



# Evolution 8000TEC Catalytic Wood Heater Insert Manual Installation & Operating Instructions

**Please read this entire manual before installation. Save these instructions.**



## **GENERAL INFORMATION**

We wish to welcome you as a new owner of a SIERRA Woodstove. You join many thousands of happy owners who have been heating with SIERRA stoves since 1972. SIERRA stoves have changed a great deal during that time, and all of our knowledge and experience have culminated in this stove, the SIERRA EVOLUTION. Please read all of this manual before using your stove, especially if you have owned another woodstove in the past.

Failure to follow instructions may result in property damage, bodily injury, or even death. We at SIERRA wish you many happy years of warmth and comfort.

### **SAFETY NOTICE**

- ▶ **CAUTION: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**
- ▶ **IF THIS HEATER IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT.**
- ▶ **CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.**
- ▶ **FAILURE TO COMPLY WITH OWNERS' MANUAL INSTRUCTIONS WILL VOID YOUR WARRANTY!**

**NOT APPROVED FOR MOBILE HOMES**

**DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS.**

This manual describes the installation, operation and maintenance of the SIERRA Evolution Model Number 8000TEC catalytic wood heater.

Please read this entire manual before you install and use your new room heater. Failure to follow instructions may result in property damage, bodily injury, or even death. Save these instructions for future reference.

### **SAFETY NOTICE**

If this appliance is not properly installed, a house fire may result. For your safety, follow the installation instructions. Check with local building or fire officials about restrictions and installation inspection requirements in your area.

It is best to have a professional install your Sierra Stove. If you prefer to install it yourself (see Installation Instructions), be sure to obtain the proper permits. Have the local building officials inspect the stove and chimney pipe for safety and code compliance after the installation is complete.

Your SIERRA generates a lot of heat, so treat it with care. Read this manual thoroughly before installing and operating your stove.

**THIS STOVE MUST BE CONNECTED TO A LISTED HIGH TEMPERATURE RESIDENTIAL TYPE AND BUILDING AND HEATING APPLIANCE CHIMNEY OR AN APPROVED MASONRY CHIMNEY WITH FLUE LINER.**

**DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM**

**YOUR SIERRA EVOLUTION HAS BEEN TESTED BY WARNOCK-HERSEY LABORATORIES TO ANSI/UL STANDARD 1482, UL 737.**

**DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

**FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY, OR EVEN DEATH.**

**DO NOT USE CHEMICALS OR FLUIDS TO START OR "FRESHEN UP" THE FIRE!**

**PLEASE LEAVE THIS MANUAL WITH THE OWNER !!**

Listed by Warnock Hersey



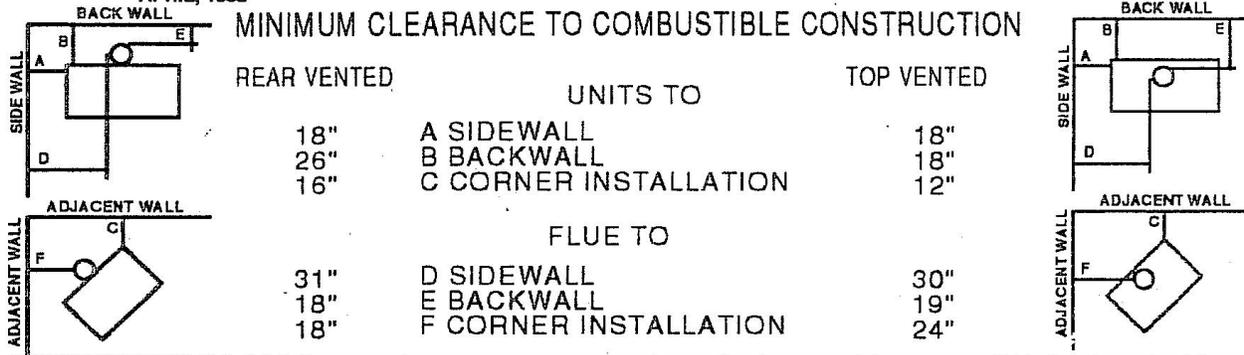


**LISTED SOLID-FUEL BURNING ROOM HEATER  
MODEL: 8000 TEC**

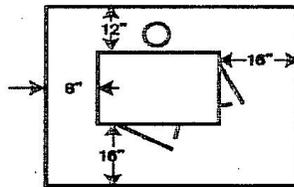
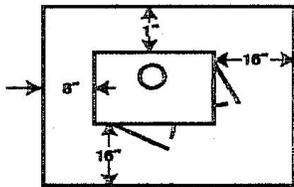
**WHI-**

W/N 10546  
TESTED TO: UL 1482 & UL 737  
APRIL, 1985

**DO NOT REMOVE OR COVER THIS LABEL**



UNIT MUST BE PLACED ON A 3/8" NON-COMBUSTIBLE MILLBOARD OR EQUIVALENT, EXTENDING OUT 16" TO THE FRONT, 8" TO SIDES OF FUEL OPENING AND UNDER CHIMNEY CONNECTOR AND 2" BEYOND EACH SIDE.



**CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

**PREVENT HOUSE FIRES.**

USE ONLY A LINED MASONRY OR LISTED TYPE HT FACTORY-BUILT CHIMNEY. USE 24-GA BLACK CHIMNEY CONNECTOR.

DO NOT OVERFIRE - IF HEATER OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING. INSPECT AND CLEAN CHIMNEY FREQUENTLY - UNDER CERTAIN CONDITIONS OF USE, CREOSOTE BUILDUP MAY OCCUR RAPIDLY.

DO NOT USE GRATE OR ELEVATE FIRE - BUILD WOOD FIRE DIRECTLY ON HEARTH.

RISK OF SMOKE AND FLAME SPILLAGE, OPERATE ONLY WITH DOORS FULLY OPEN OR FULLY CLOSED.

REFER TO LOCAL BUILDING CODE AND MANUFACTURER'S INSTRUCTIONS FOR PRECAUTIONS REQUIRED FOR PASSING A CHIMNEY CONNECTOR THROUGH A COMBUSTIBLE WALL OR CEILING.

INSTALL AND USE ONLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND OPERATION INSTRUCTIONS.

CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS & INSTALLATION INSPECTION IN YOUR AREA.

DO NOT USE GRATE OR ELEVATE FIRE - BUILD WOOD FIRE DIRECTLY ON HEARTH.

DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

FUEL: FOR USE WITH SOLID WOOD ONLY.

CAUTION: COMBUSTOR IS FRAGILE, HANDLE CAREFULLY.

REPLACE GLASS ONLY WITH CERAMIC GLASS.

THIS UNIT IS APPROVED TO WORK WITH A SLIMLINE BLOWER ASSEMBLY PART # 10350

INSTALLED BY THE FACTORY OR ITS APPROVED REPRESENTATIVES.

**U.S. ENVIRONMENTAL PROTECTION AGENCY**

CERTIFIED TO COMPLY WITH JULY, 1990 PARTICULATE EMISSIONS STANDARDS.

THIS WOOD HEATER CONTAINS A CATALYTIC COMBUSTOR, WHICH NEEDS PERIODIC INSPECTION AND REPLACEMENT FOR PROPER OPERATION. CONSULT OWNER'S MANUAL FOR FURTHER INFORMATION. IT IS ILLEGAL TO OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THE OWNER'S MANUAL, OR IF THE CATALYTIC ELEMENT IS DEACTIVATED OR REMOVED.



Manufactured by Sierra Products, Inc.

5061 Brooks Street  
Montclair, CA 91763

# INSTALLATION INSTRUCTIONS

## Catalytic Notice

This heater meets the U.S. Environmental Protection Agency, certified to comply with July 1990 Particulate Emissions Standards. Under specific test conditions, this heater has been shown to deliver the heat at the following rates:

8000TEC from 9,700 to 35,900 BTU/hr.

**DO NOT OVERFIRE THIS HEATER.** Attempts to achieve heat output that exceeds the heater design can result in permanent damage to the heater and to the catalytic combustor. Do not exceed surface temperatures of 800 degrees F. Do not burn with the ash pan open. Overfiring can also void the manufacturer's warranty.

The combustor supplied with this heater is a long life combustor. Consult the catalytic combustor warranty also supplied with this wood heater. Warranty claims should be addressed to the combustor manufacturer. See combustor warranty for address.

## Catalytic Tampering

This wood heater contains a catalytic combustor, which needs periodic inspection and replacement for proper operation. It is against the law to operate this wood heater in a manner inconsistent with operating instructions in this manual, or if the catalytic element is deactivated or removed.

## Fuel Selection

This heater is designed to burn natural wood only. Higher efficiencies and lower emissions generally result when burning air dried seasoned hardwoods, as compared to softwoods or to green or freshly cut hardwoods.

### DO NOT BURN:

- treated wood
- coal
- garbage
- trash
- cardboard
- solvents
- colored paper

Burning treated wood, garbage, solvents, colored paper, or trash may result in the release of toxic fumes and may poison or render ineffective the catalytic combustor. Burning coal, cardboard, or loose paper can produce soot, large flakes of char or fly ash that can coat the combustor, causing smoke spillage into the room, and rendering the combustor ineffective.

