

# INSTALLATION INSTRUCTIONS

*For Superior's  
TM And TMC  
Series Fireplace*

*Models  
TM-4500  
And TMC-4500*

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

**PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE.**

TMC-4500

TM-4500



Warnock Hersey  
Report No. 620-1058A

 **SUPERIOR.**  
*The Fireplace Company*

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## 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 their 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. Superior Models TM-4500 and TMC-4500 must be installed with the Model TF10 [10" (250 mm) inside diameter] Thru-Flow Chimney System only. These systems are intended for use as residential type appliances. 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 artificial wax based 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 similar 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 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. 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.

## TYPICAL INSTALLATION

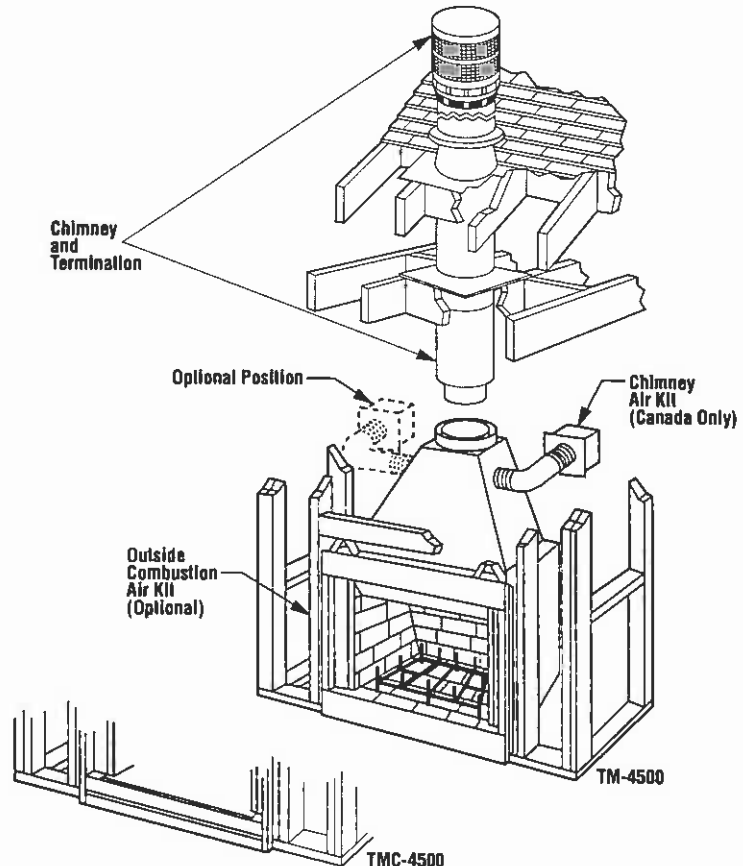


Figure 1

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

13. DO NOT use a fireplace insert or any other products not specified herein by Superior 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" logs sets may be operated with the damper closed.

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)

## 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 Superior 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: WHEN INSTALLING IN CANADA, THE CHIMNEY AIR KIT MUST BE INSTALLED PER THE WARNOCK HERSEY INC. LISTING.**

**IMPORTANT: THE MINIMUM AIR SPACE TO COMBUSTIBLES FOR THE CHIMNEY SYSTEM IS 2" (51 MM).**

## INTRODUCTION

### General Information

The TMC Series is a wood-burning fireplace featuring a self contained heat-circulating system with a built-in fan kit. The TM Series is a traditional radiant-heat wood-burning fireplace. A steel bar grate is included with both models to properly position the fire. An outside combustion air kit and decorative glass doors are 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 TM and TMC Series fireplaces have been tested and listed by Warnock Hersey Inc. (Report No. 620-1058A) to U.L. 127 standard for U.S. installations and U.L.C. S610 standard for Canadian installations. 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 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 TM and TMC systems consist of six basic "sub-systems":

1. The Fireplace
2. The Chimney and Termination
3. The Optional Glass Doors
4. The Forced Air Kit (TMC-4500 only)
5. The Optional Combustion Air Kit
6. The 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 mantle may be installed a minimum of 12" (305 mm) above the opening of the fireplace as per NFPA 211, Section 7-3.3.3. 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 Superior Fireplace Company. Special restrictions apply to the front and facing of the fireplace and nearby walls (See pages 16 and 17).

## CHIMNEY SYSTEM

Superior-manufactured fireplace Models TM-4500 and TMC-4500 are designed and code-listed for use with Superior's TF10 Thru-Flow Chimney System only. Always use Superior's Thru-Flow chimney components with these fireplaces. Do not modify or alter these components as this may cause a potential serious hazard and void Superior's Limited Warranty.

### \*Construction Materials:

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

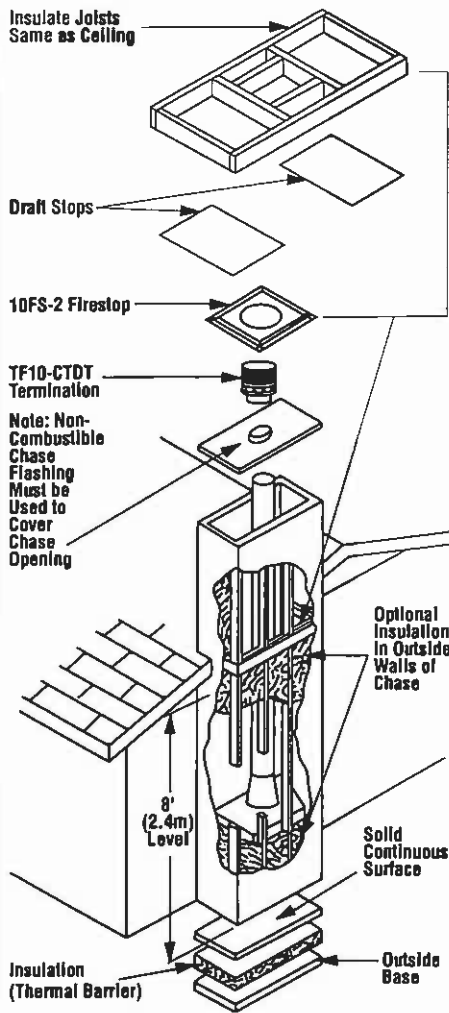


Figure 2

**WARNING: IF INSULATION IS USED, THE FIREPLACE MUST NOT BE PLACED AGAINST IT. INSULATION OR VAPOR BARRIERS, IF USED, MUST BE SECURED 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 OF ANY KIND IS ALLOWED IN THESE AREAS.**

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

*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.*

### CHIMNEY HEIGHT

The total height of your TM or TMC 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

TM-4500 TMC-4500	
Vertical Installation	16' 0" (4.8 m)
One Offset	18' 6" (5.6 m)
Two Offsets	22' 0" (6.7 m)

### 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 flue damper handle extends down from the inside top of the fireplace; push in to close, pull out to open — takes firm pressure to lock closed.

### 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).

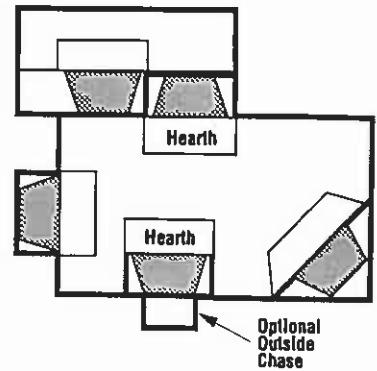


Figure 3

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.

If there is a continuous perpendicular side wall closer than 18" (457 mm) from the nearest side of the fireplace opening, it must be protected with a 40" x 40" x 1/2" (1016 mm x 1016 mm x 13 mm) wall shield constructed of millboard or a durable noncombustible material with equal or greater insulating value than .84k (see page 16). A continuous perpendicular side wall cannot be closer than 12" (305 mm) 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 chimney air kit (Canada only).
3. Install the chimney system.
4. Install optional outside combustion air kit.
5. Field wire main power supply to fireplace for fan kit for Model TMC-4500. (Electrical connections should only be performed by an experienced, licensed/certified tradesman.)
6. Plumb gas line if a decorative gas appliance will be used. (Gas connections should only be performed by an experienced, licensed/certified tradesman.)

