

Installation Manual

Installation & Appliance Set-Up

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

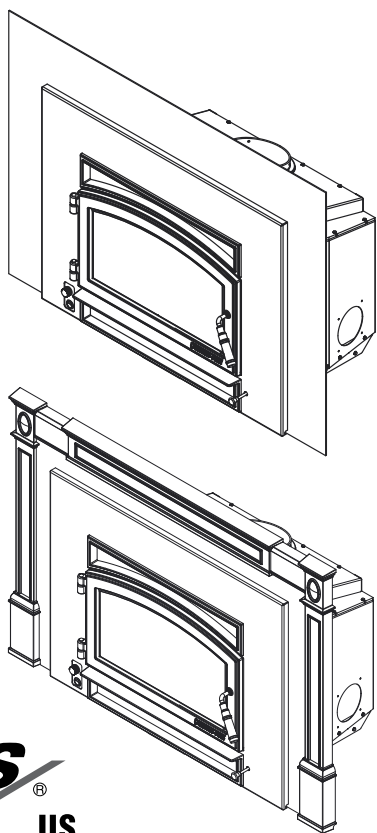
OWNER: Retain this manual for future reference.

NOTICE: DO NOT DISCARD THIS MANUAL

FORGE & FLAME

Expedition I Wood Burning Insert

Model: Quadra-Fire Expedition I



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



WARNING



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

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not over fire - If heater 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 and appliance will cause burns.

- Do not touch glass until it is cooled
- Use leather gloves when reloading fuel
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as appliance.
- 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.



WARNING



Fire Risk.

For use with solid wood fuel only.
Other fuels may over fire and generate poisonous gases (i.e. carbon monoxide).

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

REMARQUE : Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.forgenflame.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 may result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.
- **NOTICE:** Indicates practices which may cause damage to the appliance or to property.

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➔ = Contains updated information

1 Important Safety Information

A. Insert Safety Certification

Mode Number:	EXPEDITION-I
Laboratory:	PFS TECO
Report Number:	21-670
Type:	Solid Fuel Type, Listed Room Heater
Standard:	UL1482, ULC S628 and (UM) 84-HUD.

B. Insert Emissions Certification

Model Number:	EXPEDITION-I
Laboratory:	PFS TECO
Report Number:	21-661
Standard:	ASTM E2780-10
Can be found at: www.forgenflame.com/pages/epa-certification	

This EXPEDITION-I is Certified to comply with 2020 crib wood particulate emission standards.



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

NOTE: This installation must conform with local codes. In the absence of local codes you must comply with the **UL1482, (UM) 84-HUD and NPFA211 in the U.S.A. and the ULC S628-93 and CAN/CSA-B365 Installation Codes in Canada. NOT APPROVED FOR MOBILE HOME INSTALLATIONS!**



WARNING

This appliance is **NOT** approved for installation in mobile homes or manufactured homes. Installation in such structures is prohibited unless the appliance is specifically listed and labeled for manufactured housing in accordance with HUD Manufactured Home Construction and Safety Standards (24 CFR Part 3280).

Installation of this appliance in a mobile or manufactured home will result in non-compliance with applicable codes, may void the warranty, and may create a fire hazard.

C. BTU & Efficiency Specifications

EPA Certification #:	292-21
EPA Certified Emissions:	1.9 grams per hour
*LHV Tested Efficiency:	70%
**HHV Tested Efficiency:	65%
***EPA BTU Output:	23,800 to 27,400 / hr
****Peak BTU/Hour Output:	37,400
Vent Size:	6 inches
Firebox Size:	1.45 cubic feet
Recommended Wood Length:	18 inches
Fuel	Seasoned Cord Wood

* Weighted average LHV (Low Heating Value) efficiency using Douglas Fir dimensional lumber and data collected during EPA emission tests in accordance with the requirements of CSA B415.1. LHV assumes the moisture is already in a vapor state so there is no loss in energy to vaporize.

** Weighted average HHV (High Heating Value) efficiency using Douglas Fir dimensional lumber and data collected during EPA emission tests in accordance with the requirements of CSA B415.1. HHV includes the energy required to vaporize the water in the fuel.

*** A range of BTU outputs calculated using HHV Efficiency and the burn rates from the EPA tests, using Douglas Fir dimensional lumber.

**** A peak BTU out of the appliance calculated using the maximum first hour burn rate from the High EPA Test and BTU content of seasoned cordwood (8600) times the efficiency.

D. Electrical Rating

Maximum 1.5 Amps (blower), 96 inch Cord.

E. Glass Specifications

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

F. Non-Combustible Materials

Material which will not ignite and burn, composed of any combination of the following:

- Steel
- Plaster
- Brick
- Iron
- Concrete
- Tile
- Glass
- Slate

Materials reported as passing **ASTM E 136, Standard Test Method for Behavior of Metals, in a Vertical Tube Furnace of 750° C.**

G. Combustible Materials

Material made of/or surfaced with any of the following materials:

- Wood
- Compressed Paper
- Plant Fibers
- Plastic
- Plywood/OSB
- Sheet Rock (drywall)

Any material that can ignite and burn: flame proofed or not, plastered or non-plastered.

H. Sleeping Room

When an appliance is installed in a sleeping room an outside air kit is required and it is recommended that a smoke and/or CO alarm be installed in the bedroom. The size of the room must be at least 50ft³ per 1,000 Btu/hr stove input

I. California - Prop65

WARNING

This product and the fuels used to operate this product (wood), and the products of combustion of such fuels, can expose you to chemicals including carbon black, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to: WWW.P65Warnings.ca.gov

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 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.

Hearth & Home Technologies WILL NOT warranty stoves that exhibit evidence of over-firing. Evidence of over-firing includes, but is not limited to:

- Warped air tube
- Deteriorated refractory brick retainers
- Deteriorated baffle and other interior components

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

2 Getting Started

A. Design and Installation Considerations



CAUTION

Check building codes prior to installation.

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

Before installing, determine the following:

- Type of chimney connector to be used
 - Single wall, 6 inch (152mm) diameter, stainless steel, or
 - Double wall, 6 inch (152mm) diameter, stainless steel
- Reference **Clearance to Combustibles** on page 10.
- Power outlet located close by for optional blower. **NOTE:** power cord is 8 feet in length.



WARNING

Asphyxiation Risk.

- Do NOT connect this unit to a chimney flue servicing another appliance.
- Do NOT connect to any air distribution duct or system.

May allow flue gases to enter the house.



B. Draft

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

Considerations for successful draft include:

- Preventing negative pressure
- Location of appliance and chimney

To be sure that your appliance burns properly:

- During the burn, the chimney draft (static pressure) should be approximately -0.07 inch water column (W.C.)
- Measure the W.C at 6 inches (152mm) above the top of the appliance after one hour of operation.

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

- Inadequate draft due to environmental conditions
- Down drafts
- Tight sealing construction of the structure
- Mechanical exhausting devices
- Over drafting caused by excessive chimney heights
- Ideal performance is with height of chimney between 14-16 feet (4.26-4.88m) measured from the base of the appliance.

C. Negative Pressure

 WARNING	
	Asphyxiation Risk. • Negative pressure can cause spillage of combustion fumes, soot and carbon monoxide. • Appliance needs to draft properly for safety.

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

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
- Basement installations should be avoided

 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 Over fire - If appliance or chimney connector glows, you are over firing. Any such action that may cause a fire hazard.

D. Tools And Supplies Needed

Before beginning the installation be sure the following tools and building supplies are available:

- Reciprocating saw
- Framing material
- Pliers
- High temp caulking material
- Hammer
- Gloves
- Phillips screwdriver
- Framing square
- Flat blade screwdriver
- Electric drill and bits
- Plumb line
- Safety glasses
- Level
- Tape measure
- Misc. screws and nails
- 7/16 socket or wrench
- 1/2-3/4 in. length, #6 or #8 self-drilling screws

E. Inspect Appliance and Components

- Remove appliance and components from packaging and inspect for damage.
- Vent system components and doors are shipped in separate packages.
- Report to your dealer any parts damaged in shipment.
- Read all the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.

 WARNING	
	Fire Risk. Inspect appliance and components for damage. Damaged parts may impair safe operation. • Do NOT install damaged components. • Do NOT install incomplete components. • Do NOT install substitute components. Report damaged parts to dealer.

F. 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.

YES **IF NO, WHY?**

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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.

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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.
Fully insulated liner installed.

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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.

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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. Dimensions

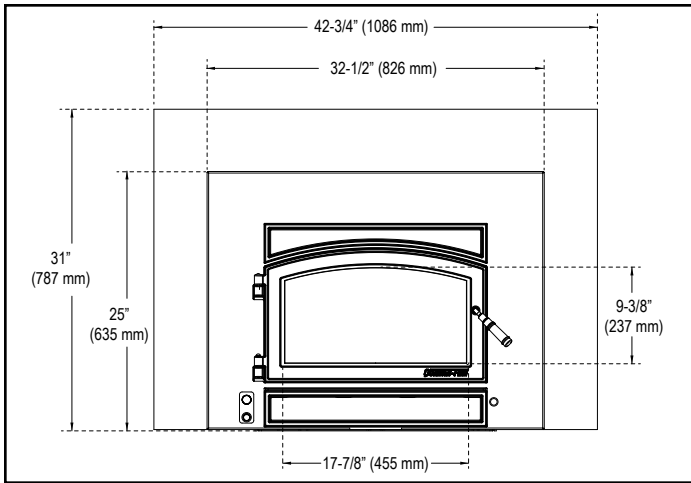


Figure 8.1 - Front View with Medium Flat Surround (SP1-4331)

