INSTALLATION MANUAL

YOUR TEMCO FIREPLACE

Your **TEMCO FIREPLACE** has been carefully engineered to produce a fireplace that will be both a beautiful and practical addition to your home. This factory-built fireplace has the advantage of being laboratory and field tested by our engineers for performance and safety. In addition, it has been tested and listed by Underwriters Laboratories—a highly regarded independent testing agency that provides the insurance industry with product fire prevention information.

The compact design of this fireplace allows it to be installed in a corner, on a wall, or as a room divider with minimal use of floor space. It is ideal for use in living rooms, family rooms and dens. The fireplace installation may be attractively finished by covering the wall with brick, stone, paneling or wallboard. The brick embossed refractory lining of the firebox creates the look of an all-masonry fireplace.

Best of all, the heat circulating feature of your fireplace was designed with today's rising fuel costs in mind. Cold air is drawn off the floor of the room through the opening in the bottom of the fireplace face and circulated around the firebox. Warm air is directed back into the room through the opening at the top of the fireplace front.

Model TEC36-3 features TEMCO double-wall 8″ diameter, air-cooled chimney and components.

This book contains your installation instructions and warranty information and should be kept in a safe place. It will be a handy reference guide to operating your fireplace after installation. For you to realize all the advantages and use of the reliable service that has been engineered into your TEMCO fireplace, you must carefully follow all of the instructions contained in this book regarding installation and operation of the fireplace. **These instructions should be read carefully in their entirety before beginning installation of the fireplace.**

It is suggested that you wear work gloves and safety glasses to protect your hands and eyes when installing your fireplace.

TEMCO FIREPLACE APPLICATIONS

This manual covers the installation of the two fireplace models listed below. BE SURE TO USE ONLY THE MODEL THAT IS UL LISTED FOR THE TYPE OF INSTALLATION YOU ARE PLANNING.

TEC36-3B

* Listed for use in residential construction in the United States with TEMCO double-wall 8″ diameter air-cooled chimney and components.
* Optional Combustion Air Kit (AIR-7) and Glass Doors (CV-2) are available.

TEC36-3BD

* Listed for use in residential construction in the United States with TEMCO double-wall 8″ diameter air-cooled chimney and components.
* Combustion Air Kit (AIR-7) and Glass Doors (CV-2) are included with fireplace.

* All of the models listed above may be used in mobile homes in the United States provided the TEMCO Combustion Air Kit (AIR-3), Glass Doors (CV-2) and Firestop Thimble (UFT8-1) are installed.

BE SURE TO FOLLOW EXACTLY THE SPECIFIC INSTALLATION RESTRICTIONS THAT APPLY TO THE MODEL YOU ARE INSTALLING. The model number of the fireplace is located on a metal label behind the firescreen in the upper right corner of the front of the fireplace. Be sure you follow these rules exactly.

* Listed in the United States by Underwriters Laboratories, Inc.

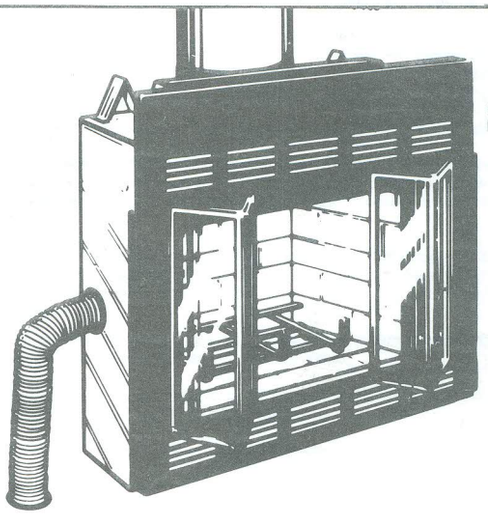
THE TEMCO CHIMNEY SYSTEMS

8″ Diameter Double Wall Chimney System

8212D/8″ Diameter Double Wall Chimney—12″ Section
8218D/8″ Diameter Double Wall Chimney—18″ Section
8224D/8″ Diameter Double Wall Chimney—24″ Section
*8236D/8″ Diameter Double Wall Chimney—36″ Section
8248D/8″ Diameter Double Wall Chimney—48″ Section
8204S Flue Support
8232E Elbows
*8204F-1 Round Firestop Spacer
8230F-1 30″ Firestop Spacer
*8206F 0-6/12 Roof Flashing
8212F 7/12-12/12 Roof Flashing
*8203D Round Termination Cap
*STD-22 Round Chase Cap
*ARC-22 Architectural Cap
*ARC-52 Architectural Cap
*Used in chase installations, storm collar not required.

*Included in CCP8-2 Chimney Kit.

TEMCO



ICBO Report #3195

The Energy Conserver Fireplace

MODEL TEC36-3B
TEC36-3BD

TEMTEX PRODUCTS, INC.
P.O. BOX 1184 • NASHVILLE, TENNESSEE 37202
TELEPHONE (615) 297-7551
P.O. BOX 1148 • PERRIS, CALIFORNIA 92370
TELEPHONE (714) 657-7311
A SUBSIDIARY OF TEMTEX INDUSTRIES, INC.

BEFORE YOU BEGIN . . . A FEW BASIC RULES

1. The instructions on the following pages were designed to make the installation of your TEMCO fireplace as quick as possible. It is important that they be followed exactly. This fireplace should be installed by a skilled craftsman.
2. Use only TEMCO manufactured components when installing a TEMCO fireplace. **Substituting other manufacturer's components for or altering TEMCO parts will void the UL listing and TEMCO warranty.**
3. Check local building codes for restrictions which may not be contained in this manual.
4. The fireplace design permits installation and framing adjacent to combustible materials. Do not set the fireplace on vinyl flooring or carpets. **Combustible materials may not be placed on the black face surrounding the fireplace.**
5. All chimney sections, elbows and flue supports require an absolute minimum of 1″ air space clearance to all combustibles.
6. The minimum distance from the fireplace opening to an adjacent combustible wall is 17½″. The minimum distance to an adjacent combustible wall may be reduced to 12″ when an approved wall shield is used on the wall. The wall shield must be 40″ × 40″ square and constructed of a non-combustible inorganic material having a thermal resistance of R = 1.49.
7. If the floor construction in front of the fireplace is combustible, a protective hearth extension must be used.

   The thickness of the desired hearth may require that the fireplace be raised up in order to not cover any of the bottom louvered panel. The hearth extension material must be a minimum of 16″ × 52″ and have a thermal resistance of R = 2.32.
   The hearth extension must be fastened to the floor to prevent shifting and the gap between the fireplace and the hearth extension sealed with a non-combustible material. These materials may be used for the wall shield or in construction of the hearth extension.
   a) Micore MC-180 manufactured by U.S. Gypsum Corporation.
   b) Conwed Spec 300 manufactured by Conwed Corporation.
   c) Cera Form Type 106R board, manufactured by Johns-Manville.
8. Adhere to the 10′ Rule of Thumb on page 5.

9. Chimney supports:
   a. Flue support required every 35′ of vertical system height.
   b. Flue support required every 6′ of offset chimney.
   c. Guy wire stabilizer is required for chimney extending more than 6′ above roof line.
10. Only TEMCO model CV-2 glass doors may be installed on this model.
11. Barometric damper on the Combustion Air Kit allows air to be drawn from above, below or behind the fireplace, but air must never be drawn from the attic spaces. Refer to the AIR-7 installation manual for complete installation and use information.
12. Check your local building code to determine if grounding is required and what procedure should be followed. Grounding is recommended by the manufacturer if you live in an area of high risk due to electrical storms.
13. Coal and charcoal may not be burned in this fireplace.
14. **Read the complete manual before beginning the installation of your fireplace. It will save time and effort if you understand the complete procedure before beginning.**
15. **All double wall chimney sections, elbows and flue supports require an absolute minimum of 1″ air space clearance to all combustibles.**
16. System height:
   a. 12′6″ minimum height (residential construction)
   b. 60′ maximum height.
   c. Four 30° elbows maximum per system. Minimum total height:
      Two elbows = 13′6″
      Four elbows = 21′.
   d. Maximum distance between elbows without support is 6′. Maximum run of inclined chimney is 20′.