7. Complete finish wall material, surround and hearth extension to your individual taste.

8. Assemble and attach optional glass door assembly.

Study the three dimensional illustration (Figure 7) to get a general idea of each element of your fireplace system.

## INSTALLING THE FIREPLACE

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 flooring or platform with appropriate framing for support and so that no cold air can enter 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 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. 2x6's, 2x8's or 2x10's (51 x 152 mm, 51 x 203 mm or 51 x 250 mm), 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 BOTTOM FRONT HEAT-CIRCULATING AIR INLETS AND OUTLETS ON MODEL TMC-4500. 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 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 (Figures 4 and 5). 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.

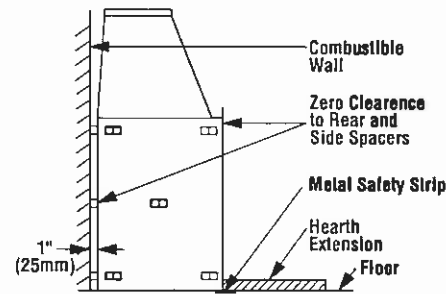


Figure 4

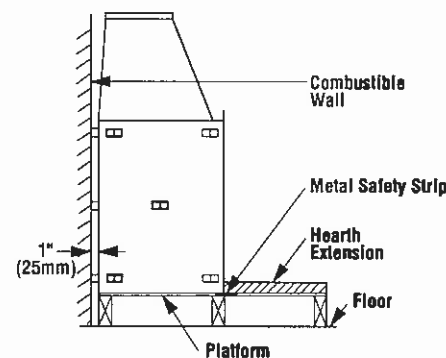


Figure 5

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

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 (Figures 6 and 7). The safety strips should be tacked down to prevent possible movement.

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

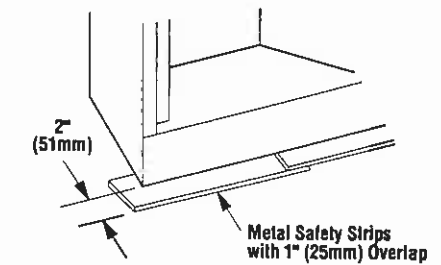


Figure 6

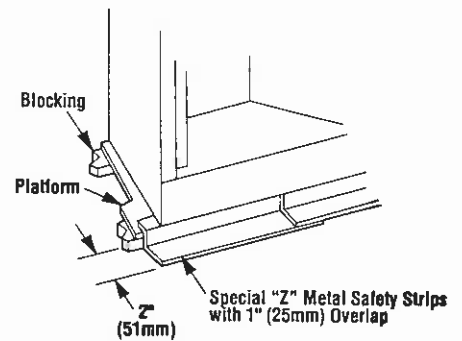


Figure 7

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

**IMPORTANT: UNDER NO CIRCUMSTANCES CAN THE FIREPLACE TOP SPACERS BE REMOVED OR MODIFIED, NOR MAY YOU NOTCH THE HEADER TO FIT AROUND OR BE INSTALLED 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 8).

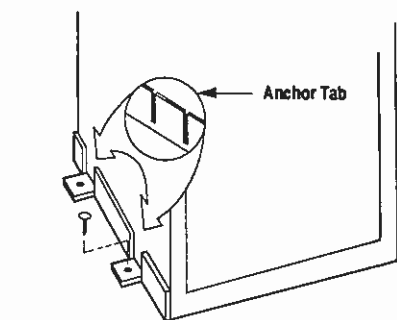
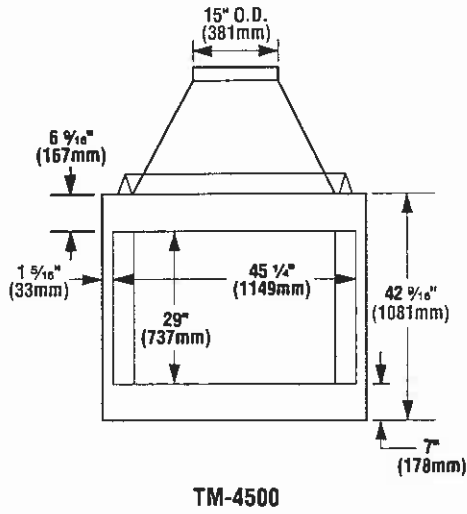
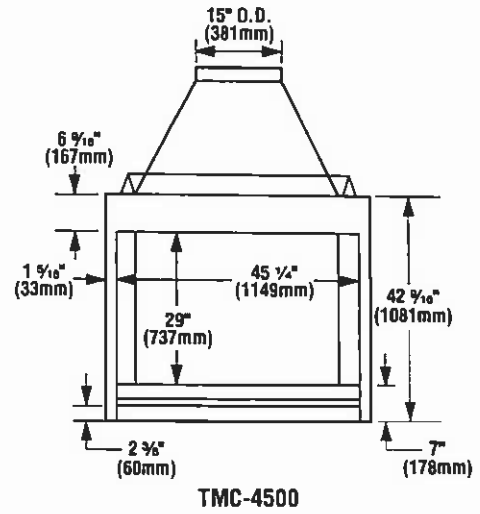


Figure 8

# FIREPLACE DIMENSIONS



TM-4500

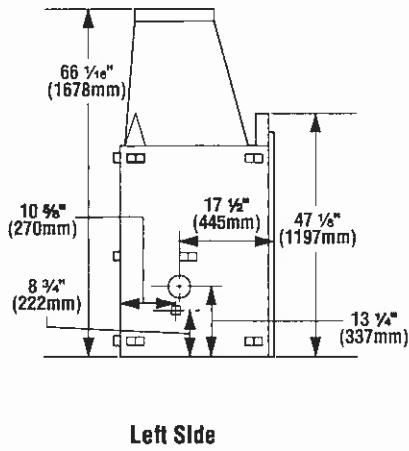


TMC-4500

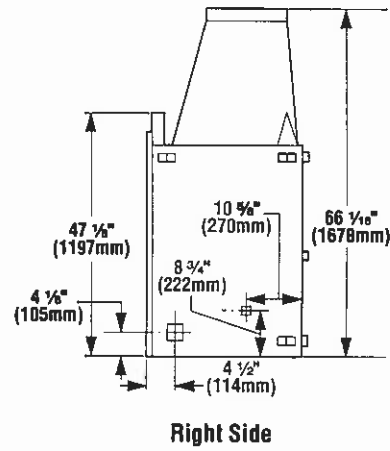
Figure 9

Figure 10

Note: If you will be installing glass doors, refer to page 19 for clearance requirements.