## Read This First

- ◆ Your SIERRA generates a lot of heat, so treat it with care. Read this manual thoroughly before installing and operating your stove.
- ◆ Your SIERRA stove has been tested by Warnock-Hersey Laboratories to ANSI/UL Standards 1482, UL 737.
- ◆ Install and operate this SIERRA unit according to instructions provided in this manual. Local building codes may apply; therefore, contact your local building inspector or fire marshal for necessary installation requirements and permits which may go beyond these instructions.
- ◆ Have any existing chimney inspected before attaching the Evolution to it. Some chimneys must be relined or replaced before they are safe to use.
- ◆ The Evolution series is approved for use in front of specific models of factory-built zero clearance fireplaces. Your dealer has the precise list of units that this stove has been tested on.

- ◆ Do not use more than one stove to a chimney. Do not use a flue intended for a gas appliance.
- ◆ **DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**
- ◆ A factory-built, prefabricated chimney may be used for your SIERRA when installed in compliance with manufacturers specification and uniform building code.
- ◆ Your chimney must be correctly sized. A chimney that is too small or too large in diameter, or too short, can cause your stove to spill smoke when the door is opened.
- ◆ Never place your stove closer to unprotected combustible walls or furnishings than the recommended clearance.(including plasterboard or drywall)
- ◆ Never use gasoline, kerosene, lighter fluid, lantern fuel, charcoal starter, or ANY such product to start or "freshen up" a fire in the woodstove. Keep all such materials well away from the stove while it is in use.
- ◆ Before opening the door, open the airt intake control and the bypass lever. After a minute, open the door only 3 ½" inches for 15-20 seconds prevent a flashback.
- ◆ In the event of a chimney fire: (1) stop loading fuel, (2) close the stove doors, (3) shut off all air to the stove, (4) alert everyone in the house, and (5) call the fire department. Rehearse what your family should do in case of a fire. Plan escape routes now.
- ◆ For further information on using your heater safely, obtain the latest edition of the National Fire Protection Association publication, "Using Coal and Wood Safely." Order No. HS-8-1974 from N.F.P.A., 470 Atlantic Ave., Boston, MA 02210

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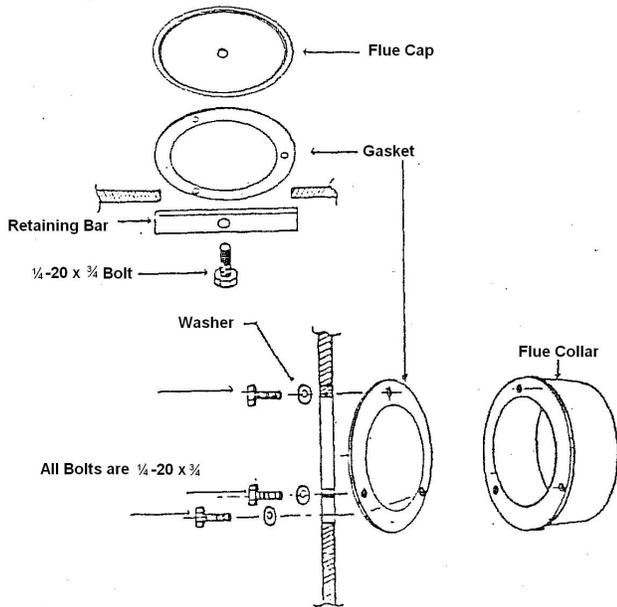
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# General Information

The following items are shipped inside the Ambassador:

- This manual
- Sierra Warranty
- Ash Pan
- Flue collar and hardware
- Flue cap, retaining bar and hardware
- Flue cap and collar gaskets

1. If not already in place, install the Ash Pan in the cavity beneath the front door.
2. Determine if the flue gases will exit the top or rear of the stove.
  - a. The flue collar must be installed where the flue gases will exit and the pipe is connected.
  - b. The flue cap must be installed to cover the other exit hole. Example: flue collar on top, flue cap on back.



— Your heater is now ready for installation. Read instructions carefully.

## I. BASIC FIREPLACE AND CHIMNEY REQUIREMENTS

A Sierra woodstove may be installed using an all masonry fireplace build in accordance with the Uniform Building Code. The first step in this type of installation is to determine the acceptability of the fireplace and chimney for use with a woodstove. Both the construction and condition of the fireplace are important considerations when installing a wood stove. Do not install this stove in a poorly constructed fireplace or chimney.

The following are general guidelines for a safe installation and are based on recommendations of the National Fire Protection Association (NFPA). Contact your local building code agency or fire safety inspector for specific details. Local codes may vary by area.

1. The chimney should have a fire clay liner in good condition. Loose or cracked liner sections can be hazardous. If the chimney does not have a liner, one can be installed by a qualified professional. Some metal liners are acceptable to use. Check with your stove dealer or local building code agency for acceptability of these liners.

2. No part of the chimney should have any leaks, missing masonry, cracks, loose mortar or soft mortar.
3. There should be no mortar or parts of the chimney blocking the chimney flue.
4. There should be a minimum 2-inch clearance between any part of the fireplace or chimney and any combustible materials.
5. The fireplace and chimney should be built on a solid concrete footing supported by the ground and not attached to the house. Older chimneys are sometimes supported by the framework of the building itself. These can be structurally unsound due to settling and shifting of the building and possible cracking of the chimney itself.
6. The chimney must have a good natural draft and should be self-starting. A chimney that has poor draft and is subject to draft reversal should be repaired or replaced before using.
7. The chimney should be the proper size. Some fireplace chimneys are quite large and will cause poor stove performance and excessive creosote. The rule of thumb is that the chimney flue should be roughly no more than three times the flue opening on the stove. A 6 inch stove flue will work in an 8 inch by 12 inch fireplace flue. It may be necessary to install another liner in an oversized chimney. Use a 24 gauge flue, and chimney connector. Use at least 3 screws.
8. The chimney should extend at least 3 feet above the roof and at least 2 feet above any point on the roof within 10 feet.
9. This stove must be used alone in the chimney. Any unused opening must be permanently sealed with masonry by a skilled brick mason. A clip-in type flue liner is not acceptable for this use because of the possibility of it coming loose during a chimney fire and possibly causing the fire to spread.

*Remember to have your chimney inspected for leaks and blockage before you install your stove.*

## Draft Requirements

Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the size, height and general condition of your chimney, local geography, nearby obstructions, and other factors. Inadequate draft will cause the appliance to leak smoke into the room when starting a fire or adding fuel to the existing fire. Excessive draft, on the other hand, may cause excessive temperatures in the appliance, burning the wood too quickly and damaging the unit.

### Minimum Chimney Requirements

Size	Height	Draft
6 x 6	15 ft	.06 W.C.

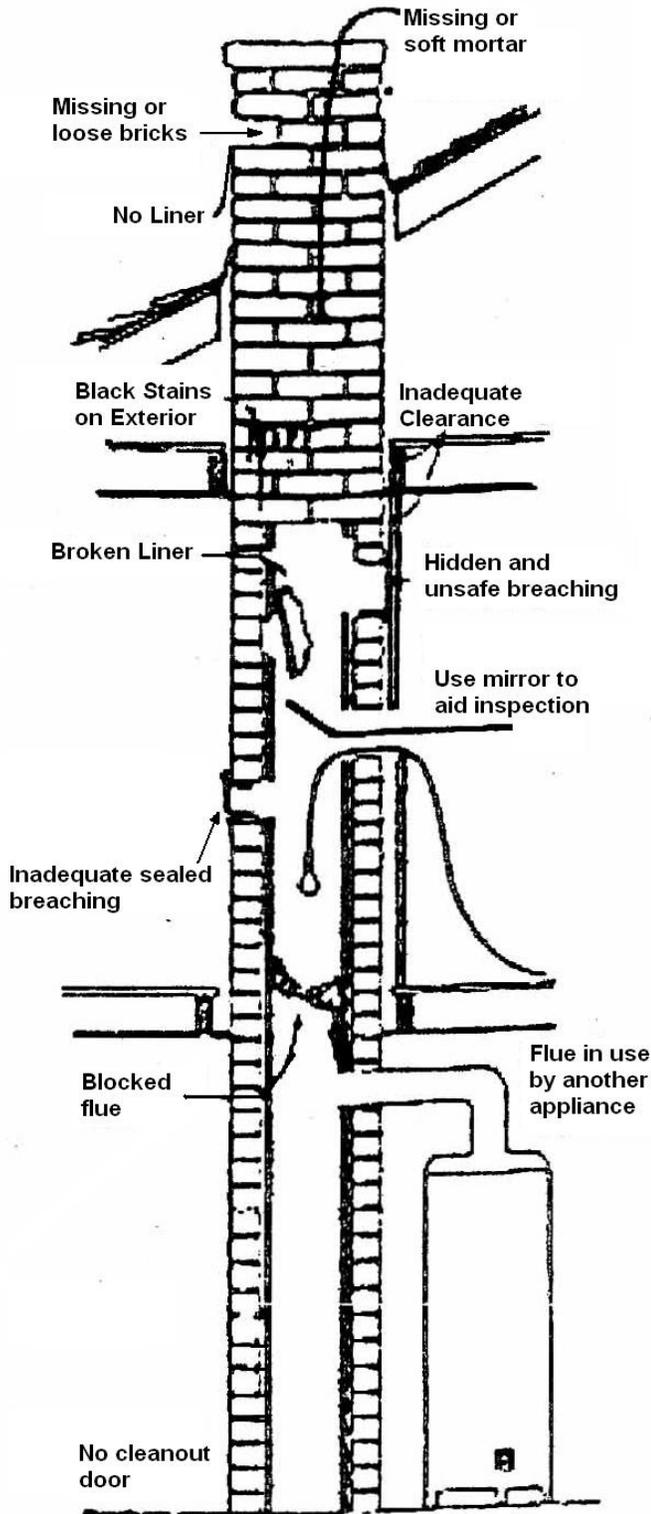
Note: 9 out of 10 times, dirty glass, lack of "heating", or failure to continue burning after the door are shut is evidence of inadequate draft.

