



P/N 506023-11 Rev. E 06/2011

This manual is one of a set of three supporting this product. Refer to P/N 506025-04 for Care and Operation Instructions and P/N 750094M for detailed refractory panel placement instructions.

Ce manuel est disponible en français, simplement en faire la demande. Numéro de la pièce 506223-17.



INSTALLATION INSTRUCTIONS

Estate Series 36"/42"/50" Wood-Burning Fireplaces

DAVE LENNOX
signature
COLLECTION

MODELS

EST-36

EST-42

EST-50*



WH Report No. J20054576-231



PFS Report No. 09-185

Please read and understand these instructions before beginning installation.

Do not alter or modify the fireplace or its components under any circumstances. Any modification or alteration of the fireplace system—including but not limited to the fireplace, chimney components, and accessories—may void the warranty, listings, and approvals of this system and could result in an unsafe and potentially dangerous installation.

**IMPORTANT! TO ENSURE PROPER ALIGNMENT OF GLASS DOORS:
INSTALL THIS FIREPLACE IN A SQUARE AND PLUMB CONDITION,
USING SHIMS AS NECESSARY AT SIDES AND/OR BOTTOM.**

**Note: Model EST-50 is not available in Canada.*

**RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE.**



We recommend that our woodburning hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Woodburning Specialists or who are certified in Canada by Wood Energy Technical Training (WETT).



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PACKAGING LIST

Included with all models:

- (1) Fireplace Assembly
- (1) Metal Safety Strip Assembly
- (1) Grate Assembly
- (2) Grate Brackets
- (2) Pull Screen Panels (Mesh Firescreens)
- (2) Screen Rods
- Hardware

Also included with EST-36 and EST-42 models:

- (2) Refractory Clips

Also included with EST-42 models:

- (2) Front Refractory Retainers (LH & RH)

Also included with EST-50 models:

- (1) Outer Transition Assembly
- (1) Inner Collar Assembly
- (1) Damper Link

SAFETY RULES

IMPORTANT: PLEASE READ AND UNDERSTAND THESE RULES TO FOLLOW FOR SAFETY.

1. Before starting fireplace installation, read these installation instructions carefully to be sure you understand them completely and in entirety. Failure to follow them could cause a fireplace malfunction resulting in serious injury and/or property damage.

2. Always check your local building codes. The installation must comply with all local, regional, state and national codes and regulations.

3. The Estate™ Series 36" and 42" models may be installed with Security Chimneys™ FTF10 [10" (250mm) inside diameter] chimney systems. The Estate Series 50" model may only be installed with Security Chimneys™ FTF13 [13" (330mm) inside diameter] chimney system. These systems are intended for use in any application where a traditional masonry type fireplace would apply. The chimney system must always vent to the outside of the building.

4. To ensure a safe fireplace system and to prevent the build-up of soot and creosote, inspect and clean the fireplace and chimney prior to use and periodically during the heating season.

5. Use solid fuel only. DO NOT use chemical chimney cleaners or flame colorants in your fireplace.

Never burn treated construction lumber or scraps. These woods burn excessively hot and may contain chemicals used to treat insects and fungus. When burned, these chemicals can pose a significant hazard.

6. DO NOT use charcoal or coal under any circumstances.

7. NEVER use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this fireplace. Keep any flammable liquids at safe distance from the fireplace.

8. NEVER leave children unattended when there is a fire burning in the fireplace.

9. Always keep flue damper open when heat is present in the fireplace.

10. Before servicing, allow the fireplace to cool. Always shut off any electricity or gas to the fireplace while working on it. This will prevent any possible electrical shock or burns.

11. This fireplace is not intended to heat an entire home or be used as a primary heat source. It is designed to ensure homeowner comfort by providing supplemental heat to the room.

12. Always ensure that an adequate supply of replacement combustion air from the outside of the house is accessible to the fire to support normal combustion. Fireplaces consume large volumes of air during the normal combustion process.

If the home is tightly sealed with modern energy efficient features, the optional combustion air kit may not provide all the air required to support combustion. The manufacturer is not responsible for any smoking or related problems that may result from the lack of adequate combustion air. It is the responsibility of the builder/contractor to ensure that adequate combustion air has been provided for the fireplace.

13. DO NOT use a fireplace insert or any other products not specified herein by the manufacturer for use with this fireplace. All gas log sets must be operated with the damper clamped open, including unlisted "vent-free" log sets. Listed "vent-free" log sets may be operated with the damper closed.

14. "Smoke free" operation is not warranted nor are we responsible for inadequate system draft caused by mechanical systems, general construction conditions, inadequate chimney heights, adverse wind conditions and/or unusual environmental factors or conditions beyond our control.

15. Never, under any circumstances, install a fireplace, chimney component or any accessories, that has visible or suspected physical damage as a result of handling or transportation. These items should be inspected by your distributor or qualified factory representative to ensure safe condition. When in doubt, consult your distributor.

16. For additional safety considerations and complete operating instructions, refer to the Care and Operation Manual provided with the fireplace.

TOOLS AND BUILDING SUPPLIES NORMALLY REQUIRED

Tools required:

Phillips screwdriver	Measuring tape
Electric drill and bits	Hammer
Plumb line	Pliers
Saw and/or Sabersaw	Square
Level	

Additional tools for **EST-50** installation:

- 5/16" and 1/4" nut driver
- Two 7/16" wrenches

Building supplies required:

- Framing materials
- Wall finishing materials
- Caulking materials (noncombustible)
- Fireplace surround and hearth extension materials (noncombustible)

PRECAUTIONS

Note: These fireplace systems are not difficult to install. However, in the interest of safety, it is recommended that the installer be a qualified or certified "tradesman" familiar with commonly accepted fireplace installation and safety techniques as well as prevailing local codes.

The most important areas of concern dealing with the installation of factory-built fireplaces are clearances to combustible materials, proper assembly of component parts, height of the chimney system, the proper use of accessories supplied by the manufacturer and the techniques employed in using finishing materials applied to the wall surrounding the fireplace, hearth extensions and wall shields. Each of these topics will be covered in thorough detail throughout this manual. Please give each your special attention as you progress with your installation.

IMPORTANT NOTES:

- **WHEN INSTALLING IN CANADA (EST-36 AND EST-42 ONLY), THE COLD CLIMATE KIT MUST BE INSTALLED PER THE WARNOCK HERSEY LISTING** (see **Step 6** on **page 12** and "Installation Components" on **page 24**).
- **THE MINIMUM AIR SPACE TO COMBUSTIBLES FOR THE CHIMNEY SYSTEM IS 2" (51mm).**
- **THE FTF13 CHIMNEY SYSTEM IS NOT FOR USE IN CANADA. MODEL EST-50 IS NOT FOR USE IN CANADA.**

INTRODUCTION

General Information

These fireplaces are conventional radiant heat fireplaces with standard bar grates, optional outside combustion air kits and optional decorative glass doors.

Note: Illustrations reflect "typical" installations with nominal dimensions and are for design and framing reference only. Actual installations may vary due to individual design preferences. However, always maintain minimum clearances to combustible materials and do not violate any specific installation requirements.

Models EST-36 and EST-42 have been tested and listed to U.L. 127 standard for U.S. installations and U.L.C. S610 standard for Canadian installations by Warnock Hersey Inc. (Report No. J20054576-231). **Model EST-50** has been tested and listed to U.L. 127 standard for U.S. installations by PFS-US (Report No. 09-185) for EST-50.

These units are intended for installation in residential homes and buildings of conventional construction, not in mobile homes.

These fireplace systems are designed for installation in accordance with the National Fire Protection Standard for chimneys, fireplaces and solid fuel burning appliances; NFPA 211 and in accordance with codes such as the BOCA Basic/National Codes, the Standard Mechanical Code, Uniform Building Codes and/or the Canadian National Code.



WARNING

Failure to use manufacturer-provided parts, variations in techniques and construction materials, or practices other than those described in this manual may create a fire hazard and void the limited warranty.

When complete, these fireplace systems consist of five basic "sub-systems":

1. Fireplace
2. Chimney and Termination
3. Optional Glass Doors
4. Optional Combustion Air Kit
5. Chimney Collar Enclosure Kit (Canada only)

CLEARANCES AND HEIGHT REQUIREMENTS

The fireplace may be placed on or near normal construction materials*. The combustion air kit, firestop spacer and roof flashings (not chase flashings) may be placed directly on or against normal construction materials*. The chimney requires a minimum 2" (51 mm) air space to combustibles. A combustible mantel may be installed a minimum of 12" (305 mm) above the opening of the fireplace as per NFPA 211, "Mantel/Trim Clearances" Section. In Canada the minimum is 24" (610 mm) above the opening.

The fireplace and chimney system must be enclosed when installed in or passing through a living area where combustibles or people may come in contact with it. This is important to prevent possible personal injury or fire hazard.

For questions, please call your distributor or the manufacturer. Special restrictions apply to the front and facing of the fireplace and nearby walls (see **pages 20 and 21**).

CHIMNEY SYSTEM

These fireplaces are designed and code listed for use with Security Chimneys FTF10 and FTF13 chimney System only. Always use Security Chimneys FTF10 and FTF13 chimney components with these fireplaces. Do not modify or alter these components as this may cause a potential serious hazard and void the Warranty.

*Construction Materials:

- framing materials
- paneling
- particle board
- flooring
- drywall
- plywood
- noncombustible insulation board (for hearth)

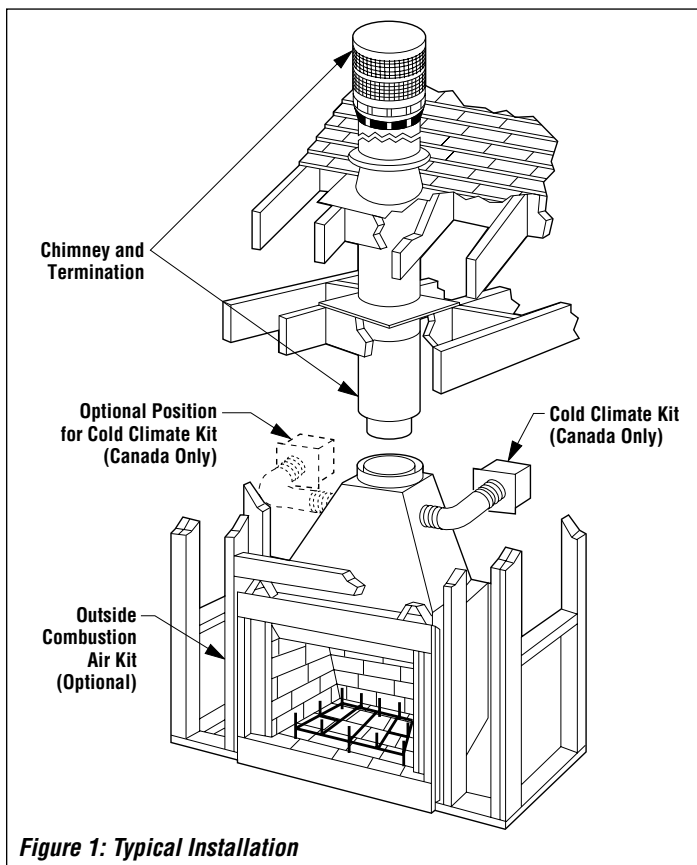
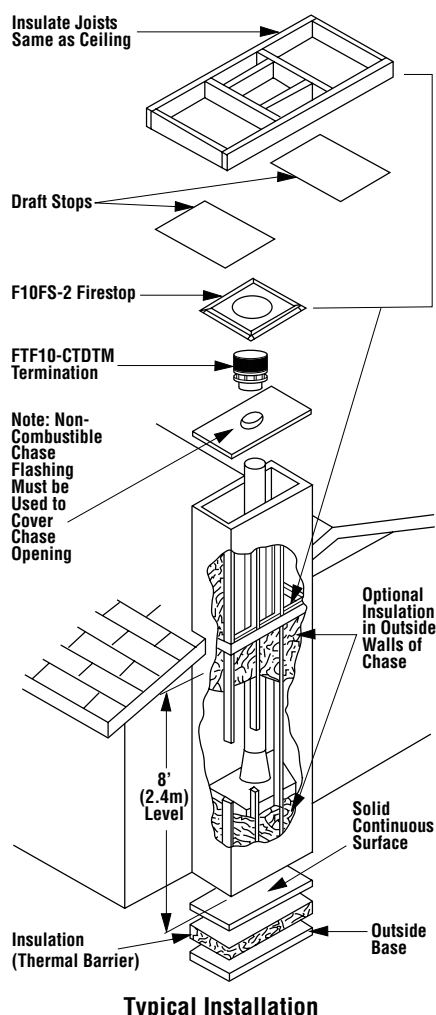


Figure 1: Typical Installation

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.



Typical Installation

Figure 2

WARNING

If insulation is used, the fireplace must not be placed directly against it. Insulation or vapor barriers, if used, must first be covered with gypsum board, plywood, particle board or other material to assure insulation and vapor barriers remain in place.

WARNING

Do not pack or fill required air spaces with insulation or other material. No material is allowed in these areas.

Note: Local codes may not require firestopping at the ceiling levels for outside chase installations; however, it is recommended for safety and the reduction of heat loss.

Note: Do not insulate the chase cavity with blown or fill type insulation materials.

CHIMNEY HEIGHT

The total height of your completed fireplace system from the surface the fireplace rests on to the chimney top must not exceed 80' (24.4m) and must also meet minimum height requirements. Refer to the minimum system height chart.

Minimum System Height

Security Chimneys™ FTF10 & FTF13 Pipe		
Installation	EST-36 & EST-42	EST-50
Vertical	16' 0" (4.8m)	17' 6" (5.3m)
One Offset	18' 6" (5.6m)	20' 0" (6.1m)
Two Offsets	22' 0" (6.7m)	25' 0" (7.6m)

Chase Enclosure

A chase is a vertical box-like structure constructed to surround the fireplace and chimney. Refer to **Figure 2** for a typical chase configuration. As with all chimney installations, avoid overhead obstructions such as trees, power lines, etc. A chase should be constructed and insulated just like any outside wall. In a cold climate, we recommend the base of the chase should also be insulated between the solid continuous floor beneath the fireplace and the chase bottom. Chase insulation in a cold climate installation is not required for safety.

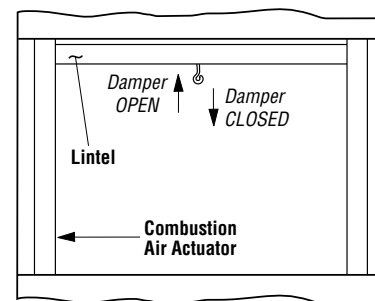
ASSEMBLY OUTLINE - Before You Start

Check your inventory list to be sure you have all the necessary parts supplied in good usable condition. Check also for any concealed damage.

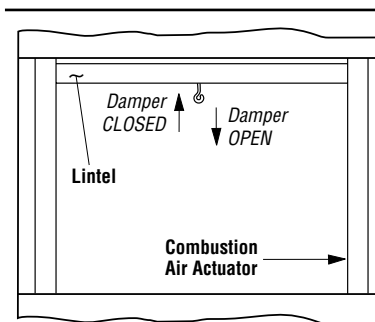
Check the operation of the damper. The damper is controlled through the use of a control lever located within the firebox opening at the top center just behind the firebox lintel (**Figure 3**).

EST-36 and 42 models: To lock the damper blade in the OPEN position, push the damper handle back and up (away from the front of the fireplace). To lock the damper blade in the CLOSED position, pull the damper handle FORWARD and DOWN (toward the front of the fireplace).