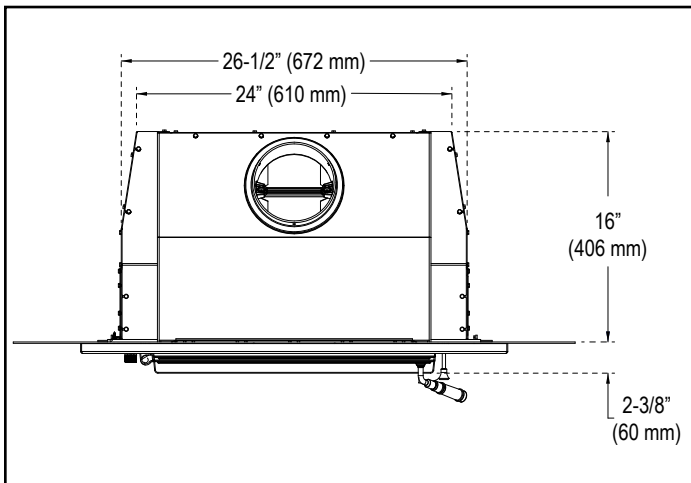


Figure 8.2 - Top View with Flat Surround

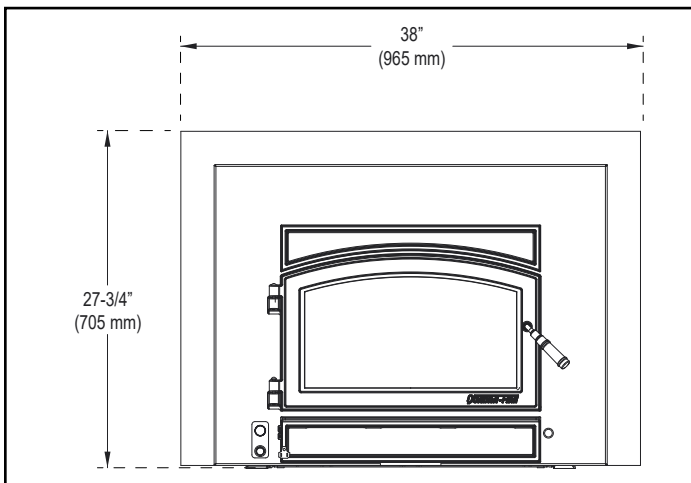


Figure 8.3 - Front View with Small Flat Surround (SP1-3828)

NOTE: Flue Collar size is 6 inch (152mm) diameter (ID)

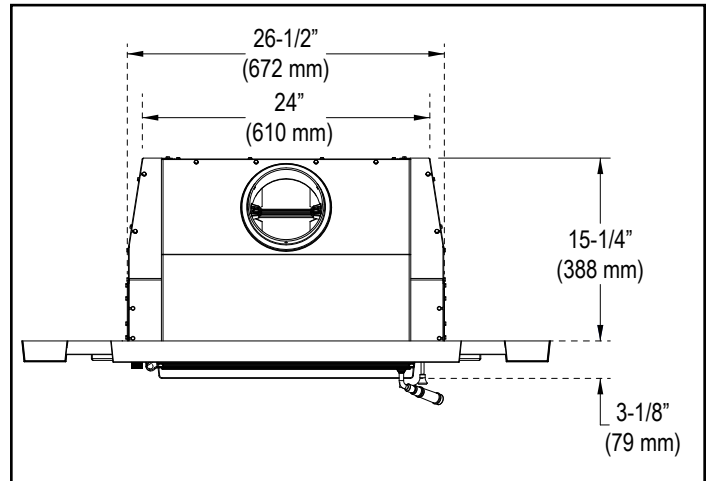


Figure 8.4 - Top View with Cast Surround

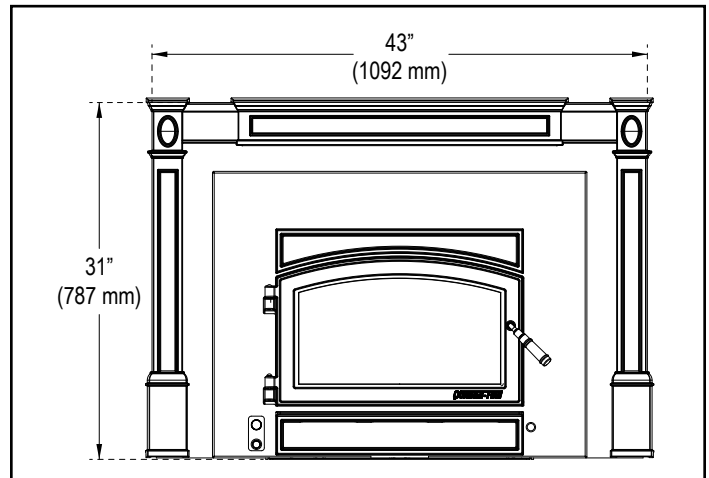


Figure 8.5 - Front View with Cast Trim Surround (CT1-4331)

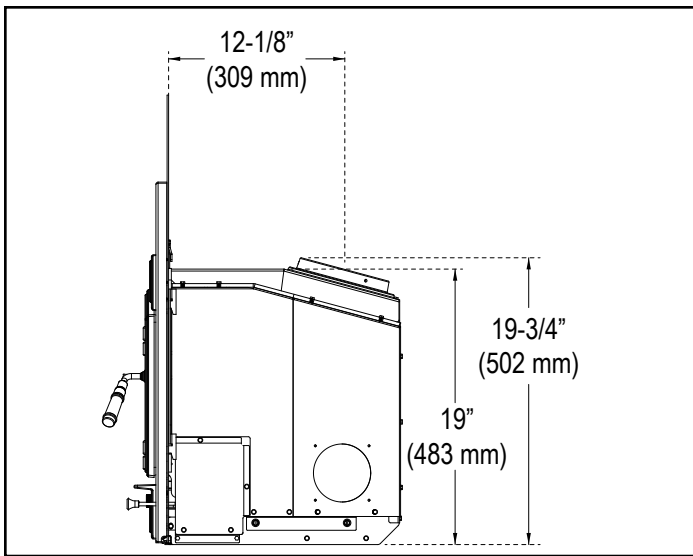


Figure 9.1 - Side View with Flat Surround

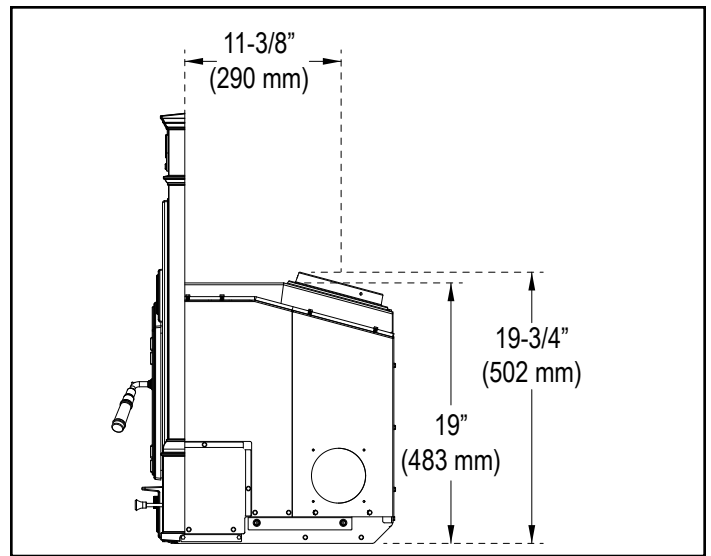


Figure 9.4 - Side View with Cast Surround

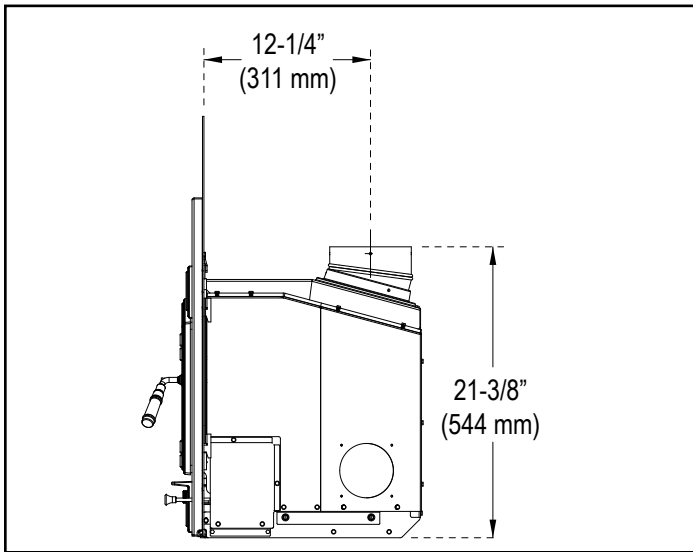


Figure 9.2 - Side View with Flat Surround and Optional 15 Degree Adapter (DV-6DLR-E15ADSS)

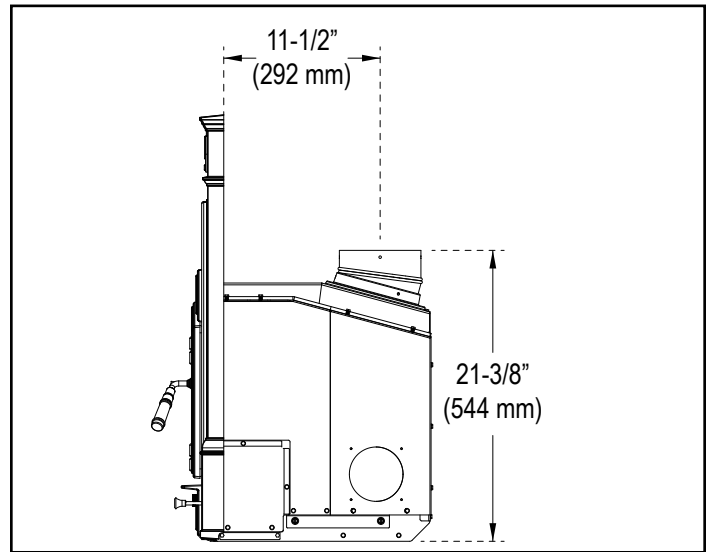


Figure 9.5 - Side View with Cast Surround and Optional 15 Degree Adapter (DV-6DLR-E15ADSS)

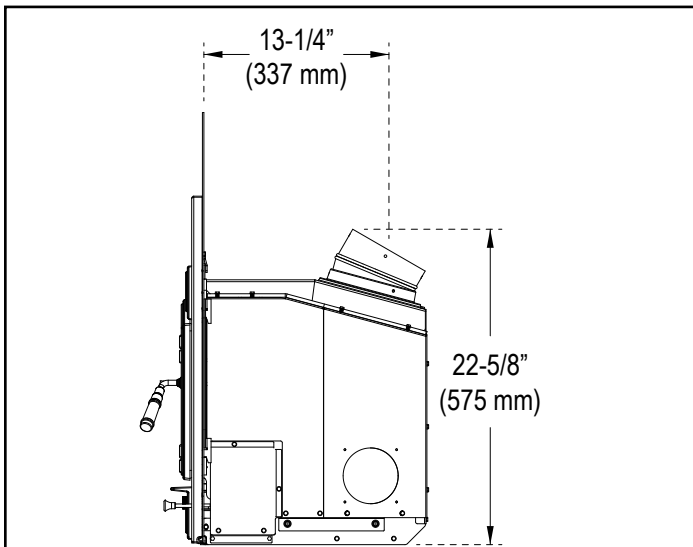


Figure 9.3 - Side View with Flat Surround and Optional 15 Degree Adapter (DV-6DLR-E15ADSS)