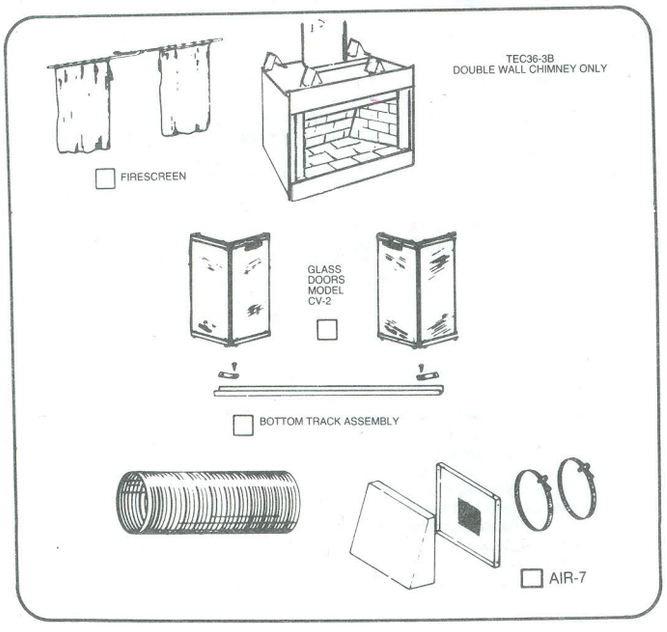
Chimney sections require an absolute minimum clearance of 1″ air space to combustible materials. Firestop spacers installed at each ceiling level provide the clearance at that point.

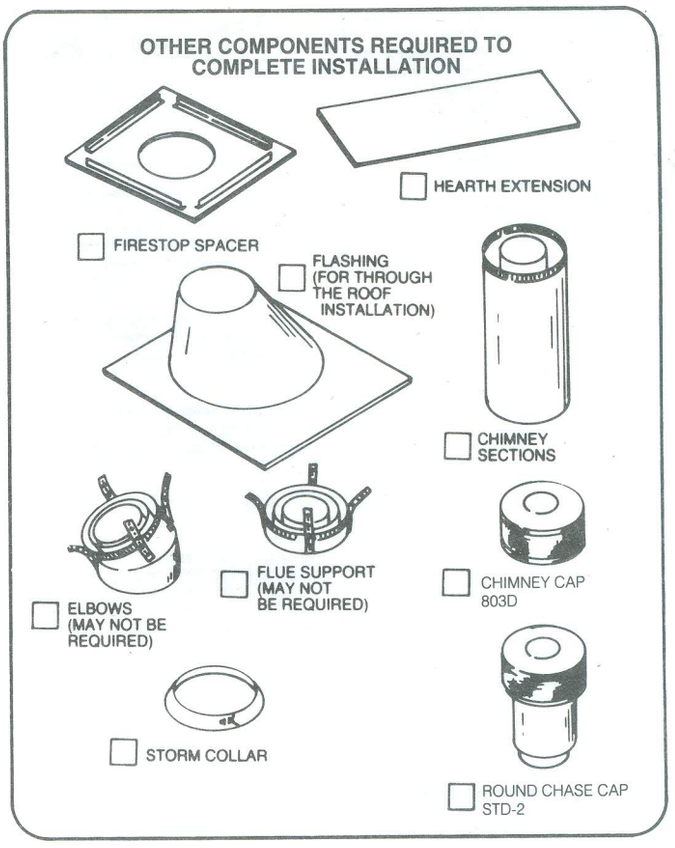
COMPONENT CHECK LIST

It is important that you check your fireplace for damage or shortages as soon as it is delivered. The shipping list will list all of the parts contained in the carton. Refer to the parts illustration below to identify individual parts.

As you locate each part, place a check mark in the box next to the drawing of the part below. Some of these parts are small and may be concealed by packing material. Do not throw away the packing material until you are sure you have located all of the items.

The model number and serial number of your fireplace are on a nameplate located in the upper front corner of the firebox. This information will be helpful in the event that you have to order replacement parts.





PLANNING AHEAD

CHOOSING THE LOCATION FOR YOUR FIREPLACE:

Figure 1 shows some of the many ways your fireplace may be installed. Consider the traffic pattern in your room and the location of doors and windows. A corner location may be best where space is limited.

Your fireplace weighs no more than some of your fine furniture. If the fireplace is located near a load bearing wall, additional supports to the foundation will not be necessary. **HEAVY FACING SUCH AS MARBLE, BRICK, TILE, STONE, ETC., MAY REQUIRE ADDITIONAL FOUNDATION SUPPORT.**

ALTHOUGH THIS UNIT MAY BE INSTALLED OVER COMBUSTIBLE SURFACES IT IS NOT RECOMMENDED FOR INSTALLATION ON CARPET OR VINYL.

FIGURE 1

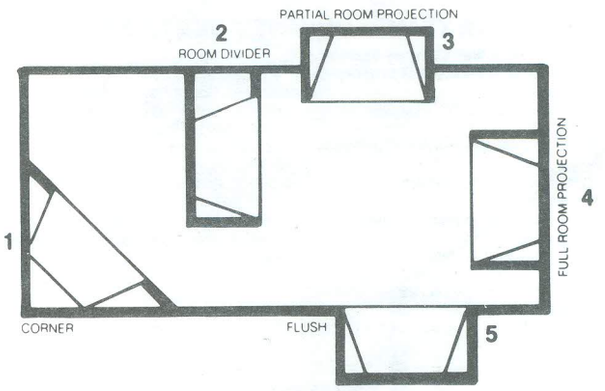
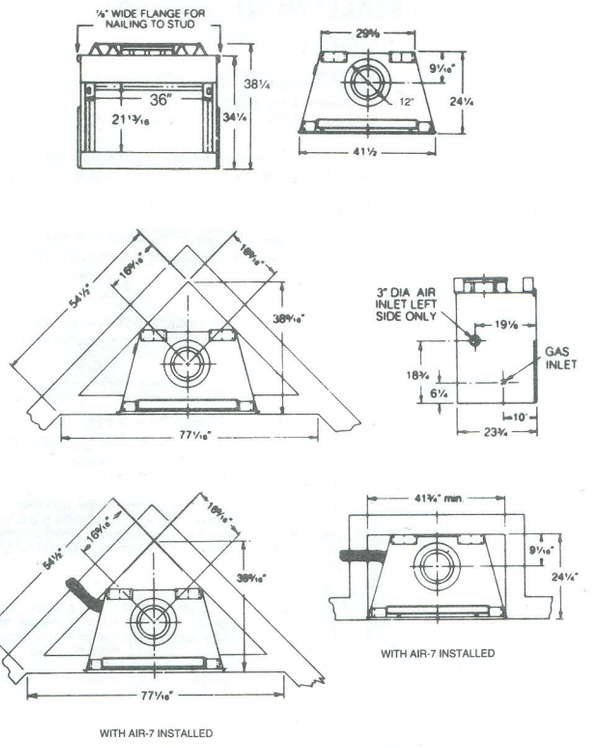


FIGURE 2 GIVES BASIC DIMENSIONS WHICH WILL AID YOU IN CHOOSING THE LOCATION FOR YOUR FIREPLACE.

FIGURE 2



OUTSIDE AIR KIT, AND GLASS DOOR ACCESSORIES

A fireplace needs a steady supply of air in order to draw properly. Many houses and apartments which are well sealed lack sufficient air for normal operation. IN SUCH HOUSES IT IS RECOMMENDED THAT A COMBUSTION AIR KIT BE INSTALLED. A combustion air kit will improve the efficiency of any fireplace, especially if used in conjunction with a glass door accessory, because it allows you to use outside air for combustion instead of heated room air.

Installing the fireplace on an outside wall will simplify the installation of the combustion air kit and reduce the amount of necessary duct work. Install the air kit according to the separate installation instructions packed with it. If an air kit is to be installed, IT MUST BE INSTALLED AT THE TIME THE FIREPLACE IS INSTALLED, before its enclosure is finished.

GAS LOG

If you plan to install a gas log the gas line must be installed before framing in the fireplace. **The gas line must be installed by a licensed gas line installer.** See page 8.

