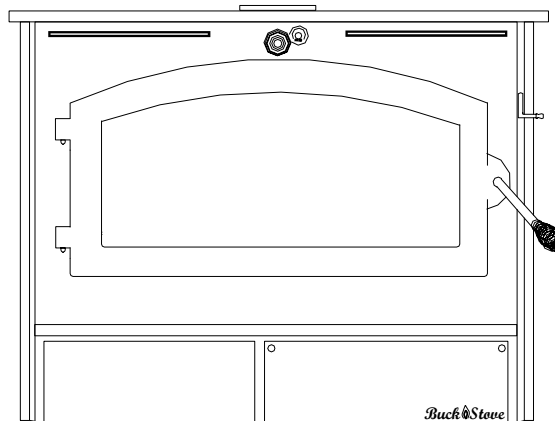


# MODEL 20 Room Heater

“MEETS PHASE II EPA STANDARDS”



## FIREPLACE INSERT & FREESTANDING

Contact your insurance company for coverage and installation inspection

### FEATURES

### PREPARATIONS

### INSTALLATION

### OPERATION

### MAINTENANCE

### SAFETY

## SAFETY NOTICE

**IF THIS HEATER IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, etc.) CONSULT BEFORE INSTALLATION TO DETERMINE THE NEED TO OBTAIN A PERMIT. KEEP THESE INSTRUCTIONS FOR FUTURE USE.**

TESTED AND LISTED BY:



ITS/WARNOCK HERSEY, MIDDLETON, WI

**MANUFACTURED BY NEW BUCK CORPORATION**

**200 ETHAN ALLEN DRIVE, PO BOX 69**

**SPRUCE PINE, N.C. 28777**

[www.buckstove.com](http://www.buckstove.com)

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PN-PI-200660



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# SECTION I

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The New Buck Corporation room heater Model 20 is one of the safest and most efficient heating systems available when installed and operated as specified in these instructions and as stipulated on the operation and installation labels affixed to the unit. The unit is designed to burn wood fuel only.

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.

Throughout manual, you will see this symbol . This  indicates areas of importance regarding safety. Please make a special note of these areas.

Install and use only in accordance with the manufacturers installation and operating instructions. Do not connect this unit to a chimney flue serving another appliance.

## ROOM HEATER FEATURES

Before attempting to install or operate your heater, it is a good idea to familiarize yourself with features and operating controls of unit.

## OPERATING CONTROLS

 **WARNING:** Model 20 heater was not designed for fire grates.

1. **Bypass Damper:** The bypass damper control is located at top center of heater front just under top. It is operated by pushing or pulling damper rod. The damper is fully open when handle is pulled out and fully closed when it is pushed in. The damper must be **open** before door is opened.
2. **Blower Control:** The blower control switch is located behind access door at lower right hand side of front of unit. The unit has an Auto-Off-Manual switch. Set switch to Manual position and blower will start at any temperature. Set switch to Off position and blower will not run at any temperature. Set switch to Auto position and when stove temperature reaches 110° F, blower will automatically turn on.
3. **Primary Air Control:** The primary air intake draft control is located on upper portion of unit next to top extension. It is operated by moving up and down to control the amount of primary air entering firebox.
4. **Warm Air Outlets:** Provides heat extraction from top of firebox.
5. **Baffles:** Directs air flow around unit for maximum heat transfer.
6. **Air Inlet:** Allows cool air near floor to be circulated through blower and back into warm air chamber of heater.
7. **Stand:** Elevates heater above floor for safety and a neat appearance.
8. **Door:** Provides an “airtight” feature. The door allows a much higher burning efficiency than can be obtained with an open firebox.
9. **Hearth Extension:** Offers protection from spilled ashes and cinders.
10. **Power Cord:** Provides electrical power to operate blower.
11. **Chimney Connector:** Used to connect unit to chimney or direct connect kit.
12. **Catalysts:** Enables unit to burn cleanly and efficiently.
13. **Temperature Monitor:** The location can be used for either a fireplace insert or freestanding installation. Monitor hole is located to right of damper rod on front. Remove plug and insert probe provided by manufacturer.
14. **Cover Door:** Conceals blower, blower controls and ash pan.
15. **Air Wash:** Primary air is directed in such a way as to provide a “sweeping” airwash over the glass to assist in keeping it clean.
16. **Ash Pan:** Provides for easy ash removal
17. **Outside Air Control:** Allows for adjustment of amount of outside air entering unit (installations using outside air kit #P21B). Required in Mobile Home Installation.

## **EPA COMPLIANCE STATUS**

This manual describes the installation and operation of the **New Buck Corporation, Model 20** wood heater. This heater meets the U.S. Environmental Protection Agency's Emission limits for wood heaters sold after July 1, 1992. Under specific test conditions this heater has been shown to deliver heat at rates ranging from approximately 10,000 to 39,000 BTU/hr.

## **SAFETY STANDARD COMPLIANCE**

The Model 20 catalytic solid fuel (wood) burning combination room heater/fireplace stove manufactured by New Buck Corporation complies with UL 1482-1988:16CFR1209:UL 127 (1988): UL 1482 (2006):UL 1482 (2008):UL 1482 (2006):UL 1482 (2010) and UL 737-1995 for residential freestanding and masonry fireplace insert installations when constructed and installed in accordance with **ITS** approved documentation.

## **CATALYST EQUIPPED**

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.

## **CATALYST WARRANTY**

The combustor supplied with this heater is a set of (2) (2x3-5/16x7x25 cells). Consult the catalytic combustor warranty also supplied with this heater. All warranty claims should be addressed to:

Applied Ceramics  
Customer Service Department  
P.O. Box 29664  
Atlanta, GA 30359  
770-448-6888

See enclosed catalyst warranty for instructions. New Buck Corporation does not handle catalyst replacements. Customer can order directly from Applied Ceramics.

## **PROPER FUEL SELECTION**

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

### **DO NOT BURN:**

- |                 |              |                  |          |
|-----------------|--------------|------------------|----------|
| 1) Treated Wood | 3) Garbage   | 5) Solvents      | 7) Trash |
| 2) Coal         | 4) Cardboard | 6) Colored Paper |          |

Burning treated wood, garbage, solvents, colored paper or trash may result in release of toxic fumes and may poison or render catalytic combustor ineffective.

Burning coal, cardboard or loose paper can produce soot or large flakes of char or fly ash that can coat combustor, causing smoke spillage into room and rendering combustor ineffective.

## **ACHIEVING CATALYTIC LIGHT-OFF**

The temperature in stove and gases entering combustor must be raised to between 500° F to 700° F for catalytic activity to be initiated. This can be determined with use of a temperature monitor (TM-20). During start up of a cold stove, a medium to high firing rate must be maintained for about 20 minutes. This ensures that stove, catalyst and fuel are all stabilized at proper operating temperatures. Even though it is possible to have gas temperatures reach 600° F within two to three minutes after a fire is started, if fire is allowed to die down immediately it may go out or combustor may stop working. If this happens open damper to raise temperature to activate catalyst. Once the combustor starts working, heat generated in it by burning smoke will keep it working.

## **ACHIEVING CATALYTIC LIGHT-OFF WHEN REFUELING**

During refueling and rekindling of a cool fire or a fire that has burned down to charcoal phase, operate stove at a medium to high firing rate for about 10 minutes to ensure catalyst reaches approximately 600° F.

## CATALYST MONITORING

It is important to periodically monitor operation of 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. Following is a list of items that should be checked on a periodic basis.

Combustors should be visually inspected at least three times during 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 decrease in performance. If any of these conditions exist, refer to Catalyst Troubleshooting Section of the owner's manual.

This catalytic heater is equipped with means to install a temperature probe to monitor catalyst operation. Properly functioning combustors typically maintain temperatures in excess of 1000° F. If catalyst temperatures are not in excess of 500° F, refer to Catalyst Troubleshooting section of this owner's manual. A indication of whether catalyst is working by comparing the amount of smoke leaving the chimney (when the smoke is going through the combustor and catalyst light-off has been achieved) to amount of smoke leaving chimney when the smoke is not routed through combustor (bypass mode).

Step 1—Light stove in accordance with instructions.

Step 2—With smoke routed through catalyst, go outside and observe emissions leaving chimney.