In all cases, if you experience anything unusual with your Evolution, your Sierra dealer is the local expert on local conditions, and you need to contact him or her.

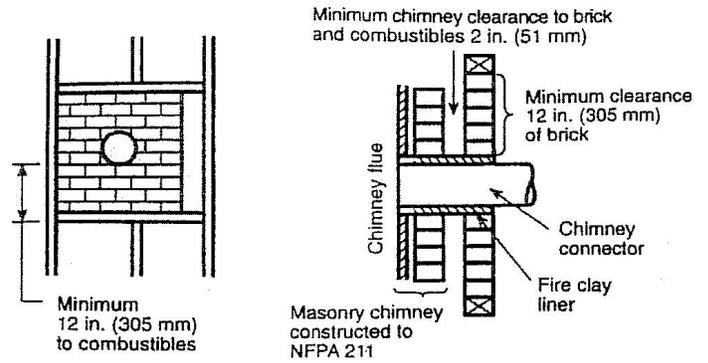
**Your Sierra dealer is ALWAYS your best source of information on local codes and requirements**

Your Sierra dealer is ALWAYS your best source of information on local codes and requirements

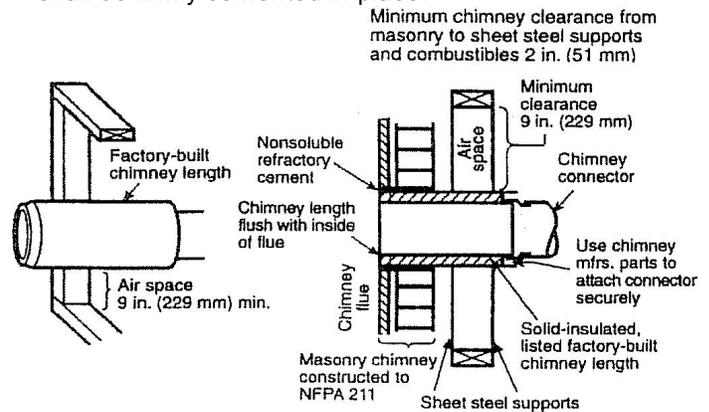
# Chimney Requirements



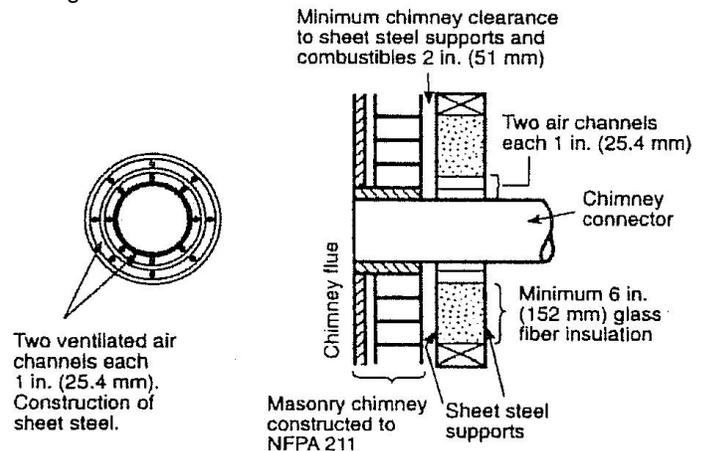
## CHIMNEY CONNECTOR SYSTEMS AND CLEARANCES FROM COMBUSTIBLE WALLS FOR RESIDENTIAL HEATING APPLIANCES



- A. Minimum 3.5 inch thick brick masonry all framed into combustible wall with a minimum of 12 inch brick separation from clay liner to combustibles. The fireclay liner shall run from the outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.



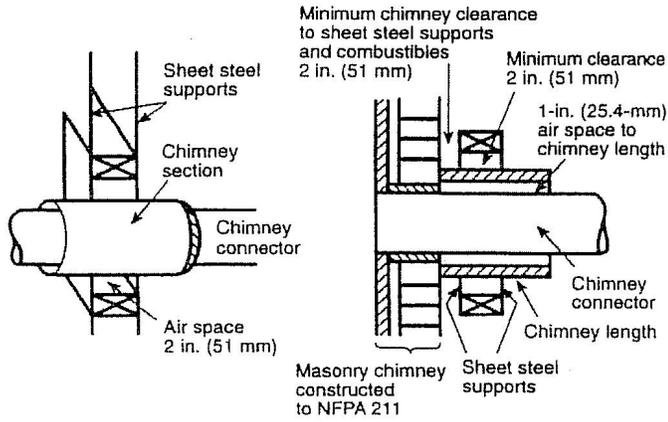
- B. Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch or more of insulation with a minimum 9 inch air space between the outer wall of the chimney length and combustibles.



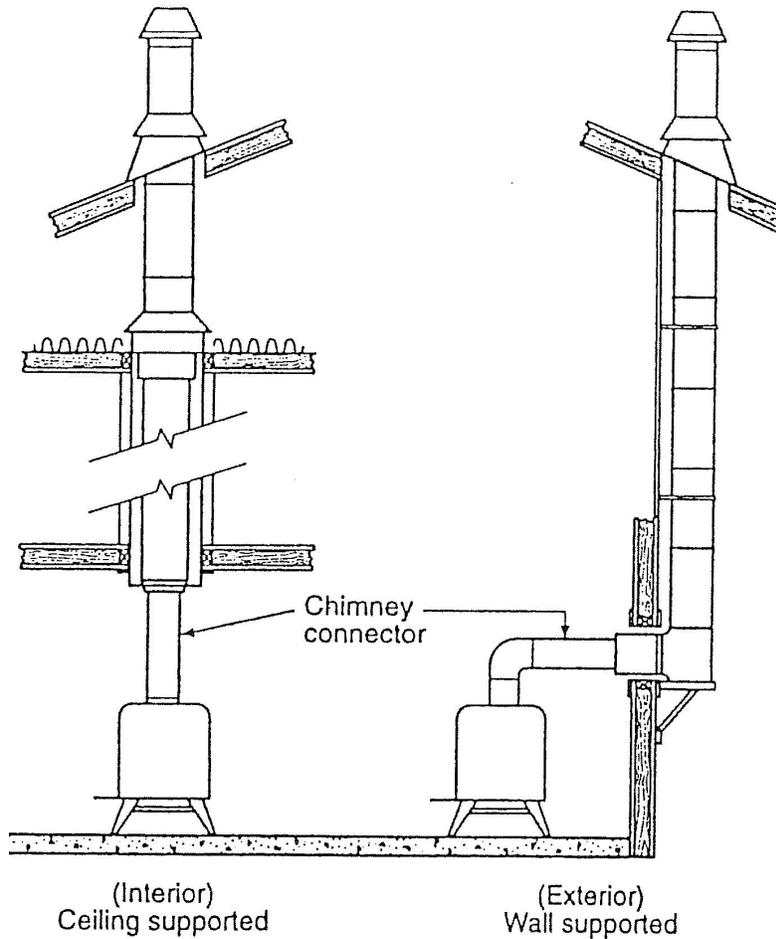
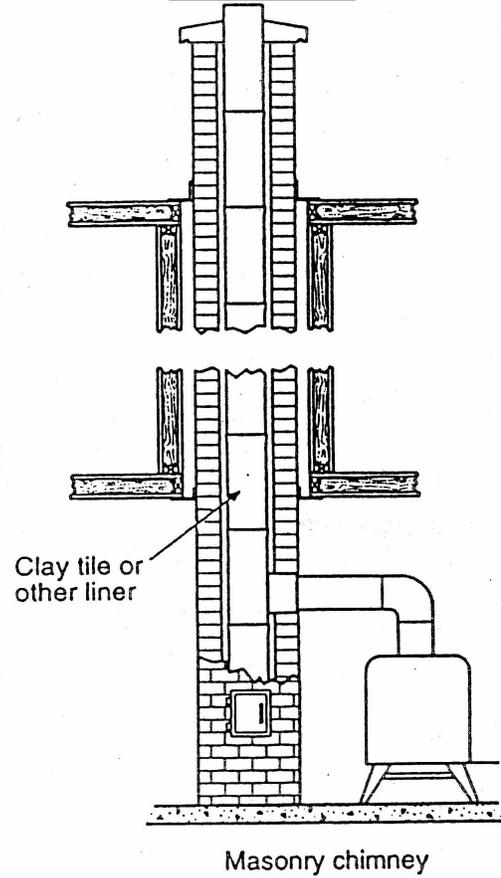
- C. Sheet steel chimney connector, minimum 24 gauge thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch air channels, separated from combustibles by a minimum of 6 inch of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

Your local building code agency or fire safety inspector can refer you to a qualified professional who can inspect the chimney for you.