EST-50 model: To lock the damper blade in the OPEN position, pull the damper handle FORWARD and DOWN (toward the front of the fireplace). To lock the damper blade in the CLOSED position, push the damper handle back and up (away from the front of the fireplace).



EST-36 & EST-42



EST-50

Figure 3

LOCATION OF FIREPLACE

Carefully select the proper location for heat circulation, aesthetics, chimney obstructions and clearance to side wall(s). With proper pre-planning, a slight adjustment of a few inches can save considerable time and expense later during construction and assembly.

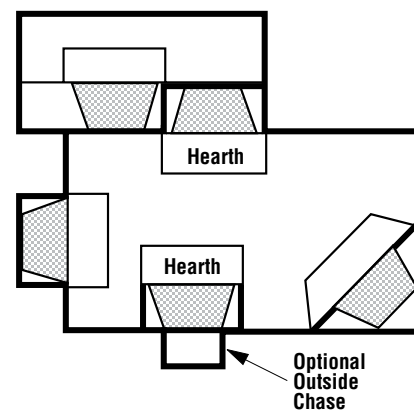


Figure 4

Carefully consider the position of the fireplace opening with respect to the location of adjacent or nearby stairwells, bath or kitchen exhaust fans and/or return air registers for forced air furnaces/air conditioners that could cause a smoking fireplace condition if the house is tightly insulated.

When locating the fireplace, consideration must be given to combustibles and final finishing. See **Figure 5** and confine the final location of combustible finish materials to the "Safe Zone."

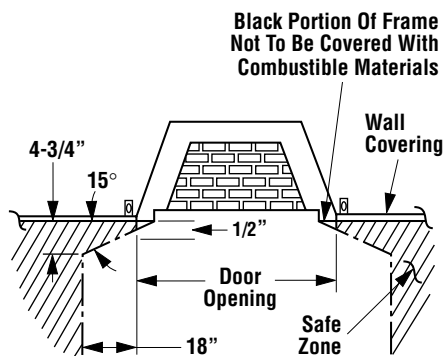


Figure 5

NOTE: Do NOT permanently place furniture or other items such as decorative pillows within 60" of the fireplace front face.

PRE-ASSEMBLY STEPS

EST-50: Install the outer transition assembly before installing the fireplace. See "Installing the EST-50 Outer Transition Assembly" (*next page*).

EST-36 and EST-42: See *Figure 6, below*. Remove all items packed under the grate and set aside for later installation. Cut the two **wire ties** securing the grate, and discard the ties. Remove the grate, and set aside for later installation. Using a 1/4" nut driver, remove the two **tie brackets** from the firebox floor, and discard the **tie brackets**.

PRE-INSTALLATION NOTES

The fireplace may be installed directly on a combustible floor or raised on a platform of an appropriate height. Do not place fireplace on carpeting, vinyl or other soft floor coverings. It may, however, be placed on flat wood, plywood, particle board or other hard surfaces.

Be sure fireplace rests on a solid continuous floor or platform with appropriate framing for support and so that no cold air can enter the room from under the fireplace.

The fireplace may be positioned and then the framing built around it, or the framing may be constructed and the fireplace positioned into the opening.

Usually, no special floor support is needed for the fireplace, however, to be certain:

1. Estimate the total weight of the fireplace system including chimney and surround materials such as brick, stone, etc., to be installed. Shipping weights for the fireplace may be found on *page 23*.
2. Measure the square footage of the floor space to be occupied by the system, surrounds and hearth extensions.
3. Note the floor construction, i.e., 2 x 6's, 2 x 8's or 2 x 10's, single or double joists, type and thickness of floor boards.
4. Use this information and consult your local building code to determine if you need additional support.

CAUTION: DO NOT BLOCK THE HEAT-CIRCULATING AIR INLET AND OUTLET PORTS ON CIRCULATING MODELS. DOING SO MAY RESULT IN A POTENTIAL FIRE HAZARD.

If you plan to raise the fireplace and hearth extension, build the platform assembly, then position fireplace and hearth extension on top. Secure the platform to the floor to prevent possible shifting.

CLEARANCES

Minimum clearance to combustibles for the Estate fireplace is as follows; sides and back – 1" (25.4 mm), combustible floor – 0" (0 mm), adjacent wall 18" (457 mm), adjacent shielded wall (*K* factor of .84 or less 24" W x 36" H) 12" (305 mm), ceiling – 37-1/2" (953 mm).

Note: Clearance at the nailing flange for both fireplace models is 0" (0mm).

Note: Adjacent wall considerations are for an adjacent wall on only a single side. Walls should not be placed at minimum distance at both sides of the fireplace.

ASSEMBLY STEPS

Note: The following steps represent the normal sequence of installation. Each installation is unique, however, and may require a different sequence.

1. Position firebox prior to framing or into prepared framing.
2. Install Cold Climate Kit (Canada only).
3. Install the chimney system.
4. Install optional outside combustion air kit.
5. Plumb gas line if a decorative gas appliance will be used. (Gas connections should only be performed by an experienced, licensed/certified tradesman.)
6. Complete the installation; finish wall material, surround and hearth extension to your individual taste.
7. Assemble and attach optional glass door assembly.

See *Figure 1* on *page 3* for a general idea of each element of the fireplace system.

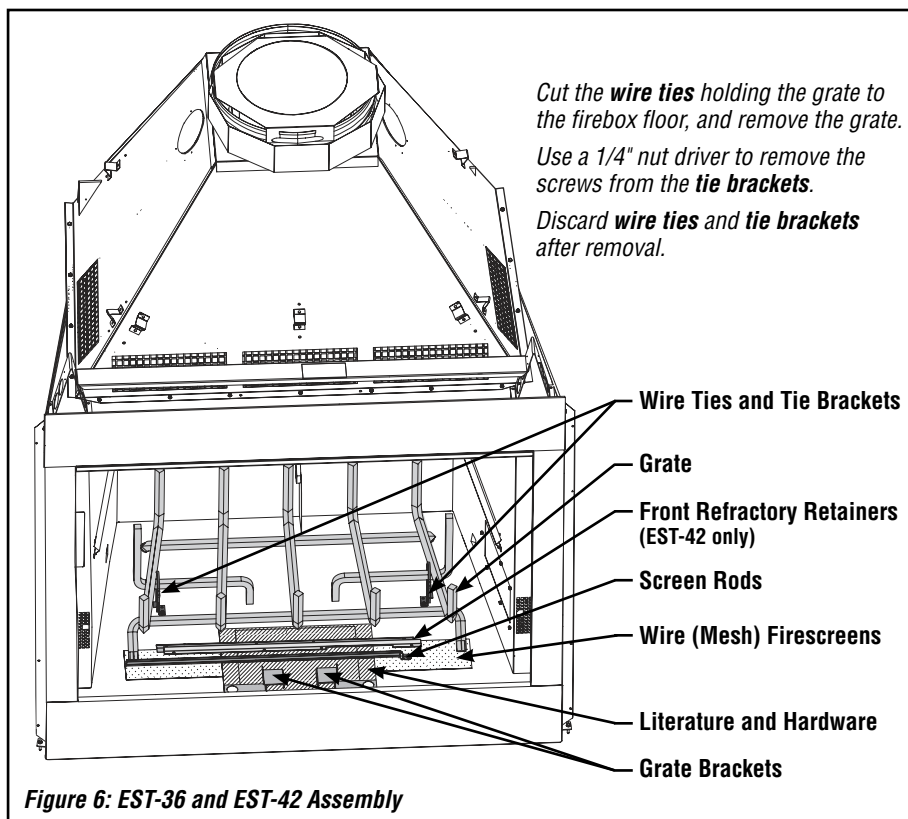
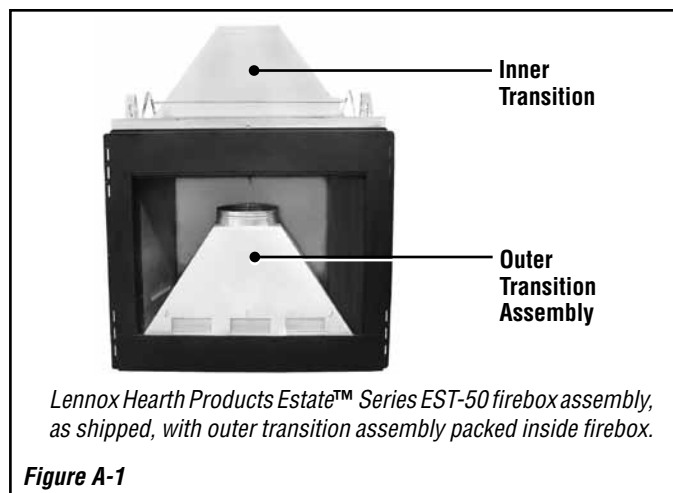


Figure 6: EST-36 and EST-42 Assembly

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

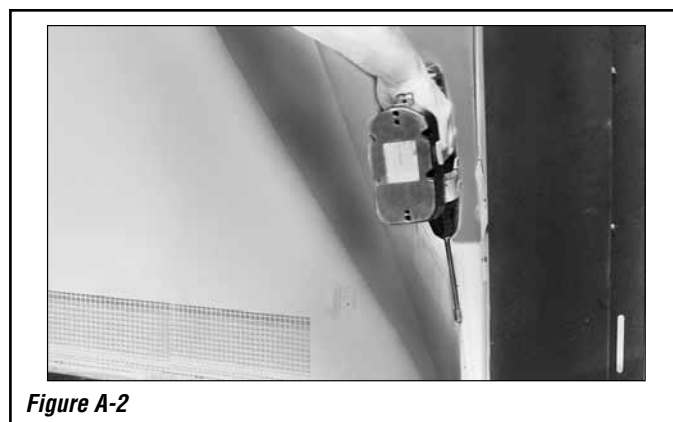
INSTALLING THE EST-50 OUTER TRANSITION ASSEMBLY

This section contains instructions for attaching the outer transition assembly on the **EST-50** firebox. The transition assembly parts are shipped inside the EST-50 firebox (**Figure A-1, below**) and are not available as separate kit or accessory items.



Step 1. Remove outer transition assembly from firebox.

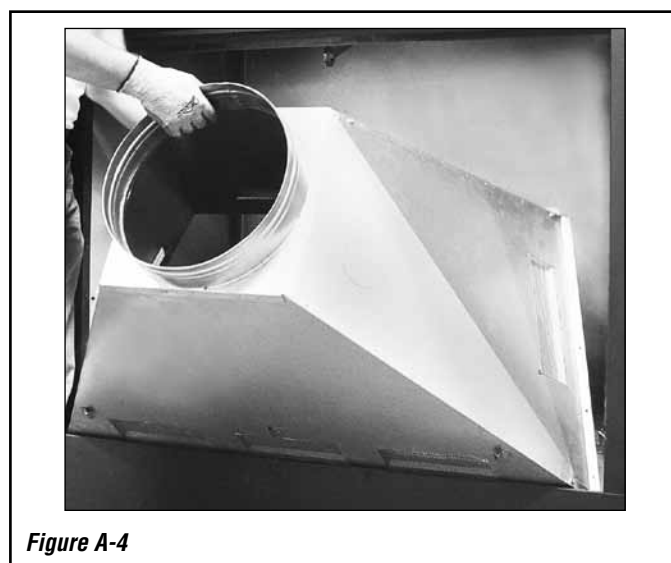
- 1.1. See **Figure A-2, below**. Using a 1/4" nut driver, remove the two screws securing the outer transition to the firebox (one screw on each side).



- 1.2. With one hand, hold the damper handle back (**Figure A-3, below**).

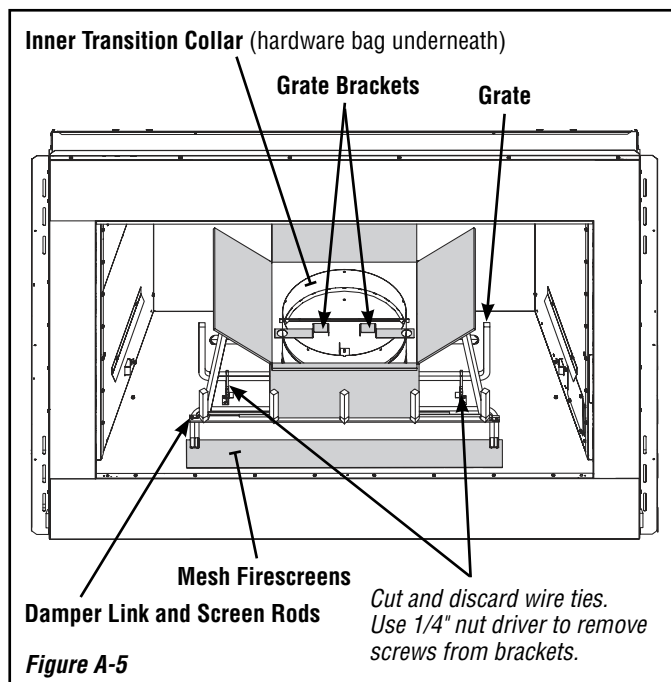


- 1.3. With the other hand, grasp the top of the outer transition and pull forward (**Figure A-4, below**).
- 1.4. When the top of the transition is outside the firebox, let go of the damper handle, and use both hands to lift the entire transition assembly out of the firebox.



Step 2. Remove all items from firebox.

- 2.1. See **Figure A-5, below**. Remove the box, damper link, screen rods, and mesh firescreens, and set aside for later installation.
- 2.2. Cut the two wire ties securing the grate to the firebox.
- 2.3. Using a 1/4" nut driver, remove the screws from the brackets under the grate. Discard the wire ties and brackets.
- 2.4. Remove the grate from the firebox, and set aside for later installation.



(continued on next page)

INSTALLING THE EST-50 OUTER TRANSITION ASSEMBLY

(continued from previous page)

Step 4. Attach damper link to damper bracket on inner transition collar.

- 4.1. Turn the inner transition collar upside down, and attach the damper link to the damper bracket with the enclosed 1/4-20 bolt and nut, as shown in **Figure A-6**, below.

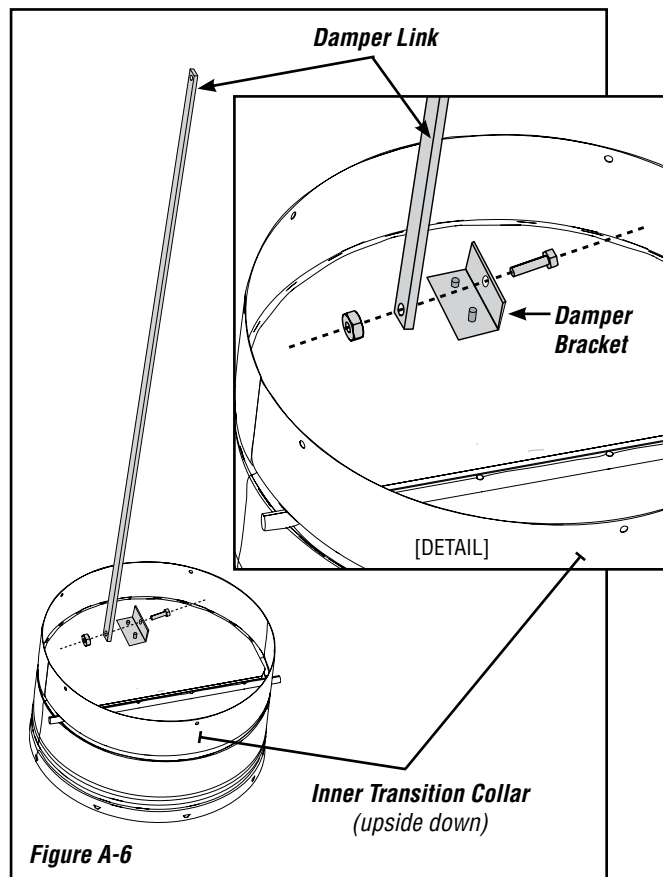


Figure A-6

- 4.2. Using two 7/16" wrenches, tighten the nut completely (**Figure A-7**, below).