Step 3—Engage bypass mechanism and again observe emissions leaving the chimney.

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

## CAUTION AGAINST OVER-FIRING

**Do not over-fire this heater.**

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

## MAINTAIN PROPER DRAFT

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

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

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

## ASH REMOVAL

**CAUTION: Never remove ashes from heater with blower running.**

Whenever ashes build up in firebox and when fire has burned down and cooled, remove excess ashes. Leave an ash bed approximately 1 inch deep on firebox bottom to help maintain a hot charcoal bed.

Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on ground, away from all combustible materials, pending final disposal. The ashes should be retained in closed container until all cinders have thoroughly cooled.

# SECTION II

## MASONRY INSERT INSTALLATION INSTALLATION PRECAUTIONS

Extensive field and laboratory testing has shown that catalytic stoves perform best as fireplace inserts when:

1. A direct connect kit is used to connect the stove exhaust outlet directly to masonry flue of fireplace when flue liner size is approximately same size as heater flue gas exit. A rain cap is also recommended to keep flue dry thus allowing a hotter draft.

**NFPA 211 CODE:** The National Fire Protection Association code requires all fireplace insert heaters to be positively connected from heater to flue liner (subject to State and Local codes in your area).

2. An equivalent sized flue liner is installed when flue liner size is larger than heater flue gas exit. Connection must be from stove exhaust outlet extending full height of chimney and must include a rain cap.
3. Location of chimney is interior (not on an outside wall).

Satisfactory results have been reported with installations other than as listed above. However, as all chimneys draw differently, problems with performance may be encountered if steps are not taken to keep the chimney hot. A draft between .03 and .06 inches of water column is recommended for proper catalytic operation.

Use the following to complete installation of unit as an insert : Kit #FP20

### INSTALLATION

(Fireplace Insert)

#### CAUTION

REMEMBER TO HAVE YOUR CHIMNEY INSPECTED FOR LEAKS AND BLOCKAGE **BEFORE** YOU INSTALL YOUR STOVE. DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

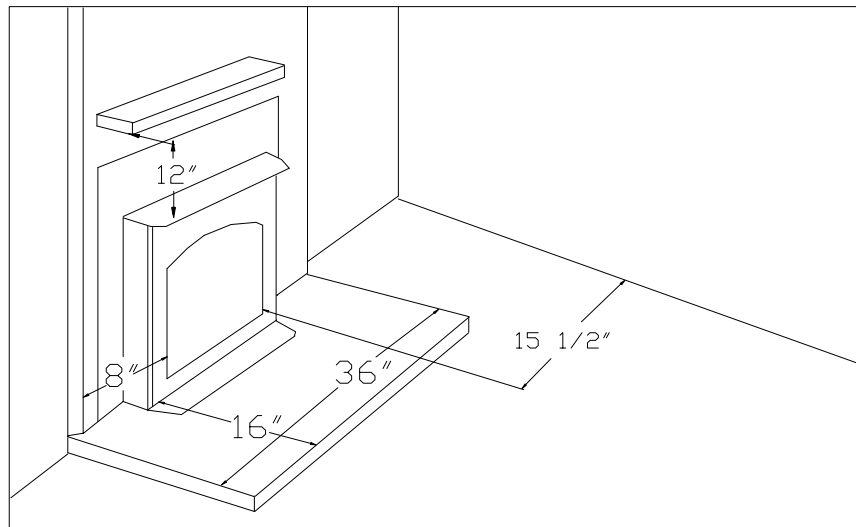


FIGURE 1 FIREPLACE INSERT

### REQUIRED FIREPLACE DIMENSIONS

Minimum and/or maximum fireplace dimensions:

	Height		Width		Depth
	Min.	Max.	Min.	Max.	Min.
Model 20	22"	31"	26"	41"	16"

# MINIMUM CLEARANCES

## FLOOR PROTECTION

Floor protector must be 3/8" minimum thickness non-combustible material or equivalent.

### How to use alternate materials and how to calculate equivalent thickness

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 specification to R-value:
  - R-value is given—no conversion is needed.
  - K-factor is given with a required thickness (T) in inches:  
C-factor is given:  $R=1/C$
2. Determine the R-value of the proposed alternate floor protector.
  - Use the formula in step (1) to convert values not expressed as "R"
  - 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" thick material with a K-factor of 0.84.

The proposed alternate is 4" brick with a C-factor of 1.25 over 1/8" mineral board with a K-factor of 0.29.

Step (a): Use formula above to convert specification to R-value.  $R= 1/K \times T = 1/0.84 \times .75 = 0.893$

Step (b): Calculate R of proposed system. 4" brick of  $C=1.25$ , therefore  $R_{brick} = 1/C = 1/1.25 = 0.80$  1/8" mineral board of  $K = 0.29$ , therefore  $R_{min.bd.} = 1/0.29 \times 0.125 = 0.431$

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

Definitions:

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

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

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

Install in accordance with 24 CFR, Part 3280 (HUD).

## POSSIBLE TOOLS NEEDED FOR INSTALLATION

If you decide to install your own stove, there are several hand tools you may need to do the job. If you do not already have them, they are readily available at most hardware stores.

Caulking gun

Large adjustable wrench (may not be needed)

Drop cloths or newspapers

Vacuum cleaner or whisk broom

Flashlight

1 tube of RTV silicone, Code 103 or 106, or high temperature rubber cement rated between 450° F- 600° F

7/32" drill bit and drill

Socket/Ratchet Set

## INSTALLATION PREPARATION

### Fireplace:

1. Locate furniture and other materials away from front of fireplace to allow free access to fireplace.
2. Cover hearth and adjacent floor areas with a drop cloths to protect from soiling or marring surface.
3. Remove existing fireplace damper plate.
4. Thoroughly clean fireplace of ashes and soot.
5. Check chimney and smoke chamber for excessive buildup of creosote or soot. Also, check for obstructions, such as bird's nests. If chimney is excessively dirty, clean it or have someone clean it professionally BEFORE installing or using room heater.
6. If fireplace has an ash dump or outside air provision, these must be sealed off with metal or tightly packed non-combustible insulation to prevent cold air from entering fireplace chamber.

## MASONRY INSERT INSTALLATION

### INSTALLATION OPTIONS

This unit (appliance) may be installed into an all masonry fireplace, built in accordance with the Uniform Building Code and the National Fire Protection Association (*NFPA 211*).

**NOTE:** *Check with local building officials for any permits required for installation of this unit and notify your insurance company before proceeding with installation*

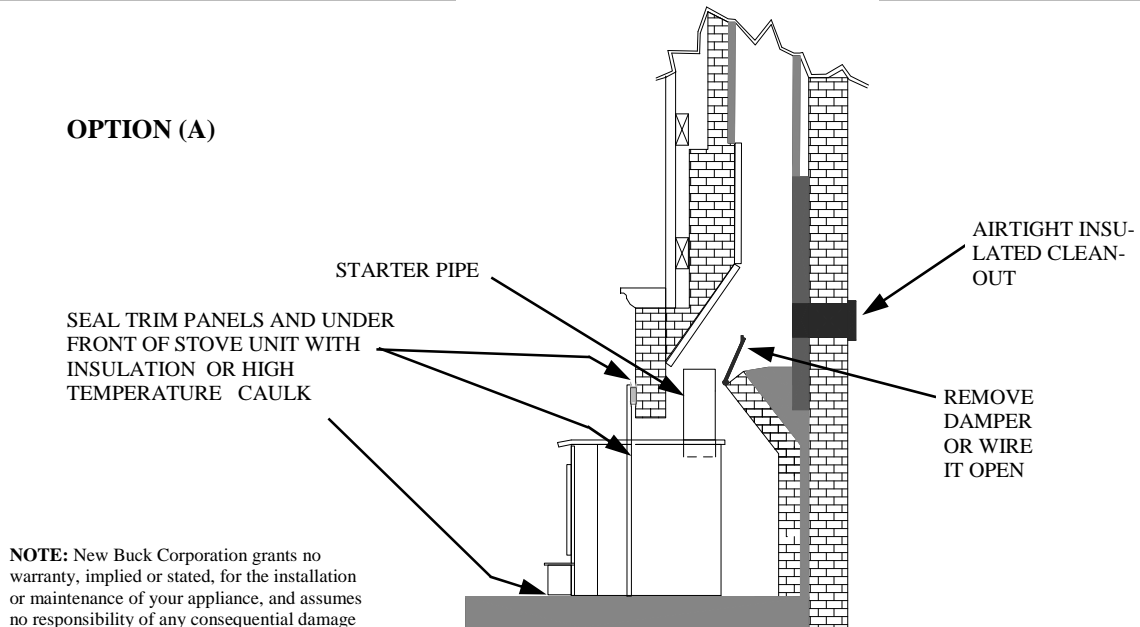
In some cases such as improperly drawing fireplaces, oversize flue liners or to meet codes in certain areas, it is recommended that one of the following procedures be followed:

- A. A **Chimney Connector** be installed from appliance flue exit through damper and an air-tight face seal. See option (A) page 9.
- B. A listed **Direct Connect** be installed from appliance flue exit through damper into first section of flue liner with air-tight seal. See option (B) page 9.
- C. A **Positive Connect** be installed from appliance flue exit continuing through entire chimney and exiting at top of the chimney. See option (C) page 9.

