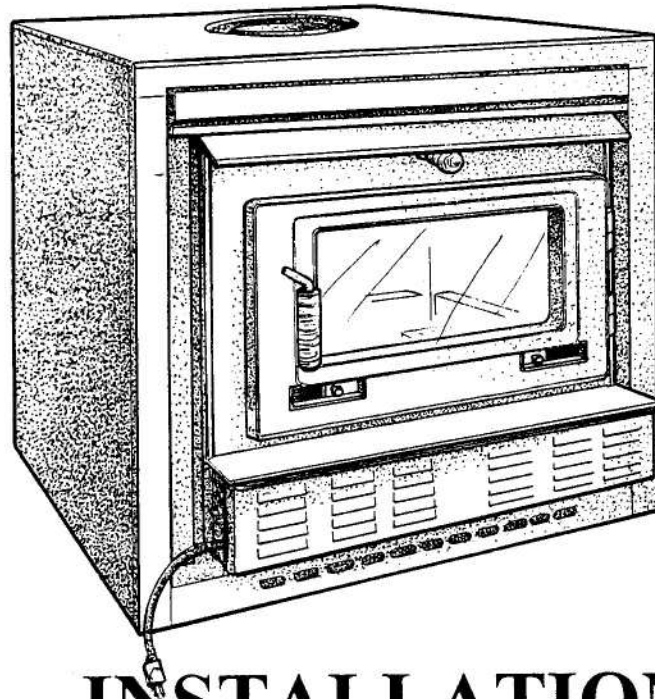


# **GEMINI-XL** **ZERO CLEARANCE**

by Appalachian



## **INSTALLATION & OPERATION PROCEDURES**

**FIREPLACE INSERT - FREESTANDING**

**GEMINI PATENT**

**PAT. # 4,607,611**

**August 26th, 1986**

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**NOTE:** Tested and listed by Arnold Greene Testing Laboratories to test standards ANSI-UL 1482, 737, 127 HUD specifications and Uniform Building Code.

## CONGRATULATIONS...

and thank you for purchasing the Gemini XL zero-clearance stove unit. From all of us at Appalachian, welcome to the growing ranks of energy conscious Americans.

Heating with wood and bituminous coal is one way we can help conserve natural resources as well as stimulate a healthy economy. The forest industry has worked for many years to assure a continuing supply of our most abundant renewable resource - wood.

To get the greatest benefit from your stove, and to ensure safe operation, please follow the instructions outlined in this manual carefully. We hope you will enjoy many years of safe, economical heat from your Gemini XL zero-clearance stove unit.

Again, thank you and welcome.

The Management and Employees of  
**APPALACHIAN STOVE & FABRICATORS, INC.**  
 Asheville, North Carolina.

This manual describes the installation and operation of the Appalachian Stove's Gemini XL catalytic equipped wood heater. This heater meets the U. S. Environmental Protection Agency's emission limits for wood heaters sold after July 1st, 1988. Under specific conditions this heater has been shown to deliver heat at rates ranging from 10100-26900 btu/hr.

# I. FEATURES AND OPERATING CONTROLS

Before you begin to install and operate your new Gemini XL Zero Clearance unit, you should familiarize yourself with its unique features and operating controls. The Gemini XL is designed for use with zero-clearance to combustibles. This unique feature makes this unit much more versatile in terms of where you decide to install it. Care should be taken when selecting a stove site. A centrally located site is preferable, if possible, to ensure more equal heat distribution throughout your home. If you are planning to install the Gemini XL as a fireplace unit, the site you select for installation and finishing construction will enhance your present decor as well as heat your home more efficiently.

**1. QUALITY STEEL CONSTRUCTION** assures you of years of dependable service. The firebox is constructed of 1/4" of 4 gauge plate steel and is completely welded for safe, durable installation.

**2. SPECIAL FIREPROOF INSULATION** lines the solid steel outer box and covers the firebox to provide high temperature resistance.

**3. WARM AIR OUTLETS** distribute the heated air from around the firebox.

**4. FRONT MOUNTED BLOWER** circulates air around

the fire chamber for increased heat extraction. Easy mounting allows for quick access should service be needed.

**5. ONE PIECE GLASS DOOR** seals the firebox for high efficiency and allows you to see the fire.

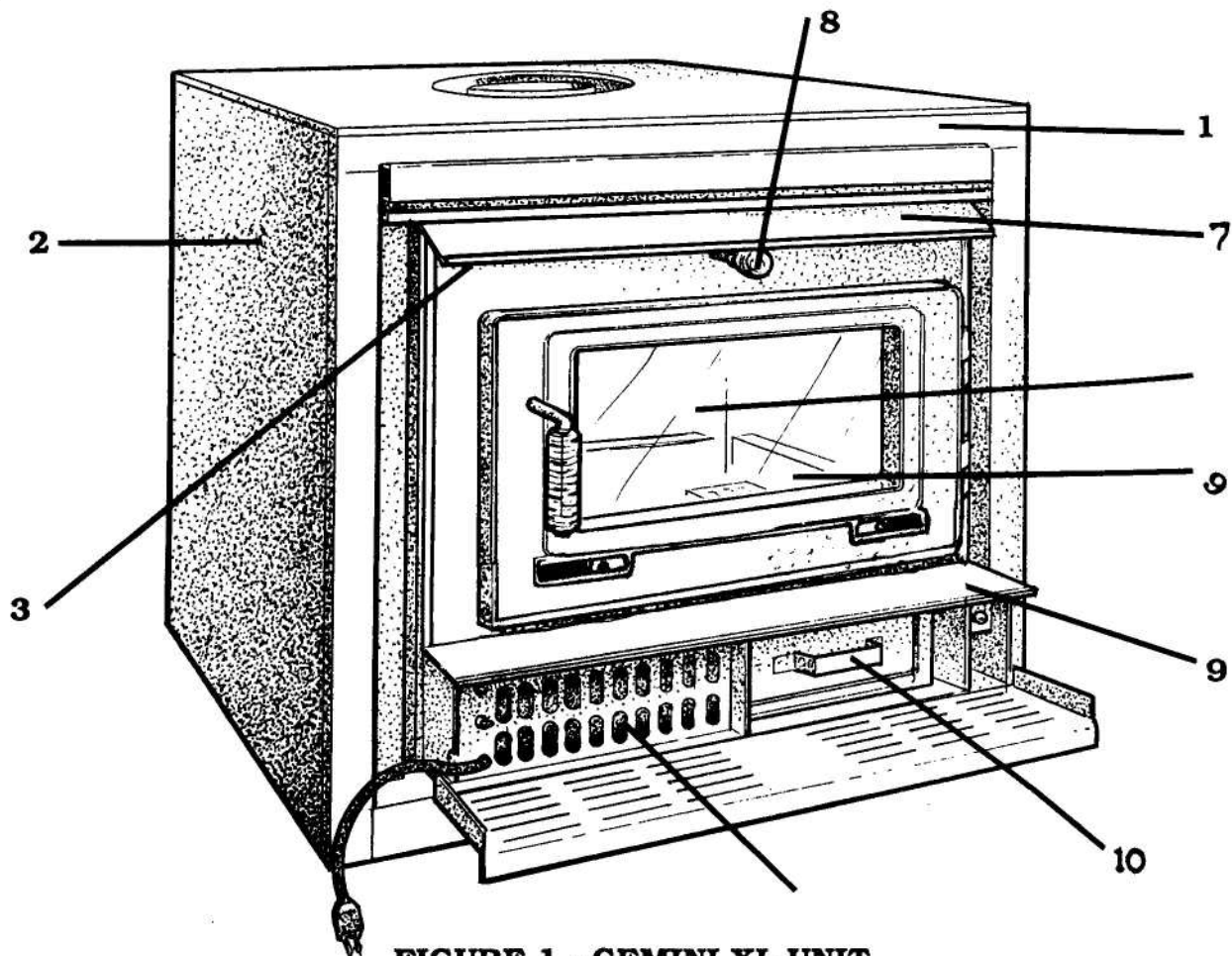
**6. REFRACTORY FIREBOX LINER** boosts burning efficiency by reflecting radiant heat back into the fire. This results in a more thorough and cleaner burning.