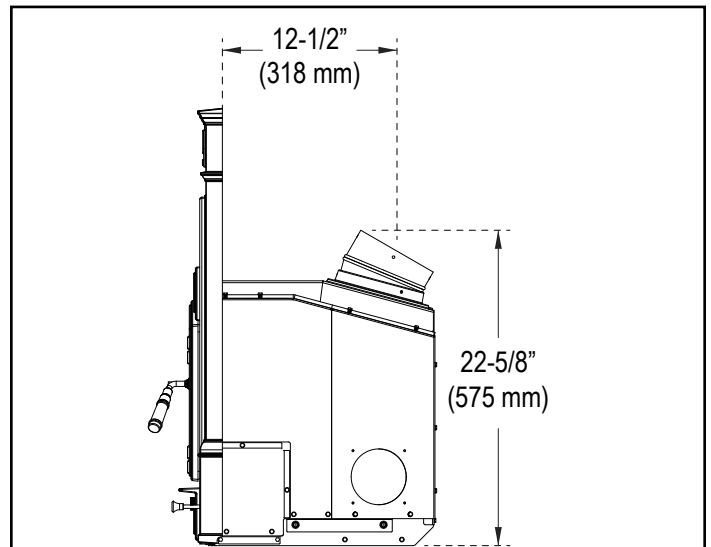


Figure 9.6 - Side View with Cast Surround and Optional 15 Degree Adapter (DV-6DLR-E15ADSS)

B. Clearances to Combustibles

In Canada a full length 6 inch (152mm) S635 flue liner required as per ULC S628.

In USA a minimum 5 ft length (1.82m), 6 inch (152mm) diameter flue liner is required as per UL 1482.

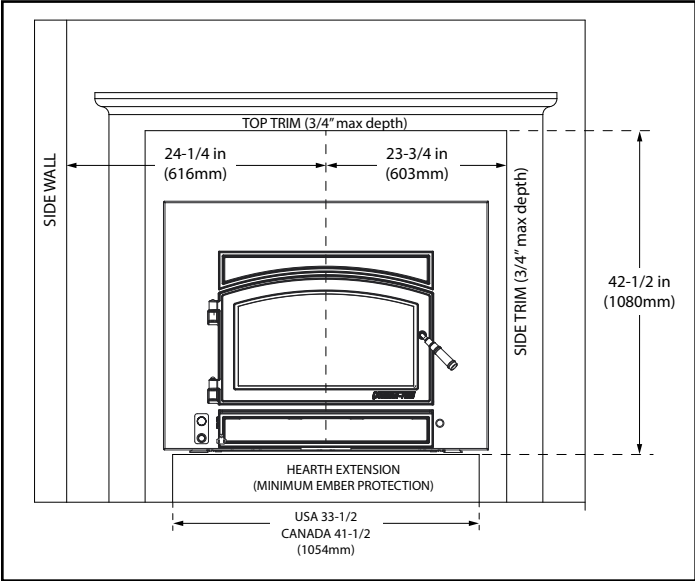


Figure 10.1

NOTE: If trim measurement is over 3/4 in (19mm) in depth use mantle or side clearances to combustibles.

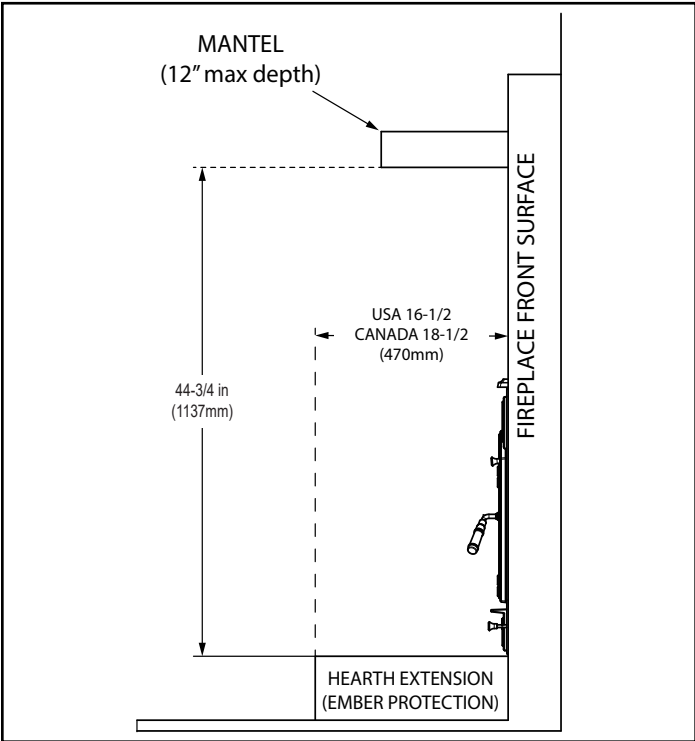


Figure 10.2

United States and Canada (UL and ULC)

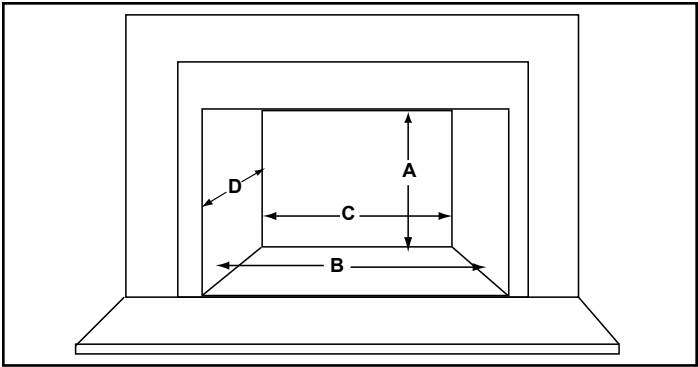


Figure 10.3

Minimum Opening Dimensions		Inches	Millimeters
A	Height	19-1/4	489
B	Front Width (Steel Surround)	27	686
	Front Width (Cast Surround)	27	686
C	Back Width	24-1/2	622
D	Depth (Steel Surround)	16	406
	Depth (Cast Surround)	15-1/4	387

Table 10.1

NOTE: Minimum opening dimensions include a 1/4 inch (6mm) clearance around unit.

WARNING

Fire Risk.

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

NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction



CAUTION

Hearth and Home Technologies does not recommend adhesive based vinyl flooring due to thermal expansion. Floating-style flooring (LVP - luxury vinyl plank or LVT – luxury vinyl tile) can be used, but it will reach temperatures up to 110 °F in a room with ambient temperature of 70 °F. Consult flooring specifications to ensure compatibility.

HHT recommends wood stoves and inserts have 57 inches of alternative flooring in front of the stove before using LVP/LVT regardless if they sit flush on the floor or are elevated on a raised hearth.

For all other flooring, continue to follow clearance to combustible requirements in the installation manual.

NOTICE: Clearances that do not meet the minimum guidelines could result in damage or buckling to the vinyl flooring and is done at the installer's or homeowner's risk.

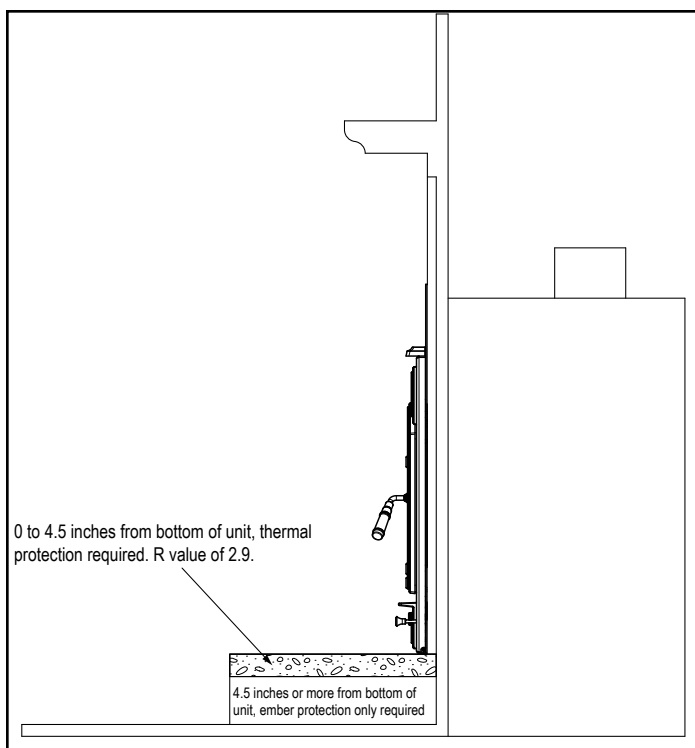


Figure 11.1

NOTE: Hearth Rug may be used in Suggested Area

Material

Thermal Resistance: R value

The R value is a measure of a material's resistance to heat transfer.

R value is convenient when more than one material is used since you can add the R values together, whereas you can not do this for k value.

The HIGHER the R factor means less heat is being conducted through the non-combustible material to the combustible material beneath it.

The R value of a material must be equal or larger then the required R value to be acceptable.

How to Determine if Alternate Floor Protection Materials are Acceptable

All floor protection must be noncombustible (i.e. metals, brick, stone, mineral fiber boards, etc.). Any organic materials (i.e. plastics, wood paper products, etc.) are combustible and must not be used. The floor protection specified includes some form of thermal designation such as R-value (thermal resistance) or k-factor (thermal conductivity).

Procedure:

- Convert specifications to R-value:
 - R-value given - no conversion needed.
 - k-factor is given with a required thickness (T) in inches:

$$R = \frac{1}{k} \times T$$
 - K-factor is given with a required thickness (T) in inches:

$$R = \frac{1}{K \times 12} \times T$$
 - r-factor is given with a required thickness (T) in inches:

$$R = r \times T$$
- Determine the R-value of the proposed alternate floor protector:
 - Use the formula in Step 1 to convert values not expressed as R.
 - For multiple layers, add R-values of each layer to determine overall R-value.
- If the overall R-value of the system is greater than the R-value of the specified floor protector, the alternate is acceptable.