**SAFETY NOTICE**

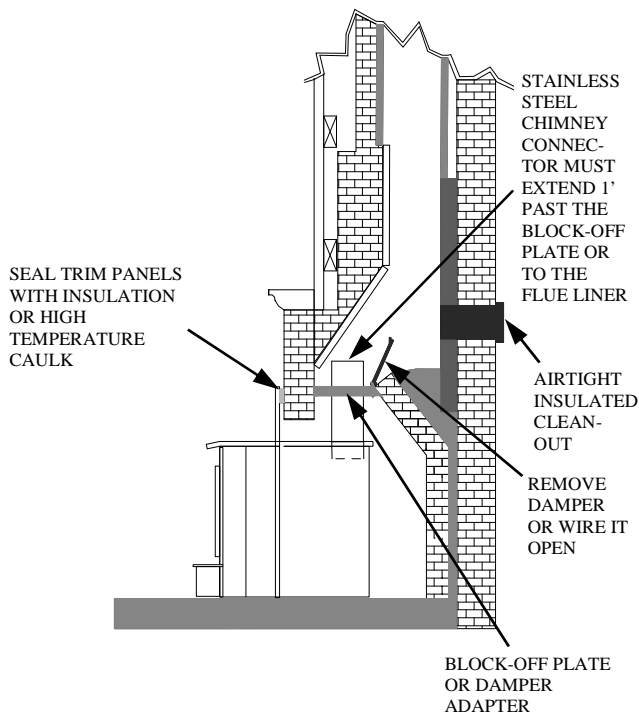
**If this appliance is not properly installed, a house fire may result. For your safety, follow the installation directions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.**

**OPTION (A)**



**OPTION (B)**

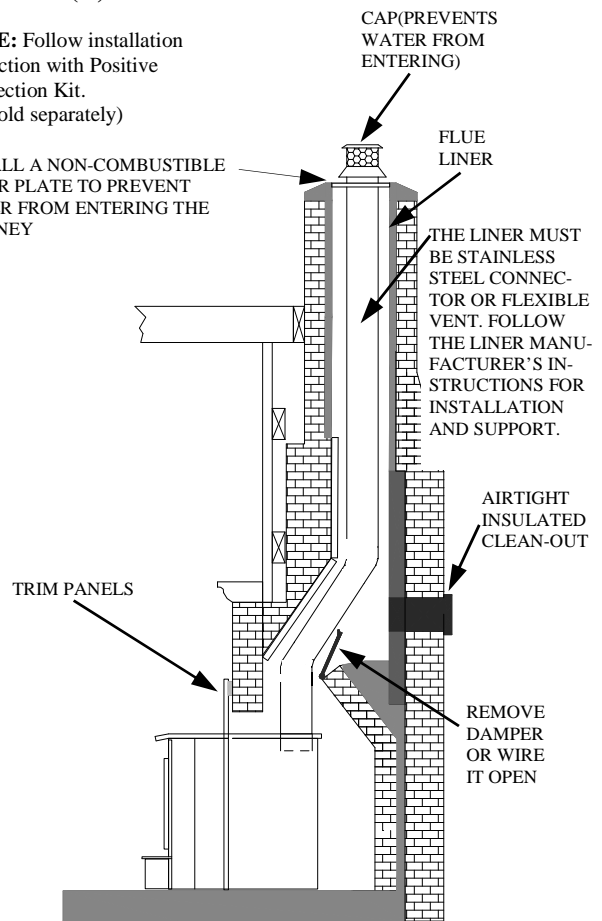
**NOTE:** Follow installation instruction with Direct Connection Kit. (Kit sold separately)



**OPTION (C)**

**NOTE:** Follow installation instruction with Positive Connection Kit. (Kit sold separately)

INSTALL A NON-COMBUSTIBLE COVER PLATE TO PREVENT WATER FROM ENTERING THE CHIMNEY



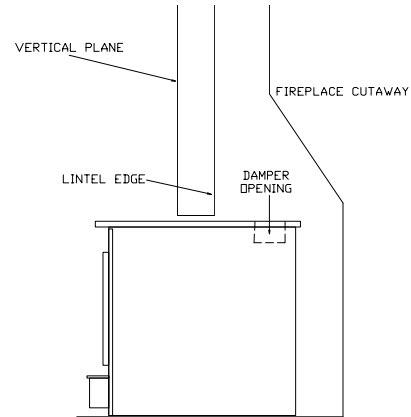
# INSTALLATION PROCEDURE

(Use a chimney connector or a Listed Direct or Positive Connect) (See Page 9.)

## POSITIONING THE HEATER

When positioning heater, following conditions **MUST** be met! (See Figure 2).

1. The front of damper opening must be positioned **BEHIND** rear edge of lintel to ensure proper draft. (See Figure 2).
2. Center heater in the fireplace opening.



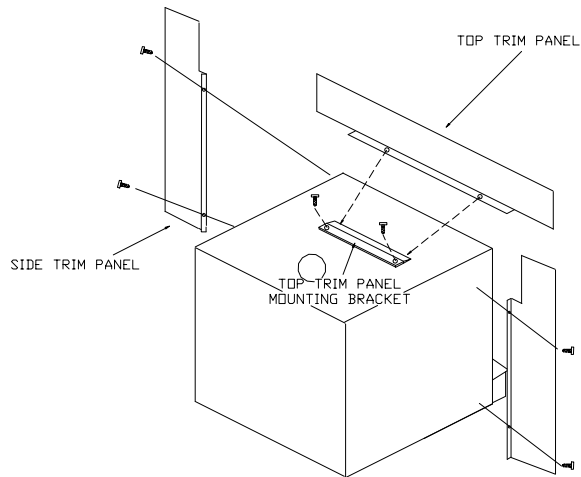
**FIGURE 2 POSITIONING**

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## MOUNTING THE TRIM PANELS

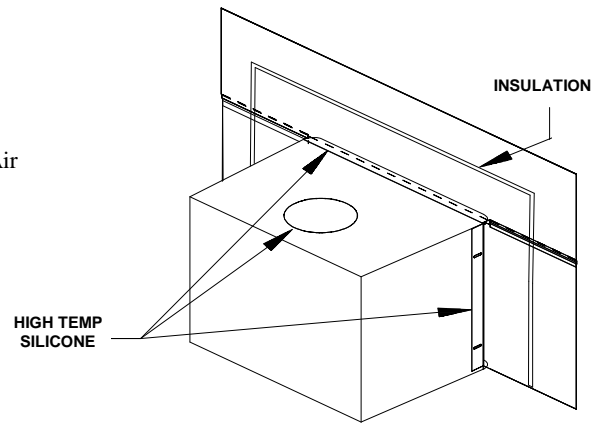
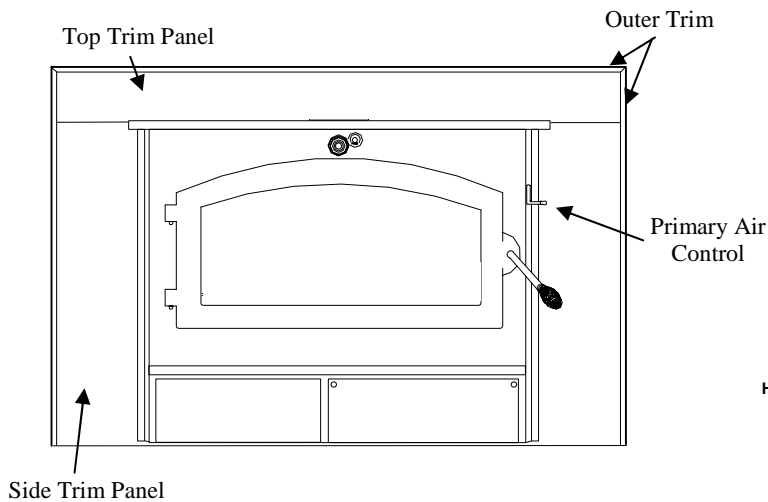
After unit is positioned, mark mounting position of trim panels as follows:

