Installation Manual

Installation & Appliance Set-Up

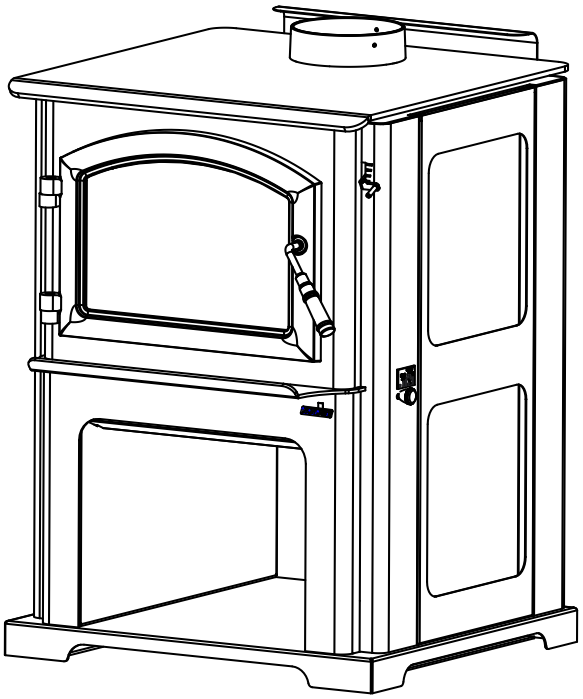
INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

NOTICE: DO NOT DISCARD THIS MANUAL

QUADRA-FIRE®
BY FORGE & FLAME

DISCOVERY I WOOD APPLIANCE AUTOMATIC COMBUSTION CONTROL (ACC)

MODEL NUMBER: DISCOVERY-I-C



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

hearthED FACTORY TRAINING Fuel Your Fire

NFI NATIONAL FIREPLACE INSTITUTE® A CERTIFICATION AGENCY

⚠ WARNING

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

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

Failure to comply may cause house fire.

⚠ WARNING

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

Hot glass 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 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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➔ = Contains updated information

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

1 Important Safety Information

A. Appliance Safety Certification

Model Number:	DISCOVERY-I-C
Laboratory:	OMNI-Test Laboratories, Inc
Report Number:	0061WS070S
Type:	Listed Room Appliance, Solid Fuel Type
Standard:	UL1482, ULC S627-00 and (UM) 84-HUD. Mobile Home Approved.

B. Appliance Emissions Certification

Model Number:	DISCOVERY-I-C
Laboratory:	PFS-TECO
Report Number:	19-530
Standard:	Method 28 and 5G, and ASTM E2515
Can be found at: www.forgenflame.com/pages/epa-certification	

The DISCOVERY-I-C is Certified to comply with 2020 particulate emission standards.

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

NOTE: This installation must conform with local codes. In the absence of local codes you must comply with **(UM) 84-HUD and NFPA211 in the U.S.A.**

C. BTU & Efficiency Specifications

EPA Certification #:	250-20
EPA Certified Emissions:	1.7 grams per hour
***LHV Tested Efficiency:**	82.3%
****HHV Tested Efficiency:**	76.1%
*****EPA BTU Output:**	13,700 to 29,500 / hr.
******Peak BTU/Hour Output:**	44,400
Vent Size:	6 inches
Firebox Size:	1.48 cubic feet
Recommended Log Length:	16 inches
Fuel	Seasoned Cord Wood (20% moisture)

* 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. Mobile Home Approved

- This appliance is approved for mobile home installations; when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home with #8 copper ground wire, and chimney must be listed to **UL103 HT or a listed UL-1777** full length six inch (152mm) diameter liner must be used.
- Outside Air Kit, part OAK-ACC must be installed in a mobile home installation.

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 installed in a sleeping room 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, if the stove exceeds the room size, outside air must be installed.

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 appliance).
- Do NOT Over fire - If appliance or chimney connector glows, you are over firing.

Any such action that may cause a fire hazard.

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

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

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

Hearth & Home Technologies WILL NOT warranty appliances 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

2 Getting Started

A. Design and Installation Considerations

Consideration must be given to:

- Safety
- Convenience
- Traffic flow
- Chimney and chimney connector required

It is a good idea to plan your installation on paper, using exact measurements for clearances and floor protection, before actually beginning the installation. If you are not using an existing chimney, place the appliance where there will be a clear passage for a factory-built listed chimney through the ceiling and roof.

We recommend that a qualified building inspector and your insurance company representative review your plans before and after installation.

If this appliance is in an area where children may be near it is recommended that you purchase a decorative barrier to go in front of the appliance. Remember to always keep children away while it is operating and do not let anyone operate this appliance unless they are familiar with these operating instructions.

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.

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.

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.

B. Fire Safety

To provide reasonable fire safety, the following should be given serious consideration:

1. Install at least one smoke detector on each floor of your home to ensure your safety. They should be located away from the heating appliance and close to the sleeping areas. Follow the smoke detector manufacturer's placement and installation instructions, and be sure to maintain regularly.
2. A conveniently located Class A fire extinguisher to contend with small fires resulting from burning embers.
3. A CO detector should be installed in the room with the appliance.
4. A practiced evacuation plan, consisting of at least two escape routes.
5. A plan to deal with a chimney fire as follows:
   - In the event of a chimney fire:
     – Evacuate the house immediately
     – Notify fire department.

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 appliances and other combustion appliances
- Clothes dryers
- Location of return-air vents to furnace or air conditioning
- Imbalances of the HVAC air handling system
- Upper level air leaks such as:
  - Recessed lighting
  - Attic hatch
  - Duct leaks

To minimize the effects of negative air pressure:

- Install optional 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 appliance).
- 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
- Miscellaneous screws and nails
- 7/16 socket or wrench
- 1/2-3/4 in. length, #6 or #8 self-drilling screws

E. Inspection of Appliance and Components

- Remove appliance and components from packaging and inspect for damage.
- 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.**

F. Removal of Appliance from Shipping Materials

1. Remove box and 2x4 structural boards being careful not to damage product.
2. Using a 7/16 inch socket or open end wrench, remove and discard the four lag bolts from mounting brackets (two on each side) attaching the appliance to the pallet.
3. Carefully pull appliance off of pallet and put in desired location following the Hearth Pad and Clearance to Combustibles section of this manual.

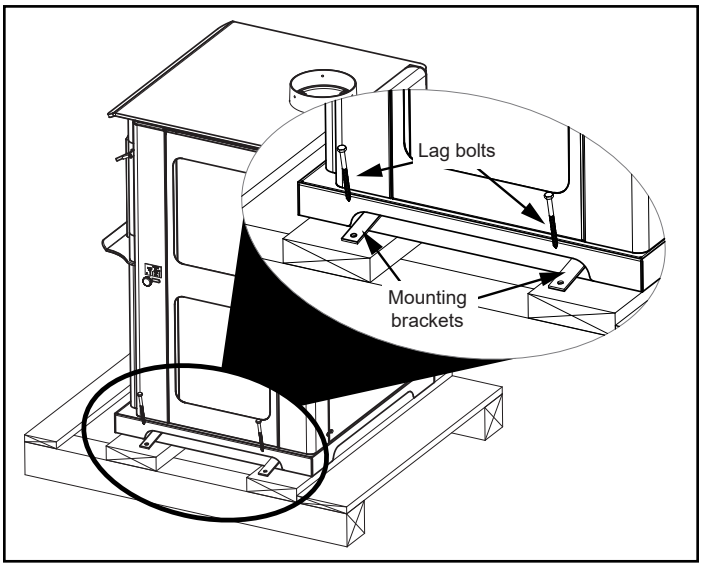


Figure 6.1

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.

