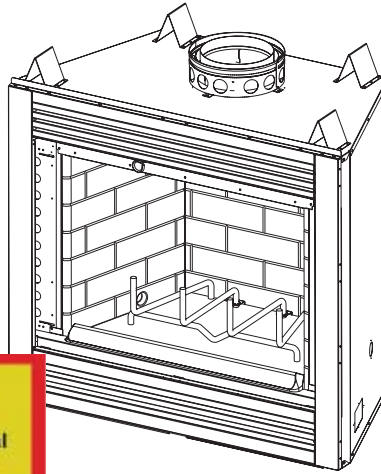


Models:
EM-415
EM-415H
Woodburning Fireplace



This appliance has been retired. Service parts pages within have been removed. For replacement parts, please refer to the individual service parts list located on the brand websites.

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.



⚠ 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 overfire. Overfiring will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

⚠ WARNING



HOT SURFACES!

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

Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures.

High temperatures may ignite clothing or other flammable materials.

- Keep clothing, furniture, draperies and other flammable materials away.

⚠ WARNING



Fire Risk

- For use with solid wood fuel or decorative gas appliance only.
- Do not install unvented gas logs.



Installation and service of this fireplace should be performed by qualified personnel. Hearth & Home Technologies suggests NFI certified or factory-trained professionals, or technicians supervised by an NFI certified professional.



**Read this manual before installing or operating this fireplace.
Please retain this owner's manual for future reference.**

Congratulations!

Congratulations on selecting a Heat & Glo wood burning fireplace. The Heat & Glo fireplace you have selected is designed to provide the utmost in safety, reliability and efficiency.

As the owner of a new fireplace, you'll want to read and carefully follow all of the instructions contained in this owner's manual. Pay special attention to all cautions and warnings.

This owner's manual should be retained for future reference. We suggest you keep it with your other important documents and product manuals.

The information contained in this owner's manual unless noted otherwise, applies to all models and gas control systems.

Your new Heat & Glo wood burning fireplace will give you years of durable use and trouble-free enjoyment. Welcome to the Heat & Glo family of fireplace products!

Homeowner Reference Information	<i>We recommend that you record the following pertinent information about your fireplace:</i>
Model Name: _____	Date purchased/installed: _____
Serial Number: _____	Location on fireplace: _____
Dealership purchased from: _____	Dealer phone: _____
Notes: _____	

Listing Label Information/Location

The model information regarding your specific fireplace can be found on the rating plate located on the smoke shield of the fireplace.

	FIREPLACE NO. []	MODEL NO. []	MODEL I/O. []	MFG. DATE []
WARNING: RISK OF FIRE DAMAGE. REPLACE GRATE WITH HEARTH & HOME TECHNOLOGIES INC.				
FIRECHAMBER INTENDED FOR USE WITH HEARTH & HOME TECHNOLOGIES INC. LISTED FIREPLACE PARTS. SEE INSTALLATION AND OPERATING INSTRUCTIONS FOR THIS MODEL. ONLY HEARTH & HOME TECHNOLOGIES INC. GLASS DOOR KITS CAN BE INSTALLED ON THIS UNIT.				
FIREPLACE ALSO FOR USE IN MANUFACTURED HOMES YES <input type="checkbox"/> NO <input type="checkbox"/>		CLEARANCE TO CHIMNEY COMBUSTIBLES: 2 IN. MIN. FIREBOX [] IN. MIN.		
FAN KIT MODEL NO. [] & []		RATED AT 115 VOLTS, 50/60 Hz., [] AMP.		
DO NOT OVERFIRE. USE ONLY: SOLID WOOD FUEL OR LISTED DECORATIVE GAS APPLIANCE. DO NOT USE A FIREPLACE INSERT OR OTHER PRODUCTS NOT SPECIFIED FOR USE WITH THIS PRODUCT. IF DOORS ARE USED OPERATE FIREPLACE WITH DOORS FULLY OPEN OR CLOSED ONLY. WHEN BURNING A DECORATIVE GAS APPLIANCE IN THE FIREPLACE, ADJUST DAMPER TO THE FULLY OPEN POSITION.		WARNING! THIS FIREPLACE HAS NOT BEEN TESTED WITH AN UNVENTED GAS LOG SET. TO REDUCE THE RISK OF FIRE OR INJURY, DO NOT INSTALL AN UNVENTED GAS LOG SET INTO FIREPLACE. WARNING! THIS APPLIANCE IS NOT FOR USE AS COOKING EQUIPMENT. IF INSTALLATION OR OPERATING INSTRUCTIONS ARE MISSING CONTACT: HEARTH & HOME TECHNOLOGIES INC., 1915 W. SAUNDERS ST., MT. PLEASANT, IA 52641.		

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Note: An arrow (➔) found in the text signifies change in content.

1 Listing and Code Approvals

A. Appliance Certification

This fireplace system has been tested and listed in accordance with **UL 127** and **ULC-S610** standards by Underwriters Laboratories Inc. for installation and operation in the United States and Canada.

This fireplace has been tested and listed for use with the optional components specified in this manual. These optional components may be purchased separately and installed at a later date. Installation of an outside air kit will require significant reconstruction and is best if installed at the time of fireplace installation.

Heat & Glo is a registered trademark of Hearth & Home Technologies Inc.

WARNING

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

Not intended for use as a primary heat source.

This fireplace is tested and approved as a decorative fireplace. It should not be factored as a primary heat source in residential heating calculations.

WARNING



Fire Risk

- **Do not** install or operate damaged fireplace.
- **Do not** modify fireplace.
- Installation other than as instructed by Hearth & Home Technologies Inc. is strictly prohibited.
- **Do not** operate the fireplace without fully assembling all components.
- **Do not overfire.**
- **Do not install an unvented gas log set.** This fireplace has not been tested for use with unvented gas log sets.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.

Hearth & Home Technologies disclaims any responsibility for, and the warranty and agency listing will be voided by the above actions.

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 inspector, fire officials or authorities having jurisdiction about restrictions, installation inspection and permits.

When planning a fireplace installation, it is necessary to determine the following information before installing:

- Where the fireplace is to be installed. See Sections 3 and 4.
- The vent system configuration to be used. See Sections 5 and 6.
- Gas supply piping. See Section 7.
- Electrical wiring. See Section 7.
- Framing and finishing details. See Sections 3, 6 and 8.
- Whether optional accessories—devices such as a fan, wall switch or remote control—are desired. See Section 12.

Draft is the pressure difference needed to vent fireplaces successfully. Considerations for successful draft include:

- Preventing negative pressure
- Location of fireplace and chimney

⚠ WARNING



Asphyxiation Risk

Negative pressure can cause spillage of combustion fumes and soot. Fire needs to draft properly for safe operation.

B. Negative Pressure

Negative pressure results from the imbalance of air available for the fireplace to operate properly. Causes for this imbalance 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: recessed lighting, attic hatch opening, duct leaks.

To minimize the effects of negative air pressure, the following must be considered:

- Install the outside air kit. Install the intake on the side of the house towards prevailing winds during the heating season.
- Ensure adequate outdoor air is supplied for combustion appliances and exhaust equipment.
- Ensure furnace and air conditioning return vents are not located in the immediate vicinity of the fireplace.
- Avoid installing the fireplace 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 due to stack effect. Stack effect creates negative pressure in lower levels. Hearth & Home Technologies recommends the use of direct vent fireplaces in basements.

Location of the fireplace and chimney will affect performance. As shown in Figure 2.1 the chimney should:

- Be installed through the warm airspace 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 effects of wind turbulence.
- Be located away from trees, adjacent structures, uneven roof lines and other obstructions.

Offsets can restrict draft so their use should be minimized. Consider the fireplace location relative to floor and ceiling and attic joists.

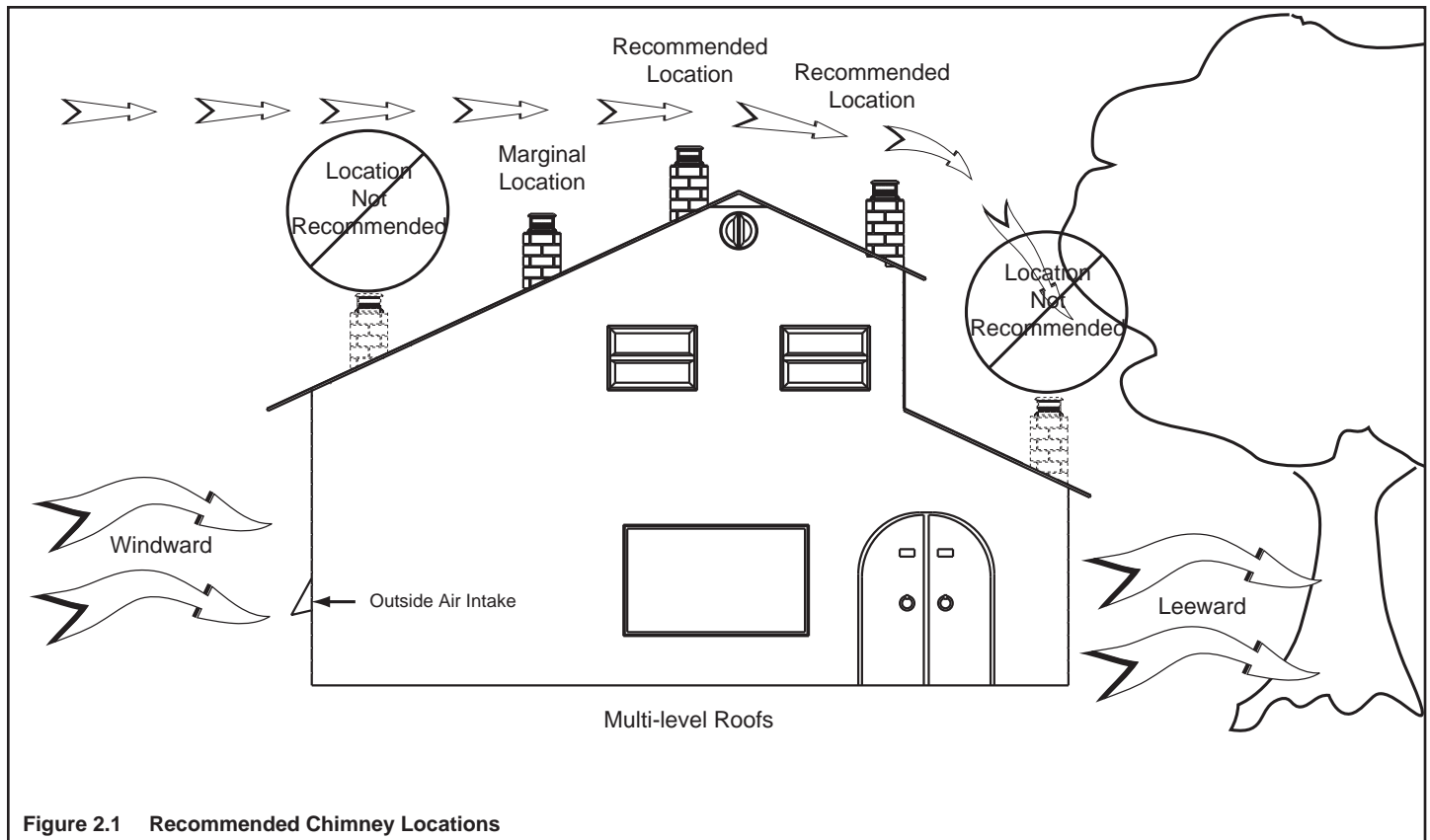


Figure 2.1 Recommended Chimney Locations

C. Typical Fireplace System

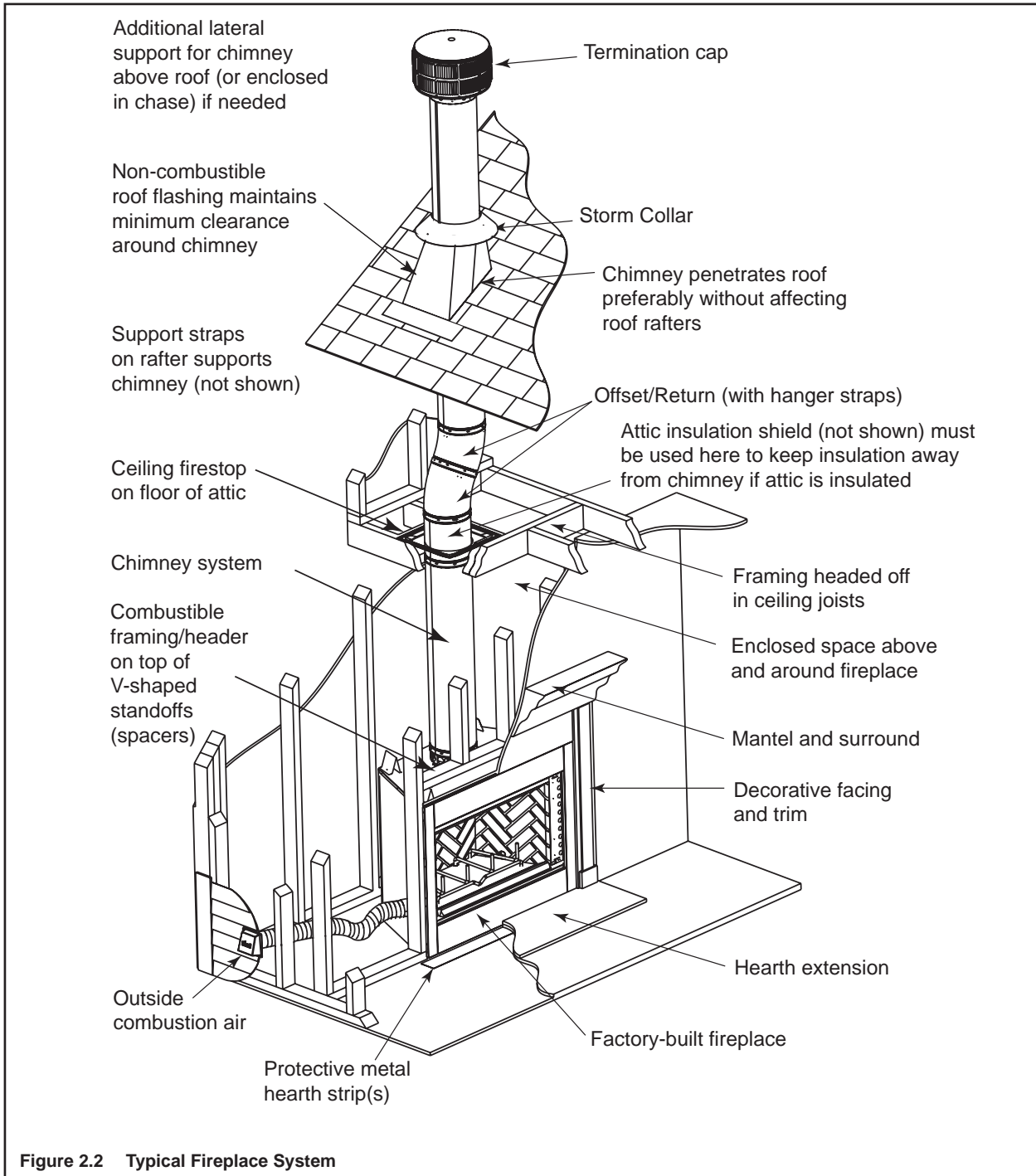
The Heat & Glo fireplace system consists of the following:

- Fireplace/integral grate/refractory/outside air system
- Chimney termination cap
- Chimney system
- Hearth extension

Note: Junction box should be installed during initial setup to avoid major reconstruction.

Optional components include:

- Glass doors
- Chimney air kit
- Fan kit



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
1/2-3/4 in. length, #6 or #8 self-drilling screws	
Misc. screws and nails	

CAUTION

- Keep fireplace dry.
- Mold or rust may cause odors.

E. Inspect Fireplace and Components

 WARNING	
	Fire Risk
	Explosion Risk
	Inspect fireplace and components for damage. Damaged parts may impair safe operation.
	<ul style="list-style-type: none">• Do NOT install damaged components.• Do NOT install incomplete components.• Do NOT install substitute components
	Report damaged parts to dealer.

- Carefully remove the fireplace and components from the packaging.
- The 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.**

3 Framing and Clearances



WARNING

Fire Risk

Provide adequate clearances. • Around air openings

- To combustibles
- For service access.

Locate fireplace away from traffic areas.

Note:

- Illustrations and photos reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation/appearance may vary due to individual design preference.
- Hearth & Home Technologies reserves the right to alter its products.

A. Selecting Fireplace Location

Several options are available to you when choosing a location for your fireplace. This fireplace may be used as a room divider, installed along a wall, across a corner or used in an exterior chase. See Figure 3.1.

Locating the fireplace in a basement, near frequently opened doors, central heat outlets or returns, or other locations of considerable air movement can affect the performance and cause intermittent smoke spillage from the front of the fireplace. Consideration should be given to these factors before deciding on a location. See Sections 2 and 10.

