

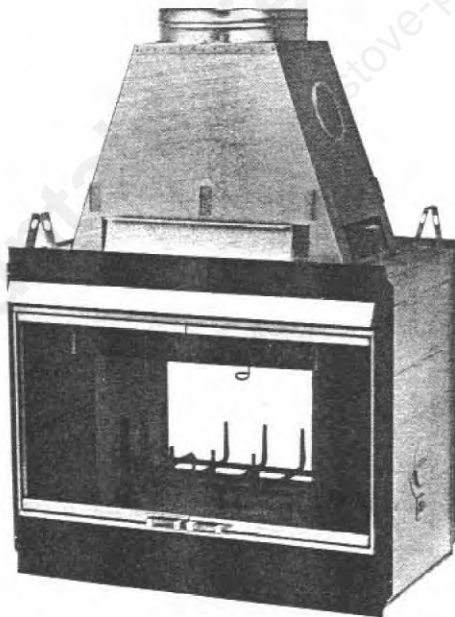
## **Installation Instructions**

*For Superior's  
ST-1 Series  
Fireplace  
Model  
ST-3840-1*

This Installation manual will enable you to make a safe, efficient and dependable installation of your fireplace and chimney system. Please read and understand these instructions before beginning your installation.

Do not alter or modify the construction of 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.

**PLEASE RETAIN THIS MANUAL FOR  
FUTURE REFERENCE**



ST-3840-1



## IMPORTANT!

### PLEASE READ AND UNDERSTAND THESE RULES TO FOLLOW FOR SAFETY

1. Before starting your 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 and national coded and regulations.
3. This model fireplace must be installed with Superior Model TF10 (10" (250mm) inside diameter) Thru-Flow Chimney System only. This system is intended for use as a residential type appliance. Chimney 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 artificial logs, chemical chimney cleaners or flame colorants in your fireplace.
6. DO NOT use charcoal or coal under any circumstances.
7. NEVER use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or any liquids to start or 'freshen up' a fire in this fireplace. Keep any flammable liquids a 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 gas to the fireplace while working on it. This will prevent any possible burns.
11. This fireplace is not intended to be used as a primary or secondary heat source. It's unique design is foremost intended for architectural, decorating and aesthetic qualities.

12. Always ensure that an adequate supply of replacement combustion air from the outside of the house is accessible to the fire to support combustion. Fireplaces consume large volumes of air during the combustion process. In the event the home is tightly sealed with modern energy efficient features, Superior's optional combustion air kit may not provide all the air required to support combustion. Superior 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 Superior for use with this fireplace.

14. Superior Fireplace Company does not warranty 'smoke free' operation 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, supplied by Superior Fireplace Company, that has

visible or suspected physical damage as a result of handling or transportation. These items should be inspected by a Superior distributor or qualified factory representative to ensure safe condition. When in doubt, consult your Superior distributor.

### TOOLS AND BUILDING SUPPLIES NORMALLY REQUIRED

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

Building supplies:  
Framing materials  
Wall finishing materials  
Caulking materials  
(noncombustible)  
Fireplace surround and  
hearth extension materials  
(noncombustible)

### TYPICAL INSTALLATION

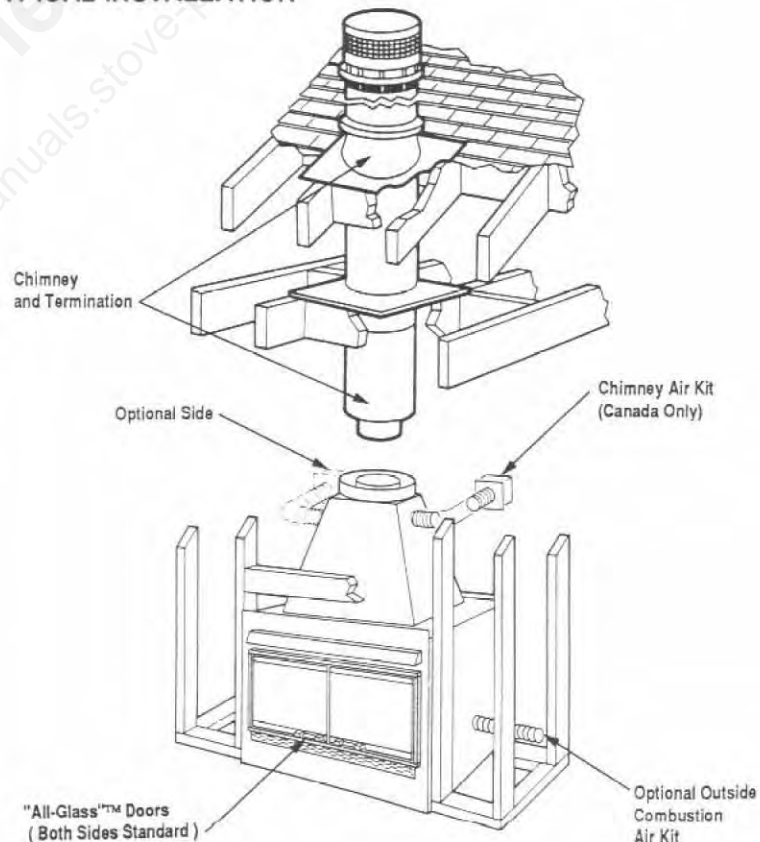


Figure 1

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

## 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 accessory equipment supplied by Superior and the techniques employed in utilizing 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.

**WARNING: WHEN INSTALLING THIS FIREPLACE IN CANADA, THE CHIMNEY AIR KIT MUST BE INSTALLED PER WARNOCK HERSEY INTERNATIONAL, INC. LISTING. THIS IS NOT A U.L. LISTED INSTALLATION**

**WARNING: WHEN INSTALLING THIS FIREPLACE IN CANADA, THE REQUIRED MINIMUM AIR SPACE FROM THE CHIMNEY IS 2" (51MM).**

## INTRODUCTION

### General Information

The ST-1 Series is a nominal heat circulating, two sided fireplace with standard glass doors. A steel bar grate is also included with the ST-1 to properly position the fire. An outside combustion air kit, Model CAK-4, is available as optional equipment.

**Note:** Illustrations shown 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.

The ST-1 Series fireplace has been tested and listed by Warnock Hersey International, Inc. to U.L. 127 standard for U. S. installations and U.L.C. S610 standard for Canadian installations. This unit is intended to be installed in residential homes and buildings of conventional construction, not in mobile homes.

This fireplace system is intended 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 Codes.

**FAILURE TO USE PARTS MANUFACTURED BY SUPERIOR FIREPLACE COMPANY OR VARIATIONS IN TECHNIQUES AND CONSTRUCTION MATERIALS DESCRIBED IN THIS MANUAL MAY CREATE A FIRE HAZARD AND VOID SUPERIOR'S LIMITED WARRANTY.**

The ST-1 system Consists of four "sub-systems":

1. The Fireplace and Door Assemblies
2. The Chimney and Termination
3. The Optional Combustion Air Kit
4. Chimney Air Kit (Canada Only)

## CLEARANCES AND HEIGHT REQUIREMENTS

The ST-1 Series 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 material\*. The chimney requires a minimum 1" (25mm)\*\* (See \*\*Note) air space to combustibles. A combustible mantel may be installed 12" above the fireplace opening as per NFPA 211, Section 7-3.3.3. In Canada the minimum is 14" (356mm) above the opening.

The fireplace and chimney 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.

\*Construction Materials:

- framing materials
- plywood
- particle board
- flooring
- millboard
- dry wall
- paneling
- etc.

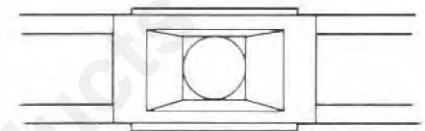
For questions, please call your distributor or Superior Fireplace Company. Special restrictions apply to the front and facing of the fireplace and nearby walls (See pages 16 and 17 ).

**\*\*Note: 2" (51mm) air space to combustibles required when installing Model ST-3840-1 in Canada.**

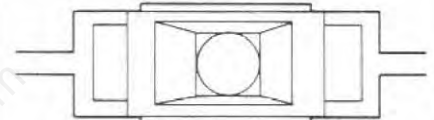
NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

## FRAMING WALL VARIATIONS

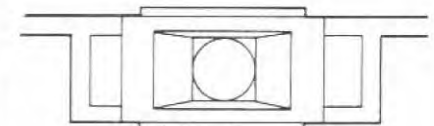
As many as six (6) different framed wall configurations can be constructed to enclose the ST-1 fireplace. The following illustrations depict these variations of wall enclosures. Several of these designs may incorporate book shelves, wood storage boxes, etc.



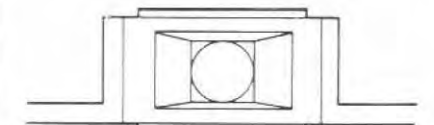
Parallel Walls



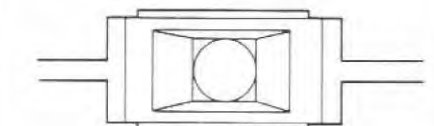
"Y" Type Walls



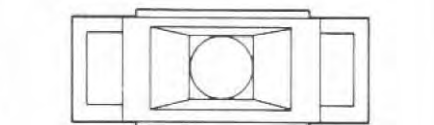
"H" Type Walls



"L" Type Walls



"T" Type Walls



"C" Type Walls  
(Island)

Figure 2

## CHIMNEY SYSTEM

Superior manufactured fireplace system, Model ST-3480-1, is designed and code listed for use with Superior's TF10 Thru-Flow chimney systems. Always use Superior's Thru-Flow chimney components with this fireplace. Do not modify or alter these components as this may cause a potential serious hazard and void Superior's Limited Warranty.