G. Install Checklist

ATTENTION INSTALLER:

Follow this Standard Work Checklist

This standard work checklist is to be used by the installer in conjuction 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	**YES**	**IF NO, WHY?**
Verified clearances to combustibles.	☐	_____
Appliance is leveled and connector is secured to appliance.	☐	_____
Hearth extension size/height decided.	☐	_____
Outside air kit installed.	☐	_____
Floor protection requirements have been met.	☐	_____
If appliance is connected to a masonry chimney, it should be cleaned and inspected by a professional. If installed to a factory built metal chimney, the chimney must be installed according to the manufacturer's instructions and clearances.	☐	_____

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.	☐	_____

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.	☐	_____

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.	☐	_____

Hearth & Home Technologies recommends the following:

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

Comments: Further description of the issues, who is responsible (Installer/Builder/Other Trades, etc.) and corrective action needed:
Comments communicated to party responsible _____ by _____ on _____
(Builder / Gen. Contractor) (Installer) (Date)

3 Dimensions and Clearances

A. Appliance Dimensions

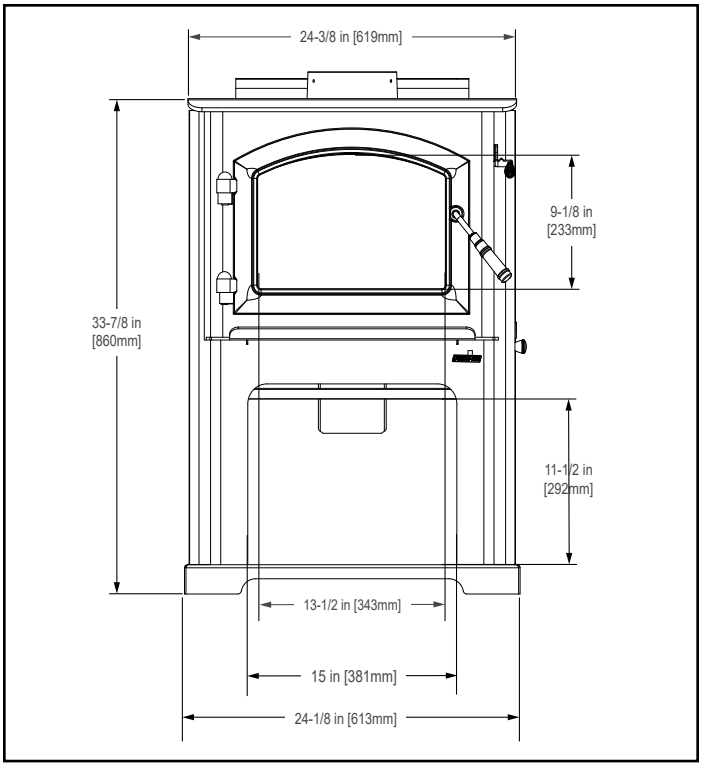


Figure 8.1 - Front View

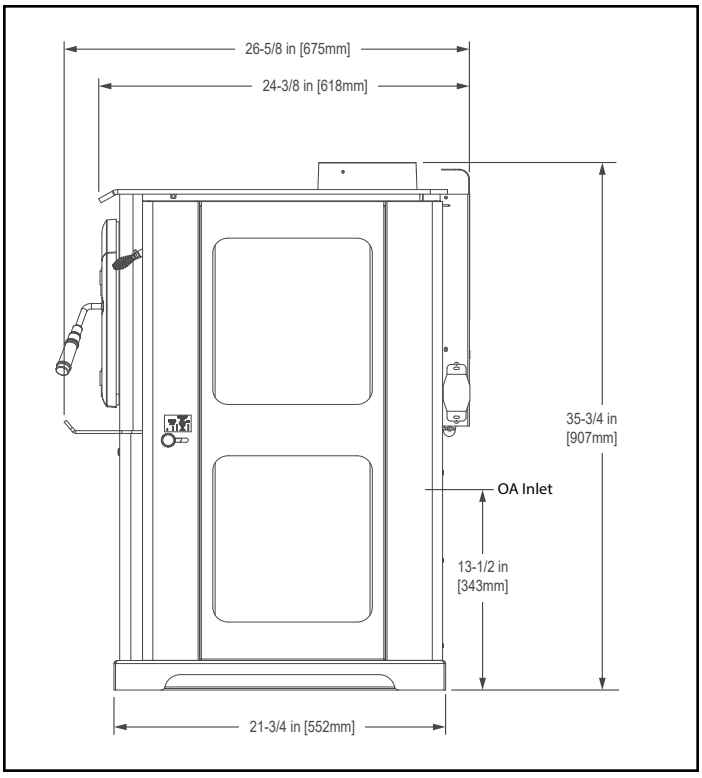


Figure 8.3 - Side View

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

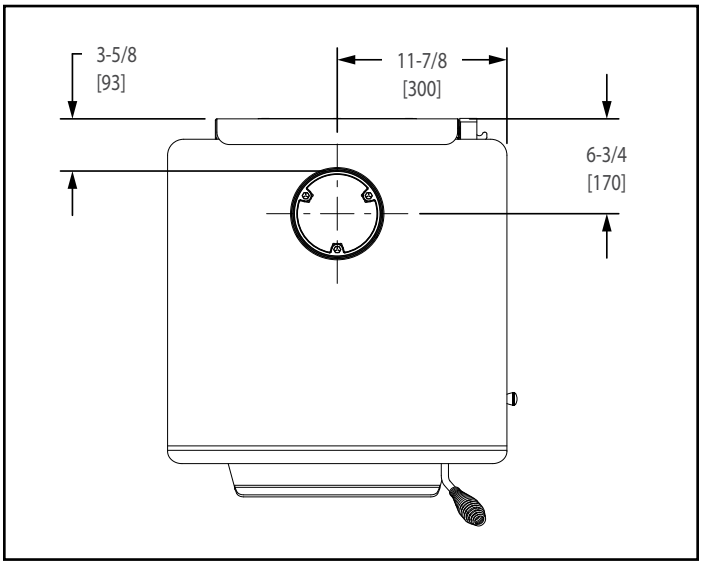


Figure 8.2 - Top View

B. Hearth Protection Requirements

EMBER PROTECTION: It is necessary to install a Type I floor protector.

Floor protector must be non-combustible material, extending beneath appliance with a minimum of 16 inches (406mm) in front of glass and 8 inches (203mm) to both sides of the fuel loading door. Open the door and measure 8 inches (203mm) from the side edge of the opening in the face of the appliance. ***See exception.**

In Canada, similar floor protection must be provided 18 inches (457mm) in front and 8 inches (203mm) from the sides and rear of the appliance unless the hearth pad is placed against the wall **(Figure 9.2)**. Then the clearance may be reduced using double wall pipe and the **Clearance to Combustibles** table listed in this manual.

***Exception:** Non-combustible floor protector must extend beneath the flue pipe when installed with horizontal venting and extend 2 inches (51mm) beyond each side; **See Figure 9.2**

USA, minimum flat wall hearth pad dimensions

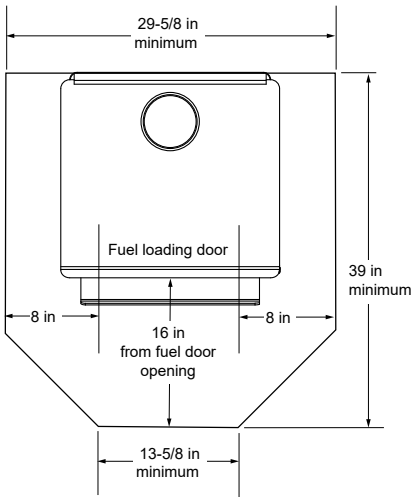


Figure 9.1

****Canada, flat wall hearth pad dimensions with double wall horizontal venting**

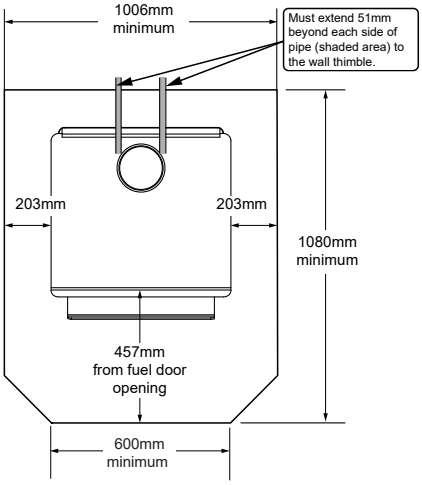


Figure 9.2 - **These dimensions will vary depending installation.

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.*

WARNING

Fire Risk.
Hearth pads must be installed exactly as specified. High temperatures or hot embers may ignite concealed combustibles.