**7. WARM AIR DEFLECTOR** on the top stove edge directs the heated air downward and across the floor where it is needed for maximum comfort.

**8. SLIDING DAMPER** helps increase heat extraction by controlling escape of hot combustion gasses and smoke. The damper is opened by pulling the control handle out, and closed by pushing the handle in. It may be left in any intermediate position.

**9. DRAFT CONTROLS** regulate the burning rate, hence the heat output of the stove. The larger the fire, the more heat the unit will produce. The drafts are opened by pulling the controls in the door toward the center of the unit (together), and may be left in any intermediate position.

**10. ASH PAN** for clean and easy removal of ash.



**FIGURE 1 - GEMINI XL UNIT**

## II. CLEARANCES FOR INSTALLATION

### 1. CLEARANCES FOR FIREPLACE INSTALLATION

To insure a safe installation, the following minimum clearances must be met:

(A) Chimney clearance: Six inch insulated Class A pipe (low heat residential type all-fuel) must be used. Follow pipe manufacturer's recommendations.

(B) A minimum of 12" must be maintained from the front edge of the unit to any wall.

(C) A minimum of 12" must be maintained from the top of the unit to any combustible overhanging mantel.

(D) A minimum of 22" of floor protection in front of the stove of 3/4" fireproof millboard or the equivalent must be used.

(E) Clearances are affected by the composition of the wall structure (combustible or non-combustible materials). Use of non-combustible materials will reduce the clearance needed.

**NOTE:** Walls of wood frame construction covered with a non-combustible veneer such as brick are considered combustible walls.

**NOTE:** For details on chimney installation, see "Chimney Installation," Section IV. No. 5.

### 2. CLEARANCES FOR FREESTANDING INSTALLATION

The Gemini XL is specially designed for zero clearance to combustibles as a freestanding unit (see accompanying illustration). Rear and side-wall clearances depend on two factors:

(A) Composition of the wall structure (combustible or non-combustible materials). Use of non-combustible materials will reduce the clearance needed.

(B) Chimney Clearance: Six inch insulated Class A pipe (low heat residential type all-fuel) must be used. Follow pipe manufacturer's recommendations.

**NOTE:** Walls of wood frame construction covered with a non-combustible veneer such as brick are considered combustible walls.

If the stove is installed on a combustible floor, a protective pad of 3/4" fireproof millboard or equivalent must extend 22" in front of the stove unit only.

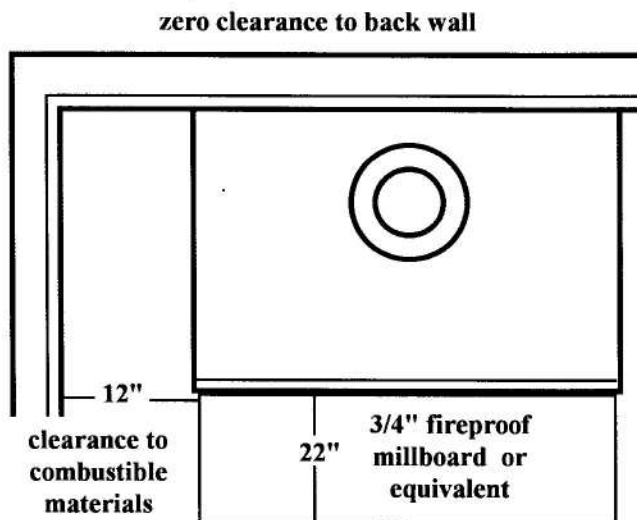
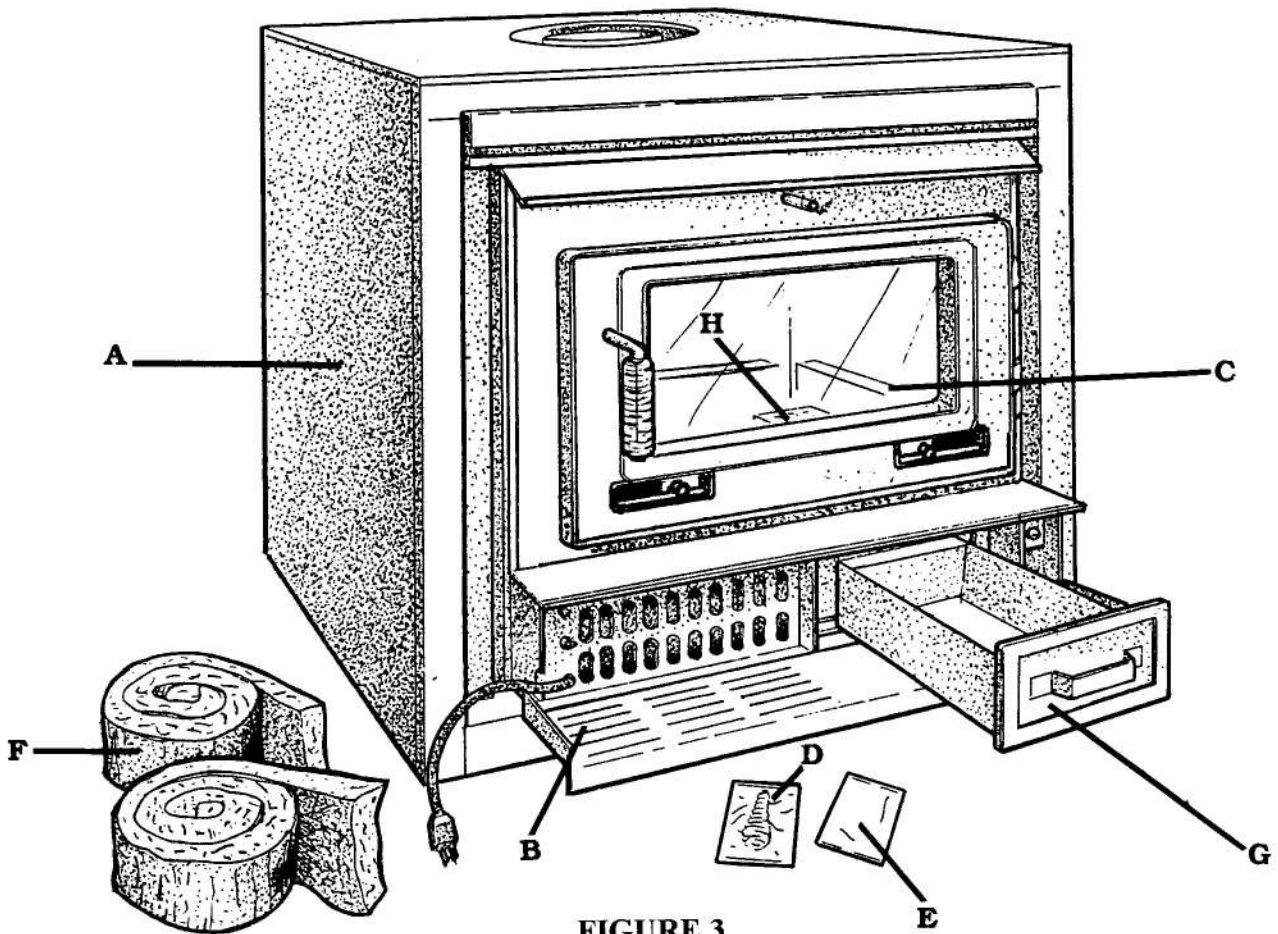


FIGURE 2 - FREESTANDING CLEARANCES (Top View)