## CHIMNEY HEIGHT

The total height of your ST-1 fireplace system from the surface the fireplace rests on to the chimney top must not exceed 44'0" (13.41m) and must also meet minimum system height chart. As with all chimney installations, avoid overhead obstructions such as trees, power lines, etc.

### MINIMUM SYSTEM HEIGHT

Model	TF10
ST-1	
Vertical Installation	15'0" (4.57m)
One Offset	16'0" (4.88m)
Two Offsets	25'0" (7.62m)

## ASSEMBLY OUTLINE

### Before You Start

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

Check the operation of the damper. To open, slide handle to the left and release. Damper will open automatically. To close, pull handle down slide right. Damper will be locked in the closed position.

## 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.

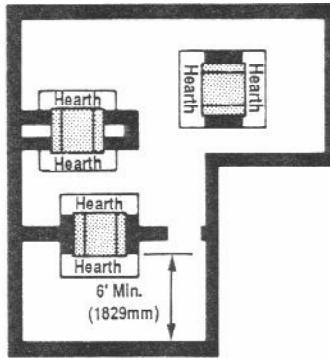


Figure 3

Carefully consider the position of the fireplace openings 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.

If there is a continuous perpendicular side wall closer than 18" (457mm) from the nearest side of the fireplace opening, it must be protected with a metal wall shield, Model WS40, manufactured by Superior or one constructed of 40" x 40" x 1/2" (1016 mm x 1016mm x 13mm) millboard or a durable non-combustible material with equal or greater insulating value (see page 16). A continuous perpendicular side wall cannot be closer than 12" (305mm) from the fireplace opening under any circumstances, even if protected.

## ASSEMBLY STEPS

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

1. Position firebox prior to framing or into prepared framing.
2. Install the chimney air 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. Install both "All-Glass"™ door assemblies.
7. Complete finish wall material, surround and hearth extension to your individual taste.

Study the three dimensional illustration (Figure 1) to get a general idea of each element of your fireplace system.

## INSTALLING THE FIREPLACE

The ST-1 is a unique two sided fireplace and requires certain minor variations from the normal framing procedures for both new construction and remodeling. In all cases, surface headers must be installed above the fireplace face so that necessary clearances will be maintained between the chimney and framing members. 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 no cold air can enter room from under the fireplace.

**WARNING: THE FIREPLACE MUST NOT BE PLACED DIRECTLY AGAINST INSULATION OR VAPOR BARRIERS. INSULATION OR VAPOR BARRIERS MUST FIRST BE COVERED WITH GYPSUM BOARD, PLYWOOD OR PARTICLE BOARD TO ASSURE THAT INSULATION AND VAPOR BARRIERS REMAIN IN PLACE.**

**WARNING: DO NOT PACK OR FILL THE MINIMUM REQUIRED AIR SPACES WITH INSULATION OR OTHER MATERIAL. NO MATERIALS OF ANY KIND ALLOWED IN THESE AREAS.**

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.

*Note: To avoid a "pull-down" draft condition; we strongly recommend that the hearth extensions be raised to the same height on both openings as illustrated in Figures 4 and 5.*

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

1. Estimate the total weight of the fireplace system and surround materials such as brick, stone, etc., to be installed. Shipping weights for the fireplace and chimney may be found in the Suggested List Prices.

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 (51 x 152mm, 51 x 203mm or 51 x 250mm), 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 INLETS AND OUTLETS. 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.

**TO INSTALL:**

**Step 1.** Slide 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 (Figures 4 and 5). The safety strips should overlap 1" (25mm) for continual coverage of the floor.

*Note: Safety strips are not required when fireplace rests on a non-combustible floor.*

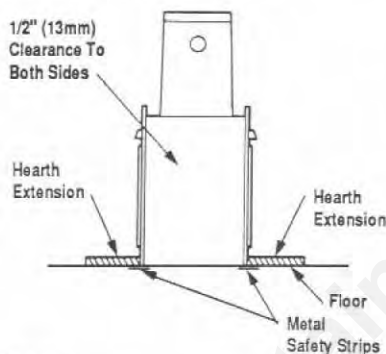


Figure 4

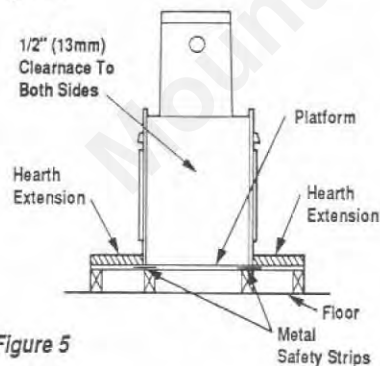


Figure 5

*Note: Install the hearth extension only as illustrated.*

The safety strips should extend in front and sides of the fireplace 2" (51mm). 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 (Figures 6 and 7). The safety strips should be tacked down to prevent possible movement.

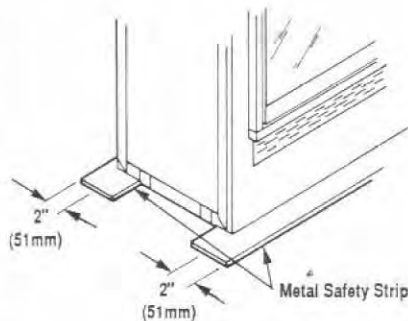


Figure 6

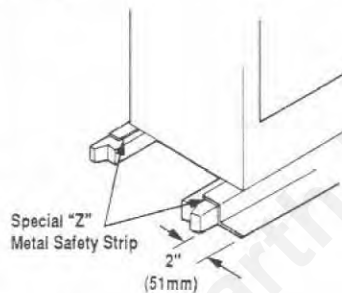


Figure 7

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

**Step 3.** Refer to fireplace drawings and specifications on pages 6 and 7 for framing dimensions and details. False header may be positioned directly on top of the fireplace spacers.

**IMPORTANT: UNDER NO CIRCUMSTANCES CAN THE FIREPLACE TOP SPACERS BE REMOVED OR MODIFIED. DO NOT NOTCH THE HEADER TO FIT LOWER THAN THE FIREPLACE TOP SPACERS.**

**Step 4.** Fireplace may be secured to the floor. Bend down four (4) anchor tabs located at the base of the fireplace and secure with nails (Figure 8).

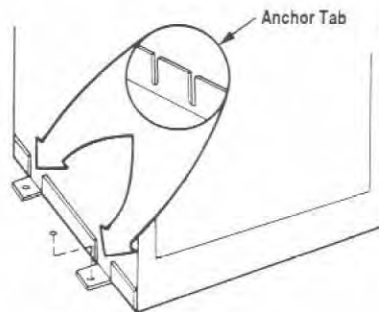


Figure 8

**Step 5.** Fireplace should be secured to side framing members using nailing flanges. Use 8d nails (Figure 9).

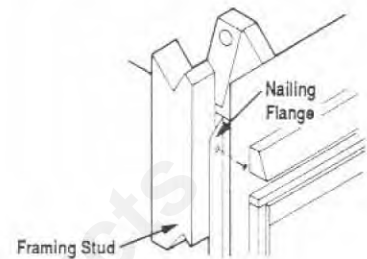


Figure 9

*Note: The nailing flange and the area directly behind the nailing flange are exempt from the fireplace clearances described on the fireplace clearance label.*

**FOR CANADIAN INSTALLATIONS, PROCEED WITH STEPS 6-9.**

*Note: W.H.I. listed only. This is not a U.L. listed installation.*

**Step 6.** Attach the 4" (102mm) collar from the CAK-4 air kit over the grill on the closed end of the transition, using the two (2) screws mounted on the transition (Figure 10).

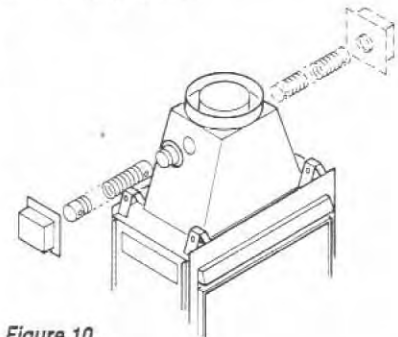


Figure 10

**Step 7.** Connect the 4" (102mm) Class 1 duct to the collar (just mounted) with the screws provided in the hardware kit.

**Step 8.** Route the Class 1 duct out the back or side wall, up through the ceiling or floor joists to an outside wall. The duct should be located above snow level.

**Note:** If the fireplace is installed against an inside wall, the Class 1 duct may be extended into a ventilated attic space at least 18" (457mm) above the attic floor. Secure the duct hood to a vertical post with the inlet positioned downward. Ensure nothing blocks the hood opening. The 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" (114mm) 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) screws. Insert hood into opening. Secure in place with nails driven through holes in hood flange. Seal with non-combustible waterproof silicon type caulking. If additional duct is needed, use Class 1 metallic duct.

### INSTALLING THE CHIMNEY SYSTEM

**Step 1.** Check flue damper for proper operation. To open, slide handle to the left and release. Damper will open automatically. To close, pull handle down slide right. Damper will be locked in the closed position.