Corner hearth pad dimensions with single wall pipe

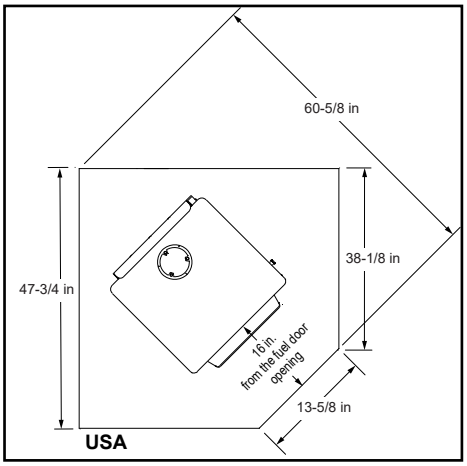


Figure 9.3

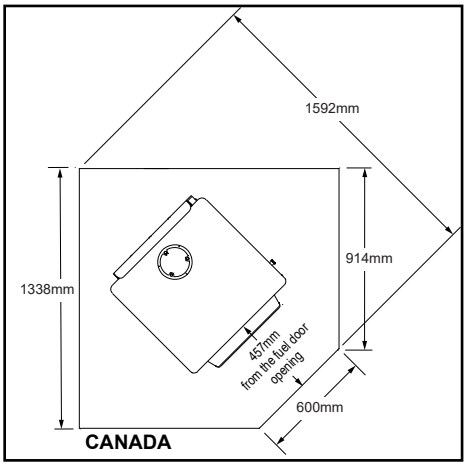


Figure 9.5

Corner hearth pad dimensions with double wall pipe

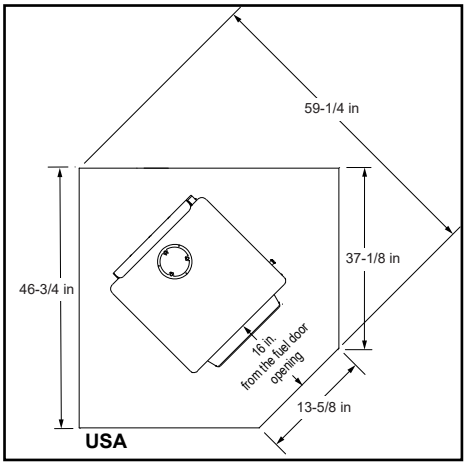


Figure 9.4

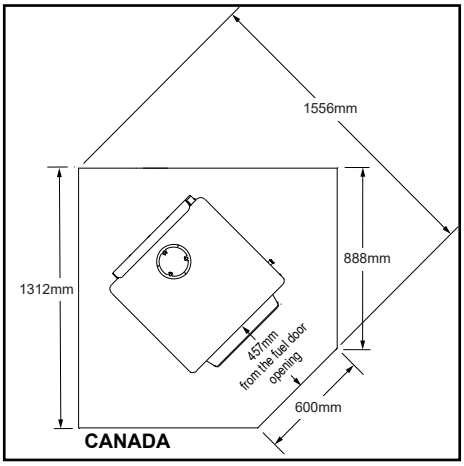


Figure 9.6

C. Clearances to Combustibles

Note: If mantle clearance specifications are not listed or to reduce mantle clearances you can follow NFPA211 regulations to assure safe installation of this product. Please consult with your local building inspector before attempting any clearance reductions.

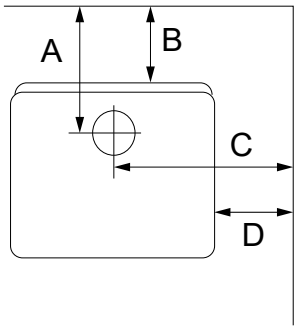
MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS IN INCHES (MILLIMETERS)
NOTE: A, C, AND F DIMENSIONS ARE TO THE CENTER OF THE FLUE COLLAR
DISCOVERY-I-C WOOD APPLIANCE (2020)

	A	B	C	D	E	F	G	H
INSTALLATION: FULL VERTICAL								
SINGLE WALL PIPE								
DISCOVERY-I-C	18 (457)	11 (279)	24-1/2 (622)	13 (330)	8-1/2 (216)	20 (508)	56 (1422)	N/A
DOUBLE WALL PIPE								
DISCOVERY-I-C	11-3/4 (298)	5 (127)	23 (584)	11-1/2 (292)	7-1/2 (191)	19 (483)	43 (1092)	N/A
INSTALLATION: HORIZONTAL WITH MINIMUM 2 FT VERTICAL OFF STOVE TOP								
SINGLE WALL PIPE								
DISCOVERY-I-C	17 (432)	10 (254)	23 (584)	11-1/2 (292)	8-1/2 (216)	20 (508)	56 (1422)	9-1/2 (241)
DOUBLE Wall Pipe								
DISCOVERY-I-C	12-1/2 (318)	5-1/2 (140)	24-1/2 (622)	13 (330)	7-1/2 (191)	19 (483)	43 (1092)	5 (127)
INSTALLATION: ALCOVE								
DOUBLE WALL PIPE								
DISCOVERY-I-C	12-1/2 (318)	5-1/2 (140)	24-1/2 (622)	13 (330)	N/A	N/A	43 (1092)	5 (127)

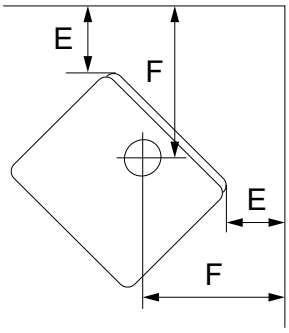
For alcove only: Six inch diameter listed Double wall air insulated connector pipe with **UL103 HT** listed factory built Class A chimney or masonry chimney. Maximum depth of Alcove shall be no more than 48 inches (1219mm) and the referenced alcove clearances. Canada must comply with **CAN/ULC-S269 M87** for the 650° factory built chimney.

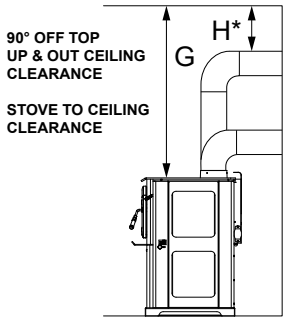
*** FOLLOW PIPE MANUFACTURES CLEARANCES AS REQUIRED**

BACKWALL / SIDEWALL

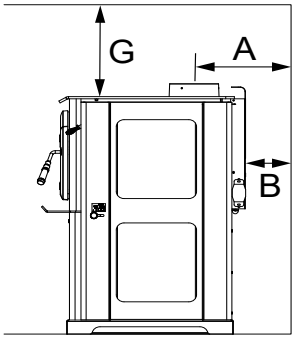


CORNER INSTALLATION

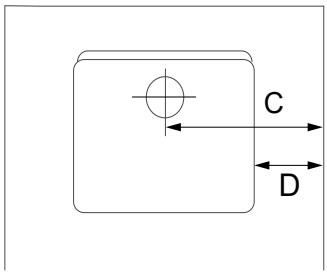


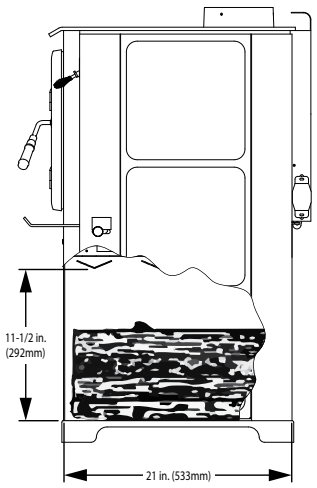


ALCOVE SIDE VIEW



ALCOVE TOP VIEW





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

WARNING

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

NOTE: Service Space
In order to replace the tube channel assembly a clearance of 19 inches (483mm) is required on the right side of appliance in order to remove the tubes with the appliance in place.
If space is not available, the appliance will have to be disconnected from the chimney to proceed with the tube replacement.

4 Chimney Systems

A. Locating Your Appliance & Chimney

Location of the appliance and chimney will affect performance. As shown in **Figure 11.1** 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.