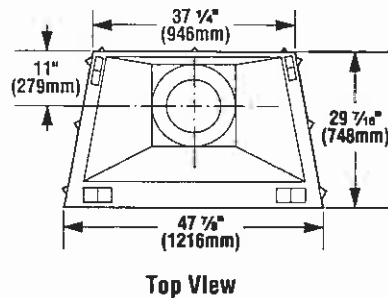
Left Side



Right Side

Figure 11

Figure 12



Top View

Figure 13

# FRAMING DIMENSIONS

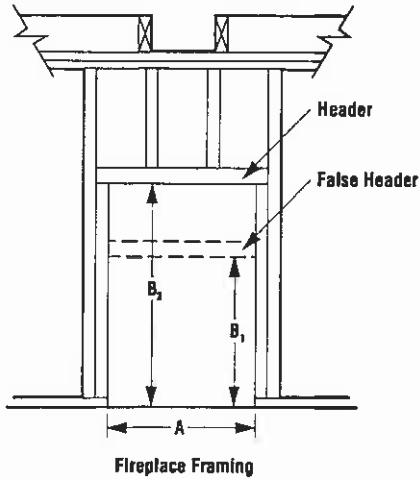


Figure 14

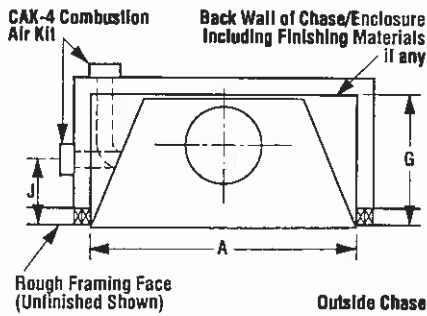


Figure 15

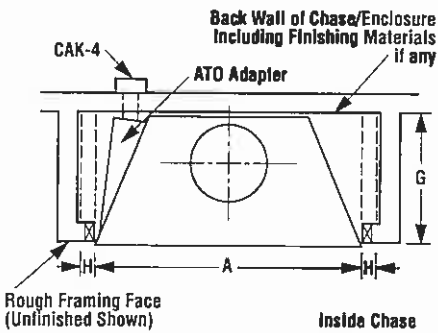


Figure 16

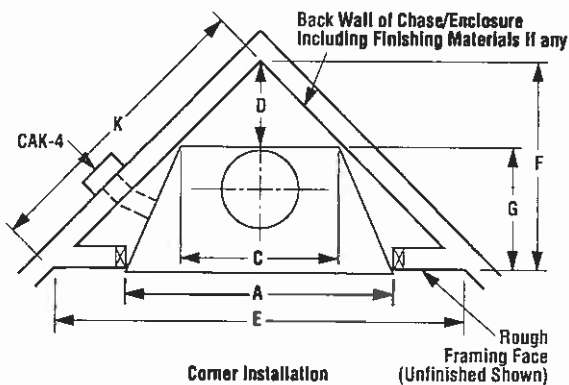


Figure 17

## TM and TMC Framing Dimensions

A	48" (1219 mm)
B <sub>1</sub>	47 1/4" (1200 mm)
B <sub>2</sub>	66 1/2" (1689 mm)
C	37 1/4" (946 mm)
D	18 5/8" (473 mm)
E	94 7/8" (2410 mm)
F	47 7/16" (1205 mm)
G	28 13/16" (732 mm)
J	17 1/2" (445 mm)
K	67" (1702 mm)

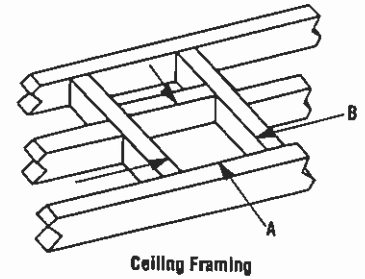


Figure 18

## Framing Dimensions for Ceiling

Flue Type	A	B
TF10 Vertical	19" (483 mm)	19" (483 mm)
TF10 30° Offset	19" (483 mm)	29" (737 mm)

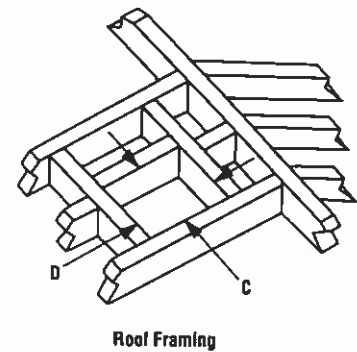


Figure 19

## Framing Dimensions for Roof

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)

\*Perpendicular to roof ridge

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

**Step 5.** Fireplace should be secured to side framing members using nailing flanges. Use 8d nails (Figure 20).

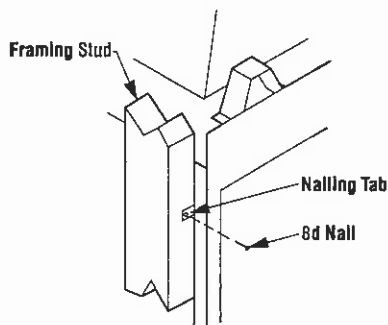


Figure 20

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

**For Canadian Installations Proceed with Steps 6–9**

**Step 6.** Remove one of the knockouts from the fireplace transition and attach the 4" (102 mm) collar from the air kit to the transition with four (4) No. 8 x 1/2" screws provided (Figure 21).

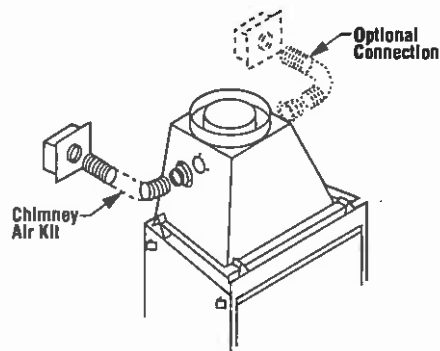


Figure 21

**Step 7.** Connect the 4" (102 mm) Class 0 air duct to the collar with two (2) No. 6 x 3/8" 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.** Check flue damper for proper operation. When the damper is in the fully closed position, the damper control lever is pushed all the way to the rear of the firebox. When the damper is in the fully open position the damper control lever is pulled all the way to the front of the firebox.

**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" (51 MM) CHIMNEY AIR SPACE TO COMBUSTIBLE FRAMING MEMBERS THROUGHOUT VERTICAL OR OFFSET CHIMNEY INSTALLATION.**

A minimum 2" (51 mm) air space must be reserved for all combustible materials extending for any continuous length surrounding the chimney.

Reference Figures 18 and 19 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 22). Then plumb from ceiling or roof level directly above hole which has just been completed.

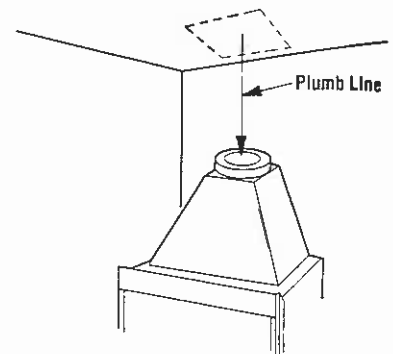


Figure 22

**Step 3.** Position appropriate firestop spacer at ceiling and nail temporarily with two (2) 8d nails. Use flat firestop spacer, Model 10FS-2, if chimney penetrates ceiling vertically. If chimney penetrates ceiling at 30° angle (offset chimney), use 30° firestop spacer, Model 10FS30-2. 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 23 and 24).

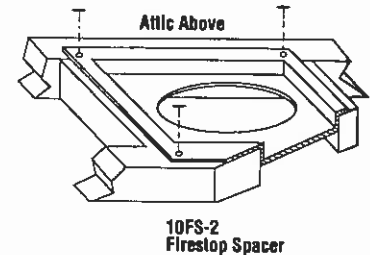


Figure 23

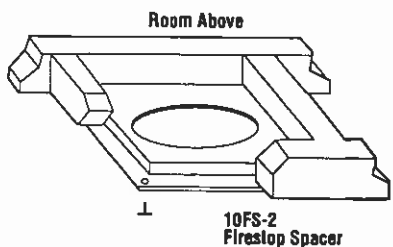


Figure 24



## For Canada Only

When installing the chimney system through an open attic space, the attic shield assembly-firestop spacer must be used (Figure 25). This installation procedure is Warnock Hersey Inc. listed only for use in Canada.

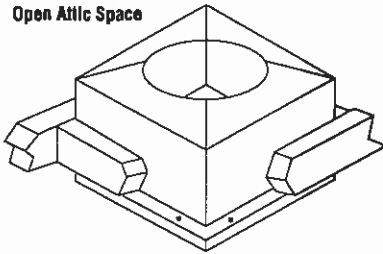


Figure 25

**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.

The TF10 chimney system is two-piece chimney, which snaps together from the fireplace up. Start with the inner flue section. With the lanced end up, 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 26).

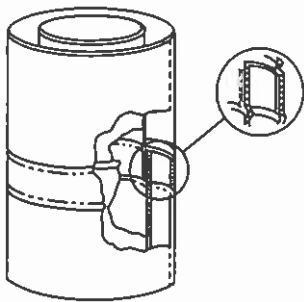


Figure 26

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 27).

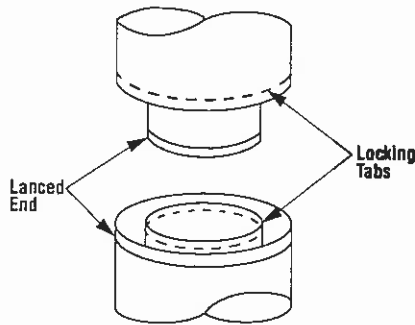


Figure 27

**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 28). Always maintain 2" (51 mm) 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.