**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 1" (25MM) (SEE \*\*NOTE) CHIMNEY AIR SPACE TO COMBUSTIBLE FRAMING MEMBERS WITHOUT VERTICAL OR OFFSET CHIMNEY INSTALLATION. ALSO MAINTAIN AIR SPACE ON TOP OF THE FIREPLACE AS DEFINED BY THE SPACERS AND STANDOFFS (FIGURE 11).**

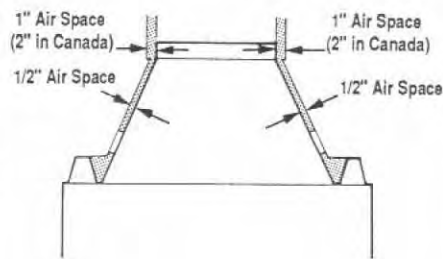


Figure 11

**\*\*Note:** 2" (51mm) air space to combustibles required when installing Model ST-3840-1 in Canada.

### FIREPLACE SPECIFICATIONS

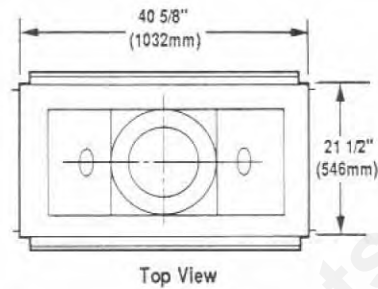


Figure 12

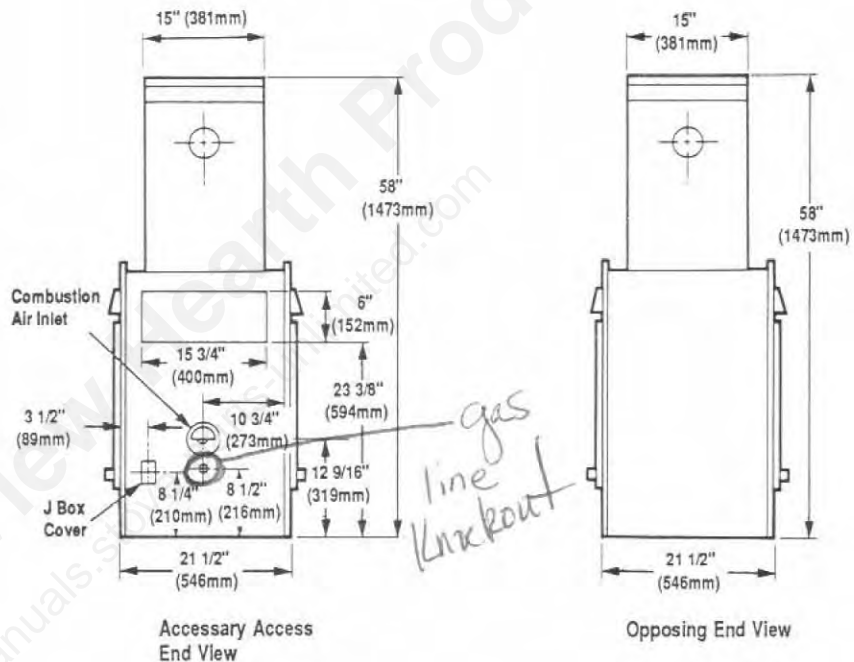


Figure 13

Figure 14

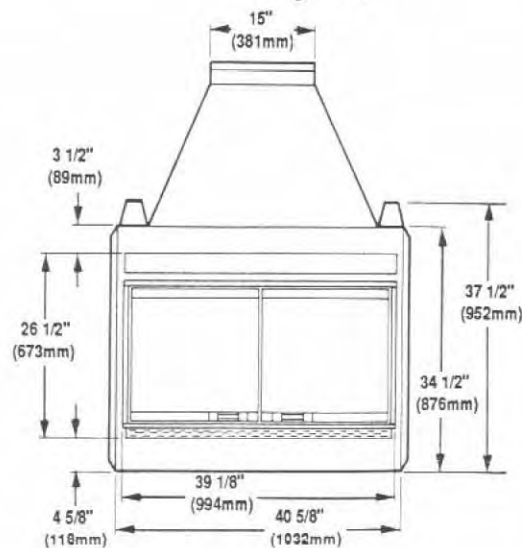


Figure 15

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

# FRAMING SPECIFICATIONS

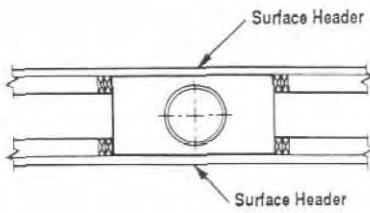


Figure 16

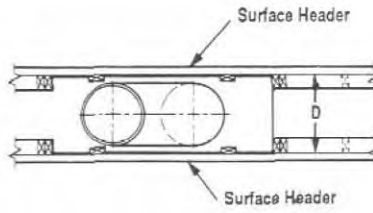


Figure 20

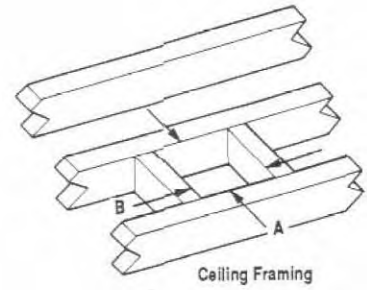


Figure 22

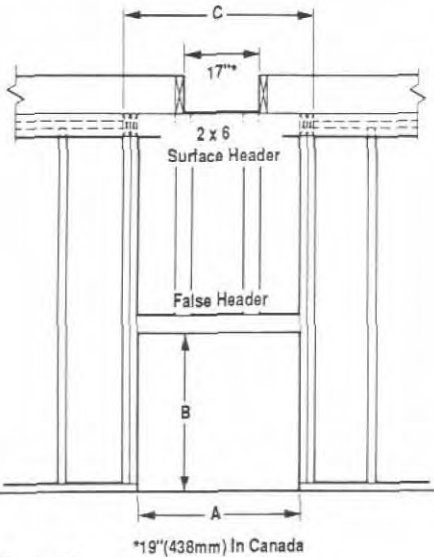


Figure 17

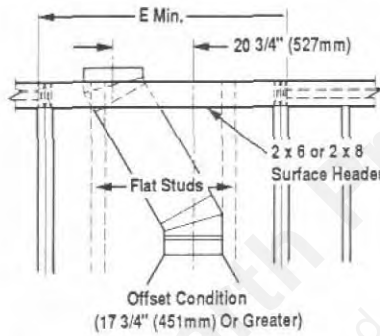


Figure 21

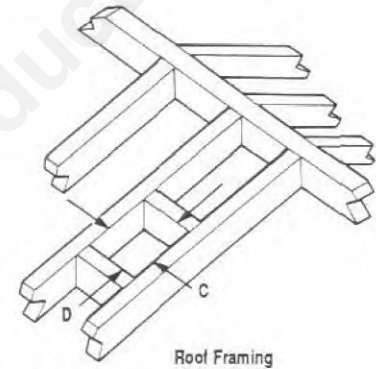


Figure 23

## ST-1 FRAMING DIMENSIONS

A	41 1/2" (1054mm)
B	37 3/4" (959mm)
C (U.S.)	44 1/2" (1130mm)
C (Can.)	46" (1168mm)
D	20 1/4" (514mm)
E	60 1/2" (1537mm)

## FRAMING DIMENSION FOR CEILING

FLUE TYPE	CEILING OPENING	
	A	B
TF10 Vertical at 1"	17" (432mm)	17" (432mm)
TF10 Vertical at 2"	19" (438mm)	19" (438mm)
TF10 Offset 30° at 1"	17" (432mm)	26" (660mm)
TF10 Offset 30° at 2"	19" (438mm)	28" (711mm)

\*Offset applied only to ceiling opening

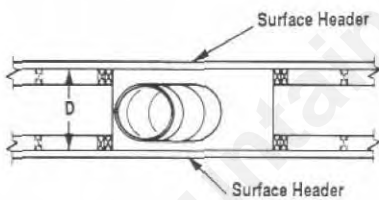


Figure 18

## FRAMING DIMENSION FOR ROOF

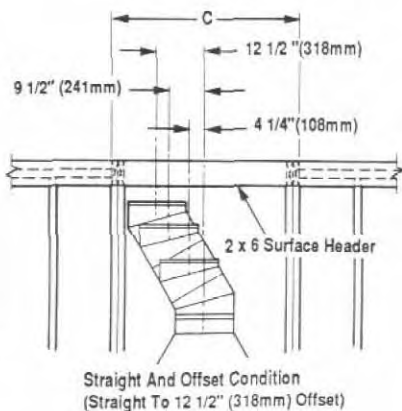


Figure 19

Pitch	TF10 at 1"		TF10 at 2"	
	C	D*	C	D*
0/12	17" (432mm)	17" (432mm)	19" (483mm)	19" (483mm)
6/12	17" (432mm)	19" (483mm)	19" (483mm)	26" (660mm)
12/12	17" (432mm)	34" (619mm)	19" (483mm)	36" (914mm)

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

A minimum 1" (25mm) (See **\*\*Note**) air space must be reserved for all combustible materials extending for any continuous length surrounding the chimney.

Reference Figures 22 and 23 and charts Framing Dimensions for Ceiling and Roof, which specify minimum ceiling and roof dimensions.

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 24). Then plumb from ceiling or roof level directly above hole which has just been completed.

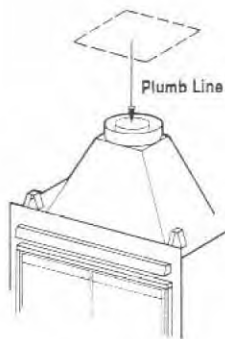


Figure 24

**Step 3.** Position appropriate firestop spacer at ceiling and nail temporarily with two (2) 8d nails. Use flat firestop spacer, Model 10FS\*, if chimney penetrates ceiling vertically. If chimney penetrates ceiling at 30° angle (offset chimney), use Model 10FS30\*. 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:** Use Models 10FS-2 or 10FS30-2 to maintain 2" (51mm) clearance in Canada.