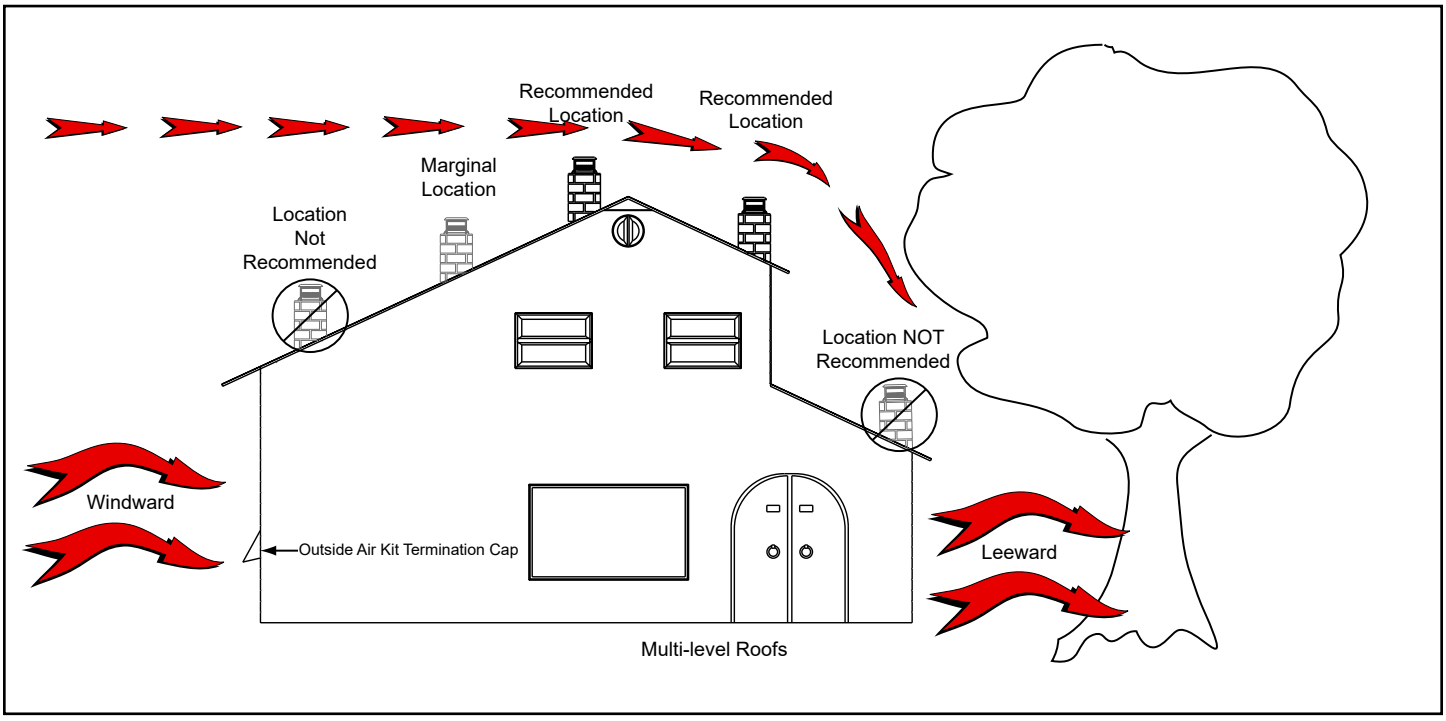


Figure 11.1

B. Chimney Termination Requirements

Follow manufacturer's instructions for clearance, securing flashing and terminating the chimney **(Figure 12.1 and Figure 12.2)**.

- 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 appliance.

- 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.

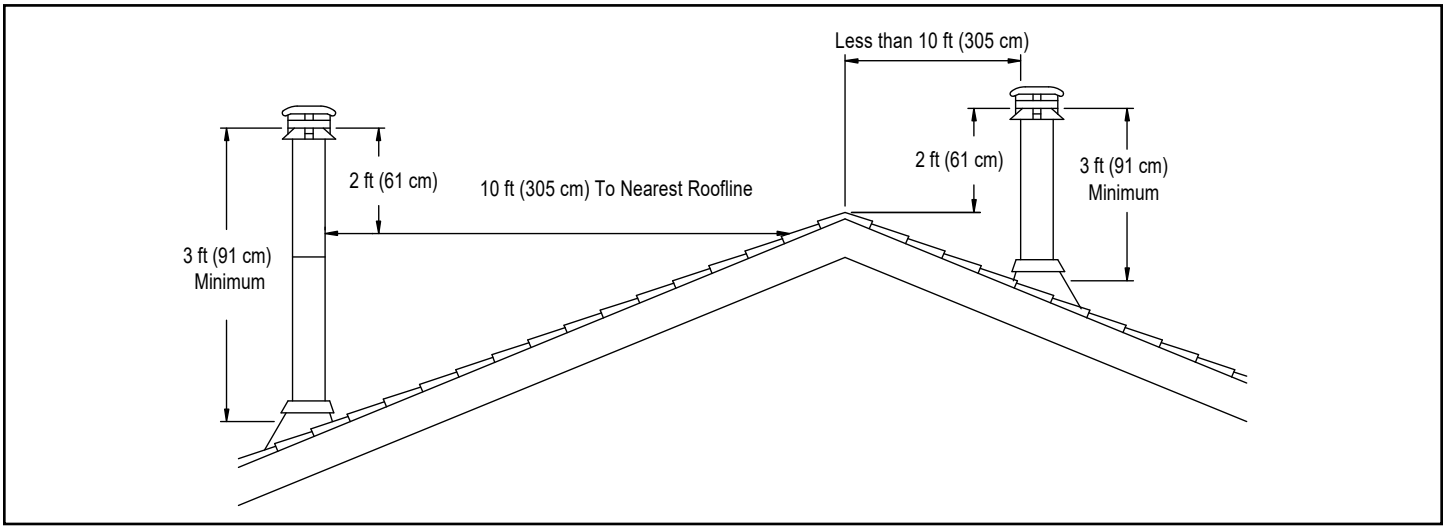


Figure 12.1

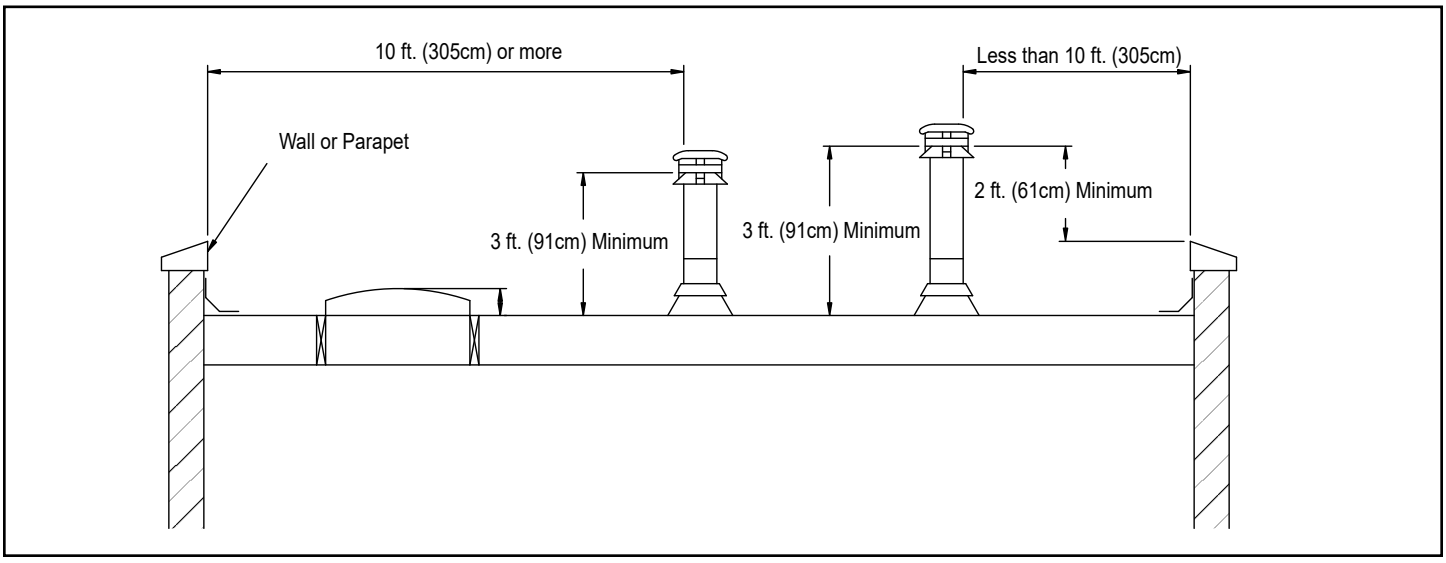


Figure 12.2

D. 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

Fire Risk.

Inspection of Chimney:

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

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.

E. Venting Components

Chimney Connector:

It is also known as flue pipe or appliance pipe. The chimney connector joins the appliance to the chimney. It must be a 6 inch (152mm) minimum diameter 24 gauge mild steel black or 26 gauge blued steel, or an approved air-insulated double wall venting pipe.