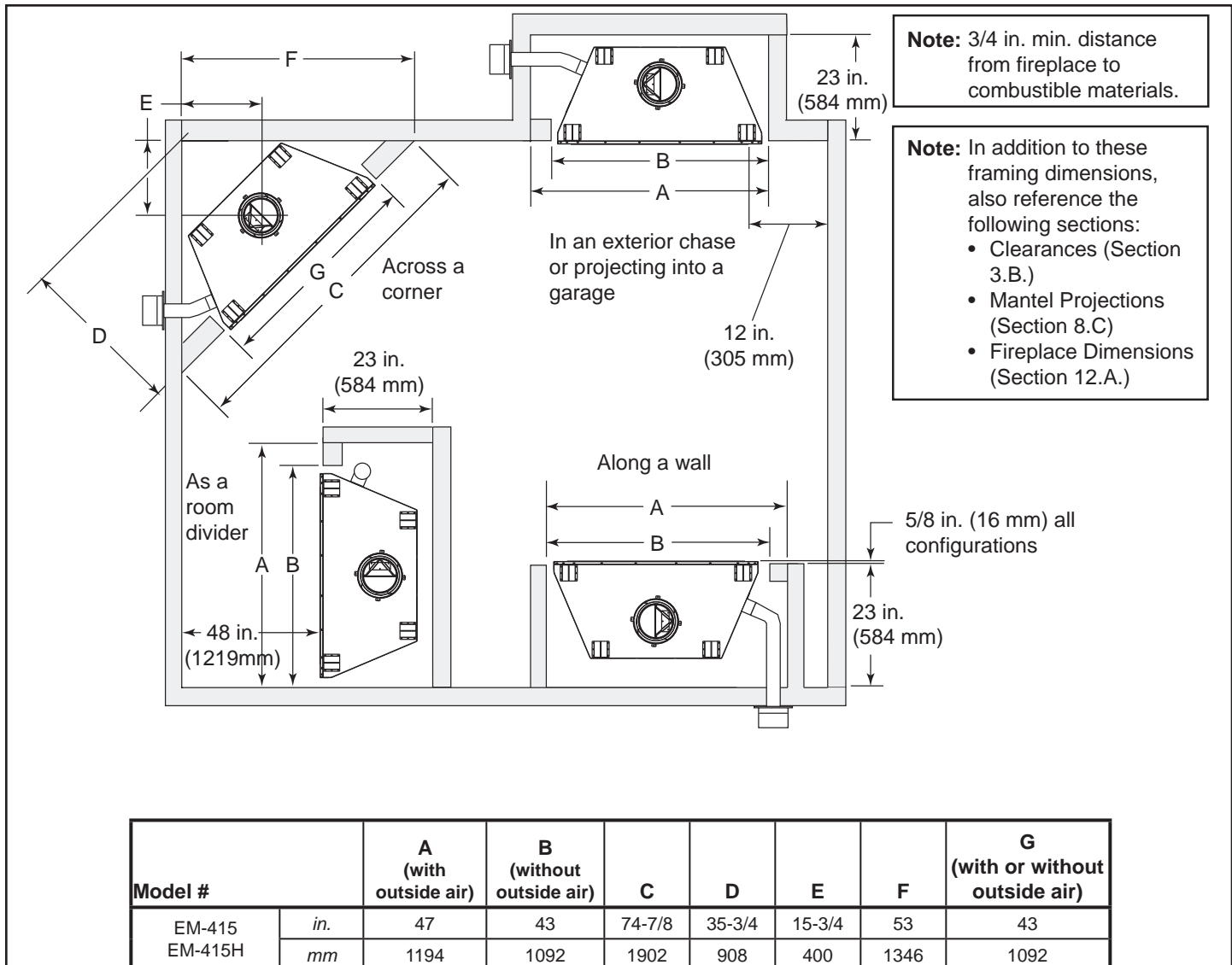


Figure 3.1 Fireplace Locations

B. Clearances

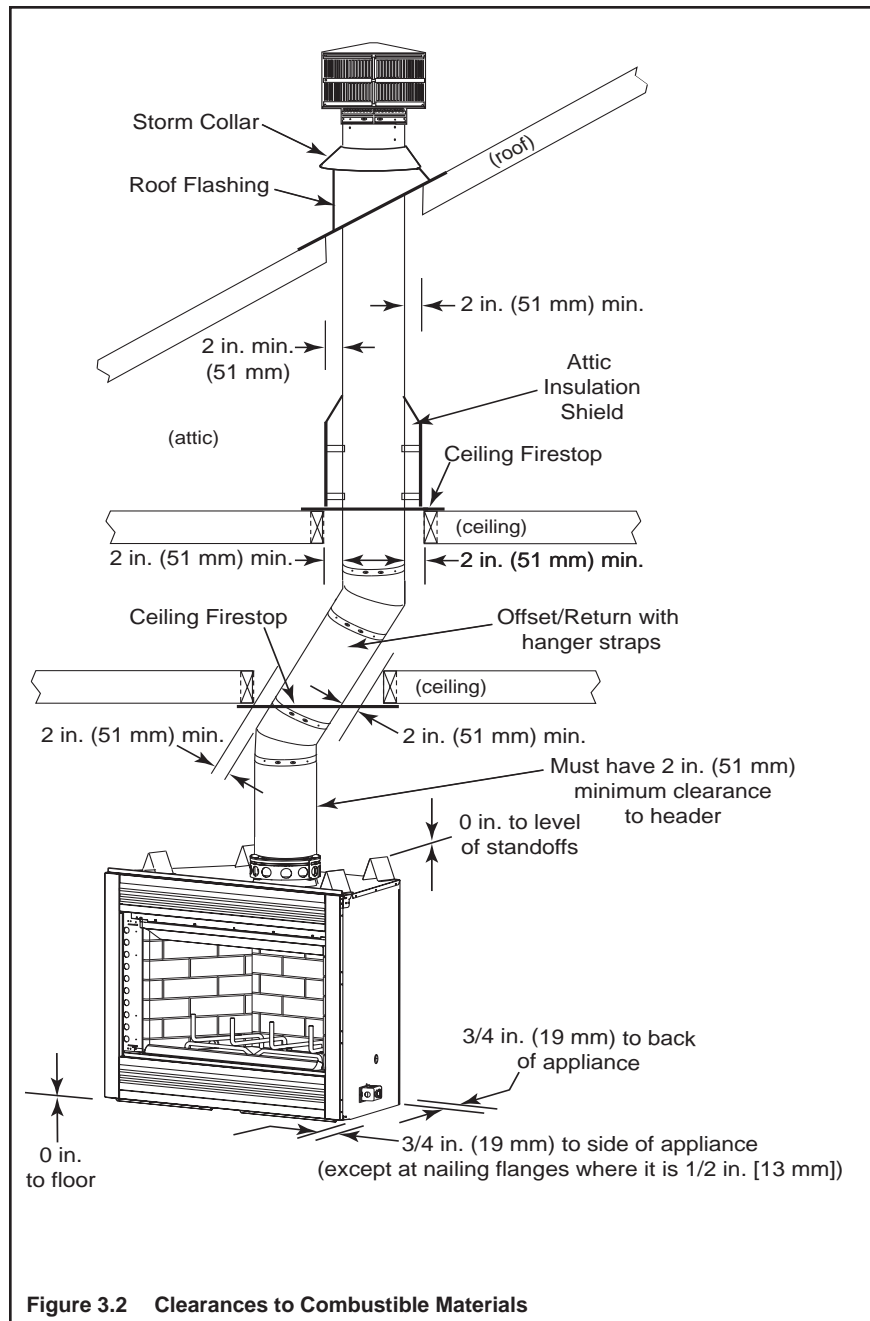


⚠ WARNING

Fire Risk

- Comply with all minimum clearances to combustibles as specified.
- Framing or finishing material used on the front of, or in front of, the appliance closer than the minimums listed, must be constructed entirely of noncombustible materials (i.e., steel studs, concrete board, etc.).

Failure to comply may cause fire.



C. Sidewalls/Surrounds

Adjacent combustible side walls must be located a minimum of 12 in. (305 mm) from the fireplace opening. See Figure 3.3. If you are using a decorative surround constructed of combustible material, it must be located within the shaded area defined in Figure 3.3. Short stub walls are also acceptable if they are contained within the shaded area.

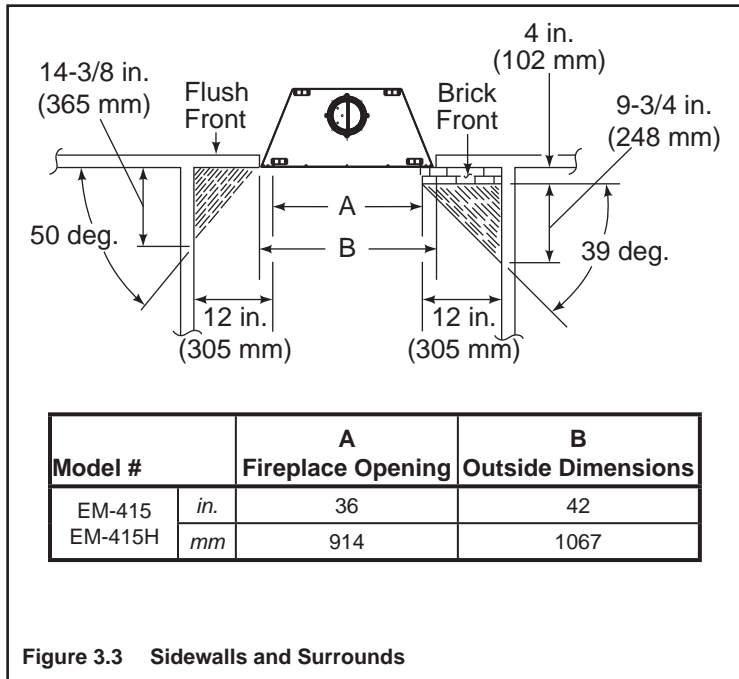


Figure 3.3 Sidewalls and Surrounds

D. Frame the Fireplace

Figure 3.4 shows a typical framing (using 2 x 4 lumber) of the fireplace, assuming combustible materials are used. All required clearances to combustibles around the fireplace must be adhered to. See Figure 3.2. Any framing across the top of the fireplace must be above the level of the top standoffs.

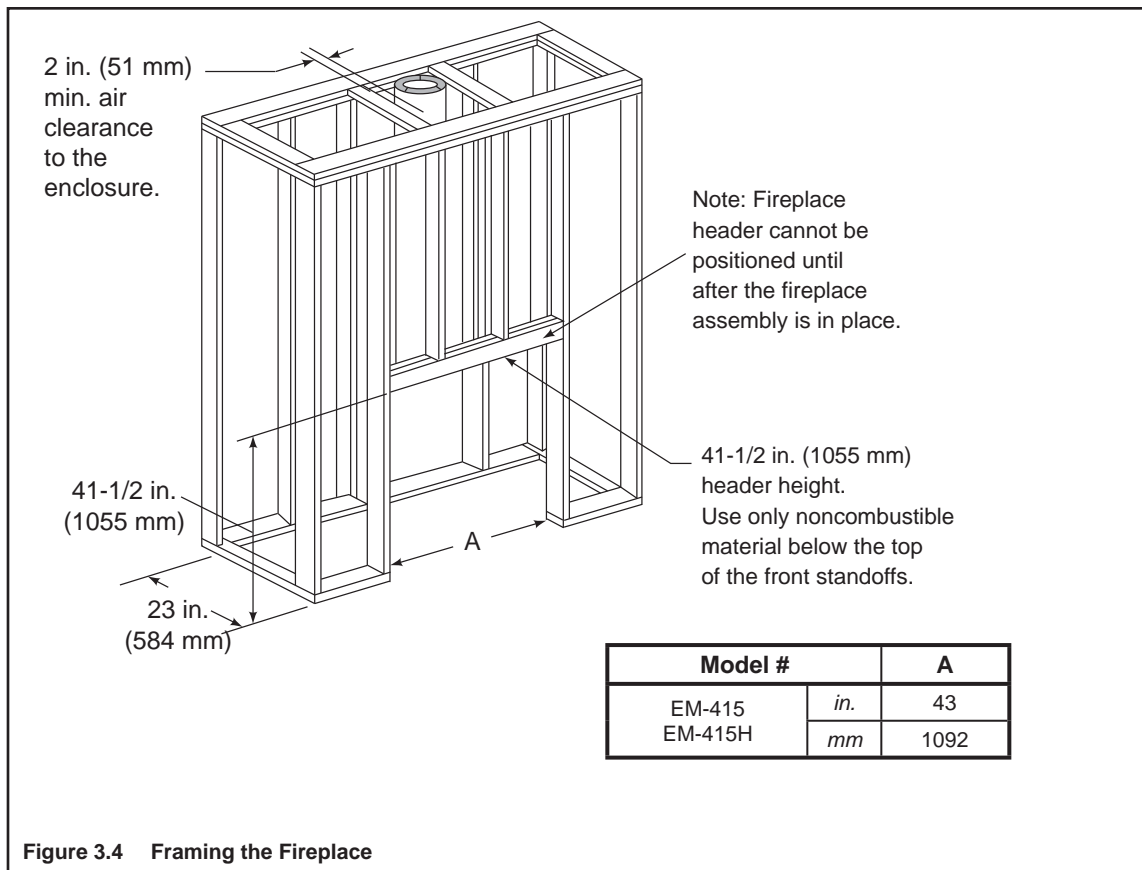


Figure 3.4 Framing the Fireplace

E. Construct the Chase

A chase is a vertical boxlike structure built to enclose the fireplace and/or its vent system. Vertical chimneys that run on the outside of a building must be installed inside a chase.

Construction of the chase may vary with the type of building. These instructions are not substitutes for the requirements of local building codes. Local building codes **MUST** be checked.

Chases should be constructed in the manner of all outside walls of the home to prevent cold air drafting problems. The chase should not break the outside building envelope in any manner. All outer walls need to be insulated.

Building codes require false ceiling and ceiling firestops at each floor of the chase or every 10 ft (3.05 m) of clear space to control spread of fire.

Walls, ceiling, base plate and cantilever floor at the first level of the chase should be insulated. See Figure 3.5. Vapor and air infiltration barriers should be installed in the chase as per regional codes for the rest of the home. Additionally, Hearth & Home Technologies recommends that the inside surfaces be sheet rocked and taped (or the use of an equivalent method) for maximum air tightness.

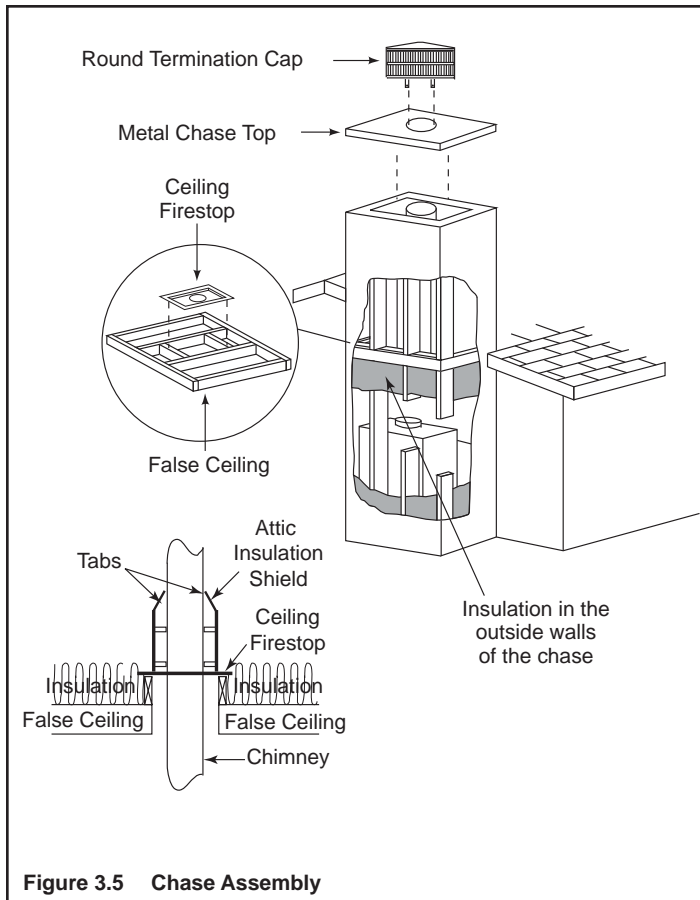


Figure 3.5 Chase Assembly

Gas line holes and other openings should be caulked with high temperature caulk or stuffed with unfaced fiberglass insulation. If the fireplace is being installed on a cement slab, we recommend that in cold climates, a sheet of plywood or other raised platform be placed underneath to prevent conducting cold up into the room.

Three examples of chase applications are shown in Figure 3.6.

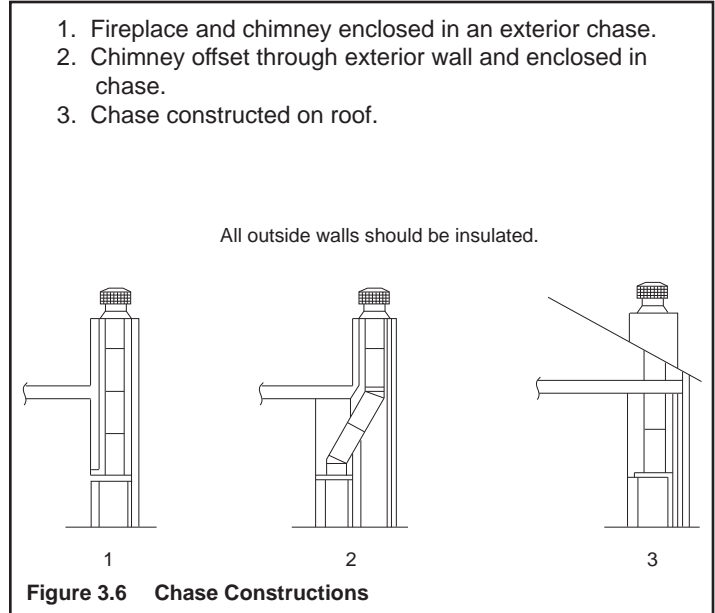


Figure 3.6 Chase Constructions

F. Chimney Requirements

When planning your fireplace location, the chimney construction and necessary clearances must be considered. The fireplace system and chimney components have been tested to provide flexibility in construction. Vertical distances are measured from the base of the fireplace as shown in Figure 5.2.

• Minimum overall straight height	16.5 ft	(5.03 m)
• Minimum height with offset/return	16.5 ft	(5.03 m)
• Maximum height	90 ft	(27.43 m)
• Maximum chimney length between an offset and return	20 ft	(6.10 m)
• Maximum distance between chimney stabilizers	35 ft	(10.67 m)
• Double offset/return minimum height	20 ft	(6.1 m)
• Maximum unsupported chimney length between the offset and return	6 ft	(1.83 m)
• Maximum unsupported chimney height above the fireplace	35 ft	(10.67 m)
• Maximum unsupported chimney above roof	6 ft	(1.83 m)

Note: A maximum of two pairs of offsets and returns may be used.

4 Installation of Fireplace


CAUTION



Sharp Edges

- Wear protective gloves and safety glasses during 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.

A. Install the Outside Air Kit

This fireplace will operate correctly only if adequate ventilation is provided to allow proper draft to the fireplace system. See Section 2.

Using an outside air kit is highly recommended to minimize the effects of negative pressure within the structure. We recommend you utilize the shortest duct run to optimize the performance of the outside air kit. Cold air flow can be minimized by putting a small dip in the duct creating a cold air trap. This trap can also help prevent heat build-up and exhausting out the intake due to the stack effect. The outside air kit inlet should be positioned in a manner that will not allow snow, leaves, etc. to block the inlet. In some installations the air duct may need to be run vertically. In such an installation, a 3 ft (.914 m) height difference must be maintained from the top of the uppermost chimney section to the outside combustion air inlet. See Figure 4.2.

See Figure 4.3 for proper placement of outside air inlet.

The outside air kit is installed on the left hand side of the fireplace. See Figure 4.4 for handle location/operation.

CAUTION

Risk of Smoke Spillage

Outside air inlet must be located to prevent blockage from:

- Leaves
- Snow/ice
- Other debris

Blockage may cause combustion air starvation.