DRAFTS

The location for the fireplace should be away from objects that will create drafts and possibly hamper the normal flow of air into the fire. Such objects are frequently opened doors and central heat air outlets and inlets.

LOCATING AREA WHERE FLUE PIPE WILL PASS THROUGH CEILING AND ROOF

It is very important that you determine where the flue (chimney) will go through the ceiling and roof. Check the structure of your home to see that the location you have chosen will make installation as easy as possible. Start by using a plumb bob. Hold the string from the ceiling and drop the plumb bob, moving the string until the plumb bob is in the center of the flue collar opening. See Figure 3. Mark the spot on the ceiling. You may wish to drive a nail through the ceiling at this spot. Then go into the attic and find the nail. Using the plumb bob (with the ceiling nail being the center point of the flue) to mark the center of the area on the roof through which the flue will pass. The purpose of doing this is to see if it is possible to cut your opening for the flue in both the ceiling and roof without cutting either roof rafters or ceiling joists. A location that requires cutting the least number of joists and rafters will simplify the installation and reduce the cost. The structural integrity of a home's floor, walls and ceiling/roof must be maintained. It is not recommended to cut roof trusses.

CHIMNEY OUTLET

Thought should be given to the proposed location of the chimney outlet on the roof. Objects such as trees, adjacent buildings or embankments that are too close to the chimney can create air circulation problems during windy weather that could affect the way the fireplace draws air.

After careful consideration, choose the location for your fireplace to achieve the simplest installation for maximum efficiency.

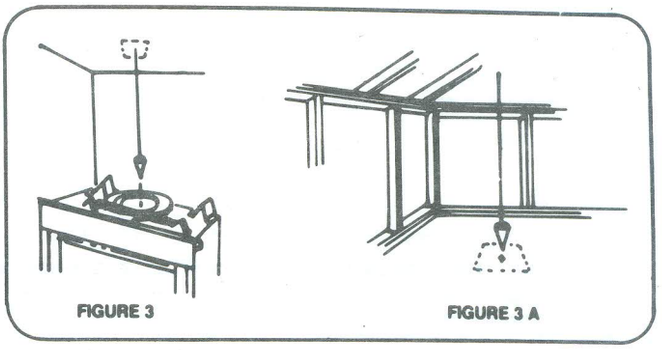


FIGURE 3 **FIGURE 3 A**

FIREBOX AND CHIMNEY SYSTEM CLEARANCES

The fireplace may be placed directly on a combustible floor, against a combustible wall or on a raised wooden platform.

If the fireplace is to be installed on a raised platform, the platform must be a continuous level surface.

The fireplace must be secured in place so it cannot shift positions. The nailing flanges on the sides of the firebox make securing the firebox to the frame quick and easy. The nailing flanges were designed to allow the installation of ½" wallboard or plywood flush with the face of the fireplace.

Framing may be placed directly against the side and back standoffs. Only the header (see page 3) may rest on the standoffs on top of the firebox.

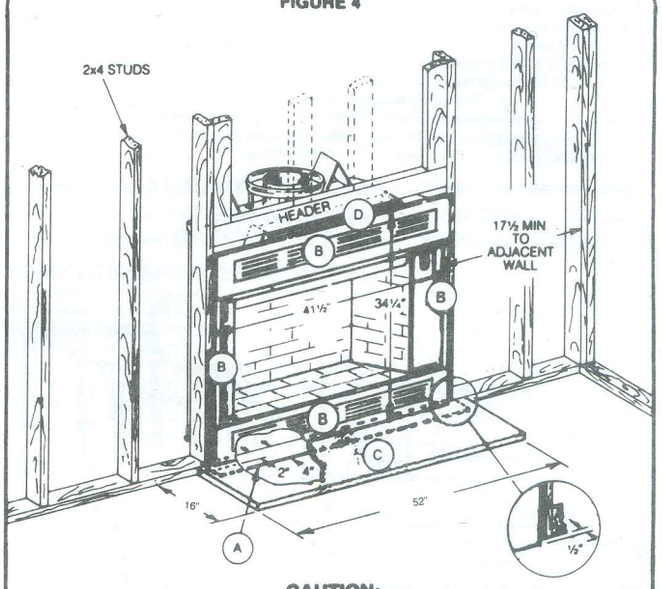
Combustible materials may not cover any part of the black metal surrounding the firebox opening. See Figure 4 and Figures 25-28 on page 7.

Do not install the firebox over vinyl floors or carpet.

Combustible floors in front and to the sides of the firebox opening must be protected by a non-combustible hearth extension as shown in Figure 4.

The minimum distance from the fireplace opening to an adjacent combustible wall is 17½". The minimum distance to an adjacent combustible wall may be reduced to 12" when an approved wall shield is used on the wall. The wall shield must be 40" × 40" square and be constructed of a non-combustible inorganic material having a thermal resistance of R = 1.49.

FIGURE 4



CAUTION:

A. The Hearth Safety strip must be used under the crack between the fireplace and the hearth extension when the fireplace is installed on a combustible floor. Seal the crack with a non-combustible material such as mortar, grout, etc.

B. COMBUSTIBLE MATERIAL MUST NOT BE INSTALLED OVER DARKENED AREA.

C. If the floor construction in front of the fireplace is combustible, a protective hearth extension must be used. The thickness of the desired hearth may require that the fireplace be raised up in order to not cover any of the bottom louvered panel. The hearth extension material must be a minimum of 16" × 52" and have a thermal resistance of R = 2.32.

D. Header may not touch any fireplace surface painted black.

E. The minimum distance from the fireplace opening to an adjacent combustible wall is 17½". The minimum distance to an adjacent combustible wall may be reduced to 12" when an approved wall shield is used on the wall. The wall shield must be 40" × 40" square and constructed of a non-combustible inorganic material having a thermal resistance of R = 1.49.

HOW TO DETERMINE THE "R" VALUE

Insulating material may be marked with a K, C or R. K = the thermal conductivity of any material in a one inch thickness; C = the thermal conductivity for a particular thickness, i.e. ¼, ½, ¾, 1"; and R = the thermal resistance.

The following formulas may be used to calculate the thickness required of a particular material to meet the required R or thermal resistance.

R = 1/K
R = 1/C
C = K/Total Thickness

Example:

Ceraform has a K = .24

What is the R of (3) ½" boards?

$$C = \frac{K}{\text{Total Thickness}} \qquad \frac{24}{1.50} = .16 \text{ -- } C$$

$$R = \frac{1}{C} \qquad \frac{1}{.16} = 6.25 \text{ -- } R$$

If "R" is known for a material, simply add the "R" per sheet until you match the "R" required.

INSTALLING THE FIREBOX

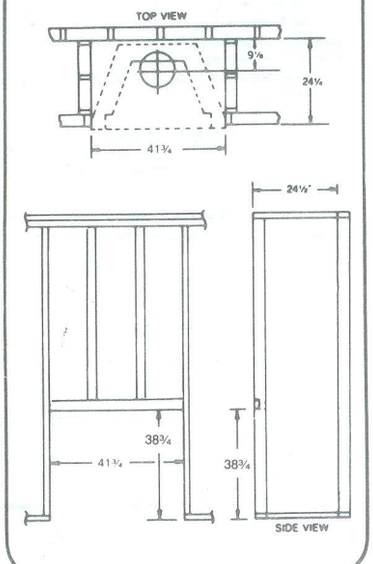
This list of specific instructions will help you make certain that every installation operation is done correctly. For your convenience a "check-off" box ☐ has been placed in front of each installation step. Complete the installation steps in the sequence shown.

Local building codes should be consulted in all cases as to the particular requirements concerning the installation of factory built fireplaces.

Select the location for the fireplace by taking into consideration the factors previously outlined in the **Planning Ahead** section of the manual.

TOOLS REQUIRED FOR INSTALLATION:
☐ Phillips Screwdrivers ☐ Slot style screwdrivers ☐ Hammer ☐ Saw and/or sabersaw ☐ Level ☐ Measuring tape ☐ Plumbline ☐ Electric drill and bits ☐ Pliers ☐ Square ☐ 5/16" Hex head nut driver.