## Typical Factory Built or Masonry Chimney Installations



D. Solid insulated, listed factory-built chimney length with an inside diameter 2 inch larger than the chimney connector and having 1 inch or more of insulation, serving as a pass-thru for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inch air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inch chimney section spaced 1 inch away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel supports securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner



## II. INSTALLATION AS A FREESTANDING STOVE

**IF THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.**

**THIS STOVE MUST BE CONNECTED TO A LISTED HIGH TEMPERATURE RESIDENTIAL TYPE AND BUILDING AND HEATING APPLIANCE CHIMNEY OR AN APPROVED MASONRY CHIMNEY WITH FLUE LINER.**

The SIERRA Hearthstove may be safely installed as a freestanding unit provided a 6" minimum listed All Fuel chimney or tile lined masonry chimney is used. The same chimney requirements as reviewed in page 5 apply. Various listed all fuel prefabricated chimneys are widely available and can be used to install your Hearthstove in the best possible location in your house. Follow the manufacturer's installation instructions carefully or have a qualified installer do this job for you.

Chimney connectors must be at least 6" in diameter and constructed of 24 gauge black steel, or stainless steel. Chimney connectors should be installed by crimped end down so that creosote will drip back into the stove to be burned. Horizontal pipe should have the seam up. Each connector joint must be secured by three sheet metal screws. Single wall connectors pipes are only to be used between the stove and an approved chimney - **but never as the chimney itself**. To minimize creosote formation in the chimney connector pipe, place stove as close to the chimney as safety clearances will allow. Never use more than two elbows. Any horizontal pipe section should rise 1/4" per foot towards chimney. This will allow creosote to run back into the stove.

Special methods are required when passing a chimney through a wall or ceiling. A section of listed All Fuel chimney installed per manufacturers instructions may be used for this. Check your local building code for other approved methods.

Do not install a stove in a closet or other small enclosure.

The SIERRA Hearthstove is a radiant heater - so most owners place in a frequently used area such as a family room. It is best to select a central location on the first level of the house where heated air can flow naturally by convection to the rest of the house. Heated air rises by natural convection to the rest of the house, so you may want to install ceiling vents or use existing ones to heat upper rooms in a multi-level house. For large rooms with high ceilings, a ceiling fan switched to blow upwards can help distribute the heat evenly.

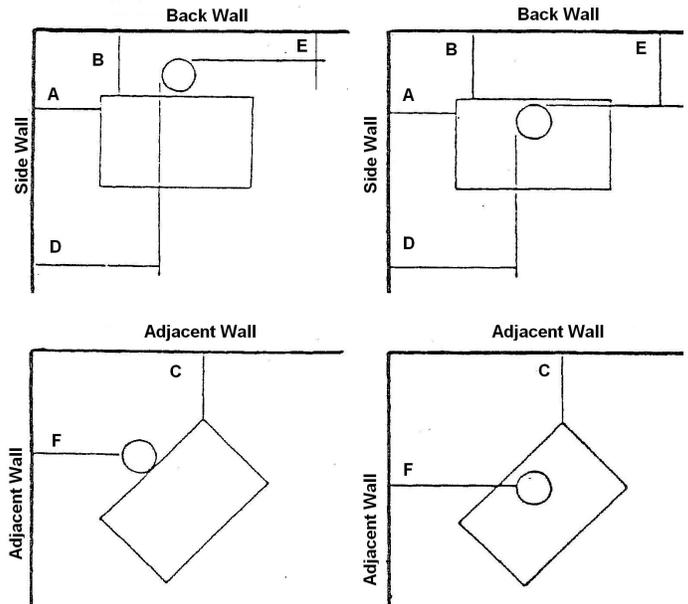
When you have selected the location for your stove, you must make sure that any combustible materials (i.e. walls, furniture, drapes, etc.) are not any closer than the laboratory approved clearances shown.

Clearances may be reduced from those shown provided you use a listed wall clearance reduction kit. Follow manufacturer's instructions carefully when using kits. The rear manifold option available from your Sierra dealer will reduce clearance to 18"

All SIERRA Hearthstoves require floor protection when installed on a combustible surface. For hearthstoves without the ash pan or catalytic option, you must place your stove on a non-combustible floor protector equivalent to two 3/8" layers of asbestos covered with one sheet of 24 gauge minimum sheet steel. The floor protector must extend 16" in front of the door side, 12" from the rear side on rear vents stoves, 8" from rear side on top vent stoves, 8" from the other side of the stove, under the chimney connection and 2" beyond each side.

### MINIMUM CLEARANCE TO COMBUSTIBLES

Rear Vented	Units To		Top Vent
18"	A	Side Wall	18"
26"	B	Back Wall	18"
16"	C	Corner	12"
Flue To			
31"	D	Side Wall	30"
18"	E	Back Wall	19"
18"	F	Corner	24"



### ASBESTOS MATERIAL SHALL NOT BE USED

There are listed non-asbestos floor protectors available at your local woodstove supplier.

Recommended floor protection is based on a standard of 3/8" Inch of asbestos millboard or equivalent. This is used as a standard only.

The k, C or R factor that correlates with the floor protector material used during the test if the room heater is not provided with a floor protector. The units of measure for k, C and R factors shall use the same applicable units. Directions and examples on how to use alternate materials and how to calculate equivalent thickness shall be shown.

An easy means of determining if a proposed alternate floor protector meets requirements listed in the appliance manual is to follow this procedure:

1. Convert specifications to R-value

- a. R-value is given - no conversion is needed.
  - b. K-factor is given with a required thickness (T) in inches:  $R=1/k+T$
  - c. C-factor is given:  $R=1/C$
2. Determine the R-value of the proposed alternate floor protector.
    - a. Use the formula in step 1 to convert values not expressed as "R".
    - b. For multiple layers, add R-values of each layer to determine the overall R-value.
  3. If the overall R-value of the system is greater than the R-value of the specified floor protector, the alternate is acceptable.

**EXAMPLE:**

The specified floor protector should be 3/4 inch thick material with a k-factor of .84.

The proposed alternate is 4" brick with a C-factor of 1.25 over 1/8" mineral board with a k-factor of .29.

Step 1: Use formula above to convert specification to R-value.  $R=1/kT = 1/0.84 \times .75 = .893$

Step 2: Calculate R of proposed system.  
 4" brick of C - 1.25, therefore  
 $R \text{ brick} = 1/C = 1/1.25 = 0.80$   
 1/8" mineral board of k+ 0.29, therefore  
 $R \text{ min.bd.} = 1/0.29 \times 0.125 = 0.431$   
 Total R = R brick + R brick + R mineral Board  
 $= 0.8 + 0.431 = 1.231$

Step 3: Compare the proposed system R of 1.231 to specified R of 0.893. Since proposed system R is greater than required, this is acceptable.

**Definitions:**

$$\text{Thermal conductance} = C = \frac{\text{Btu}}{(\text{hr})(\text{ft}^2)(\text{°F})} = \frac{W}{(\text{m}^2)(\text{°K})}$$

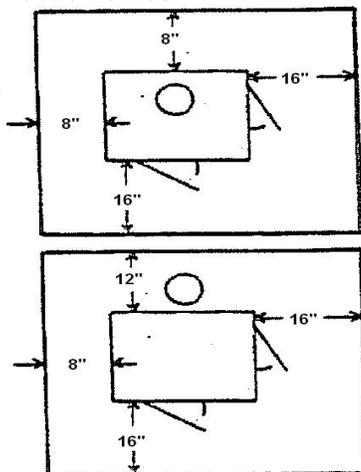
$$\text{Thermal conductivity} = k = \frac{(\text{Btu})(\text{inch})}{(\text{hr})(\text{ft}^2)(\text{°F})} = \frac{W}{(\text{m})(\text{°K})} = \frac{\text{Btu}}{(\text{hr})(\text{ft})(\text{°F})}$$

$$\text{Thermal resistance} = R = \frac{(\text{ft}^2)(\text{hr})(\text{°F})}{\text{Btu}} = \frac{(\text{m}^2)(\text{°K})}{W}$$

3/8 inch asbestos millboard has a "K" factor of 0.84. The newer substitute CERAFORM board has a "K" factor of 0.21. Your floor protector must have an equivalent or better "K" factor than the above recommendations.

**WARNING:** The installation of this stove must comply with state and local requirements and be inspected by the state or local building inspector, if required.

**This stove is not approved or recommended for use in mobile homes.**



**Floor Protection**  
 16" Front & Right Side  
 8" Left Side  
 8" Back Top Vented  
 12" Back Rear Vented  
 2" Each Side & Under Flue

**III. INSTALLATION USING A MASONRY FIREPLACE**

Several types of installations can be used to connect the Sierra Hearthstove to an all masonry fireplace. Two methods are described here. Method I and Method II meet NFPA 211\* guidelines.

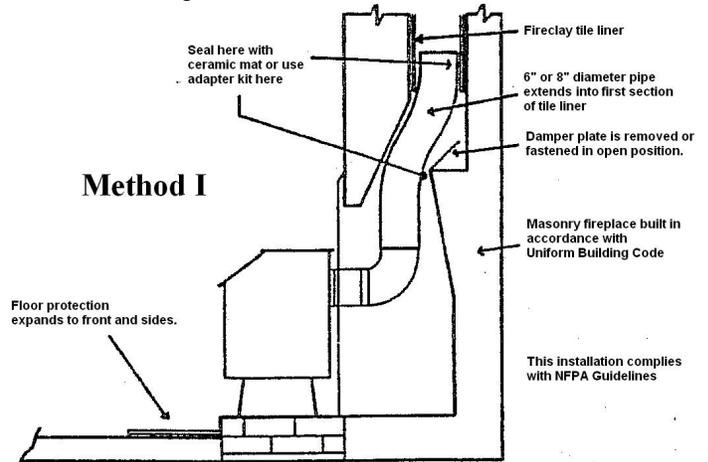
Both methods use a section or sections of stove connector pipe that connect the stove flue outlet to the fireplace chimney. Method I is normally used and is generally the easiest to install. Method II may be used in chimneys that need a new flue liner.