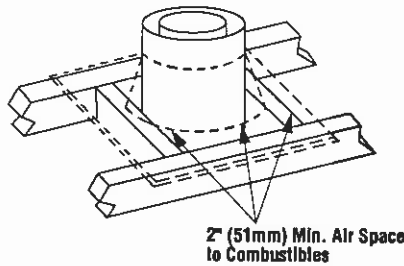


Figure 28

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' (9.1 m). Chimney heights above 30' (9.1 m) must be supported by a Model TF10-S4 stabilizer installed at 30' (9.1 m) intervals.

**Note:** The Model TF10-S4 adds 3" (76 mm) net effective height to the total chimney system.

Install the Model TF10-S4 stabilizer by fitting inner section into inner section of preceding flue pipe and locking outer stabilizer section into place over the outer chimney pipe. Position stabilizer in framed opening retaining proper clearance. Nail straps securely (under tension in "shear") on framing use 8d nails.

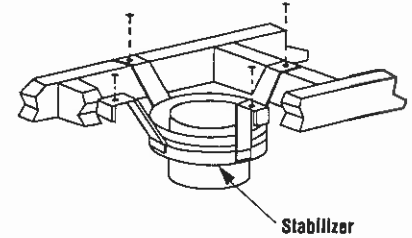


Figure 29

Attach next chimney section directly to stabilizer using same techniques as described in Step 4.

**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 2" (51 mm) 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 30).

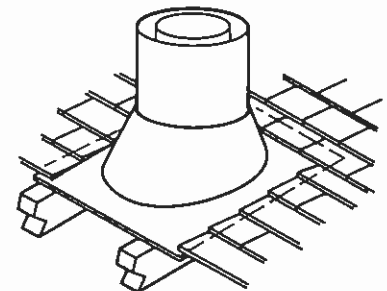


Figure 30

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

**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 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 31). Check all joints very carefully to ensure no water intrusion can take place.

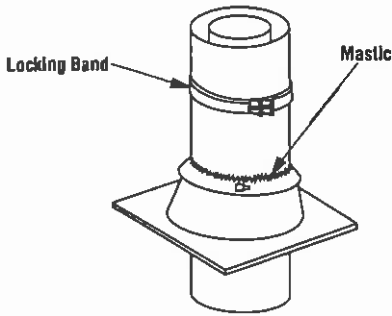


Figure 31

**Step 9.** Superior locking bands, Model LB, may be required if the chimney extends too high above the roof flashing. As a general rule, if the chimney extends more than 6' (1.8 m) 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 nut provided and TIGHTEN snugly. Do not over-tighten as this might damage chimney section (Figure 31)

**Note:** If chimney extends more than 8' (2.4 m) 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 32). Guy wires are not supplied by Superior.

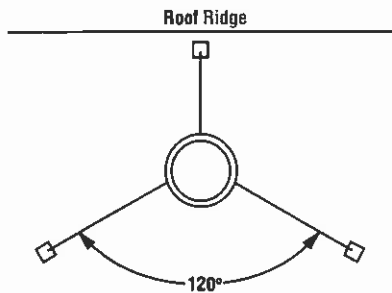


Figure 32

**Step 10. Using the TF10-CTDTM Round Termination:**

1. Hold CTDTM over top of last chimney section (Figure 33).
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 CTDTM to ensure locking joint has firmly engaged.

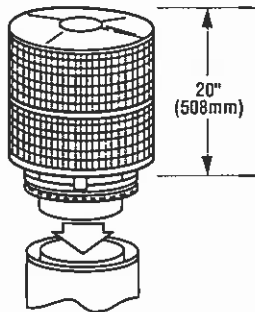


Figure 33

**Using a CT2 Chase Termination**

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

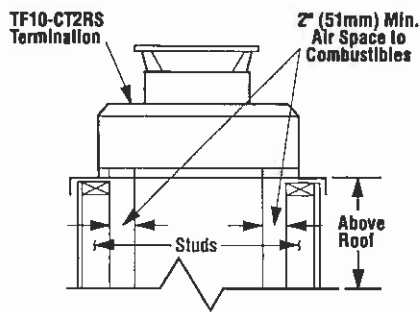


Figure 34

**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 (Figure 36).

**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 35).

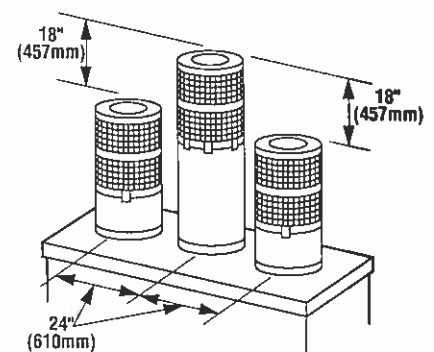


Figure 35

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.

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

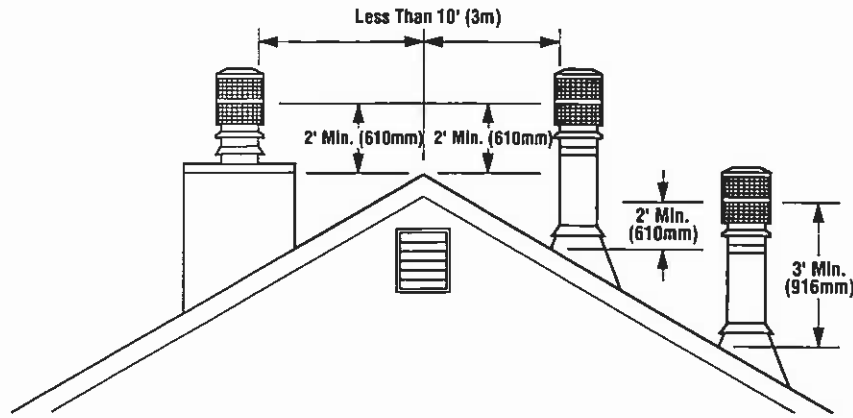


Figure 36

### TF10 CHIMNEY COMPONENT CALCULATIONS

The minimum installed height of the TM-4500 and TMC-4500 Series fireplace system is 16'0" (4.8 m). 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:

TM/TMC Fireplaces	=	65 1/4" (1657 mm)
TF10-12	=	10 1/4" (260 mm)
TF10-18	=	16 1/4" (413 mm)
TF10-36	=	34 1/4" (870 mm)
CTDTM Termination	=	10" (254 mm)
CT2 Termination	=	15" to 23" (381-584 mm)
S4 Stabilizer *	=	3" (76 mm)*

\* Required for every 30' (9.1 m) of vertical chimney and/or 10' 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 Superior 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 39). 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 41). **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 37).

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 38). 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 TF10-30 offset elbow in place of a TF10-E30 return elbow.

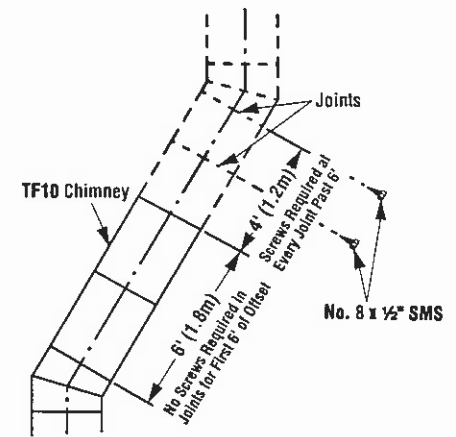


Figure 37

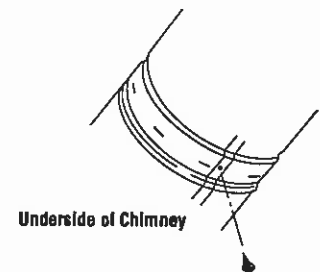


Figure 38

### OFFSET CALCULATIONS

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

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.

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 23 and 24 and stabilizers as shown in Figure 29.