# III. INSTALLATION AS A FIREPLACE UNIT



**FIGURE 3  
FIREPLACE UNIT  
STOVE COMPONENTS**

## 1. STOVE COMPONENTS

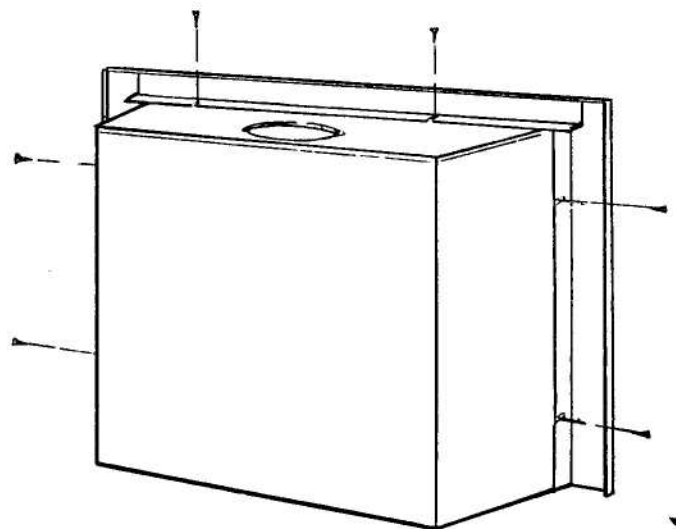
The following components are included with the Gemini XL unit:

- (A) Gemini XL Unit
- (B) Blower Assembly
- (C) Refractory Firebox Liner
- (D) Damper Spring
- (E) Draft Control Knobs
- (F) Heat Resistant Insulation Rolls
- (G) Ash Pan

## 2. MOUNTING THE OPTIONAL TRIM PANELS

- (A) Mount the top trim panel with the mounting screws provided.
- (B) Mount side panels.

**NOTE:** The Gemini XL trim kit may be installed 1/2" to a maximum of 2 1/2" from the front edge of the stove. One half inch is preferred.



**FIGURE 4 - TRIM PANELS (Optional)**

### 3. INSTALLING THE GEMINI XL UNIT (Fireplace Installation)

Special care should be taken in selecting your special site for fireplace installation of the Gemini XL unit. A centrally located site will provide more equal heat distribution. The site you select for installation, and the finished construction, will also enhance the value and overall appearance of your home. Finishing construction details may be done in wood, brick, paneling, "cut" or "natural" stone masonry to blend with your present decor.

- (A) After selecting your site, place the Gemini XL unit in desired position.
- (B) Attach chimney to unit, following the special instructions on page 7 in the freestanding section.
- (C) Finish construction around unit (see Figure 5).
- (D) Trim the stove unit in desired materials to match your decor (wood, paneling, brick, "cut" or "natural" stone may be used).
- (E) Install the protective hearth in front of the unit last, after all other construction is complete.
- (F) Do not block any natural cooling vents of the Gemini XL fireplace unit when installing.

NOTE: If a raised hearth is used, raise the Gemini XL unit in proportion to the elevation to avoid blocking stove vents and to maintain correct 22" hearth clearance to combustibles.

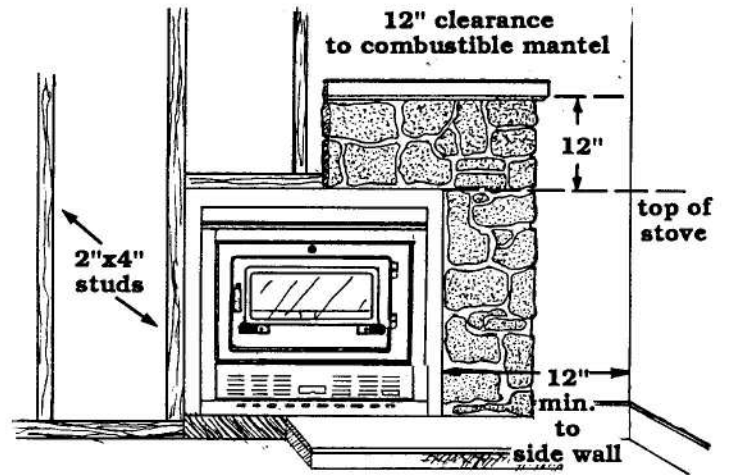
This completes the installation of your Gemini XL unit. Please refer to Section VIII and IX for instruction on operation and stove maintenance.

### 4. IMPORTANCE OF PROPER DRAFT

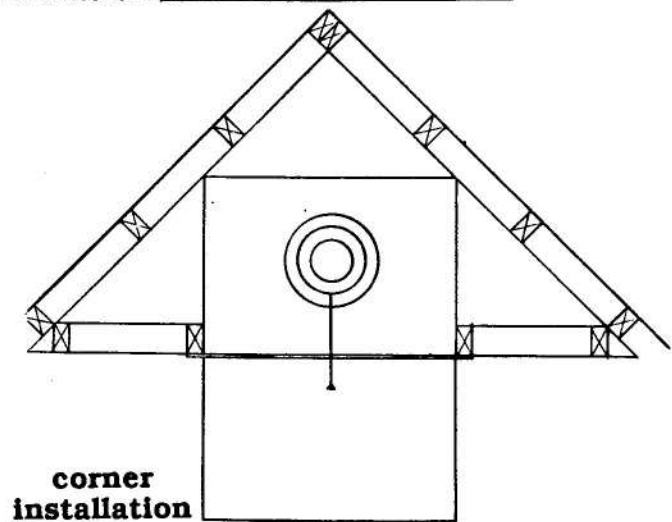
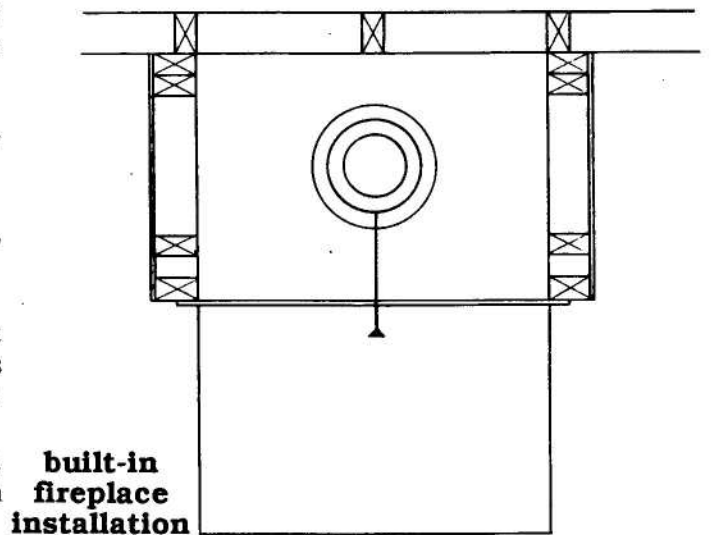
Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions, and other factors. Too much draft may cause excessive temperatures in the appliance and may damage the catalytic combustor. Inadequate draft may cause backpuffing into the room and "plugging" of the chimney or the catalyst.

NOTE: Inadequate draft will cause the appliance to leak smoke into the room through the appliance and chimney connector joints.

NOTE: An uncontrollable burn or a glowing red stove part or chimney connector indicates excessive chimney draft.