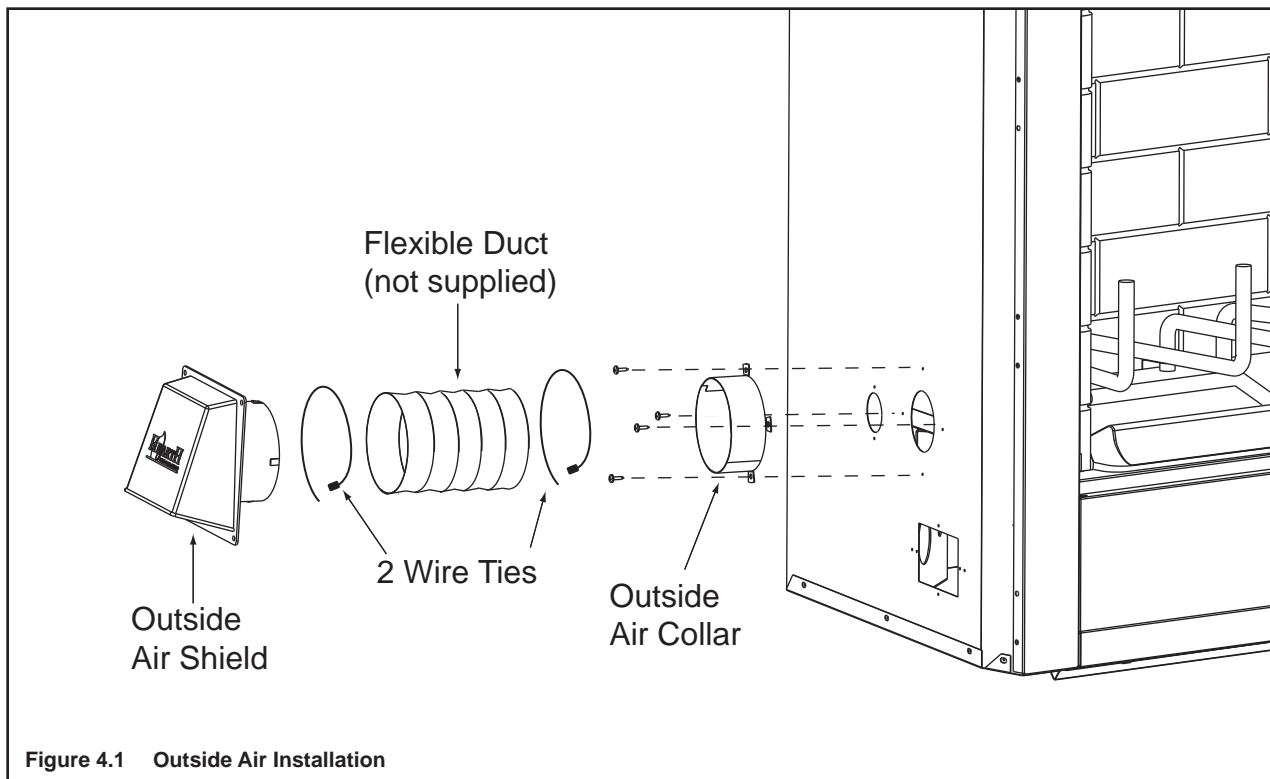


Figure 4.1 Outside Air Installation

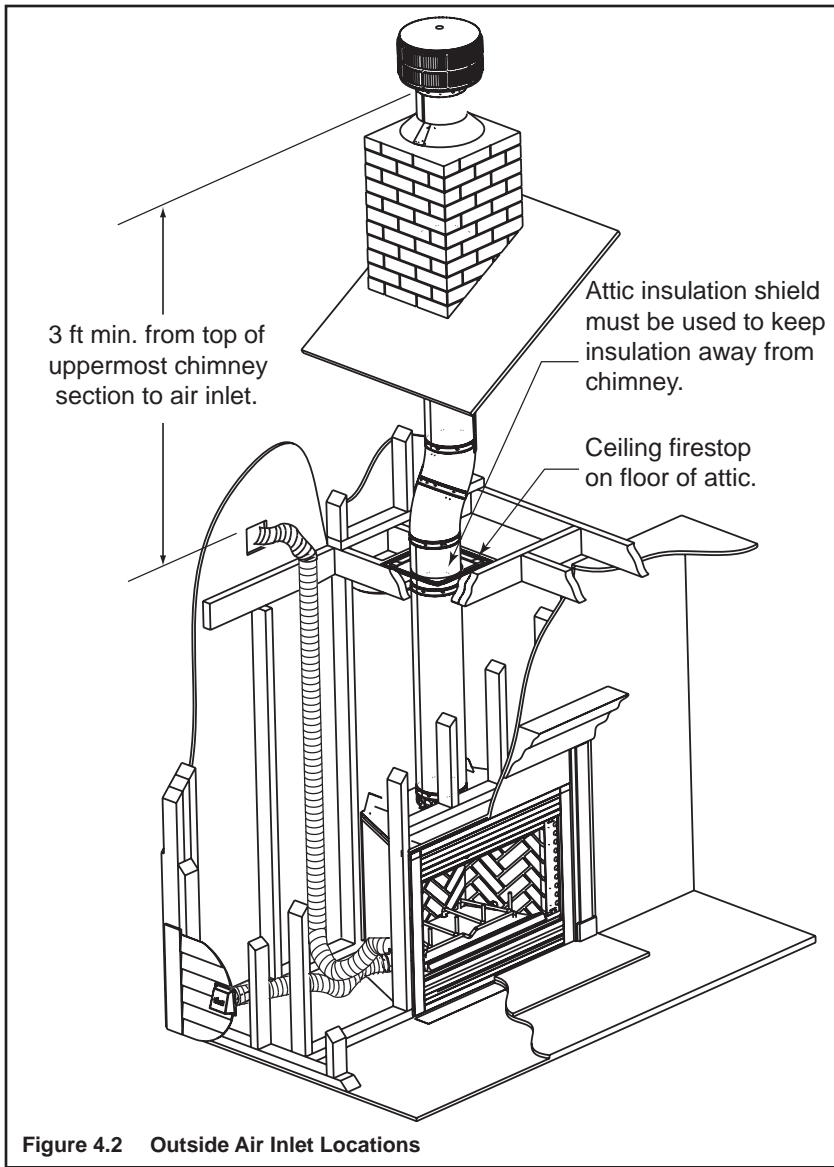


Figure 4.2 Outside Air Inlet Locations

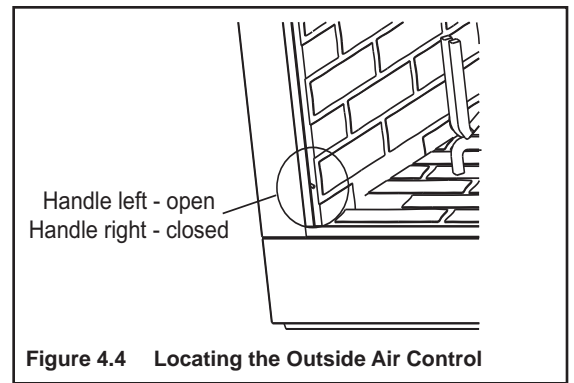


Figure 4.4 Locating the Outside Air Control

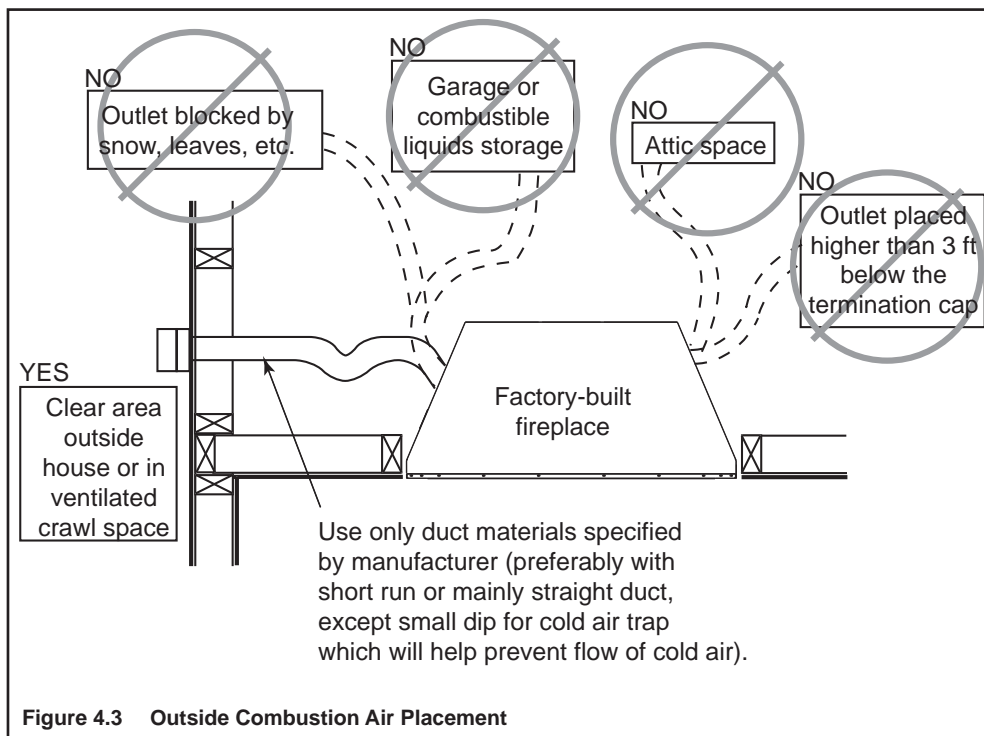


Figure 4.3 Outside Combustion Air Placement


B. Secure the Fireplace

• Position the Fireplace

This fireplace may be placed on either a combustible or noncombustible continuous flat surface. Follow the instructions for framing in Section 3.D. Slide the fireplace into position. Be sure to provide the minimum air clearance at the sides and back of the fireplace assembly. See Section 3.B.

	WARNING
	Fire Risk!
	<ul style="list-style-type: none">• Prevent contact with sagging, loose insulation.• Do NOT install against vapor barriers or exposed insulation.

• Place the Protective Metal Hearth Strips

	WARNING
	Fire Risk!
	<ul style="list-style-type: none">• Metal hearth strips <u>MUST</u> be installed. Sparks or embers may ignite flooring.

Included with your fireplace you will find two metal hearth strips measuring approximately 26 in. x 4 in. (660 mm x 102 mm). These strips are used to provide added protection where the fireplace and the hearth extension meet.

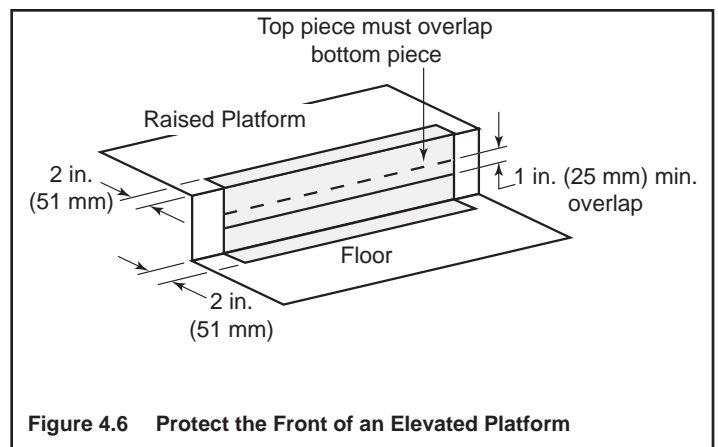
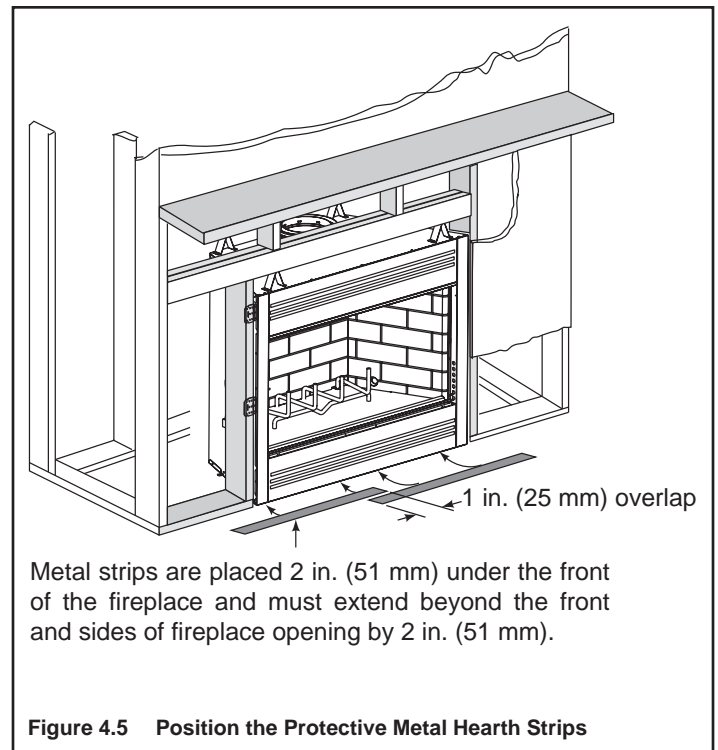
Slide each metal strip 2 in. (51 mm) under the front edge of the fireplace. The individual pieces must overlap each other by 1 in. (25 mm) minimum in the middle of the fireplace to provide continuous coverage of the floor. See Figure 4.5. These metal strips should extend from the front and sides of the fireplace opening by 2 in. (51 mm).

Note: When elevating the fireplace above the hearth extension the front of the elevated platform must be protected with a protective metal hearth strip as shown in Figure 4.6.

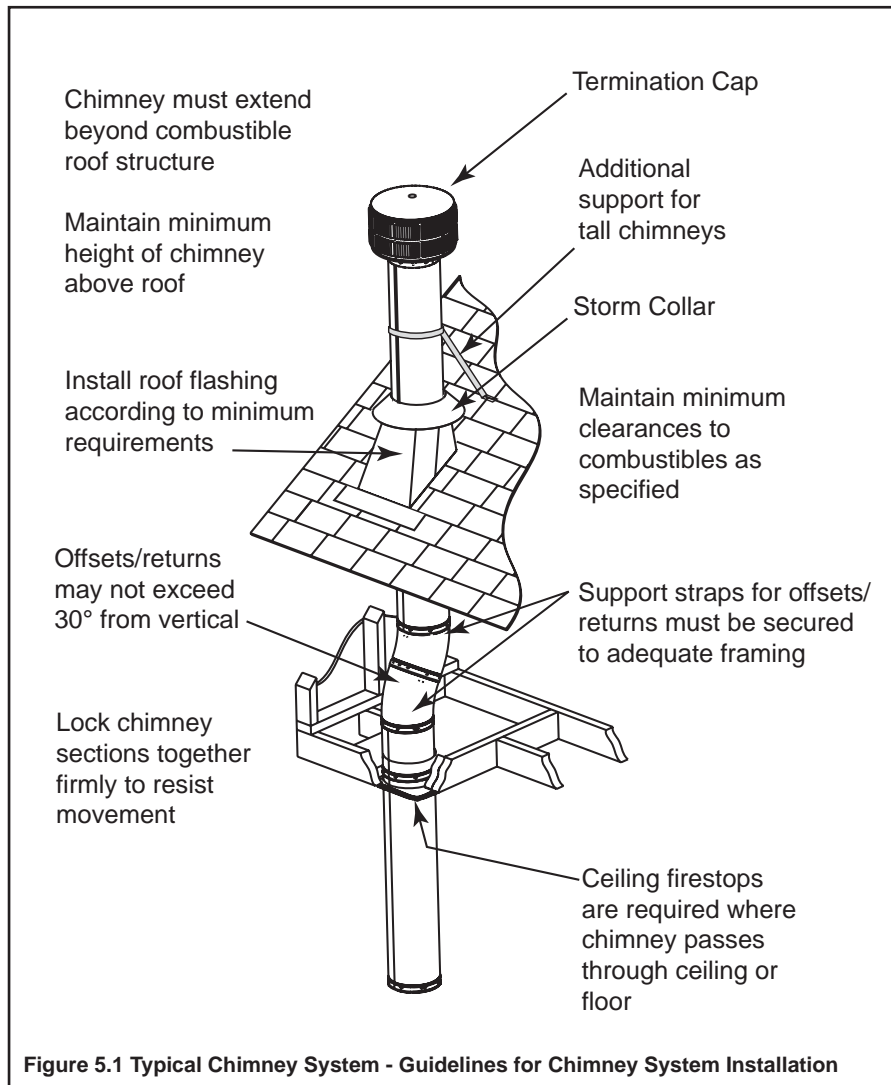
• Level the Fireplace

Level the fireplace side-to-side and front-to-back. Shim with noncombustible material, such as sheet metal, as necessary. Secure the fireplace (using the nailing flanges located on either side of the fireplace) to the vertical framing.

Important: To ensure proper fit of the glass doors, check the fireplace opening for square. Measure diagonal distances of the opening to make sure they are equal. If they are not, continue to shim the fireplace until those diagonals are equal.



5 Chimney Assembly



NOTE:

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

A. Chimney Requirements

Vertical distances are measured from the base of the fireplace as shown in Figure 5.2.

- Minimum overall straight height 16.5 ft (5.03 m)
- Minimum height with offset/return 16.5 ft (5.03 m)
- Maximum height 90 ft (27.43 m)
- Maximum chimney length between an offset and return 20 ft (6.10 m)
- Maximum distance between chimney stabilizers 35 ft (10.67 m)
- Double offset/return minimum height 20 ft (6.1 m)
- Maximum unsupported chimney length between the offset and return 6 ft (1.83 m)
- Maximum unsupported chimney height above the fireplace 35 ft (10.67 m)
- Maximum unsupported chimney above roof 6 ft (1.83 m)

Note: A maximum of two pairs of offsets and returns may be used.

WARNING

Fire Risk

- Must maintain 2 in. (51 mm) air clearance to insulation and other combustible materials.

Table 5.1

HEIGHT OF CHIMNEY COMPONENTS		<i>in.</i>	<i>mm</i>
Chimney Stabilizer			
	SL3	4-3/4	121
Ceiling Firestops			
	FS338	0	0
	FS339	0	0
	FS340	0	0
Offsets/Returns			
	SL315	13-3/8	340
	SL330	15-1/2	394
Roof Flashing			
	RF370	0	0
	RF371	0	0
Chimney Sections*			
	SL306	4-3/4	121
	SL312	10-3/4	273
	SL318	16-3/4	425
	SL324	22-3/4	578
	SL336	34-3/4	883
	SL348	46-3/4	1187

* Dimensions reflect effective height.

To determine the chimney components needed to complete your particular installation, follow the steps below:

- Determine the total vertical height of the fireplace installation. This dimension is measured from the base of the fireplace assembly to the point where the smoke exits the termination cap.
- Subtract the effective height of the fireplace assembly from the overall height of the fireplace installation (measured from the base of the fireplace to the bottom of the termination cap).
- Refer to Table 5.1 to determine what components must be selected to complete the fireplace installation.
- Determine the number of ceiling firestops, stabilizers, roof flashing, etc. required to complete the fireplace installation.

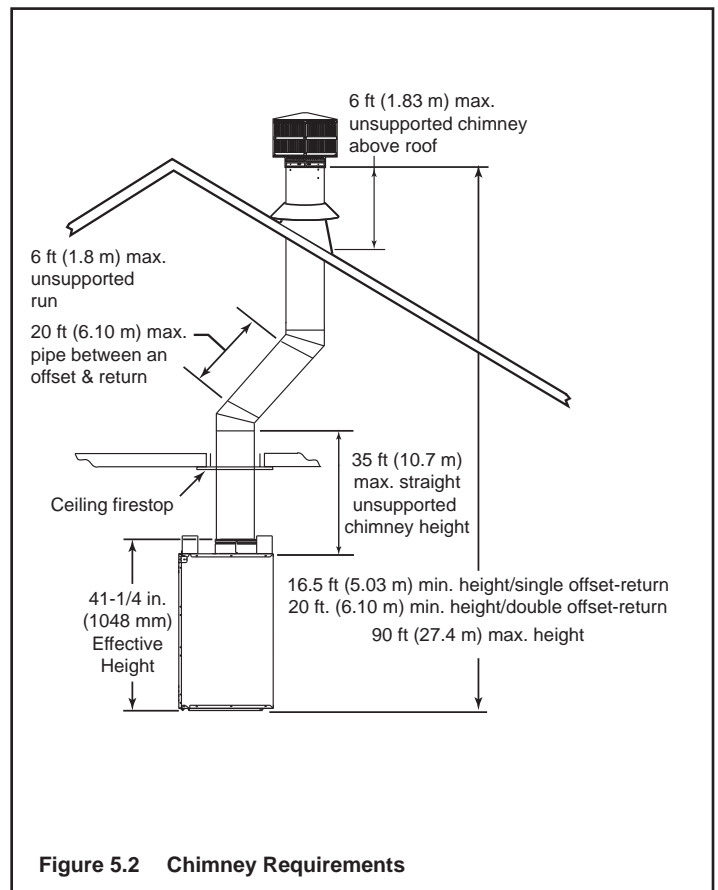


Figure 5.2 Chimney Requirements

CAUTION



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

B. Using Offsets/Returns

To bypass any overhead obstructions, the chimney may be offset using an offset/return.

An offset and return may be attached together or a chimney section(s) may be used between an offset and return.

Perform the following steps to determine the correct chimney component combination for your particular installation:

	WARNING
	<p>Fire Risk</p> <ul style="list-style-type: none"> Draft will be restricted if offset/returns greater than 30° are used.

- Measure how far the chimney needs to be shifted to enable it to avoid the overhead obstacle. See Figure 5.3. Use dimension “A” to determine chimney section required to achieve the needed shift.
- After determining the offset dimension, refer to Table 5.2 and find the “A” dimension closest to but not less than the distance of shift needed for your installation.
- The “B” dimension that coincides with the “A” dimension represents the required vertical clearance that is needed to complete the offset and return.
- Read across the chart and find the number of chimney sections required and the model number of those particular chimney parts.
- Whenever the chimney penetrates a floor/ceiling, a ceiling firestop must be installed.
- The effective height of the fireplace assembly is measured from the base of the fireplace to the top of the starter collar. See Dimensions in Section 12.

Table 5.2

15-degree				30-degree				SL306	SL312	SL318	SL324	SL336	SL348
A		B		A		B							
in.	mm	in.	mm	in.	mm	in.	mm						
1-5/8	41	13-3/8	340	3-5/8	92	15-1/2	394	-	-	-	-	-	-
2-7/8	73	17-3/4	451	5-1/2	140	18-5/8	473	1	-	-	-	-	-
4-1/8	102	22-3/8	568	7-1/4	184	21-3/4	552	2	-	-	-	-	-
4-1/2	114	23-5/8	600	8-1/2	216	23-3/4	603	-	1	-	-	-	-
5-3/4	146	28-1/4	718	10-1/4	260	27	686	1	1	-	-	-	-
6	152	29-3/8	746	11-1/2	292	29	737	-	-	1	-	-	-
7-1/4	184	34	864	13-1/4	337	32-1/8	816	-	2	-	-	-	-
7-3/4	197	36-1/8	918	14-1/2	368	34-1/8	867	-	-	-	1	-	-
8-3/4	222	39-3/4	1010	16-1/4	413	37-3/8	949	1	-	-	1	-	-
10-3/8	264	45-5/8	1159	19-1/4	489	42-1/2	1080	-	-	2	-	-	-
10-5/8	270	46-3/4	1187	20-1/2	521	44-5/8	1133	-	-	-	-	1	-
11-7/8	302	51-3/8	1305	22-1/4	565	47-3/4	1213	1	-	-	-	1	-
13-1/2	243	57-1/4	1454	25-1/4	641	52-7/8	1343	-	-	-	2	-	-
13-3/4	349	58-3/8	1483	26-1/2	673	55	1397	-	-	-	-	-	1
15	381	63	1600	28-1/4	718	58-1/8	1476	1	-	-	-	-	1
16-1/2	419	68-3/4	1746	31-1/4	794	63-1/4	1607	-	1	-	-	-	1
18	457	74-5/8	1895	34-1/4	870	68-1/2	1740	-	-	1	-	-	1
19-5/8	498	80-3/8	2042	37-1/4	946	73-3/4	1873	-	-	-	1	-	1
20-5/8	524	84-1/8	2137	39-1/8	994	76-7/8	1953	1	-	-	1	-	1
22-3/4	578	91-7/8	2334	43-1/4	1099	84-1/8	2137	-	-	-	-	1	1
24	610	96-1/2	2451	45-1/8	1146	87-1/4	2216	1	-	-	-	1	1
25-7/8	657	103-1/2	2629	49-1/4	1251	94-1/2	2400	-	-	-	-	-	2

Proper assembly of air-cooled chimney parts result in an overlap at chimney joints of 1-1/4 in. (32 mm). Effective length is built into this chart.

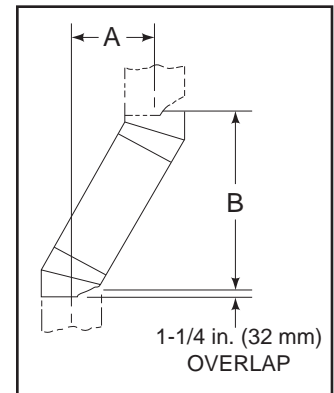


Figure 5.3 Chimney Offset/Return

Example: Your “A” dimension from Figure 5.3 is 14 1/2 in. (368 mm). Using Table 5.2 the dimension closest to, but not less than 14 1/2 in. (368 mm) is 14 1/2 in. (368 mm) using a 30° offset/return. It is then determined from the table that you would need 34 1/8 in. (867 mm) (Dimension “B”) between the offset and return. The chimney component that best fits your application is one SL324.