**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 25 and 26).

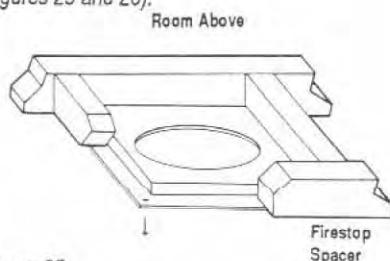


Figure 25

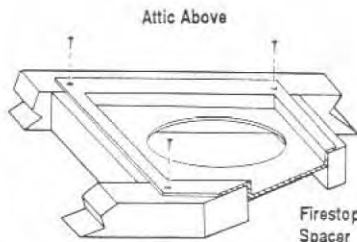


Figure 26

**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 tabs engage properly.

The TF10 chimney system is a two piece chimney, which snaps together from the fireplace up. Start with the inner flue section. With the hemmed end down, snap lock it into 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 succeeding sections, 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 27).

Outer pipe section installs in just the opposite way; the hemmed end goes UP and each new section goes OVER the outside of the previous section installed (Figure 28).

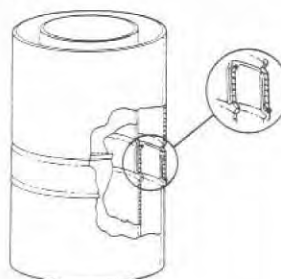


Figure 27

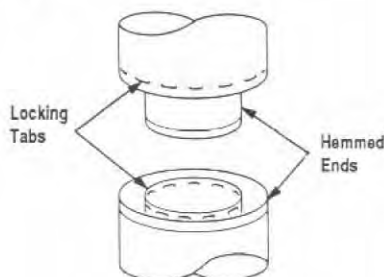


Figure 28

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

**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 ceiling opening. Assemble just enough to penetrate the roof flashing openings (Figure 29). Always maintain 1" (25mm)\*\* (See **\*\*Note**) minimum air space to combustible materials and always check each pipe joint (inner and outer) to ensure proper engagement. Check vertical alignment of chimney pipe so that it projects the roof in a true vertical position.

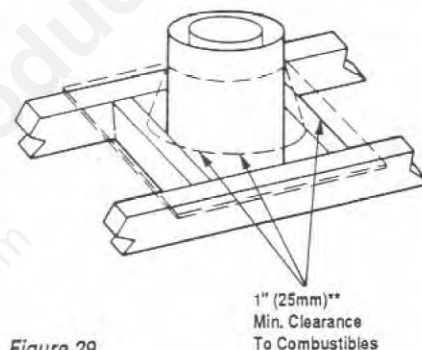


Figure 29

Superior chimney sections should not be screwed together and it is not required for additional reinforcement.

**Step 5.** The height of vertical chimney pipe supported only by the fireplace must not exceed 30' (9.1m). Chimney heights above 30' (9.1m) must be supported by a Model 10-S4 unitized stabilizer installed at 30' (9.1m) intervals. **Note:** The Model 10-S4 adds 2 1/2" (64mm) net effective height to the total chimney system.

Install the Model 10-S4 stabilizer by fitting inner section down into respective section of preceding 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.

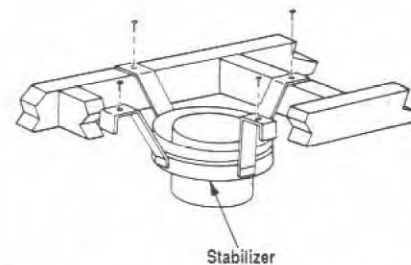


Figure 30

**\*\*Note:** 2" (51mm) air space to combustibles required when installing Model ST-3840-1 in Canada.

**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 proper Superior roof flashing based on pitch of roof. Use chart below for selection:

Roof Pitch	TF10
Flat to 6/12	10-F6
6/12 to 12/12	10-F12

Next, slide roof flashing over extended chimney section that previously has been installed above the roof opening in Step 4. Slide flashing all the way down until the flashing base rests flat on the roof. Again, check the vertical position of the chimney and the 1" (25mm)\*\* (See **\*\*Note**) minimum air space to combustibles.

**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 31).

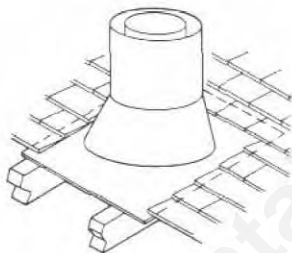


Figure 31

**Step 8.** The standard Superior roof flashing assemblies include a storm collar. Slide storm collar over outer chimney, align with top surface of flashing, insert storm 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 where storm collar meets flashing and to the tab/slot area to seal completely against water penetration (Figure 32). Check all joints very carefully to ensure no water intrusion can take place.

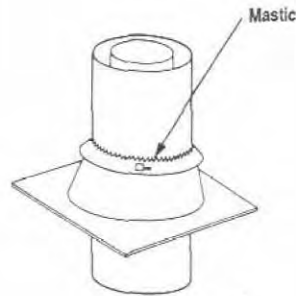


Figure 32

**Step 9.** Superior locking band, Model 10LB, may be required if the chimney extends too high above the roof flashing. As a general rule, if the chimney extends more than 6' (1.8m) above the roof/flashing, the use of locking bands is advisable to strengthen the chimney joints. Align the locking band at the pipe joint. Locking bands wrap around pipe joints equally covering the joints of both pipe sections. Use nut provided and TIGHTEN snugly. Do not over tighten as this might damage chimney section (Figure 33).

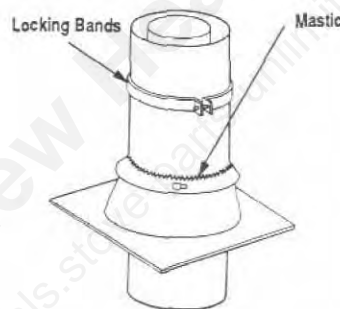


Figure 33

**Note:** If chimney extends more than 8' (2.4m) 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 34). Guy wires are not supplied by Superior.

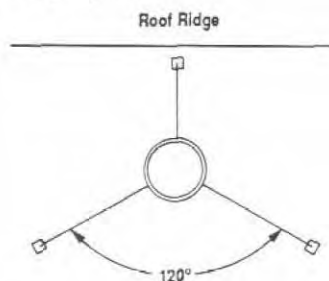


Figure 34

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

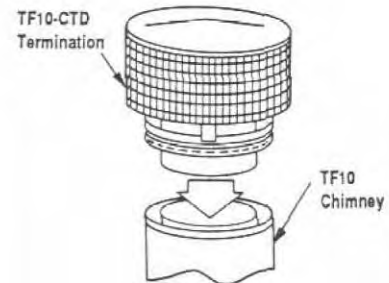


Figure 35

**Step 10.** Using a CTD Round Termination:

- 1) Hold CTD over top of last chimney section (Figure 35).
- 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.

**Note:** A special galvanized over-dipped CTD termination (P/N 031102) and CTD termination (P/N 031112) is available for installations susceptible to corrosive environments. Contact your distributor or Superior Customer Service for pricing and availability.

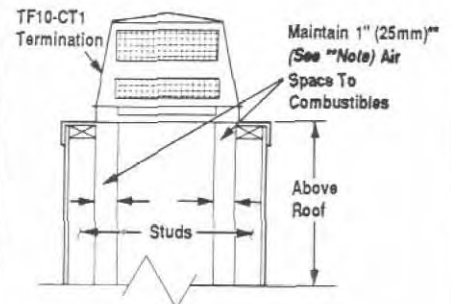


Figure 36

**Using a CT1 Chase Termination**

Refer to specific installation instructions included with CT1 chase termination for clearance statements and installation details.

**\*\*Note:** 2" (51mm) air space to combustibles required when installing Model ST-3840-1 in Canada.

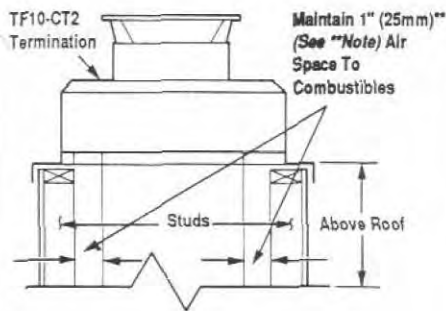


Figure 37

### Using a CT2 Chase Termination

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

### Using a CTD T Chase Termination

Refer to specific installation instructions included with the CTD T chase termination.

**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 manufacturer's instructions for proper preparation and application.

### 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' (3m), the top of the chimney must be at least 2' (610mm) above the peak of the roof.

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

**\*\*Note:** 2" (51mm) air space to combustibles required when installing Model ST-3840-1 in Canada.

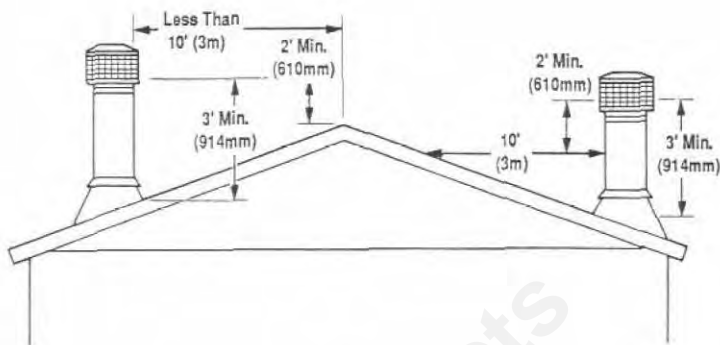


Figure 38

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 (Figure 38).

### 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" (610mm) horizontally from flue center to flue center and stacked or staggered vertically at least 18" (457mm) apart, from the termination of one smoke exit to the termination of another smoke exit (Figure 39).