1. Place side trim panels in place, flat against face of fireplace. Mark front edge of trim panel with pencil to make vertical reference line. (See Figure 3).
2. Place long trim panel on top of unit. The panel should be flat against outside face of fireplace and standing vertically. Mark the lower edge of trim panel with a pencil to make a reference line for mounting.
3. Slide unit out of fireplace far enough to work behind trim panel reference lines.
4. Mount side trim panels. (See Figure 3).
  - a. Position trim panel on reference line.
  - b. Drill mounting holes in center of trim panel mounting brackets to allow for adjustment in and out if necessary.
  - c. Mount trim panel using self-tapping screws provided.
5. Place top panel back on reference mark. Top trim panel mounting bracket is supplied with unit. Position bracket so it overlaps rear lip of top trim panel. Drill mounting holes in top of stove using holes in bracket as guide. Tighten screws.
6. Follow installation procedures in listed direct connect or positive connect kit you are using and install heater and connect kit in fireplace. If not using one of the installation methods shown on (Page 9), continue.
7. Slide unit back into the fireplace. Ensure trim panels are properly positioned and lie flat against front of fireplace. If one or more panels is out of position, slide unit out and reset by loosening mounting screws and re-positioning in slot. Reinstall top trim panel by sliding rear lip of top trim panel underneath front lip of mounting bracket already secured to top of unit.
8. **NOTE:** Mount the top trim panel so that it sits in front of the top of the side trim panels.



**FIGURE 3 MOUNTING TRIM PANELS**

9. Obtain the brass trim kit provided with insert kit and slip over top and sides of trim panels. Top ends of brass may need to be trimmed to fit (See Figure 4).
10. Using insulation provided, peel and stick to back of panels overlapping fireplace dimensions by 1" on each side and top. (See Figure 4A).
11. Next using high heat silicone or furnace cement run heavy bead of caulking around where panels meet the stove. (See Figure 4A).
12. Slide unit back into the fireplace. Check to be sure that trim panels (and brass) are properly positioned and lie flat against front of fireplace. If panels are out of position, slide unit out and reset by loosening mounting screws and repositioning in the slot. With bar lift stove up in front. Place insulation across front and surface of hearth or bottom of fireplace to make complete seal.
13. To check seal of panels, use candle flame and go around entire area sealed by silicone and insulation. If flame leans toward inside of fireplace, add additional insulation. This ensures an airtight seal.



## FINAL CHECK

FIGURE 4

FIGURE 4A

1. Recheck specified clearances.
2. Remove all foreign material from firebox area.
3. Open primary air control. Primary air intake control is located at top right side of stove. It is operated by moving up (to close) and down (to open) to control amount of primary air entering firebox.. (See Figure 4).
4. Plug power cord into a 115V AC outlet if optional motor is being used. "Do not run cord under unit or in high traffic areas.
5. Place crumpled pieces of newspaper in the stove. Light it and close door. Ensure that stove draws properly through primary draft.

**NOTE: "Do not use grate or elevate fire. Build wood fire directly on inner bottom of fire box."**

6. Check for smoke leaks around door.
7. Open door and check for smoke escaping from front of stove. Smoking usually indicates a defective or poorly positioned chimney. Some chimneys with a marginal draft can be preheated by lighting newspaper and holding it near open damper with a poker or fire tong. Once chimney heats up, a proper draft can usually be obtained.

If a thorough review of Troubleshooting Guide in the rear of manual does not reveal problem, contact your dealer for assistance.

## **CAUTION**

**THE UNIT IS PAINTED WITH A SPECIALLY FORMULATED HIGH TEMPERATURE PAINT THAT CURES DURING THE FIRST TWO OR THREE FIRINGS. YOU MAY NOTICE A SLIGHT SMOKING EFFECT AND AN ODOR OF BURNING PAINT WHEN YOU BUILD THE FIRST FIRES. THIS IS NORMAL AND IS NOT A CAUSE FOR ALARM. IN SOME CASES, THESE FUMES WILL ACTIVATE A SMOKE ALARM. OPENING A WINDOW NEAR UNIT WILL ALLOW THESE FUMES TO ESCAPE. DO NOT BUILD A LARGE, ROARING FIRE UNTIL THIS CURING IS COMPLETE OR HEATER FINISH MAY BE DAMAGED.**

The connector and/or chimney should be inspected at least once a month during the heating season to determine if a creosote buildup has occurred.

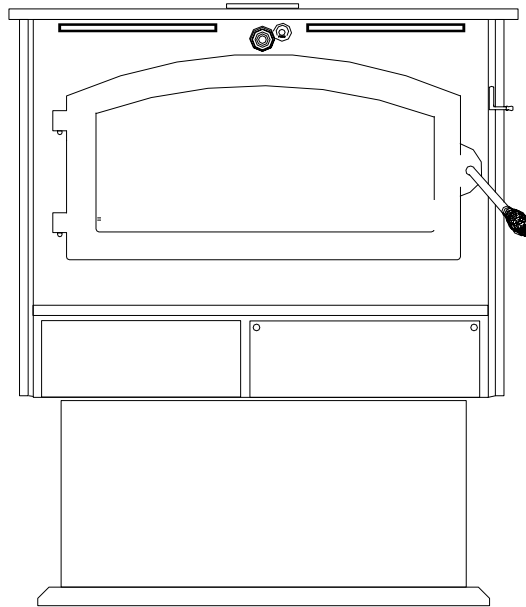
## **CAUTION**

**NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID OR SIMILAR LIQUIDS TO START OR "FRESHEN UP" A FIRE IN HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM STOVE WHEN IT IS IN USE. ALL FLUIDS OF THIS TYPE GIVE OFF VOLATILE FUMES AND CAN AND WILL EXPLODE!! DON'T TAKE A CHANCE WITH SAFETY OF YOUR HOME AND FAMILY.**

# SECTION III

---

## RESIDENTIAL FREESTANDING ROOM HEATER INSTALLATION



### INSTALLATION PRECAUTION

Extensive field and laboratory testing has shown that catalytic stoves perform best as freestanding stoves when vented into a masonry chimney if:

1. A rain cap is installed on chimney.
2. Height of chimney is at least 15 feet high.
3. Location of chimney is interior (not on an outside wall).

**NOTE:** Certain types of double wall pipe (close clearance) also cause a substantial drop in flue gas temperature. If a double wall pipe connector is being contemplated, check with pipe manufacturer to ascertain that use of their product will not affect flue gas temperature. Do not use double wall pipes which reduce flue gas temperatures.

Satisfactory results have been reported with installations other than listed above. However, draft problems are possible if a hot chimney is not maintained.

Use pedestal kits as follow:

Model 20      Kit #P8 or #P21B



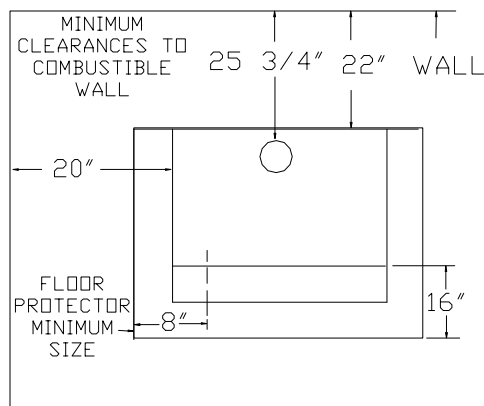
**CAUTION:** Do not connect this unit to a chimney flue serving another appliance.