C. Assemble the Chimney Sections

Attach either a straight chimney section or an offset to the top of the fireplace (depending on your installation requirement). Chimney sections are locked together by pushing downward until the top section meets the stop bead on the lower section.

The inner flue is placed to the inside of the flue section below it. The outer casing is placed outside the outer casing of the chimney section below it. See Figure 5.4.

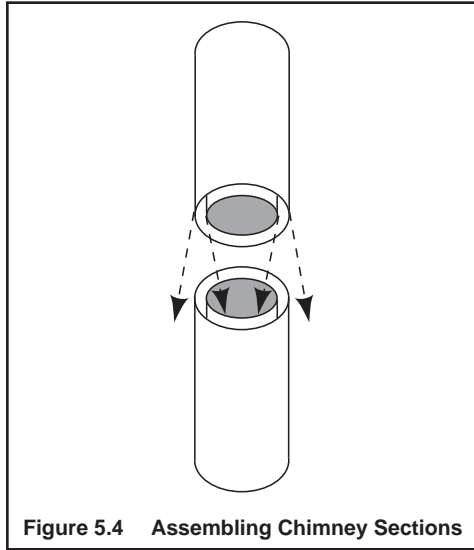


Figure 5.4 Assembling Chimney Sections

Note: Inner flue and outer liner sections cannot be disassembled once locked together. Plan ahead to ensure the proper installation height is achieved with the selected chimney components.



WARNING

Fire Risk

Do NOT install substitute or damaged chimney components.

- MUST use chimney system described in this manual.
- NO OTHER chimney components may be used.

Substitute or damaged chimney components may impair safe operation.

D. Install the Ceiling Firestops

- Mark and cut an opening in the ceiling for the ceiling firestop being used. See Figure 5.5.
- Frame the opening with the same size lumber used in the ceiling joists.
- Install the ceiling firestop.

Note: The ceiling firestop MUST be nailed to the bottom of the ceiling joists EXCEPT when the space above is uninsulated and the attic insulation shield is not being used (see Figure 5.5). When the attic insulation shield is used the ceiling firestop may be above or below the joist of an insulated ceiling.

ROOM ABOVE (non-insulated ceiling)

ATTIC ABOVE (insulated ceiling)
When attic insulation shield not used

Note: Use same dimensional lumber for framing ceiling firestop and joists.

Catalog #	A		B	
	in.	mm	in.	mm
FS338	14-1/2	368	14-1/2	368
FS339	14-1/2	368	18-3/8	467
FS340	14-1/2	368	23	584

Figure 5.5 Installing the Ceiling Firestop


Note: You must provide support for the pipe during construction and check to be sure inadvertent loading has not dislodged the chimney section from the fireplace or at any chimney joint.

CAUTION

- Ceiling firestops must be used at ceiling/floor.
- Chase construction requires ceiling firestops at each floor or every 10 ft (3.05 m) of clear space.
- Use same dimensional lumber as joists.

Ceiling firestop slows spread of fire and reduces cold air infiltration.

➔ E. Install the Attic Insulation Shield



⚠ WARNING

Fire Risk

- DO NOT pack insulation or other combustibles: between ceiling firestops; between chimney and attic insulation shield.
- ALWAYS maintain specified clearances around chimney and ceiling firestop systems.
- Install ceiling firestops as specified.

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

An insulation shield must be installed when there is a possibility of insulation coming into contact with the factory built chimney system. Installation of a ceiling firestop is required (see Figures 5.7 and 5.8).

- Roll the shield (around the chimney if already installed) until you have a 3 in. (76 mm) overlap and the three holes on each side match up (large holes on top).
- Insert three screws into the matching holes to form a tube.
- Bend three tabs on the bottom of the tube inward to 90° to maintain chimney clearance. See Figure 5.6.
- Rest the insulation shield on the ceiling firestop below.
- Bend the three short tabs at the top of the shield inward to 90° to maintain the 2 in. (51 mm) clearance from the chimney.
- Bend the remaining top tabs to just meet the pipe.

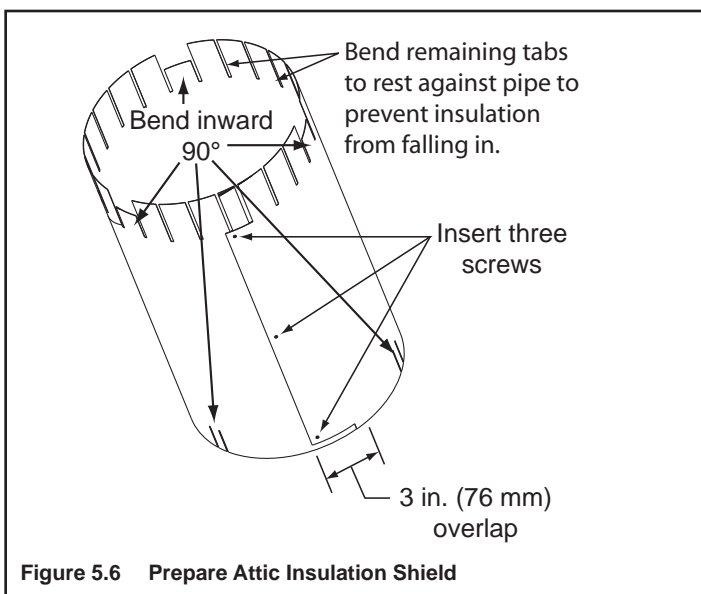


Figure 5.6 Prepare Attic Insulation Shield

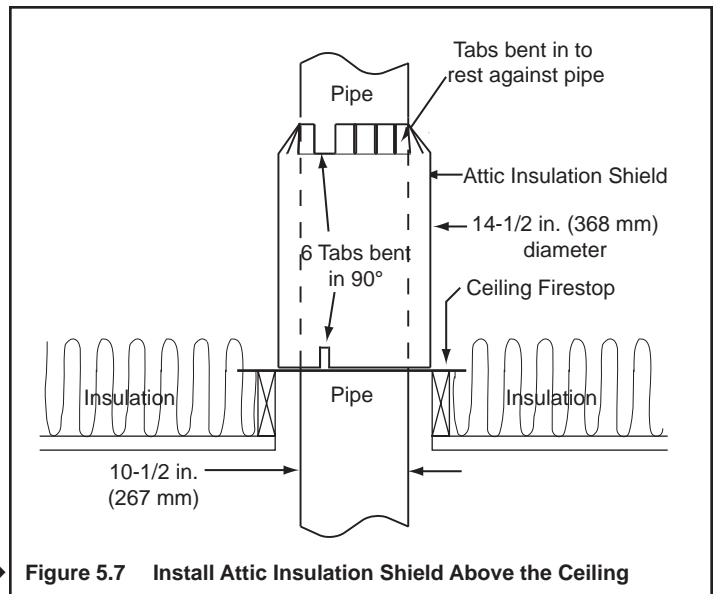


Figure 5.7 Install Attic Insulation Shield Above the Ceiling

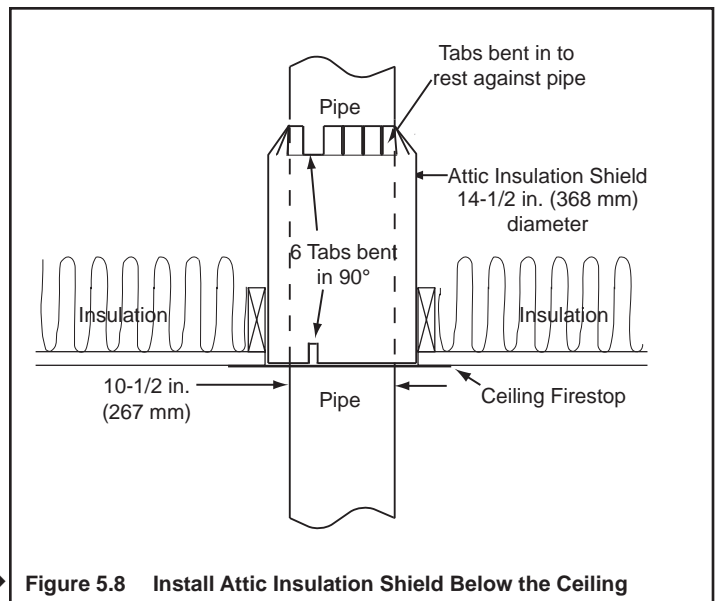


Figure 5.8 Install Attic Insulation Shield Below the Ceiling

If you wish to make a custom shield or barrier, follow these guidelines:

- Metal is preferred, although any material stiff enough to hold up against the insulation can be used.
- The shield or barrier must be tall enough to extend above the insulation and prevent blown-in insulation from spilling into the cavity.
- Maintain specified clearances around chimney.
- Check instructions and local codes for further details.

F. Double-check the Chimney Assembly

Continue assembling the chimney sections up through the ceiling firestops as needed. While doing so, be aware of the height and unsupported chimney length limitations given under Section 5.A. Chimney Requirements.

Check each section by pulling up slightly from the top to ensure proper engagement before installing the succeeding sections. If they have been connected correctly, they will not disengage when tested.

G. Secure the Chimney

When offsets and returns are joined to straight pipe sections, they must be locked into position with the screws provided* (outer only), using the predrilled holes. To prevent gravity from pulling the chimney sections apart, the returns and the chimney stabilizers have hanger straps for securing these parts to joists or rafters. See Figure 5.9.

* or equivalent #6 or #8 sheet metal screw no longer than 3/4 in. (19 mm).

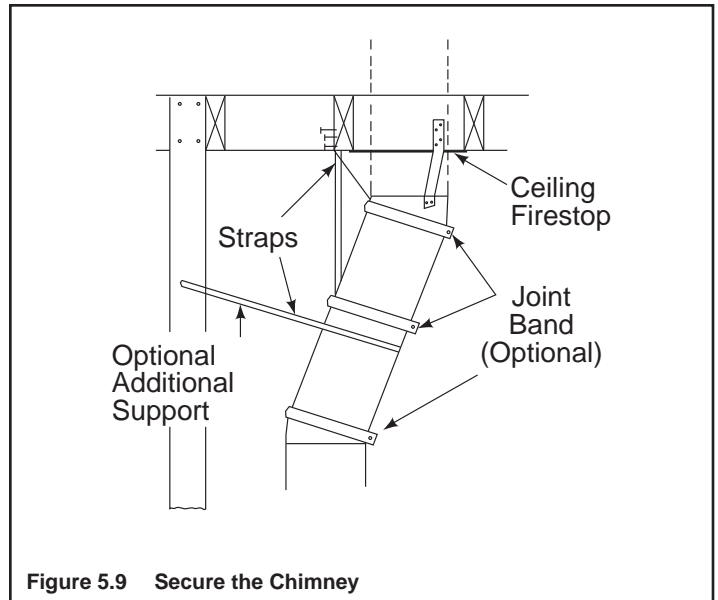




Figure 5.9 Secure the Chimney

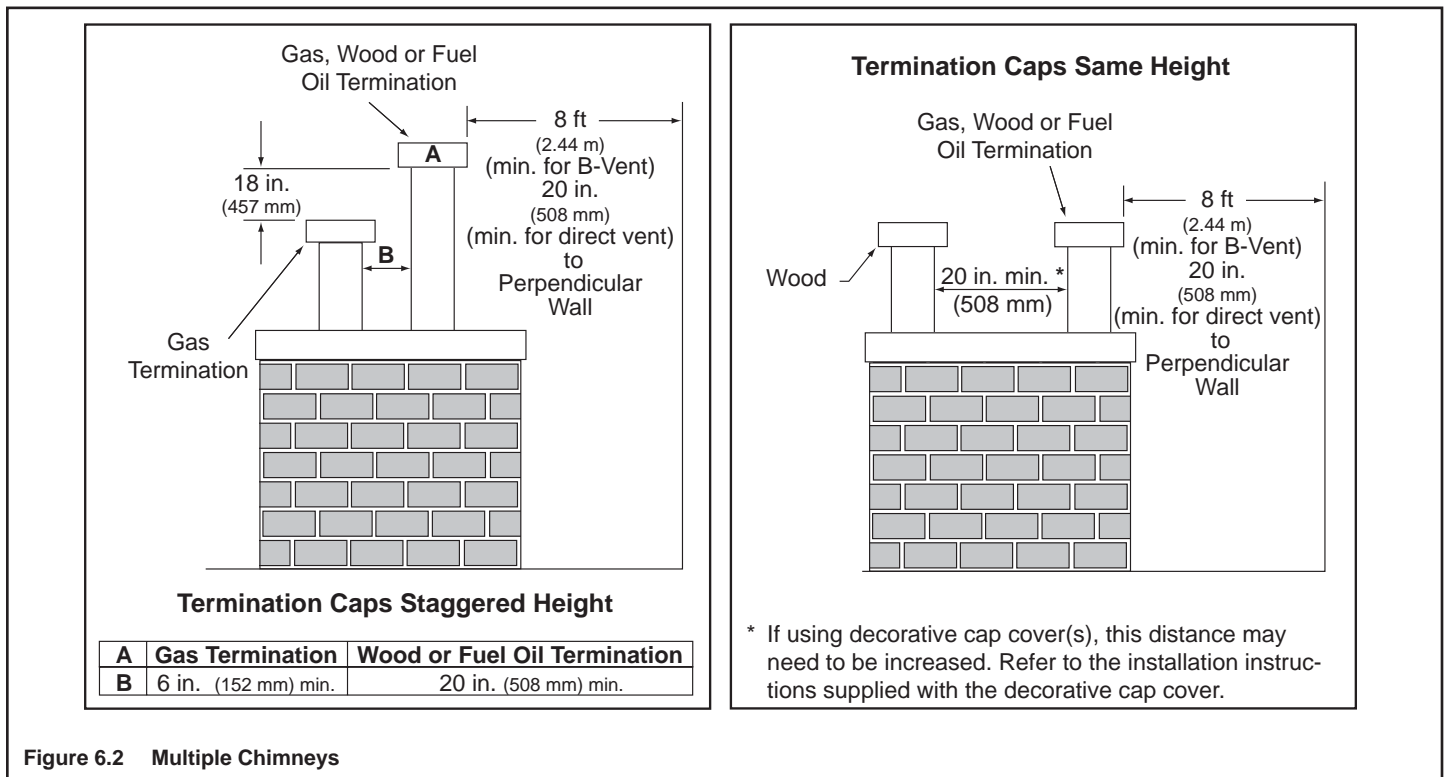
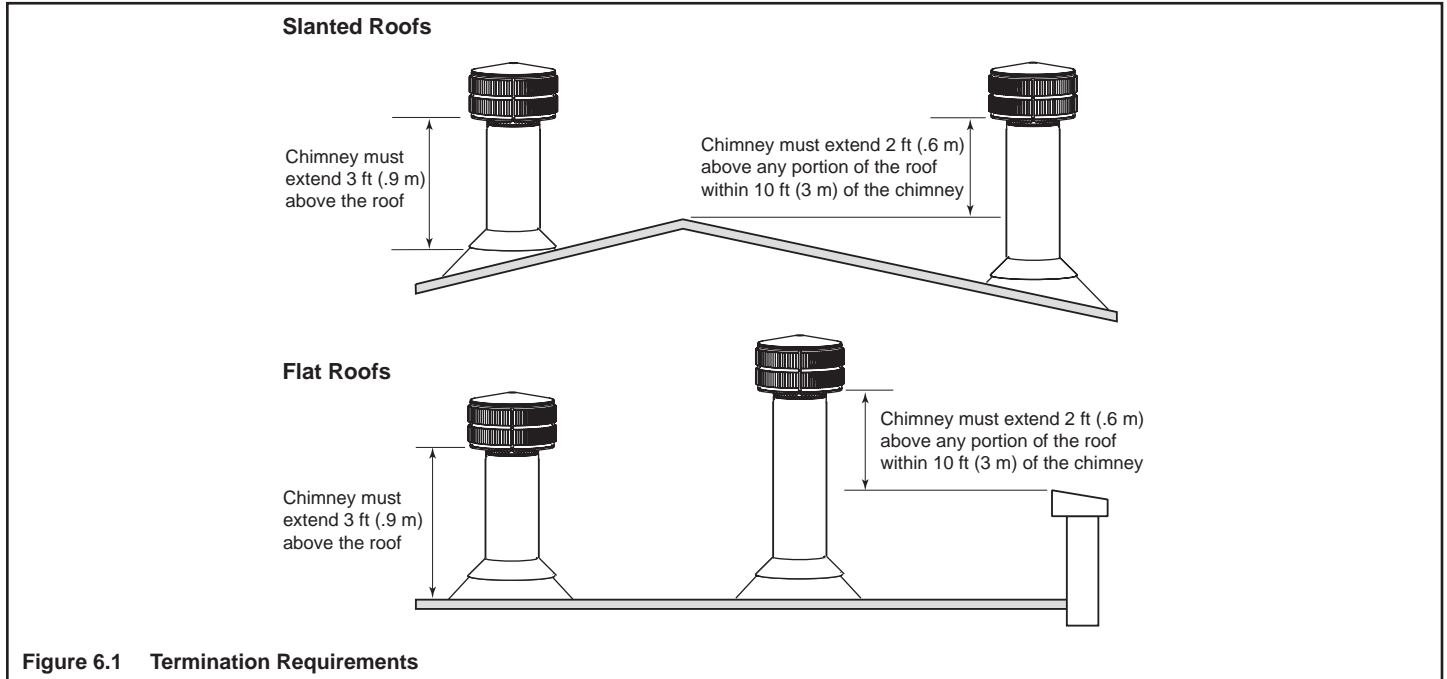
	WARNING
	Fire Risk
	<ul style="list-style-type: none">• Secure offsets with screws (not to exceed 3/4 in./19 mm in length).• Secure returns with strapping.• Straight chimney sections may be secured with screws (not to exceed 3/4 in./19 mm in length) at the joints.
	Keep chimney sections from separating or twisting.

6 Complete the Enclosure

A. Chimney Termination

Chimney Termination Requirements (See Figures 6.1 and 6.2)

- Must have a cap approved and listed for this fireplace system
- Must not be located where it will become plugged by snow or other material
- Must terminate at least 3 ft (914 mm) above the roof **and** at least 2 ft (610 mm) above any portion of the roof within 10 ft (3.05 m)
- Must be located away from trees or other structures




Mark the Exit Point of the Roof

Locate the point where the chimney will exit the roof by plumbing down to the center of the chimney. Drive a nail up through the roof to mark the center. See Figure 6.3.

Cut Out the Hole in the Roof

Measure to either side of the nail and mark the 14-1/2 in. x 14-1/2 in. (368 mm x 368 mm) opening required. This is measured on the horizontal; actual length may be larger depending on the pitch of the roof. Cut out and frame the opening. See **Chapter 25** of the **Uniform Building Code** for roof framing details.

	⚠ WARNING
	Fire Risk <ul style="list-style-type: none">• Must maintain 2 in. (51 mm) air clearance to insulation and other combustible materials.

Assemble the Chimney Sections Through the Roof

Continue to add chimney sections through the roof opening, maintaining at least a 2 in. (51 mm) air space to combustible materials.

Install the Roof Flashing

If a roof flashing is to be used, install the roof flashing appropriate to the roof pitch and install a round termination cap and storm collar following the instructions shipped with the cap.

Install the Chimney Air Kit (required in Canada):

When installing the chimney air kit, follow the instructions provided with this accessory.

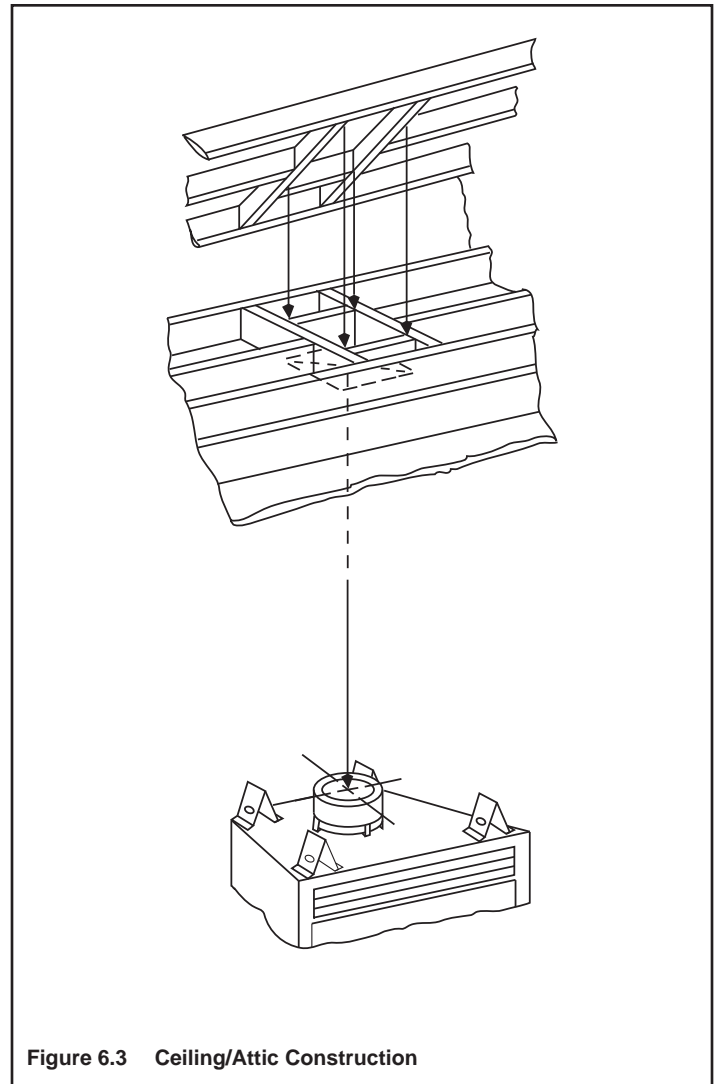


Figure 6.3 Ceiling/Attic Construction

B. Chase Top

A metal chase top is required to seal the top of the chase around the chimney pipe. The top should include a turn-down and drip edge to prevent water from seeping into the chase. Provide a 1/8 in. (3 mm) gap around the flue pipe and slope the top downward away from the penetration. See Figure 6.4.