### TF10 VERTICAL ELEVATION CHART

Height Of Chimney Only		Number Of TF10 Chimney Lengths			Height Of Chimney Only		Number Of TF10 Chimney Lengths			Height Of Chimney Only		Number Of TF10 Chimney Lengths			Height Of Chimney Only		Number Of TF10 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 3/4	10 3 3/4	2	0	3	260 1/2	21 8 1/2	2	0	7	397 1/4	33 1 1/4	2	0	11
17	1 5	0	1	0	129 3/4	10 9 3/4	1	1	3	266 1/2	22 2 1/2	1	1	7	403 1/4	33 7 1/4	1	1	11
21 1/4	1 9 1/4	2	0	0	137 1/2	11 5 1/2	0	0	4	274 1/4	22 10 1/4	0	0	8	411	34 3	0	0	12
27 1/4	2 3 1/4	1	1	0	147 3/4	12 3 3/4	1	0	4	284 1/2	23 8 1/2	1	0	8	421 1/4	35 1 1/4	1	0	12
33 3/4	2 9 1/4	0	2	0	153 3/4	12 9 3/4	0	1	4	290 1/2	24 2 1/2	0	1	8	427 1/4	35 7 1/4	0	1	12
35	2 11	0	0	1	158	13 2	2	0	4	294 3/4	24 6 3/4	2	0	8	431 1/2	35 11 1/2	2	0	12
37 1/4	3 1 1/4	2	1	0	164	13 8	1	1	4	300 3/4	25 0 3/4	1	1	8	437 1/2	36 5 1/2	1	1	12
43 1/4	3 7 1/4	1	2	0	171 3/4	14 3 3/4	0	0	5	308 1/2	25 8 1/2	0	0	9	445 1/4	37 1 1/4	0	0	13
51 1/4	4 3 1/4	0	1	1	182	15 2	1	0	5	318 3/4	26 8 3/4	1	0	9	455 1/2	37 11 1/2	1	0	13
55 1/4	4 7 1/4	2	0	1	188	15 8	0	1	5	324 3/4	27 0 3/4	0	1	9	461 1/2	38 5 1/2	0	1	13
61 1/4	5 1 1/4	1	1	1	192	16 0	2	0	5	328 3/4	27 4 3/4	2	0	9	465 1/2	38 9 1/2	2	0	13
67 1/4	5 7 1/4	0	2	1	198	16 6	1	1	5	334 3/4	27 10 3/4	1	1	9	471 1/2	39 3 1/2	1	1	13
69 1/4	5 9 1/4	0	0	2	206	17 2	0	0	6	342 3/4	28 6 3/4	0	0	10	479 1/2	39 11 1/2	0	0	14
79 1/4	6 7 1/4	1	0	2	215 3/4	17 11 3/4	1	0	6	352 3/4	29 4 3/4	1	0	10	489 1/2	40 9 1/2	1	0	14
85 1/4	7 1 1/4	0	1	2	222	18 6	0	1	6	358 3/4	29 10 3/4	0	1	10	495 1/2	41 3 1/2	0	1	14
89 1/2	7 5 1/2	2	0	2	226 1/4	18 10 1/4	2	0	6	363	30 3	2	0	10	499 3/4	41 7 3/4	2	0	14
95 1/2	7 11 1/2	1	1	2	232 1/4	19 4 1/4	1	1	6	369	30 9	1	1	10	505 3/4	42 1 3/4	1	1	14
103 1/4	8 7 1/4	0	0	3	240	20 0	0	0	7	376 3/4	31 4 3/4	0	0	11	513 1/2	42 9 1/2	0	0	15
113 1/2	9 5 1/2	1	0	3	250 1/4	20 10 1/4	1	0	7	387	32 3	1	0	11	523 3/4	43 7 3/4	1	0	15
119 1/2	9 11 1/2	0	1	3	256 1/4	21 4 1/4	0	1	7	393	32 9	0	1	11	529 3/4	44 1 3/4	0	1	15

### TF10 OFFSET ELEVATION CHART

A Offset (Inches)	B Height (Inches)	TF10-ES30 Offset/Return Elbow Set	TF10-S4 Stabilizer	Number of TF10 Chimney Sections			A Offset (mm)	B Height (mm)	A Offset (Inches)	B Height (Inches)	TF10-ES30 Offset/Return Elbow Set	TF10-S4 Stabilizer	Number of TF10 Chimney Sections			A Offset (mm)	B Height (mm)
				12"	18"	36"							12"	18"	36"		
4	15 3/4	1	0	0	0	0	102	400	44 1/2	85 3/4	1	0	3	1	1	1130	2178
9	24 1/2	1	0	1	0	0	229	622	45 1/4	87 1/2	1	0	0	3	1	1149	2223
12	29 3/4	1	0	0	1	0	305	756	46 1/4	89	1	0	0	1	2	1175	2261
14 1/4	33 1/2	1	0	2	0	0	362	851	48 3/4	91 1/2	1	0	2	0	2	1226	2324
17 1/4	38 1/2	1	0	1	1	0	438	978	49 1/2	94 1/2	1	0	1	5	0	1257	2400
20 1/4	43 3/4	1	0	0	2	0	514	1111	51 1/4	97 3/4	1	0	1	1	2	1302	2483
21	45 1/4	1	0	0	0	1	533	1149	54 3/4	103	1	0	0	2	2	1378	2616
22 1/4	47 1/2	1	0	2	1	0	565	1207	55 1/4	104 1/2	1	0	0	0	3	1403	2654
25 1/4	52 1/2	1	0	1	2	0	641	1334	56 1/2	106 1/2	1	0	2	1	2	1435	2705
26 1/4	54 1/4	1	0	1	0	1	667	1378	59 1/2	111 3/4	1	0	1	2	2	1511	2838
28 1/4	57 3/4	1	0	0	3	0	718	1467	62 1/2	116 3/4	1	1	1	0	3	1588	2965
29 1/4	59 1/4	1	0	0	1	1	743	1505	65 3/4	122	1	1	0	1	3	1664	3099
31 1/4	63	1	0	2	0	1	794	1600	67 3/4	125 1/2	1	1	2	0	3	1721	3188
32 1/2	65	1	0	4	1	0	826	1651	69 3/4	128 1/2	1	1	1	3	2	1772	3264
34 1/4	68 1/4	1	0	1	1	1	870	1734	70 3/4	130 3/4	1	1	1	1	3	1797	3321
36 1/4	71 3/4	1	0	3	0	1	921	1822	73 3/4	136	1	1	0	2	3	1873	3454
37 1/4	73 1/4	1	0	0	2	1	946	1861	75 3/4	139 1/2	1	1	2	1	3	1924	3543
38 1/4	75	1	0	0	0	2	972	1905	79 3/4	146 1/4	1	1	1	0	4	2026	3715
39 1/4	77	1	0	2	1	1	997	1956	81	148 1/4	1	1	3	1	3	2057	3766
41 1/2	80 1/2	1	0	1	4	0	1054	2045	82 3/4	151 1/2	1	1	0	1	4	2102	3848
43 1/4	83 3/4	1	0	1	0	2	1099	2127	87 3/4	160 1/4	1	1	1	1	4	2229	4070

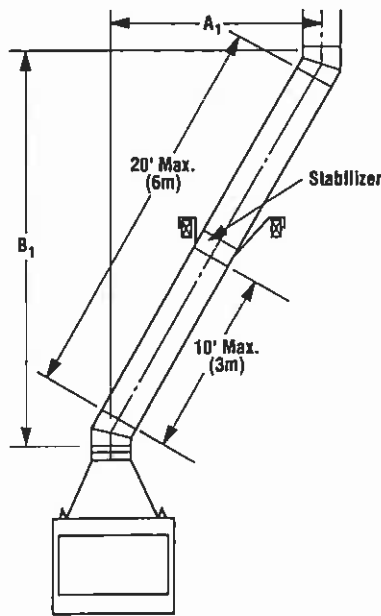
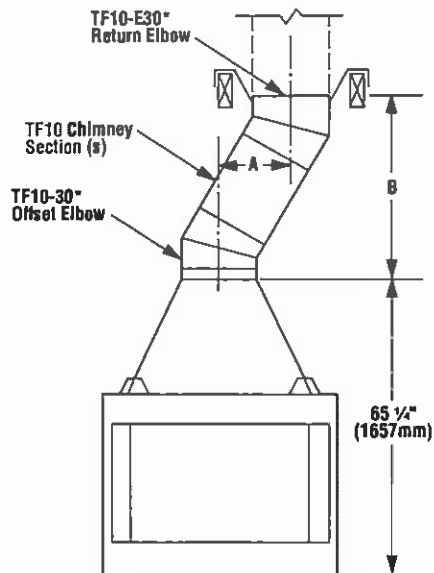


Figure 39

### TO INSTALL OFFSETS

First, review Offset Elevation Chart and Figure 40 for reference.