- 4.3. **IMPORTANT** After tightening the nut, loosen it 1/2-turn.



Figure A-7

Step 5. Attach damper assembly to inner transition flange.

- 5.1. See **Figure 8**, below. Insert the damper link through the inner transition flange, and then place the inner transition collar over the inner transition flange.

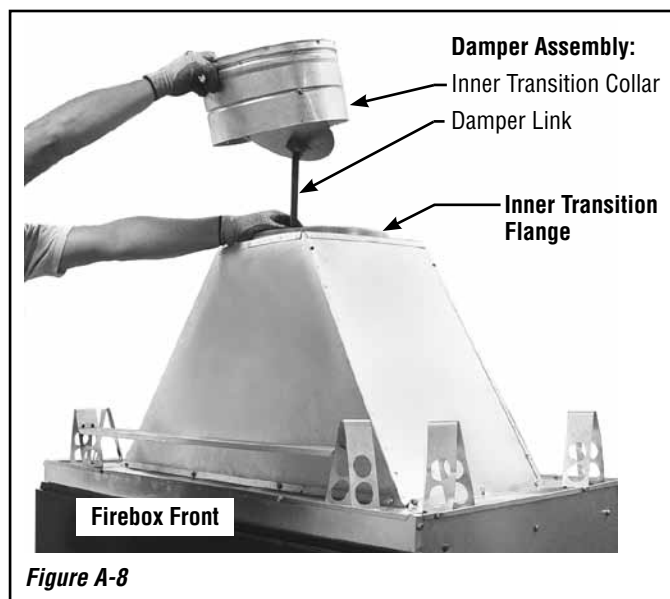


Figure A-8

- 5.2. See **Figure A-9**, below. Align the notch in the rear of the inner transition collar with the dimple in the rear of the inner transition.

- 5.3. Using a rubber mallet, gently tap the damper assembly (at the top of the inner transition collar) until all screw holes align.

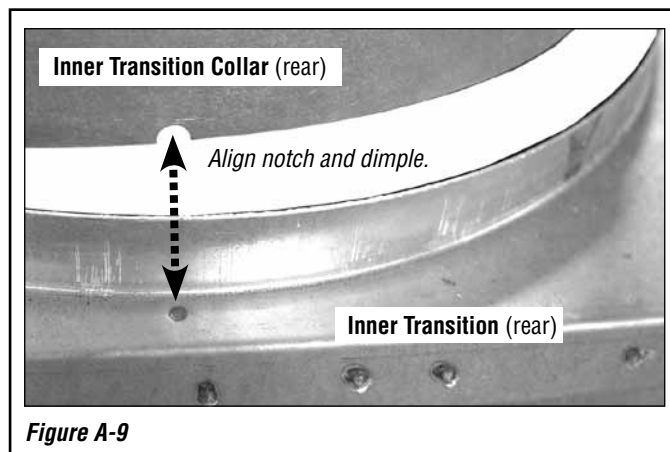


Figure A-9

- 5.4. See **Figure A-10**, below. Using a 5/16" hex head nut driver, secure the damper assembly with the five (5) provided zinc-plated #10 x 3/8" screws.



Figure A-10

(continued on next page)

INSTALLING THE EST-50 OUTER TRANSITION ASSEMBLY

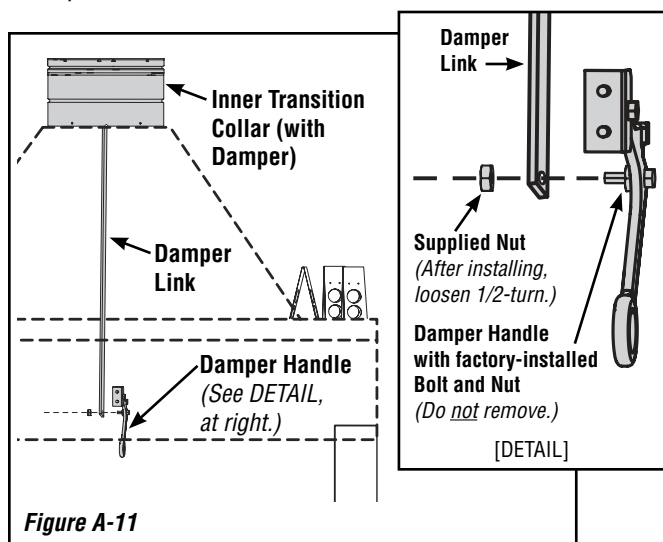
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Step 6. Attach damper link to damper handle.

- 6.1. Attach the damper link to the factory-installed bolt on the damper handle with one supplied nut, as shown in **Figure A-11, below**.

NOTE: Use the additional supplied nut. (Do NOT remove the existing factory-installed nut from the damper handle.)

- 6.3. Using two 7/16" wrenches, tighten the nut completely; **then loosen 1/2-turn.**



- 6.4. **IMPORTANT** BEFORE installing the outer transition, make sure the damper assembly works properly.

The damper should freely move to a fully closed and fully open position without interference, and the damper should remain fully closed when latched. Refer to page 2 of the *Care and Operation Instructions* (P/N 506025-04) for details on proper damper operation.

Step 7. Install outer transition.

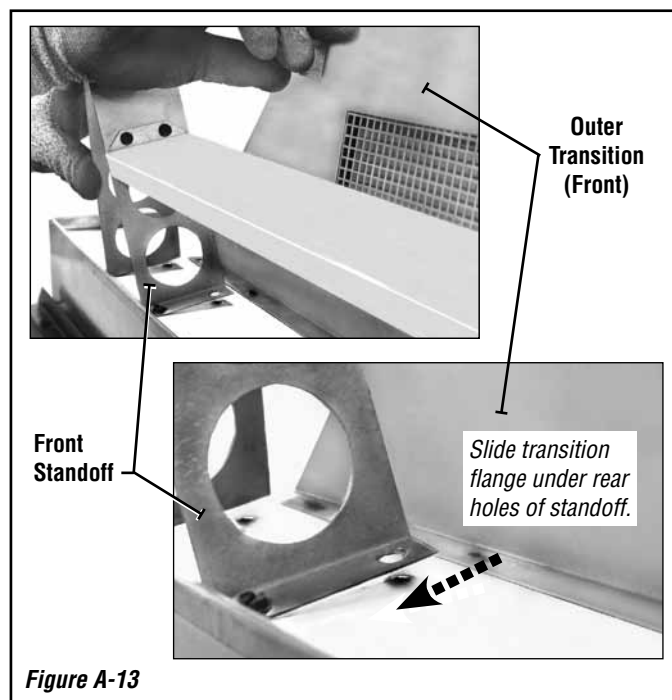
- 7.1. Using at least two people, lift the outer transition into place, as shown in **Figure A-12, below**.



Figure A-12

- 7.2. See **Figure A-13, below**. While tilting one of the front standoffs forward, slide the front flange of the outer transition under the rear holes of the standoff, and align the screw holes.

- 7.3. Repeat **Step 7.2** for the other front standoff.



- 7.4. See **Figure A-14, below**. Attach fourteen (14) of the provided screws to secure the outer transition.

Note:

- Make sure the lower flange of the outer transition is **UNDER** the rear holes of each front standoff.
- The hardware bag contains more screws than are required for installation.

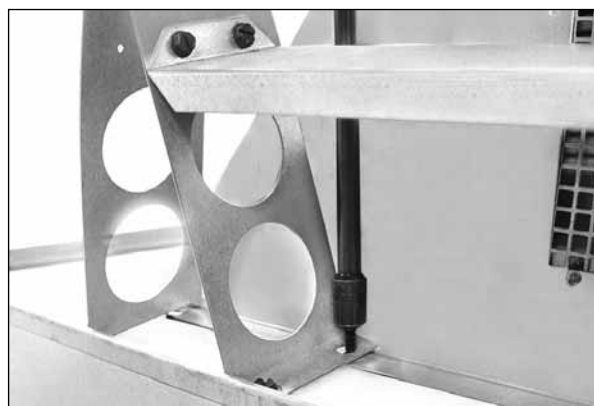


Figure A-14

INSTALLING THE FIREPLACE

Step 1. Slide the fireplace into prepared framing or position fireplace in its final position and frame later.

Step 2. Insert the metal safety strips, packaged with the fireplace, beneath the fireplace, as illustrated in **Figures 7-1 and 7-2, below**. The safety strips should overlap 1" (25 mm) for continual coverage of the floor.

Note:

- Safety strips are not required when fireplace rests on a noncombustible surface.
- Install the hearth extension only as illustrated.

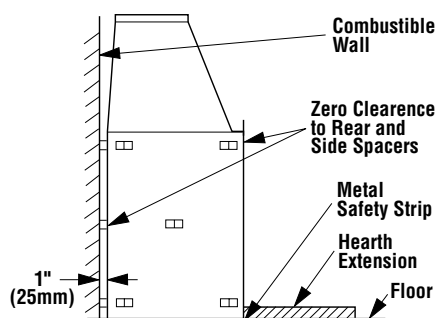


Figure 7-1

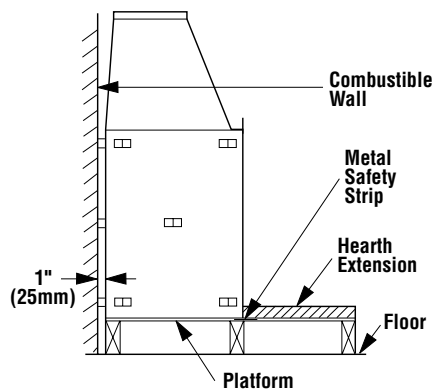


Figure 7-2

The safety strips should extend from front and sides of the fireplace 2" (51 mm). In the event a wooden support is used to elevate the fireplace above the floor, a "Z" type safety strip should be fabricated and used to protect the front surface of the wood support as well as the floor beneath the hearth extension (see **Figures 8 and 9, below**). The safety strips should be tacked down to prevent possible movement.

Note: The "Z" type safety strip is not supplied.

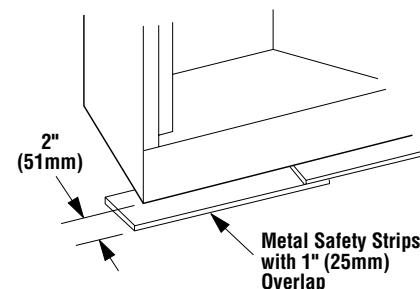


Figure 8

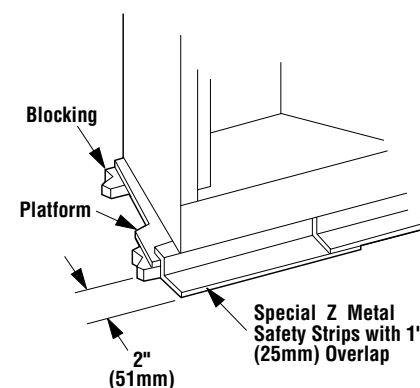


Figure 9

Step 3. Refer to fireplace drawings and specifications on **pages 10 and 11** for framing dimensions and details. Frame appliance enclosure as illustrated in **Figures 12 through 15** on **page 11**.

IMPORTANT:

- NEVER REMOVE OR MODIFY THE FIREPLACE TOP SPACERS UNDER ANY CIRCUMSTANCES.
- NEVER NOTCH THE HEADER TO FIT AROUND THE SPACERS.
- NEVER INSTALL THE HEADER LOWER THAN THE SPACERS.
- THE HEADER MAY BE IN DIRECT CONTACT WITH THE TOP SPACERS BUT MAY NOT BE SUPPORTED BY THEM.

Step 4. Fireplace may be anchored to floor. Bend down four (4) anchor tabs located at the base of the fireplace and secure to the floor by nailing with 8d nails (**Figure 10, below**).

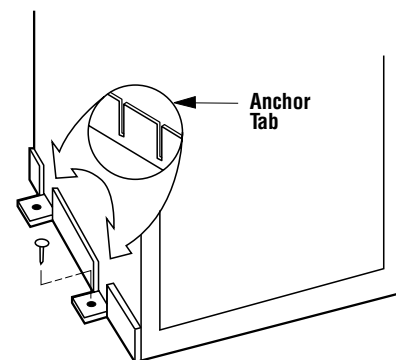


Figure 10

FIREPLACE SPECIFICATIONS

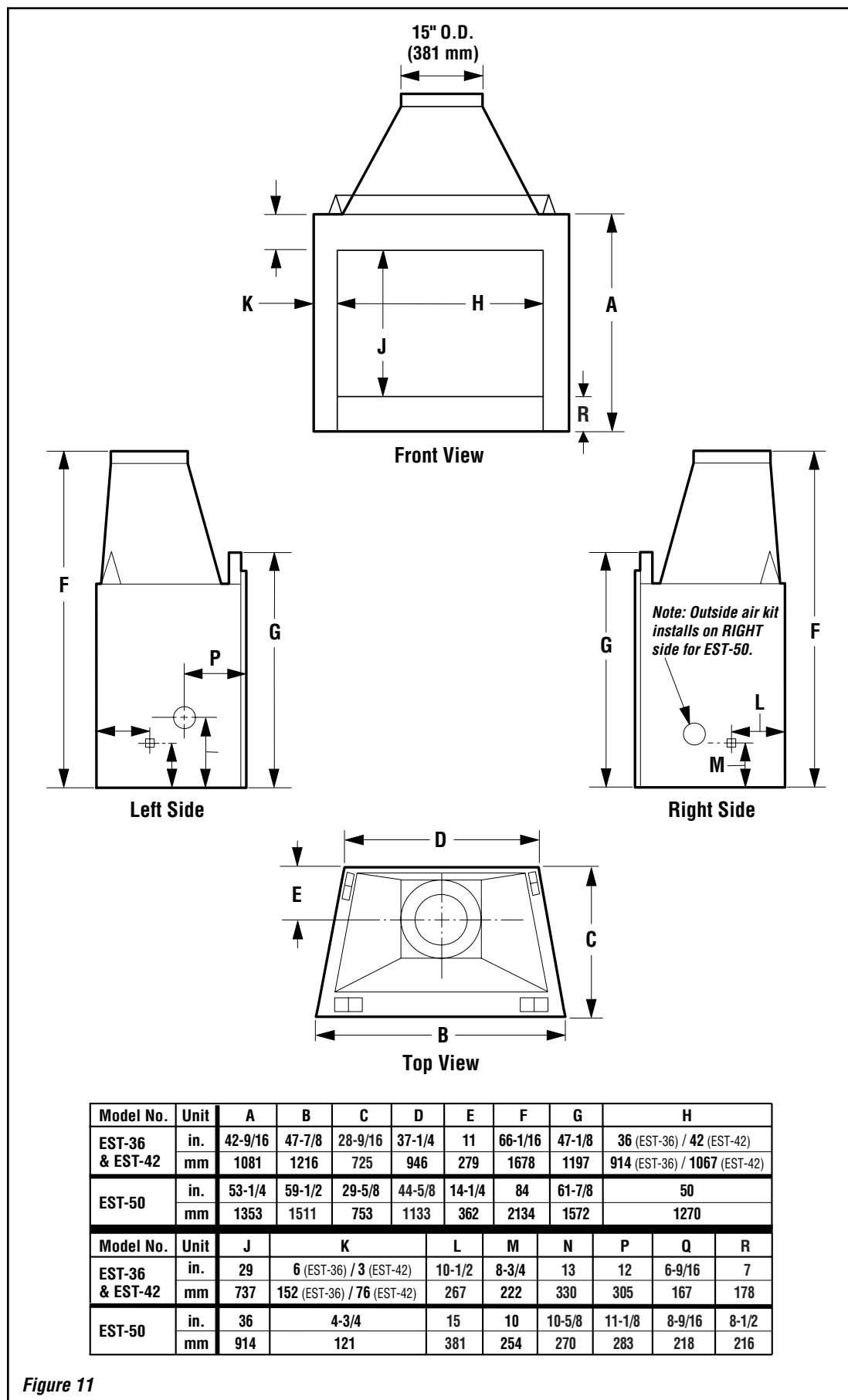


Figure 11

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

FRAMING SPECIFICATIONS

NOTE:

- The framed depth from a framed wall (*item "G" in the Framing Dimensions table below*) must always be measured from a finished surface. If a wallcovering (such as drywall) is to be attached to the rear wall, measure the framed depth from the drywall surface. **This dimension MUST be exact.**
- If the appliance is to be elevated above floor level, a solid, continuous platform must be constructed.
- The header may rest on the top metal spacers; however, NEVER notch the header to fit around the spacers.
- Consult all local codes.