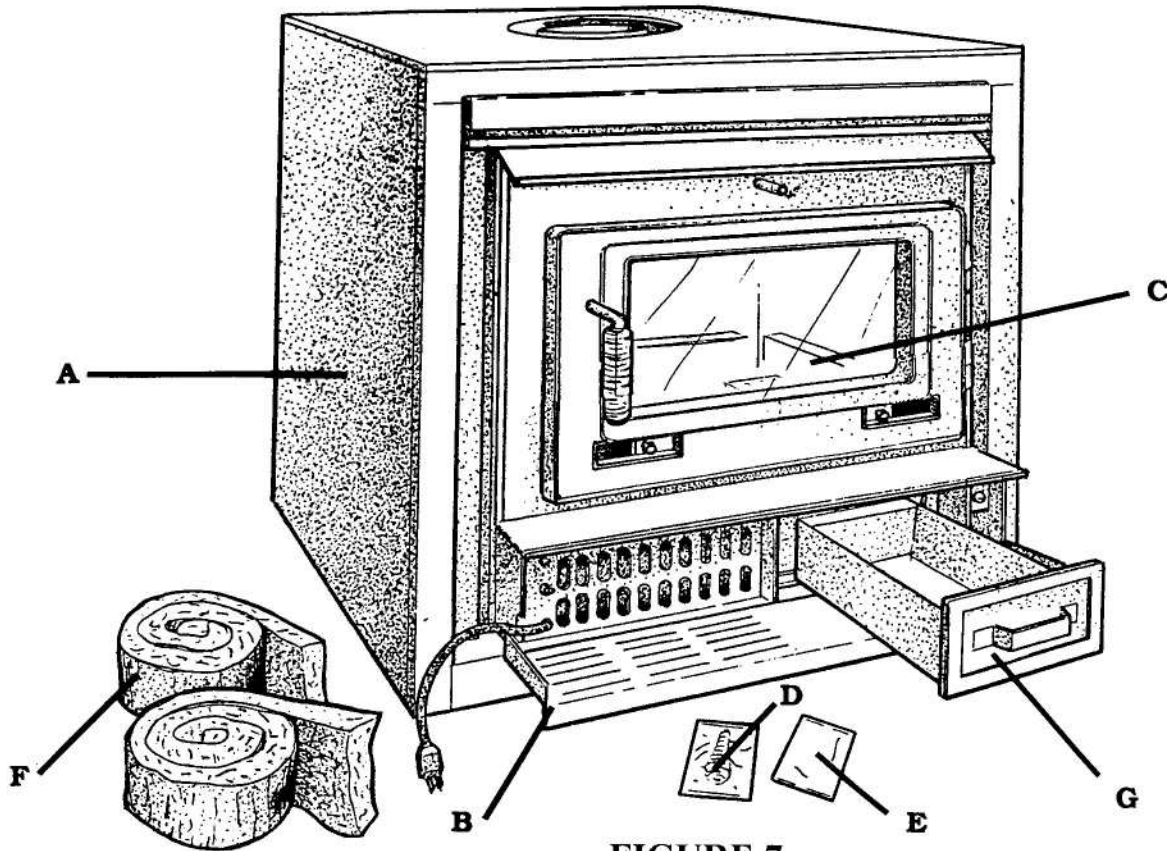


**FIGURE 5**  
**FINISHING THE CONSTRUCTION**  
**FOR FIREPLACE INSTALLATION**



**FIGURE 6 - INSTALLATION SUGGESTIONS**  
**(Top View)**

# IV. FREESTANDING INSTALLATION



**FIGURE 7**  
**FREESTANDING STOVE**  
**COMPONENTS**

## 1. STOVE COMPONENTS

The following components are included with the Gemini XL stove freestanding model:

- (A) Gemini XL Stove Unit
- (B) Blower Assembly
- (C) Refractory Firebox Liner
- (D) Damper Spring
- (E) Draft Control Knobs
- (F) Heat Resistant Insulation Rolls
- (G) Ash Pan
- (H) Pedestal (Optional)

## 2. PREPARATION

Proper preparation and planning of the installation will simplify the job and help achieve effective operation of the unit.

(A) Select the location for the stove installation. The stove should be positioned so that the air flows to the rest of the home in the most direct route possible.

(B) Locate the approximate penetration point of the chimney structure. Avoid roof areas such as valleys, ridges, dormers and hips.

If the installation is being made on a combustible floor, place the floor protector in position. (See specifications in section II.)

If you are using the optional freestanding base, attach it at this time.

Place the stove in position. Check clearances. (See section II.)

### 3. ATTACHING THE FREESTANDING KIT

Tool needed: Drill

(A) Remove the wooden blocks from the bottom of the stove.

(B) Position the pedestal on the bottom of the stove so that it is centered from the sides, sits inside the angle, and is even with the angle at the front of the stove. The "turned in" flanges on the pedestal should be placed against the bottom of the stove.

(NOTE: The vent opening on the bottom of the stove should be completely inside the pedestal).

(C) Attach the pedestal using the drill screws provided. Drill into the holes after the pedestal is positioned correctly. The screws will make their own hole in the stove bottom.

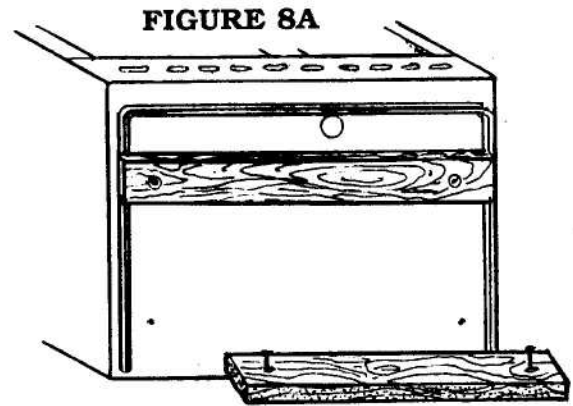


FIGURE 8B

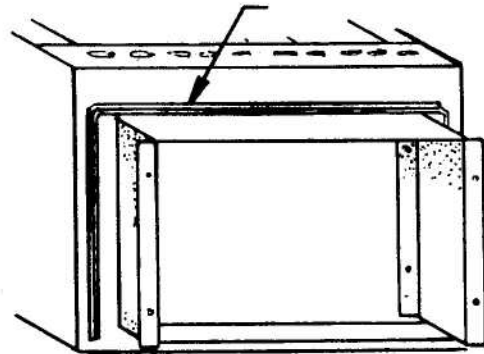


FIGURE 8C

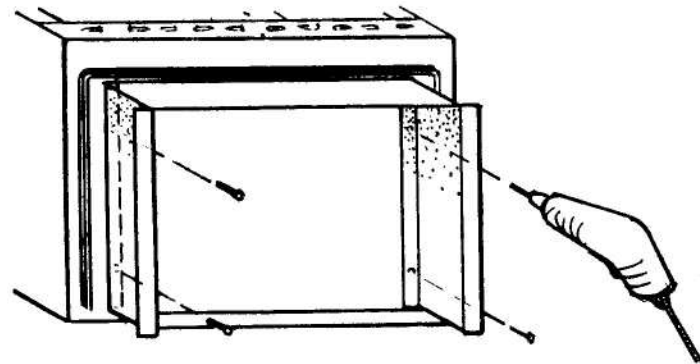


FIGURE 8A-C  
ATTACHING THE FREESTANDING KIT

### 4. IMPORTANCE OF PROPER DRAFT

Draft is the force that moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions, and other factors. Too much draft may lead to excessive temperatures in the appliance and may damage the catalytic combustors. Inadequate draft may cause backpuffing into the room and "plugging" of the chimney of the catalyst.

NOTE: Inadequate draft will cause the appliance to leak smoke into the room through the appliance and chimney connector joints.

NOTE: An uncontrollable burn or a glowing red stove part or chimney connector indicates excessive draft.

### 5. MOUNTING THE STOVE PIPE

(A) Pipe must be 6" insulated Class A.

(B) Slide and secure pipe onto drip-proof connector mounted in the Gemini XL unit.

(C) Fill the air space between pipe and Gemini XL unit with heat resistant insulation.