EXAMPLE: The specified floor protector should be 1/2-inch thick material with k-factor of 0.84. The proposed alternate is 4" brick with an r-factor of 0.2 over 1/8" mineral board with a k-factor of 0.29

Step a: Use formula above to convert specification to R-value:

$$R = \frac{1}{k} \times T = \frac{1}{0.84} \times 0.5 = 0.59$$

Step b: Calculate R of proposed system.

$$4" \text{ brick of } r = 0.2, \text{ therefore: } R_{\text{brick}} = 0.2 \times 4 = 0.8$$

$$1/8" \text{ mineral board of } k = 0.29, \text{ therefore}$$

$$R_{\text{mineralboard}} = \frac{1}{0.29} \times 0.125 = 0.431$$

$$R_{\text{total}} = R_{\text{brick}} + R_{\text{mineralboard}} = 0.8 + 0.431 = 1.231$$

Step c: Compare proposed system R_{total} of 1.231 to specified R of 0.59. Since proposed system R_{total} is greater than required, the system is acceptable.

Definitions:

$$R = \frac{(\text{ft}^2)(\text{hr})(^\circ\text{F})}{\text{Btu}}$$

$$k = \frac{(\text{Btu})(\text{in})}{(\text{ft}^2)(\text{hr})(^\circ\text{F})} = K \times 12$$

$$K = \frac{(\text{Btu})(\text{ft})}{(\text{ft}^2)(\text{hr})(^\circ\text{F})}$$

$$r = \frac{(\text{ft}^2)(\text{hr})(^\circ\text{F})}{(\text{Btu})(\text{in})} = \frac{1}{k}$$

4 Chimney Systems

A. Locating Your Stove & Chimney

Location of the appliance and chimney will affect performance. As shown in **Figure 12.1** the chimney should:

- Install through the warm space enclosed by the building envelope. This helps to produce more draft, especially during lighting and die down of the fire.
- Penetrate the highest part of the roof. This minimizes the affects of wind turbulence and down drafts.
- Consider the appliance location in order to avoid floor and ceiling attic joists and rafters.
- Locate termination cap away from trees, adjacent structures, uneven roof lines and other obstructions.

Your local dealer is the expert in your geographic area and can usually make suggestions or discover solutions that will easily correct your flue problem.

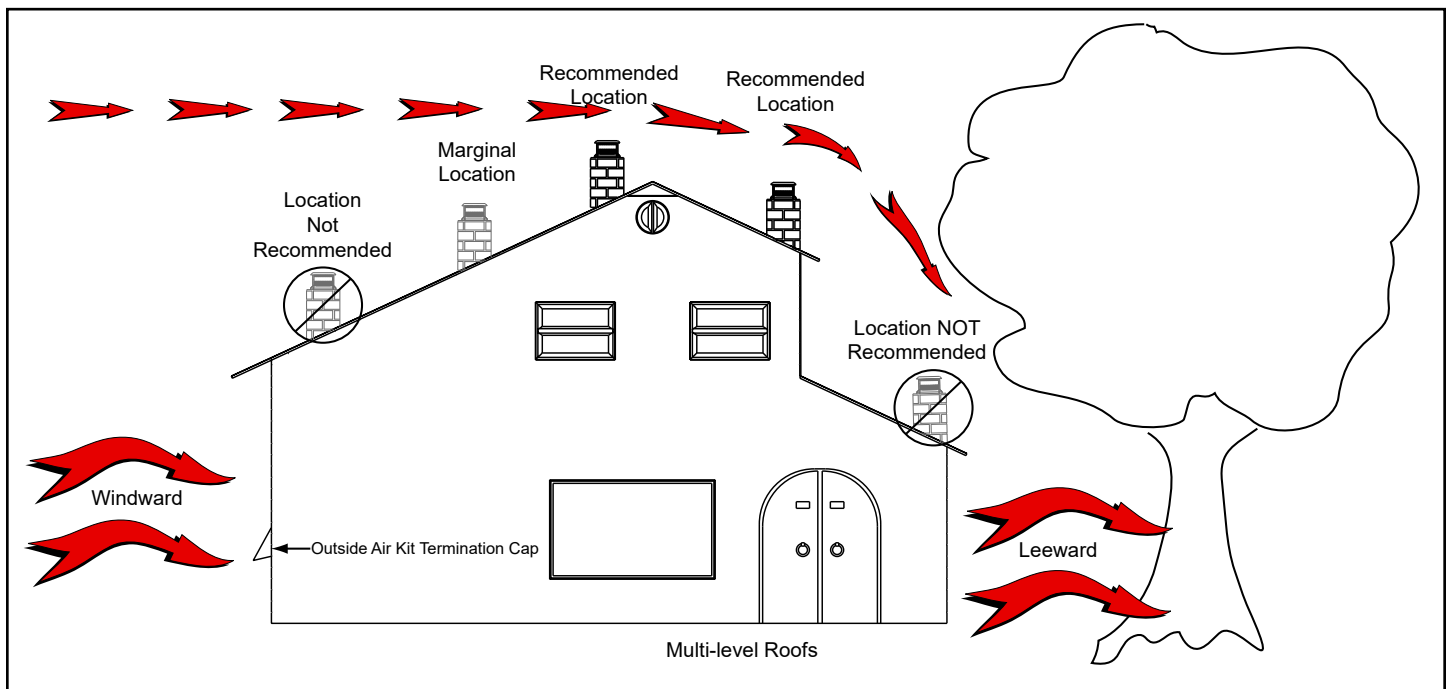


Figure 12.1

B. Chimney Termination Requirements

Follow manufacturer's instructions for clearance, securing flashing and terminating the chimney (**Figure 13.1** and **Figure 13.2**).

- Must have an approved and Listed cap
- Must not be located where it will become plugged by snow or other material
- Must terminate at least 3 feet (91cm) above the roof **and** at least 2 feet (61cm) above any portion of the roof within 10 feet (305cm).
- Must be located away from trees or other structures

NOTICE:

- Chimney performance may vary.
- Trees, buildings, roof lines and wind conditions affect performance.
- Chimney height may need adjustment if smoking or overdraft occurs.

NOTICE: Locating the appliance in a basement or in a location of considerable air movement can cause intermittent smoke spillage from appliance. Do not locate appliance near

- Frequently open doors
- Central heat outlets or returns

C. 2-10-3 Rule

These are safety requirements and are not meant to assure proper flue draft.

This appliance is made with a 6 inch (152mm) diameter chimney connector as the flue collar on the unit.

- Changing the diameter of the chimney can affect draft and cause poor performance.
- It is not recommended to use offsets and elbows at altitudes above 4000 feet above sea level and or when there are other factors that affect flue draft.

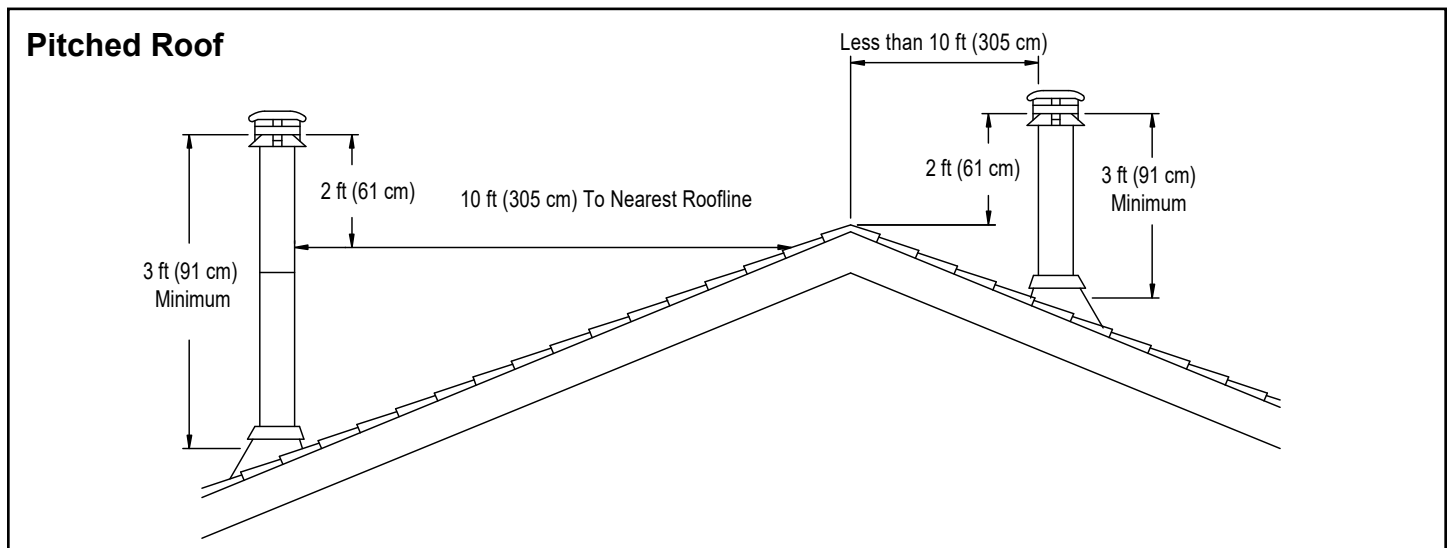


Figure 13.1

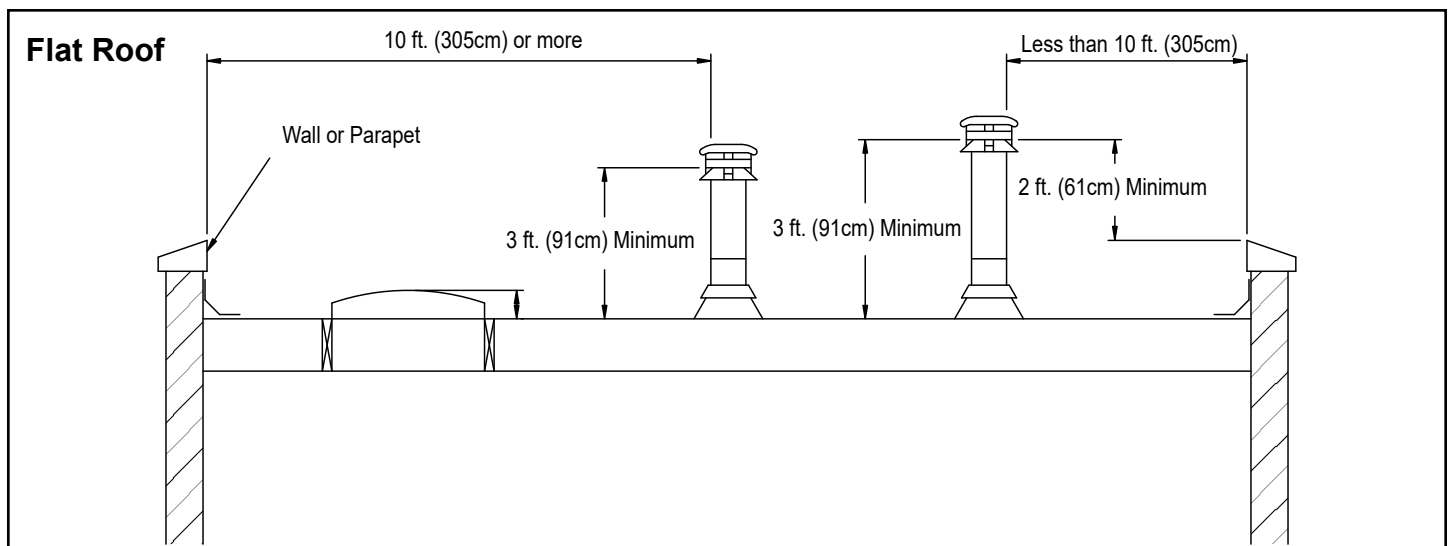


Figure 13.2

D. Venting Systems

Chimney Connector: The appliance must be connected to the chimney using a 6 in. (152 mm) diameter stainless steel chimney connector. The connector must extend from the flue collar of the insert to the chimney liner.