# MINIMUM CLEARANCES

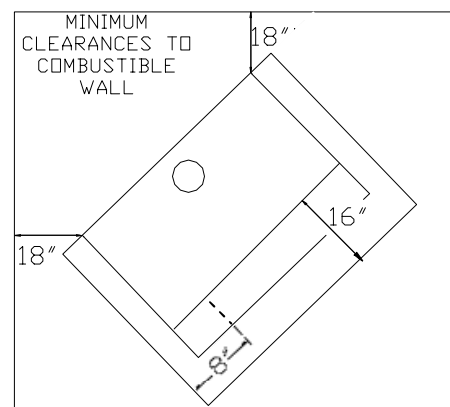
The New Buck Corporation Model 20 must be installed in compliance with instructions contained in this manual.

## CLEARANCE FROM COMBUSTIBLE WALLS AND CEILINGS (Using single wall chimney connector)

The minimum lateral distance between any part of the room heater and combustible walls is shown in Figures 1 and 2.



**FIGURE 1** WALL INSTALLATION



**FIGURE 2** CORNER INSTALLATION

## FLOOR PROTECTION

If a freestanding model is to be installed on a combustible floor, a non-combustible pad must be placed below it to protect floor from burning material from stove. UL tests were conducted without a floor protector. Therefore, protector can be of any thickness and any K\* factor.

The unit must be positioned on pad so that there is a minimum of 16" from the front of door opening to front of pad and a minimum of 8" measured horizontally from the sides of fuel loading and ash removal openings to sides of pad.

**NOTE:** For clearance reductions using wall protectors, refer to the **NFPA -211** code.

Close clearance installations using listed Close Clearance pipe and 2100° HT chimney system from approved manufacturer's list. (See page 18)

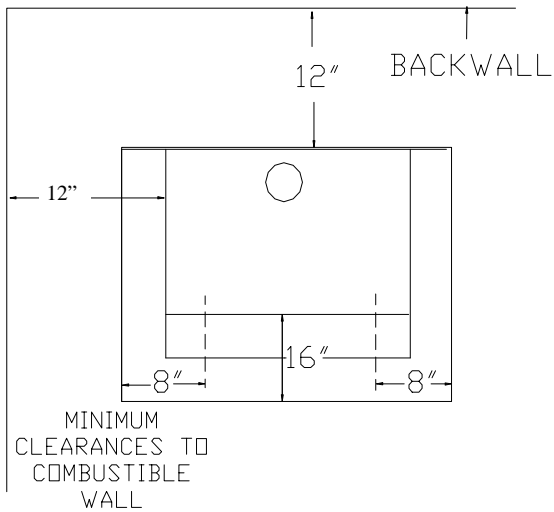


FIGURE 3 WALL INSTALLATION

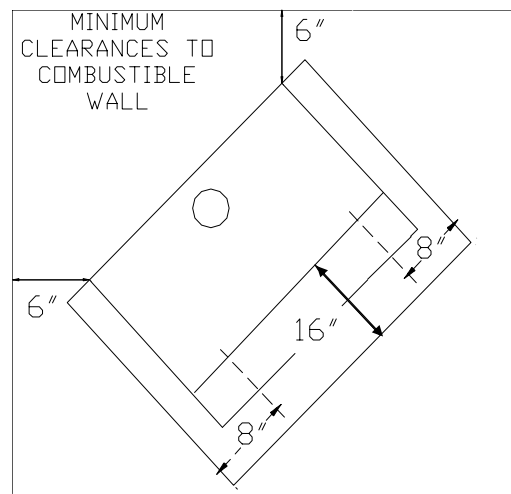


FIGURE 4 CORNER INSTALLATION

## TOOLS FOR INSTALLATION

Drop Cloth

Electric Drill with 3/32" drill bit

5/16" combination wrench

5/16" magnetic socket chuck adapter, 5/16" wrench (box or socket) or adjustable wrench

Socket Set

Tape Measure

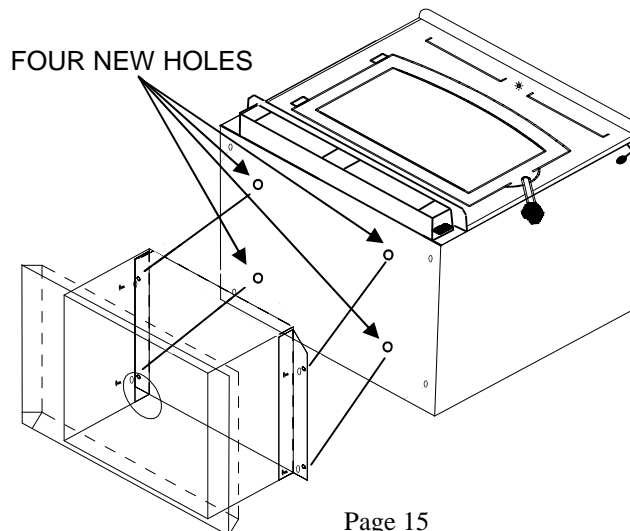
Pencil

Level

## PREPARING THE STOVE FOR INSTALLATION

1. Inspect unit for any obvious physical damage.
2. Plug power cord into a **115V AC** outlet. Set switch to "Manual" and rheostat to "High" position to ensure motor operates properly.
3. Check primary air draft control to ensure that it operates freely.
4. Check operation of bypass damper control to ensure that it will open and close properly.
5. Remove any items from within the firebox. Spread drop cloth on floor behind heater. Next, tilt heater so that back is on drop cloth.
6. Using a tape measure, make a line down 3" from front of heater.
7. Open corresponding freestanding kit and obtain stand. Place stand against bottom of heater (angle side to heater) at marked line. Center stand left and right and mark screw locations on bottom through outer holes of stand mounting angles. Set stand aside and drill four 3/32" holes in heater bottom.
8. Obtain four 3/16" self-tapping screws and secure stand to heater. (See Figure 4A)
9. Reposition heater to upright position.

Figure 4A



## PREPARING THE ROOM HEATER LOCATION

1. Select an installation location that will give the best airflow from front of heater to remainder of home.
2. Place protective floor pad in position.
3. Place unit on pad making sure the minimum clearance specifications are met.
4. If connecting to an existing masonry flue, first ensure that flue conforms to the **NFPA-211** Code and/or consult your local code for proper procedures.

## CHIMNEY

This room heater must be converted to (1) a chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential, Type and Building Heating Appliance, UL 103, or (2) a code approved masonry chimney with a flue liner.

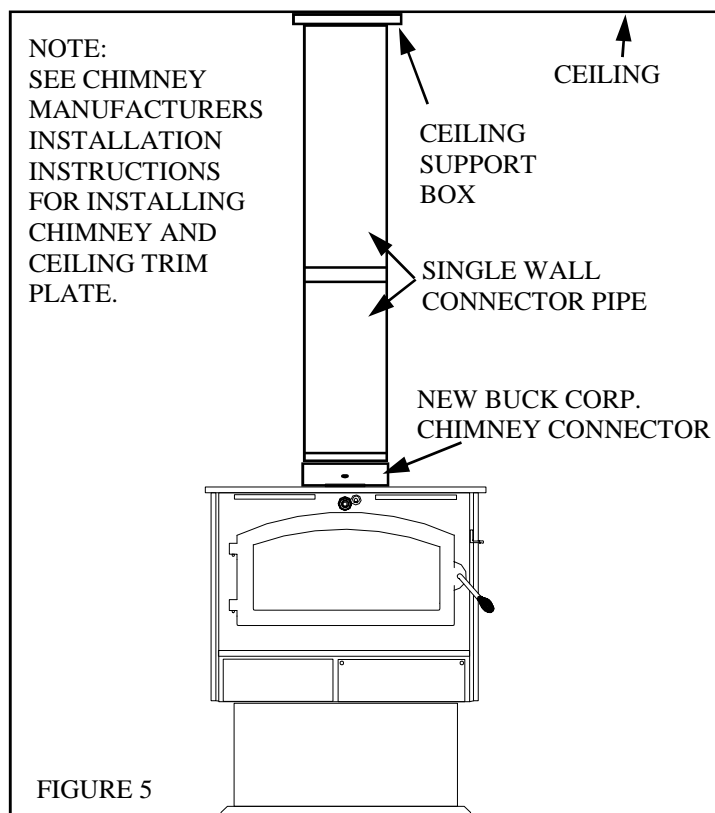


**CAUTION:** Certain installation types require the use of certain chimney types. Please follow these instructions exactly.