FIGURE 5 FRAMING DIMENSIONS



☐ Step 1

FRAMING FIREBOX

When framing the opening for the fireplace, make certain that the header is 38¾" above the surface upon which the fireplace will set. Header must be level. The header and framing may be installed as shown in Figure 4 or Figure 7 according to the installer's preference. The width of the framed opening must be 41¾". See Figures 5, 6 and 7.

The entire fireplace can be elevated above the floor to achieve a raised hearth effect. This can be done by adding a small platform to achieve the desired height.

NOTE: If a FAN-4 blower kit is to be installed in the future, the bottom of the lower grill must be even with the hearth extension. The fireplace must be raised if the hearth extension is greater than 1" in thickness. The wiring required for the blower must be installed during the framing stage. See Temco Installation Sheet 7A65921 for wiring requirements.

The nailing flanges on the side of the firebox were designed to allow the installation of ½" wallboard or plywood flush with the face of the firebox.

INSTALLING THE FIREBOX

FIGURE 6 CORNER INSTALLATION

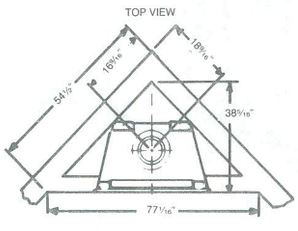
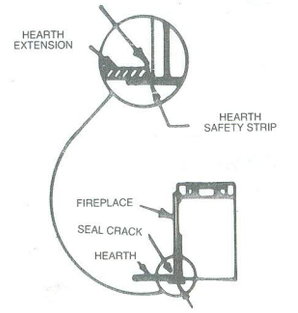


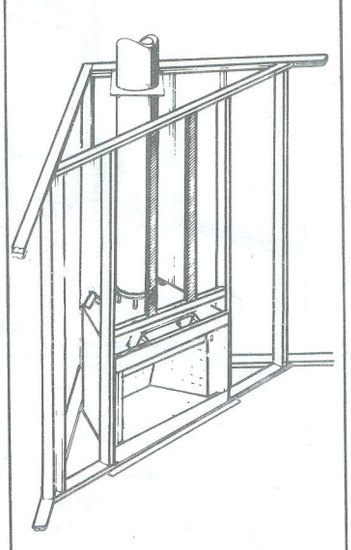
FIGURE 8

Seal crack with non combustible material



Place 4" wide hearth safety strip so 2" of it is under the firebox and 2" of it is under the hearth extension.

FIGURE 7



Note: Install shaded framing after chimney has been installed.

☐ Step 2 HEARTH SAFETY STRIP

The Hearth Safety Strip must be installed under the fireplace when the fireplace is installed on a combustible floor. This strip must be positioned on the floor to extend 2 inches under the fireplace and 6 inches on either side of the fireplace opening at the point where the hearth extension meets the fireplace. See Figure 8 above and Figure 4 on page 3.

RESIDENTIAL CONSTRUCTION: INSTALLING THE FIREBOX

☐ Step 3 INSTALL FIREBOX

Install fireplace into the framed opening by setting unit directly in front of the opening and then sliding it into the proper position.

☐ Step 4 LEVEL FIREBOX

Check the level of the fireplace by placing a level on the top edge of the fireplace face. Shim with sheet metal if necessary.

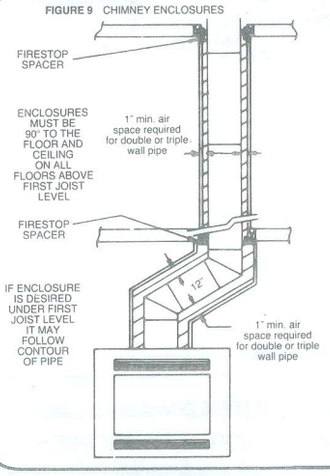
☐ Step 5 SECURE FIREBOX

Secure the fireplace to the framing. The nailing flanges on the firebox will make securing the firebox to the frame quick and easy. Use appropriate size nails or screws to secure the firebox.

☐ Step 6 HEARTH EXTENSION

If the floor construction in front of the fireplace is combustible, a protective hearth extension of a minimum size shown must be installed in front of the fireplace opening. See item 7, page 1 and Figure 4, page 3.

FIGURE 9 CHIMNEY ENCLOSURES



FRAMING THE CHIMNEY ENCLOSURE

If any portion of the chimney extends through any living or storage area, this portion must be enclosed to eliminate contact or damage to the chimney. See FIGURE 9.

If you plan on using a chase (a vertical box-like structure which encloses the fireplace and/or chimney on the outside of the house) overhead obstructions will be totally avoided. However, other conditions must be considered. Refer to page 7 for chase installation instructions.

WARNING: The openings in the outer collar on the top of the fireplace must not be obstructed. Never use blown insulation in the chimney enclosure.

RESIDENTIAL CONSTRUCTION: CEILING AND ROOF OPENINGS

☐ Step 7 FRAMING CEILING AND ROOF OPENING

SEE PAGES 5-6 FOR INSTRUCTIONS IF THE FLUE-PIPE WILL BE OFFSET BELOW THE FIRST CEILING LEVEL.

If you are not using elbows in this installation frame the ceiling and roof openings directly above one another in the locations you chose in the Planning Ahead section of this manual. The flue should go straight up to the chimney termination. Firestops must be used at each ceiling level. A firestop is not required at the roof line. The roof framing must be 2 x 6's or 2 x 4's and must be securely nailed because the chimney termination and flashing are anchored to this construction and must withstand heavy loads. The opening in the ceiling should be square. Use the nail you previously put in the ceiling as the center of the square. See page 5 for framing detail. Repeat this procedure to cut and frame an opening in each ceiling level.

If the chimney flue penetrates the ceiling at a 30° angle in an offset installation, use the 8230F-1 firestop spacer. Refer to Table A below for dimensions for the roof opening when 1" clearance. The size of the opening depends on the pitch of the roof and the size of your framing lumber. It is recommended that you use framing lumber the same size as the lumber used to frame your house.

Roof Framing Dimensions

FIGURE 10

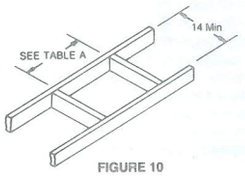


FIGURE 11

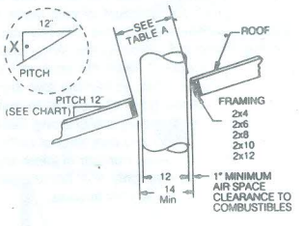


TABLE A—MINIMUM OPENINGS/FRAMING MEMBERS

Roof Pitch 0/12 (Flat)	ROOF CUT OUT TO NEAREST 1/8" ABOVE				
	2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
0/12	14 x 14	14 x 14	14 x 14	14 x 14	14 x 14
1/12	14 x 14½	14 x 14⅜	14 x 14¾	14 x 14⅞	14 x 15⅛
2/12	14 x 15	14 x 15¼	14 x 15½	14 x 15¾	14 x 16⅛
3/12	14 x 15½	14 x 16	14 x 16¼	14 x 16¾	14 x 17⅛
4/12	14 x 16¼	14 x 16⅞	14 x 17¼	14 x 17⅞	14 x 18¾
5/12	14 x 17	14 x 17¼	14 x 17⅝	14 x 18¼	14 x 19¼
6/12	14 x 17⅞	14 x 18⅛	14 x 19⅜	14 x 20⅛	14 x 21⅜
7/12	14 x 18¾	14 x 19⅝	14 x 20½	14 x 21⅜	14 x 23¼
8/12	14 x 19¾	14 x 21	14 x 21¾	14 x 23	14 x 24⅛
9/12	14 x 20¾	14 x 22¼	14 x 23	14 x 24½	14 x 26⅛
10/12	14 x 21¾	14 x 23½	14 x 24⅜	14 x 26	14 x 28¼
11/12	14 x 23	14 x 24¾	14 x 25¾	14 x 27½	14 x 30
12/12	14 x 24⅛	14 x 26⅛	14 x 27⅛	14 x 28⅞	14 x 31⅛

RESIDENTIAL CONSTRUCTION: FIRESTOP SPACER

Step 8 INSTALLING FIRESTOP SPACER

Install a firestop at each ceiling level. The angle should extend into the joist space. (See Figure 12.) Nail the firestop to the joist and headers around the ceiling opening. No firestop is to be used at the roof level. The firestop should be installed from the underside of the ceiling except at the attic level where it should be installed on top of the framing members. See Figure 13. **A MINIMUM OF 1″ AIR SPACE CLEARANCE MUST BE MAINTAINED FROM THE CHIMNEY PIPE TO ALL COMBUSTIBLES.**

Firestop spacer required when the chimney penetrates the ceiling.