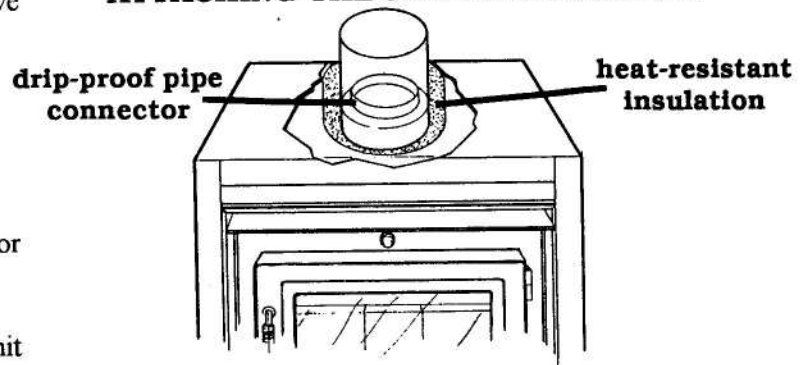


FIGURE 9  
MOUNTING THE STOVE PIPE



## 6. CHIMNEY INSTALLATION

(A) Chimney clearance: Six inch insulated Class A pipe (low heat residential all fuel) must be used. Follow pipe manufacturer's recommendations.

**CAUTION:** If, for any reason, you decide to use chimney pipe other than Class A pipe, consult your fire marshall for safe installation instructions.

Use one layer of insulation for double wall pipe and two layers for triple wall pipe (see figure 9).

(B) Attaching chimney to Gemini XL unit (see figure 9). A solid fuel chimney must make a positive connection to drip proof pipe connector at all points along base of pipe connector for correct installation.

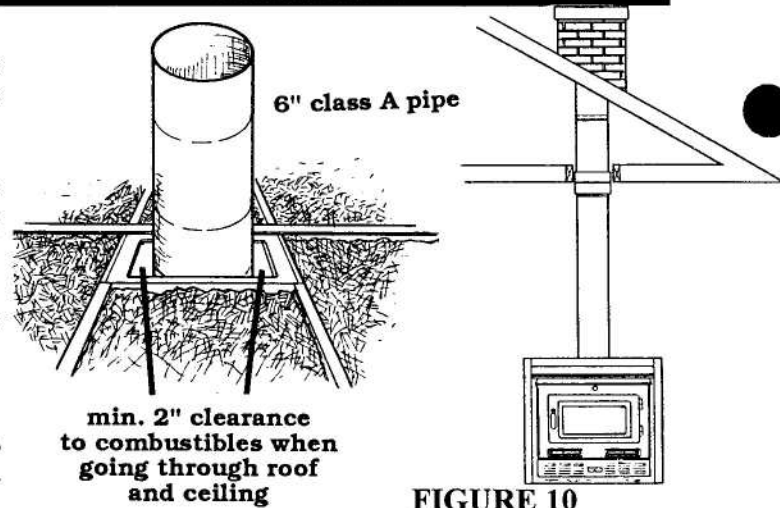


FIGURE 10  
CHIMNEY INSTALLATION

# V. MOBILE HOME INSTALLATION

## 1. GENERAL PROCEDURES

Follow the installation instructions for a freestanding stove, with the following changes:

(A) The structural integrity of the mobile home floor, wall, ceiling, and roof must be maintained throughout installation.

(B) DO NOT install the Gemini XL in a sleeping room.

(C) Be sure to provide means for the secure installation of the stove to the floor of the mobile home.

(D) Stove pipe used to connect stove to chimney or flue MUST be double wall insulated pipe or equivalent, NOT single wall.

(E) A source of external combustion air must be provided using the optional mobile home installation kit.

## 2. INSTALLATION OF EXTERNAL AIR DUCT

(A) Locate the position on the floor protector where the stove will be placed.

(B) Mark and cut a 3" diameter hole through flooring material for installation of flexible duct.

(C) Attach flexible duct to the air pipe opening as shown in figure 11, then attach pedestal to bottom of stove if it is being used.

(D) Proceed with normal freestanding installation.

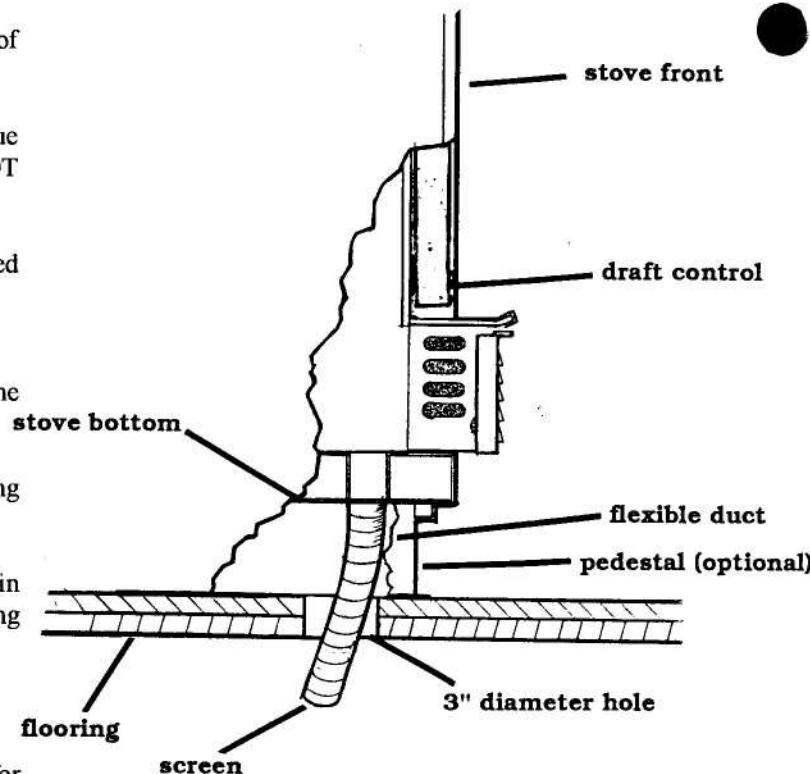


Figure 11  
INSTALLING EXTERNAL AIR DUCT

For further information on safe stove installations, send for a copy of the National Fire Prevention Association's publication, "Using Coal and Wood Stoves Safely" NFPA No. HS-8-1974. The address of the NFPA is Batterymarch Park, Quincy, MA 02269.

# VI. INSTALLING THE BRASS TRIM

## 1. STANDARD BRASS

### (A) Spring Damper Handle

Screw the handle onto damper rod counter-clockwise.

### (B) Draft Knobs

The draft knobs are screwed directly into the holes in the draft slide plate.

### (C) Factory Installed Brass

Installed for your convenience at the factory is the door handle spring.

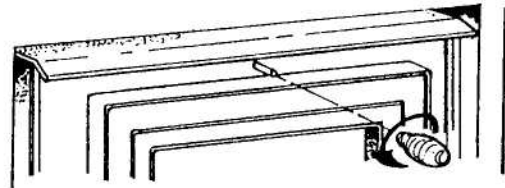


FIGURE 12

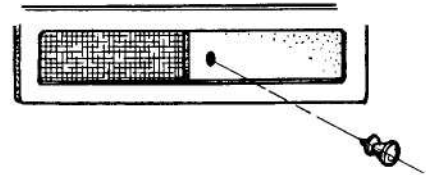


FIGURE 13

## 2. OPTIONAL BRASS

### (A) Brass for front edge of stove:

This brass is installed around the outside edge of the stove unit. It may be used with both freestanding and fireplace units. If used in combination with the optional trim panels for fireplace units, attach the trim panels first.

1. Mount top and side strips with self-tapping brass screws provided. Leave approximately 1" at top edges of trim to be covered by corner brass (see figure 14). If needed, strips can easily be cut with a hacksaw.

2. Mount two brass corners overlapping top and side brass strips.

3. Remove protective coating from brass strips before use.

### (B) Brass Extrusion Door Ring

1. Assemble four sections of ring using instructions provided with ring parts.

2. Four holes are drilled from the inside of the stove door to within 1/8" of the outside. Drill these holes through the door, carefully lining them up, before attaching the door ring. You will need a 5/16 drill bit.