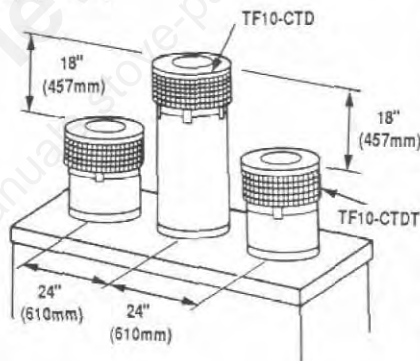


Figure 39

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.

### TF10 CHIMNEY COMPONENT CALCULATIONS

The minimum installed height of the ST-1 series fireplace system (including fireplace and chimney components) is 15'0" (4.57m). The maximum system height is 44'0" (13.41 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:

ST-1 Fireplace	=	57 1/4"	(1454mm)
CTD Termination	=	4"	(102mm)
CT1 Termination	=	18"	(457mm)
CT2 Termination	=	15" to 23"	(381mm to 584mm)
CTDT Termination	=	12" to 18"	(305mm to 457mm)
S4 Stabilizer *	=	2 1/2"	(64mm)*

\* Required for every 30' (9.1m) of vertical chimney and 10' of offset chimney.

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

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

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

### VERTICAL ELEVATION CHART (FEET & INCHES)

Height Of Flue Only		Number TF-10 Flue Lengths			Height of Flue Only		Number TF-10 Flue Lengths		
Inches	Feet	12"	18"	36"	Inches	Feet	12"	18"	36"
10 1/2"	0' 10 1/2"	1			252 3/4"	21' 0 3/4"	1		7
16 1/2"	1' 4 1/2"		1		258 3/4"	21' 6 3/4"		1	7
21 3/4"	1' 9 3/4"	2			263 1/4"	21' 11 1/4"	2		7
27 3/4"	2' 3 3/4"	1	1		269 1/4"	22' 5 1/4"	1	1	7
33 3/4"	2' 9 3/4"		2		276 3/4"	23' 0 1/4"			8
34 1/2"	2' 10 1/2"	2		1	279 3/4"	23' 3 3/4"	2	1	7
38 1/4"	3' 2 1/4"	1	1		287 1/4"	23' 11 1/4"	1		8
43 1/4"	3' 7 1/4"		2		293 1/4"	24' 5 1/4"		1	8
51 3/4"	4' 3 3/4"	2	1	1	297 3/4"	24' 9 3/4"	2		8
56 1/4"	4' 8 1/4"	1		1	303 3/4"	25' 3 3/4"	1	1	8
62 1/4"	5' 2 1/4"		1	1	311 1/4"	25' 11 1/4"			9
68 1/4"	5' 8 1/4"		2	1	314 1/4"	26' 2 1/4"	2	1	8
69 3/4"	5' 9 3/4"			2	321 3/4"	26' 9 3/4"	1		9
80 1/4"	6' 8 1/4"	1		2	327 3/4"	27' 3 3/4"		1	9
86 1/4"	7' 2 1/4"		1	2	332 1/4"	27' 8 1/4"	2		9
90 3/4"	7' 6 3/4"	2		2	338 1/4"	28' 2 1/4"	1	1	9
96 1/4"	8' 0 1/4"	1	1	2	345 3/4"	28' 9 3/4"			10
103 3/4"	8' 7 3/4"			3	348 3/4"	29' 0 3/4"	2	1	9
107 1/4"	8' 11 1/4"	2	1	2	356 1/4"	29' 8 1/4"	1		10
114 1/4"	9' 6 1/4"	1		3	362 1/4"	30' 2 1/4"		1	10
120 1/4"	10' 0 1/4"		1	3	366 1/4"	30' 6 1/4"	2		10
124 3/4"	10' 4 3/4"	2		3	372 3/4"	31' 0 3/4"	1	1	10
130 3/4"	10' 10 3/4"	1	1	3	380 1/4"	31' 9 1/4"			11
138 3/4"	11' 6 3/4"			4	382 3/4"	31' 10 3/4"	2	1	10
141 3/4"	11' 9 1/4"	2	1	3	390 3/4"	32' 6 3/4"	1		11
149 1/4"	12' 5 1/4"	1		4	396 3/4"	33' 0 3/4"		1	11
155 1/4"	12' 11 3/4"	0	1	4	401 1/4"	33' 5 1/4"	2		11
159 3/4"	13' 3 3/4"	2		4	407 1/4"	33' 11 1/4"	1	1	11
165 1/4"	13' 9 3/4"	1	1	4	414 1/4"	34' 6 3/4"			12
173 1/4"	14' 5 1/4"			5	417 3/4"	34' 9 3/4"	2	1	11
176 1/4"	14' 8 1/4"	2	1	4	425 1/4"	35' 5 1/4"	1		12
183 3/4"	15' 3 3/4"	1		5	431 1/4"	35' 11 1/4"		1	12
189 3/4"	15' 9 3/4"		1	5	435 3/4"	36' 3 3/4"	2		12
194 1/4"	16' 2 1/4"	2		5	441 3/4"	36' 9 3/4"	1	1	12
200 1/4"	16' 8 1/4"	1	1	5	449 1/4"	37' 5 1/4"			13
207 3/4"	17' 3 3/4"			6	452 3/4"	37' 8 3/4"	2	1	12
210 3/4"	17' 6 3/4"	2	1	5	459 3/4"	38' 3 3/4"	1		13
218 1/4"	18' 2 1/4"	1		6	465 3/4"	38' 9 3/4"		1	13
224 1/4"	18' 8 1/4"		1	6	470 1/4"	39' 2 1/4"	2		13
228 3/4"	19' 0 3/4"	2		6	476 1/4"	39' 8 1/4"	1	1	13
234 3/4"	19' 6 3/4"	1	1	6					
242 1/4"	20' 2 1/4"			7					
245 1/4"	20' 5 1/4"	2	1	6					

### VERTICAL ELEVATION CHART (METRIC)

inches x 25.4 = mm

Height Of Flue Only		Number TF Flue Lengths			Height Of Flue Only		Number TF Flue Lengths		
mm	m	12	18	36	mm	m	12	18	36
2038	2.04	1		2	7449	7.45		1	8
2191	2.19		1	2	7563	7.56	2		8
2305	2.31	2		2	7715	7.72	1	1	8
2445	2.45	1	1	2	7906	7.91			9
2635	2.64			3	7982	7.98	2	1	8
2724	2.72	2	1	2	8172	8.17	1		9
2902	2.90	1		3	8325	8.33		1	9
3054	3.05		1	3	8439	8.44	2		9
3169	3.17	2		3	8592	8.59	1	1	9
3321	3.32	1	1	3	8782	8.78			10
3525	3.53			4	8858	8.86	2	1	9
3600	3.60	2	1	3	9049	9.05	1		10
3791	3.79	1		4	9201	9.20		1	10
3943	3.94		1	4	9303	9.30	2		10
4058	4.06	2		4	9468	9.47	1	1	10
4210	4.21	1	1	4	9658	9.66			11
4401	4.40			5	9722	9.72	2	1	10
4477	4.48	2	1	4	9925	9.93	1		11
4667	4.67	1		5	10077	10.08		1	11
4820	4.82		1	5	10192	10.19	2		11
4934	4.93	2		5	10344	10.34	1	1	11
5086	5.09	1	1	5	10535	10.54			12
5277	5.28			6	10611	10.61	2	1	11
5353	5.35	2	1	5	10801	10.80	1		12
5544	5.54	1		6	10954	10.95		1	12
5696	5.70		1	6	11068	11.07	2		12
5810	5.81	2		6	11220	11.22	1	1	12
5950	5.95	1	1	6	11411	11.41			13
6153	6.15			7	11500	11.50	2	1	12
6229	6.23	2	1	6	11678	11.68	1		13
6420	6.42	1		7	11830	11.83		1	13
6572	6.57		1	7	11944	12.94	2		13
6687	6.69	2		7	12097	12.10	1	1	13
6839	6.84	1	1	7					
7029	7.03			8					
7106	7.11	2	1	7					
7296	7.30	1		8					