	Component Required	Opening Size
When the chimney penetrates the ceiling at a 90° angle:	8204F-1	14½″ × 14½″
When the chimney penetrates the ceiling at a 30° angle	8230F-1	14½″ x 22

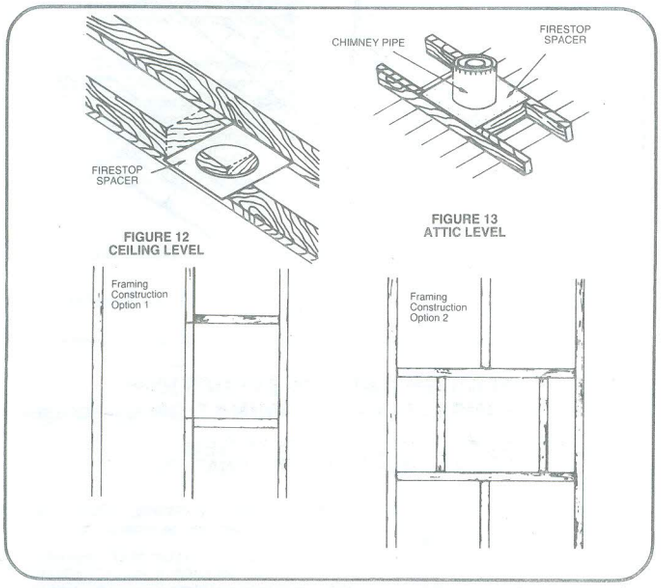


FIGURE 12
CEILING LEVEL

FIGURE 13
ATTIC LEVEL

RESIDENTIAL CONSTRUCTION: INSTALLING THE CHIMNEY

Double Wall Chimney pipe has two sections—the Inner and the Outer. **It is very important that all both sections be installed for each length of chimney used in the system.**

Step 9

Insert the Inner (8″) pipe with the male end pointing down into the Inner collar. The Inner flue section fits inside the Inner collar. Push the pipe until it bottoms and the snap locks engage. Check each joint to ensure that the sections are securely locked together.

Step 10

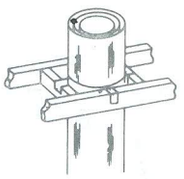
Slip the Outer (12″) pipe with the male end UP over the other pipe and over the Outer collar. The Outer flue section fits on the outside of the Outer flue collar. Push the pipe until it bottoms and the snap locks engage.

Step 11

Continue this process of adding chimney pipe sections on top of each other until the pipe penetrates the roof opening enough to allow you to install the flashing and storm collar.

Chimney sections must be supported by either guy wires or ¾″ conduit flattened on the ends when the chimney extends 6′ or more above the roof. The chimney may be extended to a maximum of 12′ above the roof. A flue support must be used when the system is 35′ high or higher.

FIGURE 14
For systems of 35 feet in height



A FLUE SUPPORT MODEL 8204S MUST BE INSTALLED AT THE 35 FOOT LEVEL TO ADEQUATELY SUPPORT SYSTEM HEIGHTS OF 35 FEET OR MORE.

MAINTAIN A 2″ MINIMUM AIR SPACE CLEARANCE FROM THE CHIMNEY SECTIONS TO ALL COMBUSTIBLES.

Minimum system height is 12′6″ without elbows. (Residential construction)
Maximum height is 60′.
Four 30° elbows maximum per system.
Two elbows = 13′6″
Four elbows = 21′

Lineal Gain Chart	Lineal Gain
Firebox	36¾″
8212D—Chimney section	10¾″
8218D—Chimney section	16¾″
8224D—Chimney section	22¾″
8236D—Chimney section	34¾″
8248D—Chimney section	46¾″
8232E—30° Elbow (gain per pair)	14⅝″
8204S—Flue Support	3″
8203D—Round Termination Cap	6″

CHIMNEY TERMINATION HEIGHT 10 FOOT RULE OF THUMB

Under most conditions the fireplace system will draw properly if the chimney height is determined in accordance with the following guidelines:

1. If your chimney penetrates the roof within 10′ of its peak, it must extend at least 24″ above your roof's peak and be at least 36″ above the highest point of the roof opening (see Figure 15 below).
2. If the chimney penetrates the roof farther than 10′ from its peak, measure from the center line of the chimney to a point 10′ away, between the chimney and the peak of the roof. The top of the chimney must be at least 24″ above this point and at least 36″ above the highest point of the roof opening.
3. When figuring required chimney height, the termination counts as 6″ of effective chimney height. The balance of the required height will consist of chimney sections and the effective height of the firebox.
4. The 10′ Rule of Thumb is a guide for calculating chimney height that works under most conditions. However, many factors can cause the need for additional chimney height beyond what the 10′ Rule of Thumb would indicate.
   Topographical factors can cause high pressure zones which prevent a chimney from drawing. This can occur if the house is located in a low lying area, in a valley, or near the base of a cliff or hillside. The same situation can occur if the chimney is near other steep roof lines or tall buildings. Areas with high winds also frequently require higher than normal chimneys.
   Certain styles of architecture tend to interfere with a fireplace's proper draw. If the room in which the fireplace is located has a very high ceiling, smoke may enter the room unless the chimney is terminated at a level higher than that of the ceiling, even if the 10′ Rule of Thumb indicates a shorter chimney height.

FIGURE 15 WITHIN 10 FEET OF ROOF'S PEAK

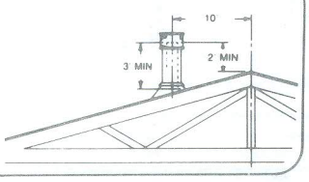
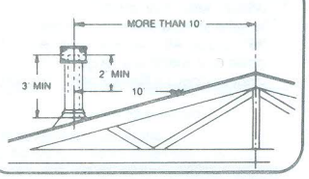


FIGURE 16 FARTHER THAN 10 FEET FROM ROOF'S PEAK



RESIDENTIAL CONSTRUCTION: OFFSET INSTALLATIONS

RULES GOVERNING OFFSET INSTALLATIONS

Sometimes it is necessary to use elbows to create an inclined run of pipe (offset installation) that will make installation easier by avoiding plumbing, wiring or other obstructions. The following rules apply to offset installations:

A. 60′ maximum system height.
B. **Four 30″ elbows (2 pair) maximum per system. Each offset elbow must be used with a return elbow. The chimney pipe must be vertical when it penetrates the roof.**
C. The chimney offset is to be a maximum of 30° from vertical.
D. Maximum inclined chimney run of 20′.
E. Additional support to be provided every 6′ of inclined run of chimney. Use flue support 8204S.
F. **Minimum height of fireplace using two elbows (1 pair) is 13′6″; four elbows (2 pair) is 21′.**
G. Elbows may be used directly off the top of the firebox and may be mounted with the return elbow directly on top of the offset elbow.
H. The elbows have 18″ support straps. The support straps should be nailed to the framing in the manner indicated in Figure 18 on page 6. Support straps are not required when an elbow is mounted on top of the firebox. It may be necessary to add framing or lengthen the straps with hanger iron support chimney pipe and elbows to all combustibles.
I. Install firestop spacer 8230F when the flue penetrates the ceiling at a 30° angle. Refer to Figures 12 and 13 for instructions.
J. A MINIMUM OF 1″ AIR SPACE CLEARANCE MUST BE MAINTAINED FROM THE CHIMNEY PIPE AND ELBOWS TO ALL COMBUSTIBLES.
K. Local building codes must be followed in all cases as to the particular requirements concerning the installation of factory built fireplaces.
L. Locate the center point of the flue on the ceiling with a plumb bob as shown on page 3. The center of the correct location for the ceiling opening will be the amount of the offset dimension away from the ceiling nail. See Figure 19 on page 6. The "X" dimension in the drawing is the amount of the offset. Be sure to consider the direction that your offset will incline.