- All seams must be caulked to prevent leaks.
- A chase installation must use a chase top. Chase tops are available from your Heat & Glo dealer or may be field constructed.
- Attach the chase top to the top of the chase.

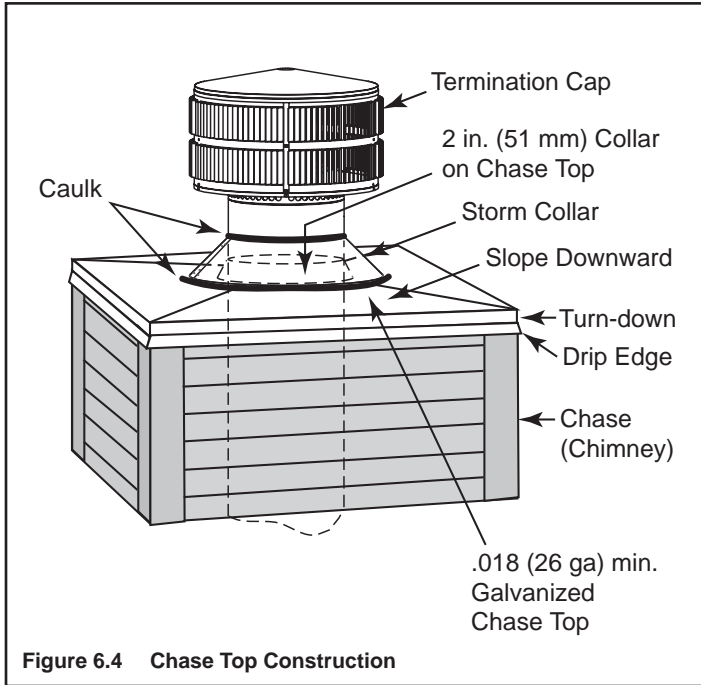


Figure 6.4 Chase Top Construction

C. Install the Termination Cap

Note: To protect against the effect of corrosion on those parts exposed to the weather, the termination cap can be painted with a rust-resistant paint.



WARNING

Fire Risk

- The minimum overlap of cap to pipe **MUST** be met or chimney may separate from cap.
Separation allows sparks, heat and embers to escape.

- Install the chimney sections up through the chase enclosure. When using a TR344 Round Termination Cap, the uppermost top section of pipe must extend 6 in. (152 mm) above the top of the flashing collar to allow installation of the storm collar and termination cap. See Figure 6.5.

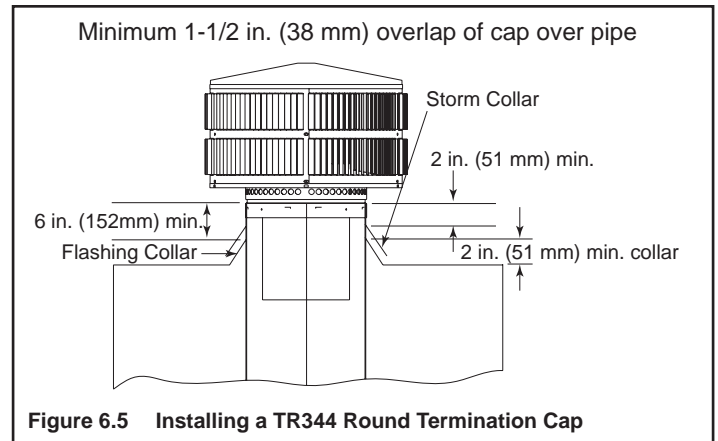


Figure 6.5 Installing a TR344 Round Termination Cap

- For installations utilizing a TR342 Round Telescoping Termination Cap, the uppermost chimney section must be below the top of the chase top, but not more than 14-1/2 in. (368 mm) below the top of the chase top. Minimum overlap of chimney and termination cap must be 1-1/2 in. (38 mm). See Figure 6.6.

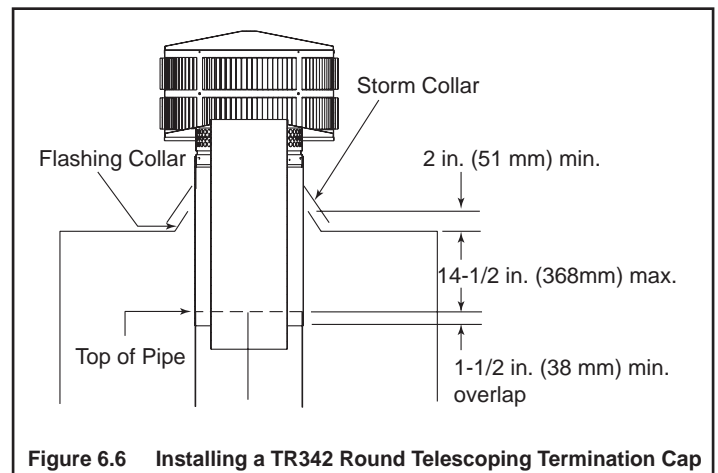
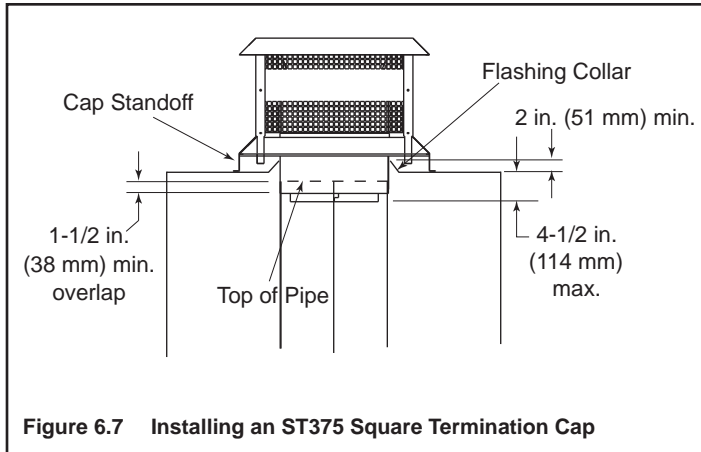
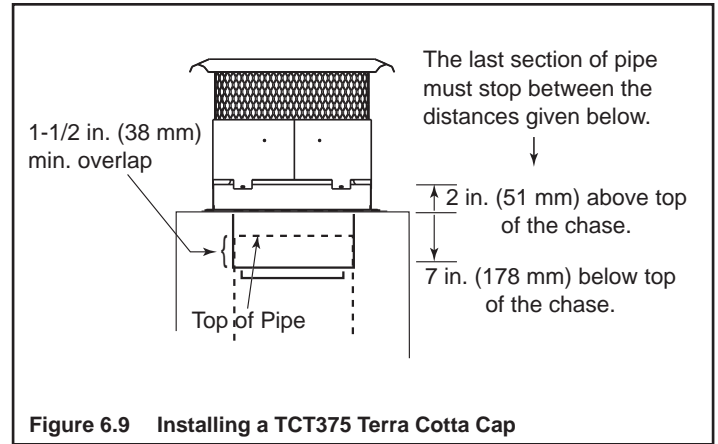


Figure 6.6 Installing a TR342 Round Telescoping Termination Cap

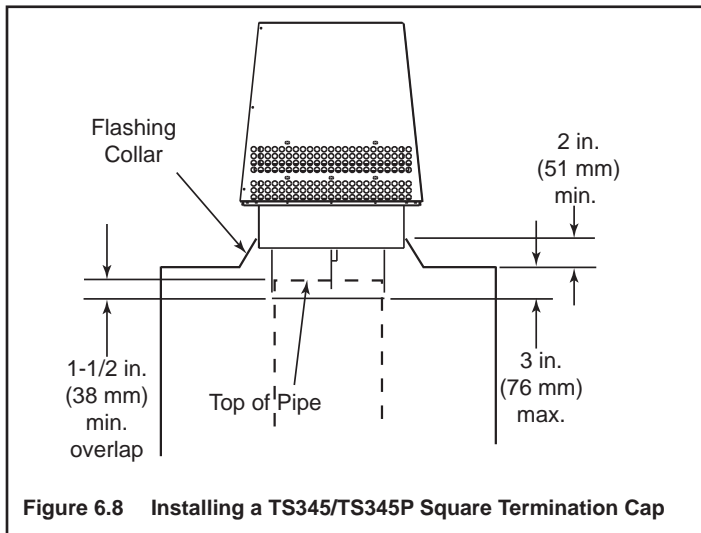
- For installations utilizing an ST375 Square Termination Cap the last chimney section must not be more than 4-1/2 in. (114 mm) below the chase top. See Figure 6.7.



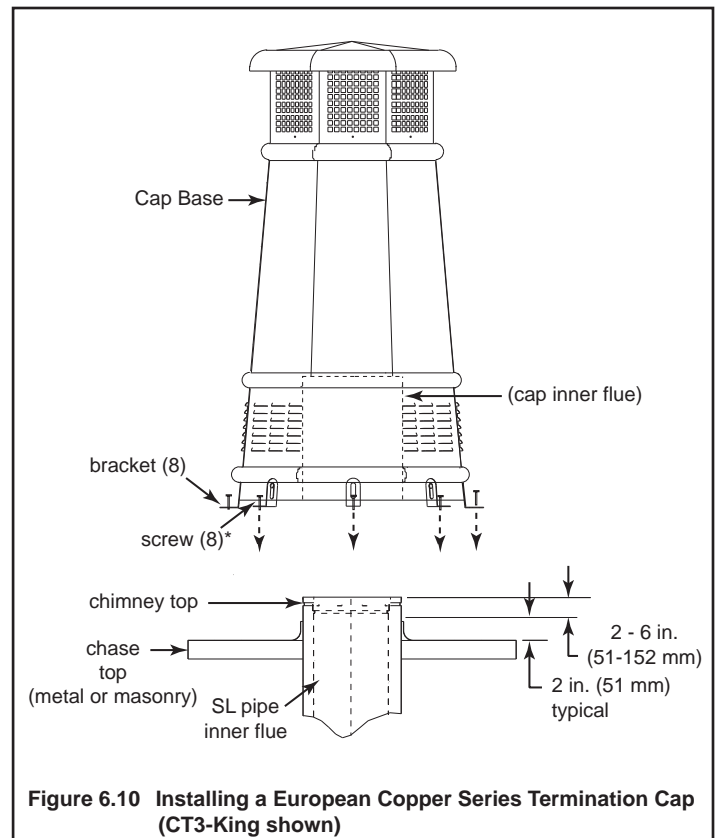
- For installations utilizing a TCT375 Terra Cotta Cap the last chimney section must be between 7 in. (178 mm) below the chase top and 2 in. (51 mm) above. See Figure 6.9.



- For installations utilizing a TS345/TS345P Square Termination Cap, the uppermost chimney section must not be more than 3 in. (76 mm) below the chase top. See Figure 6.8



- For chase installations you can use a TR344 Round Termination Cap, a TR342 Round Telescoping Termination Cap, an ST375, TS345 or TS345P Square Termination Cap, or a TCT375 Terra Cotta Termination Cap.
- For installations utilizing a European Copper Series Termination Cap, See Figure 6.10.
- Install termination caps following instructions provided with them.



7 Accessories

A. Gas Log/Lighter Provisions

A certified gas log lighter or decorative gas log set can be installed in this fireplace.

- Maximum input is 100,000 BTU/hr.
- Decorative gas appliance must be certified to **ANSI Z21.60** "Standard for Decorative Gas Appliances for Installation in Vented Fireplaces".
- Must be installed in accordance with the **National Fuel Gas Code, ANSI Z223.1**.
- A log set must incorporate a gas shutoff.
- Log set requires the damper to be locked fully open.

Knockouts are provided on both sides of the fireplace and in refractories for 1/2 in. (13 mm) iron pipe.

- We recommend you seal refractory around pipe with fireplace mortar or high temperature, noncombustible sealant.
- Repack insulation from the knockout around the pipe.
- Maintain 1-1/2 in. (38 mm) air space around the pipe for 4 in. (102 mm) beyond the fireplace.
- See Figure 7.1.

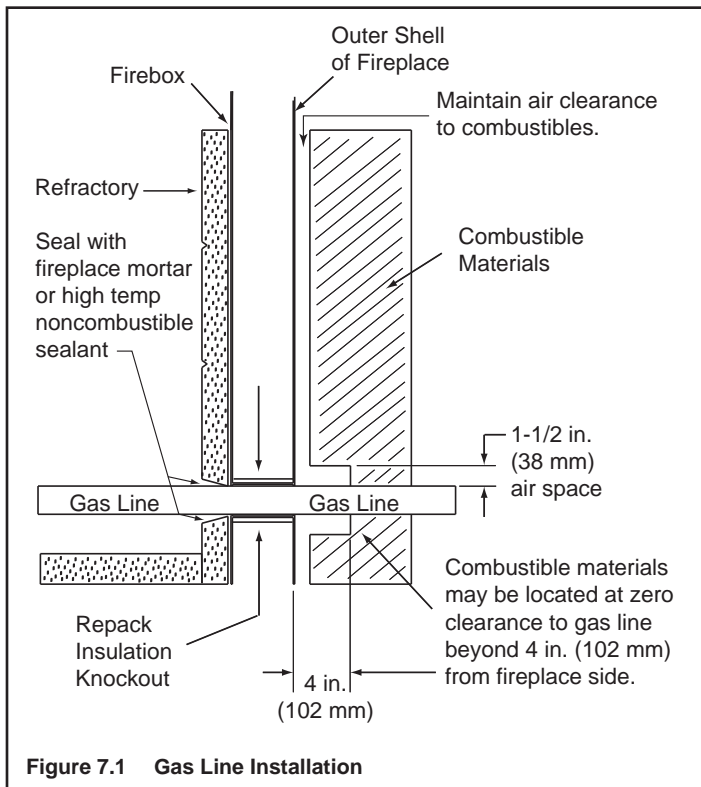


Figure 7.1 Gas Line Installation

⚠ WARNING



Asphyxiation Risk

- Damper must be locked open when gas logs installed.
- Gas fire generates fumes.

⚠ WARNING



Fire Risk

- For use with solid wood fuel or decorative gas appliance only.
- DO NOT install unvented gas logs.

⚠ WARNING



Fire Risk

Explosion 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.

B. Junction Box Installation

Your appliance is supplied with a Junction Box Kit. We recommend the junction box be installed and wired at this time to avoid reconstruction.

- The Junction Box Kit is to be installed on the right side of the appliance; remove and discard the metal knockout.
- Attach the junction box bracket to the junction box as shown in Figures 7.2 - 7.4.
- Bring the electrical wires to the inside of the junction box and secure in place with the Romex connector.
- Install the duplex receptacle in the junction box and attach the cover plate.
- Prior to attaching the junction box to the appliance, the heat shield supplied with your appliance must be installed. Insert the top flange of the heat shield through the electrical knockout hole from the inside (Figure 7.5).
- Attach the junction box bracket to the side of the appliance. See Figure 7.6. Secure with the screws provided in the fastener package.

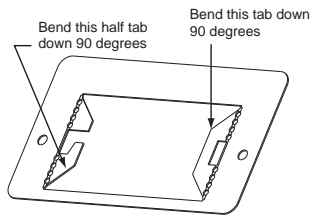


Figure 7.2 Prepare Junction Box Bracket

Slide the flanges of the junction box through the slots in the bracket.

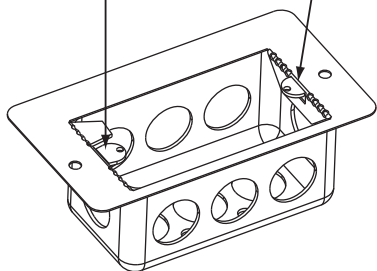


Figure 7.3 Position Bracket on Junction Box

Bend remaining half tab down 90 degrees.

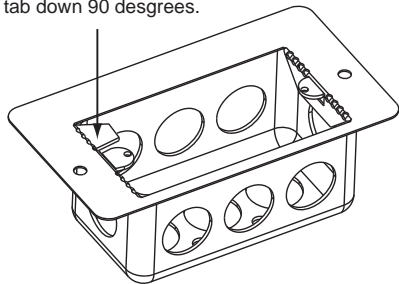


Figure 7.4 Secure Bracket to Junction Box

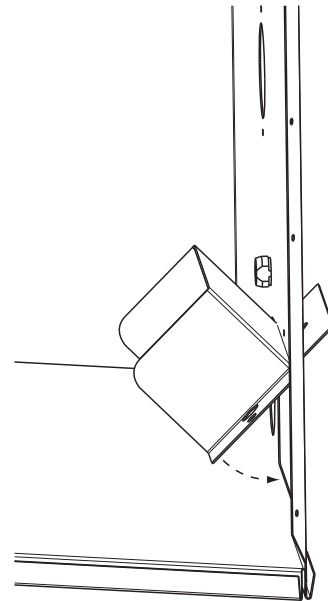


Figure 7.5 Attach the Heat Shield

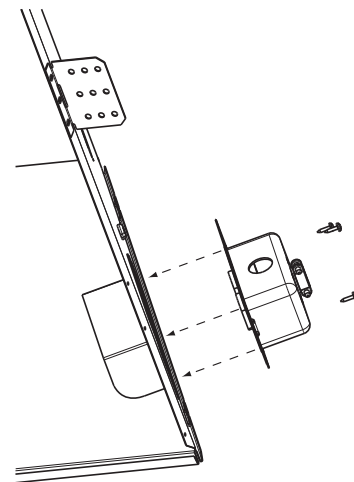


Figure 7.6 Attach the Junction Box

C. Installation of Fan

Follow installation instructions supplied with fan kit.



⚠ CAUTION



Shock Risk

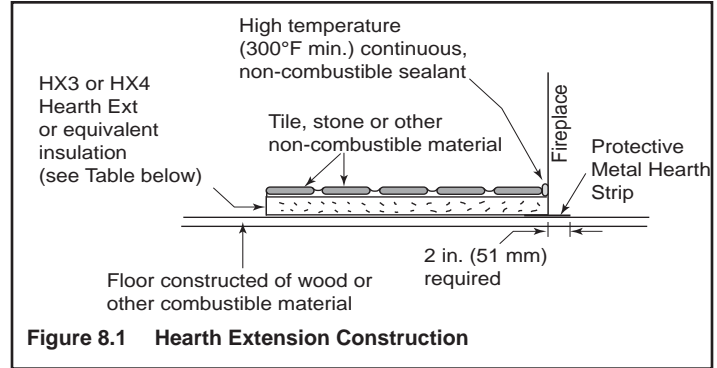
- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded three-prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

8 Finishing

A. Hearth Extension

A hearth extension must be installed with all fireplaces to protect the combustible floor in front of the fireplace from both radiant heat and sparks. See Figures 8.1-8.3.

	WARNING
	<p>Fire Risk</p> <ul style="list-style-type: none"> • Metal hearth strips MUST be installed. Sparks or embers may ignite flooring.



This fireplace has been tested and approved for use with a hearth extension insulated to a minimum R value of 1.03.