Chimney Liner: This appliance is approved for installation only into a masonry fireplace connected to a masonry chimney. A listed stainless steel chimney liner system is required and shall be installed in accordance with the applicable standards below.

United States: A 6 in. (152 mm) diameter stainless steel chimney liner, with a minimum installed length of 5 ft (1.82 m), shall be installed in accordance with UL 1482 and NFPA 211.

Canada: A full-length 6 in. (152 mm) ULC S635 stainless steel chimney liner shall be installed in accordance with ULC S628 and CAN/CSA_B365



WARNING



Risk of Fire!

Follow venting manufacturer's clearances and instructions when installing venting system.

E. Inspections

Existing chimneys should be inspected and cleaned by a qualified professional prior to installation. The chimney must not have cracks, loose mortar or other signs of deterioration and blockage. Hearth & Home recommends a **NFI or CSIA certified** professional or a technician, under the direction of a certified professional, conduct a Level II inspection per **NFPA 211**.



WARNING



Fire Risk

Inspection of Chimney:

- Chimney must be in good condition.
- Meets minimum standard of **NFPA 211**

F. Chimney Height / Rise and Run

This product was designed for and tested on a 6 inch (152mm) chimney, 14 to 16 feet (420-480cm) high, (includes appliance height) measured from the base of the appliance. The further your stack height or diameter varies from this configuration, the greater the likelihood it may affect performance.

Chimney height may need to be increased by 2 - 3% per each 1000 feet above sea level. It is not recommended to use offsets or elbows at altitudes above 4000 feet above sea level or when there are other factors that affect flue draft.



WARNING



Asphyxiation Risk.

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

May allow flue gases to enter the house.



WARNING

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.

G. Securing Chimney Components

All joints should be secured with 3 sheet metal screws or rivets per pipe manufacturers instructions. The sections must be attached to the insert and to each other with the crimped (male) end pointing toward the insert (**Figure 14.1**).

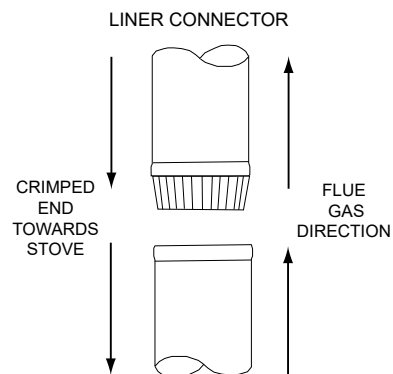


Figure 14.1



WARNING



Fire Risk.

Follow venting manufacturer's clearances and instructions when installing venting system.

H. Larger Chimneys

It is recommended that chimneys with larger diameters than 6 inches (152mm) be relined. An oversized flue can affect draft and impair performance and will allow increased build-up of creosote.

NOTICE: Check with your local building authorities and/or consult the **National Fire Protection Association (NFPA 211)**.

I. Masonry Chimney

This insert conforms with the **UL 1482 and ULC S628 (Canada)** in all respects, and is approved to **UL & ULC safety standards** for installation and use within a fireplace with a masonry chimney in accordance with **NFPA 211 and CAN/CSA-B365-01**.

- Must meet minimum standards of **NFPA 211**.
- Must have at least 5/8 inch (16mm) fire clay lining joined with refractory cement (Installations into a clay flue without a stainless steel liner may reduce draw which affects performance, will cause the glass to darken and produce excessive creosote).
- The masonry wall of the chimney, if brick or modular block, must be a minimum of 4 inches (102mm) nominal thickness.
- A chimney of rubble stone must be at least 12 inches (305mm) thick.

- Cross-sectional area shall conform to **NFPA 211-2006 Section 12.4.5.1**.
- Should be lined with a 6 inch (152mm) stainless steel flue liner to improve performance and reduce creosote build-up.
- An equivalent liner must be a listed chimney liner system or other approved material.
- No dilution air is allowed to enter the chimney.
 - a. Secure the fireplace damper in the open position. If this cannot be accomplished, it will be necessary to remove the damper
 - b. Seal damper area of chimney around chimney connector with a high temperature sealant or seal insert against the face of the fireplace.
 - c. Both methods must be removable and replaceable for cleaning and re-installation.
- When possible, install an airtight clean-out door to the rear of the smoke shelf.

NOTE: In Canada, this fireplace insert must be installed with a continuous chimney liner of a 6 inch (152mm) diameter extending from the fireplace insert to the top of the chimney. **The chimney liner must conform to the Class 3 requirements of CAN/ULC-S635.**

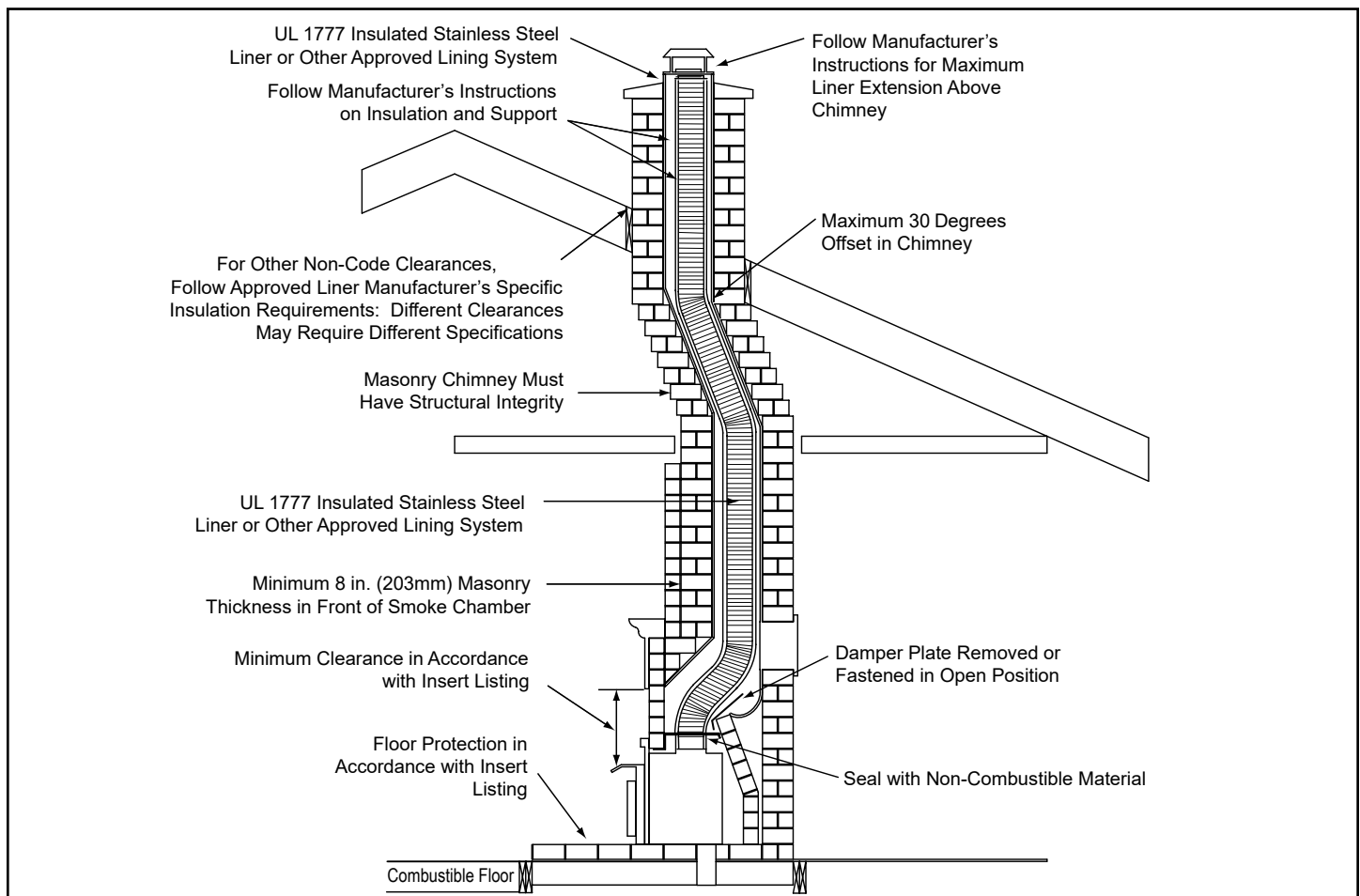


Figure 15.1 - Generic Insert Model Shown in Illustration

J. Metal Heat Circulating Masonry

This insert conforms with UL-1482 and ULC S628 (Canada) and is approved for installation into masonry fireplaces with masonry chimneys, including masonry fireplaces incorporating metal heat-circulating components.

This does not include listed factory-built or zero-clearance fireplaces.

NOTE: Refer to chimney liner manufacturer for recommendations on supporting the liner. Installation into fireplaces without a permit will void the listing.

Minimum Opening Dimensions		Inches	Millimeters
A	Height	19-1/4	489
B	Front Width (Steel Surround)	27	686
	Front Width (Cast Surround)	27	686
C	Back Width	24-1/2	622
D	Depth (Steel Surround)	16	406
	Depth (Cast Surround)	15-1/4	387

Table 16.1

K. Ovalizing Round Stainless Steel Liners

Ovalizing round stainless steel liners to accommodate the liner passing through the damper region of a fireplace is an allowable and acceptable practice.