## DETERMINING THE CHIMNEY LOCATION

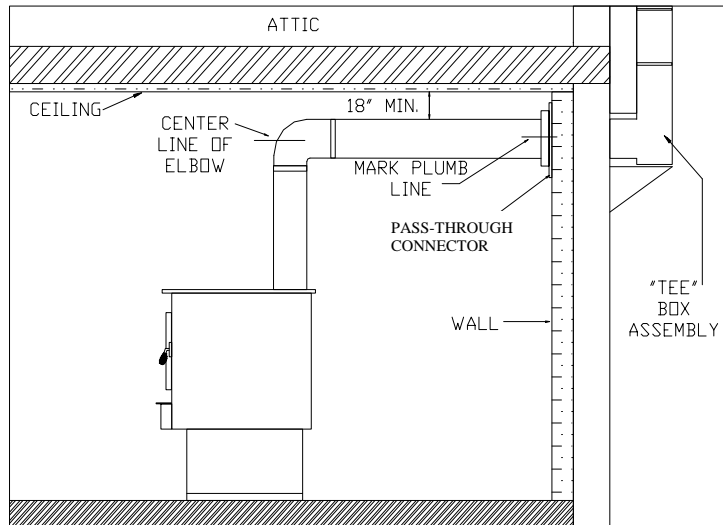
### A. Ceiling Exit (Using Single Wall Pipe)

1. Suspend a plumb bob from ceiling above unit so that weight is hanging in center of flue exit. (A small weight on a string will serve as a plumb bob.) Mark ceiling where string is suspended to locate center of chimney.
2. After locating center of hole, install ceiling support box, chimney or chimney connector, flashing and rain cap per chimney manufacturer's instructions and local building codes for installation through combustible walls or ceilings.
3. Now connect stove and ceiling support box using #24 ga. minimum blued or black steel connector pipe (DO NOT USE GALVANIZED PIPE). Connect each section so crimped end faces downward and secure each section to each other using at least three (3) sheet metal screws or rivets. Single wall pipe is to be connected with 3 screws or rivets to New Buck Corporation Chimney Connector after connector has been attached to stove. (See Figure 5)



### B. Wall Exit into Metal Tee-Box

1. Mark plumb line on twall directly behind center of heater. (See Figure 6)
2. Place vertical portion of heater pipe and elbow in position and project a point onto plumb line level with center of elbow.
3. Measure up so there will be at least 1/4" rise per foot of horizontal connector pipe, maintaining clearances to ceiling as noted in Figure 6. This will give you center of hole for chimney penetration.
4. After locating center of penetration, install tee-box and chimney or chimney connector as perchimney manufacturer's specifications and local building codes for installation through combustible walls or ceilings.



**FIGURE 6 FLUE EXIT**

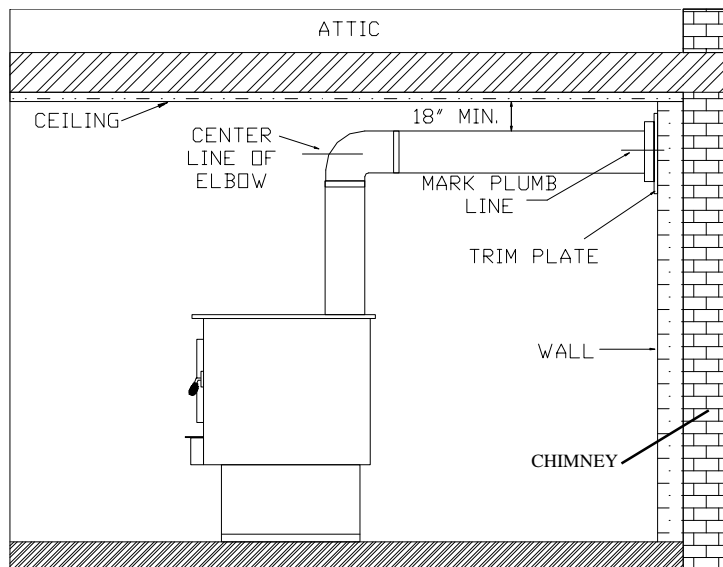
5. Connect chimney collar to tee-box using #24 ga. minimum blued or black steel connector pipe. **DO NOT USE GALVANIZED PIPE.** Connect each section so crimped end faces downward and secure each section to each other using at least three (3) steel sheet metal screws or rivets.
6. After securing New Buck Corporation Chimney Connector to heater, secure pipe to connector with three (3) screws or rivets.

### C. Wall Exit Into Masonry (Using Single Wall Pipe)

Before connecting Model 20 to a masonry chimney, determine that masonry fireplace wall pass-through connector thimble meets the **NFPA-211** code and local building codes and is a minimum of 18" from the ceiling. If connector thimble does not meet these codes, pass-through connector must be modified. **NOTE:** Follow chimney or chimney connector manufacturer's instructions.

Connectors may pass through walls or parti-tions constructed of combustible material if the connector is:

- (a) Either listed for wall pass-through or is routed through a device listed for wall pass-through and is installed in accordance with the conditions of the listing



**FIGURE 7 FLUE GAS EXIT INTO MASONRY CHIMNEY**

- (b) Selected or fabricated in accordance with conditions and clearances as stated in **NFPA-211** code. Any unexposed metal that is used as part of a wall pass-through system and is exposed to flue gases shall be constructed of stainless steel or other equivalent material that will resist corrosion, softening, or cracking from flue gases at temperatures up to 1800° F.

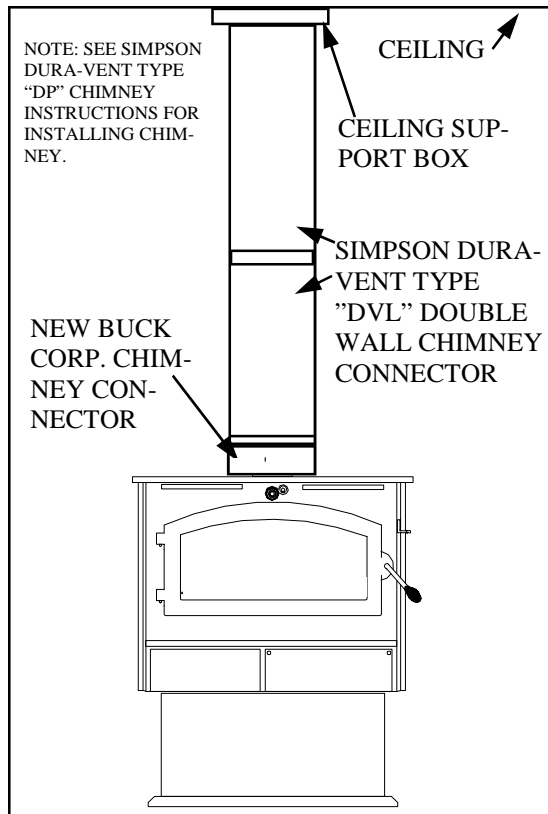
In addition, a connector to a masonry chimney shall extend through wall to inner face or liner but not beyond and shall be firmly cemented to masonry.

Exception: A thimble may be used to facilitate removal of chimney connector for cleaning, in which case thimble shall be permanently cemented in place with high temperature cement.

- 2. Once the through-the-wall thimble codes are met, simply connect chimney collar to wall pass-through connector using #24 ga. minimum blued or black steel connector pipe as follows:
  - (a) Maintain 1/4” rise per foot (horizontal length) from appliance to chimney.
  - (b) Connect each section so crimped end faces downward.
  - (c) Secure each section to each other using at least three (3) sheet metal screws or rivets.
  - (d) After securing New Buck Corporation Chimney Connector to heater secure pipe to connector with three (3) screws or rivets.