There are qualified installers in most areas that can install your stove for you. Sierra recommends that you contact the National Chimney Sweep Guild for a member in your area or ask your Sierra Dealer.

**Method I** – This installation uses a direct connection adapter kit that provides a section of flexible or rigid stove connector pipe. Various kits are available from your local dealer. This pipe connects stove flue outlet to the first section of tile liner at the bottom of the chimney. The width of the damper opening and throat of the chimney will determine which type of pipe, rigid, round flexible or oval flexible, should be used. Some openings are large enough (6 inches or more) to allow the use of the standard connector pipe or round flexible pipe. If the damper or throat area is narrow, the oval flexible pipe or a rectangular sheet metal adapter must be used.

**REFER TO INSTALLATION AND CLEARANCE DIAGRAMS, READ THOROUGHLY BEFORE INSTALLING.**

1. Have your chimney cleaned and inspected by certified chimney sweep. Your chimney MUST be lined with a ceramic tile liner. If your chimney is not lined, you must use method II.
2. Install direct connector into fireplace using instructions supplied with kit.
3. Install connector pipe (24 ga, Steel min.) to direct connector kit. Measure sections carefully to allow pipe to extend 2" in front of fireplace opening. The vertical height from the hearth extension to the top of the horizontal pipe section should be either 24" for 6" height standard pedestal hearthstoves or 22" for 4" low pedestal hearthstoves. Secure all joints with three 1/8" self threading sheet metal screws.



**Method I**

4. Place hearthstove on the hearth extension and slide it up to the pipe, easing pipe into flue collar 1". Make sure the pipe extends into the collar only and not into the stove - the end of the pipe may need to be trimmed. Once the pipe is in the vent, secure it with three 1/8" self threading screws supplied with the stove.
5. If your fireplace mantel is combustible and if its closer than 36" to the top of the stove, it must be protected with a mantel shield. The Sierra Fireplace Cover Kit (FPCK) provides a mantel shield that allows a 30" minimum clearance between mantel and stove top. If less clearance is needed, there are approved mantel shield kits available, so check with your Sierra dealer.
6. The Sierra Fireplace Cover Kit (FPCK\*\*) may be used to enhance the looks of the hearthstove installation, but it is not required with the direct connection method of installation. Instructions for installation are supplied with this kit. THE FPCK must be installed before connecting the stove to pipe.

\*FPA 211 is published by the National Fire Protection Association to be a comprehensive standard for chimneys, fireplaces, vents, and solid fuel-burning appliances. 211 is widely used as a basis for building codes throughout the U.S. it may be adapted partially or entirely as a local building code. Contact your local building code or fire authority for specific regulation for your area.

\*\*Use this guide to select correct fireplace opening panel.

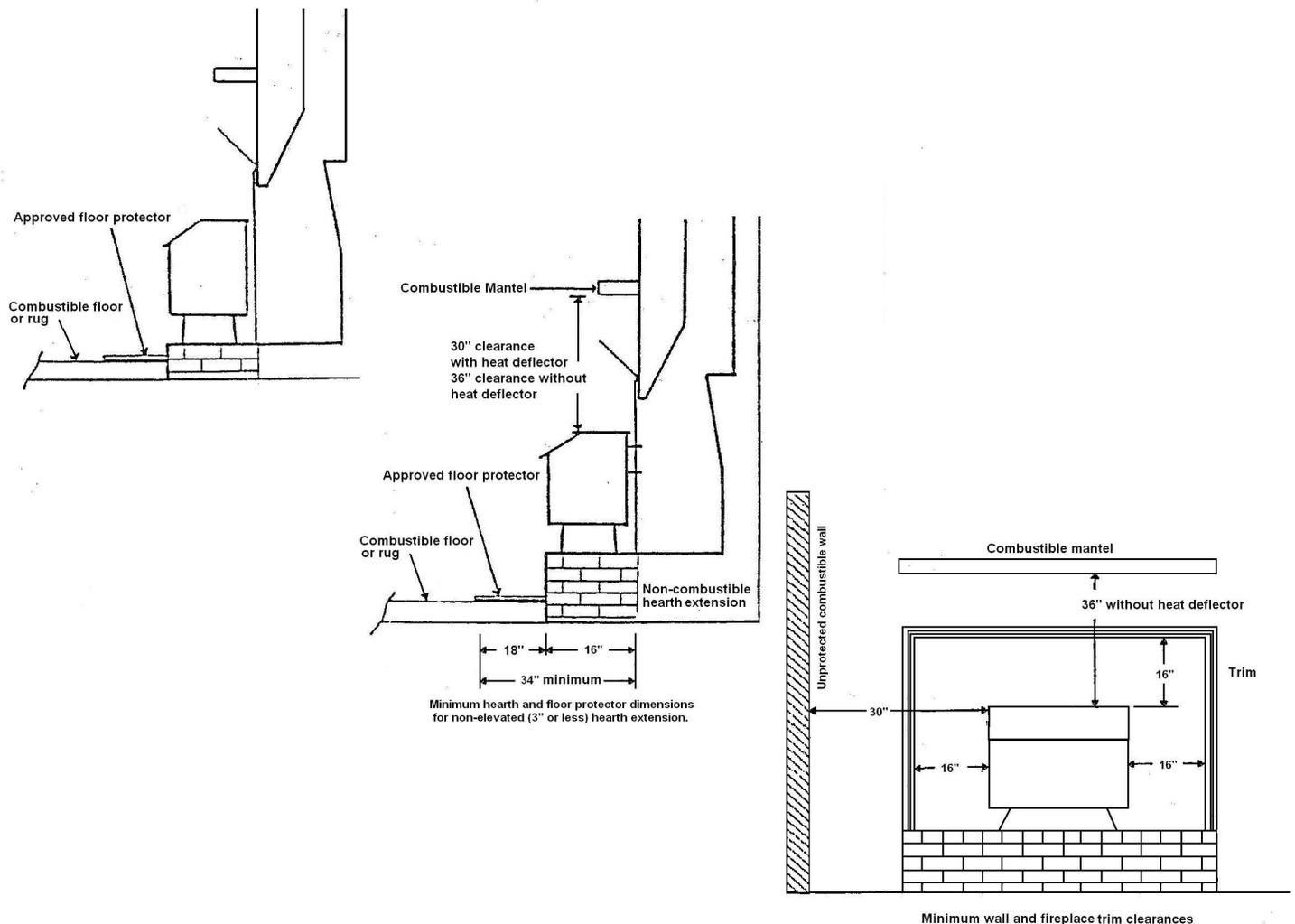
**METHOD II** - The Method II installation is similar to Method I except that the connector pipe extends the full length of the chimney and terminates at the top of the chimney. Either rigid round sections or a continuous length of flexible pipe may be used. This pipe must be constructed of stainless steel 6" diameter minimum. All joints must be secured by at least 1/8" self-threading sheet metal screws. Because this method is usually more difficult and involved, we recommend that you have a qualified professional installer do the job for you.

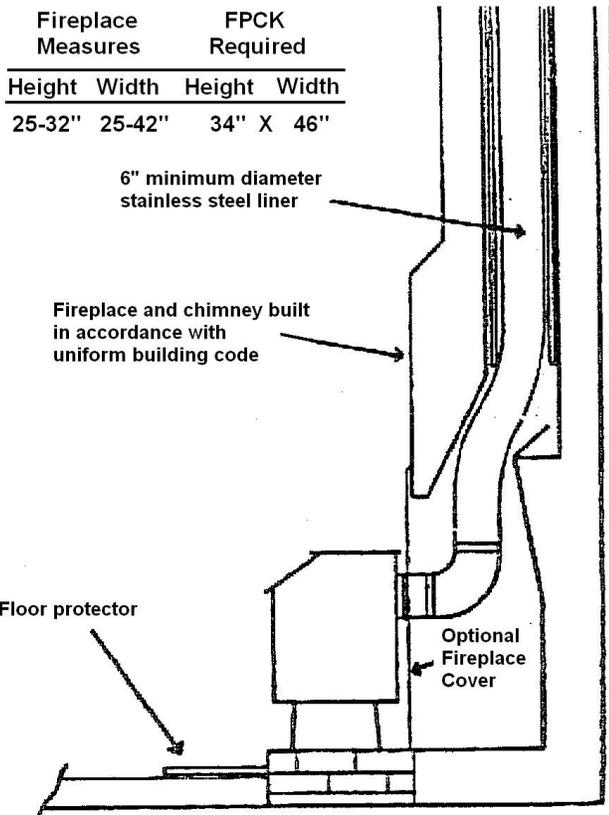
Method II is the preferred method for Evolution stoves. This is due to the sensitivity of the over-sized masonry flues.

**NOTE:** This is the best method for any stove. It is especially important for catalytic equipped woodstoves. These stoves often do such a good job of capturing all the heat in the wood and delivering it into the house, that they fail to keep the chimney flue warm enough to maintain proper draft. Sierra does not warranty the performance of the Evolution series stoves unless Method II is used.