Thimble: A manufactured or site-constructed device installed in combustible walls through which the chimney connector passes to the chimney. It is intended to keep the walls from igniting. Site constructed thimbles must meet **NFPA 211 Standards**. Prefabricated must be suitable for use with selected chimney and meet **UL103 Type HT Standards**. Follow instructions provided by the manufacturer for manufactured thimbles for masonry chimney and prefabricated chimneys.

Chimney:

The chimney can be new or existing, masonry or prefabricated and must meet the following minimum requirements and as specified in **Chimney Systems below**.

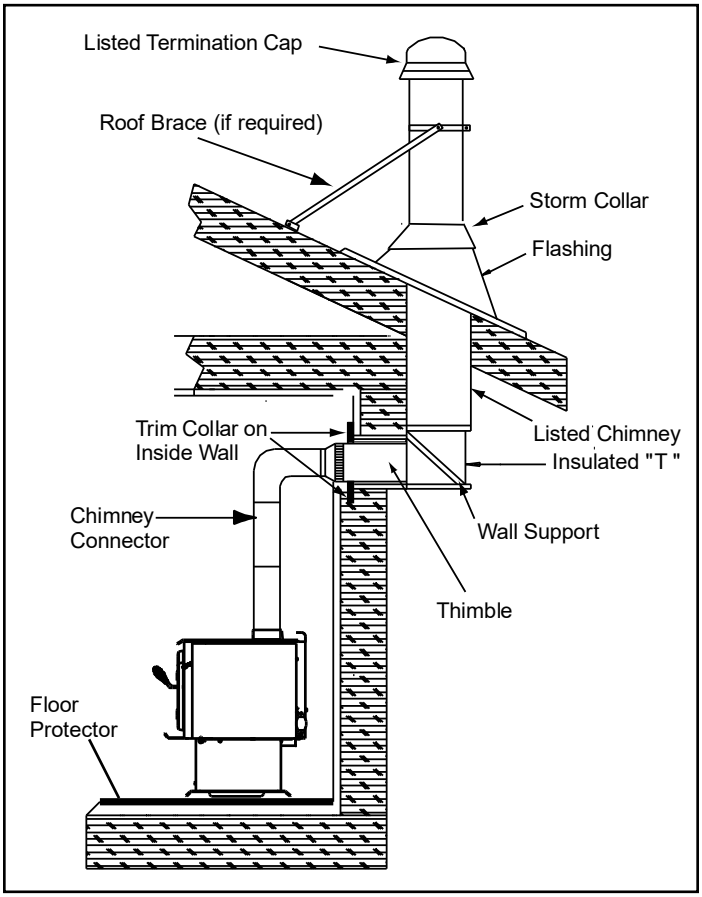


Figure 13.1 - Prefabricated Exterior Chimney

F. Chimney Systems

Prefabricated Metal Chimney

- Must be minimum 6 inch (152mm) diameter (ID) high temperature chimney listed to **UL 103 HT (2100°F) or ULC S629M**.
- Must use components required by the manufacturer for installation.
- Must maintain clearances required by the manufacturer for installation.
- Refer to manufacturers instructions for installation.

NOTE: In Canada when using a factory-built chimney it must be safety listed, **Type UL103 HT (2100°F) CLASS "A" or conforming to CAN/ULC-S629M, STANDARD FOR 650°C FACTORY-BUILT CHIMNEYS**.

Thimble

Site constructed for masonry chimney installation:

Components

A minimum length of 12 inches [305mm] (longer for thicker walls) of solid insulated factory-built chimney length constructed to **UL 103 Type HT** 6 inch (152mm) inside diameter. Chimney needs to extend a minimum of 2 inches (51mm) from the interior wall and a minimum of 1 inch (25mm) from the exterior wall.

Wall spacer, trim collar and wall band to fit solid pack chimney selected.

Minimum 8 inch (203mm) diameter clay liner section (if not already present in chimney) and refractory mortar.

When jurisdiction requires install approved chimney liner in masonry chimney.

Air Clearances

- Masonry chimney clearance must meet **NFPA 211** minimum requirement of 2 inches (51mm) to sheet metal supports and combustibles.
- Minimum of 1 inch (25mm) clearance around the chimney connector.
- Top of wall opening is a minimum of 13-1/2 inches (343mm) from ceiling or 4-1/2 inches (114mm) below minimum clearance specified by chimney connector manufacturer. **NFPA 211** minimum vertical clearance of 18 inches (457mm) from chimney connector and ceiling or minimum recommended by chimney connector manufacturer **(Figure 14.2)**.

Instructions:

1. Open inside wall at proper height for the chimney connector to entry the masonry chimney **(Figure 14.2)**.
2. Entry hole to masonry chimney must be lined with an 8 inch (203mm) minimum diameter clay liner, or equivalent, secured with refractory mortar.
3. Construct a 17 inch x 17 inch (432mm x 432mm) outside dimension frame from 2 x 2 framing lumber to fit into wall opening. Inside opening of frame should be no less than 14 inch x 14 inch (356mm x 356mm) **(Figure 14.2)**.
4. Attach the wall spacer to the chimney side of the frame.
5. Nail the frame into the wall opening. The spacer should be on the chimney side.
6. Insert the section of the solid insulated chimney into the outer wall of the masonry chimney.
7. Tightly secure the length of the solid insulated chimney with the wall band to the masonry chimney.
8. Insert a section of chimney connector into the chimney. Make sure it does not protrude past the edge of the clay chimney liner inside the chimney.
9. Seal the end of the chimney connector to the clay liner with refractory mortar.
10. Install trim collar around the solid pack chimney section.