\* Part of Offset/Return Package, Model TF10-ES30

Figure 40

**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.

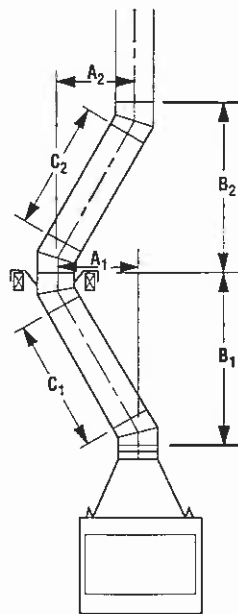


Figure 41

**Step 2.** 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.

### 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.

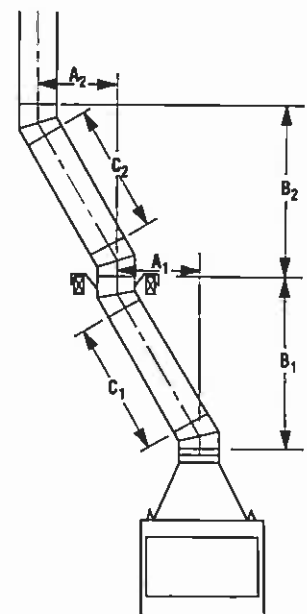


Figure 42

**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.

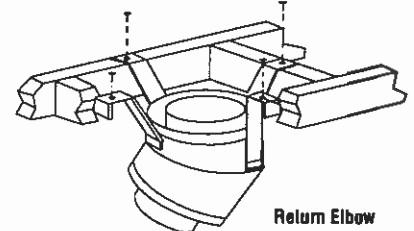


Figure 43

**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.

### TF10-OR15 OFFSET/RETURN ELBOW

Primarily used when fireplace penetrates a 6" (152 mm) thick wall. Refer to installation Instructions packed with the 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 floor or ceiling area. Use 30° angled firestop spacer, Model 10FS30-2, as shown in Figures 44 and 45. Support the chimney at floor or ceiling penetration with a stabilizer if distance of chimney below ceiling is 10' (3 m) or more. Maintain 2" (51 mm) minimum air space to combustibles from chimney sections.

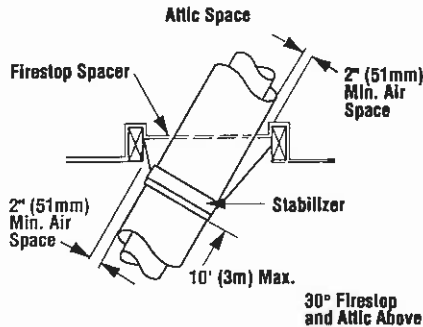


Figure 44

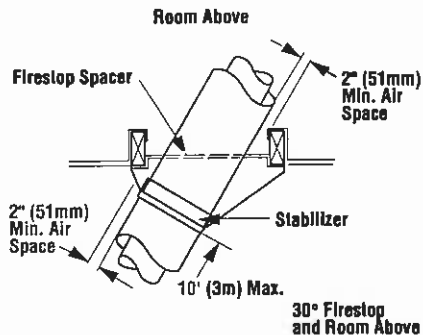


Figure 45

## OPTIONAL EQUIPMENT Glass Doors

If glass doors are to be installed on this system, refer to specific installation instructions packed with the glass doors. Superior glass doors Models 45BF-ABR, 45BF-SPB, 45BF-BR and Sonata 45 are for use only with Superior's TM-4500 and TMC-4500 factory-built fireplaces. Use of other non-listed glass door on these fireplaces may constitute a potential fire hazard and are not recommended.

**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.**

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

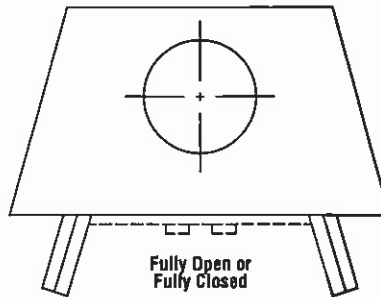


Figure 46

**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.**

## Combustion Air Kits

Use combustion air kit, Model CAK-4 or Model CAK-4LD, with the TM and TMC 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.

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

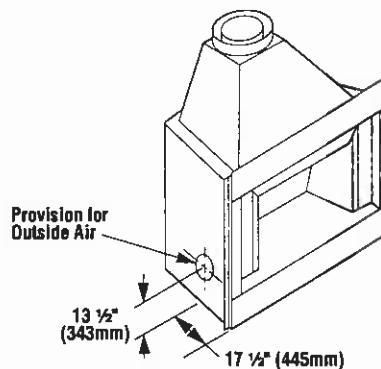


Figure 47

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.

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

**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.**

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.

A take-off boot adapter, Model TOB, may be used in conjunction with the air kit to reduce the framing dimensions when installing the fireplace diagonally in a corner (Figure 48). Refer to installation instructions packed with the TOB for specific installation information.

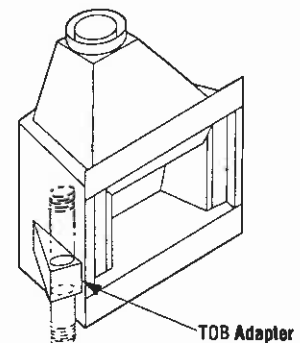


Figure 48

## TF10-TMS TERMINATION SHROUD

An optional termination shroud is available to partially conceal the TF10-CTDTM when installed on a chase. Model TF10-TMS is adjustable for chases measuring a minimum of 27" x 27" (686 mm x 686 mm) up to a maximum of 40 1/2" x 40 1/2" (1029 mm x 1029 mm). Consult the TF10-TMS installation instruction for specific installation information.

## WIRING FOR THE TMC FAN KIT

The TMC-4500 comes standard with a fan assembly and variable speed switch mounted behind the removable front access cover. The fan is located in the center behind the cover.

The "J" box has been pre-wired at the factory. The fireplace must, however, be connected to the main power supply at the time of installation before the fireplace is framed and enclosed in the finished walls.

To wire, remove the external "J" box cover (Figure 49) by removing the hex-head screw. The junction box cover has a 7/8" (22 mm) diameter knockout for connection with a conduit bushing. Wire with a minimum 60°C wire in accordance with prevailing codes (Figure 50). Fan draws 120Vac, 60Hz.

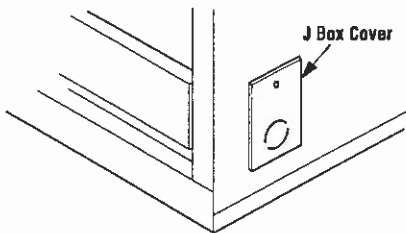


Figure 49

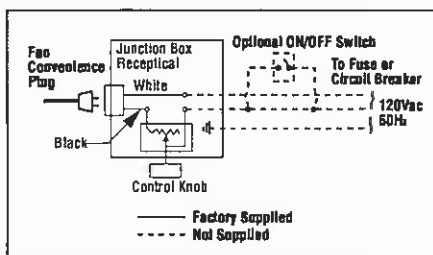


Figure 50

**CAUTION: ELECTRICAL CONNECTIONS SHOULD ONLY BE PERFORMED BY A QUALIFIED, LICENSED ELECTRICIAN. MAIN POWER MUST BE OFF WHEN CONNECTING FANS TO MAIN ELECTRICAL POWER SUPPLY OR PERFORMING SERVICE.**

Connect ground wire to ground screw located inside "J" box (Figure 51). An optional U.L. listed ON/OFF wall switch (not provided) rated at 1 amp minimum, 120Vac may be used instead of the built-in switch. When connections have been made, place "J" box cover back into the side access opening and secure with hex-head screw.