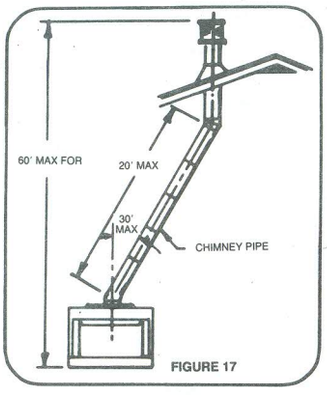


FIGURE 17

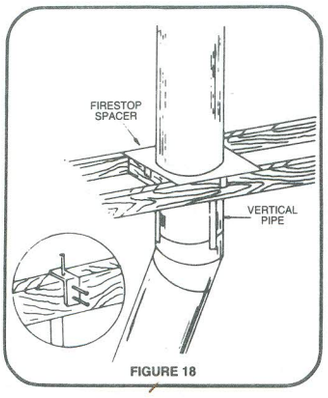


FIGURE 18

RESIDENTIAL CONSTRUCTION: OFFSET INSTALLATIONS

TO INSTALL ELBOWS

1. Place the offset elbow on top of the firebox or chimney section and point the upper half in the direction you require the chimney to incline.
2. Adjust the inner section of the elbow into the inside of the inner collar of the firebox or the inner section of the chimney pipe.
3. Adjust the outer section of the elbow over the outer section of the flue collar or outer section of the chimney pipe. Simultaneously snaplock all sections permanently into place.
4. To achieve the minimum offset (see Table B) attach the return elbow to the first elbow. To achieve further offset, you may install various lengths of triple wall pipe (12", 18", 36" and/or 48") between the elbows to a maximum length of 72 inches without a flue support.

Typical Offset Installation

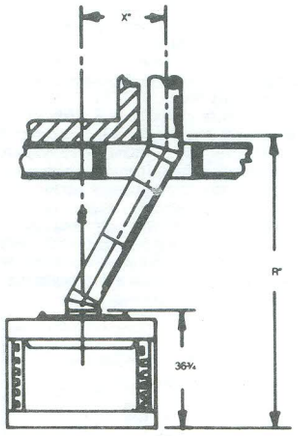


FIGURE 19

TABLE B Lineal Gain of Offset with Two Elbows Fireplace Model TEC36	Offset Dim. "X" (Inches)	Rise Dim. "R" (Inches)
Elbows Only	3⅞	14⅝
Elbows Only Mounted on Top of Firebox	3⅞	49⅝
One 12" Section	9¼	58⅞
One 18" Section	12¼	64
Two 12" Sections	14⅝	68¼
One 24" Section	15¼	69¼
One 12" and One 18" Section	17⅝	73¼
One 12" and One 24" Section or Two 18" Sections	20⅝	78⅝
One 36" Section	21¼	79⅝
One 18" and One 24" Section	23⅝	83⅝
One 12" and One 36" Section or Two 24" Sections	26⅝	88⅞
One 48" Section	27¼	90
One 18" and One 36" Section	29⅝	94
One 12" and One 48" Section or One 24" and One 36" Section	32⅝	99¼
One 18" and One 48" Section	35⅝	104⅜
One 24" and One 48" Section or Two 36" Sections	38⅝	109⅝
One 36" and One 48" Section With One Flue Support (804S)	46⅛	122⅝

NOTE:
Rise dimension "R" includes 36¾" for height of the firebox (except for line one—elbows only.) If one of the elbows is not mounted onto the firebox as pictured above, subtract 36¾" from the "R" dimension in the chart to get the actual rise when elbows are mounted anywhere else in the system.

NOTE:
If required offset distance is not shown in the above table but is less than the maximum allowed (125"), additional chimney sections can be added to any of the above combinations, adding to the dimensions as follows:

For each additional	Add to "X"	Add to "R"
12" Section	5⅛	9¼
18" Section	8⅛	14½
24" Section	11⅛	19⅝
36" Section	17⅛	30
48" Section	23⅛	40⅞
Flue Support (804S)	1½	2⅝

RESIDENTIAL CONSTRUCTION: FLASHING AND STORM COLLAR

Step 12 INSTALLING FLASHING

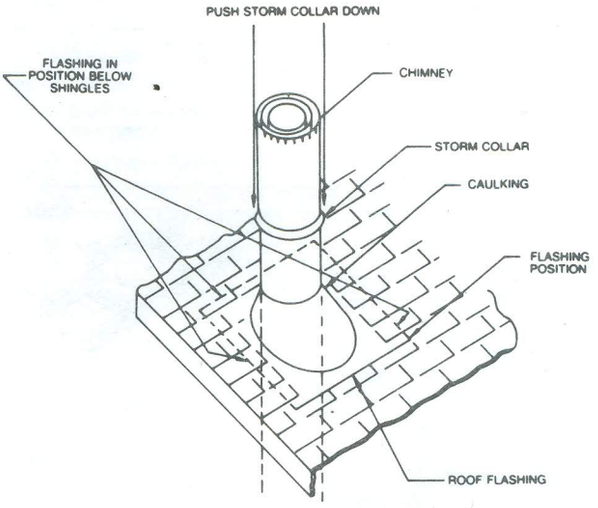
Place the flashing over the chimney pipe where it penetrates the roof and mark the outline of the flashing on the roof. Remove the nails from the shingles inside this outline and to the bottom edge of the roof cutout. Coat the roof area under the shingles with roofing cement. Slide the flashing under the shingles on the sides of the flashing and renail the top and side shingles. **DO NOT nail through the lower portion of flashing.** If necessary, cover the side and top of the flashing with the salvaged shingles. **The flashing should cover the lowest side of the roof opening as pictured in Figure 20.**

Step 13 INSTALLING THE STORM COLLAR

The storm collar is assembled to the chimney system next. It is packed with the chimney termination.

Holding the adjustable storm collar with the tab of the collar in your right hand, put the collar around the flue pipe. Push the tab on the collar through the slot provided. Pull the tab through and bend it just enough so that the collar may be raised upward. Apply waterproof caulking around the flashing where the collar fits around the top of the flashing. Push the storm collar down securely on the sealer and flashing. To secure the collar, pull the tab through the slot as far as possible and bend the tab over to hold it in place.

FIGURE 20 INSTALLING FLASHING AND STORM COLLAR

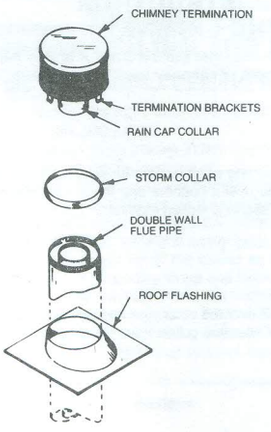


RESIDENTIAL CONSTRUCTION: INSTALLING TERMINATION

Step 14 DOUBLE WALL CHIMNEY SYSTEM: INSTALLING THE 8203 TERMINATION

A chimney termination is required to finish the installation. The following instructions are for the 8203 termination. Refer to the instructions packed with the termination for additional information.

FIGURE 23

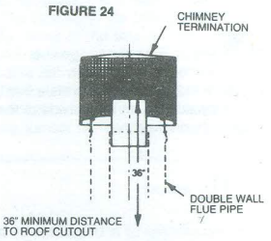


Installing Termination

To finish the installation, place the chimney termination over the outer wall of the chimney pipe. The inner adapter collar must slide down into the inner flue pipe.

Slide the termination brackets over the outer chimney wall and drill three ⅛" diameter holes in the outer section of pipe. Securely attach the termination to the chimney pipe with the three #10A × ½" hex head screws provided.