**NOTE:** installation in front of a prefabricated or zero clearance fireplace requires the use of a zero clearance adapter kit and the instruction included with this kit should be followed.

### FIREPLACE INSTALLATION CLEARANCES for SIERRA Hearthstove





**Method II**

#### IV. OPERATING INSTRUCTIONS

**NOTE:** For the first few days, the stove will give off an odor and a small amount of smoke. This happens when the high temperature paint is bonding to the metal. It is normal, will stop when the paint is cured, and will reoccur every time you repaint or touch up the paint on your stove. Do Not use any additional grates or support to elevate your fire.

1. Crumble three or four full sheets of newspaper and place them on the firebrick floor of your Sierra stove.
2. Crisscross two layers of dry kindling on the paper. Add a few larger splits of dry wood on top of the kindling.
3. Make sure the primary air control is fully open. Be certain that the bypass level is open or up.
4. Light the paper under the kindling with a match or lighter. Do not use gasoline, lighter fluid, charcoal starter, kerosene or any other such fuel to start a fire in a woodstove. You may use any type of woodstove firestarter. See your Sierra dealer.
5. At higher altitudes, or when starting a fire on a very cold chimney, it may be necessary to leave the door cracked open to encourage a hot fire. **Never leave your stove unattended with the door unlatched! Never leave the door cracked more than 5-10 minutes.**
6. When the kindling has been consumed and larger splits are burning well, load the stove to the level you desire, using dry, well-seasoned wood. (Wet wood does not heat well) **DO NOT BURN COAL IN THIS UNIT.** Close the doors and continue to burn the stove on high and with the bypass open until the wood becomes fully involved.
7. Once your chimney and stove are warmed up and drawing well, close the air inlets to the desired heat output. Reload when convenient, but always while you still have a good bed of coals to reload. Never close the bypass immediately after adding fresh wood to the fire.

8. When opening the door to reload or poke the fire, open the bypass first. Then open the air inlet all the way for 10 to 20 seconds. Crack the door and hesitate just a few seconds before swinging it open. All this is to prevent flashbacks which occur when a very smoky fire suddenly is given a lot of oxygen. If your Evolution has a tendency to spill smoke out the side door, close the air inlet while the side door is open.

**NOTE:** Every stove-chimney combination functions a little differently. Be patient, and expect the stove to be different in January when it's cold outside, than it was in September when it was relatively warm. Once a chimney is warmed up, its draft is a function of how much warmer it is than the air around it. On still mild fall evenings, stoves can appear finicky and difficult, but the very next night, in the midst of a fall storm, act like a completely different stove.

9. When removing ashes from the ash pan, place them in a metal container with a tight-fitting lid. Assume that there are still hot coals mixed in them for at least three days. **DO NOT** place them with the garbage or in the garbage or near anything combustible. The best idea is to leave them outside, three feet away from the house, in a metal container, for three days.
10. If your stove has a blower, do not run the electrical cord in front or near the fire box.

#### V. USING A CATALYTIC COMBUSTOR

##### Definition and Purpose of a Catalytic Combustor

Catalytic combustors for woodstoves (cats) are similar in principle to catalytic converters on automobiles. The big difference is that the heat generated by your woodstove is put to use heating your home instead of being dumped out the tailpipe of your car. Catalytic combustors cause wood smoke to burn at very low temperatures, releasing energy that would otherwise be lost in the form of smoke. As smoke passes through the combustor, a rare metal (Usually platinum or palladium) coating on the ceramic base of the combustor changes fuel molecules in the smoke so that they burn at 500 to 600 degrees Fahrenheit instead of more normal 1000 to 1200 degrees Fahrenheit.

In addition to making stoves burn cleaner, combustors improve their heating efficiency. On the average you will receive from 30 to 50% more heat from each piece of wood, up to 90% less creosote, and because the cat burns most of the smoke, 90% less air pollution than you would from burning a comparable stove. Of course, results may be higher or lower depending on operation, chimney draft, and combustor age.

**Operation - Achieving catalytic Light-Off:** During each burning cycle, the temperature within the stove should be raised high enough to cause the catalyst to become active up to "Light-off." The most convenient time to do this is during fuel loading while warming up the wood and the chimney. With a new combustor, smoke temperatures between 500 and 600 degrees Fahrenheit will begin catalytic burning. (Since the combustors sit right above a roaring fire, this is not hard to achieve if you follow the instructions in **Starting a Fire**) As a combustor ages, its catalytic activity decreases, so an older cat, (beyond three years old) needs more heat during the start-up. 700 degrees will generally be sufficient for light-off even on an old combustor.

Your Sierra Evolution has an option from the dealer, a catalytic indicator which will take the guesswork out of knowing when you have light-off.

**READ THE INSTRUCTIONS FOR THIS UNIT CAREFULLY.**

**Maintaining Catalytic Conditions** -During the start-up of a cold stove, a medium stove, a medium to high airseing must be maintained for about 20 minutes. This ensures that the stove, catalyst, fuel, and chimney area all at proper operating temperature. Even though it is possible to have smoke temperature reach 600 degrees within two or three minutes after af ire is started, the combustor and the chimney are not yet warm enough. At the end of the burn cycle; it's possible that the amount of buring charcoal mightnot provide sufficient temperatures for the catalyst. During the refueling, we recommend that the stove be fired hard for at least 10 minutes to ensure that the satalyst and chimney are properly warmed up. If you have a long or large diameter chimney, or if it is very cold outside, run the stove on high for a longer period.

Whenever loading the stove, **KEEP THE BYPASS OPEN!**

**NEVER** remove the combustors to clean them. If there seems to be excessive fly ash on the combustors, use the blower side of your vacuum claener to blow ash out. Be cerain you never vacuum ash into your vacuum cleaner. Always replace the mixers after brushing the combustors.

**Combustor Life and Replacement** - Sierra uses only "12,000 Hour Long Life Combustors." The combustor will still be functioning at 7-% of its effectiveness after 12,000 hours of use. Depending on the frequency of stove use, it will last for four to twelve years before needing replacement.

**VI. CATALYTIC INSPECTION AND REPLACEMENT**

It is important to periodically monitor the operation of the catalytic combustors to ensure they are functioning properly and to determine when they need to be replaced. A non-functioning combustor will result in a loss of heating efficiency, and an increase in creosote and emissions.

- The combustors should be visually inspected at least three times during the heting seson to determine if physical degradation has occurred. Remove the catalytic cassette by loosing the two 3/8" nuts. Look for cracks, cell blockage, excessive fly ash and general deterioration.

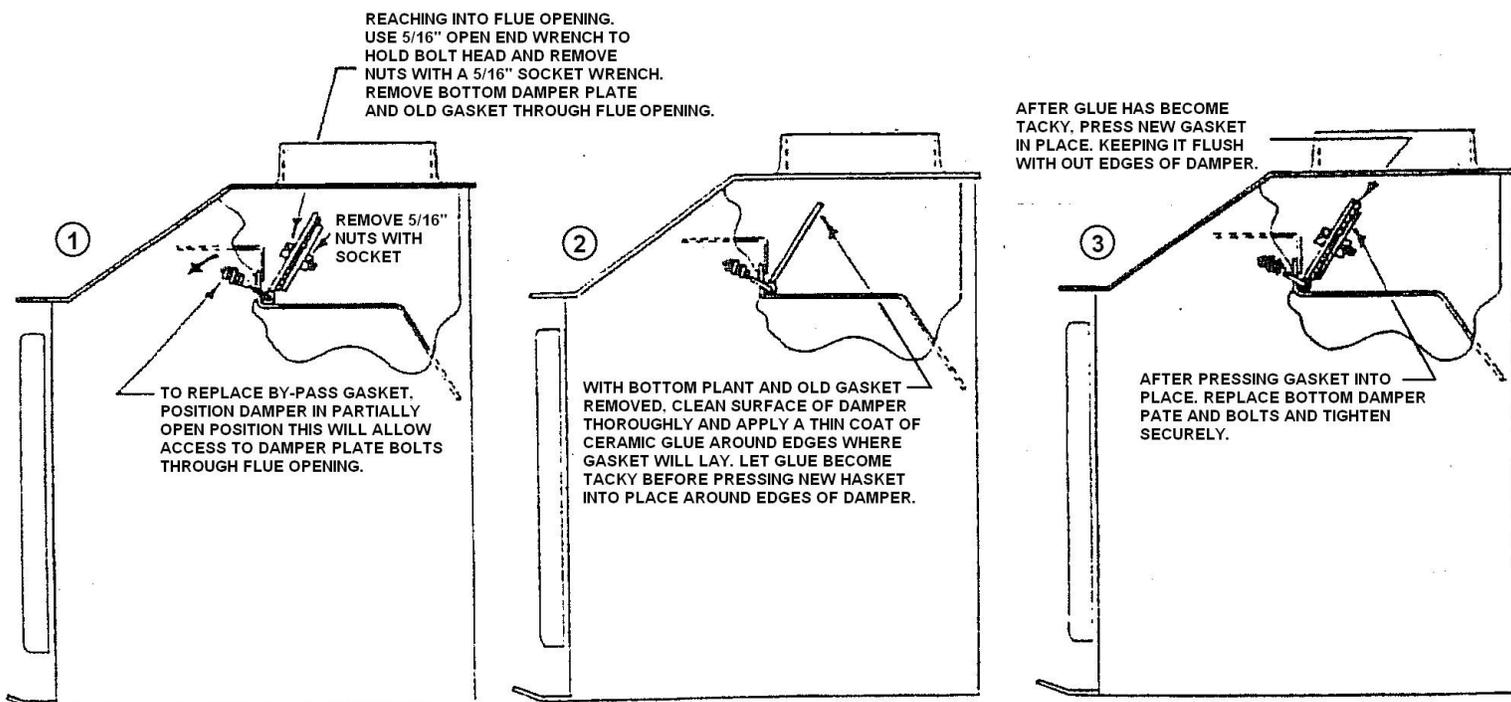
You can get an indication of whether the catalyst is working by comparing the amount of smoke leaving the chimney.

