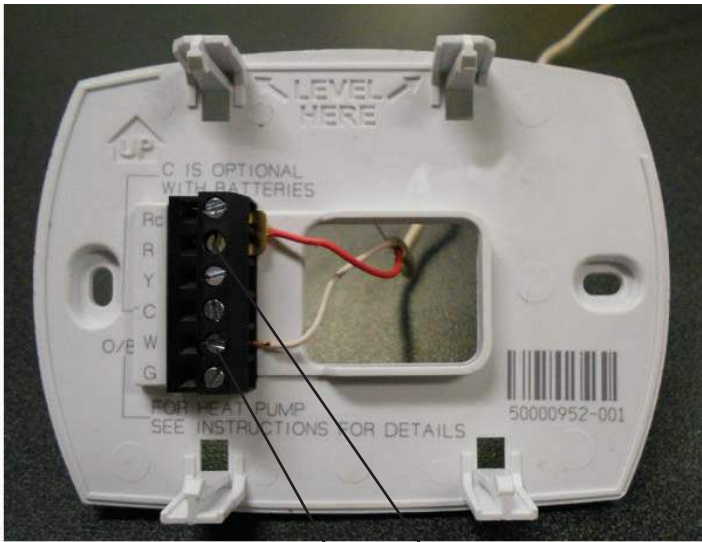
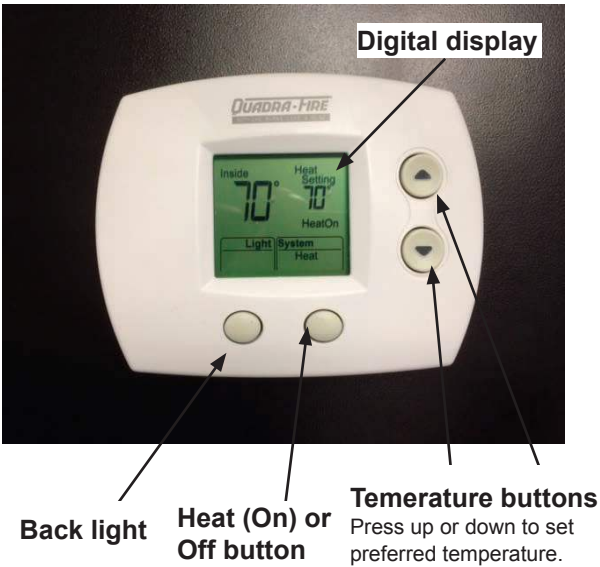


Figure 22.2

W R

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 8** 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.

CAUTION

THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED

Do NOT cut through:

- Floor joist, wall, studs or ceiling trusses.
- Any supporting material that would affect the structural integrity.

This unit is to be connected to a factory-built chimney conforming to CAN/ULC-S629, Standard for 650°C Factory-Built Chimneys.
For removal of the chimney for mobile home transportation, contact the proper transportation officials.

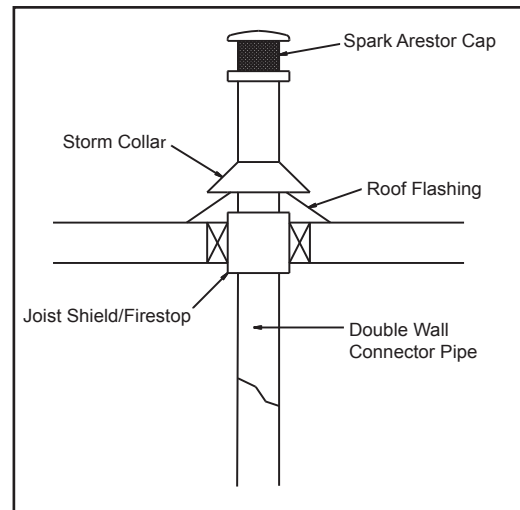


Figure 22.1

CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

WARNING

It is critical to have a working smoke detector installed in the home of unit operation.

- 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..

WARNING

Products of combustion generate carbon monoxide and different fuels generate different levels. Carbon monoxide

- Only use approved fuels in this appliance.
- Always keep door shut during operation. Operating this unit with doors open can allow CO to leak into the home.

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.



WARNING

NEVER INSTALL IN A SLEEPING ROOM.

8 Accessory List

QUADRA-FIRE® Service Parts

Castile-FS-B

 Beginning Manufacturing Date: Oct. 2009
 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	
OPTIONAL ACCESSORIES				
	Collar, Offset, Top Vent		812-3570	
	Damper, 3 Inch - Tall Vertical Installs Only		PEL-DAMP3	Y
	Damper, 4 Inch - Tall Vertical Installs Only		PEL-DAMP4	
	Outside Air Kit, Rear		811-0872	
	Channel, Air Intake		413-7040	
	Cover, Outside Air Kit, Floor		411-1071	
	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-2	
	Vent Adapter, 90, Cleanout		TPVNT-6	
	Vent Adapter, Rear		811-0620	
FASTENERS				
	Avk Rivnut Repair Kit - with 1/4-20 & 3/8-16 Rivnut Tools		RIVNUT-REPAIR	Y
	Bolt, Hex Head, 1/4-20 X 1	Pkg of 10	25221A/10	Y
	Hinge Pin (Rivet) Button Head	Pkg of 25	25272/25	Y
	Nut, Capped, Push, 1/4	Pkg of 24	7000-157/24	Y
	Nut, Keps Lock, 8-32	Pkg of 40	226-0060/40	Y
	Nut, Ser Flange Small 1/4-20	Pkg of 24	226-0130/24	Y
	Nut, Wing, 8-32	Pkg of 24	226-0160/24	Y
	Rivet, Right Iron, 1/4 X 1-1/4	Pkg of 25	229-0090/25	Y
	Screw, Flat Head Philips 8-32 X 1/2	Pkg of 10	832-0860	Y
	Screw, Pan Head Philips 10-32 X 3/8	Pkg of 40	21799A/40	Y
	Screw, Pan Head Philips 8-32 X 3/4	Pkg of 24	229-1100/24	Y
	Screw, Sheet Metal #8 X 1/2 S-Grip	Pkg of 40	12460/40	Y
	Thumbscrew, 1/4-20 X 3/4	Pkg of 10	844-5070	



CONTACT INFORMATION

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

**Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer
log onto www.quadrafire.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.