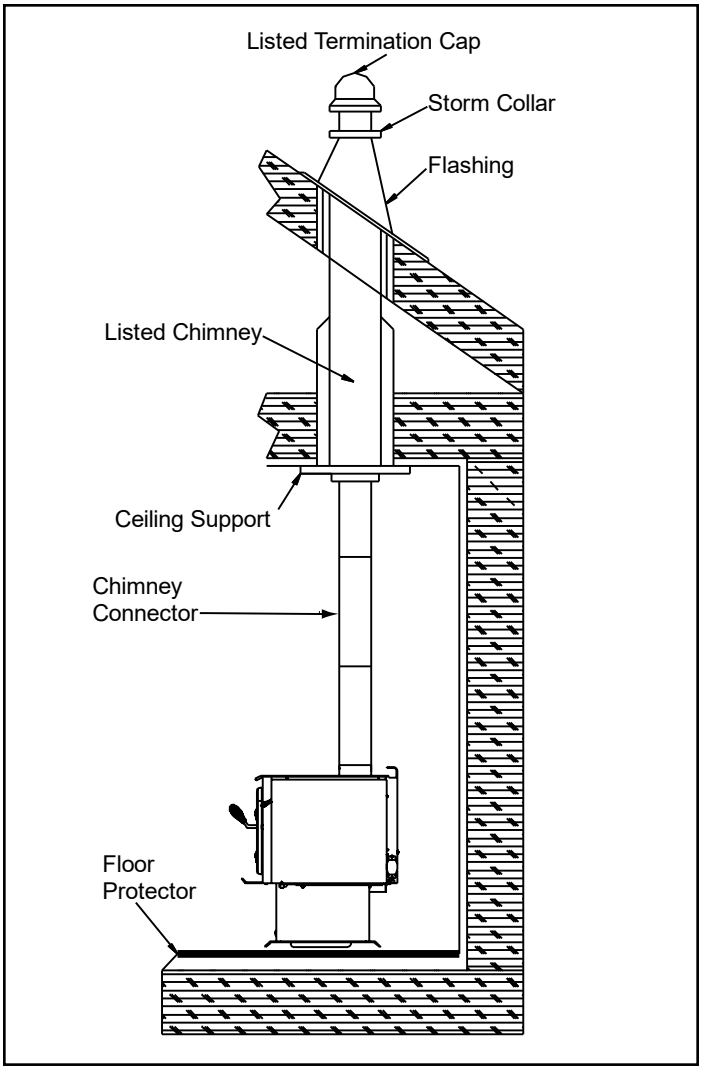


Figure 14.1 - Prefabricated Interior Chimney

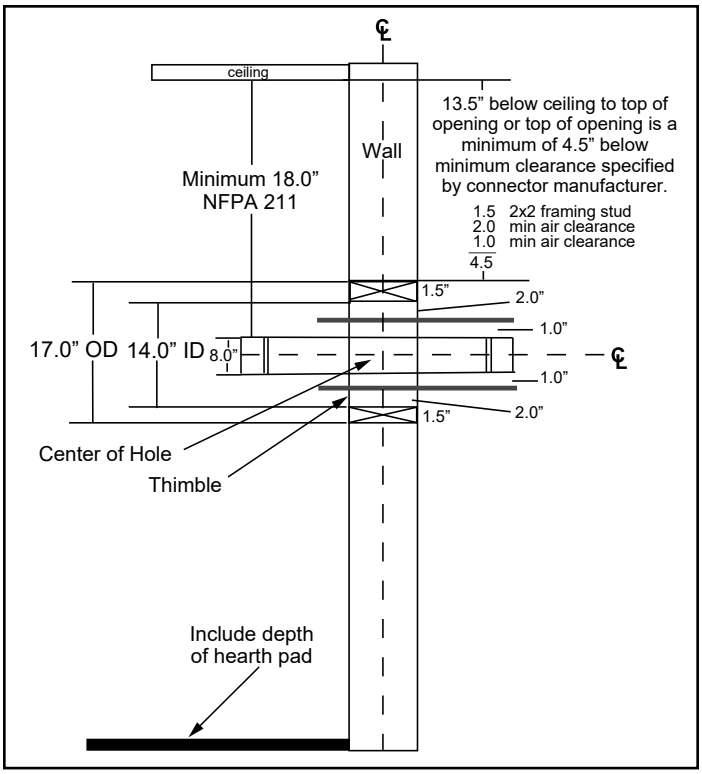


Figure 14.2

Solid Pack Chimney with Metal Supports as a Thimble

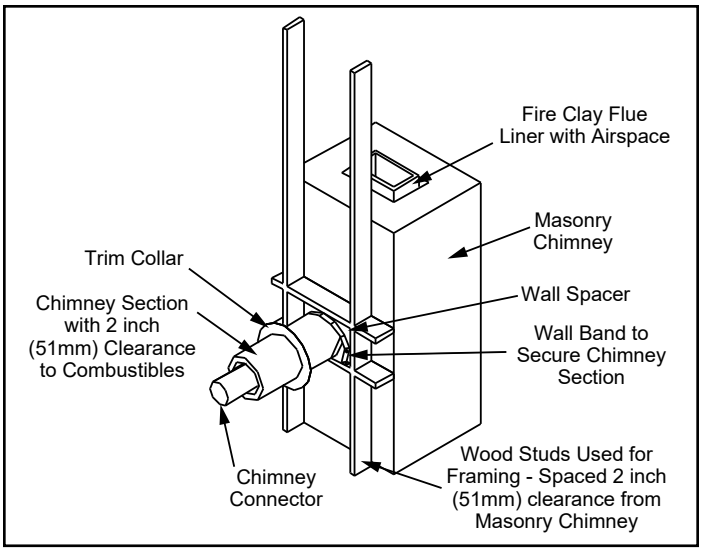


Figure 15.1

WARNING

Fire Risk.

Do NOT pack insulation or other combustibles between spacers.

- ALWAYS maintain specified clearances around venting and spacers.
- Install spacers as specified.

Failure to keep insulation or other material away from vent pipe may cause fire.

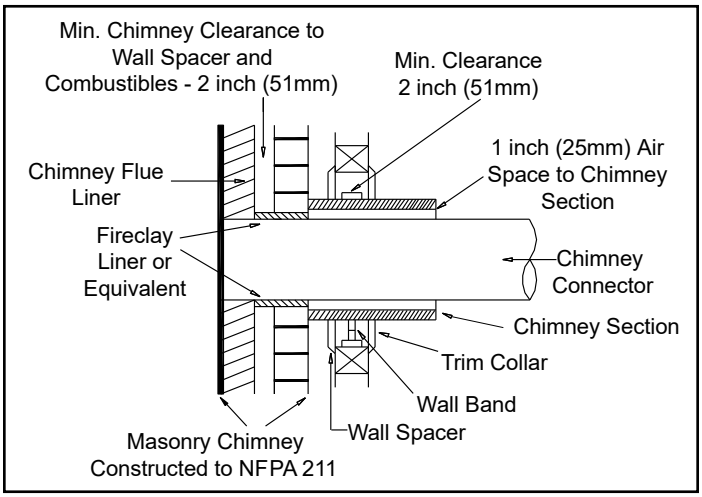


Figure 15.2

G. Installing Chimney Components

Chimney Connector

Single wall connector or appliance pipe.

This must be at least 24 gauge mild steel or 26 gauge blue steel. The sections must be attached to the appliance and to each other with the crimped (male) end pointing toward the appliance. All joints, including the connection at the flue collar, should be secured with 3 sheet metal screws. Make sure to follow the minimum clearances to combustibles. Where passage through the wall, or partition of combustible construction is desired in Canada, the installation shall conform to **CAN/CSA-B365**.

Factory-built listed chimney connector (vented).

A listed connector (vented) must be used when installing this appliance in a mobile home. The listed connectors must conform to each other to ensure a proper fit and seal.

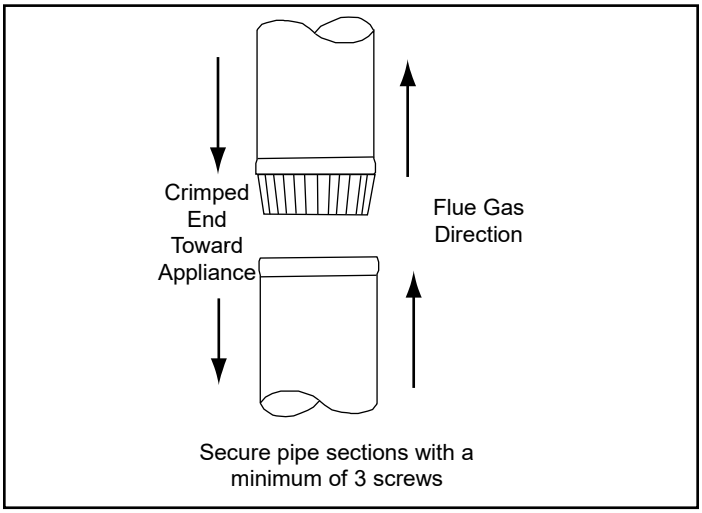


Figure 15.3 - Chimney Connector (Appliance Pipe)

WARNING

Fire Risk.

Follow Chimney Connector Manufacturer's Instructions for Proper Installation.

ONLY use connector:

- Within the room, between appliance and ceiling or wall.

Connector shall NOT pass through:

- Attic or roof space
- Closet or similar concealed space
- Floor or ceiling

Maintain minimum clearances to combustibles

H. Proper Draft

To be sure that your Quadra-Fire appliance burns properly, the chimney draft (static pressure) should be approximately -0.10 inches water column (W.C.) during a high burn and -0.04 inches W.C. during a low burn, measured 6 inches (152mm) above the top of the appliance after one hour of operation at each burn setting.

5 Appliance Set-Up

A. Outside Air Kit Installation

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. An optional Outside Air Kit is available.

Items Needed for Installation (not supplied)

- 4 inch flex aluminum pipe, or if using alternate material, then it shall be made from durable, non-combustible, heat resistant material up to 350°F. Cut the pipe to the required length for your installation.
- Phillips head screw driver
- Silicone sealant
- Drills and saws necessary for cutting holes through the wall or flooring in your home.

Installation Instructions

1. Remove all materials from packing box.
2. **Floor & Rear Installation:** Cut a 4 inch (102mm) hole in the outside wall or the floor to accommodate outside air piping. Use 4 inch (102mm) aluminum metal flex or rigid piping to directly connect outside air to appliance intake. Use the supplied termination cap with a rodent screen. Seal between the wall (or floor) and the pipe with silicone to prevent moisture penetration.