## OFFSET ELEVATION CHART

A Offset (Inches)	B Height (Inches)	A Offset (mm)	B Height (mm)	TF10-30 10" Offset Elbow	TF10-E30 10" Return Elbow	10-S4 10" Stabilizer	TF10 12" Flue Length	TF10 18" Flue Length	TF10 36" Flue Length
4	15	102	381	1	1	—	—	—	—
9 1/4	24	235	610	1	1	—	1	—	—
12 3/4	29 1/4	311	743	1	1	—	—	1	—
14 1/2	33 1/4	368	845	1	1	—	2	—	—
17 1/2	38 1/2	445	978	1	1	—	1	1	—
20 1/2	43 1/2	521	1105	1	1	—	—	2	—
21 1/4	45	540	1143	1	1	—	—	—	1
22 1/4	47 1/2	578	1207	1	1	—	2	1	—
25 1/4	52 3/4	654	1340	1	1	—	1	2	—
26 1/2	54	673	1372	1	1	—	1	—	1
28 3/4	58	730	1473	1	1	—	—	3	—
29 1/2	59 1/4	749	1505	1	1	—	—	1	1
31 3/4	63	806	1600	1	1	—	2	—	1
34 3/4	68 1/4	883	1734	1	1	—	1	1	1
37 1/4	73 1/4	959	1861	1	1	—	—	2	1
38 1/2	74 3/4	978	1899	1	1	—	—	—	2
40	77 1/4	1016	1962	1	1	—	2	1	1
42 1/4	81 1/4	1073	2064	1	1	—	1	4	—
43 3/4	83 3/4	1111	2127	1	1	—	1	—	2
46	87 3/4	1168	2229	1	1	—	—	3	1
46 3/4	89	1187	2261	1	1	—	—	1	2
49	93	1245	2362	1	1	—	2	—	2
52	98 1/4	1321	2496	1	1	—	1	1	2
55	103 1/4	1397	2623	1	1	—	—	2	2
55 1/4	104 3/4	1416	2661	1	1	—	—	—	3
57 1/4	107 1/4	1454	2724	1	1	—	2	1	2
61	113 3/4	1549	2889	1	1	—	1	—	3
62 1/4	116	1581	2946	1	1	1	1	—	3
65 1/4	121	1657	3073	1	1	1	—	1	3
67 1/2	124 3/4	1715	3169	1	1	1	2	—	3
70 1/2	130	1791	3302	1	1	1	1	1	3
73 1/2	135 1/4	1867	3435	1	1	1	—	2	3
75 1/4	139 1/4	1924	3537	1	1	1	2	1	3
79 1/2	145 1/2	2019	3696	1	1	1	1	—	4
82 1/4	150 3/4	2089	3829	1	1	1	—	1	4
84 1/4	154 3/4	2153	3931	1	1	1	2	—	4
87 3/4	159 3/4	2229	4058	1	1	1	1	1	4
90 3/4	165	2305	4191	1	1	1	—	2	4
93	169	2362	4293	1	1	1	2	1	4
96 3/4	175 1/2	2457	4458	1	1	1	1	—	5
99 3/4	180 1/2	2534	4585	1	1	1	—	1	5
102	184 1/2	2591	4686	1	1	1	2	—	5
105	189 3/4	2667	4820	1	1	1	1	1	5
108	195	2743	4953	1	1	1	—	2	5
110 1/4	198 3/4	2800	5048	1	1	1	2	1	5
114	203 1/4	2896	5163	1	1	1	1	—	6
117	210 1/2	2972	5347	1	1	1	—	1	6
119 1/4	214 1/2	3029	5448	1	1	1	2	—	6

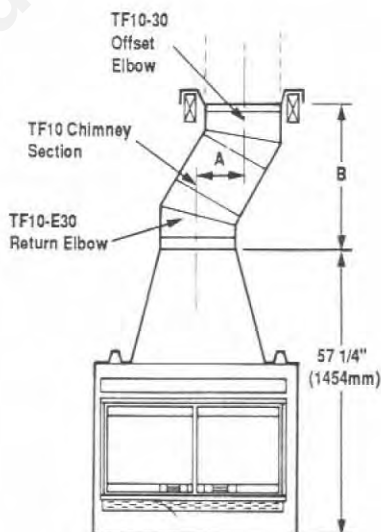


Figure 40

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

## SPECIAL OFFSET INSTRUCTIONS

To clear any overhead obstructions, you may offset your chimney system using Superior 30° offset and return elbows. Use two elbows - an offset elbow to initiate the offset and a return elbow to terminate it.

The offset and return elbows may be attached together, or a section or sections of chimney may be used between, but do not exceed 20' (6.1m) in total length between elbows. If sections of pipe exceed 10' (3m) 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 offset elbows are used, the maximum combined length of chimney used between elbows cannot exceed 20' (6.1m) (Figure 42). Example: If  $C_1 = 10'$  (3m) then  $C_2$  cannot exceed 10' (3m). A 30° offset elbow, angling in any direction, may be the first piece of flue pipe off the top of the fireplace flue collar.

Maximum offset of the chimney system in the U.S. is 30°. In Canada, the maximum offset is 45°. See the Canadian installation addendum for specific information. Two offset elbows 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 25' (7.5m).

Return elbow support straps must be securely attached under tension (in shear) to structural framing members above.

## OFFSET CALCULATIONS

1. Use Offset Chart to determine amount of horizontal offset (A) and height (B) for various chimney sections.
2. Use "Height of Flue Only" column to determine combinations of pipe used above return elbow to achieve desired heights. Reference Components Effective Height Chart in vertical elevation chart section.
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 25 and 26 and stabilizers as shown in Figure 30.

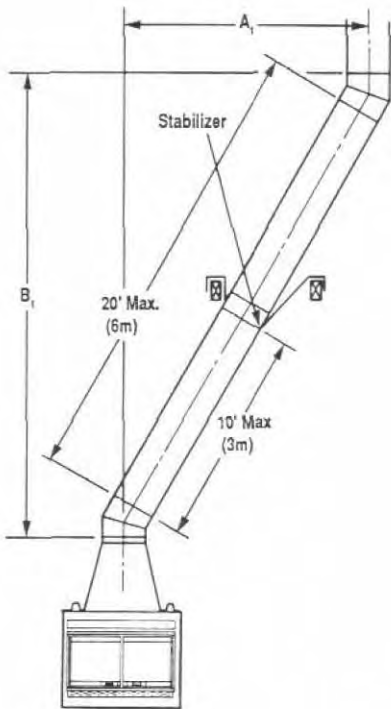


Figure 41

### TO INSTALL OFFSETS

First, review Chimney Offset Elevation Chart and Figure 40 on page 12 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 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.

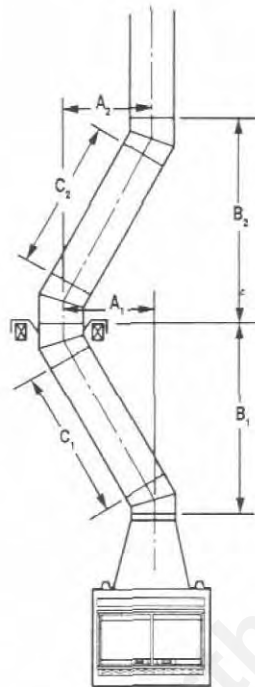


Figure 42

### 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 locks OVER the preceding outer section of chimney. Again, check outer section by pulling up slightly to ensure proper connection is made.

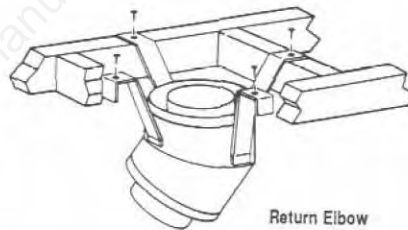


Figure 44

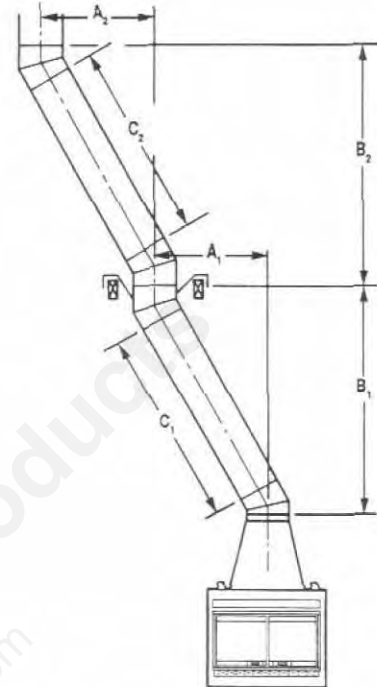


Figure 43

### 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.

**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 subsequent chimney sections are securely attached by testing as noted above.

### TF10-OR15 OFFSET/RETURN ELBOWS

Refer to installation instructions packed with TF10-OR15 for proper usage.

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

## CHIMNEY OFFSET 30° THROUGH FLOOR OR CEILING

It may be necessary to assemble the chimney at 30° when passing through the ceiling area. Use appropriate 30° angled firestop spacer as shown in Figures 45 and 46. Support the chimney at floor or ceiling penetration with a stabilizer if distance of chimney below ceiling is 10' (3m) or more. Maintain 1" (25mm)\*\* minimum air space to combustibles from chimney sections.

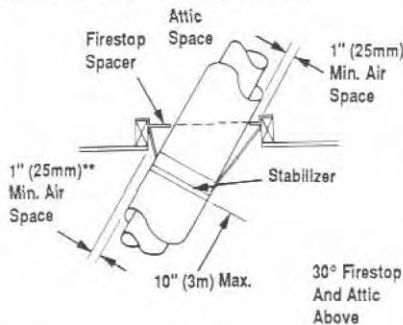


Figure 45

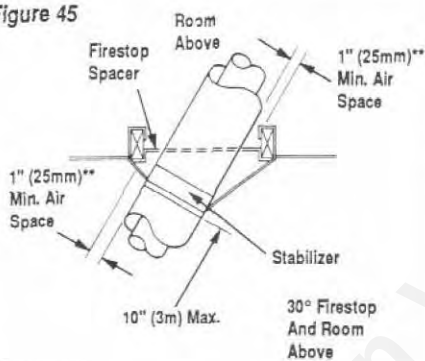


Figure 46

## GLASS DOOR INSTALLATION

Your ST-1 fireplace is supplied with specially designed glass doors, Model 38S-PB. Use of other non-listed glass door on this fireplace may constitute a potential fire hazard and is not recommended.

**Note:** Remove the plastic protective coating from the door's brass pieces before installation and first use.

Make a careful inspection of all parts before installing the doors to insure they are undamaged and complete. Refer to Figure 47 to identify all necessary parts.

**\*\*Note:** 2" (51mm) air space to combustibles required when installing Model ST-3840-1 in Canada.

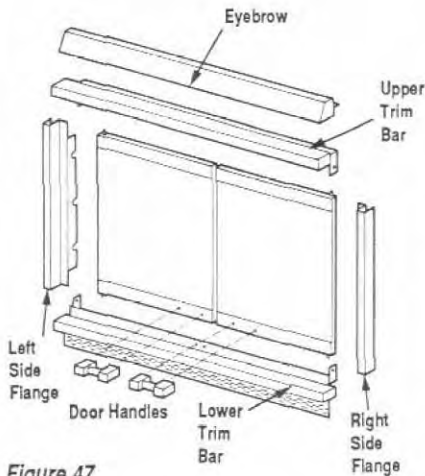


Figure 47

**Step 1.** Secure the eyebrow to the upper fireplace frame with three (3) sheet metal screws from the hardware kit. See Figure 48 for screw locations.