1. Leaving the bypass open, go outside and observe the amount of smoke leaving the chimney.
2. Close the bypass, go outside and observe the amount of smoke leaving the chimney.

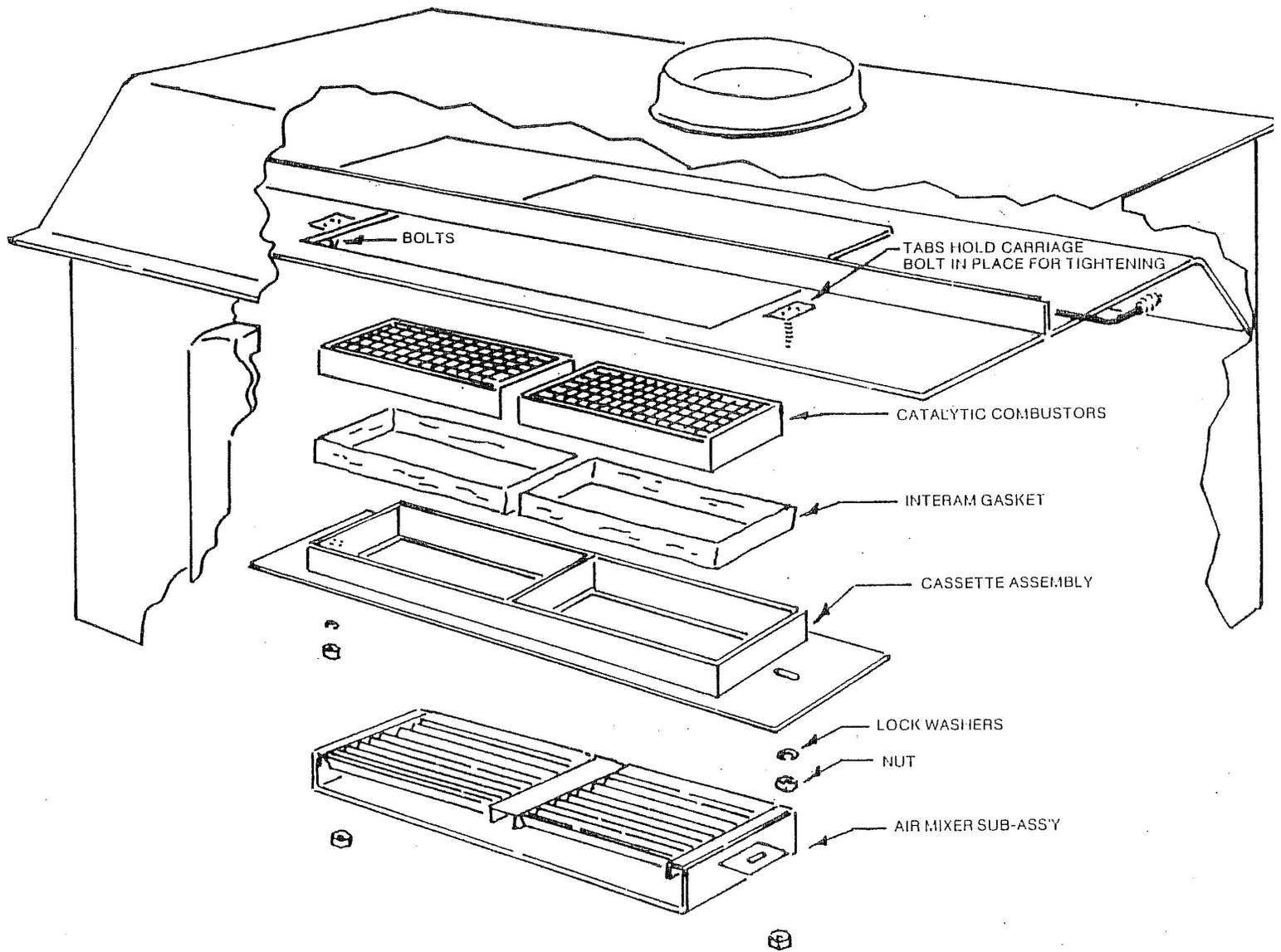
Significantly more smoke should be seen when the bypass is open and the exhaust is not being routed through the combustors. Be careful not to confuse smoke with steam from wet wood.

After inspecting the combustors and it it determined that they are defective, they must be replaced. Read the catalytic warranty information carefully.

3. Inspect the bypass gasket regularly. A bright light or flashlight is useful for locating any areas that are not sealed.



**If the bypass is not sealing, the gasket must be replaced. See Diagram above.**



## VII. STOVE AND CHIMNEY MAINTENANCE.

At the end of each season, thoroughly clean the inside of the firebox area including the area under the grate and ash drawer. Vacuum all air passageways and the fan cover screens. Check the door and window gaskets and replace if necessary. (Make sure stove is cool.)

Replace the door gaskets on your Sierra stove every two or three seasons. Replace the window gaskets only if you need to replace the glass. See your Sierra dealer for replacement parts.

**Care and cleaning of woodstove Glass** - The window glass on your Sierra woodstove is designed for high temperature performance and will withstand normal woodstove temperatures. However, like most glass, it will break if struck with sufficient force, so be careful when loading wood. You can break your glass by jamming a log against it or by attempting to push a log into the fire with the stove door. Never load your Sierra stove with combustible materials. Even the smallest explosions in a small airtight stove may blow out the glass.

Inspect the glass regularly for cracks or breaks. If you find one, obtain a new glass from your dealer or SIERRA.

Always use the fiberglass window gasket supplied with the replacement glass.

**Keep a Hotter Fire for Cleaner Glass** - Here are nine hints for keeping your window glass as clean as possible.

1. A hotter fire near the window keeps it clean (don't expect any stove window to stay perfectly clean)
2. Add a log or two frequently, avoid a smoldering fire.
3. Move burning logs to window area, add new logs behind.
4. Encourage a hot burn when adding logs.
5. Use dryer wood - green wood stains glass.
6. To clean window when dirty, burn a hot fire.
7. Or use a damp rag to wipe window, but be sure to avoid a steam burn.
8. Keep air intakes clean for a good wash of air.
9. Stir ashes as little as possible.

## BLOWER MAINTENANCE

Regularly check the fan covers for dust buildup and remove any present. Also be sure to check the power cord for any signs of wear or damage. Have the cord replaced by a qualified electrician if necessary.

## VII. CHIMNEYS AND CREOSOTE

**Formation and Need for Removal** - Creosote is one of the facts of life for wood burners. When wood is burned slowly, it produces tar and other organic vapor which combines with expelled moisture (even "dry" wood contains approximately 20% moisture) to form creosote. The creosote vapors condense in the relatively cool chimney connectors and flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. Large amounts of this tough, gummy, tar-like substance can pile up quickly and virtually choke a stove pipe. When ignited, this creosote makes an extremely hot and dangerous fire.

Be sure to examine the chimney connector pipe and the chimney above it every few weeks so you can determine the rate of creosote build up.

**Any excessive build up of creosote (more than 1/4") will then be apparent and must be removed for continued safe operation.**

The chimney must be inspected from the top of the chimney. For a thorough cleaning and inspection, your SIERRA woodstove should be removed from the hearth.

If creosote has accumulated, it should be removed to reduce the risk of a chimney fire. Creosote formations can be chipped away from flue openings with a sturdy metal blade such as a heavy duty scraper.

**CAUTION: The acid content can cause burns to skin and eyes, so wear protective glasses and gloves.**

The chimney itself is normally cleaned from the roof. Most stove dealers carry stiff metal brushes in sized and shapes to fit standard flue liners. These are usually attached to rods which can be extended for the length of the chimney. **It is recommended that you call a professional chimney cleaner to do the job for you.**

If any deterioration or damaged areas are found during routine cleaning and inspection, consult a skilled chimney sweep or brick mason for advice. Any repairs needed should be completed before operating unit.

### Minimizing Creosote

1. Proper sizing of the stove to the house will help reduce creosote problems - too large a stove will force the owner to burn a slow fire resulting in rapid creosote build-up. It is recommended that you do not burn slow fires for an extended period of time.
2. Avoid slow smoldering fires. A better way to reduce heat output is to have a small but hot fire by adding small amounts of wood at more frequent intervals.
3. Regularly, when loading the stove, encourage a hot, brisk fire for 10-15 minutes. This will tend to "burn-off" any small accumulations of creosote since the last hot fire.
4. If you do have a chimney fire, call the fire department immediately. Only then attempt to control the fire. Throw soda on the logs, close the draft regulators completely to shut off air to the fire. Wet down your roof and adjacent areas to keep the fire from spreading.
5. If you must use green wood (and we urge you to avoid doing so), be sure to mix with dry logs.