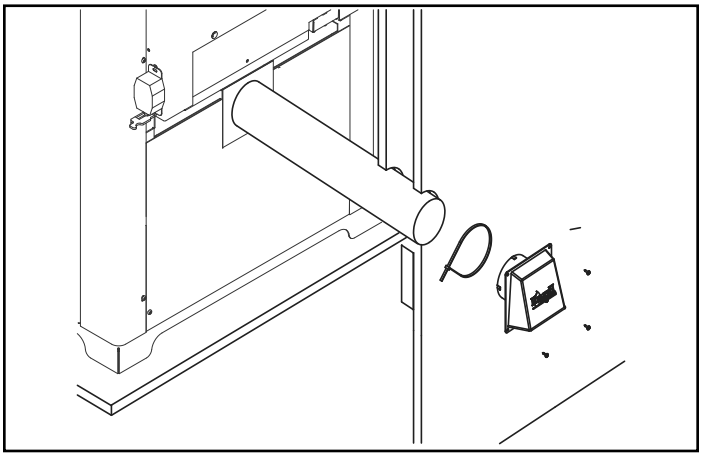


Figure 16.1 - Rear Installation

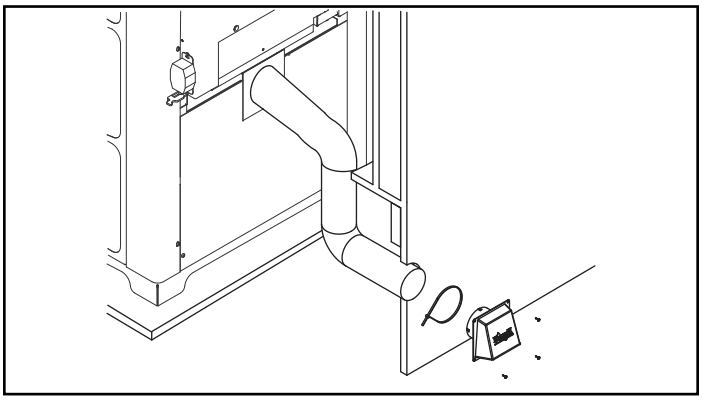


Figure 16.2 - Floor Installation

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

WARNING

Asphyxiation Risk.

Outside air inlet must be located to prevent blockage from:

- Leaves
- Snow or ice
- Other debris

Block 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. Decorative Panel Removal & Installation

Your appliance ships with two different side options, one is a solid side panel **(Figure 17.1)** and tile side panel **(Figure 17.2)**. There are two of each and no left or right side, these can be changed at anytime.

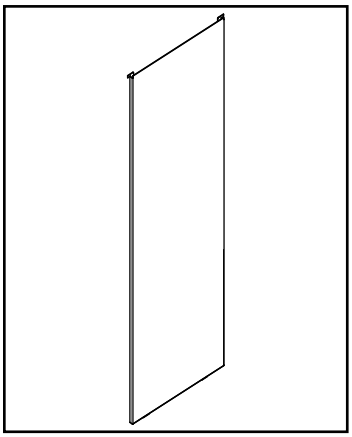


Figure 17.1

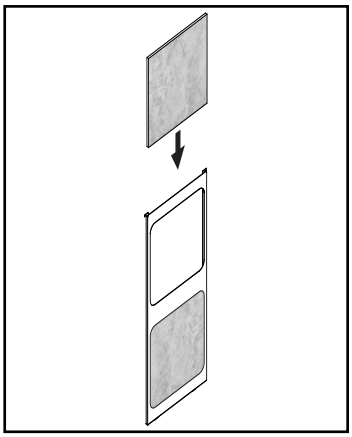


Figure 17.2

The appliances are being shipped with a solid side panel securing clip on both sides. Please remove and discard pins prior to use **(Figures 17.3)**.

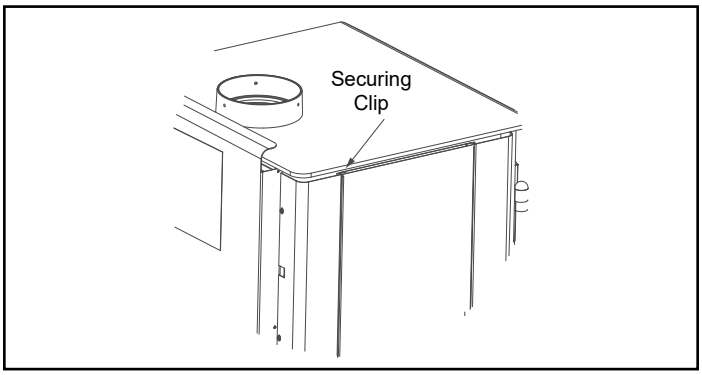


Figure 17.3

Solid Side Panel Removal

1. Remove solid panel from side by lifting up and pulling away from appliance (use a flat tool to pry from bottom if needed) **(Figure 17.4).**

NOTE: 300°F high temp paint can be use to repaint the solid side panel only! DO NOT use on the rest of appliance this requires 1200°F high temp paint.

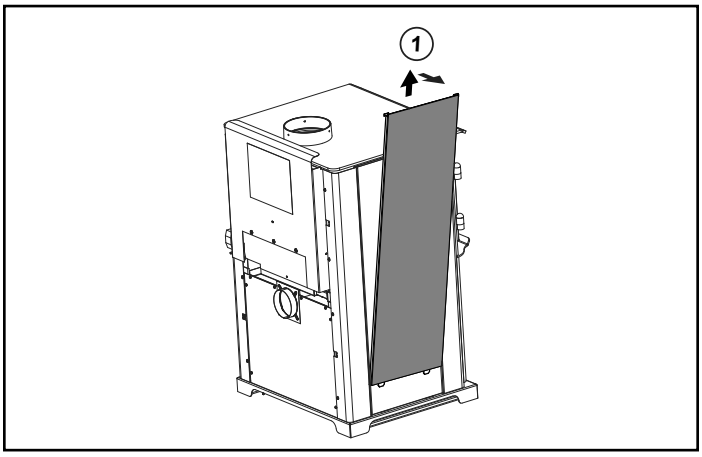


Figure 17.4

Tile Panel Installation

2. Remove tile frame from side by lifting up and pulling away from appliance **(Figure 17.4 reference solid side panel removal).**
3. Stack non-combustible material tiles in tile frame as shown in **Figure 17.2** by sliding first tile in, bend tabs on back side **Figure 17.5**, then slide last tile in position so that it rests on tabs.

WARNING

Fire Risk.
Use only noncombustible materials as a decorative tile.

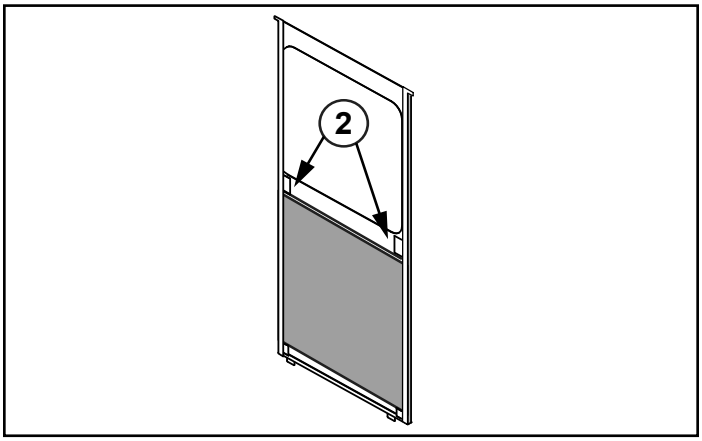


Figure 17.5

4. Reattach tile frame **(Figure 17.6)**.

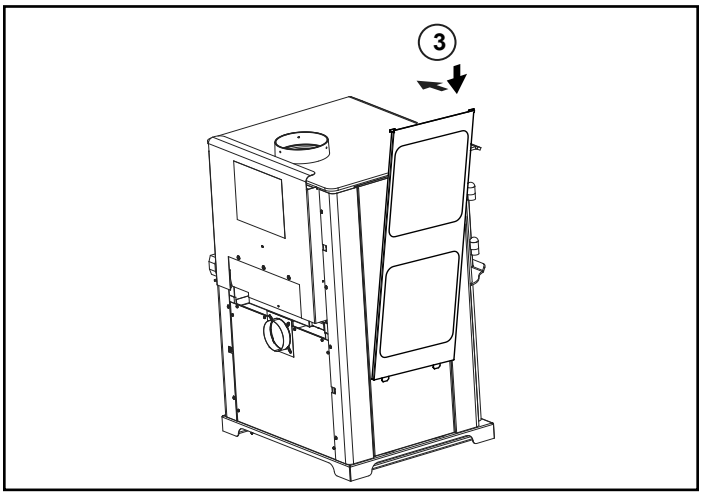


Figure 17.6

Tile Dimensional Requirements:
Max Thickness: 5/16”
Max Length/Width: 11-7/8” square
Min Length/Width: 11-11/16” square