Ensure that the ovalization is minimized to the extent required to fit through the damper.



WARNING



Asphyxiation Risk.
DO NOT connect this appliance to a chimney flue servicing another appliance or to any air distribution duct or system.
This may allow flue gases to enter the house.

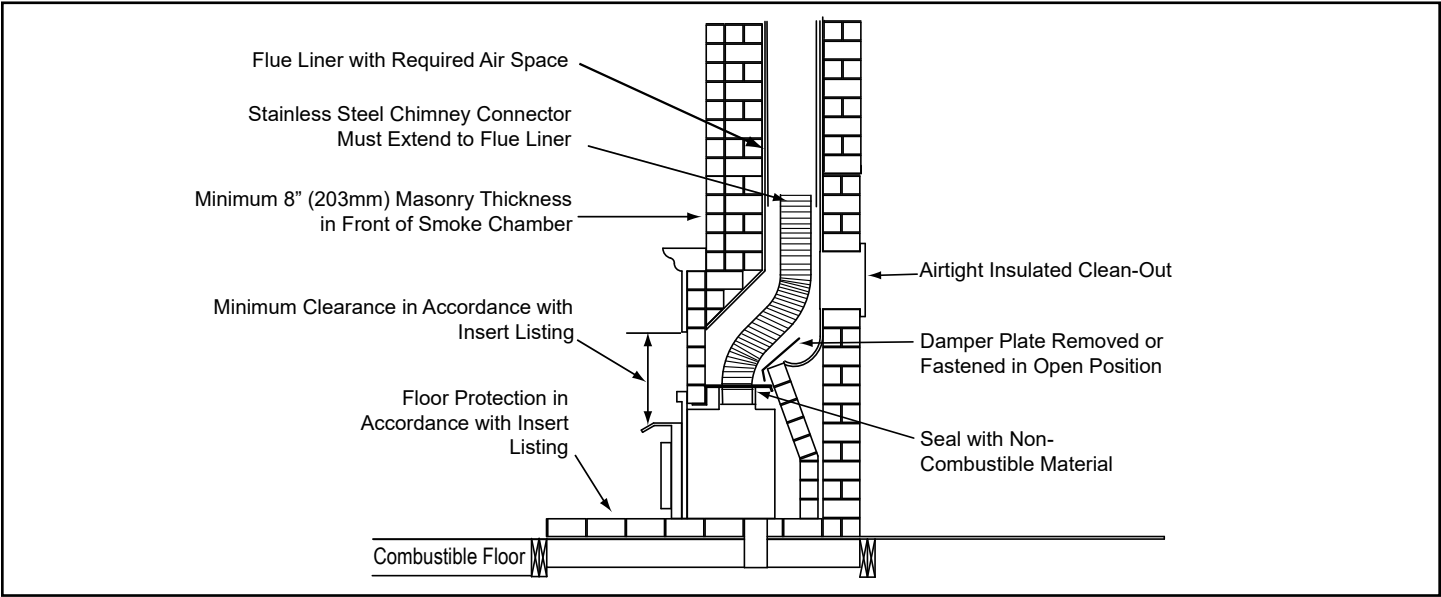


Figure 16.1 - Generic Insert Model Shown in Illustration

5 Appliance Set-Up

A. Outside Air Kit

A source of air (oxygen) is necessary in order for combustion to take place. Whatever combustion air is consumed by the fire must be replaced. Air is replaced via air leakage around windows and under doors. In homes that have tightly sealed doors and windows, an outside air source is needed.

Installation Instructions

1. Ensure existing access hole in fireplace will not be covered by the outer can. Existing outside air intake hole may be under, at the rear, or side of outer can. Outside air may also enter down existing chimney chase in some situations.
2. Remove screws holding outer covers in place on both sides. Place outside air plates in channel as shown (outside air plates are located in component pack). Re-install outer covers. (Figure 18.2)
3. Level outer can and install appliance. After installing the appliance in the outer can, seal the fireplace opening and trim package with insulation to prevent air leakage into the room.

**WARNING**

**Fire Risk. Asphyxiation Risk.**
Do not draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage
- Close proximity to exhaust vents or chimneys

**Fumes or odor may result**

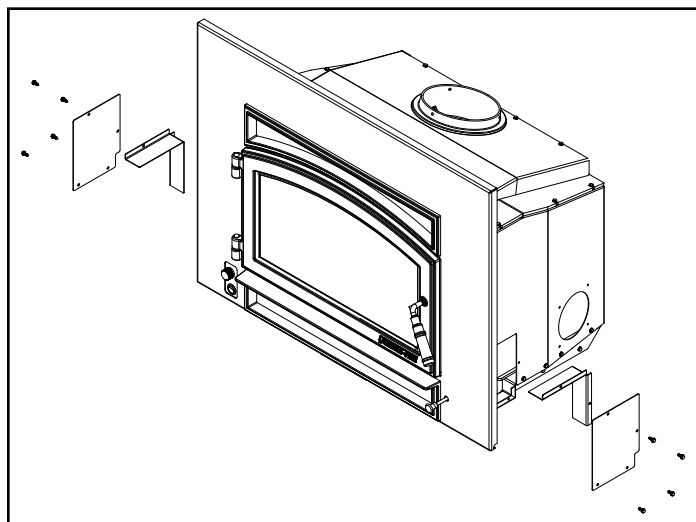


Figure 18.1

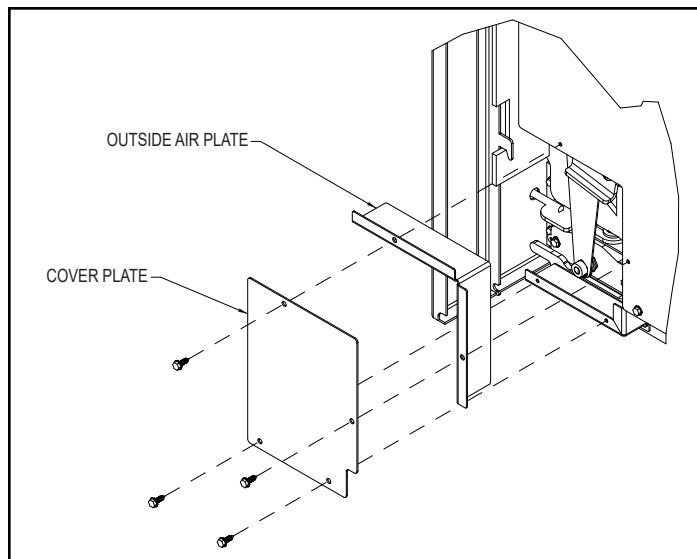


Figure 18.2

**WARNING**

**Asphyxiation Risk.**
Outside air inlet must be located to prevent blockage from:

- Leaves
- Snow or ice
- Other debris

Blockage may cause combustion air starvation. Smoke spillage may set off alarms or irritate sensitive individuals.

**WARNING**

**Asphyxiation Risk.**
Length of outside air supply duct shall NOT exceed the length of the vertical height of the exhaust flue.

- Fire will not burn properly
- Smoke spillage occurs when door is opened due to air starvation.

B. Stove Pipe or Liner to Flue Collar

1. There are 4 already drilled holes in the flue collar 90 degrees apart. Attach the flue collar to the stove pipe/liner. If the seal is questionable use high temperature sealant such as stove mastic (**Figure 19.1**).
2. Attach gasket to bottom side of flue collar with a thin coat of silicone.

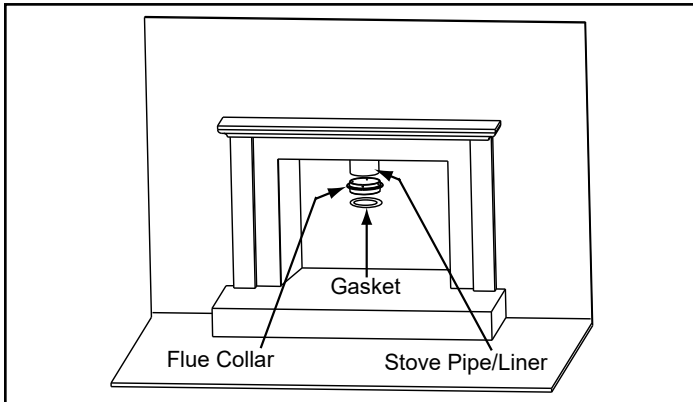


Figure 19.1

C. Optional Offset Adapter

Optional use of a Simpson DuraVent 15° Universal Elbow Part Number 4615 may be purchased directly through your local Simpson DuraVent Pipe Distributor or from your local Forge & Flame dealer, Part Number DV-6DLR-E15ADSS.

Figure 19.2 shows a vertical installation and also how to create an optional 30° elbow installation.

The 15° elbow may be secured directly to the flue collar. Follow the pipe manufacturer's instructions for using screws or rivets for attachment. Most pipe manufacturer's 6 inch (152mm) diameter flue liners may be attached directly to the top of the 15° elbow.

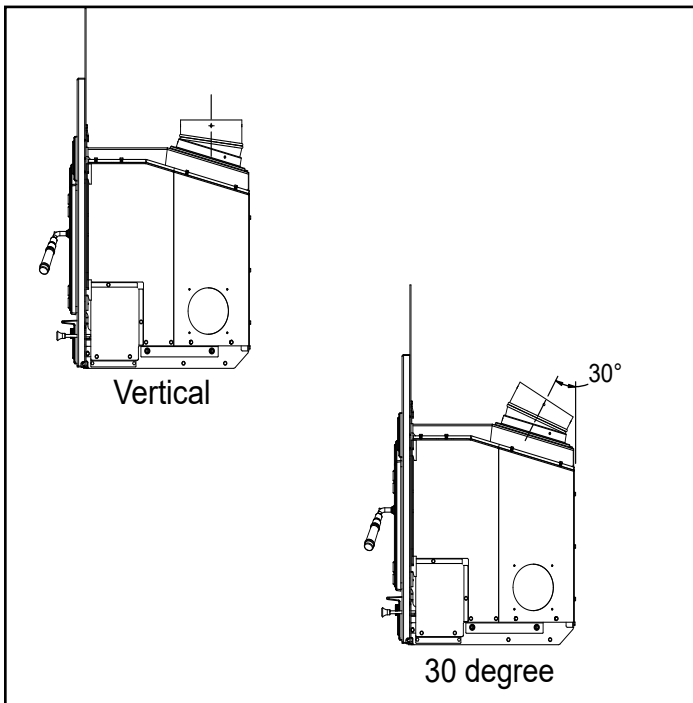


Figure 19.2

D. Appliance to Stove Pipe or Liner

1. Once you have the appliance in place and secured, reach up through the flue opening and grab the attachment bar and pull down inside flue opening (**Figure 19.3**).
2. Insert the 5/16 bolts inside the cast flue and through the chimney mounting bar. Securely tighten the nuts; fasteners are provided.
3. Re-install the tube channel assembly, baffle board, ceramic blanket and baffle protection channel.