FIGURE 24

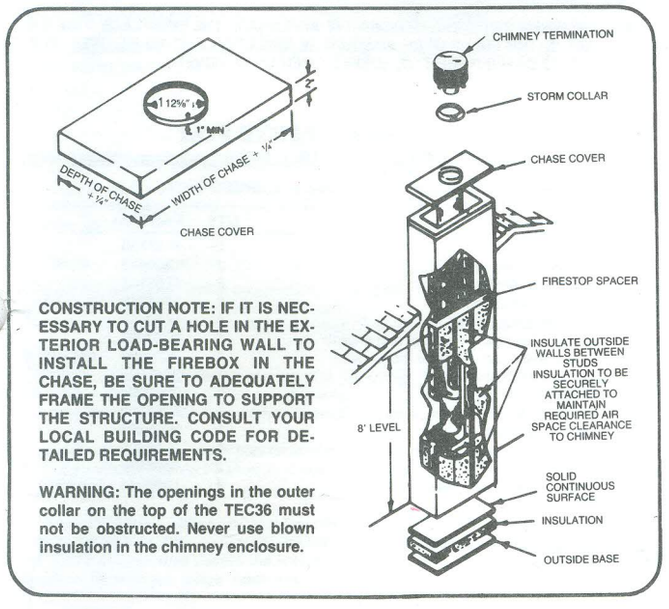


RESIDENTIAL CONSTRUCTION: CHASE INSTALLATIONS

1. A chase is an enclosure for the fireplace and/or chimney that is attached to the outside of the house. It may start at the basement floor line, at the first level or at some point on the side of the wall. A chase may also be used to enclose a chimney from the point where it penetrates the roof to slightly below the termination cap.
2. The floor under the fireplace must be a solid continuous level surface. Many local building codes also require a firestop spacer in the chase at the ceiling level in the house. Consult your local building codes to determine the requirements for chase installations in your area. Remember that all chimney components must have an absolute minimum of 1" air space from combustible materials. Plan the dimensions of your chase accordingly.
3. A chase should be constructed and insulated like any other exterior wall in your home.
4. Model TEC36-3 may be installed in a chase using Model 8203D termination cap. All chimney sections must extend above the chase cover. If a flush mount is desired Model STD-22 Round Chase Cap or Model ARC-22 or ARC-52 Architectural Cap may be used.

5. A metal cover made by a local sheet metal shop is required to complete a chase installation. This cover becomes a flashing that prevents water from entering the chase. The chase cover should be sealed in the corners. A 1" high collar is required at the point where the chimney pipe or slip section will penetrate the chase cover. Models 8203D, STD-22, ARC-52 and ARC-22 require a 12⅝" diameter collar. The seam at the base of the collar must be watertight. It may be necessary to support the chase cover with framing members if the cover is large or has multiple caps. Required clearance to combustibles must be maintained.
6. **All sections of the chimney must extend above the chase cover when the 8203 termination is used.** Caulk between the chimney pipe and the 1" high collar on the chase cover. Install the storm collar over the 1" collar on the chase cover. The termination is installed to the chimney pipe above the chase cover as described below.
7. If Model STD-22, ARC-52 or ARC-22 are used, the last chimney section must be no more than 12" below the chase cover. All slip sections require a minimum 3" lap into the last chimney section. Refer to the instructions packed with the particular model you are using for details.
8. It is recommended but not required, that you insulate underneath the fireplace and between the studs on the outside wall of the chase to reduce heat loss in cold climates. Be sure to use non-combustible insulation without paper or plastic backing. Never use blown-in type insulation in a chase. Insulation should never cover the top or sides of the fireplace or any part of the chimney system. To further reduce heat loss, it is recommended that ½" gypsum wallboard be installed over the insulation on the inside of the chase. Plan chase dimensions accordingly.
9. Chases with two or more chimneys should be constructed wide enough to allow chimneys to be spaced at least 24" on center from each other. When chimneys are closer than this, smoke from one may be drawn down the flue of the adjacent chimney. When chimneys must be installed closer than this, smoke transfer may be prevented by vertically offsetting adjacent terminations by 12" to 18" or by installing 12" to 18" high sheet metal shields between terminations.

WARNING: DO NOT PACK REQUIRED AIR SPACES WITH INSULATING OR OTHER MATERIALS.



CONSTRUCTION NOTE: IF IT IS NECESSARY TO CUT A HOLE IN THE EXTERIOR LOAD-BEARING WALL TO INSTALL THE FIREBOX IN THE CHASE, BE SURE TO ADEQUATELY FRAME THE OPENING TO SUPPORT THE STRUCTURE. CONSULT YOUR LOCAL BUILDING CODE FOR DETAILED REQUIREMENTS.

WARNING: The openings in the outer collar on the top of the TEC36 must not be obstructed. Never use blown insulation in the chimney enclosure.

FINISHING TECHNIQUES

Step 15 FINISHING YOUR FIREPLACE

There are a wide variety of finishing materials available to finish your **TEMCO** fireplace—from formal wall treatments with mantels to rustic wood paneling, stone or brick.

It is important that the black face of the fireplace not be covered with any type of combustible material.

Non-combustible facing materials such as brick or ceramic tile may overlap the black face of the fireplace up to the opening on either side of the fireplace.

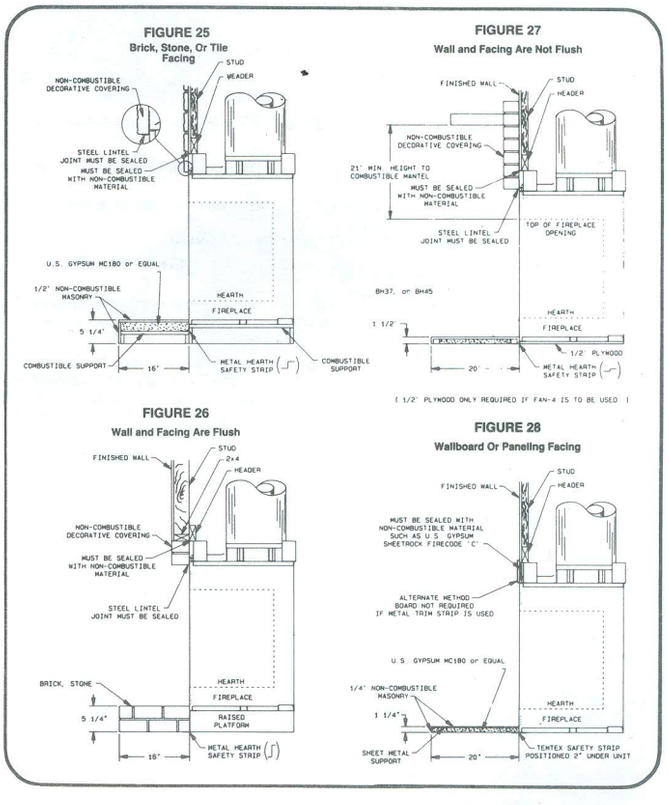
Seal all joints between the black fireplace face and the wall covering with a non-combustible material such as rock wool insulation or mortar. Be sure to use non-combustible heat resistant adhesive or mortar when attaching brick, stone or tile to the face of the fireplace. Check to see whether man-made brick and stone are made of non-combustible materials before using them on the face of the fireplace. Some of these products contain combustible materials.

Combustible wall coverings, such as paneling or wallboard, may not overlap the black face of the fireplace. The space between the wall covering and the fireplace should be sealed with a non-combustible material such as rock wool insulation or mortar. The area between the fireplace face and the wall covering may be concealed with a piece of painted decorative metal trim or a piece of non-combustible board such as those listed below.

FINISHING TECHNIQUES

FINISHING YOUR FIREPLACE

NOTE: An "L" shaped steel lintel must be installed across the top of the firebox opening where facing material such as brick, stone or tile is used on the face of the firebox. It acts as a firestop. It should be attached to the face of the fireplace with screws and imbedded in a mortar joint.