C. Door Handle Assembly

1. Install fiber handle to door handle rod.

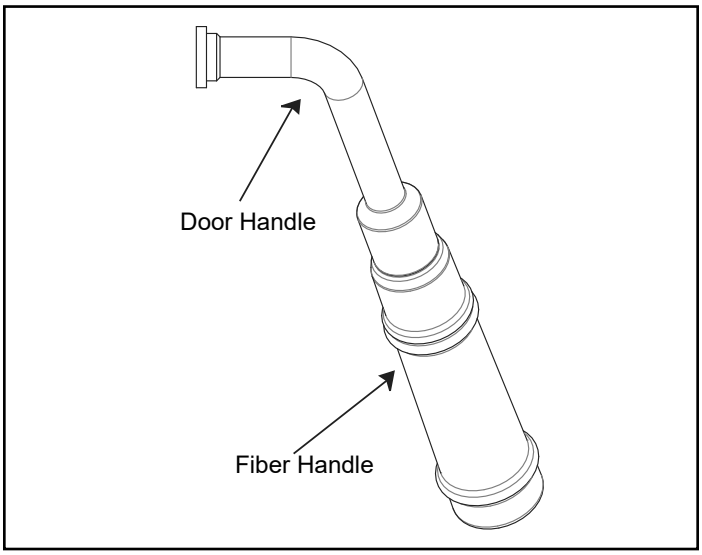


Figure 18.1

D. Blower (Optional)

1. Locate bolts supplied with the blower.
2. Align holes in mounting flange of blower with bolt holes in appliance. Blower should be positioned at bottom of rear outer skin as shown in **Figure 18.2**.
3. Re-insert and tighten bolts, securing blower onto outer wall of appliance.
4. Place the bracket containing the snap disc and magnet under the bottom left rear corner.

See Owner's Manual for detailed operating instructions for the blower and snap disc.

CAUTION

Shock Risk.

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

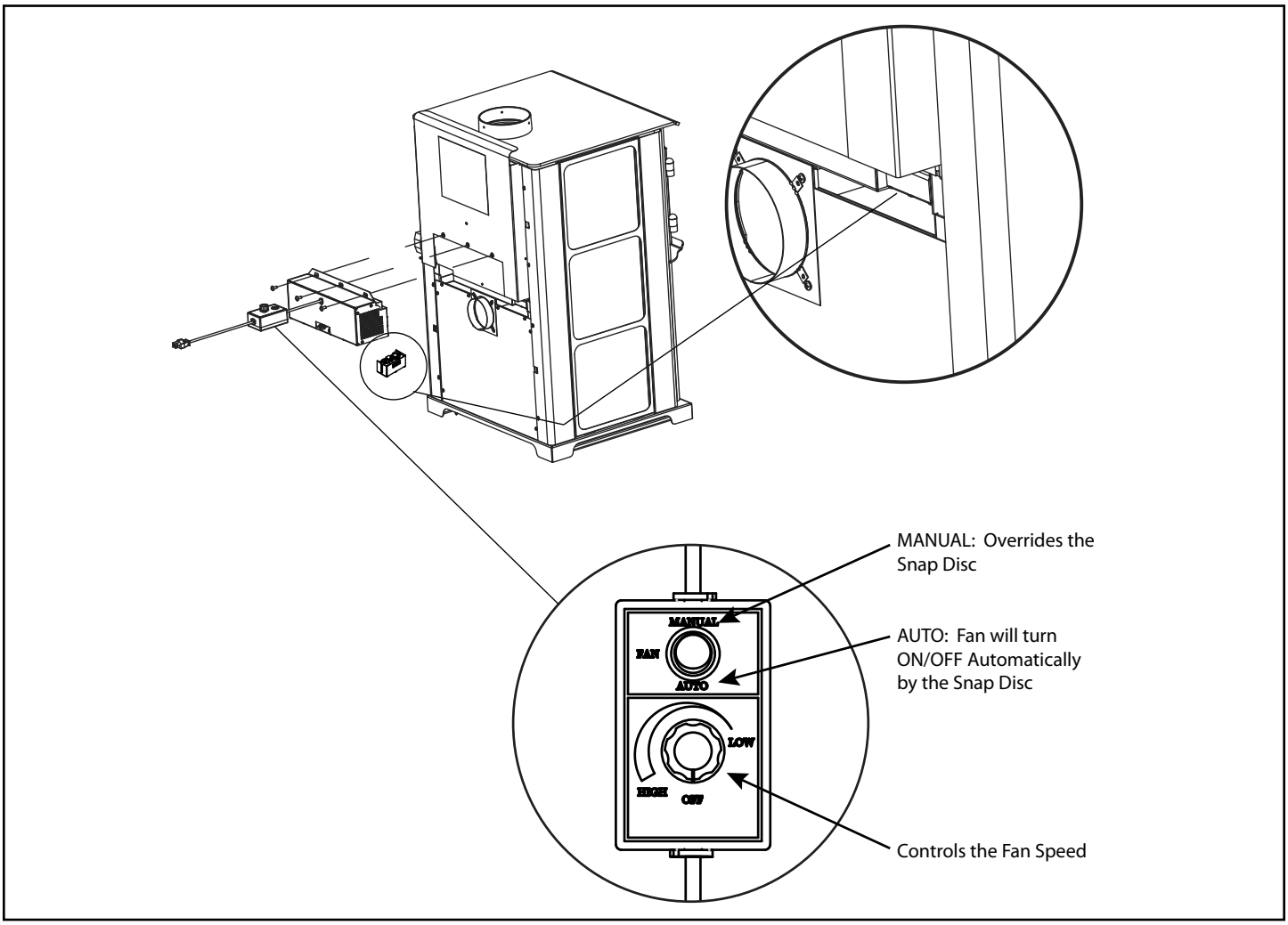


Figure 18.2

6 Mobile Home Isntallation

You must use a Quadra-Fire Outside Air Kit Part OAK-ACC; which is available from you dealer, for installation in a mobile home.

1. An outside air inlet must be provided for combustion.
2. Appliance must be secured to the mobile home structure by bolting the legs to the floor.
3. Appliance must be grounded with #8 solid copper grounding wire or equivalent and terminated at each end with N.E.C. approved grounding device.
4. Appliance must be installed with an approved **UL103 HT** ventilated chimney connector, **UL103 HT** chimney, and terminal cap with spark arrestor. Never use a single wall connector (appliance pipe) in a mobile home installation. Use only double-wall connector pipe, Dura-Vent DVL, Selkirk Metalbestos DS or Security DL double-wall connector or any listed double-wall connector pipe.
5. In Canada, this appliance must be connected to a 6 inch (152mm) factory-built chimney conforming to **CAN/ULC-629M, STANDARD FOR FACTORY BUILT CHIMNEYS**.
6. Follow the chimney and chimney connector manufacturer's instructions when installing the flue system for use in a mobile home.
7. Maintain clearance to combustibles.
8. Floor protection requirements must be followed precisely.
9. Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.

NOTE: Offsets from the vertical, not exceeding 45°, are allowed per **Section 905(a) of the Uniform Mechanical Code (UMC)**. Offsets greater than 45° are considered horizontal and are also allowed, providing the horizontal run does not exceed 75% of the vertical height of the vent. Construction, clearance and termination must be in compliance with the **UMC Table 9C**. This installation must also comply with N**FPA 211**.

NOTE: Top sections of chimney must be removable to allow maximum clearance of 13.5 feet (411cm) from ground level for transportation purposes.

10. Burn seasoned cord wood only. Other types of fuels may generate poisonous gases (e.g., carbon monoxide).
11. If appliance burns poorly while an exhaust blower is on in home, (i.e., range hood), increase combustion air.
12. 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.

WARNING

Asphyxiation Risk.
NEVER INSTALL IN A SLEEPING ROOM.
Consumes oxygen in the room.

WARNING

Fire Risk.
Do Not use single wall connector pipe anywhere in a mobile home installation.

7 Reference Materials

A. Service & Maintenance Log

Date of Service	Performed By	Description of Service

QUADRA-FIRE®
BY FORGE & FLAME

CONTACT INFORMATION

Hearth & Home Technologies
352 Mountain House Road
Halifax, PA 17032
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.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.