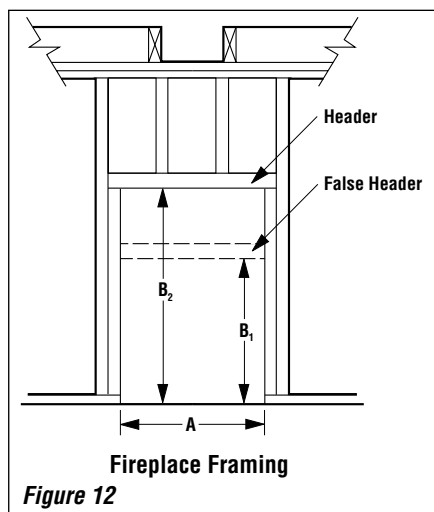


Figure 12

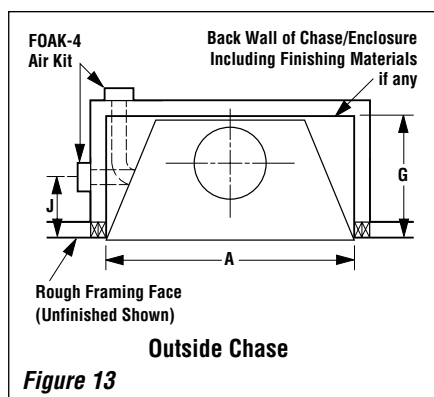


Figure 13

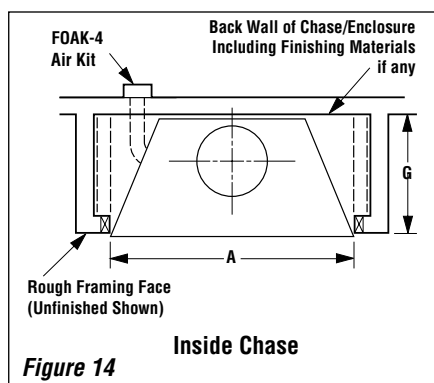


Figure 14

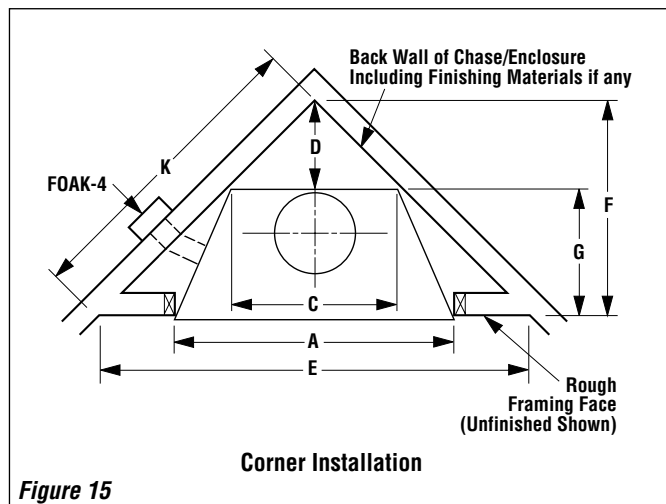


Figure 15

	Framing Dimensions			
	EST-36 and EST-42		EST-50	
A	48 in	(1219 mm)	60-3/4 in	(1543 mm)
B ₁	47-1/4 in	(1200 mm)	62-1/4 in	(1581 mm)
B ₂	66-1/2 in	(1689 mm)	84-1/2 in	(2146 mm)
C	37-1/4 in	(946 mm)	44-5/8 in	(1133 mm)
D	18-5/8 in	(473 mm)	22-5/16 in	(567 mm)
E	94-7/8 in	(2410 mm)	104-1/8 in	(2645 mm)
F	47-7/16 in	(1205 mm)	52-1/16 in	(1322 mm)
G	28-13/16 in	(732 mm)	29-3/4 in	(756 mm)
J	11-3/8 in	(289 mm)	10 in	(254 mm)
K	67 in	(1702 mm)	73-5/8 in	(1870 mm)

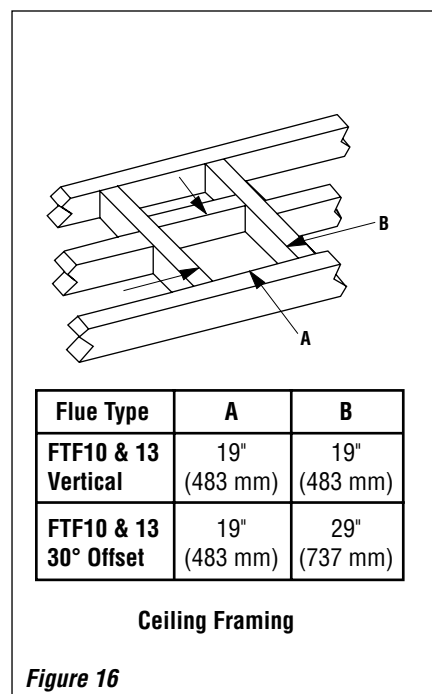
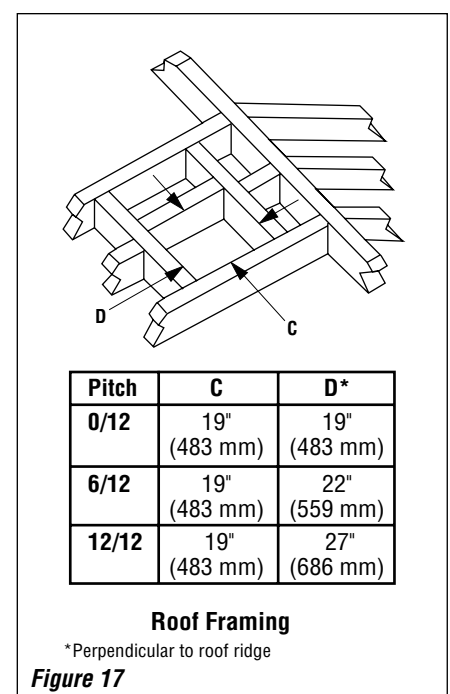


Figure 16

Flue Type	A	B
FTF10 & 13 Vertical	19" (483 mm)	19" (483 mm)
FTF10 & 13 30° Offset	19" (483 mm)	29" (737 mm)



*Perpendicular to roof ridge

Figure 17

Pitch	C	D*
0/12	19" (483 mm)	19" (483 mm)
6/12	19" (483 mm)	22" (559 mm)
12/12	19" (483 mm)	27" (686 mm)

NOTE: DIAGRAMS & ILLUSTRATIONS ARE NOT TO SCALE.

Step 5. Secure the fireplace to the side framing members using the nailing flange. Use 8d nails or equivalent (**Figure 18**).

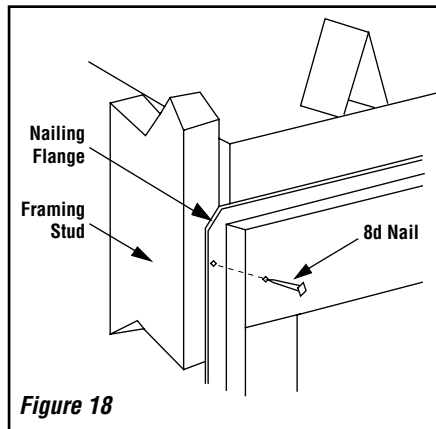


Figure 18

Note: The nailing flange and the area directly behind the nailing flange are exempt from the clearances described on **page 5**.

Maintain the following minimum clearance from the firebox wrapper to the framing at the closest point of contact, directly adjacent to the flange:

- EST-36 and EST-42: 1/2" min.
- EST-50: 3/4" min.

For installations in Canada, continue with Steps 6 through 9, below.

Step 6. Remove one of the knockouts from the fireplace transition and attach the 4" (102 mm) collar from the Cold Climate Kit to the transition with four (4) No. 8 x 1/2" screws provided (**Figure 19, below**). See "Installation Components" on **page 24** for catalog/part numbers.

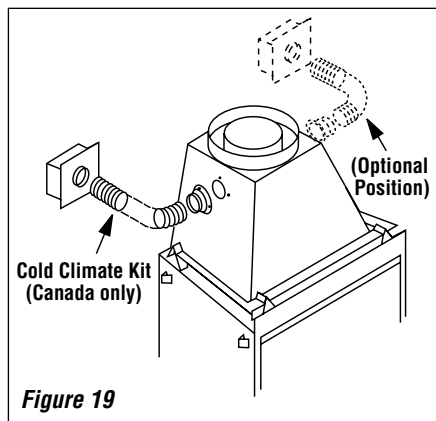


Figure 19

Step 7. Connect the 4" (102 mm) Class 0 air duct to the collar with two (2) No. 8 x 1/2" screws provided in the hardware kit.

Step 8. Route the Class 0 air duct out the back wall or side wall, up through the ceiling or floor joists to an outside wall. The air duct should be located above snow level.

Note: If the fireplace is installed against an inside wall, the Class 0 air duct may be extended into a ventilated attic space at least 18" (457 mm) above the attic floor. Secure the duct hood to a vertical post with the inlet positioned downward. Ensure nothing blocks the hood opening. This air duct must never terminate higher than the chimney.

Step 9. Cut or frame hole through the outside wall for the installation of the duct inlet hood. A 4-1/2" (114 mm) diameter hole is sufficient. Feed the loose end of the flexible duct through the hole cut for the inlet hood and attach to collar on inlet hood using two (2) No. 6 x 3/8" screws provided. Insert hood into opening. Secure hood in place with the No. 8 x 1-1/2" screws provided or with nails driven through holes in hood flange. Seal with noncombustible waterproof silicon type caulking. If additional duct is needed, use Class 0 metallic duct.

INSTALLING THE CHIMNEY SYSTEM

Step 1. Before continuing, check the operation of the damper, as described on **page 4**, (refer to **Figure 3**).

Step 2. Using standard construction framing techniques, construct opening for chimney route up through the ceiling(s) and roof or through an outside chase.

Framing must maintain adequate minimum air space clearance at all times.

CAUTION: ALLOW MINIMUM 2" CHIMNEY AIR SPACE TO COMBUSTIBLE FRAMING MEMBERS THROUGHOUT VERTICAL OR OFFSET CHIMNEY INSTALLATION.

A minimum 2" air space must be reserved for all combustible materials extending for any continuous length surrounding the chimney.

For minimum ceiling and roof dimensions, see **Figure 16** (Ceiling Framing) and **Figure 17** (Roof Framing) on the **previous page**.

In new construction, to determine chimney center line, use plumb line from roof or ceiling above fireplace to center of flue collar on fireplace.

For remodeling, plumb to center of flue collar from ceiling above, drive nail through ceiling from below to mark position, then mark and cut to passage from above ceiling (around nail) (**Figure 20**). Then plumb from ceiling or roof level directly above hole which has just been completed.

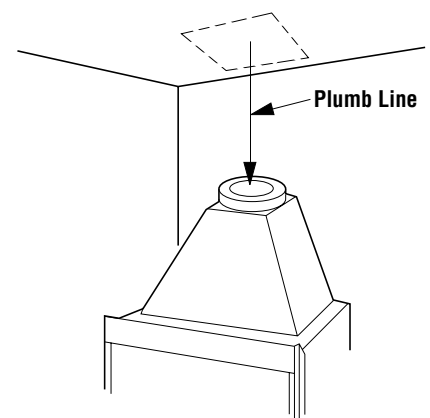


Figure 20

Step 3. Position appropriate firestop spacer at ceiling and nail temporarily with two (2) 8d nails. Use flat firestop spacer, Model F10FS-2, if chimney penetrates ceiling vertically. If chimney penetrates ceiling at 30° angle (offset chimney), use 30° firestop spacer, Model F10FS30-2 (refer to "30° Chimney Offset through Floor or Ceiling" and **Figures 42 and 43** on **page 18**). Use one nail on opposite sides to hold firestop spacer in position. Nail permanently, using at least two (2) more 8d nails, after chimney sections have been assembled through the firestop spacer and after any necessary adjustments have been made. Firestop spacer must be secured by at least four (4) 8d nails when completely installed.

Note: If there is a room above ceiling level, firestop spacer must be installed on the bottom side of the ceiling. If an attic is above ceiling level, firestop spacer must be installed on top side of ceiling joist (**Figures 21 and 22**).

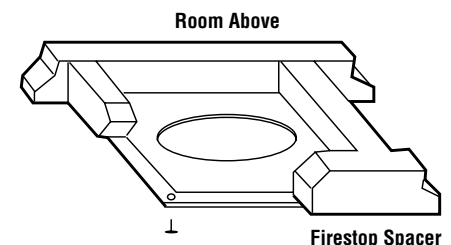


Figure 21

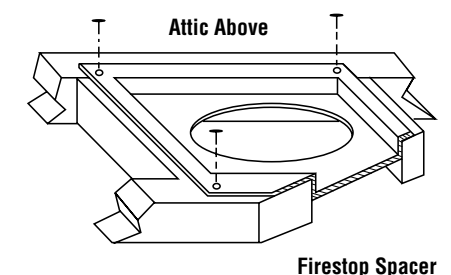


Figure 22

For Canada Only

When installing the chimney system through an open attic space, the attic shield assembly-firestop spacer must be used (**Figure 23**). This installation procedure is listed and approved by Warnock Hersey, Inc., and only required for use in Canada.

Open Attic Space

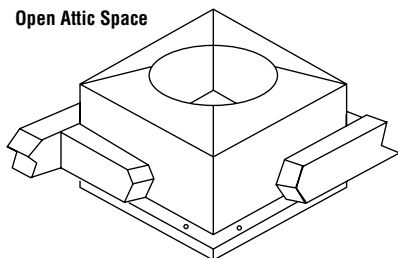


Figure 23

Step 4. Note: Chimney sections are constructed with a unique locking tab design, which ensures an immediate, tight assembly between sections. Plan your chimney requirements carefully before assembly as chimney is difficult to disassemble after installation. If disassembled, the tabs might become damaged. Be certain tabs are properly formed to ensure locking tabs engage properly.