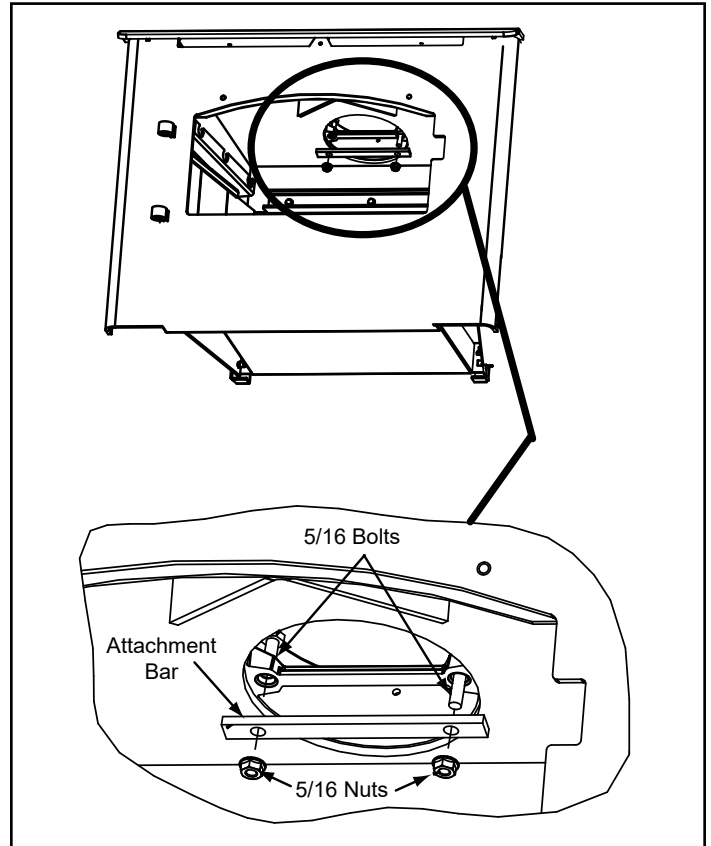


Figure 19.3

NOTE: These are generic drawings and may not represent your specific model.

E. Power Cord

The power cord is shipped assembled to the appliance. You may route the power cord either to the left or right side depending on your configuration for power source (**Figure 20.1**). **NOTE:** Power cord is 96 inches in length.

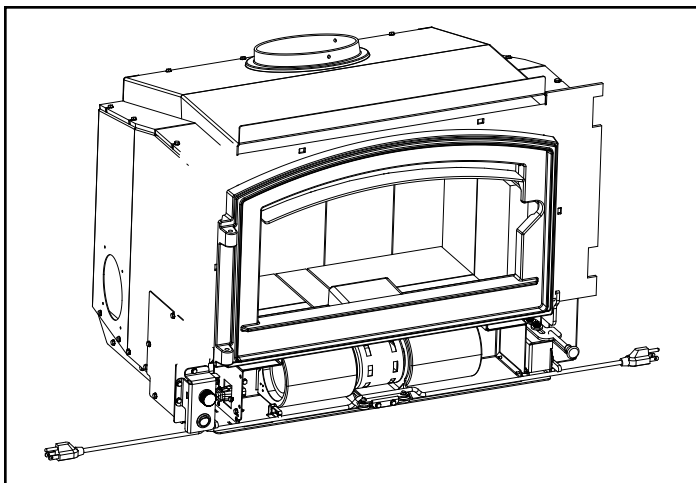


Figure 20.1

F. Flat Surround

	Overall Dimensions	Part Number
Small Size	38" x 28"	SP1-3828
Standard Size	43" x 31"	SP1-4331

1. Lay surround face down on a protected surface to prevent scratching.
2. Remove door from front of appliance and set aside laying it onto a protective surface (**Figure 20.2**).
3. Remove face from front of appliance and set aside laying it onto a protective surface (**Figure 20.2**).
4. Lift surround to front of appliance (**Figure 20.3**).
5. Reinstall face to front of appliance and then the door.

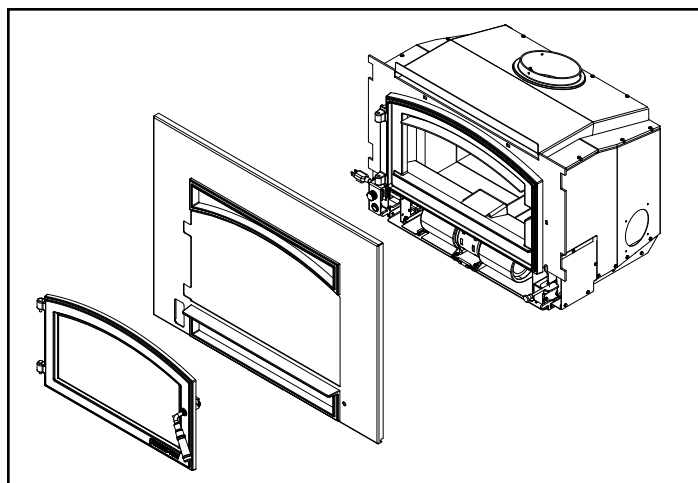


Figure 20.2

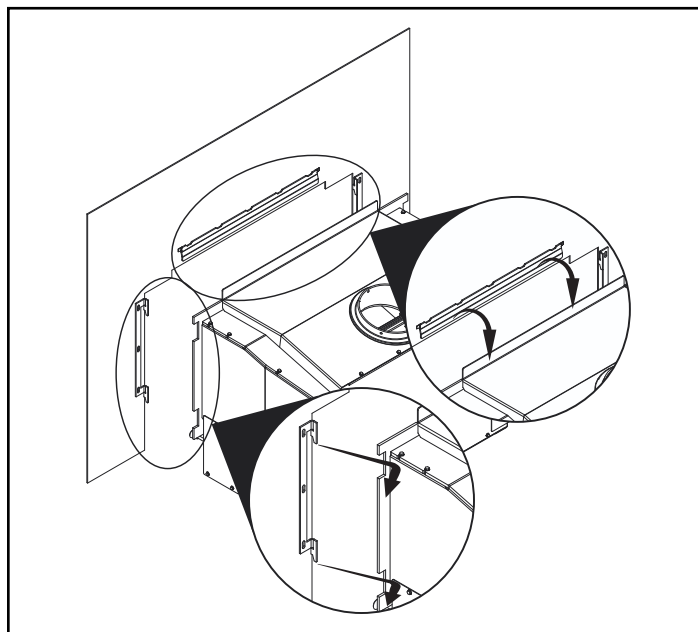


Figure 20.3

G. Flat Surround with Trim Kit

1. Follow steps one through three of **Flat Surround** installation on **page 20**.
2. Lift surround assembly to front of appliance (**Figure 20.3** on **page 20**).
3. Assemble trim as shown in **Figure 21.1**.

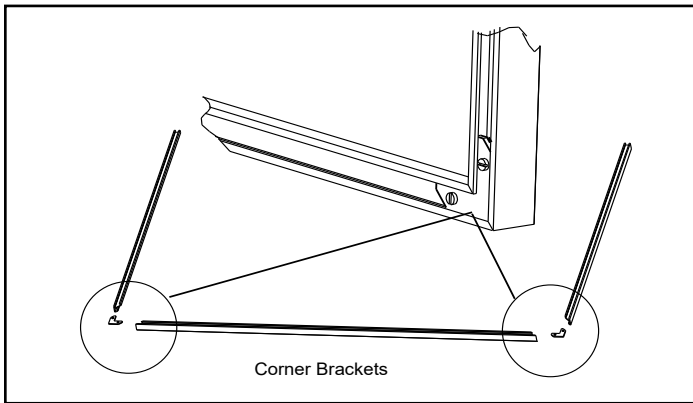


Figure 21.1

4. Slide trim over flat surround as shown in **Figure 21.2**.

NOTE: May need to pull appliance away from fireplace to clear mantle as you slide the trim over the flat surround.

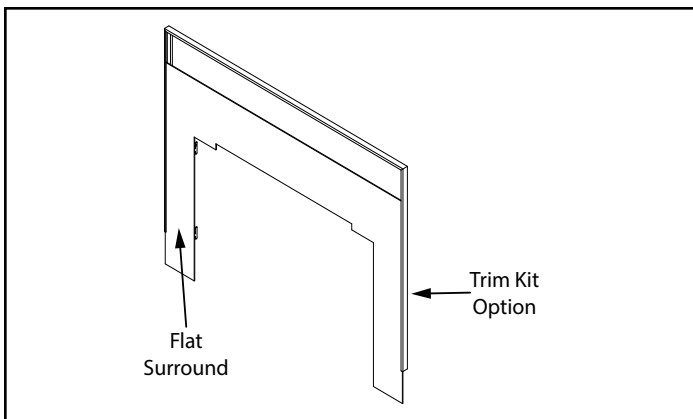


Figure 21.2

5. Install two steel springs at the top on each side and between the flat surround and the assembled trim kit as shown in **Figure 21.3**

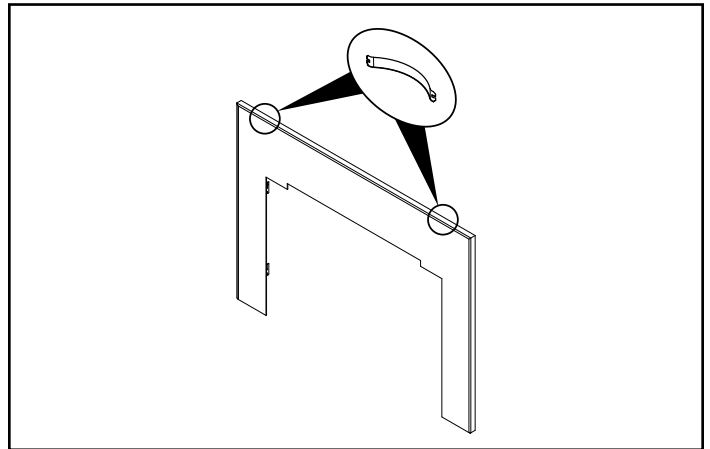


Figure 21.3

6. Install two steel springs on each side of the flat surround towards the bottom and the assembled trim kit (**Figure 21.4**).