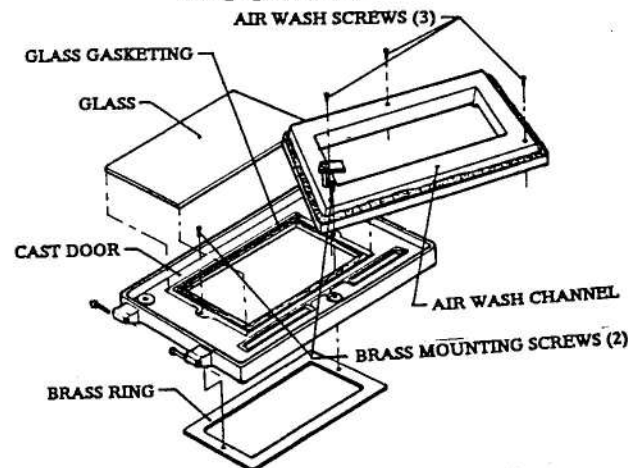


FIGURE 13 A  
MOUNTING BRASS TRIM

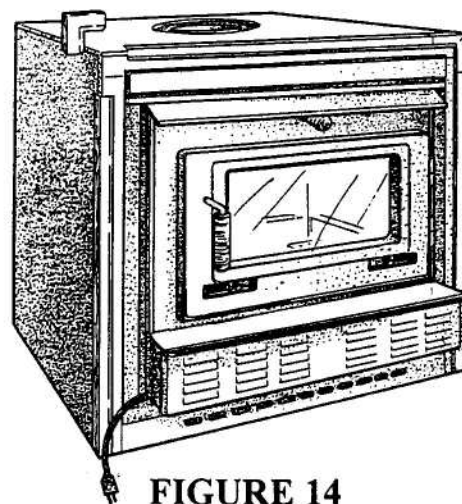


FIGURE 14  
FRONT EDGE BRASS

# VII. CATALYTIC COMBUSTORS

## 1. GENERAL INFORMATION

### (a) TAMPER WARNING

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.

The combustors supplied with this heater are either Corning Long Life Combustors or Applied Ceramics Versagrid Catalytic Converters. Consult the catalytic combustor warranty also supplied with this heater for which type is in your unit.

Warranty claims should be addressed to:

**Corning Glass Works - Warranty Department**  
Electronic Materials Plant - A Dock  
Addison Road  
Painted Post, NY 14870

or:

**Applied Ceramics - Warranty Department**  
P.O. Box 29664  
Atlanta, GA 30359  
(404) 448-6888

Warranty Claims **MUST** have the following items:

1. Warranty Claim Form
2. Dated Proof of Purchase
3. Check for proper amount (including postage and handling).
4. **Corning LONG LIFE Catalytic Combustor** or **APPLIED CERAMICS Catalytic Combustor** (the warranty claim form will distinguish the two).

## 2. CATALYST MONITORING

It is important to periodically monitor the operation of the catalytic combustor to ensure that it is functioning properly and to determine when it needs to be replaced. A nonfunctioning combustor will result in a loss of heating efficiency, and an increase in creosote and emissions. Following is a list of items that should be checked on a periodic basis.

Combustors should be visually inspected at least three times during the heating season to determine if physical degradation has occurred. Actual removal of the combustor is not recommended unless more detailed inspection is warranted because of decreased performance. If any of these conditions exist, refer to the Catalytic Troubleshooting Guide (next page).

This catalytic heater may be equipped with a temperature probe to monitor catalyst operation. Properly functioning combustors typically maintain temperatures in excess of 500 degrees F, and often reach temperatures in excess of 1000 degrees F. If catalytic temperatures are not in excess of 500 degrees F, refer to the Catalyst Troubleshooting Guide for further information (located on next page of this manual).

You can get an indication of whether the catalysts are working by comparing the amount of smoke leaving the chimney when the smoke is going through the combustor and catalytic light-off has been achieved to the amount of smoke leaving the chimney when the smoke is not routed through the combustor (bypass mode = damper open).

1. Light the stove in accordance with instructions given in the operation section of this manual.
2. With smoke routed through the catalyst, go outside and observe the emissions from the chimney.
3. Engage the bypass mechanism (open the damper) and again observe the emissions leaving the chimney.

Significantly more smoke should be seen when the exhaust is not routed through the combustor (bypass mode = damper open). Be careful not to confuse smoke with steam from wet wood.

The **Gemini XL** was designed to allow the owner to monitor the catalyst temperatures. A small port is located on the top of the stove, inside the unit. From that port, wires may be led out of the unit to a temperature monitoring device. Some Gemini models have this wiring already done. The port is positioned to allow for temperatures to be taken approximately 1" behind the right catalyst. The thermocouple and monitor should be compatible and should read temperatures in excess of 1800 degrees F.

---

### 3. CATALYST TROUBLESHOOTING

Operation of any wood stove can create problems. While the use of a catalyst equipped wood stove will substantially lessen some of these problems, such as creosote formation, other traditional wood stove problems may remain.

These problems are invariably related to such conditions as draft, aging or failure of stove components, flue installation, wood supply, and others. Here are a few clues that may be of some assistance in locating some of these problems:

A **sluggish stove performance** may be attributed to: a poor chimney draft; an obstruction in the chimney; the chimney damper being closed; closing the bypass damper too soon; burning wet or unseasoned wood; the combustor being plugged or obstructed; or a combination.

A **drop in overall efficiency** may be attributed to: having cold or windy weather; burning wet, pithy, or spongy wood; the combustor not in operational mode (200 plus degrees); or the combustor broken or dislodged.

A **high fuel consumption** may be attributed to: burning the wrong type of wood for desired heat output; improper regulation of draft or input air (close damper after proper light off, install barometric damper set to .06 inches of water, or close inlet air as much as possible); cold, windy weather; or the combustor not engaged or functioning.

**Backpuffing** may be attributed to: gusts of wind; a hot combustor (above 1400 degrees F); or opening doors in a tightly constructed house.

**Smoke rollout when the door is opened** may be attributed to: the manual flue being closed; wind gusts blowing down the chimney; the combustor is not at operational temperature; or the stove door is being opened too quickly.

**Glowing stove parts** may be attributed to: running the stove too hot (excessive amounts of wood); a high draft (reduce when temperatures become too excessive); a glowing combustor (which is normal during first 1/3 of burn cycle); or a chimney fire. **IN CASE OF CHIMNEY FIRE CLOSE INLET AIR AND OUTLET DAMPERS COMPLETELY - IF THIS DOES NOT HELP, VACATE HOME AND CALL FIRE DEPARTMENT IMMEDIATELY.**

**Creosote accumulation** may be caused by one or more of the following: a poorly insulated chimney; a non-functioning combustor; types and amounts of wood burned; or a leaking damper plate.

**Creosote leakage from metal flue joints** may be caused by one or more of the following: no chimney cap; metal flue assembled improperly; or a normal increase in the moisture due to the higher efficiency of catalytic burning (moisture condensation on chimney walls).

A **heavy concentration of smoke leaving a chimney** may be attributed to one or more of the following: improper type of wood being burned; the damper is open; or water vapor (on cold, still days, water vapor is often mistaken for smoke, the difference being that water vapor appears to be white and tends to rise vertically and dissipate rapidly while smoke is usually bluish brown and will drift down and settle in low areas before dissipating).

A **poor draft** may be attributed to these factors: an improper chimney height; wrong size flue being used; cooler temperatures caused by external chimney; or a massive stone or masonry chimney.