**D. Ceiling Exit-Close Clearance (Using Listed Close Clearance Pipe and 2100° HT Chimney System From Approved Manufacturers List. ) (See page 18)**

- 1. Suspend a plumb bob from ceiling above unit so that weight is hanging in the center of flue exit. (A small weight on a string will serve as a plumb bob.) Mark ceiling where string is suspended to locate center of chimney hole.
- 2. After locating center of hole, install ceiling support box, chimney, flashing and rain cap.
- 3. Next, install a New Buck Corporation Chimney Connector to flue of the heater.
- 4. Connect listed chimney to heater and follow pipe manufacturers installation instructions exactly.



**FIGURE 8**

## FINAL CHECK

1. Recheck specified clearances.
2. Remove all foreign material from firebox area.
3. Open primary air draft and damper bypass.
4. Plug power cord into a **115V AC** outlet. Set switch to “Manual” and rheostat to “High” position to ensure motor operates properly.
5. Place crumpled pieces of newspaper in stove. Light it and close door. Ensure that stove draws properly through primary draft.
6. Check for smoke leaks around door.
7. Open door and check for smoke escaping from front of stove. Smoking usually indicates a defective or poorly positioned chimney. Some chimneys with a marginal draft can be preheated by lighting newspaper and holding it near open damper with a poker or fire tong. Once chimney heats up, a proper draft can usually be obtained.

If a thorough review of Troubleshooting Guide in the rear of manual does not reveal problem, contact your dealer for assistance.

**NOTE:** The unit is painted with a specially formulated high temperature paint that cures during the first two or three firings. You may notice a slight smoking effect and an odor of burning paint when you build first fires. This is normal and is not a cause for alarm. In some cases, these fumes will activate a smoke alarm. Opening a window near the unit will allow these fumes to escape. **DO NOT** build a large, roaring fire until this curing is complete or heater finish may be damaged.

# SECTION IV

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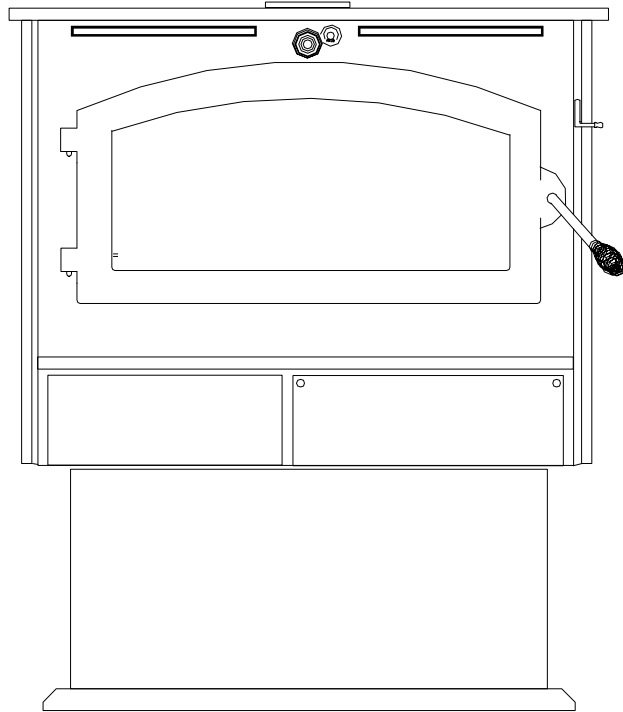
## MOBILE HOME ROOM HEATER INSTALLATION



**WARNING: DO NOT INSTALL IN SLEEPING ROOM.**



**CAUTION:** The structural integrity of mobile home floor, wall and ceiling/roof must be maintained.



### Parts Requirements:

#### MODEL 20

New Buck Corporation  
New Buck Corporation  
New Buck Corporation

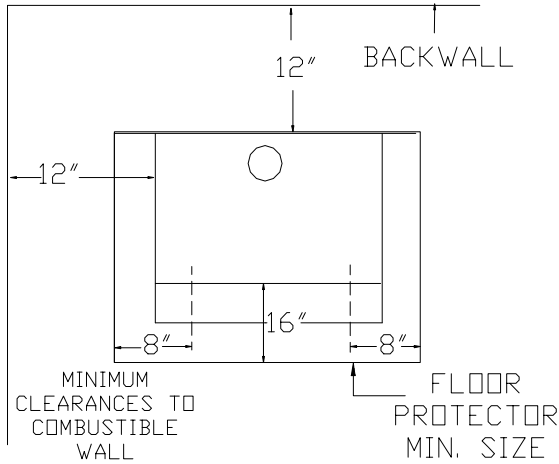
#### UL Listed and factory approved Chimney Systems:

Simpson Dura-Vent  
Simpson Dura-Vent  
Security  
Security  
Selkirk Metal Bestos  
Selkirk Metal Bestos  
Metal Fab  
Metal Fab

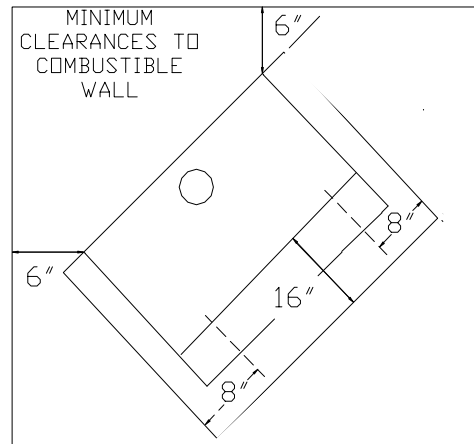
#### Part Description / Part -

- Model 20 Room Heater
- Outside air pedestal kit #P21B
- 6" Chimney Connector #MA-6CHIMCNB
  
- 6" Double wall chimney connector type DVL
- 6" 2100° HT Type "DP" Chimney
- 6" Type DL Double wall connector
- 6" Security type "ASHT" high temp chimney
- 6" Model DS Double wall connector
- 6" Model SSII Type HT chimney system
- 6" Type DW Double wall connector
- 6" 2100° HT chimney

Clearance from combustable walls using listed Close Clearance pipe and 2100° HT chimney system from approved manufacturer's list. (See page 18)



**FIGURE 1 WALL INSTALLATION**



**FIGURE 2 CORNER INSTALLATION**

## FLOOR PROTECTION

If room heater is to be installed on a combustable floor, a non-combustible pad must be placed below it to protect floor from burning material from stove. Tests were conducted without a floor protector. Therefore, protector can be of any thickness and any K\* factor.

The unit must be positioned on pad so that there is a minimum of 16" from front of door opening to front of pad, and a minimum of 8" measured horizontally from sides of fuel loading and ash removal openings to sides of pad.

## TOOLS FOR INSTALLATION

Drop cloth

3/32" Metal drill bit

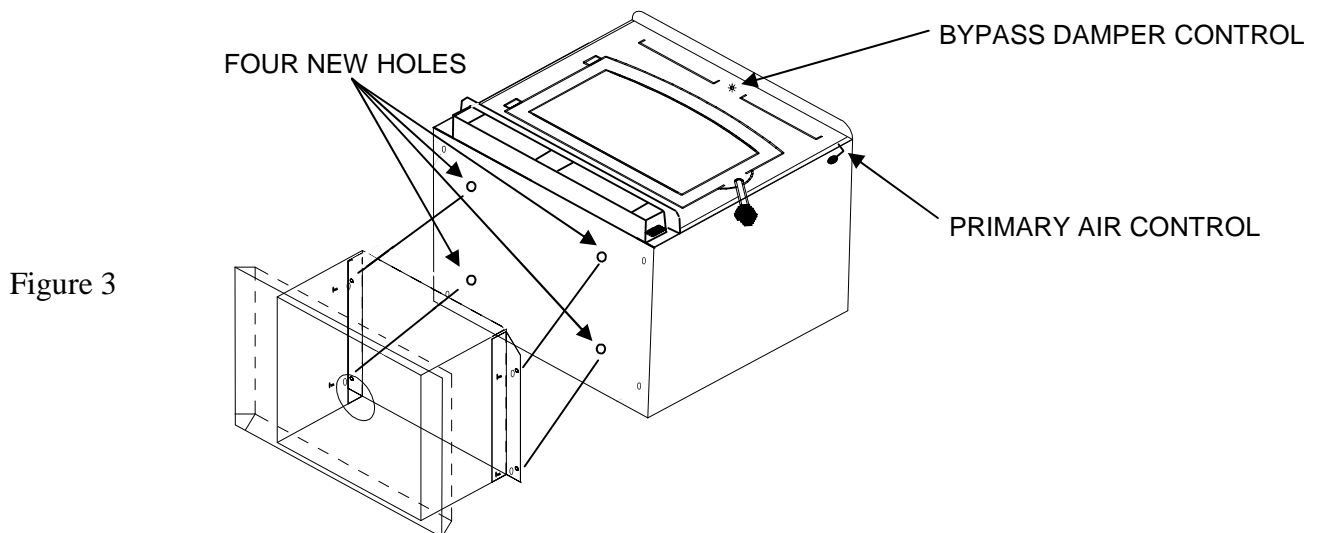
5/16" magnetic socket chuck adapter, 5/16" wrench (box or socket) or adjustable wrench