Security Chimneys™ FTF10 and FTF13 chimney systems are a two piece chimney, which snap together from the fireplace up. Start with the inner flue section with the lanced end up, snap lock it in to the matching collar on top of the fireplace. At all subsequent joints, the upper flue section fits into the preceding flue section. Each piece snaps together by means of locking tabs (9 locking tabs per joint). Check each piece by pulling up slightly from the top to ensure proper engagement before installing the next section. If the flue has been installed correctly, it will not separate when you test it. Also, the inner flue joint where each section is joined should be tight and flat without gaps (**Figure 24**).

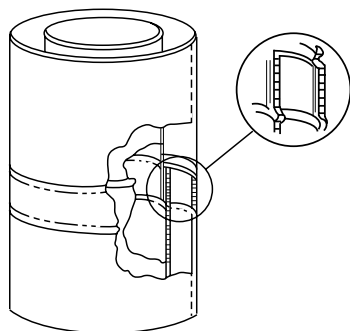


Figure 24

Outer pipe section installs in just the opposite way; the lanced end goes down and each new section goes OVER the outside of the previous section installed (**Figure 25**).

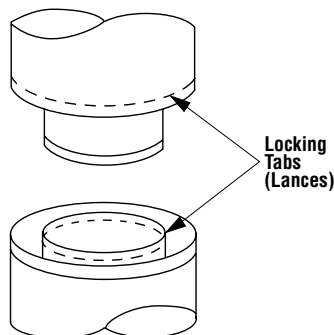


Figure 25

Note: Assemble one component of chimney at a time (inner section first, then outer section last) before proceeding with the next complete section.

Continue to assemble the chimney up through framed opening. Assemble just enough to penetrate the roof flashing openings (**Figure 26**). Always maintain 2" minimum air space to combustible materials and always check each chimney joint (inner and outer) to ensure proper engagement. Check vertical alignment of chimney so that it projects from the roof in true vertical position.

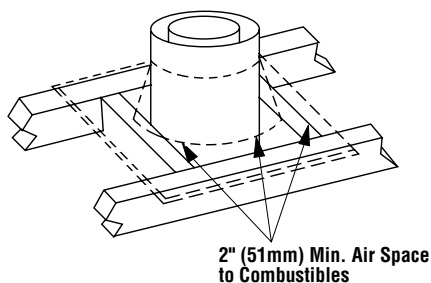


Figure 26

Chimney sections from Security Chimneys do not need to be screwed together. Additional reinforcement is not necessary except in certain offset conditions (refer to **Figure 38** on page 16).

Step 5. The height of vertical chimney pipe supported only by the fireplace must not exceed 30'. Chimney heights above 30' must be supported by a Model FTF10-S4 stabilizer, installed at 30' intervals.

Note: The Model FTF10-S4 adds 3" net effective height to the total chimney system.

Install the Model FTF10-S4 stabilizer by fitting inner section down into respective section of proceeding flue pipe and locking outer stabilizer section into place over the outer chimney pipe. Position for proper clearance through framed opening and nail straps securely (under tension in "shear") into place on framing. Use 8d nails. Attach successive lengths of chimney pipe directly to stabilizer using same techniques as described in Step 4 (**Figure 27**).

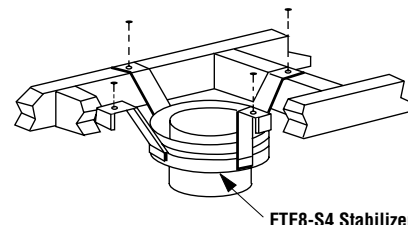


Figure 27

Note: Do not apply excessive pressure to any subsequent chimney sections following the stabilizer when installing. Ensure each subsequent chimney section is securely attached by testing as noted in Step 4.

Step 6. Select the proper Security Chimneys roof flashing based on pitch of roof. Use chart below for selection:

Roof Pitch	Model
Flat to 6/12	F10F6
6/12 to 12/12	F10F12

Next, slide roof flashing over extended chimney section that previously has been installed above the roof opening in Step 4. FTF10 flashings require flashing spacers. Slide flashing all the way down until the flashing base rests flat on the roof (**Figure 28**). Again, check the vertical position of the chimney and the 2" minimum air space to combustibles.

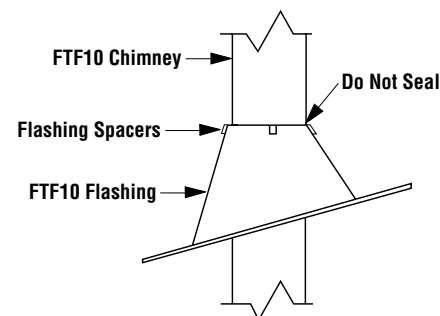


Figure 28

Note: Do not caulk or seal the ventilating openings.

Step 7. Secure flashing by nailing along the perimeter into roof using 8d nails. If shingled roof, slide upper end and sides of roof flashing under shingles (trim if necessary), seal the top and both sides of the flashing to the roof with roof caulking. Cover nail heads with roof caulking (**Figure 29**).

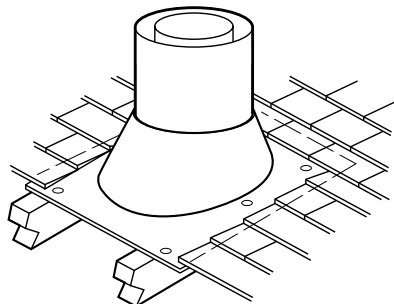


Figure 29

Step 8. The standard Security Chimneys™ FTF10 roof flashing assemblies include a storm collar. Slide the storm collar over outer chimney, rest on flashing spacers and align with top surface of flashing. Insert tab in slot, pull tight and bend tab back over slot. Seal storm collar to outer chimney with roof caulking or mastic around entire circumference of pipe. Also add extra roof caulking to the tab/slot area to seal completely against water penetration (**Figure 30**). Check all joints very carefully to ensure no water intrusion can take place.

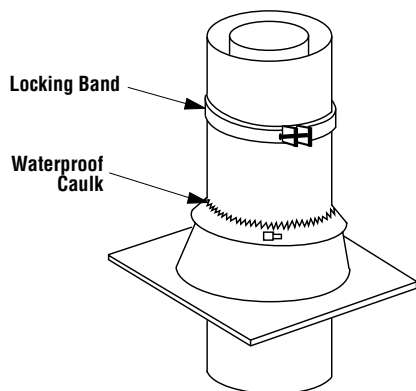


Figure 30

Step 9. Security Chimneys locking bands, Model FLB, may be required if the chimney extends too high above the roof flashing. As a general rule, if the chimney extends more than 6' above the roof flashing, the use of locking bands is advisable to strengthen the chimney assembly. Align the locking band at the chimney joint. Locking bands wrap around pipe joints equally covering the joints of both pipe sections.

Use the nut provided and TIGHTEN snugly. Do not overtighten as this might damage the chimney section (refer to **Figure 30**).

Note: If chimney extends more than 8' above roof surface, guy wires are also recommended. Use three (3) guy wires, attach to locking band assembly, extend and secure to roof in a triangular pattern (**Figure 31**). Guy wires are not supplied by the manufacturer.

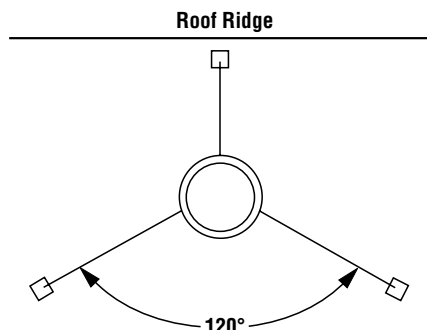
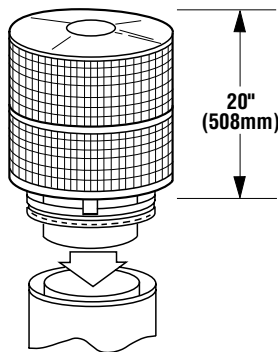


Figure 31

Step 10. Using the FTF10-CTDTM (36" & 42" models) and FTF13-CTD (50" models) Round Termination:

1. Hold termination over top of last chimney section (**Figure 32**).
2. Center inner slip section in inner flue pipe—slip down.
3. Center outer locking section over outer flue pipe. Push down until locking tabs are firmly engaged.
4. Pull up slightly on termination to ensure locking joint has firmly engaged.



(FTF10-CTDTM shown FTF13-CTD Similar)

Figure 32

Using a CT2 Chase Termination

Refer to specific installation instruction included with the CT2 chase termination for clearance statements and installation details.

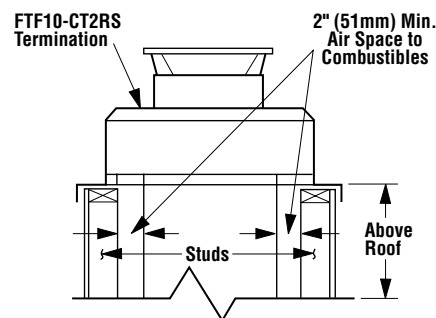


Figure 33

Note: It is recommended that all exterior exposed related metal fireplace components; such as terminations, flashings, storm collars and/or flue be painted with a premium-quality, high-temperature, rust-preventative paint designed for metal. This is especially important when installations are made in abnormally adverse or corrosive environments; such as near lakes, oceans or in areas with consistently high-humidity conditions. Consult the paint manufacturers instructions for proper preparation and application.

For Canadian installations, all chimney installed outside the building must be galvalume (outer sections only), effective January 1, 1992. The appropriate model designations (with a "C" suffix) are located in the back of this manual.

TEN-FOOT RULE SUMMARY

The minimum chimney height above the roof and/or to adjacent walls and buildings is specified by all major building codes.

If the horizontal distance from the peak of the roof is less than 10' (3 m), the top of the chimney must be at least 2' (610 mm) above the peak of the roof.

If the horizontal distance from the chimney edge to the peak of the roof is more than 10' (3 m), a chimney height reference point is established on the roof surface 10' (3 m) horizontally from the chimney edge. The top of the chimney must be at least 2' (610 mm) above this reference point. In all cases, the chimney cannot be less than 3' (914 mm) above the roof at the edge of the chimney.

The 2' in 10' rule is necessary in the interest of safety, but does not ensure smoke-free operation. Trees, buildings, adjoining roof lines, adverse wind conditions, etc., may require a taller chimney should the fireplace not draft properly (see **Figure 35**).

MULTIPLE TERMINATIONS

If more than one termination is located in the same chase or within the same general proximity, we suggest they should be separated in distance at least 24" (610 mm) horizontally from flue center to flue center and stacked or staggered vertically at least 18" (457 mm) apart, from the termination of one smoke exit to the termination of another smoke exit (**Figure 34**).

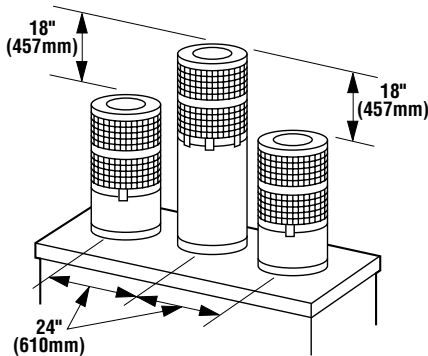


Figure 34

This suggestion is provided in the interest of better operation. If the terminations are located too close to each other, smoke may migrate from one flue into the other.

CHIMNEY COMPONENT CALCULATIONS

The minimum installed height of the completed fireplace system is 16'0" (4.8 m) for 36" and 42" models and 17'6" for 50" models. The maximum system height is 80'0" (24.38 m).

To determine the number of chimney sections and chimney components required, follow these steps:

1. Determine total vertical height of the fireplace installation. This dimension is the distance from the surface the fireplace sets on to the point where smoke exits from the termination.

2. Determine the number of chimney components required, except chimney sections. This would include firestop spacers, stabilizers, roof flashing, etc.

3. The effective heights of the components are listed below.

Fireplace Effective Heights

EST-36 & EST-42	=	65-1/4" (1657 mm)
EST-50	=	84" (2134 mm)

Pipe Effective Heights

FTF10/13-12	=	10-1/4" (260 mm)
FTF10/13-18	=	16-1/4" (413 mm)
FTF10/13-36	=	34-1/4" (870 mm)

Termination Effective Heights

FTF10-CTDTM	=	10" (254 mm)
FTF10/FTF13-CT2	=	15" - 23" (381 - 584 mm)
FTF13-CTD	=	4" (102 mm)
FTF13-CTDT	=	12" - 18" (305 - 457 mm)
FTF13-CT1	=	12" - 18" (305 - 457 mm)

Stabilizer* Effective Heights

S4 Stabilizer	=	3" (76 mm)
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*Stabilizer is required for every 30' (9.1 m) of vertical chimney and/or 10' (3.03 m) of offset chimney.

4. Determine amount of chimney height required by subtracting total combined height of all pre-selected components (fireplace and chimney components from total desired height.)

Reference Vertical Elevation Chart and determine the number of chimney sections (quantity and length) required.

SPECIAL OFFSET INSTRUCTIONS

To clear any overhead obstructions, you may offset your chimney system using Security's 30° offset and return elbows. Use two elbows - an offset elbow to initiate the offset and a return elbow to terminate it. A 30° offset elbow, angling in any direction, may be the first component used off the top of the fireplace flue collar.

The offset and return elbows may be attached together, or a section or sections of chimney may be used between, but must not exceed 20' (6.1 m) in total length between elbows (**Figure 36**). If sections of pipe exceed 10' (3 m) between elbows, a chimney stabilizer must be used at the midpoint. The stabilizer support straps must be attached under tension (in shear) to structural framing members above. When two sets of elbows are used, the maximum combined length of chimney used between elbows cannot exceed 20' (6.1 m) (**Figure 37**). **Example:** If $C_1 = 10'$ (3 m) then C_2 cannot exceed 10' (3 m).

If an offset exceeds 6' (1.8 m) in length, each chimney joint beyond the first 6' (1.8 m) of offset to the return elbow, must be secured by a No. 8 x 1/2" sheet metal screw located at the underside of the joint (**Figure 38**).

A 1/8" (13 mm) diameter hole must be drilled in the chimney joint using a 1/8" (13 mm) diameter drill. Hole should be drilled in center of joint overlap (**Figure 39**). Be sure to drill only through the outer chimney casting. Do not puncture the inner flue.

Maximum offset of chimney system is 30°. Two offsets must not be assembled to form a 60° offset. However, two sets of offset and return elbows may be used on a single flue system, provided the total height of the system exceeds 22' (6.7 m) (**Figure 42**).

Return elbow support straps must be securely attached under tension (in shear) to structural framing members above. Do not substitute a FTF10-30 or FTF13-30 offset elbow in place of a FTF10-E30 or FTF13-ES30 return elbow.