USING YOUR FIREPLACE

1. Open the firescreens by grasping handles and pushing them back to each side.
2. **Open the flue damper** by fitting the damper lever upward and out of the retaining slots and sliding it to your right as far as possible. Press the damper lever down into the slots. To close the damper, lift the lever upward and slide it to the left as far as possible. Push the damper lever down into the retaining slots.
3. If Combustion Air Kit has been installed, the inlet air damper should be in a full open position before your start a fire. Reach inside the firebox and release the control rod on the front of the left side of the firebox. To open, turn the control rod until it is pointing straight up to the twelve o'clock position. To close the damper, rotate the control rod clockwise until it is pointing to the three o'clock position. The control rod should be locked in the closed position when the fireplace is not in use to prevent cold air infiltration.
4. This firebox is shipped with an integral grate. If a replacement grate or andiron is used in this fireplace it should be no more than 10" in depth.
5. Light a piece of crumpled paper and hold it high inside the fireplace. This will warm the flue and start the chimney "drawing."
6. Light the paper in the grate and add kindling. As the kindling catches, add more or heavier wood until the fire is well established. Be careful not to smother the fire.
7. **WARNING: 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 ALL SUCH LIQUIDS WELL AWAY FROM THE FIREPLACE WHILE IT IS IN USE.**
8. Close the right firescreen first and then the left firescreen, being sure that they overlap. Keep the firescreens closed at all times, except when adding fuel.
9. Ashes, the buildup from burning logs, must be removed periodically to allow space for the air to move under and up through the fuel for combustion. If these ashes are allowed to accumulate until the air flow is blocked the grate may become badly warped from excessive heat.
10. A fireplace needs a steady supply of air in order to draw properly. Many houses or apartments which are well sealed lack sufficient air for normal fireplace operation. Ventilating fans, exhaust hoods, central heating systems and other appliances which use air can compete with the fireplace for air and interfere with its draw. Be certain that the fireplace has an adequate supply of air for combustion and draw before operating it. It is recommended that fireplaces in environments with a less than adequate air supply be equipped with a combustion air kit which will provide outside air to support combustion and draw.

11. Fuels: dry and well seasoned hardwoods are recommended. Soft woods tend to burn away too quickly. Do not burn scrap construction lumber; it produces excessive sparks. Never use woods dipped in tar, pitch, creosote, etc., as this produces sputtering, smoking fires with toxic fumes. Do not use woods products with synthetic binders like plywood or artificial logs as these produce abnormally high temperatures.
12. Do not overfire with excessive fuel loads. Items such as wrapping paper, Christmas trees, etc., should not be burned in this fireplace.
13. **Creosote—Formation and Need for Removal—When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.**

SOME DO'S AND DON'TS

The chimney should be inspected at least twice a year during the heating season to determine if a creosote buildup has occurred.
If creosote has accumulated it should be removed to reduce the risk of a chimney fire.

14. **CHARCOAL AND COAL MAY NOT BE BURNED IN THIS FIREPLACE.**
15. **NEVER CLOSE ANY DAMPERS UNTIL YOU ARE CERTAIN THAT THERE ARE NO WARM EMBERS.**
16. When the fire has gone completely out, close all dampers. If inlet air damper is installed close damper. This will prevent excessive heat loss up the chimney. It will also prevent condensation in the chimney and excessive water on the hearth.
17. The brick-like refractory on the floor, back and sides is reinforced with steel, but can be cracked and broken. Don't drop logs or build fires directly against refractories. A careful "burn-in" of your fireplace is recommended during initial use. For the first few fires, build modest fires. This will cure the refractories properly. Hairline cracks may appear in the refractories but do no harm to its performance.
18. It is important that the chimney is high enough to draw properly. The chimney should extend 3 feet above the highest point where it passes through the roof and should be at least 2 feet higher than any portion of any building horizontally within 10 feet.
19. **Disposal of Ashes—Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.**
20. **NOTE: FOR YOU TO UTILIZE THE FEATURES ENGINEERED INTO THE ENERGY CONSERVER FIREPLACE, IT IS NECESSARY THAT YOU CAREFULLY READ AND FOLLOW THE INSTRUCTIONS CONTAINED IN THIS MANUAL.**
21. **WARNING: THIS FIREPLACE IS NOT INTENDED TO BE USED WITH ANY COMPONENTS OTHER THAN THAT SPECIFIED IN THIS MANUAL (i.e. FIREPLACE INSERTS, BLOWERS, GLASS DOORS EXTENSIONS, HEAT CIRCULATORS). USE OF THESE ITEMS COULD RESULT IN A SERIOUS FIRE HAZARD.**
22. Access to chimney for cleaning—To remove the termination cap remove the three #10A x ½ hex head screws from the termination brackets. Grasp the skirt with one hand on each side and pull up.
    To replace the cap—Reposition the termination cap on the chimney pipe and align the termination brackets with the hole in the pipe. Securely attach the termination cap to the chimney with the three screws removed earlier.

RIGHT WRONG RIGHT

23. **WARNING: FIREPLACES EQUIPPED WITH DOORS SHOULD BE OPERATED ONLY WITH DOORS FULLY OPEN OR DOORS FULLY CLOSED. IF DOORS ARE LEFT PARTLY OPEN, GAS AND FLAME MAY BE DRAWN OUT OF THE FIREPLACE OPENING, CREATING RISKS OF BOTH FIRE AND SMOKE.**
24. Keep all combustibles, such as furniture, draperies, papers and stored wood away from the front of the fireplace.

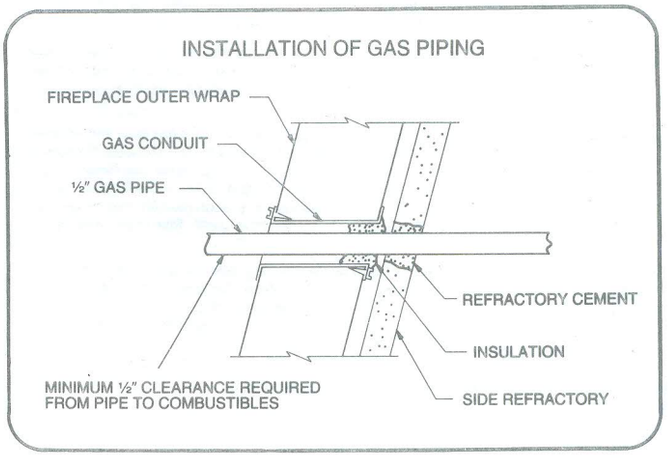
RESIDENTIAL CONSTRUCTION: INSTALLING A GAS LINE

All TEMCO fireplaces are designed to accept a ½ inch gas line for an approved gas appliance. The appliance should be installed by a qualified plumber in accordance with all building codes. The gas connection may enter from either left or right side of the fireplace. Use only ½" black iron pipe and appropriate iron fittings. The gas line must be installed in accordance with the National Fuel Gas Code ANSI Z223.1-1984 or local codes that may have jurisdiction. When installing a gas line, an approved shut-off valve must be installed outside the fireplace.

The fireplace has a factory-installed tube for insertion of the gas line. Refer to page 3 for gas line inlet location.

NOTE: A minimum ½" clearance from the gas pipe must be maintained within 4" of the fireplace. See figure below.

To install gas line, remove the cover plate from the outside casting of the fireplace. Remove the brick patterned side refractory. Lay the refractory on a hard surface and with a hammer and punch gently knock a hole through the back of the refractory at the emboss. Remove the insulation from the inlet tube and replace the refractory. Run the gas line to just outside the gas inlet hole of the fireplace. Slide a 7" gas line nipple through the tube and attach to the gas line. Finish installation by either capping gas line inside fireplace or by attaching an approved gas appliance, in accordance with its installation instructions. Use a pipe compound approved for use with natural gas on all joints.



CAUTION: WHEN USING THE DECORATIVE APPLIANCE, THE FIREPLACE DAMPER MUST BE SET IN THE FULLY OPEN POSITION. IF GAS LOGS ARE TO BE USED, THE FIREPLACE FLUE DAMPER MUST BE LOCKED OPEN OR REMOVED.

REPLACEMENT PARTS FOR MODEL TEC36-3B

The following replacement parts are available from your **TEMCO** Dealer.

	DESCRIPTION	QTY.	PART NO.
1.	Firescreen Rod	2	3T65730
2.	Screw (for screen rods)	2	1A08613
3.	Firescreen w/Rings	2	1T66146
4.	Tassel for Firescreen	2	1A61366
5.	Screen Retainer (not shown)	4	1A60464
6.	Top Right Refractory Retainer (not shown)	1	2C67097
7.	Top Left Refractory Retainer (not shown)	1	2C67096
8.	Right Side Refractory	1	2D66995
9.	Left Side Refractory	1	2D66996
10.	Back Refractory	1	2D66993
11.	Bottom Refractory	1	2D66994
12.	Grate	1	1C66430
13.	Grate Retainer	2	2B66130
14.	Screws (for refractory retainers)	4	1A62044