An **unhealthy combustor** can be attributed to: **plugging** (by burning materials that produce a lot of char and fly ash and become trapped), **catalyst peeling** (caused by extreme temperatures, above 1600 degrees F), **catalyst deactivation** (caused by burning large amounts of trash, pressure treated lumber or painted woods), **masking** (from burning coal), **substrate cracking** [caused by: thermal (heat) and mechanical (handling)]; **substrate crumbling** (caused by high draft or thermal shock), **color variations** (does not affect performance); or **catalyst abrasion** (high draft causes ash to grit-blast the surface). An excellent guide to pinpointing and correcting these problems can be found either by consulting your catalyst warranty or, if a Corning combustor, consult their "Troubleshooting Guide for Stoves Equipped with Corning Catalytic Combustors."

---

## 4. CATALYST REPLACEMENT

To replace a damaged or non-functioning catalyst follow these steps:

a) Loosen the damper tab bolts with 9/16 socket to allow the damper tab to slide back. Lower the cast housing as shown.

b) Remove the mixing plate, sealing plate and catalyst. Clean the area where the catalyst sits and remove old gasketing.

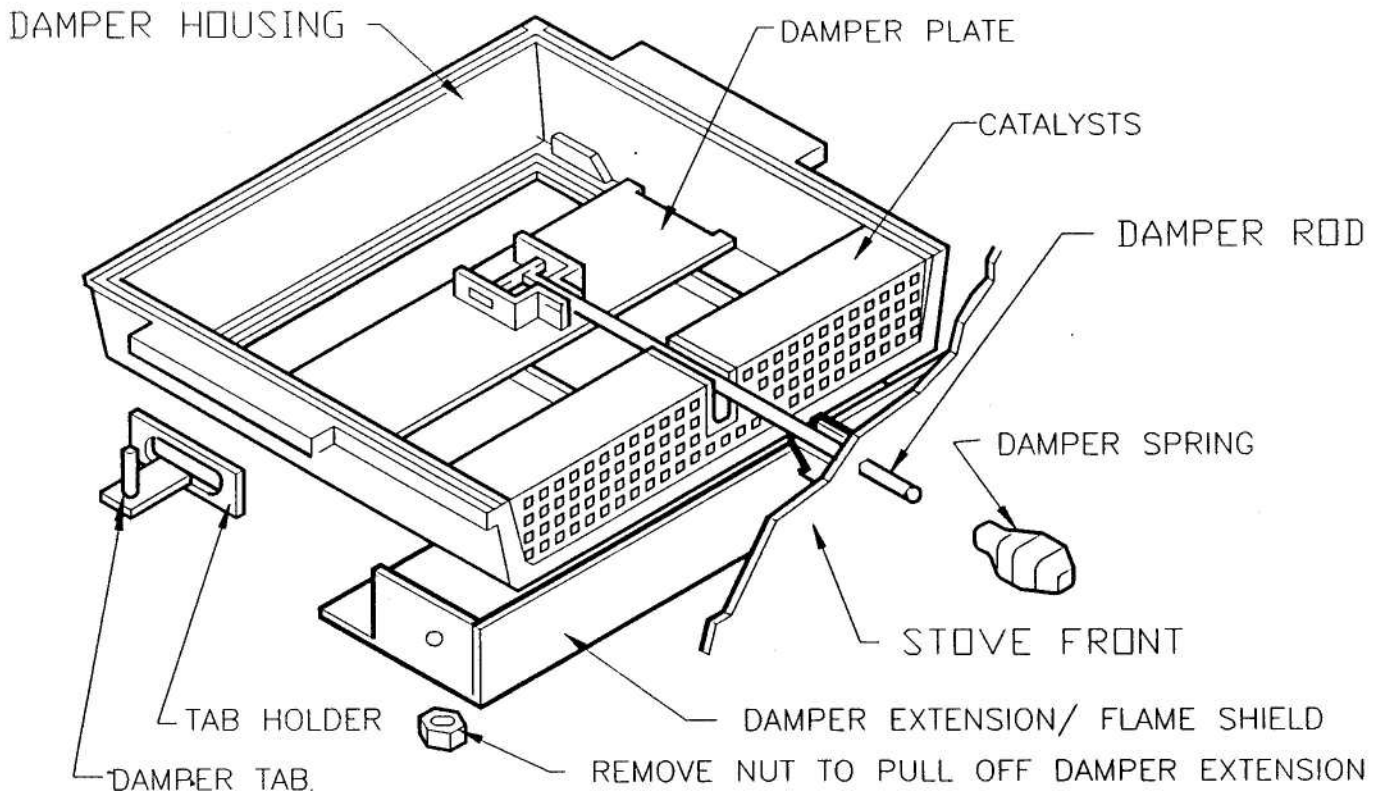
Inside the stove, check the area where the damping system was located and clean away old gasketing if necessary.

c) Install the new catalysts. Uncanned catalysts (catalyst not in a metal housing) should be wrapped with 1/16 gasketing before installing. Locate the catalysts 1/2" from the front of the damper housing. Reinstall the sealing.

d) New gasketing should be installed to allow for a seal between the damper housing and firebox top. This may be done by putting a layer of gasketing around the top where the housing will be located. In both cases the use of an adhesive to hold the gasketing in place will make installation easier.

e) Remount the cast housing in back of the stove. Tighten damper tab bolts. Make sure the damper slides easily. Use furnace cement to seal gaps between the sealing plate and catalysts, rod guide, and top of firebox.

### CHANGING THE CATALYSTS



# VIII. STOVE OPERATION

Proper operation of your **Gemini XL** zero clearance unit will help ensure safe, effective heating for years to come. Please take a few moments to review these simple operating procedures.

## 1. FUEL SELECTION

The **Gemini XL** was 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 to freshly cut hardwoods. **DO NOT BURN** the following: treated wood, coal, garbage, solvents, colored papers, or trash. Burning treated woods, garbage, solvents, colored papers, or trash may result in a release of toxic fumes and may poison or render ineffective the catalytic combustor. Burning coal, cardboard, or loose paper may produce soot, or large flakes of char or fly ash that can coat the combustor, causing smoke spillage into the room, and rendering the combustor ineffective.

## 2. BUILDING AND MAINTAINING A FIRE

(a) Open the damper fully by pulling the damper control handle all the way out.

(b) Place a base of crumpled newspaper in the bottom of the stove. Lay pieces of kindling on top of the newspaper and light it.

(c) As the kindling begins to burn, add several larger pieces of wood until the fire is burning well. At this point, regular size logs may be added.

**NOTE:** Until the fire is burning well, leave the draft controls inside the door fully open.

**NEVER USE GASOLINE, GASOLINE TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR FLUIDS TO START OR "FRESHEN UP" A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IN USE.**

(d) For a stove such as this one equipped with a catalytic combustor, the damper must be fully closed after the fire is burning well.

(e) Regulate the heat output of the stove by adjusting the draft controls to allow for a larger fire and vice versa. A short period of experimentation with the control settings will allow you to regulate the proper heat output to keep your home comfortable.

For the best results in maintaining and achieving fewer emissions in your certified stove, we have found the following instructions are helpful in operating your **Gemini XL**:

For a **high or maximum burn**, fully open the door draft slides while operating the blower on the medium speed.

For a **medium high burn**, open both slides approximately 3/8 of an inch and operate the blower on the low speed.

For a **medium low burn**, open both slides approximately 3/16 of an inch and operate the blower on the low speed. The start-up slide located on the ash-pan may be opened during the first three minutes of the burn.

And lastly, for the **low burn**, open the left slide approximately 3/16 of an inch and operate the blower on the low speed. The start up air slide may be opened during the first three minutes of the burn.

**CAUTION: DO NOT UNPLUG THE BLOWER WHILE THE STOVE IS IN OPERATION.**

**CAUTION: ASH PAN DRAWER MUST BE CLOSED WHILE THE STOVE IS IN OPERATION.**

## 3. REFUELING THE STOVE

(a) Before attempting to add fuel to the stove, **OPEN** the damper control fully by pulling it all the way out. This allows the chimney to carry away the additional smoke which occurs when the door is open.