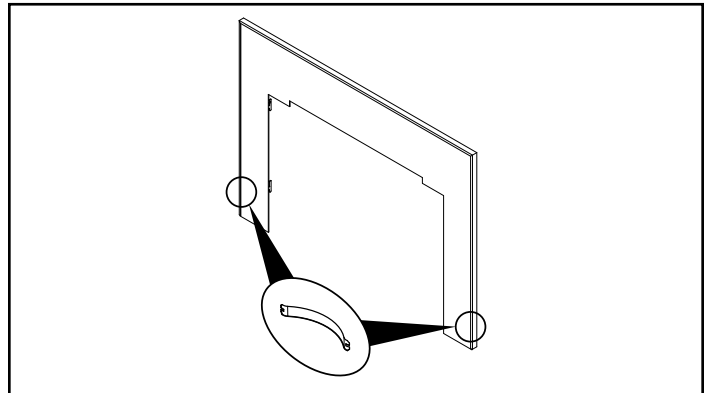


Figure 21.4

7. If needed push appliance back into fireplace.
8. Reinstall face to front of appliance (**Figure 20.2** on **page 20**).
9. Reinstall the door to the face of the appliance (**Figure 20.2** on **page 20**).

H. Standard Surround & Cast Trim Kit

	Overall Dimensions	Part Number
Standard Size	43" x 31"	CT1-4331

1. Remove contents from box being careful not to scratch or damage the cast trim pieces.
2. Lay surround face down on a protected surface to prevent scratching.
3. Place the peel and stick round felt vibration insulation pads on the front side in each corner of the top metal piece and on the back side in each corner of the top cast piece (**Figure 22.1**).

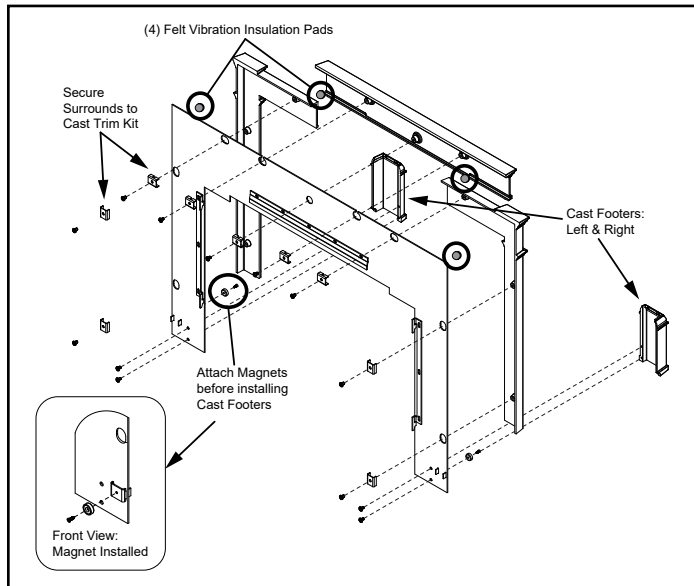


Figure 22.1

4. Place the corresponding cast trim pieces (2 cast trim sides and 1 cast trim header) underneath the panel set, also face down. Align the holes in the metal pieces with the 5 bosses on the top cast piece and 2 bosses on each side piece.
5. Secure the magnet to the bracket. The magnet is facing the front (**Figure 22.2**).

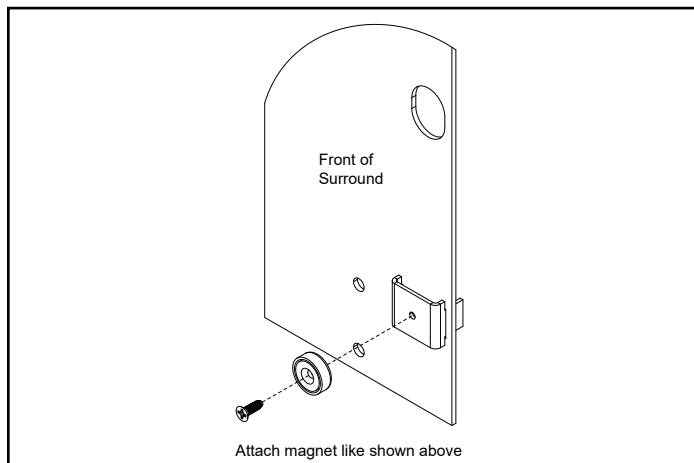


Figure 22.2

6. Place the cast footers under the metal sides aligning the top and bottom holes in the cast footers and metal sides.
7. The 9 mounting clips are shipped in one long strip. Hand break apart or use pliers.
8. Each clip has a clearance notch to allow room for the cast on the insert. Place the clip so the notch is facing the outer edges of the surrounds (**Figure 22.3**).

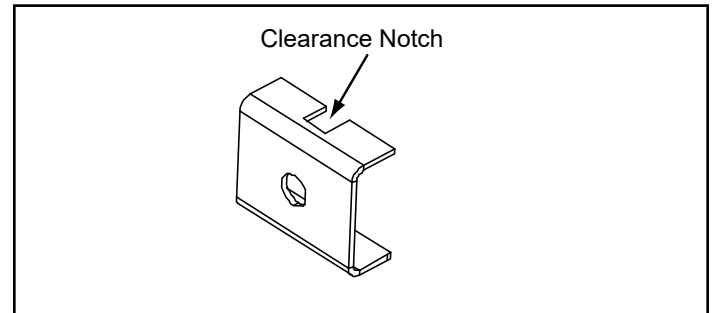


Figure 22.3

9. It is best to install all of the 1/4-20 screws only half way at first to allow for adjustments. After adjustment, tighten the 2 screws in each cast footer first and then work your way around to the rest.
10. Slide surround and trim over the top of the insert into place matching the mounting tabs on the metal sides with the slots on the insert (**Figure 22.4**).
11. Align the 2 screws in the top metal surround piece to the 2 alignment holes on the appliance top. Secure in place (**Figure 22.4**).

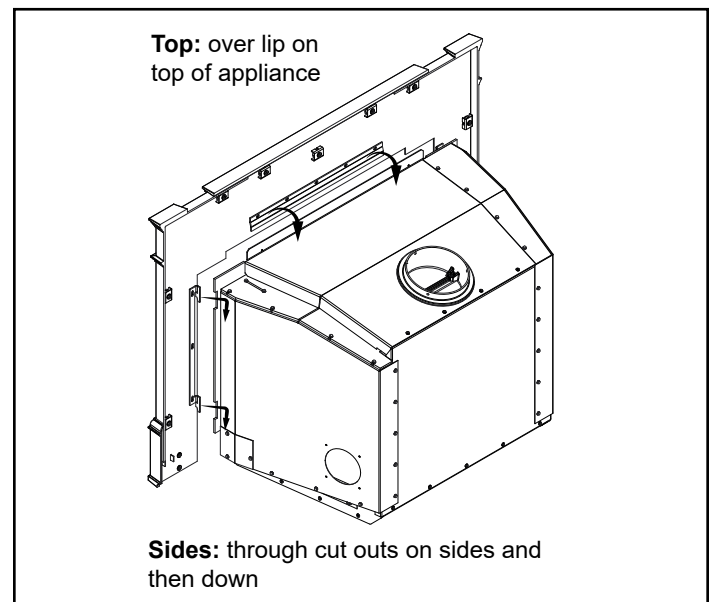


Figure 22.4

6 Reference Materials

A. Wiring Harness

Service Part: SRV7000-891

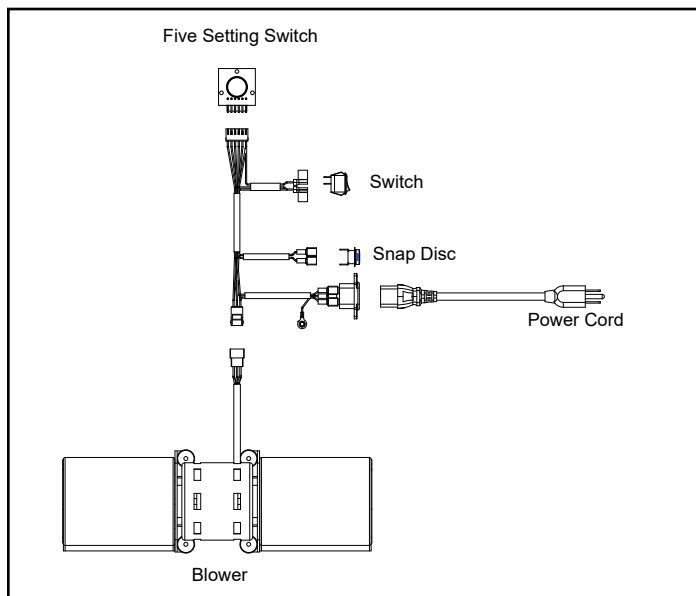


Figure 24.1

B. Brick Diagram

Service Part: SRV7094-022

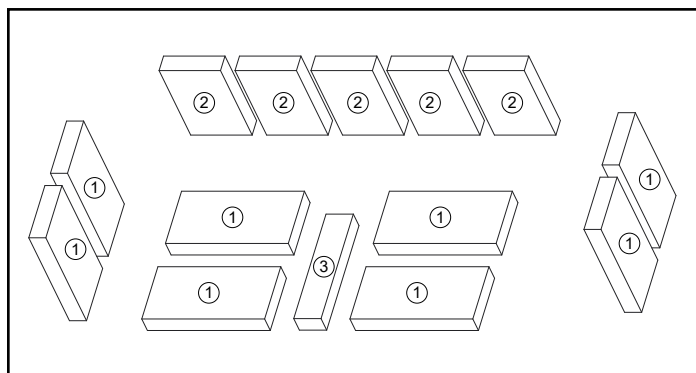


Figure 24.2

Placement	Dimensions	Qty Required
1	9" x 4.5" x 1.25"	8
2	7" x 4.5" x 1.25"	5
3	9" x 2" x 1.25"	1

C. Service and Maintenance Log

[illegible]

FORGE & FLAME

CONTACT INFORMATION

Hearth & Home Technologies
352 Mountain House Road
Halifax, PA 17032
Division of HNI INDUSTRIES

**Please contact your Forge & Flame dealer with any questions or concerns.
For the number of your nearest Forge & Flame dealer
log onto www.forgenflame.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 of this appliance.



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: 1() - _____

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.