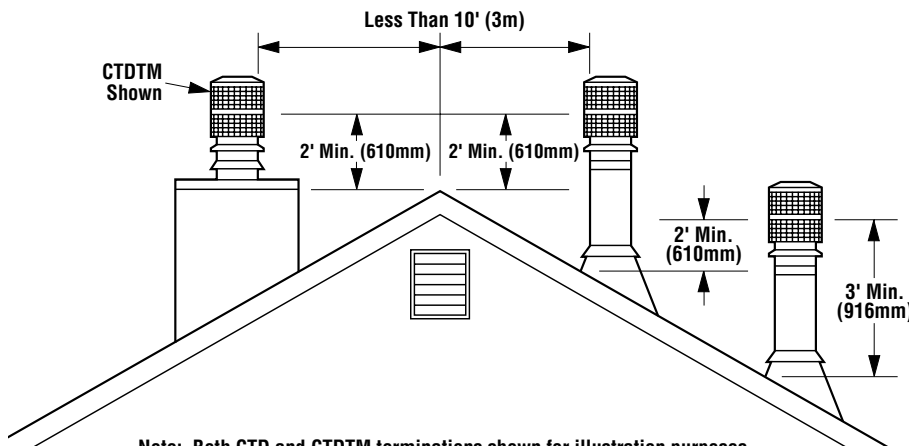


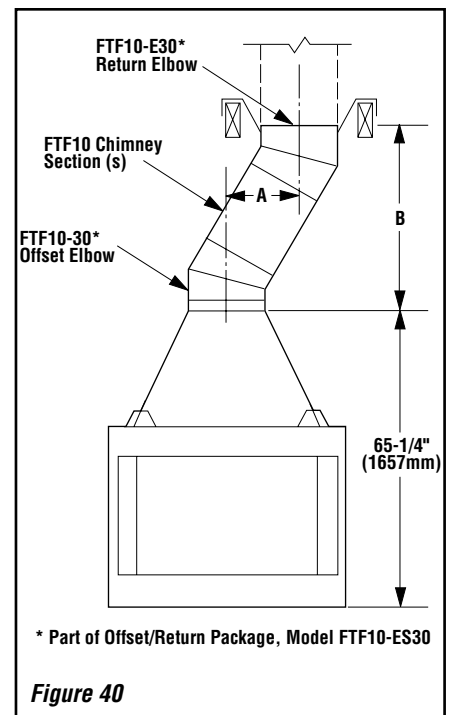
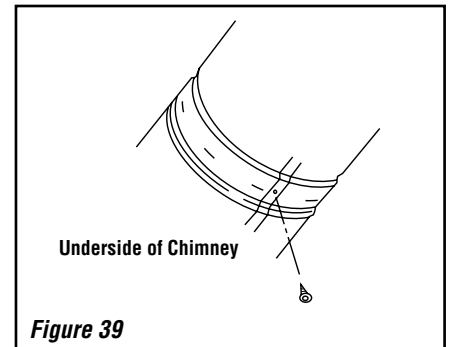
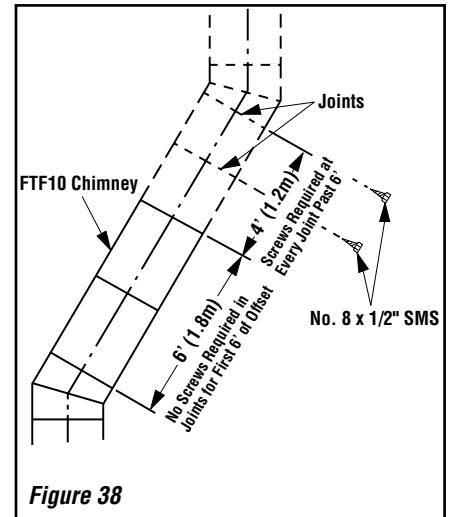
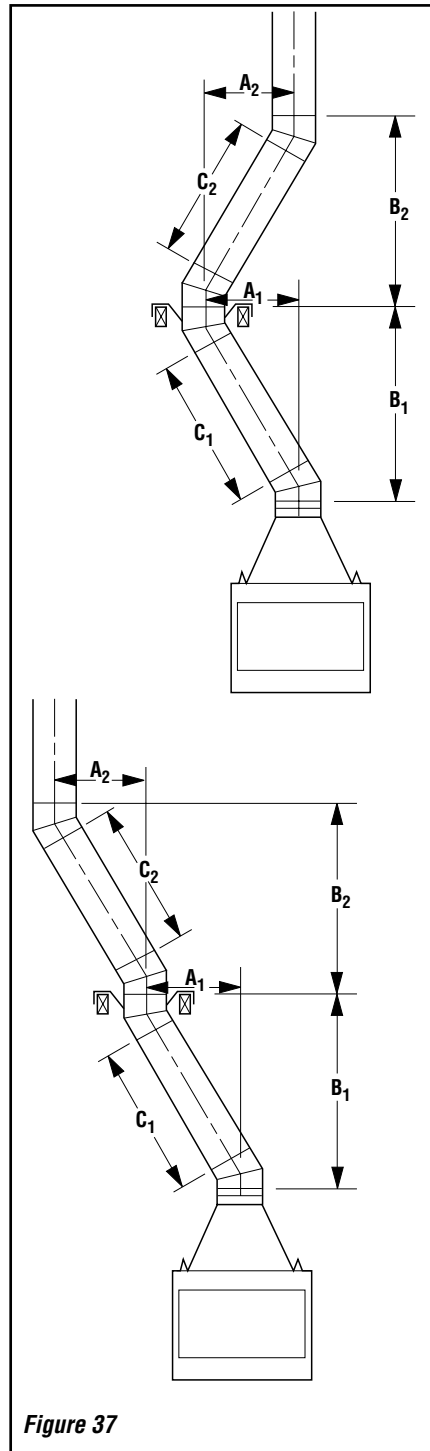
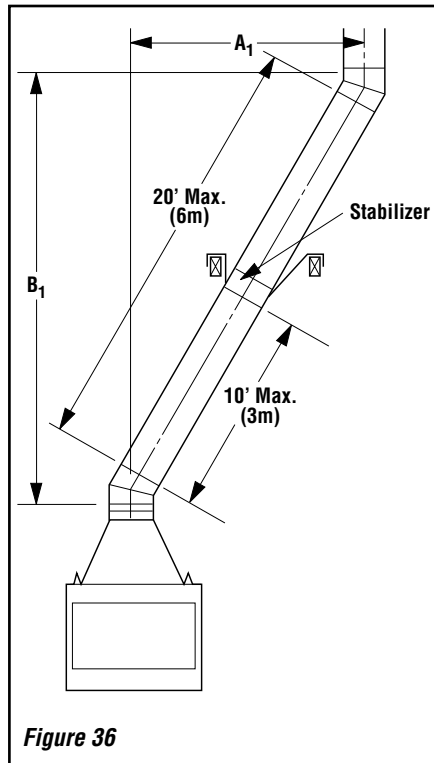
Figure 35

OFFSET CALCULATIONS

Step 1. Use Offset Chart to determine amount of horizontal offset (A) and height (B) for various chimney section assemblies.

Step 2. Use “Height of Chimney Only” column in The Vertical Elevation Chart to determine combinations of chimney used above return elbow to achieve desired heights. Reference Components Effective Height Chart in vertical elevation chart section.

Step 3. Use Elevation Chart as job estimator only. Add necessary firestop spacers and stabilizers as required. Firestop spacers must be used as shown in **Figures 21 and 22** and stabilizers as shown in **Figure 27**.



FTF10 AND FTF13 VERTICAL ELEVATION CHART

Height Of Chimney Only		Number Of Chimney Lengths			Height Of Chimney Only		Number Of Chimney Lengths			Height Of Chimney Only		Number Of Chimney Lengths			Height Of Chimney Only		Number Of Chimney Lengths		
Inches	Feet/Inches	12"	18"	36"	Inches	Feet/Inches	12"	18"	36"	Inches	Feet/Inches	12"	18"	36"	Inches	Feet/Inches	12"	18"	36"
11	0 11	1	0	0	123 ¾	10 3 ¾	2	0	3	260 ½	21 8 ½	2	0	7	397 ¼	33 1 ¼	2	0	11
17	1 5	0	1	0	129 ¾	10 9 ¾	1	1	3	266 ½	22 2 ½	1	1	7	403 ¼	33 7 ¼	1	1	11
21 ¼	1 9 ¼	2	0	0	137 ½	11 5 ½	0	0	4	274 ¼	22 10 ¼	0	0	8	411	34 3	0	0	12
27 ¼	2 3 ¼	1	1	0	147 ¾	12 3 ¾	1	0	4	284 ½	23 8 ½	1	0	8	421 ¼	35 1 ¼	1	0	12
33 ¼	2 9 ¼	0	2	0	153 ¾	12 9 ¾	0	1	4	290 ½	24 2 ½	0	1	8	427 ¼	35 7 ¼	0	1	12
35	2 11	0	0	1	158	13 2	2	0	4	294 ¾	24 6 ¾	2	0	8	431 ½	35 11 ½	2	0	12
37 ¼	3 1 ¼	2	1	0	164	13 8	1	1	4	300 ¾	25 0 ¾	1	1	8	437 ½	36 5 ½	1	1	12
43 ¼	3 7 ¼	1	2	0	171 ¾	14 3 ¾	0	0	5	308 ½	25 8 ½	0	0	9	445 ¼	37 1 ¼	0	0	13
51 ¼	4 3 ¼	0	1	1	182	15 2	1	0	5	318 ¾	26 8 ¾	1	0	9	455 ½	37 11 ½	1	0	13
55 ¼	4 7 ¼	2	0	1	188	15 8	0	1	5	324 ¾	27 0 ¾	0	1	9	461 ½	38 5 ½	0	1	13
61 ¼	5 1 ¼	1	1	1	192	16 0	2	0	5	328 ¾	27 4 ¾	2	0	9	465 ½	38 9 ½	2	0	13
67 ¼	5 7 ¼	0	2	1	198	16 6	1	1	5	334 ¾	27 10 ¾	1	1	9	471 ½	39 3 ½	1	1	13
69 ¼	5 9 ¼	0	0	2	206	17 2	0	0	6	342 ¾	28 6 ¾	0	0	10	479 ½	39 11 ½	0	0	14
79 ¼	6 7 ¼	1	0	2	215 ¾	17 11 ¾	1	0	6	352 ¾	29 4 ¾	1	0	10	489 ½	40 9 ½	1	0	14
85 ¼	7 1 ¼	0	1	2	222	18 6	0	1	6	358 ¾	29 10 ¾	0	1	10	495 ½	41 3 ½	0	1	14
89 ½	7 5 ½	2	0	2	226 ¼	18 10 ¼	2	0	6	363	30 3	2	0	10	499 ¾	41 7 ¾	2	0	14
95 ½	7 11 ½	1	1	2	232 ¼	19 4 ¼	1	1	6	369	30 9	1	1	10	505 ¾	42 1 ¾	1	1	14
103 ¼	8 7 ¼	0	0	3	240	20 0	0	0	7	376 ¾	31 4 ¾	0	0	11	513 ½	42 9 ½	0	0	15
113 ½	9 5 ½	1	0	3	250 ¼	20 10 ¼	1	0	7	387	32 3	1	0	11	523 ¾	43 7 ¾	1	0	15
119 ½	9 11 ½	0	1	3	256 ¼	21 4 ¼	0	1	7	393	32 9	0	1	11	529 ¾	44 1 ¾	0	1	15

FTF10 AND FTF13 OFFSET ELEVATION CHART

A Offset (Inches)	B Height (Inches)	Offset/Return Elbow Set	FTF10-S4 Stabilizer	Number of Chimney Sections			A Offset (mm)	B Height (mm)	A Offset (Inches)	B Height (Inches)	Offset/Return Elbow Set	FTF10-S4 Stabilizer	Number of Chimney Sections			A Offset (mm)	B Height (mm)
				12"	18"	36"							12"	18"	36"		
4	15 ¾	1	0	0	0	0	102	400	44 ½	85 ¾	1	0	3	1	1	1130	2178
9	24 ½	1	0	1	0	0	229	622	45 ¼	87 ½	1	0	0	3	1	1149	2223
12	29 ¾	1	0	0	1	0	305	756	46 ¼	89	1	0	0	1	2	1175	2261
14 ¼	33 ½	1	0	2	0	0	362	851	48 ¼	91 ½	1	0	2	0	2	1226	2324
17 ¼	38 ½	1	0	1	1	0	438	978	49 ½	94 ½	1	0	1	5	0	1257	2400
20 ¼	43 ¾	1	0	0	2	0	514	1111	51 ¼	97 ¾	1	0	1	1	2	1302	2483
21	45 ¼	1	0	0	0	1	533	1149	54 ¼	103	1	0	0	2	2	1378	2616
22 ¼	47 ½	1	0	2	1	0	565	1207	55 ¼	104 ½	1	0	0	0	3	1403	2654
25 ¼	52 ½	1	0	1	2	0	641	1334	56 ½	106 ½	1	0	2	1	2	1435	2705
26 ¼	54 ¼	1	0	1	0	1	667	1378	59 ½	111 ¾	1	0	1	2	2	1511	2838
28 ¼	57 ¾	1	0	0	3	0	718	1467	62 ½	116 ¾	1	1	1	0	3	1588	2965
29 ¼	59 ¼	1	0	0	1	1	743	1505	65 ¾	122	1	1	0	1	3	1664	3099
31 ¼	63	1	0	2	0	1	794	1600	67 ¾	125 ½	1	1	2	0	3	1721	3188
32 ½	65	1	0	4	1	0	826	1651	69 ¾	128 ½	1	1	1	3	2	1772	3264
34 ¼	68 ¼	1	0	1	1	1	870	1734	70 ¾	130 ¾	1	1	1	1	3	1797	3321
36 ¼	71 ¾	1	0	3	0	1	921	1822	73 ¾	136	1	1	0	2	3	1873	3454
37 ¼	73 ¼	1	0	0	2	1	946	1861	75 ¾	139 ½	1	1	2	1	3	1924	3543
38 ¼	75	1	0	0	0	2	972	1905	79 ¾	146 ¼	1	1	1	0	4	2026	3715
39 ¼	77	1	0	2	1	1	997	1956	81	148 ¼	1	1	3	1	3	2057	3766
41 ½	80 ½	1	0	1	4	0	1054	2045	82 ¾	151 ½	1	1	0	1	4	2102	3848
43 ¼	83 ¾	1	0	1	0	2	1099	2127	87 ¾	160 ¼	1	1	1	1	4	2229	4070

INSTALLING OFFSETS

First, review the Offset Elevation Chart on the **previous page** and **Figure 40** on **page 16** for reference.

Step 1. Determine the offset distance where chimney is to pass through the first ceiling-dimension "A." To find this point on your ceiling, first determine the center point for a vertical chimney following the instructions for vertical installation.

Measure height to the ceiling from the top of fireplace-dimension "B." Use the appropriate Offset Elevation Chart to find dimension "A." Mark point where you will drive your nail to show the center point for your offset ceiling cut.

Step 2. Proceed by using the Straight Up Installation Instructions for cutting and framing ceiling and roof openings.

Note: See Framing and Dimension Chart for the sizes of the ceiling and roof openings. The size of the roof opening varies with the degree of pitch of the roof.

Offset Elbow Assembly

Offset elbows install the same as chimney sections. First, snap the inner section INTO the preceding inner section of flue. Check connection by pulling up slightly to ensure a tight fit. Next, the outer sections snap lock OVER the preceding outer section of chimney. Again, check outer section by pulling up slightly to ensure proper connection is made.