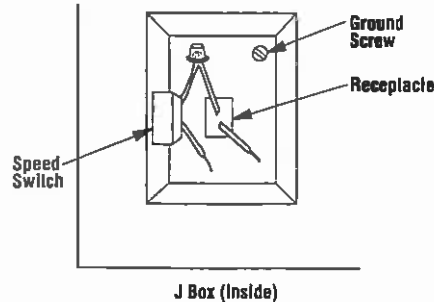


Figure 51

## Fan Operation

Insert fingertips through the inlet above the front access cover. Rotate knob on the built-in variable speed switch clockwise. The fan motor will then run at a slow speed. To run the fan at a faster speed, continue to turn knob clockwise. To turn fan off, rotate knob fully counterclockwise (Figure 52).

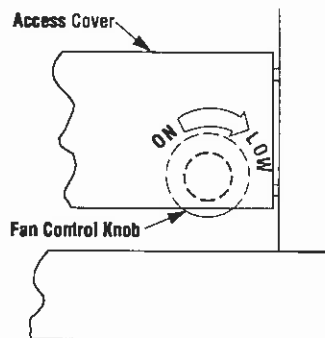


Figure 52

## Fan Maintenance

The fan motor should be serviced yearly by oiling and cleaning. To remove the fan assembly first remove the lower access cover by lifting slightly and then pulling straight out. Disconnect the power plug from the "J" box receptacle and remove the fan assembly. The compartment under the fireplace should be inspected and cleared of lint or other debris. The motor should then be oiled with a good quality light motor oil. The oil holes are located on the top and bottom of the fan motors. Replace all components by reversing the procedure.

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

## GAS LINE

The TM/TMC 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 only a 1/2" (13 mm) 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.**

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 A 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 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. Figure 53 shows typical Canadian installation. In installations other than Canada, combustible mantels and trim may be installed 12" (305 mm) above the fireplace opening as per NFPA 211; Section 7-3.3.3. and Figure 54. 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.

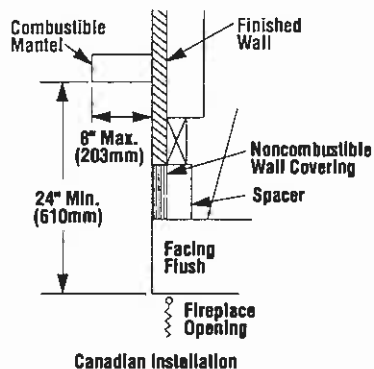


Figure 53

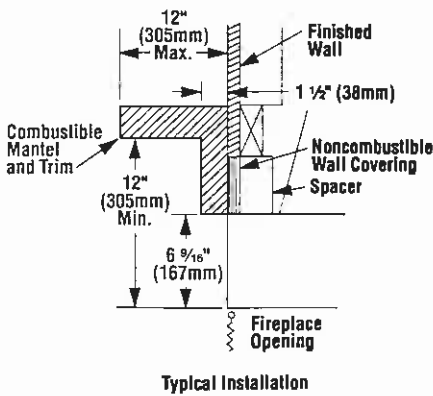


Figure 54

### Hearth Extensions and Wall Shields

A hearth extension must be installed with all fireplaces. Its purpose is twofold. It protects a combustible floor in front of the fireplace from both radiant heat and sparks and it distinguishes the prescribed hearth extension area from other nonprotected surfaces. The hearth extension must extend beyond the front at least 20" (508 mm) and both sides at least 12" (305 mm). Use the hearth extension constructed of a durable noncombustible material having an equal or greater insulating value of:

$$k = .84 \text{ BTU IN/FT}^2 \text{ HR } ^\circ\text{F}$$

or a thermal resistance that equals or exceeds  $r = 1.19 \text{ HR } ^\circ\text{F FT}^2/\text{BTU IN}$ . A minimum 3/8" (10 mm) thick noncombustible material is all that is required over a noncombustible or slab floor.

**Note:** Any noncombustible material whose 1" (25 mm)  $k$  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.

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

If a continuous perpendicular side wall is closer than 18" (457 mm) to the fireplace opening, a wall shield is required. Use a 40" x 40" x 1/2" (1016 mm x 1016 mm x 13 mm) wall shield constructed of millboard or a durable noncombustible material with equal or greater insulating value than  $k = .84 \text{ BTU IN/FT}^2 \text{ HR } ^\circ\text{F}$ . In no case shall a continuous perpendicular side wall be closer to the fireplace opening than 12" (305 mm).

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

### Hearth Extension Dimensions

A	20" (508 mm)
B	36" (914 mm)
C	12" (305 mm)
D	60" (1524 mm)

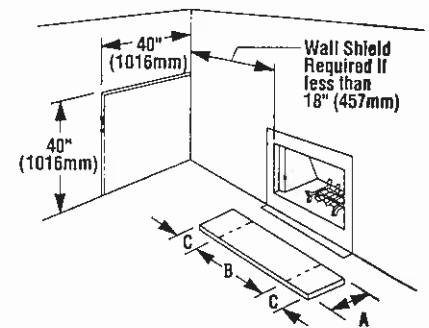


Figure 55

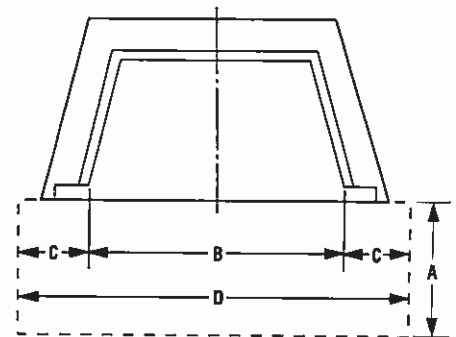


Figure 56

### Methods of Determining Hearth Extension and Wall Shield Equivalents

To determine the thickness required for any desired material when either the  $k$  or  $r$  values are known:

$$T_M = \text{Thickness of desired material in inches}$$

$$k_M = k \text{ value of desired material}$$

$$r_M = r \text{ value of desired material}$$

$$T = \text{Minimum listed thickness}$$

**Example:** Micore CV230 is to be used with the TM fireplace. How thick must this material be?



Using the k formula:

Desired k value of desired Min. thickness  
 Required =  $\frac{\text{material (per inch)}}{\text{k value of listed Material}}$  x of Listed  
 Thickness material (per inch)

$$T_M (\text{Inches}) = \frac{k_m \times T_L}{.84}$$

$$T_M (\text{inches}) = \frac{0.43^* \times 1^{**}}{.84}$$

Answer using  $k = 0.51 \times 1' = 0.51 = \frac{1}{2}'$ .

Using the r formula:

Desired r value of listed Min. thickness  
 Required =  $\frac{\text{material (per inch)}}{\text{r value of desired Material}}$  x of Listed  
 Thickness material (per inch)

$$T_M (\text{inches}) = \frac{1.19 \times T_L}{r_M}$$

$$T_M (\text{Inches}) = \frac{1.19 \times 1^{***}}{2.33^*}$$

Answer using  $r = 0.51 \times 1' = 0.51 = \frac{1}{2}'$

#### Alternative Hearth Extension and Wall Shield Materials

Listed Material	Values		Min. Thick
	k	r	$T_L$
Millboard	0.84	1.19	1"
Alternative Materials	Values		Min. Thick
	k	r	$T_M$
Common brick	5.00	0.20	6"
Cement mortar	5.00	0.20	6"
Ceramic tile	12.5	0.08	15"
Marble	11.0	0.09	13"
Micore CV230 (U.S. Gypsum)	0.43	2.33	$\frac{1}{2}'$
Ceraform 126 (Johns-Manville)	0.27	3.70	$\frac{1}{2}'$

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

$$\text{"R value"} = \frac{1}{k} = r \times \text{thickness of material used}$$

**Example:** Given that the required "R value" for a suitable hearth extension used with the TM-4500 be equal to or greater than "R" =  $r \times T_L = 1.19 \times 1' = 1.19$ . It is desired to elevate a marble hearth extension to a level of  $6 \frac{3}{4}'$  or more above the floor surface. What combination of noncombustible materials can be used to accomplish this?