(b) **DO NOT OVERLOAD THE STOVE.** Normally, three or four logs will provide heat for several hours. Never operate stove when portions of the front glow red-hot.

## ACHIEVING CATALYST LIGHT-OFF FROM A COLD START

The temperature of the stove and the gasses entering the combustor must be raised to between 500 degrees and 700 degrees F for catalytic activity to be initiated. During the start-up of a cold stove a medium to high fire rate must be maintained for about 20 minutes. This assures that the stove, catalyst, and fuel are all stabilized at proper operating temperatures. Even though it is possible to have gas temperatures to reach 600 degrees F within two or three minutes after a fire is started, if the fire is allowed to die down immediately it may go out or the combustor may stop working. Once the combustor begins working, heat generated in it by burning the smoke will keep it working.

## ACHIEVING CATALYST LIGHT-OFF WHEN REFUELING

During the refueling and kindling of a cold fire, or a fire that has burned down to the charcoal phase, operate the stove at a medium to high firing rate for about ten minutes to ensure that the catalyst reaches approximately 600 degrees F.

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

# IX. MAINTENANCE

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There are several areas of the stove and chimney system that will need periodic maintenance to ensure safe and efficient operation.

## 1. ASH REMOVAL AND DISPOSAL

Whenever ashes get 3 to 4 inches deep in your firebox, and when the stove has cooled, rake the ashes into the ash-pan below. Then carefully remove the pan. Ashes should be placed on a non-combustible floor or on the ground, away from all combustible materials pending final disposal. The ashes should be kept in a closed metal container until all cinders have thoroughly cooled.

**NOTE:** For most efficient stove operation leave a minimum of 1" ash in the firebox at all times. This will help maintain a hot charcoal bed.

**NOTE: DO NOT OVERFIRE THIS HEATER.**

Attempts to achieve heat output rates that exceed heater design specifications can result in permanent damage to the heater and its catalytic combustor.

## 2. CARE OF THE GLASS

The glass supplied with your stove is designed to withstand extremely high temperatures. However, like any glass product **IT CAN BE BROKEN!** Take care in not bumping it with a log or a poker, and be sure the wood is entirely inside the stove before attempting to close the door.

Periodically opening the drafts and allowing the fire to burn brightly will help reduce the soot buildup on the glass. The glass may be cleaned with a **NON-ABRASIVE** cleaner such as spray glass cleaner or oven cleaner. One of the simplest and most effective ways of cleaning the glass is dip a dampened rag into the ashes and scrub the surface clean. The application of a non-stick cooking spray to the inner surface of the glass will help keep it clean.

## 3. CHIMNEY CARE

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. The chimney connector and chimney should be inspected at least twice yearly 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 chimney fire.

**NOTE:** Insert model stoves should be removed from the fireplace for cleaning. Slide the stove out, and place it on a piece of cardboard or drop cloth to protect the floor. The fireplace and throat of the chimney **CAN NOT** be properly cleaned with the stove in place.

## 4. STOVE FINISH

All stoves are finished with a specially formulated high temperature paint. During the first few firings of the stove, a slight odor of paint may be noticed. This is normal during the curing process and the fumes are not hazardous. If they should cause irritation, simply crack a window or a door for a few minutes to disperse the fumes.

**NOTE:** Although non-toxic, the fumes **MAY** set off a smoke detector located near the stove.

## 5. BLOWER CARE

The blower should be removed and cleaned every four months. *Unplug the blower before cleaning or servicing.*

### TO OIL THE BLOWER:

The blower should be oiled at least two times per heating season with SAE 20. The oil ports (2) are located at opposite ends of the center hub on the top side of the blower (see illustration).

## 6. DOOR GASKET REPLACEMENT

Remove all old gasket and clean the gasket channel if necessary. Put high temperature silicone adhesive in the channel and lay the gasket so that its ends meet at the right bottom corner of the channel (from the back). Press down firmly to secure the seal.

## X. SAFETY

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1. If you plan to use an existing chimney with your stove, inspect it thoroughly to be sure it is sound and clean. Advise your insurance company to be sure your policy covers the use of a woodstove.

2. Be sure that firewood, furniture, or other combustible materials are stored a safe distance from the stove.

3. Use smoke detectors near the stove as well as other areas of the home.

4. NEVER USE FLAMMABLE LIQUIDS TO START OR "FRESHEN UP" A FIRE.

5. Periodically inspect the chimney for deterioration and creosote buildup. Clean it regularly to reduce the chances of a chimney fire.

6. Keep a fire extinguisher rated for "Class A" fires near the stove. The dry chemical type is recommended, as liquid types can create problems if sprayed onto a stove. BE SURE EVERY MEMBER OF THE FAMILY KNOWS WHERE THE EXTINGUISHER IS, AND HOW TO USE IT!

7. Use of a chimney cap with an approved spark arrestor is recommended.

NOTE: Some building and fire codes require the use of spark arrestors.

8. Use caution when loading or working around the stove to prevent burns.

9. Make sure the ash pan drawer is closed when the stove is in operation.

WARNING: THE INSTALLATION OF THIS STOVE MUST COMPLY WITH STATE AND LOCAL REQUIREMENTS AND BE INSPECTED BY THE STATE OR LOCAL INSPECTOR IF REQUIRED.



# XI. LIMITED WARRANTY

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This Appalachian Stove is warranted to be free of defects in materials and workmanship for a period of five years from the date of purchase when used in accordance with the recommendations of the manufacturer, with the following exceptions: electrical, limited to the warranties offered by those respective manufacturers (1 yr.); glass, refractory firebrick, andirons and decorative trim have no warranty.

Defective parts will be repaired or replaced at the manufacturer's option. Parts which are returned to Appalachian Stove & Fabricators, Inc. within 30 days of purchase and found defective on inspection will be replaced without charge for the new part. After 30 days, parts covered by the warranty will be repaired or replaced free with the exception of freight charges which become the responsibility of the purchaser. All replacement parts are shipped F.O.B. factory (freight collect). This warranty does not cover damage caused by alteration, repairs, abuse, tampering, or improper operation of this unit. It does not cover damage from handling or Acts of God.

This warranty is in lieu of all other warranties expressed, implied, or statutory, and the manufacturer expressly excludes any implied warranty of fitness for a particular purpose or an implied warranty of merchantability, and all other obligations or liabilities of the manufacturer who neither assumes or authorizes any person to assume for it any other obligations or liability in connection with its products. In addition, the manufacturer shall be held free and harmless from liability from damage to property or injury to persons related to the operation, proper or improper use of the equipment. This warranty applies only to the original purchaser. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

All claims made by the purchaser under this warranty should be directed through the dealer from whom the unit was purchased. If the dealer cannot be contacted after reasonable effort, claims may be placed with The Appalachian Stove & Fabricators.

Stove Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

**APPALACHIAN STOVE & FABRICATORS, INC.**  
329 Emma Road  
Asheville. NC 28806

## XII. WARRANTY REGISTRATION

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NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_ ZIP \_\_\_\_\_

STOVE MODEL: \_\_\_\_\_

SERIAL NUMBER: \_\_\_\_\_

DATE OF PURCHASE: \_\_\_\_\_

DEALER NAME: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_

HOW DID YOU HEAR ABOUT THE APPALACHIAN STOVE? \_\_\_\_\_

TYPE OF PRESENT HEAT: \_\_\_\_\_

APPROXIMATE SIZE OF HOME (SQ. FT.) \_\_\_\_\_

NUMBER OF ROOMS: \_\_\_\_\_

TYPE OF CONSTRUCTION:

BRICK     LOG     FRAME     MASONRY

HOW DO YOU PLAN ON USING YOUR STOVE?

PRIMARY HEAT     SUPPLEMENTAL HEAT

ARE THERE OTHER FEATURES OR ACCESSORIES YOU WOULD LIKE TO SEE OFFERED?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_