Return Elbow Assembly

Return elbows install the same way as round terminations and stabilizers:

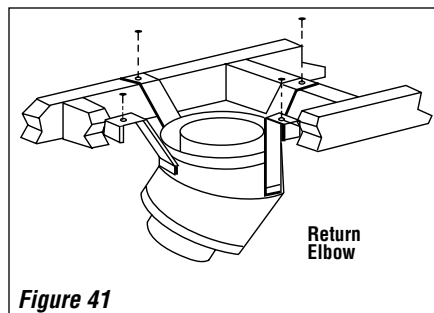
Step 1. Hold return elbow over top of last chimney section.

Step 2. Center inner slip section into inner flue pipe-slip down.

Step 3. Center outer-locking section over outer chimney pipe. Push down until locking joint has firmly engaged.

Step 4. Pull up slightly on return elbow to ensure locking joint has firmly engaged.

Step 5. Secure support straps to framing members by nailing under tension in shear (**Figure 41**).

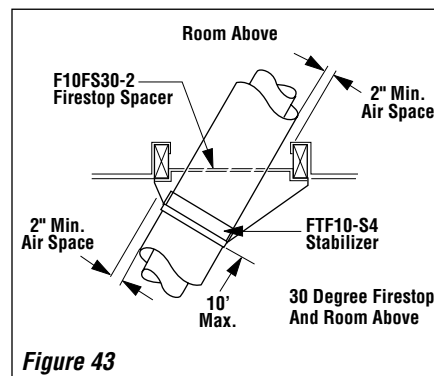
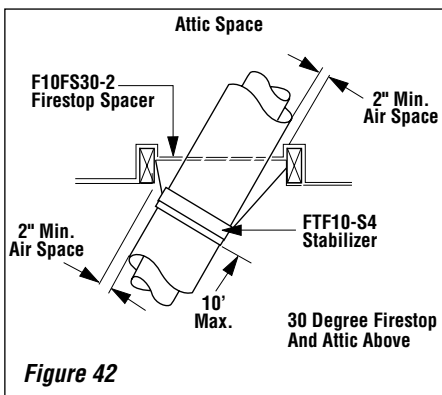


Note: The return elbow assembly performs the same function as a stabilizer. Consider this when determining the need for a stabilizer.

Note: Do not apply excessive pressure to any subsequent chimney section following return elbow assembly when installing. Ensure that each subsequent chimney section is securely attached by testing as noted above.

30° CHIMNEY OFFSET THROUGH FLOOR OR CEILING

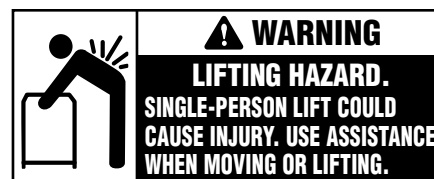
It may be necessary to assemble the chimney at 30° when passing through the floor or ceiling area. Use the F10FS30-2 firestop spacer as shown in **Figures 42 and 43**. Support the chimney at floor or ceiling penetration with a FTF10 stabilizer if distance of chimney below ceiling is 10' or more. Maintain 2" minimum air space to combustibles from chimney sections.



INSTALLING THE REFRACTORY PANELS

All Estate Series refractory panels are shipped in a separate pallet from the fireplace.

WARNING: Lifting Hazard. Installation of the refractory panels requires at least two people.



NOTE: The side panels have a gas line knockout located near the center bottom of each panel. Make sure the side panels are properly oriented, with the knockout at the bottom of each panel.

To install the refractory panels, follow the detailed instructions provided with the fireplace (P/N 750094M).

After positioning the panels, the grout lines and gaps between the panels may be optionally mortared (mortar not included). Apply wet mortar mix to the panels with a rubber tile trowel. Work into the gaps and grout lines; and then remove excess mortar with a wet sponge.

Note: Application of mortar to grout lines and gaps is not required.

OPTIONAL EQUIPMENT CONSIDERATIONS

Outside Combustion Air Kits

The installation of an outside combustion air kit is highly recommended. It is very important to ensure good fireplace operation in homes which are tightly weather sealed or have ventilating appliances installed.

Outside air drawn into the fireplace supplies air to the fire for combustion. Only one combustion air duct is necessary if installed.

Use combustion air kit, Model FOAK-4 or Model FOAK-4LD, with the Estate Series fireplaces. Refer to installation instructions packed with the air kit for specific installation information. The outside air kit must be installed before the fireplace is framed and enclosed in the finished walls.

Refer to the installation instruction packed with each air kit for specific installation information. The outside air kit, if used, must be installed before the fireplace is totally framed and enclosed within the finished walls.

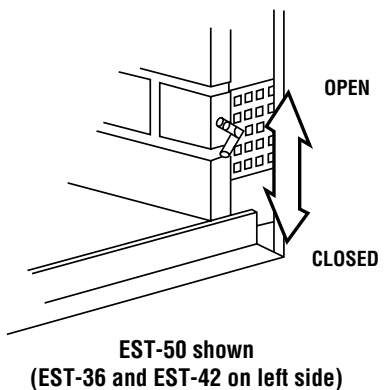


Figure 44

If additional length of duct is necessary, purchase locally available U.L. Class 0 or Class 1 metallic duct. The duct may extend up to 50' (15.24 m) in any direction.

Note: When installing the air duct vertically, Do NOT terminate the duct closer than 3' (914mm) below the chimney top. The maximum height for the outside air duct is 50 feet above the hearth.

CAUTION: NEVER LOCATE INLET WHERE IT CAN BE BLOCKED BY SHRUBS, SNOW DRIFTS, ETC. NEVER LOCATE INLET IN GARAGE OR ANY AREA WHERE THERE IS ANOTHER FUEL-BURNING APPLIANCE OR PRODUCTS EMITTING COMBUSTIBLE GASES SUCH AS PAINT, GASOLINE, ETC., IN COLD CLIMATES IT IS RECOMMENDED THE COMBUSTION AIR DUCT BE INSULATED.

After completing the installation of the optional combustion air vent system, the actuator arm must be put in service and tested to ensure proper operation before completing any enclosure around the firebox. Failure to do so may result in extensive and costly rework.

To operate, locate the hand operated shut-off lever at the lower right side of the fireplace opening behind the screen (refer to **Figure 44**). To open the air damper, turn upwards. To close, turn down.

Operate the actuator through several cycles. Ensuring proper operation and freedom of movement. Return the actuator arm to the closed position.

Outside combustion air ducting may be run upwards or vertically through framing and ceiling joists, with the hood installed through an outside wall and 3' (914 mm) below the termination. Ducting may also be run downward through floor joists and under the home to a ventilated crawlspace not considered part of the living area of the home.

Note: Do NOT terminate combustion air kit in attic space under any circumstances.

Glass Doors

If glass doors are to be installed on these fireplaces, refer to specific installation instructions packed with the glass doors. Use only the doors that are listed for use with these fireplaces. Use of other non-listed glass door on these fireplaces may constitute a potential fire hazard and is not recommended.

CAUTION: CERTAIN GLASS DOORS OVERLAP THE BLACK METAL FACING OF THE FIREPLACE. IF THE FIREPLACE HAS BEEN FACED WITH NONCOMBUSTIBLE MATERIALS, THERE MIGHT NOT BE SUFFICIENT CLEARANCE TO INSTALL THE GLASS DOORS OF YOUR CHOICE. ENSURE ADEQUATE CLEARANCE IS MAINTAINED AT ALL TIMES SO AS NOT TO INTERFERE WITH THE INSTALLATION AND OPERATION OF GLASS DOORS.

GAS LINE CONNECTION

The Estate Series fireplaces have been approved to accept a 1/2" (13 mm) gas line for an approved gas appliance. Always have the appliance installed by a qualified, licensed plumber in accordance with all local building codes. The gas line may enter either side of the fireplace.

CAUTION: PLUMBING CONNECTIONS SHOULD ONLY BE PERFORMED BY A QUALIFIED, LICENSED PLUMBER. MAIN GAS SUPPLY MUST BE OFF WHEN PLUMBING GAS LINE TO FIREPLACE OR PERFORMING SERVICE.

If you're installing a gas line, connect it before the fireplace is framed and enclosed in the finished wall. The gas knockout is determined by a 1-1/8" (29 mm) round indentation located at the bottom and slightly off center in the side refractories.

THE KNOCKOUT IS ALWAYS REMOVED FROM INSIDE THE FIREPLACE. DO NOT REMOVE THE KNOCKOUT UNLESS YOU ARE INSTALLING A GAS LINE. If removal is attempted from the outer wrapper, side-refractory damage may occur. With a medium-sized hammer, lightly tap the surface of the indentation. The refractory material is very thin in this area and is easily removed. Once a small hole has been made, continue tapping until you have reached sufficient diameter for the gas line to fit through. The entire knockout does not have to be removed. Remove insulation in the gas line channel.

Install a 1/2" (13 mm) gas supply line through fireplace wall for connection to a decorative gas appliance inside the firebox. Outside, the gas supply line connects to a gas shut-off valve recessed flush into the wall or floor. The valve should be controlled by a removable valve key for safety.

Always plumb gas line installation per local codes. Check all connections with soap suds: leaks will bubble. Never test any gas line connection with a match or open flame.

IMPORTANT: RE-PACK INSULATION MATERIAL IN SQUARE HOLE AROUND GAS LINE; INTERIOR AND EXTERIOR, TO SEAL.

This provision is intended only for connection to a decorative gas appliance incorporating an automatic shut-off device and complying with the standard for Decorative Gas Appliances for installation in vented fireplaces, ANSI Z21.60. Install in accordance with the National Fuel Gas Code, ANSI Z223.1. This complies with the revised U.L. 127 standard.

CAUTION: WHEN USING THE DECORATIVE GAS APPLIANCE, THE FIREPLACE DAMPER MUST BE SET IN THE FULLY OPEN POSITION.

Vent Free Appliances

These units have been tested and approved to ANSI/IAS/AGA Z21.11.2 for use with unvented gas appliances and complies with the standard for Factory-Built fireplaces, UL 127.

The unit has been tested for use with any unvented gas log sets having a maximum rating of 40,000 BTU. The minimum mantel configurations are outlined in **Figures 45 and 46**.

These fireplaces have been marked with a maximum rating of 40,000 BTU to assure that homeowners do not exceed the allowable limits for all allowed installations of mantels.

NEVER INSTALL AN UNVENTED GAS LOG SET WITH A BTU GREATER THAN 40,000.

COLD CLIMATE INSULATION

If you live in a cold climate, it is especially important to seal all cracks around the fireplace opening with noncombustible material and wherever cold air could enter the room. Surrounding materials must be caulked where it meets the black metal facing of the fireplace to avoid cold air intrusion. Use noncombustible caulking material only on fireplace facing to seal. Also, the outside air inlet duct should be wrapped with noncombustible insulation to minimize the formation of condensation. Do not place insulation materials against chimney sections.

Note: A 2" (51 mm) air space must be preserved for all combustible materials extending for any continuous length adjacent to the chimney.

It is especially important to insulate between the studs of an outside chase cavity and under the floor if the floor is above ground level. Do not place insulation directly against the fireplace or chimney system.

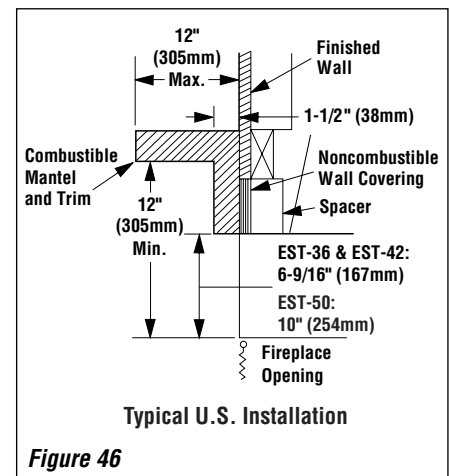
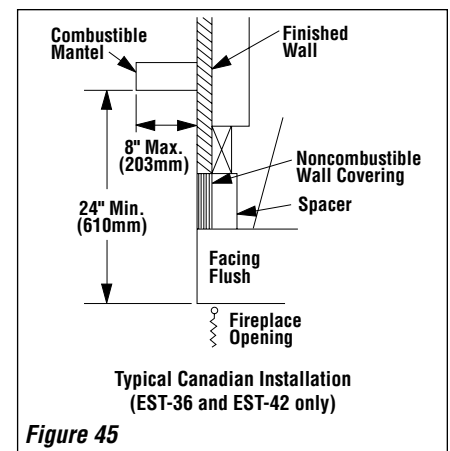
FIREPLACE FINISHES

Mantels and Trim

In Canada, the minimum height for a combustible mantel is 24" (610 mm) above the fireplace opening (EST-36 and EST-42 only). **Figure 45** shows a typical Canadian installation.

NOTE: The EST-50 is not for use in Canada.

In the U.S., combustible mantels and trim may be installed as shown in **Figure 46** as per NFPA 211-Mantel/Trim Clearances. If a mantel is of a noncombustible material, it is exempt from these requirements, as long as it does not interfere with the installation or operation of glass doors.



Models	A	B	C	D
EST-36	20" (508mm)	36" (914mm)	12" (305mm)	60" (1524mm)
EST-42	20" (508mm)	42" (1066mm)	12" (305mm)	60" (1524mm)
EST-50	20" (508mm)	50" (1270mm)	12" (305mm)	74" (1880mm)

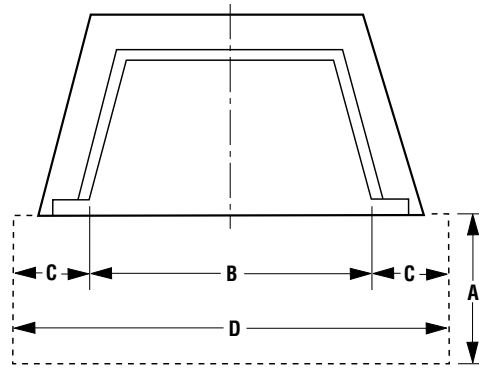


Figure 47

Hearth Extensions and Wall Shields

A hearth extension must be installed with all fireplaces. Its purpose is twofold: 1) to protect a combustible floor in front of the fireplace from both radiant heat and sparks; and 2) to distinguish the prescribed hearth extension area from other unprotected surfaces.

The hearth extension must extend beyond the front at least 20" (508 mm) and both sides at least 12" (305 mm) (**Figure 47**). Use a hearth extension constructed of a durable noncombustible material having an equal or better (lower k value) insulating value of $k = .84 \text{ BTU IN/FT}^2 \text{ HR } ^\circ\text{F}$ or a thermal resistance that equals or exceeds $r = 1.19 \text{ HR } ^\circ\text{F FT}^2/\text{BTU IN}$. With these values, determine the minimum thickness/material required using the formulas shown at right.

When using multiple materials, see the **next page**.

Note: Any noncombustible material whose k value is less than .84 or whose r value is more than 1.19 is acceptable.

If the fireplace is installed on a combustible floor, use the metal safety strips (provided) on the floor extending half under the fireplace and half under the hearth extension.

A wall shield is required where a continuous perpendicular side wall is within 12" of the fireplace opening (**Figure 48**). Use a 36" W x 36" H wall shield constructed of a durable, noncombustible material having an equal or better (lower k value) insulating value than $k = .54 \text{ BTU IN/FT}^2 \text{ HR } ^\circ\text{F}$. At no time may a perpendicular side wall be located closer than 9" from the fireplace opening.

If fireplace is installed diagonally across a 90° corner; no wall shields are required.