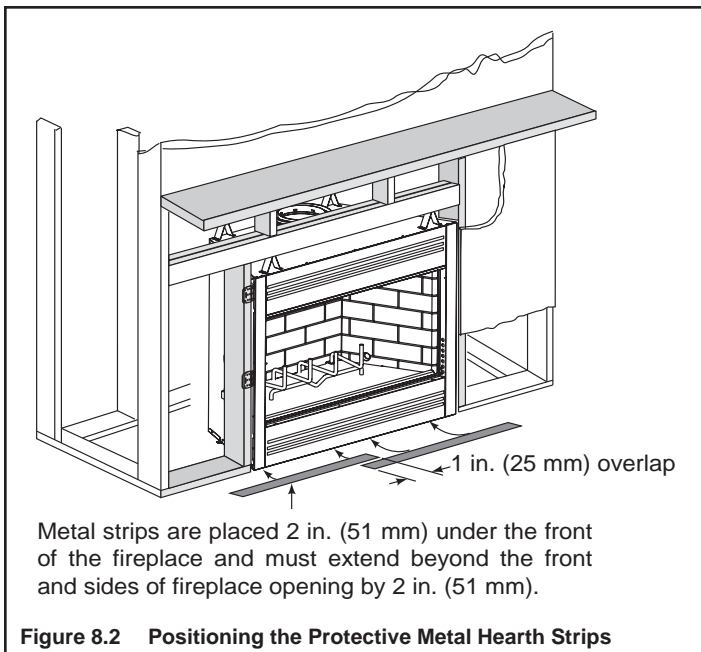
To substitute materials for the factory-available hearth extensions, see Figure 8.3 and calculate insulation alternatives as per Table 8.1 and the following formulas:

- Thermal conductivity per inch thickness = **k**
- $k = (\text{BTU})(\text{inch}) / (\text{foot}^2)(\text{hour})(^\circ\text{F})$
- Required thickness = Rk

- Thermal resistance per inch thickness = **r**
- $r = (\text{foot}^2)(\text{hour})(^\circ\text{F}) / (\text{BTU})(\text{inch})$
- Required thickness = R / rB .

➔ **Table 8.1**

Hearth Extension Insulation Alternatives-Total minimum R Value must equal 1.03			
Material	k per inch thick	r per inch thick	Minimum thickness required
Hearth & Home HX3, HX4 (Micore 300™)	0.49	2.06	1/2 in.
USG Micore 160™	0.39	2.54	1/2 in.
USG Durock™ Cement Board	1.92	0.52	2 in.
Cement Mortar	5.0	0.20	5-1/8 in.
Common Brick	5.0	0.20	5-1/8 in.
Ceramic Tile	12.50	0.08	12-1/4 in.
Armstrong™ Privacy Guard Plus	0.46	2.18	1/2 in.
Marble	14.3-20.0	0.07-0.05	14-5/8 in. - 20-3/8 in.



B. Finishing Material

• Combustible Material

Material which is made of or surfaced with wood, compressed paper, plant fibers, plastics, or any material capable of igniting and burning, whether flame proofed or not, plastered or not plastered.

• Non-Combustible Material

Material which will not ignite and burn. Such materials are those consisting entirely of steel, iron, brick, tile, concrete, slate, glass or plasters, or any combination thereof.

Materials that are reported as passing **ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750° C**, shall be considered non-combustible materials.

• Non-Combustible Sealant Material

Sealants which will not ignite and burn: Rutland, Inc. Fireplace Mortar #63 or 76R, Nuflex 302, GE RTV106, RTV116 (or equivalent).

After completing the framing and applying the facing material (drywall) over the framing, a bead of non-combustible sealant must be used to close off any gaps at the top and sides between the fireplace and facing to prevent cold air leaks. Large gaps can be bridged with fiberglass rope gasket.

Only non-combustible materials may be used to cover the metal fireplace front.

WARNING

Fire Risk

- Hearth extensions must be installed exactly as specified.

High temperatures or hot embers may ignite concealed combustibles.

WARNING

Fire Risk

- Maintain clearances.
- Use only non-combustible material below standoffs, material such as cement board is acceptable.
- Framing or finishing material used on the front of, or in front of, the appliance closer than the minimums listed, must be constructed entirely of noncombustible materials (i.e., steel studs, concrete board, etc.).

Hearth Extension Dimensions

Model #		A	B	C
EM-415	<i>in.</i>	52	16	8
EM-415H	<i>mm</i>	1321	406	203


Figure 8.3 Hearth Extension Dimensions


C. Mantel

A combustible mantel may be positioned no lower than 12 in. (305 mm) above the top of the fireplace opening. The combustible mantel may have a maximum depth of 12 in. (305 mm). Combustible trim pieces that project no more than 1-1/2 in. (38 mm) from the face of the fireplace can be placed no closer than 6 in. (152 mm) from the top of the fireplace opening. See Figure 8.4. Combustible trim must not cover the metal surfaces of the fireplace. This mantel clearance is in accordance with **Section 7-3.3.3 of ANSI/NFPA211**.

D. Sidewalls/Surrounds

Adjacent combustible side walls must be located a minimum of 12 in. (305 mm) from the fireplace opening. If you are using a decorative surround constructed of combustible material, it must be located within the shaded area defined in Figure 8.5. Short stub walls are also acceptable if they are contained within the shaded area.


WARNING

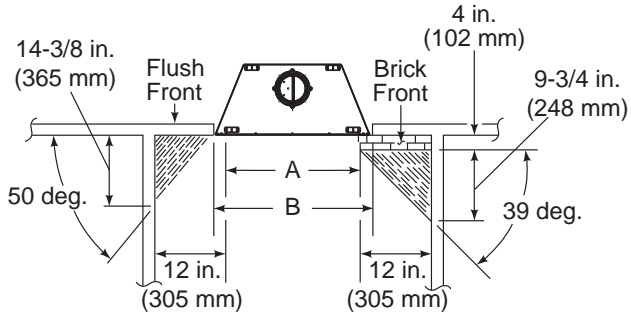


Fire Risk
 Do NOT obstruct air inlet or outlet grilles.
 Do NOT modify grilles.

- Modifying or covering grilles could cause temperature rise and fire hazard.

Finishing materials must not interfere with:

- Air flow through grilles or louvers
- Operation of louvers or doors
- Access for service



Model #		A Fireplace Opening	B Outside Dimensions
EM-415	in.	36	42
EM-415H	mm	914	1067

Figure 8.5 Sidewalls/Surrounds

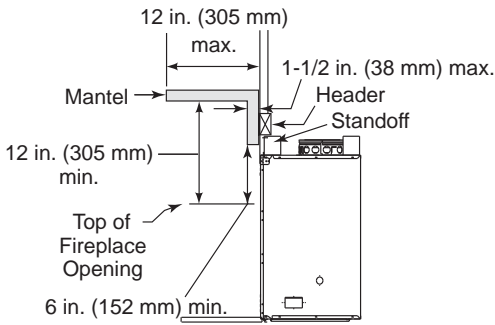




Figure 8.4 Mantel Specifications


WARNING



Fire Risk
 Finish all edges and fronts to clearances and specifications.


- Metal fireplace front may be covered with non-combustible material only.
- Do NOT overlap combustible materials onto fireplace front.
- Install combustible materials up to specified clearances on top front and side edges.
- Seal joints between the finished wall and fireplace top and sides using only a 300° F minimum sealant.

E. Glass Doors

This fireplace has been tested and listed for use with doors as specified in Section 12.B. Fireplace Components. Please refer to the manual packed with each set of doors for installation instructions.

9 Operating Instructions

⚠ WARNING




Fire Risk

- Do not operate fireplace before reading and understanding operating instructions.

Failure to operate fireplace properly may cause fire.

⚠ WARNING



HOT SURFACES!

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

Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures.

High temperatures may ignite clothing or other flammable materials.


- Keep clothing, furniture, draperies and other flammable materials away.

A. General Information

Fireplaces, as well as other woodburning appliances, have been used safely for many years. It has been our experience that most problems are caused by improper installation and operation of the fireplace. Make certain that installation and operation of the fireplace system is in accordance with these instructions.

It is extremely important that the fire be supervised whenever the fireplace is in use. It is also recommended that an annual inspection be performed on the fireplace system to determine if the flue system needs to be cleaned, or as in the case of any appliance, if minor repairs are required to maintain the system in top operating condition.

⚠ WARNING



Fire Risk

- For use with solid wood fuel or decorative gas appliance only.
- Do not install unvented gas logs.

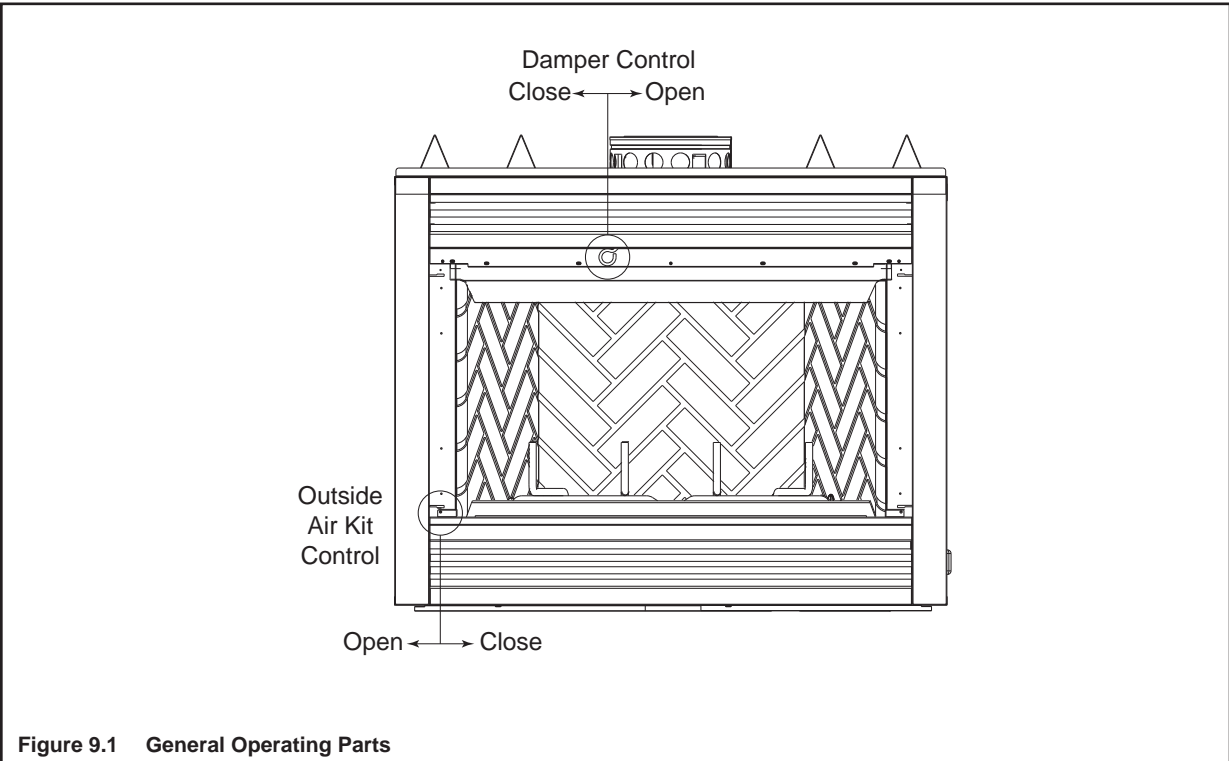


Figure 9.1 General Operating Parts

B. Outside Air

A source of air (oxygen) is required in order for combustion to take place. Whatever air is consumed by the fire must be replaced through cracks around windows, under doors, etc. Most newly constructed houses or existing homes fitted with tightly sealed doors and windows are relatively air tight. In this case, an outside air source must be made available to feed combustion air from outside the home.

An outside air control handle allows you control of the outside air inlet if your fireplace is equipped with this option. Use of outside air for combustion is highly recommended to conserve heated air within the structure and to provide make up air to keep the fireplace venting properly.

This fireplace will operate correctly only if adequate ventilation is provided to allow proper draft to the fireplace system.

See Figure 9.1 for location and operation.

CAUTION

Outside air control handle is HOT. Adjust before lighting fire.

C. Clear Space Near the Fireplace

Combustible materials must not be stored on the hearth extension. Room furnishings such as drapes, curtains, chairs or other combustibles must be at least 4 ft (1.22 m) from the open front of the fireplace.

D. Flue Damper

The flue damper must be in full open position, and is operated by moving the handle up toward the top of the fireplace. Before lighting the fire, verify this by looking up from the inside of the fireplace. Always operate this fireplace with the damper fully open. Please note: Down drafts, obstructions, damaged or poor (wet) fuels can cause smoke spillage.

See Figure 9.1 for location and operation.

WARNING



Asphyxiation Risk

Fire Risk

- Open damper to operate fireplace. Closed damper will over-fire fireplace and prevent venting of combustion gases.



E. Firescreen

A firescreen is always provided to control sparks. It must be closed whenever the fireplace is in use. Glass doors or firescreens must not be used to hold burning material inside the fireplace. Only those glass doors specifically tested and listed for use with the specific fireplace model should be used. Screens should be closed when the glass doors are closed.

WARNING



Fire Risk

- Close firescreen when burning fireplace.
- Do not use firescreen or glass doors to hold burning material in fireplace.

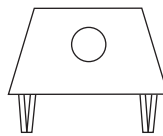
Firescreen controls sparks.

Glass may break or burning material may roll out.

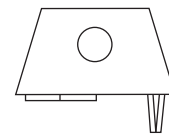
F. Glass Doors

Most efficient fireplace operation using glass doors is with the doors open. When the doors are open the screen must be closed. Only Hearth & Home Technologies glass doors may be used. See Figure 9.2 for proper glass door operation.

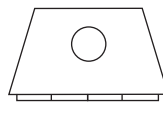
FULLY OPEN
CORRECT



PARTLY OPEN
INCORRECT



FULLY CLOSED
CORRECT



PARTLY CLOSED
INCORRECT

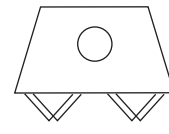


Figure 9.2 Proper Operating Positions of Bi-fold Doors

WARNING



Fire Risk



Smoke Risk

- Doors must be fully opened or fully closed when operating fireplace.

Partially opened doors may draw flame, smoke or heat from fireplace.

G. Grate

The factory installed integral grate must be used to hold the logs from falling out of an open fireplace and to allow air to pass between the burning logs. It is important to keep the fire off the hearth and to allow the ashes to collect beneath the fire, thereby forming a layer of additional heat protection.

	WARNING
	Fire Risk <ul style="list-style-type: none">• Use only factory installed integral grate. May cause overfire.

H. Wood Fuel

Firewood

Your fireplace performance depends on the quality of the firewood you use. All seasoned wood, regardless of species, contains about 8,000 BTU's per pound, and hardwoods have a greater density than soft woods. A piece of hardwood will contain about 60% more BTU's than an equal size piece of soft wood. Firewood is commonly sold by the cord (128 cu. ft.). A cord of seasoned oak (hardwood) would contain about 60% more potential energy than a cord of seasoned pine (soft wood).

Examples of soft wood trees are Douglas fir, pine, spruce, and cedar, poplar, aspen and alder. Soft woods require less time to dry, burn faster and are easier to ignite than hardwoods.

Examples of hardwood trees are oak, maple, apple, and birch. Hardwoods require more time to season, burn slower and are usually harder to ignite than soft woods.

The best wood fuel is a combination of soft wood and hardwood. Start the fire with soft wood; the fire will give off quick heat to bring the fireplace up to operating temperature, and then the hardwood can be added for slow, even heat and longer burn time.

Moisture

Regardless of which species of wood you burn, the single most important factor that effects the way your fireplace operates is the amount of moisture in the wood. The majority of the problems fireplace owners experience are caused by trying to burn wet, unseasoned wood.

Freshly cut wood can be as much water as it is wood, having a moisture content of around 50%. Imagine a wooden bucket that weighs about eight pounds. Fill it with a gallon of water, put it in the fireplace and try to burn it. This sounds ridiculous but that is exactly what you are doing if you burn unseasoned wood.



Seasoning



Seasoned firewood is nothing more than wood that is cut to size, split and air dried to a moisture content of around 20%. The time it takes to season wood varies from around nine months for soft woods to as long as eighteen months for hardwoods. The key to seasoning wood is to be sure it has been split, exposing the wet interior and increasing the surface area of each piece. A tree that was cut down a year ago and not split is likely to have almost as high a moisture content now as it did when it was cut.

The following guideline will ensure properly seasoned wood:

- Stack the wood to allow air to circulate freely around and through the woodpile.
- Elevate the woodpile off the ground to allow air circulation underneath.
- The smaller the pieces, the faster the drying process. Any piece over 6 in. (152 mm) in diameter should be split.
- Cover the top of the woodpile for protection from rain and snow. Avoid covering the sides and ends completely. Doing so may trap moisture from the ground and impede air circulation.

The problems with burning wet, unseasoned wood are twofold: First, you will receive less heat output from wet wood because it requires energy in the form of heat to evaporate the water trapped inside. This is wasted energy that should be used for heating your home. Secondly, this moisture evaporates in the form of steam which has a cooling effect in your fireplace and chimney system. When combined with tar and other organic vapors from burning wood it will form creosote which condenses in the relatively cool fireplace and chimney.

	WARNING
	Fire Risk <ul style="list-style-type: none">• Do NOT burn wet or green wood.• Store wood in dry location.• Stack wood so both ends are exposed to air. Wet, unseasoned wood can cause accumulation of creosote.

	WARNING
	Fire Risk <p>Do NOT store wood:</p> <ul style="list-style-type: none">• Closer than required clearances to combustibles to fireplace.• Within space required for loading or ash removal.

I. Starting a Fire

Check the flue damper to be certain it is in the full open position. Place crumpled or twisted paper under the fireplace grate. Loosely arrange kindling or small pieces of wood to form a layer above the paper.

The fires must be built on the fireplace grate, without danger of the burning fuel falling out of the fireplace opening.

Light the paper and add small pieces of wood until a hot bed of embers has been established.

After establishing the fire bed, and the small firewood is burning briskly, add a minimum of three average sized pieces of split firewood, place the wood in such a manner to allow combustion air and flames between them.

Note: When first lighting your fireplace, it may be necessary to pre-warm the flue to establish a draft. This is done by holding a rolled up piece of burning newspaper under the flue damper for a few moments. This will help reduce smoke spillage during start-up.

Note: The first three or four fires should be of moderate size to allow the oils and binders to be burned from the fireplace and the refractory and paint to cure. You may notice an industrial odor the first few fires. This is considered normal.

CAUTION

Odors and vapors released during initial operation.

- Curing of high temperature paint.
- Open windows for air circulation.

Odors may be irritating to sensitive individuals.



WARNING

Fire Risk

Keep combustible materials, gasoline and other flammable vapors and liquids clear of fireplace.

- Do NOT store flammable materials close to the fireplace.
- Do NOT use gasoline, lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or "freshen up" a fire in this fireplace.
- Keep all such liquids well away from the fireplace while it is in use.

Combustible materials may ignite.

10 Troubleshooting

This fireplace will operate correctly only if adequate ventilation is provided to allow proper draft to the fireplace system. Hearth & Home Technologies assumes no responsibility for the improper performance of the fireplace system caused by inadequate draft due to environmental conditions, down drafts, tight sealing construction of the structure, or mechanical exhausting devices which will create a negative air pressure within the structure where the fireplace is located.

A. Understanding Vent Problems

If smoke spillage occurs from a fireplace opening when the door is open and the proper chimney height, flue size, and configuration requirements for the installation have been met, there is either a leakage in the flue, a blockage in the

flue, or some condition is in effect to draw smoke from the fireplace into the house. Understanding and differentiating the conditions which can cause each of these kinds of spillage problems is essential to their solution.

- **Flue Leakage**
Check for improperly connected flue joints or a damaged flue joint in the chimney system. Such leakage would reduce draft (air would be drawn in through the leaks rather than through the fireplace). The result might be difficult start-up and smoky fires that might spill if other adverse draft conditions accompany this problem.
- **Flue Blockage**
The damper should be open.