If two common bricks are used so that the  $3 \frac{1}{4}'$  flat dimension is the height, "R" for the common brick becomes:

$$\text{"R"}_M = r \times T_M = 0.20 \times 5 \frac{1}{2}' = .110$$

Using  $\frac{1}{4}'$  of mortar to set the brick, "R" for the mortar becomes:

$$\text{"R"}_M = r \times T_M = 0.20 \times \frac{1}{4}' = .05$$

A  $\frac{3}{4}'$  marble slab set in  $\frac{1}{4}'$  mortar covers the brick, "R" for the marble and mortar becomes:

$$\text{"R"}_M = r \times T_M = 0.09 \times \frac{3}{4}' = .068$$

$$\text{"R"}_M = r \times T_M = 0.20 \times \frac{1}{4}' = .05$$

The sum of all "R values" is:

$$1.1 + .05 + .068 + .05 = 1.268$$

This would be an acceptable combination of material for the hearth extension since the total calculated "R value" of the materials used exceeds the required "R value" of 1.19.

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

**WARNING: WHEN INSTALLING THE HEARTH EXTENSION, BE CAREFUL NOT TO BLOCK THE LOWER HEAT-CIRCULATING AIR GRILL ON MODEL TMC-4500.**

**WARNING: FIREPLACE MUST BE RAISED IF HEIGHT OF HEARTH EXTENSION EXCEEDS 7" (178 MM) FOR THE TM-4500 OR 2  $\frac{3}{8}$ " (60 MM) FOR THE TMC-4500 (FIGURES 57 AND 58).**

\* value taken from chart  
 \*\* minimum thickness per listing

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

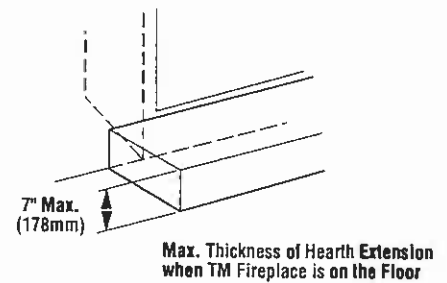


Figure 57

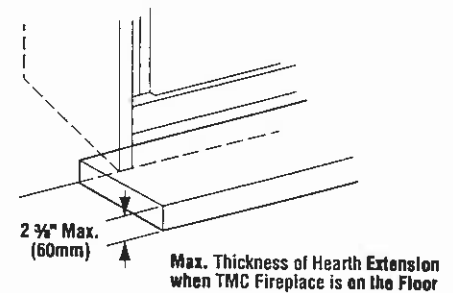


Figure 58

#### FINISH TO YOUR TASTE

There are a wide variety of "finished looks" for your TM and TMC Series from formal wall decor with elaborate mantels to rustic wood paneling or warm brick facings.

Only noncombustible materials like stone, tile, brick, etc. may overlap the black front facing, but be sure not to interfere with the installation and operation of glass doors or block the lower air grille on the TMC-4500. 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 59.

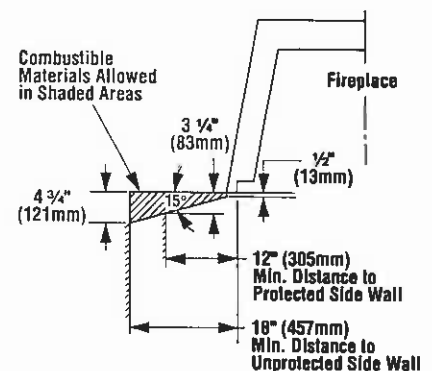


Figure 59

**SUPERIOR ACCESSORY PARTS AND COMPONENT LIST FOR TM AND TMC SERIES FIREPLACES**

The following accessory parts and components are to be used only with your Superior fireplace system. Separate installation instructions are packaged with all combustion air kits and chimney terminations.

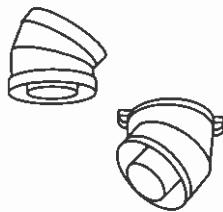
If you encounter any problems or have questions concerning the installation or application of this system, please contact your distributor. For the name of your nearest distributor call:

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

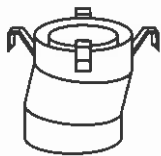
Model	Part Number	Weight
TM-4500	P/N 018351	450 lbs.
TMC-4500	P/N 027301	500 lbs.



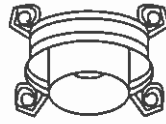
Chimney Section	P/N 010297	TF10-12
	P/N 010298	TF10-18
	P/N 010299	TF10-36
	P/N 040657	TF10-18C
	P/N 040652	TF10-36C



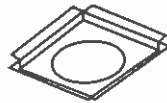
Offset/Return Package	P/N 022153	TF10-ES30
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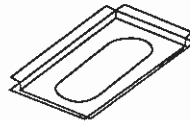
15° Offset/Return Elbow	P/N 014882	TF10-OR15
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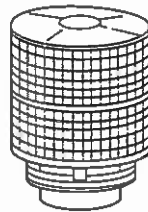
Stabilizer	P/N 010292	TF10-S4
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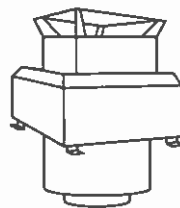
Firestop Spacer (Flat)	P/N 020121	10FS-2
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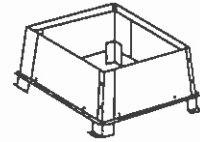
Firestop Spacer (30°)	P/N 010299	10FS30-2
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Round Termination	P/N 020001	TF10-CTDM
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Chase Termination	P/N 015603	TF10-CT2RS
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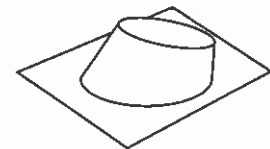
Termination Shroud	P/N 026771	TF10-TMS
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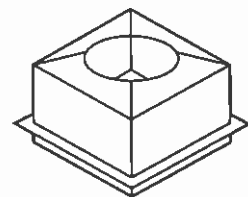
Locking Band	P/N 002400	LB
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Storm Collar	P/N 002013	SC
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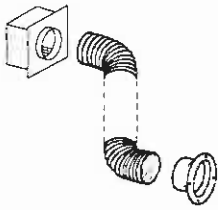


Flashing	P/N 002050	10F12
	P/N 002000	10F6

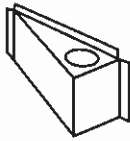


Attic Shield Assembly Firestop Spacer	P/N 037372	TF10-FSAS
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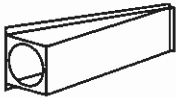
NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.



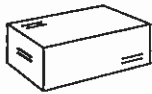
Chimney Air Kit  
(Canada Only)  
Combustion Air Kit  
(Less Duct)      P/N 008373      CAK-4  
                                 P/N 045341      CAK-4LD



Take Off Boot      P/N 011771      TOB



Air Take Off      P/N 008613      ATO-4

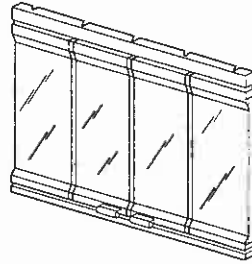


Refractory Patch Kit      P/N 010405      RPK

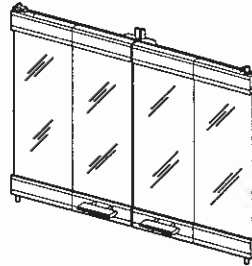


Refractory Tint Kit      P/N 008988      RTK

*Note: The Bi-Fold Series glass doors overlap the frame around the fireplace. Allow 1/16" clearance; top, bottom and each side when applying facing materials.*

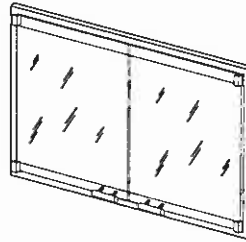


Bi-Fold Glass Door      P/N 027636      45BF-ABR  
                                 P/N 026964      45BF-SPB



Aluminum  
Bi-Fold Glass Door      P/N 043981      45BF-BR

*Note: Allow 1/16" clearance; top, bottom and each side when applying facing materials.*



Solid Brass  
Twin-Pane Door      P/N 097273      Sonata 45

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

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