Methods of Determining Hearth Extension and Wall Shield Equivalents

To determine the thickness required for the alternate material, use the "**k formula**" when the "**k**" value is known, and use the "**r formula**" when the "**r**" value is known.

k_M = k value per inch of **alternate** material

r_M = r value per inch of **alternate** material

T_M = minimum thickness required for **alternate** material

T_S = standard thickness of the **alternate** material

k_L = k value per inch of **listed** material

r_L = r value per inch of **listed** material

T_L = minimum thickness of **listed** material

EXAMPLE: What is the minimum required thickness when using Micore 160 for the fireplace hearth extension?

NOTE: An asterisk (*) indicates a value taken from Table 1 (**next page**).

Using the "k formula" (when the "k" value is known):

Minimum thickness of alternate material (T_M)	=	$\frac{\text{k-value (per Inch) of alternate material } (k_M)}{\text{k-value (per inch) of listed material } (k_L)}$	x	Specified min. thickness of listed material (T_L)
T_M (inches)	=	$\frac{k_M}{*.84}$	x	T_L
T_M (inches)	=	$\frac{*.35}{*.84}$	x	1"
.416 (inches)	=	.416	x	1"

ANSWER: The minimum required thickness of the Micore 160 is .417"; therefore, round up to nearest standard thickness available, which is 1/2".

Using the "r formula" (when the "r" value is known):

Minimum thickness of alternate material	=	$\frac{\text{r-value (per inch) of listed material}}{\text{r-value (per inch) of alternate material}}$	x	Specified min. thickness of listed material
T_M (inches)	=	$\frac{r_L}{r_M}$	x	T_L
T_M (inches)	=	$\frac{*1.19}{*2.86}$	x	1"
.416 (inches)	=	.416	x	1"

ANSWER: The minimum required thickness of the Micore 160 is .417"; therefore, round up to nearest standard thickness available, which is 1/2".

LISTED MATERIAL			
	k (per inch)	r (per inch)	Listed Min.Thickness
Listed Material	.84 k_L	1.19 r_L	1" T_L

APPROVED ALTERNATE MATERIALS FOR FLOOR/HEARTH PROTECTION**			
Alternate Materials	Thermal Values		Minimum Thickness (rounded to nearest 1/8 inch)
	k (per inch) k_M	r (per inch) r_M	Min. Thickness T_M
Kaowool M Board	.47	2.13	.56" (1/2")
Micore 160™ U.S. Gypsum	.35	2.86	.42" (3/8")
Micore 300™ U.S. Gypsum	.46	2.17	.55" (1/2")
Durock™ Cement Board U.S. Gypsum	1.92	.52	2.29" (2-1/4")
Hardibacker™	1.95	.513	2.32" (2-3/8")
Hardibacker 500™	2.30	.435	2.74" (2-3/4")
Cultured Stone Hearthstone™	2.82	.355	3.36" (3-3/8")
Wonderboard	3.23	.31	3.85" (3-7/8")
Super Firetemp M Johns-Manville	.61	1.64	.73" (3/4")
Super Firetemp L Johns-Manville	.54	1.85	.64" (5/8")
Face brick	9.00	.111	10.71" (10-3/4")
Common brick	5.00	.20	5.95" (6")
Cement mortar	5.00	.20	5.95" (6")
Ceramic tile	12.5	.08	14.88" (14-7/8")
Marble	11	.09	13.10" (13-1/8")

Table 1

**If the material intended to be used for the hearth extension is not listed in the above table, the material can still be used if it is noncombustible. To calculate the minimum required hearth thickness (per the instructions on this and the previous page and/or as specified in the NFI Certification manuals), the material manufacturer must provide either the listed k-value per inch or r-value per inch with listed thickness.

NOTE: Also see NFI (National Fireplace Institute) Certification Manuals for other acceptable calculation methods and acceptable alternate materials that can be used.

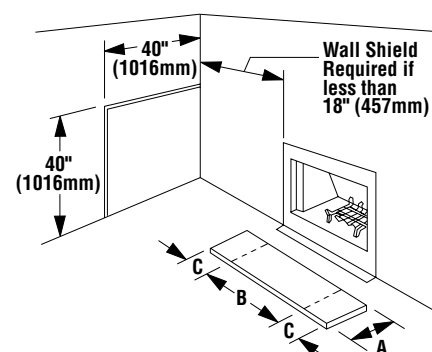


Figure 48

Calculating Minimum Thickness if Multiple Materials are Used

At times it is important to know what combination of materials are acceptable for use as floor protection. The "R values" are used to determine acceptable combinations of materials because "R values" are additive where r and k values are not.

"R value" = $1/k$ = "r" x thickness of material used

Example: Given that the required "R value" for a suitable floor protector used must be equal to or greater than:

$$"R" = r_L \times T_L = 1.19 \times 1" = 1.19"$$

If it is desired to elevate a marble hearth extension to a level of 5" or more above the floor surface. What combination of noncombustible materials can be used to accomplish this?

If common brick is used so that the 3 1/2" dimension is the height, "R" for the common brick becomes:

$$\text{brick} \\ "R"_{\text{M}} = r_{\text{M}} \times T_{\text{S}} = 0.20 \times 3 \frac{1}{2}" = .70$$

Using 1/2" of mortar to set the brick, "R" for the mortar is calculated as follows:

$$\text{mortar} \\ "R"_{\text{M}} = r_{\text{M}} \times T_{\text{S}} = 0.20 \times \frac{1}{2}" = .10$$

Next, a 3/4" marble slab set in 1/2" mortar covers the brick, "R" for the marble and mortar becomes:

$$\text{marble} \\ "R"_{\text{M}} = r_{\text{M}} \times T_{\text{S}} = 0.05 \times \frac{3}{4}" = .038$$

$$\text{mortar} \\ "R"_{\text{M}} = r_{\text{M}} \times T_{\text{S}} = 0.20 \times \frac{1}{2}" = .10$$

The sum of all "R values" is: .70 + .10 + .038 + .10 = .938

This would NOT be an acceptable combination of material for the hearth extension since the total calculated "R value" of the materials used is under the required "R value" of 1.19. An additional layer of insulating materials must be used.

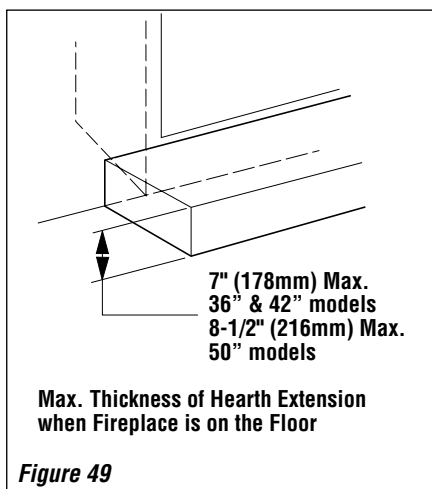
Note: Also see NFI Certification Manuals for expanded explanation on calculating "R values" when multiple materials are used.

WARNING

The crack between the fireplace and the hearth extension must be sealed with a noncombustible material.

WARNING

When installing hearth extension in front, the fireplace must be raised if height of hearth extension exceeds 7" (178mm) above the bottom of the fireplace (see Figure 49).



Secure the hearth extension to the floor to prevent possible shifting.

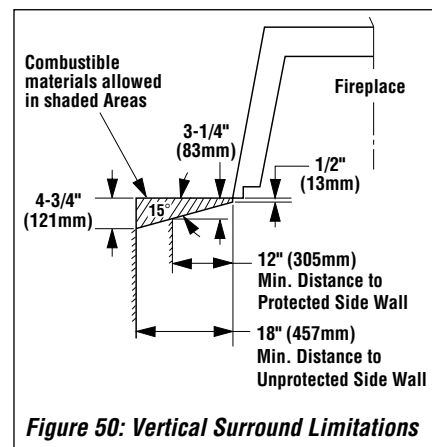
FINISH REQUIREMENTS

There are a wide variety of "finished looks" for these fireplaces, from formal wall decor with elaborate mantels to rustic wood paneling or warm brick facings.

Only noncombustible materials (such as stone, tile, or brick) may overlap the black front facing. Do not extend these materials beyond the black facing and into the firebox area. Be sure not to interfere with the installation and operation of glass doors or block the upper or lower grilles.

Seal all joints between the black facing and wall surrounds to prevent air intrusion. Use noncombustible caulking material only to seal the black metal facing to the surround material on the finished wall.

Combustible materials may project beyond the sides of the fireplace opening as long as they are kept within the shaded areas illustrated in Figure 50.



SHIPPING WEIGHTS

Description	Cat. No.	Model No.	Wt. (lbs)
EST-36 Fireplace Assembly	H7955	EST-36	298
EST-42 Fireplace Assembly	H7956	EST-42	298
EST-36/42 Refractory Panel Kits:			
Traditional Refractory Panel Kit - Gray (unstained)	H7960	BLK-EST36/42RB	289
Traditional Refractory Panel Kit - Creamer	H8170	BLK-EST36/42RBCR	289
Traditional Refractory Panel Kit - Rust	H8172	BLK-EST36/42RBRT	289
Traditional Refractory Panel Kit - Cappuccino	H8174	BLK-EST36/42RBCP	289
Herringbone Refractory Panel Kit - Gray (unstained)	H7961	BLK-EST36/42SH	301
Herringbone Refractory Panel Kit - Creamer	H8171	BLK-EST36/42SHCR	301
Herringbone Refractory Panel Kit - Rust	H8173	BLK-EST36/42SHRT	301
Herringbone Refractory Panel Kit - Cappuccino	H8175	BLK-EST36/42SHCP	301
EST-50 Fireplace Assembly	H7957	EST-50	330
EST-50 Refractory Panel Kits:			
Traditional Refractory Panel Kit - Gray (unstained)	H7970	BLK-EST50RB	430
Traditional Refractory Panel Kit - Creamer	H8164	BLK-EST50RBCR	430
Traditional Refractory Panel Kit - Rust	H8166	BLK-EST50RBRT	430
Traditional Refractory Panel Kit - Cappuccino	H8168	BLK-EST50RBCP	430
Herringbone Refractory Panel Kit - Gray (unstained)	H7971	BLK-EST50SH	456
Herringbone Refractory Panel Kit - Creamer	H8165	BLK-EST50SHCR	456
Herringbone Refractory Panel Kit - Rust	H8167	BLK-EST50SHRT	456
Herringbone Refractory Panel Kit - Cappuccino	H8169	BLK-EST50SHCP	456

INSTALLATION COMPONENTS

The following items are available for use in the installation of this appliance. Separate installation instructions are packaged with all combustion air kits and chimney terminations.

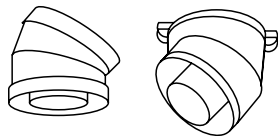
If you encounter any problems or have questions concerning the installation or application of this system, please contact your distributor. For the name of your nearest distributor, call:

LENNOX HEARTH PRODUCTS
1508 Elm Hill Pike, Suite 108
Nashville, TN 37210



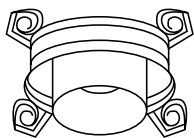
Chimney Section

EST-36 / EST-42:	63L16	FTF10-12
	63L17	FTF10-18
	63L18	FTF10-36
	62L94	FTF10-18C
	62L95	FTF10-36C
EST-50:	63L19	FTF13-12
	63L20	FTF13-18
	63L21	FTF13-36



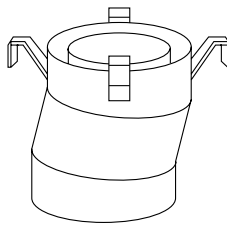
Offset/Return Package (30°)

EST-36 / EST-42:	63L23	FTF10-ES30
	63L24	FTF13-ES30



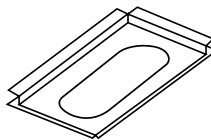
Stabilizer

EST-36 / EST-42:	63L26	FTF10-S4
	63L27	FTF13-S4



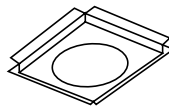
Combination Offset/Return Elbow:

EST-36 / EST-42:	63L34	FTF10-OR15
EST-50:	63L35	FTF13-OR15



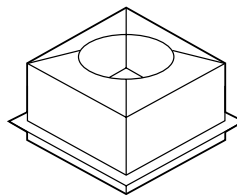
Firestop Spacer (30°)

All Models:	63L37	F10FS30-2
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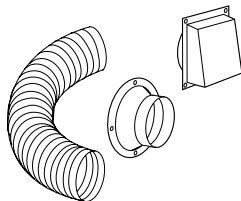
Firestop Spacer (Flat)

All Models:	63L36	F10FS-2
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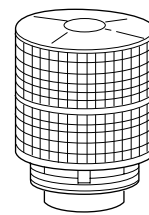
Attic Shield Assembly Firestop Spacer

All Models:	63L68	FTF10-FSAS
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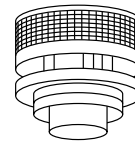
Outside Combustion Air Kit (Required in Canada)

All Models:	81L87	FOAK-4
All Models, Less Duct:	81L88	FOAK-4LD



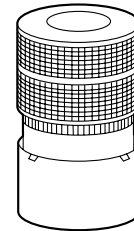
Round Termination

EST-36 / EST-42:	63L55	FTF10-CTDTM
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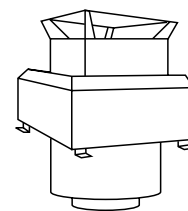
Round Termination

EST-50:	63L44	FTF13-CTD
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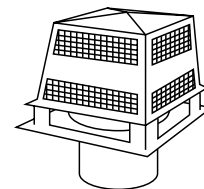
Round Termination, Tall

EST-50:	63L47	FTF13-CTDT
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Chase Termination / Square

EST-36 / EST-42:	63L52	FTF10-CT2RS
EST-50	63L54	FTF13-CT2

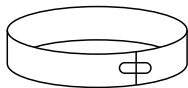


Chase Termination / Pyramid

EST-50:	63L50	FTF13-CT1
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INSTALLATION COMPONENTS

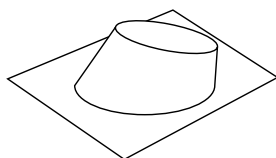
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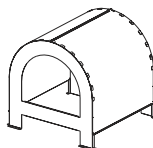
Locking Band
All Models: 63L60 FLB



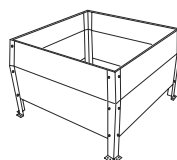
Storm Collar
All Models: 63L59 FSC



Flashing
All Models: 63L40 F10F6
All Models: 63L41 F10F12

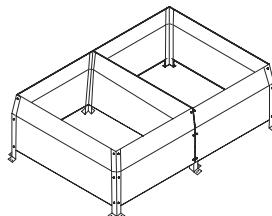


Chase Top Shroud Kit, Arch Top 3X3
All Models: H1988 CTSA-33

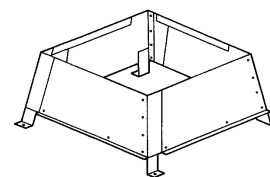


Chase Top Shroud Kit, Open Top 3X3
All Models: H1985 CTSO-33

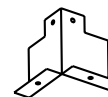
Chase Top Shroud Kit, Open Top 4X4
All Models: H1987 CTSO-44



Chase Top Shroud Kit, Open Top 4X6
All Models: H1986 CTSO-46



Termination Shroud
EST-36 / EST-42: 63L56 FTF10-TMS



Termination Shroud Leg Kit
All Models: H0911 SLK-4

Lennox Hearth Products reserves the right to make changes at any time, without notice, in design, materials, specifications, and prices, and also to discontinue colors, styles, and products. Consult your local distributor for fireplace code information.