**Note:** The upper and lower seals have been attached at the factory. The screen rods and screen panels have also been installed.

**Step 2.** Loosen the three (3) middle screws each side of the fireplace opening (Figure 48). Attach the polished brass side flange and tighten all screws. Repeat for opposite side of the opening.

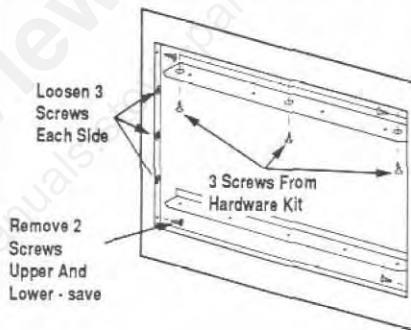


Figure 48

**Step 3.** Remove the upper right and left side screws from the side frame (Figure 48). Attach the upper trim bar to the upper seal with four (4) black No. 8 Phillips pan head screws from the hardware kit (Figure 49) and secure the ends of the trim bar with two (2) upper screws just removed.

**Step 4.** Remove the lower right and left side screws from the side frames (Figure 48). Attach the lower trim bar to the lower seal with five (5) black No. 8 Phillips pan head screws from the hardware kit (Figure 49) and secure the ends of the lower trim bar with two (2) lower screws just removed. Assure the center screw is aligned and engages the center "C" bracket.

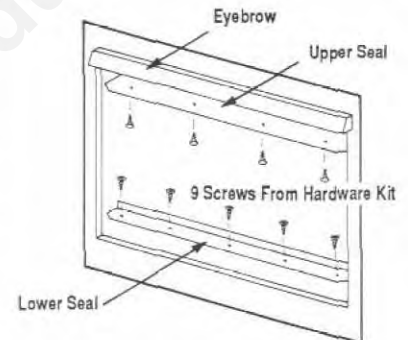


Figure 49

**Step 5.** Attach the two (2) adjustment plates from the hardware kit to the upper trim bar with two (2) self tapping No. 8 flat-top washer head screws and lockwashers from the hardware kit (Figure 50). Center screws over slot in adjustment plate and tighten screws over plates on both sides.

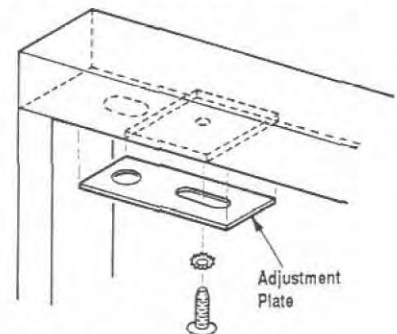


Figure 50

**Step 6.** Start with either the right or left door assembly and engage the longer upper hinge pin into the upper hole in the adjustment plate (Figure 51). Swing the lower corner of the door into position over the hole in the lower trim bar and engage the short pin in this hole (Figure 52). Repeat this procedure for the opposite door assembly.

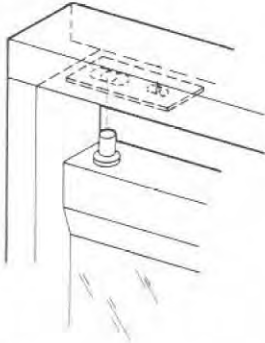


Figure 51

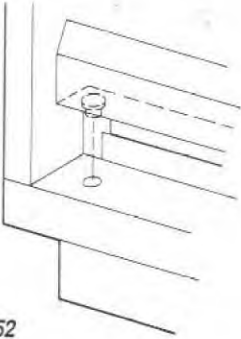


Figure 52

**Note:** If the door appears aligned, continue to the next step. If not, adjust the doors now. If the center of the door is too low, loosen the screw in the adjustment plate and slide the upper portion of the door towards the plate and tighten the screw. If the center of the door is too high, loosen the adjustment screw and slide the upper portion of the door away from the plate and tighten the adjustment screw.

**Step 7.** If needed, snap retainers onto both right and left top door pins to prevent accidental disengagement (Figure 53).

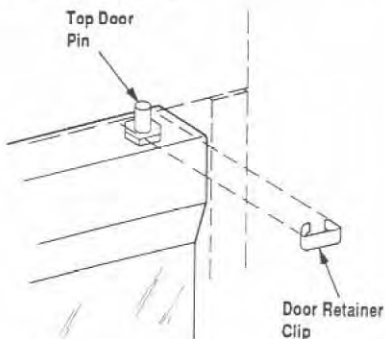


Figure 53

**Step 8.** Attach the door latches to the center of the door stops with two (2) black No. 6 Phillips pan head screws from the hardware kit. The door latches are adjustable to assure a snug fit when the doors are closed.

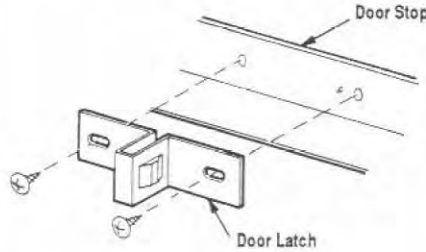


Figure 54

**Step 9.** Attach the four (4) brass and wood handles to the lower door frames with two (2) plated No. 6 Phillips pan head screws per handle. Cover the screws with the button plugs from the hardware kit (Figure 55).

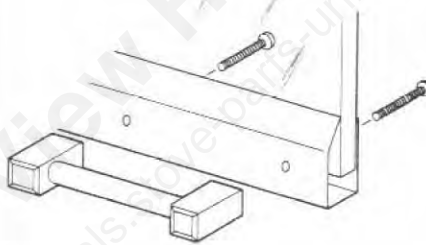


Figure 55

**CAUTION: DO NOT ATTEMPT TO TOUCH THE DOORS WITH YOUR HANDS WHILE THE FIREPLACE IS IN USE. ALWAYS USE DOOR HANDLES. DOORS WILL BECOME VERY HOT WHEN FIREPLACE IS IN USE.**

**Note:** Design characteristics of a dual opening fireplace (whether masonry or factory-built) may cause it to not draft properly and smoke. For this reason, glass doors are supplied standard with Model ST3840-1.

**WARNING: FIREPLACES EQUIPPED WITH DOORS SHOULD BE OPERATED ONLY WITH THE DOORS FULLY OPEN OR FULLY CLOSED.**

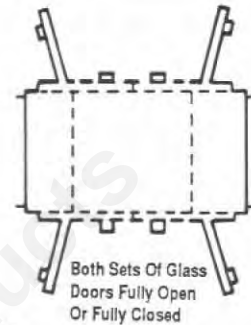


Figure 56

**CAUTION: IF A SMOKING CONDITION EXISTS, BOTH SETS OF GLASS DOORS SHOULD BE CLOSED DURING FIREPLACE OPERATION.**

## ACCESSORIES

### Optional Combustion Air Kit

Use combustion air kit, Model CAK-4, with this fireplace system. Refer to installation instructions packed with the CAK-4 air kit for specific information. Outside air drawn into the fireplace supplies air to the fire for combustion. The outside air kit must be installed before the fireplace is framed and enclosed in the finished walls.

There is a one hand operated shut off valve located in the enclosed corner of the fireplace opening behind the screen. To open, pull the lever all the way out. The combustion air damper should be fully open when the fireplace is in operation and fully closed when the fireplace is not in use to prevent outside air from entering your home.

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

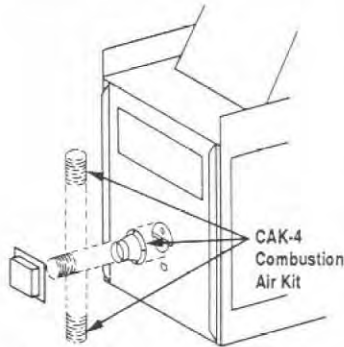


Figure 57

Outside combustion air may be run upwards or vertically through framing and ceiling joists, with the hood installed through an outside wall and 3' 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.

**CAUTION; 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 DUCTS BE INSULATED.**

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

**CAUTION: IN NO EVENT MAY THE TOTAL DUCT FOR BRINGING IN OUTSIDE AIR EXCEED 50 FEET (15.2M).**

## GAS LINE

This provision is intended for connection to a decorative gas appliance only in accordance with the latest National Fuel Gas Code, ANSI Z 223.1; or Can 1-B149 for Canadian installations.

**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" (29mm) 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 only a 1/2" (13mm) black iron pipe through fireplace wall for connection to a decorative gas appliance inside the firebox. Outside, the iron pipe 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.**

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

## COLD CLIMATE INSULATION

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

*Note: 1" (25mm)\*\* (See \*\*Note) air space must be preserved for all materials extending for any continuous length adjacent to the chimney.*

## FIREPLACE FINISHES, HEARTH EXTENSIONS, WALL SHIELDS Framing

It is sometimes best to frame your ST-1 after it is positioned and the chimney is installed. Frame chimney and fireplace enclosure with 2 x 4's (51 x 102 mm) (or heavier) lumber.

*Note: The header may rest on the two (2) metal spacers on top of the unit but the header must not be notched to fit around the spacers.*

The fireplace may sit directly on a combustible floor. A 1" (25mm)\*\* (See \*\*Note) air space is required between combustibles and the chimney. In Canada, the minimum height for a combustible mantel is 14" (356mm) above the opening. Figure 58 shows typical Canadian installation. In installations other than Canada, combustible mantels and trim may be installed 12" above the opening as per NFPA 211, Section 7-3.3.3. and Figure 59. If a mantel is of a non-combustible material, it is exempt from the requirements as long as it does not interfere with the operation of glass doors or block the warm air outlets.