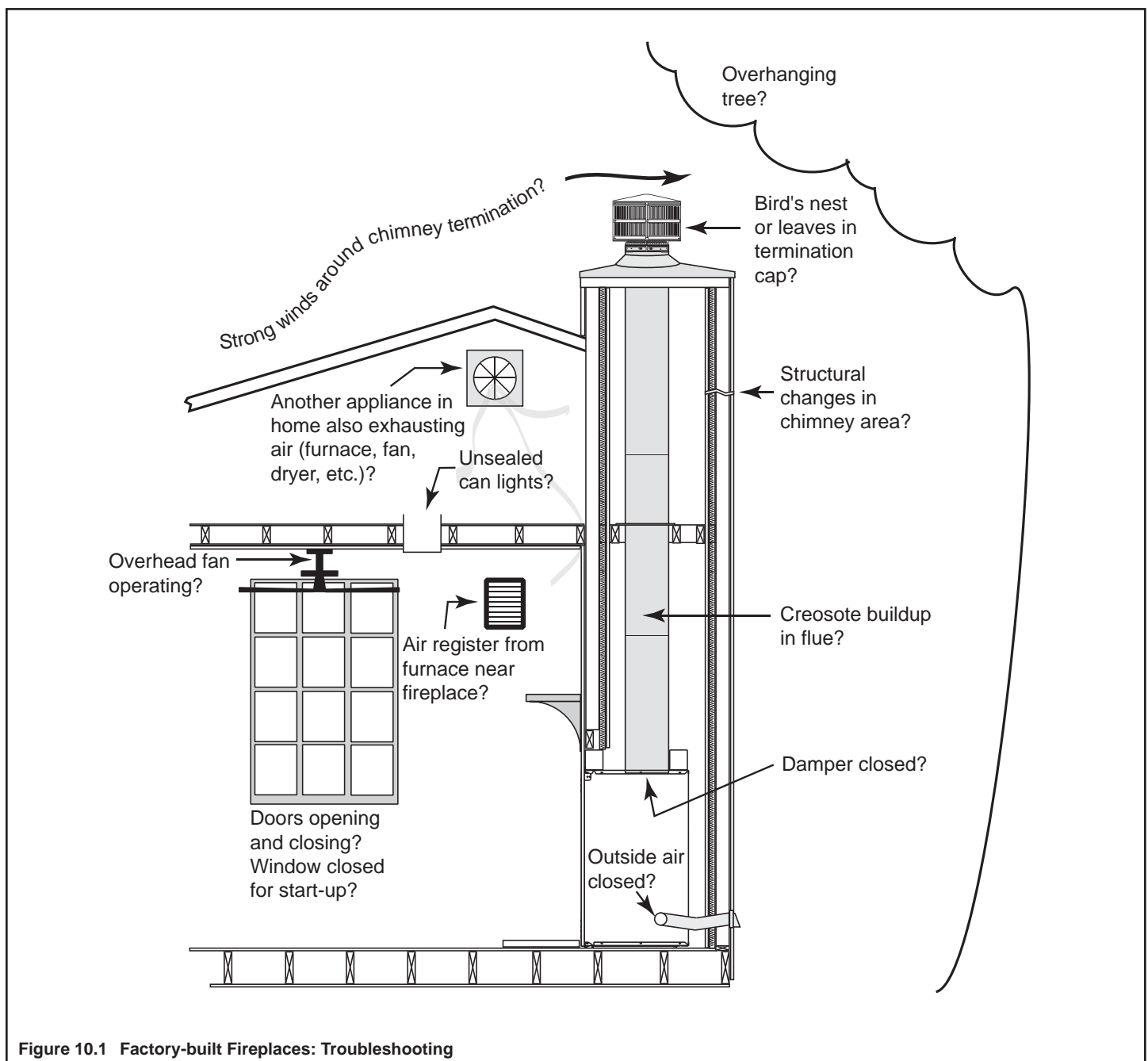


Figure 10.1 Factory-built Fireplaces: Troubleshooting

B. Diagnostics and Problem Solving

I can't get a good fire going. What am I doing wrong?

Diagnostic Questions	Possible Causes of Condition	Solutions
Is the damper open?	<ul style="list-style-type: none"> No draft 	Open damper.
Is there enough paper/starter?	<ul style="list-style-type: none"> Insufficient heat to ignite kindling 	Use more paper/starter.
Is there enough kindling? Is the kindling dry?	<ul style="list-style-type: none"> Insufficient heat to ignite fuel 	Use more dry kindling.
Is there enough or too much wood? Is it too large? Is it dry enough?	<ul style="list-style-type: none"> Insufficient heat to establish draft Insufficient air passage Insufficient surface area Ignition temperature high due to moisture 	Use small split wood that is well seasoned (split, covered on top at least 6 months, preferably a year).
Are there adequate air spaces between fuel pieces?	<ul style="list-style-type: none"> Insufficient combustion air and exposed surface area 	Arrange kindling and wood for air movement.
Is the chimney pre-warmed?	<ul style="list-style-type: none"> Exposed, cold chimney down drafting 	Use lighted rolled newspaper at throat or flue opening to start upward movement.
Is there smoke in the house?	<ul style="list-style-type: none"> Damper closed Obstruction in chimney Down draft from chimney temperature or from negative house pressure 	Check damper; have chimney checked if it worked previously; pre-warm chimney, shut off exhaust devices, open window slightly.
Does the kindling, wood not ignite?	<ul style="list-style-type: none"> Condition, amount, arrangement of kindling and fuel 	Use more, drier, well-spaced kindling and fuel.
Does the kindling ignite, but the fuel doesn't?	<ul style="list-style-type: none"> Amount of kindling Condition of fuel 	Use more kindling; use smaller, dry wood.
Does the fuel ignite, but not burn well?	<ul style="list-style-type: none"> Condition of fuel Draft problem 	Use well-seasoned wood and sufficient amount; turn exhaust fans off; open window slightly. Perform Simplified House Pressure Test.

I don't get enough/any heat from the fireplace. What can I do about it?

Diagnostic Questions	Possible Causes of Condition	Solutions
How much wood is used for fire?	<ul style="list-style-type: none"> Insufficient fuel 	Make larger fires.
How well seasoned is the wood?	<ul style="list-style-type: none"> Condition of fuel 	Burn seasoned wood: covered on top, split and stacked for 9 months to 2 years.
Do you have a blower (where possible)?	<ul style="list-style-type: none"> Yes: Turning blower on too early or setting too high, cooling firebox No: Need for all heat boosts possible 	Yes: Wait until fire established and leave on lower speed. No: Add blower if available.
How much heat output do you expect?	<ul style="list-style-type: none"> Unrealistic expectations 	Explanation of decorative nature of fireplace; suggestion of approved fireplace insert.

The fireplace burns the wood too fast. What can I do?

Diagnostic Questions	Possible Causes of Condition	Solutions
Do you have glass doors?	<ul style="list-style-type: none"> • Need to slow air intake 	Add glass doors.
What is the condition of the wood?	<ul style="list-style-type: none"> • Extremely dry wood 	Mix in less seasoned wood after fire established.

I smell smoke in the house during operation. What's causing that?

Diagnostic Questions	Possible Causes of Condition	Solutions
Does the fire start and burn well?	<p>No:</p> <ul style="list-style-type: none"> • Damper not fully open • Chimney obstruction • Not enough kindling and/or fuel to establish draft • Inadequate combustion air <p>Yes:</p> <ul style="list-style-type: none"> • Fire too close to front • Competition with exhaust devices 	<p>Open damper; check and clean chimney if needed; use adequate kindling and fuel; open glass doors or open window, check for need for balanced air make-up.</p> <p>Build fire farther back. Do not use exhaust fans during startup and/or check for need for balanced air make-up system.</p>


I smell smoke in the house after we've had a fire in the fireplace. What is the cause/what can we do?


Diagnostic Questions	Possible Causes of Condition	Solutions
Is the damper closed?	<ul style="list-style-type: none"> • No: Down draft or negative pressure • Yes: Negative pressure from exhaust fans and/or house stack effect. 	<p>Close the damper at end of burn.</p> <p>Check for need for glass doors. Check for need for balanced air make-up system or raising chimney.</p>
Is the chimney clean?	<ul style="list-style-type: none"> • No: Creosote odor • Yes: Damper closed too early 	<p>Have chimney cleaned.</p> <p>Wait until fire completely out before closing damper.</p>

11 Maintenance and Servicing the Fireplace

A. Disposal of Ashes


Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all embers have thoroughly cooled.



WARNING



Fire Risk
Disposal of ashes

- Ashes should be placed in metal container with tight fitting lid.
- Do not place metal container on combustible surface.
- Ashes should be retained in closed container until all embers have thoroughly cooled.


WARNING



Fire Risk
Prevent creosote buildup

- Inspect chimney once every two months during heating season.
- Remove creosote to reduce risk of chimney fire.
- Ignited creosote is extremely HOT.

B. Chimney Inspection/Cleaning

Inspect the chimney internally for obstructions and construction damage. Flue pipe joints and seams must be continuous and mechanically tight.


The chimney should be inspected once every two months during the heating season.


If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

Refer to Figure 11.1 to remove/reinstall termination caps.

C. Firebox Refractory

Check firebox refractory for excessive cracks or gaps. If cracks exceed 1/4 in. (6 mm) in width the refractory should be replaced. See Section 12 for replacement information.


WARNING



Fire Risk

- Inspect fireplace refractory annually. Crumbling, deteriorated refractory can allow overheating of surrounding materials.

Note: As you use the fireplace, expansion and contraction will cause minor cracking of the refractory. This is normal, unavoidable, and will not affect the performance of the fireplace. If the cracks become large enough that the metal behind the refractory is exposed or large pieces fall out, the panels should be replaced.

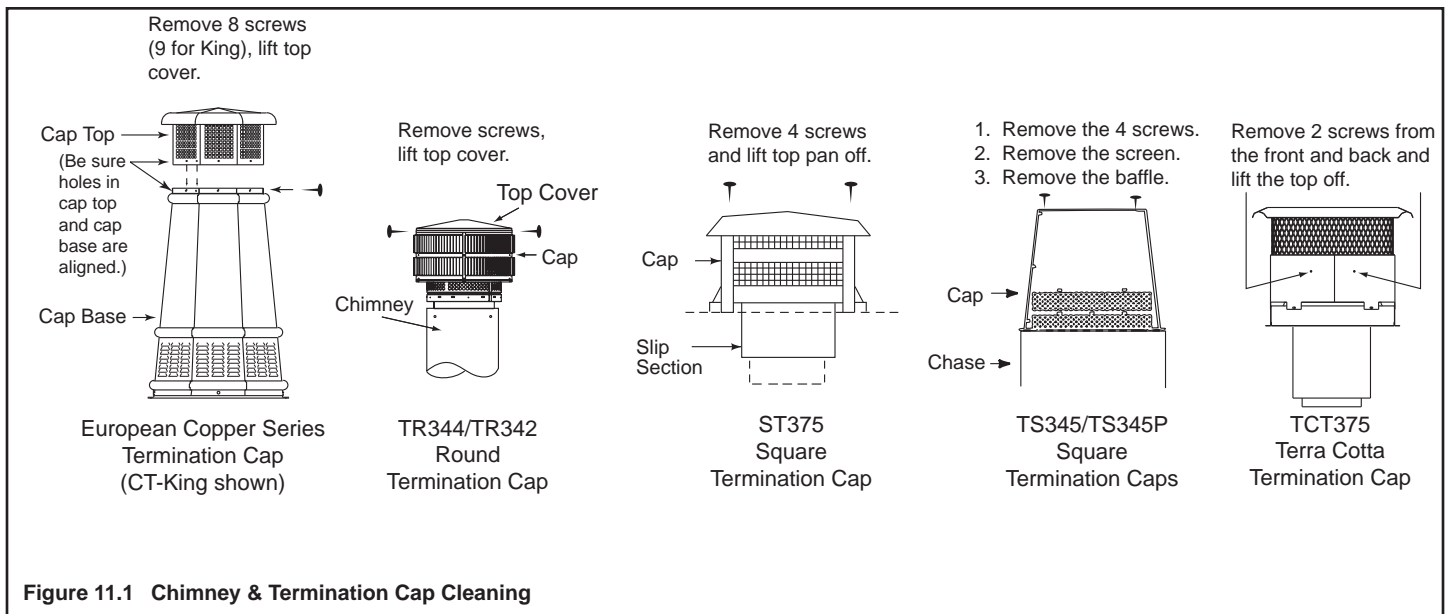



Figure 11.1 Chimney & Termination Cap Cleaning


CAUTION




Handle glass assembly with care.
When cleaning glass door:

- Avoid striking, scratching or slamming glass.
- Do NOT use abrasive cleaners.
- Use a hard water deposit glass cleaner on white film.
- Do NOT clean glass when it is hot.

WARNING



Asphyxiation Risk
Fire Risk
 Annual inspection by qualified technician recommended.




Check:

- Condition of doors, surrounds and fronts
- Condition of glass and glass assembly
- Obstructions of combustion and ventilation air
- Gas connections and fittings (if present)
- Obstructions of termination cap
- Refractory panels

Clean:

- Glass
- Air passageways, grilles

WARNING



Fire Risk

- Do not use chimney cleaners or flame colorants in your fireplace.

Will corrode chimney.

D. Maintenance Task List

Inspect	Maintenance Tasks
Screens	<ol style="list-style-type: none"> 1. Assess condition of screen and replace as necessary. Screens are required. 2. Verify maintenance of proper clearance to combustible household objects.
Glass Doors	<ol style="list-style-type: none"> 1. Inspect glass panels for cracks. Replace if this condition is present. 2. Confirm there is no damage to glass or glass frame. Replace as necessary. 3. Clean glass using a non-abrasive cleaner such as Brasso®.
Circulation Compartment	<ol style="list-style-type: none"> 1. Remove any foreign objects. 2. Verify unobstructed air circulation.
Firebox	<ol style="list-style-type: none"> 1. Inspect condition of refractory. Replace if crumbly, deteriorated, or if cracks exceed 1/4 in. (6 mm).
Chimney	<ol style="list-style-type: none"> 1. Inspect for blockage or obstruction such as bird nests, leaves, etc. 2. Confirm that termination cap remains clear and unobstructed by plants, etc. 3. Verify that termination cap clearance to subsequent construction (building additions) has been maintained. 4. Inspect for corrosion or separation. 5. Verify weather stripping, sealing and flashing remain intact. 6. Inspect for creosote and remove as needed. (See Sections 10 and 11)
Grate	<ol style="list-style-type: none"> 1. If grate burns out, it should be replaced only with the grate specified on the rating plate and in the replacement parts list for this fireplace.

E. Chimney Fire

In the event of a chimney fire:

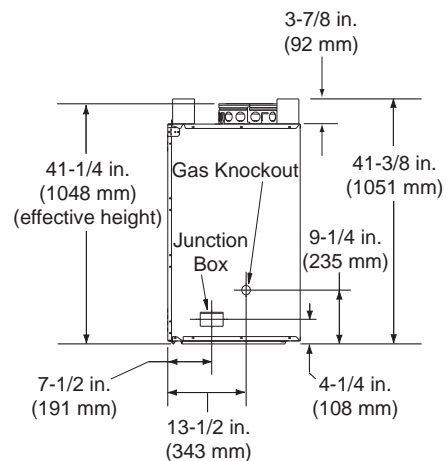
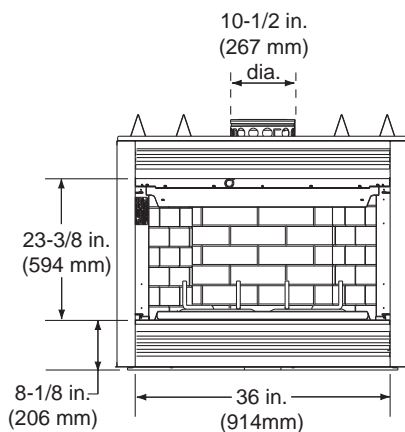
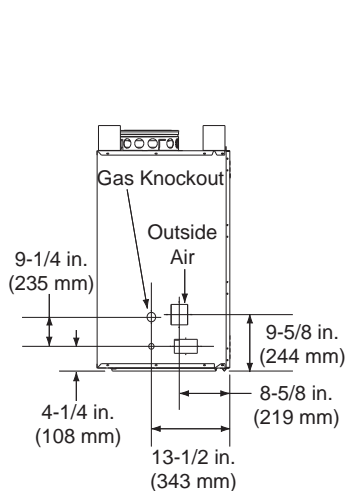
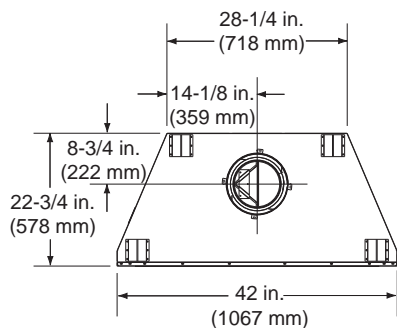
- Have the chimney and adjacent structure inspected by qualified professionals. Hearth & Home Technologies recommends that NFI or CSIA certified professionals, or technicians under the direction of certified professionals, conduct a minimum of an **NFPA 211 Level 2** inspection of the chimney.

- Replace components of the chimney and fireplace as specified by the professionals.
- Ensure all joints are properly engaged and the chimney is properly secured.

A chimney fire can permanently damage your chimney system. Failure to replace damaged components and make proper repairs creates risk of fire.

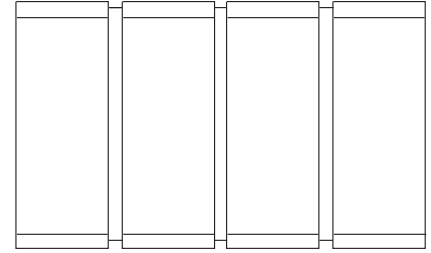
12 Reference Materials

A. Fireplace Dimensions



B. Fireplace Components

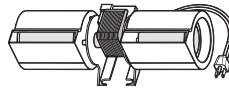
Catalog #	Description
EM-415	Circulating Fireplace with Integral Grate, Hearth Protection Strips, Traditional Brick Pattern Refractory and junction box
EM-415H	Circulating Fireplace with Integral Grate, Hearth Protection Strips, Herringbone Pattern Refractory and junction box
DM1736	Bi-Fold Glass Door - Clear View - Black
DM1736B	Bi-Fold Glass Door - Clear View - Polished Brass
DM1736S	Bi-Fold Glass Door - Clear View - Stainless Steel
AK22	Outside Air Kit
HX3	Hearth Extension
GR23	Integral Grate (included with fireplace)
FK23	Fan Kit
JK9	Junction Box (should be installed during initial installation to avoid considerable reconstruction)
BC-10	Fan Speed Control Kit
TK301B	Polished brass trim kit (6 bars, 1 hood)
TK401B	Polished brass trim kit (6 bars, 1 hood)
TK6B	Polished brass louver trim kit (4 pieces)
TK6S	Stainless steel louver trim kit (4 pieces)



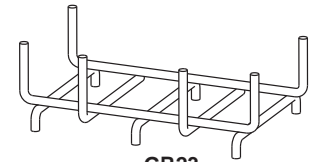
**Bi-fold Glass Doors
DM1736**



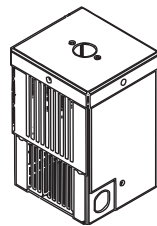
AK22 Outside Air Kit



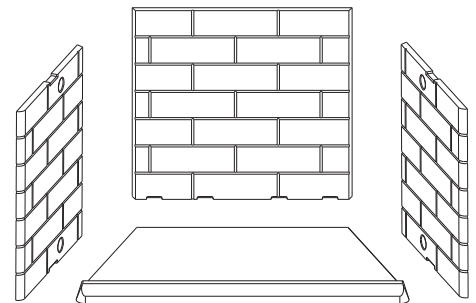
FK23 Fan Kit



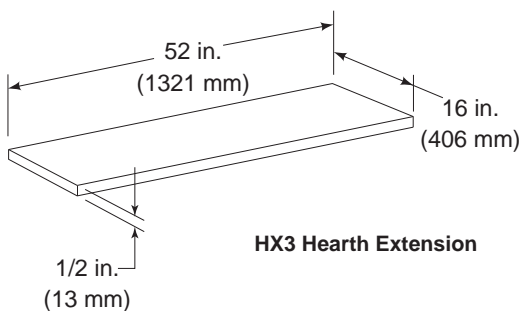
**GR23
Integral Grate**



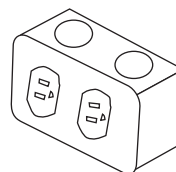
**BC-10
Fan Speed Motor Control**



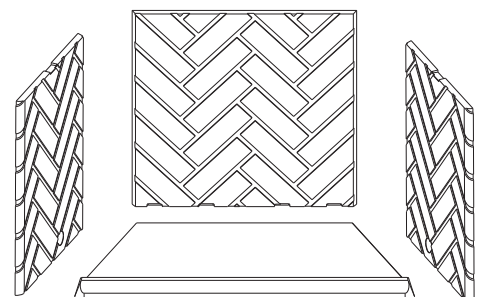
Traditional Brick Pattern Refractory



HX3 Hearth Extension



**JK9
Junction Box**



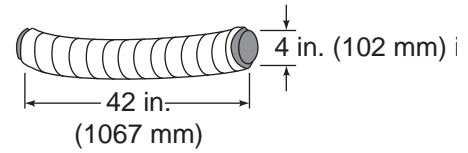
Herringbone Pattern Refractory

C. Chimney Components

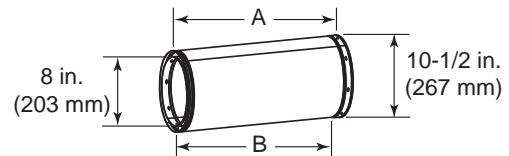
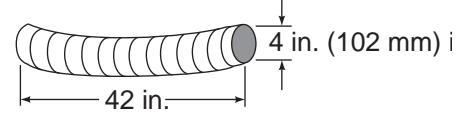
The following pictures show only those chimney components which may be safely used with this fireplace.