By following the manufacturer's recommendations your Sierra Stove will give you years of service



Sierra Products, Inc.  
5061 Brooks St., Ste B  
Montclair, CA 91763  
(909) 399-3355

Manufactured by Empire Products, Inc. Model Evolution 8000TE

U.S. ENVIRONMENTAL PROTECTION AGENCY

### CATALYST EQUIPPED

MEETS EPA PARTICULATE MATTER (SMOKE) CONTROL REQUIREMENTS FOR CATALYTIC WOOD HEATERS BUILT ON OR AFTER JULY 1, 1990. SEE CATALYST WARRANTY. ILLEGAL TO OPERATE WHEN CATALYST IS NOT WORKING. SEE OWNER'S MANUAL FOR OPERATION AND MAINTENANCE

**SMOKE**

THIS MODEL

0 (Grams Per Hour) 5.5

**EFFICIENCY\***

50% 60% 70% 80% 90% 100%

*Wood heaters with higher efficiencies cost less to operate.*

\*NOT TESTED FOR EFFICIENCY. THE VALUE INDICATED IS FOR SIMILAR CATALYST-EQUIPPED WOOD HEATERS.

**HEAT OUTPUT**

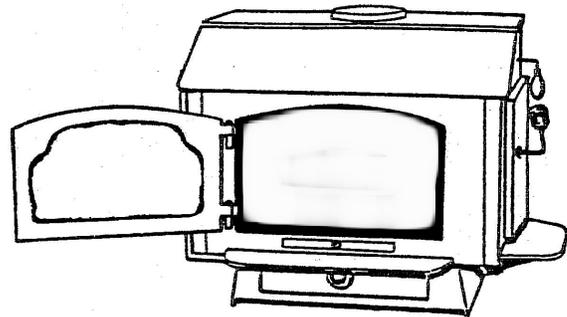
9,700 to 35,900 Btu/Hr.

Use this to choose the right size appliance for your needs.

ASK YOUR DEALER FOR HELP

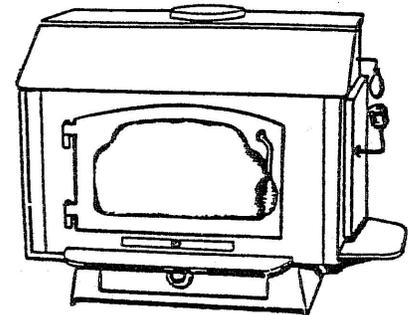
This wood heater will achieve low smoke output and high efficiency only if properly operated and maintained. See owner's manual.

**WARNING: FIREPLACE STOVES EQUIPPED WITH DOORS SHOULD BE OPERATED ONLY WITH DOORS FULLY OPEN OR FULLY CLOSED. IF DOORS ARE LEFT PARTLY OPEN, GAS AND FLAME MAY BE DRAWN OUT OF THE FIREPLACE STOVE OPENING, CREATING RISKS FROM BOTH FIRE AND SMOKE**



ALL THE WAY OPEN

OR



ALL THE WAY CLOSED

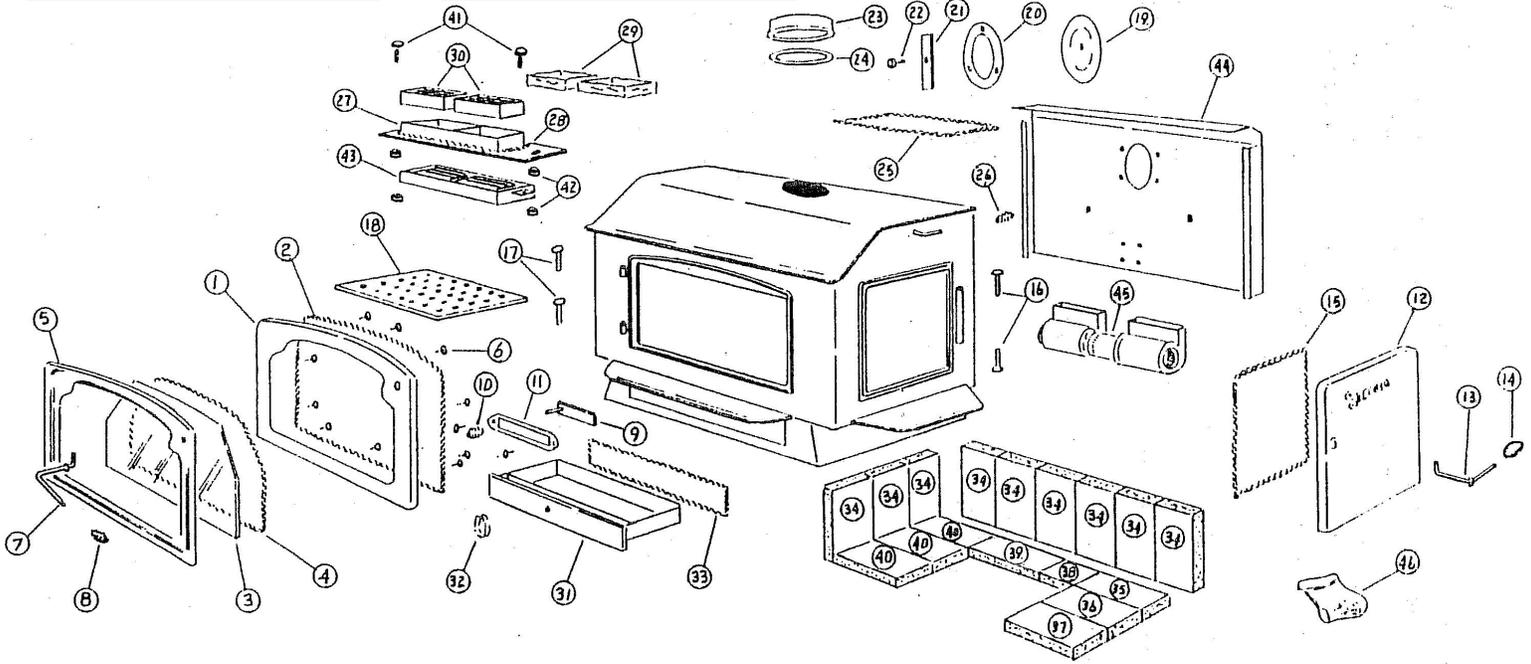
### CONSUMER PROTECTION WARRANTY

Your Sierra Stove has a Limited Five-Year Warranty. Please read it carefully, fill out the short registration form and return it, within 30 days of purchase, to Sierra Products, Inc., 5061 Brooks St. Ste. B Montclair, CA 91763.

ITEM NO.	PART NUMBER	DESCRIPTION
1	407030	SINGLE DOOR-ARCHED
2	408484	DOOR GASKET
3	400064	WINDOW ARCHED DOOR GLASS
4	408485	WINDOW GASKET
5	408061	ARCHED DOOR OVERLAY
6	400437	ARCHED DOOR SCREWS
7	401220	ARCHED DOOR HANDLE
8	401221	ARCHED DOOR SPRING HANDLE
9	408417	PRIMARY AIR SLIDE SUB-ASSY
10	404523	PRIMARY AIR SPRING HANDLE
11	400532	PRIMARY AIR SLIDE
12	408440	SOLID FUEL DOOR
13	407419	SIDE DOOR HANDLE
14	402021	SIDE DOOR SPRING HANDLE
15	408486	FUEL DOOR GASKET
16	408488	FUEL DOOR HINGE PINS

ITEM NO.	PART NUMBER	DESCRIPTION
17	400590	ARCHED DOOR HINGE PINS
18	407084	GRATE
19	400209	CAP UNI-FLUE
20	408419	CAP GASKET
21	408476	CAP RETAINER
22	—	BOLT- $\frac{1}{2}$ -20 HEX HD MACH X $3\frac{1}{4}$ LG
23	400208	FLUE COLLAR
24	406419	FLUE COLLAR GASKET
25	408473	BYPASS DAMPER GASKET
26	402021	DAMPER ROD SPRING HANDLE
27	408459	CATALYTIC CASSETTE
28	408474	CATALYTIC CASSETTE SUB-ASSY
29	408475	INTERRAM COMBUSTOR GASKET
30	408450	CATALYTIC COMBUSTORS
31	408447	ASH PAN ASSY
32	408487	ASH PAN KNOB

ITEM NO.	PART NUMBER	DESCRIPTION
33	—	ASH PAN GASKET
34	—	FIRE BRICK $1\frac{1}{2}$ X $4\frac{1}{2}$ X 9
35	—	FIRE BRICK $1\frac{1}{4}$ X $4\frac{1}{2}$ X $6\frac{3}{4}$
36	—	FIRE BRICK $1\frac{1}{4}$ X 9 X $6\frac{3}{4}$
37	—	FIRE BRICK $1\frac{1}{2}$ X $4\frac{1}{2}$ X 8
38	—	FIRE BRICK $1\frac{1}{2}$ X 4 X 8
39	—	FIRE BRICK $1\frac{1}{2}$ X $3\frac{1}{8}$ X 9
40	—	FIRE BRICK $1\frac{1}{2}$ X 4 X 4
41	—	$3\frac{1}{8}$ -16 X 1 CARRIER BOLT
42	—	NUTS - $3\frac{1}{8}$ -16 REG HEX
43	408463	AIR MIXER SUB-ASSY
OPTIONS		
44	408480	BLOWER MANIFOLD
45	401565	BLOWER FANS
46	—	HARDWARE PACKAGE



P/N 140821 8000TEC MANUAL r1