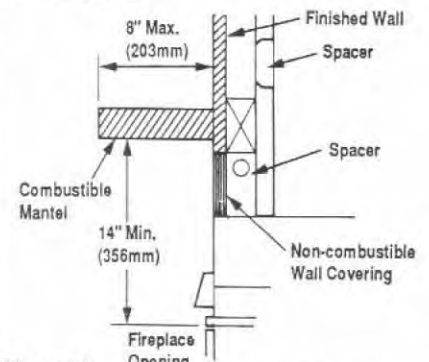


Figure 58 Canadian Installation

*\*\*Note: 2" (51mm) air space to combustibles required when installing Model ST-3840-1 in Canada.*

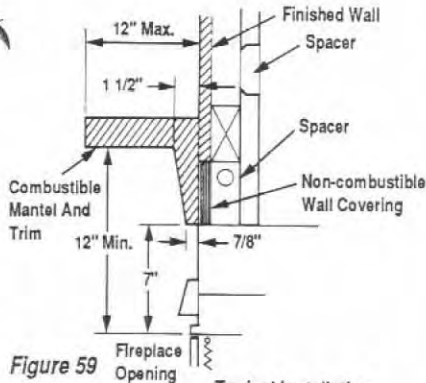


Figure 59 Typical Installation  
(Refer to Figure 58 For Canada)

## HEARTH EXTENSIONS AND WALL SHIELDS

A hearth extension must be installed with all fireplaces. It is to protect the floor in front of the fireplace from both radiant heat and sparks. The hearth extension must extend beyond the front at least 16" (406mm) and both sides at least 8" (203mm). Use the metal hearth extension manufactured by Superior, Model HE-36, or you may use a 3/8" minimum thickness of a durable non-combustible material with an equal or greater insulating value than  $K = .84 \text{ BTU-in/FT}^2\text{-HR-F}^\circ$  or a thermal resistance that equals or exceeds  $R = 1.19 \text{ HR-F}^\circ\text{/FT}^2 \text{ /BTU-in}$ .

**Note:** Any non-combustible material whose K value is less than .84 or whose R value is more than 1.19 is acceptable.

### HEARTH EXTENSION DIMENSIONS

A	16" (406mm)
B	38" (965mm)
C	8" (203mm)

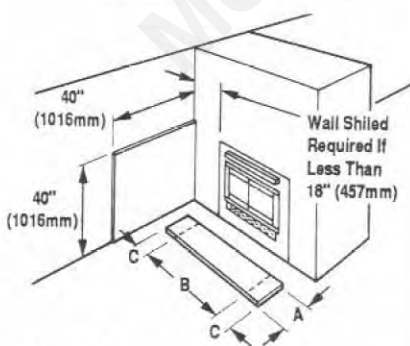


Figure 60

## METHODS OF DETERMINING HEARTH EXTENSION EQUIVALENTS

To determine the thickness required for any material when either the K or R values are known:

$T_M$  = Thickness of material in inches  
 $K_M$  = K value of material  
 $R_M$  = R value of material  
 $T_R$  = Minimum thickness required

### ALTERNATE HEARTH EXTENSION MATERIALS

MATERIAL	Values		$T_R$
	K	R	
Millboard	0.84	1.19	3/8"
Common Brick	5.00	0.20	2 1/4"
Micore CV230 (U.S. Gypsum Corp.)	0.43	2.33	1/4"
Ceraform 126 (John Manville)	0.27	3.70	1/8"

### EXAMPLE:

Micore CV230 is to be used on the ST-3840-1 fireplace. How thick must the hearth extension be?

Using the formula:

Using K

$$T_M (\text{Inches}) = \frac{K_M \times T_R}{.84}$$

$$T_M (\text{inches}) = \frac{0.43 \times 3/8^{***}}{.84}$$

Answer using K

$$= 0.51 \times 3/8 = 0.19 \text{ or } 1/4 \text{ inches}$$

Using R

$$T_M (\text{inches}) = \frac{1.19 \times T_R}{R_M}$$

$$T_M (\text{inches}) = \frac{1.19 \times 3/8^{***}}{2.33^*}$$

Answer using R

$$= 0.51 \times 3/8 = 0.19 \text{ or } 1/4 \text{ inches}$$

\*value taken from chart

\*\*Min. thickness per requirements

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE

These materials can then be covered with a decorative non-combustible material.

**WARNING: THE CRACK BETWEEN THE FIREPLACE AND THE HEARTH EXTENSION MUST BE SEALED WITH A NON-COMBUSTIBLE MATERIAL.**

**WARNING: FIREPLACE MUST BE RAISED IF HEIGHT OF HEARTH EXTENSION EXCEEDS 4 3/4" (121MM) ABOVE THE BOTTOM OF THE FIREPLACE (FIGURE 61).**

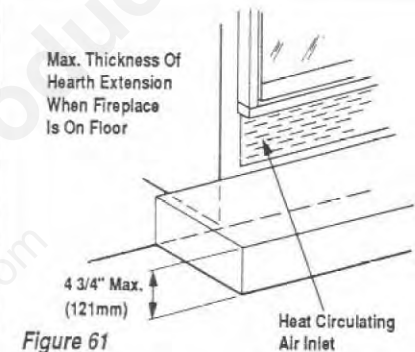


Figure 61

**WARNING: WHEN INSTALLING THE HEARTH EXTENSION BE CAREFUL NOT TO BLOCK THE HEAT CIRCULATING INLETS.**

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

If there is a continuous perpendicular side wall closer than 18" (457mm) from the nearest side of the fireplace opening, it must be protected with a metal wall shield, Model WS40, manufactured by Superior or one constructed of 40" x 40" x 1/2" (1016 mm x 1016mm x 13mm) millboard or a durable non-combustible material with equal or greater insulating value. A continuous perpendicular side wall cannot be closer than 12" (305mm) from the fireplace opening under any circumstances, even if protected (Figure 60).

## FINISH TO YOUR TASTE

There are a wide variety of "finished looks" for your ST-1 fireplace; from formal wall decor with elaborate mantels to rustic wood paneling to warm brick facings.

Only non-combustible materials like stone, tile, brick, etc. may overlap the black front facing but be careful not to interfere with the operation of the glass doors or block the warm air outlet. Seal all joints between the black facing and wall surrounds to prevent cold air intrusion. Use non-combustible caulking material only to seal the black metal facing to the surround material on the finished wall.

Combustibles may also project beyond the sides of the fireplace opening as long as they are kept within the shaded areas as illustrated in Figure 61.

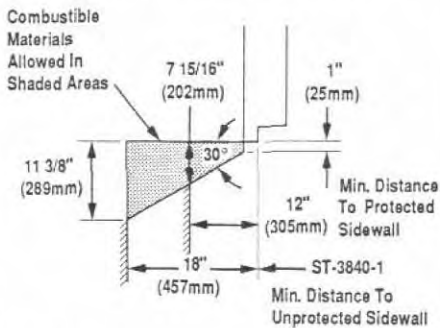


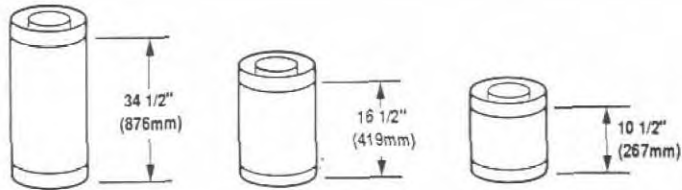
Figure 62

## SUPERIOR ACCESSORY PARTS COMPONENTS LIST FOR MODEL ST-3840-1

The following accessory parts and components are to be used only with your ST-1 Superior fireplace system. 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 or:

**SUPERIOR FIREPLACE COMPANY**  
 4325 Artesia Ave  
 Fullerton, California 92633  
 714-521-7302



O.D. = 15"  
 (381mm)  
 O.D. = 10"  
 (254mm)

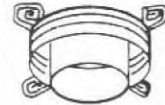
TF10-36  
 TF10-18  
 TF10-12

Chimney Section



Offset Elbow (30°)

TF10-30



Stabilizer

10-S4



Return Elbow (30°)

TF10-E30



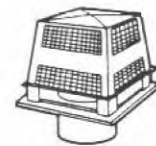
Round Termination

TF10-CTD



Offset/Return Elbow (15°)

TF10-OR15



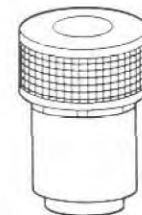
Chase Termination

TF10-CT1



Firestop Spacer (30°)

10 FS30  
 10FS30-2



Round Chase Termination

TF10-CTDT



Firestop Spacer (Flat)

10FS  
 10FS-2



Chase Termination

TF10-CT2

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE



Contents:  
 4 - TF10-36  
 1 - 10FS  
 1 - 10F6  
 1 - TF10-CTD

Chimney Pack

TF10-CP8



Storm Collar

10SC



Locking Band

10LB



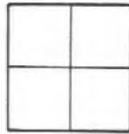
Flashing

10F6  
 10F12



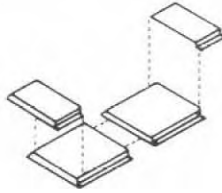
Combustion Air Kit  
 Chimney Air Kit (Canada Only)

CAK-4



Wall Shield

WS-40



Hearth Extension

HE-36



Refractory Patch Kit

RPK

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Mountain View Hearth Products  
manuals.stove-parts-unlimited.com

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