CAK4A	Chimney Air Kit
ID4	Insulated Duct/Outside Air
UD4	Uninsulated Duct/Outside Air
SL306	Chimney Section - 6 in. (152 mm) long
SL312	Chimney Section - 12 in. (305 mm) long
SL318	Chimney Section - 18 in. (457 mm) long
SL324	Chimney Section - 24 in. (610 mm) long
SL336	Chimney Section - 36 in. (914 mm) long
SL348	Chimney Section - 48 in. (1219 mm) long
SL3	Chimney Stabilizer
SL315	Chimney Offset/Return - 15 deg
SL330	Chimney Offset/Return - 30 deg
FS338	Ceiling Firestop - Straight
FS339	Ceiling Firestop - 15 deg
FS340	Ceiling Firestop - 30 deg
AS8	SL300 Straight Attic Insulation Shield, 24 in. (610 mm)
JB877	Chimney Joint Band
CB876	Chimney Bracket
RF370	Roof Flashing - Flat to 6/12 Pitch
RF371	Roof Flashing - 6/12 to 12/12 Pitch
TR344	Round Termination Cap
TR342	Round Telescoping Termination Cap
ST375	Square Termination Cap
TS345	Square Termination Cap
TS345P	Square Termination Cap - Painted
TCT375	Terra Cotta Termination Cap
CT35	Chase Top
LDS33	Decorative Shroud - 3 ft x 3 ft (.91 m x .91 m)
LDS46	Decorative Shroud - 4 ft x 6 ft (1.22 m x 1.83 m)
LDS-BV	Decorative Shroud - 26 in. x 26 in. (660 mm x 660 mm)
	Field Constructed Shrouds (See "Woodburning Termination Cap")
CT3-King	European Copper Termination Cap - King Style
CT3-Queen	European Copper Termination Cap - Queen Style
CT3-Bishop	European Copper Termination Cap - Bishop Style
CT3-Knight	European Copper Termination Cap - Knight Style
CT3-Pawn	European Copper Termination Cap - Pawn Style

ID4 Insulated Duct



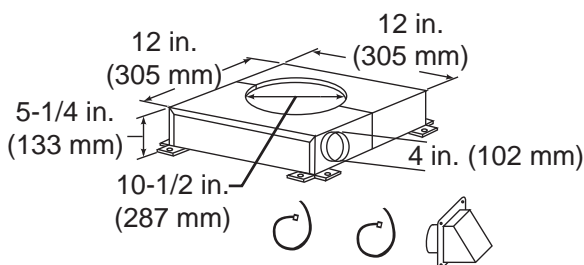
UD4 Uninsulated Duct



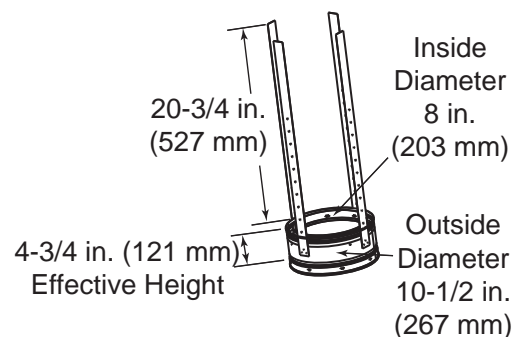
Chimney Sections

Catalog #	A		B	
	in	mm	in	mm
SL306	6	152	4-3/4	121
SL312	12	305	10-3/4	273
SL318	18	457	16-3/4	425
SL324	24	610	22-3/4	578
SL336	36	914	34-3/4	883
SL348	48	1219	46-3/4	1187

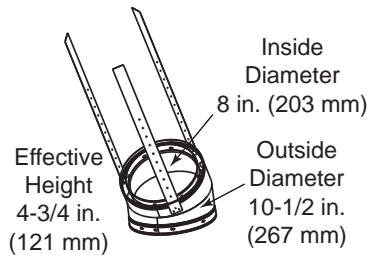
A = Actual Length
 B = Effective Length (length of chimney part after it has been snapped to another)



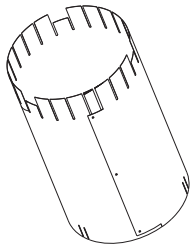
CAK4A Chimney Air Kit



SL3 Chimney Stabilizer

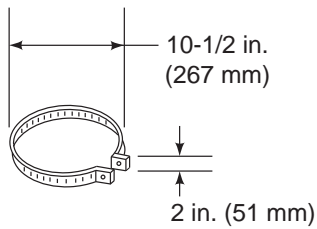


SL315/SL330 Offset/Return

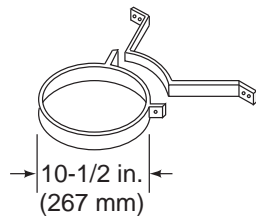


Assembled
Diameter: 14 1/2 in./368 mm
Height: 24 in./610 mm

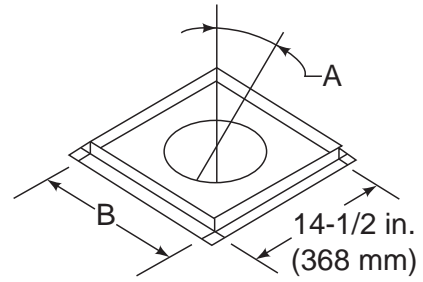
AS8 Straight Attic Insulation Shield



JB877 Chimney Joint Band

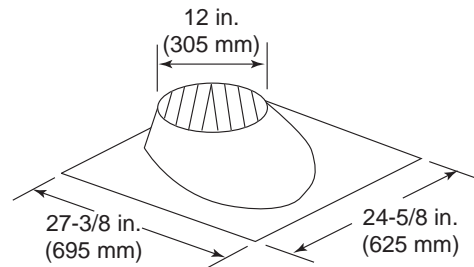


CB876 Chimney Joint Band

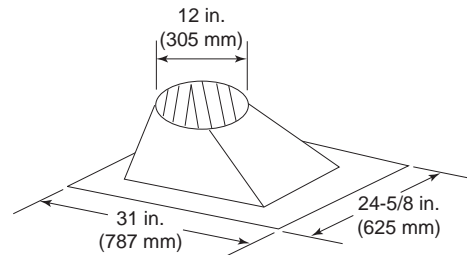


Ceiling Firestop

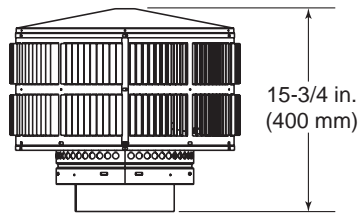
Catalog #	A	B	
FS338	0-deg.	14-1/2 in.	368 mm
FS339	15-deg.	18-3/8 in.	467 mm
FS340	30-deg.	23 in.	584 mm



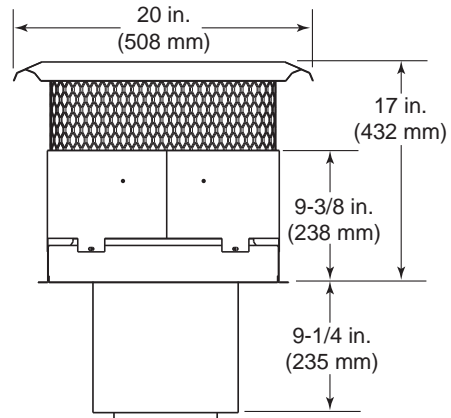
RF370 Roof Flashing



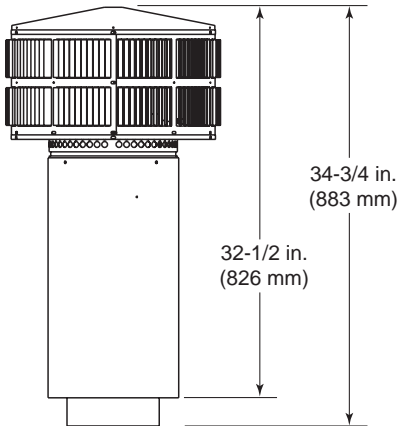
RF371 Roof Flashing



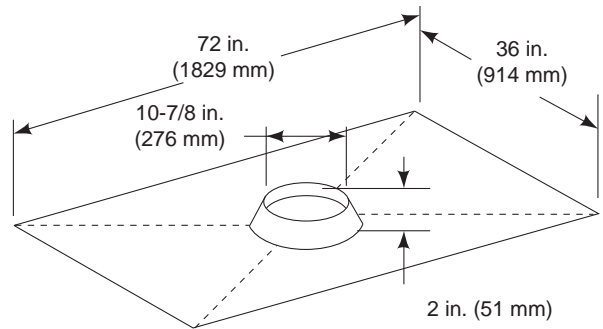
TR344 Round Termination Cap



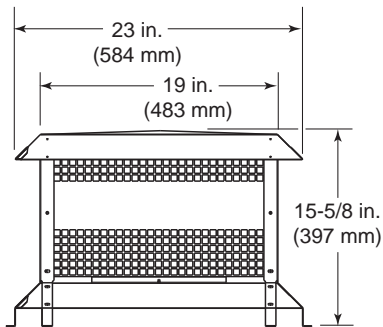
TCT375 Terra Cotta Cap



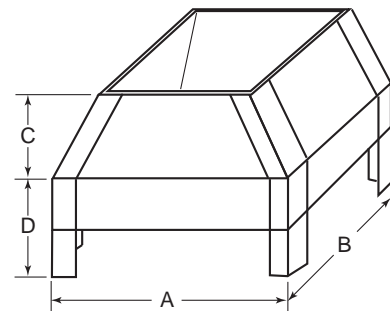
TR342 Round Telescoping Termination Cap



CT35 Chase Top

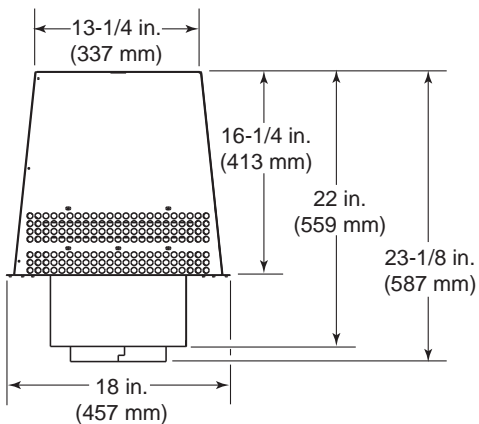


ST375 Square Termination Cap

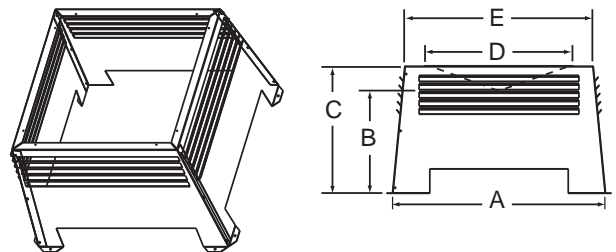


LDS33/LDS46 Decorative Shroud

Catalog #	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
LDS33	36	914	36	914	8-1/2	216	11	279
LDS46	48	1219	72	1829	8-1/2	216	11	279



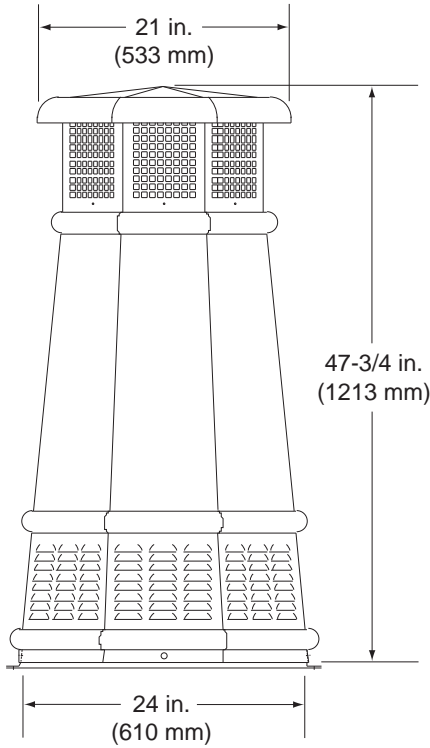
TS345/TS345P Square Termination Cap



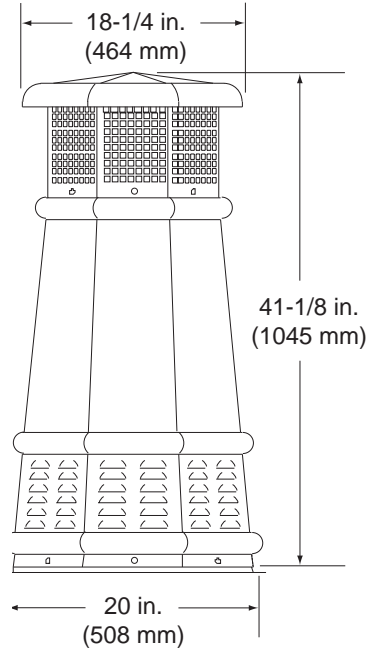
LDS-BV Decorative Shroud

Catalog #	A	B	C	D	E
	LDS-BV	in. 26	12-1/2	15-1/2	22
	mm 660	318	394	533	584

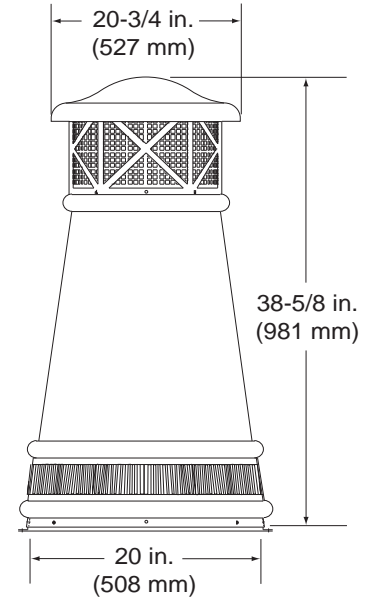
European Copper Caps



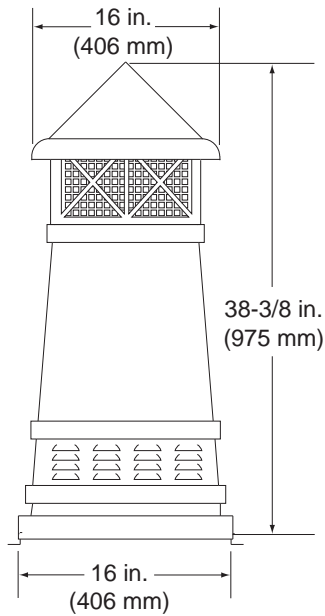
CT3-King



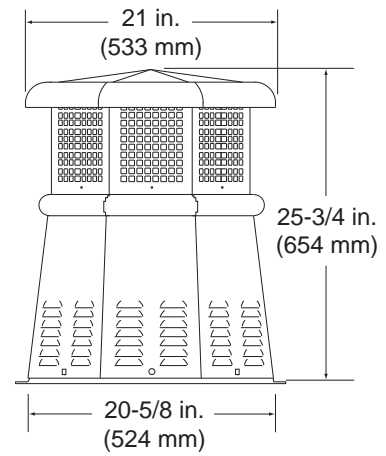
CT3-Queen



CT3-Bishop



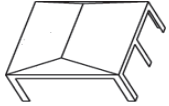


CT3-Knight



CT3-Pawn

Woodburning Termination Cap

Shroud	TS345 / 445 (Top Vent)	TR342 / 344 TR442 / 444	TR342 / 344 TV TR442 / 444 TV (with TR-TVK installed)	TR11 / 11T	TR11 / 11T TV (with TR-TVK installed)
	OPEN TOP with solid sides and 3 in. opening at the bottom.				
Minimum Base Dimensions (Inches)	23 X 23	28 X 28 with Radiation Shield	26 X 26	32 X 32 with Radiation Shield	26 x 26
Minimum Top Dimensions (Inches)	20 x 20	25 X 25	23 X 23	29 X 29	23 x 23
	MAILBOX STYLE with open ends and 3 inch opening at the bottom of the sides.				
Minimum Base Dimensions (Inches)	N/A	26.5 X 28 with Radiation Shield	28 X 30	34 X 34 with Radiation Shield	28 X 30 with Radiation Shield or 34 X 34
Minimum Height (Inches)	N/A	28 1/4	27 1/2	28 1/4	27 1/2
	ROOFED STYLE with 12 X 22 (264 sq. in.) opening on each side and 3 in. space between the radiation shield and chase top.				
Minimum Base Dimensions (Inches)	N/A	27 X 27 with Radiation Shield	27 X 27 with Radiation Shield	34 X 34 with Radiation Shield	34 X 34 with Radiation Shield
Minimum Height (Inches)	N/A	23	23	23	23

Minimum Height is measured from the bottom of the termination cap:

Minimum height is established with the bottom of the termination cap 7 in. above the chase top. Minimum height must increase accordingly for any height above 7 in.

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No one builds a better fire

WARRANTY

FOR HEAT & GLO FIREPLACES

The limited warranty will not become effective until you have mailed the completed warranty card to:

Hearth & Home Technologies Inc.
20802 Kensington Blvd., Lakeville, MN 55044.

This card must be mailed within 60 days of the fireplace installation.

Subject to the conditions set forth herein, HEARTH & HOME TECHNOLOGIES INC. (HHT) extends the following limited warranty with respect to your Heat & Glo fireplace, excluding accessories, chimney components and glass doors.

If HHT is satisfied that any part or portion of the fireplace covered by this warranty is defective in material or workmanship under normal use and service as described in the operating instructions, HHT will take the following actions:

1. Within the first five (5) years from the date of installation, HHT shall, at its option, replace or repair any such defect in material or workmanship, at HHT's expense. HHT SHALL NOT BE RESPONSIBLE FOR ANY OTHER LABOR COSTS, OR EXPENSES, INCLUDING INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.
2. During the sixth (6th) through the (10th) years after the date of installation, HHT shall supply replacement parts or parts at no charge, but SHALL NOT BE RESPONSIBLE FOR ANY LABOR, TRANSPORTATION, OR OTHER INDIRECT DAMAGES.
3. During the eleventh (11th) through the fifteenth (15th) years after date of installation, HHT will send to you, FOB its factory, replacement parts (if available) at the current minimum wholesale price, but HHT SHALL NOT BE RESPONSIBLE FOR ANY LABOR, TRANSPORTATION OR OTHER INDIRECT DAMAGES.
4. During the first six (6) months after installation, HHT shall, at its option, replace or repair the glass doors and any electrical components, if operation is faulty. (This does not include glass panels broken during shipment, misuse or careless handling.) After the first six (6) months, HHT will sell to you, FOB its factory, replacement parts at the current list price, but HHT SHALL NOT BE RESPONSIBLE FOR ANY LABOR, TRANSPORTATION OR OTHER INDIRECT DAMAGES. IF GLASS DOORS OTHER THAN FACTORY DOORS ARE USED ALL WARRANTY AND LIABILITY ON THE FIREPLACE IS VOIDED.

HHT may discharge its entire warranty liability by refunding the price of the product.

Products made by other manufacturers, sold with the fireplace or thereafter are not covered by this limited warranty.

This limited warranty will be void if the fireplace is not installed according to the installation instructions. The limited warranty also is void if the fireplace is not operated, at all times, according to the operating instructions furnished. The limited warranty will also be void if the fireplace is removed from the place originally installed.

EXCEPT TO THE EXTENT PROVIDED BY LAW, NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND NO IMPLIED WARRANTIES SHALL APPLY TO THE FIREPLACE AFTER THE ABOVE LIMITED WARRANTY HAS EXPIRED.

In states that do not allow limitations on how long implied warranty lasts, or do not allow exclusion of indirect damages, those limitations or exclusions may not apply to you. You may also have additional rights not covered in this limited warranty.

HHT reserves the right to make changes at anytime, without notice, in design, material, specifications and prices and the right to discontinue styles and products.

Feb 2006

F. Contact Information



No one builds a better fire

Please contact your Heat & Glo dealer with any questions or concerns.

For the number of your nearest Heat & Glo dealer, please visit www.heatglo.com.

– NOTES –

CAUTION		
	DO NOT DISCARD THIS MANUAL	
<ul style="list-style-type: none">• Important operating and maintenance instructions included.	<ul style="list-style-type: none">• Read, understand and follow these instructions for safe installation and operation.	<ul style="list-style-type: none">• Leave this manual with party responsible for use and operation.

This product may be covered by one or more of the following patents: (United States) 4593510, 4686807, 4766876, 4793322, 4811534, 5000162, 5016609, 5076254, 5113843, 5191877, 5218953, 5263471, 5328356, 5341794, 5347983, 5429495, 5452708, 5542407, 5601073, 5613487, 5647340, 5688568, 5762062, 5775408, 5890485, 5931661, 5941237, 5947112, 5996575, 6006743, 6019099, 6048195, 6053165, 6145502, 6170481, 6237588, 6296474, 6374822, 6413079, 6439226, 6484712, 6543698, 6550687, 6601579, 6672860, 6688302B2, 6715724B2, 6729551, 6736133, 6748940, 6748942, 6769426, 6774802, 6796302, 6840261, 6848441, 6863064, 6866205, 6869278, 6875012, 6880275, 6908039, 6919884, D320652, D445174, D462436; (Canada) 1297749, 2195264, 2225408, 2313972; (Australia) 780250, 780403, 1418504 or other U.S. and foreign patents pending.