Jigsaw with masonry, metal and wood blades

**WARNING: DO NOT INSTALL IN A SLEEPING ROOM.**

## PREPARING THE HEATER FOR INSTALLATION

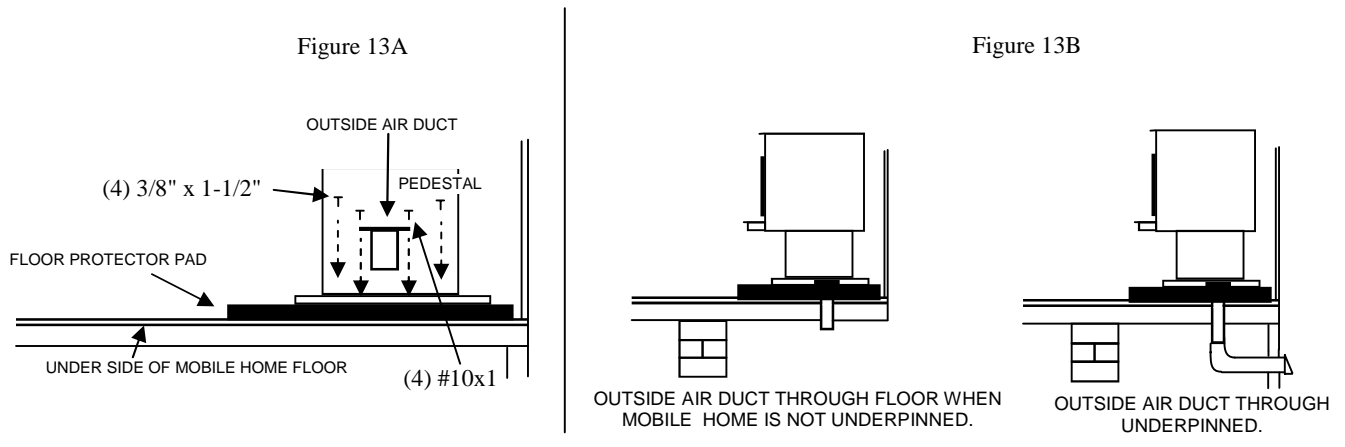
1. Inspect unit for any obvious physical damage.
2. Plug power cord into a **115V AC** outlet. Set switch to “Manual” and rheostat to “High” position to ensure motor operates properly.
3. Check primary air draft control to ensure that it operates freely.
4. Check operation of damper bypass control to ensure that it will open and close properly.
5. Remove any items from within the firebox. Spread drop cloth on floor behind heater. Next, tilt the heater so that back is on drop cloth.
6. Using a tape measure, make a line down 3” from front of heater.
7. Open proper outside air freestanding kit and obtain stand. Place stand against bottom of heater (angle side to heater) at the marked line. Center stand left to right and mark screw locations on bottom through outer holes of stand mounting angles. Set stand aside and drill four 3/32” holes in heater bottom.
8. Obtain the four #10-16 x 3/4” self-tapping screws provided and secure stand to heater.
9. Reposition heater to upright position.



## PREPARING THE ROOM HEATER LOCATION

1. Select an installation location that will give best airflow from front of heater to the remainder of home.
2. Place protective floor pad in position.
3. Place unit on pad making sure minimum clearance specifications are met. (See Page 21).
4. Lightly mark with a pencil location of pedestal on protective pad.
5. Next, remove four (4) screws holding heater to stand. Position heater out of the way of installation area.
6. Check that pedestal stand is still aligned with marks, mark inside outside air opening of stand on pad.
7. Next, mark the center line of outside air opening. Set stand aside for now.
8. Next, cut a 4 1/4” diameter hole (2 1/8” radius from centerline) in pad and continue through floor.  
**CAUTION!!!** The structural integrity of mobile home floor must be maintained. (Move opening and/or reposition heater location if necessary.)
9. Reposition pedestal stand and set on pad being sure to line stand up with reference marks.

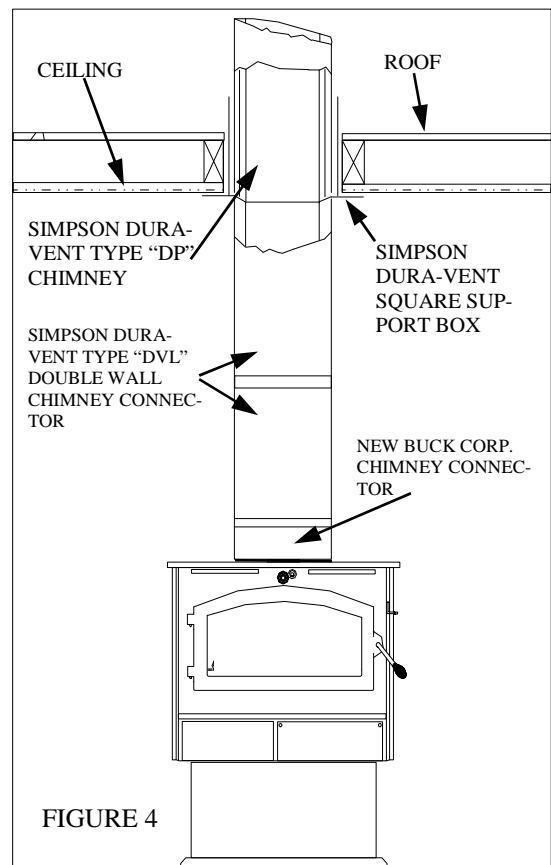
10. Using an electric drill and 3/8" masonry bit, drill four (4) holes in the protective pad using holes in bottom side lips of pedestal stand as a guide. Be careful to drill only through the pad and not into the floor. Change to a 1/4" metal bit and drill through floor.
11. Using four (4) 3/8" x 1-1/2" lag bolts, secure pedestal stand and pad to floor of mobile home. **CAUTION!!!** If a thick floor protector is used, you may have to use longer lag bolts.
12. Obtain outside air duct from box in pedestal kit marked FA P21B.
13. Slip the duct down through 4-1/4" hole until face of outside air duct with screen wire, contacts bottom of pedestal.
14. Secure outside air duct to the inside bottom of pedestal using four (4) #10x1 screws provided. (See Figure 3A).
15. Set heater back onto stand and resecure using screws.
16. NOTE: If home is underpinned, you must duct through underpin as shown. (See Figure 13B).



## DETERMINING THE CHIMNEY

1. Suspend a plumb bob from ceiling above unit so that weight is hanging in the center of flue exit. (A small weight on a string will serve as a plumb bob). Mark ceiling where string is suspended to locate center of chimney hole.
2. After locating center of hole, install ceiling support box, chimney, flashing, and rain cap.
 

**CAUTION!!!** - Refer to chimney manufacturers instructions for assembly and disassembly of chimney parts. Be sure to follow chimney instructions for proper clearances to combustible and proper air spacing required.
3. Add additional pipe until both of the following are met:
  - (a) Chimney pipe is 3' higher than roof at point where it penetrates the roof. (See Figure 4).
  - (b) Chimney pipe height is at least 2' higher than any part of roof within 10' of the chimney. (See Figure 5).
4. Next, install a New Buck Corporation Chimney Connector to the flue of heater. (See Figure 4).
5. Using "Type DVL" double wall chimney connector, connect the heater to the chimney by following Dura-Vent installation instructions exactly.



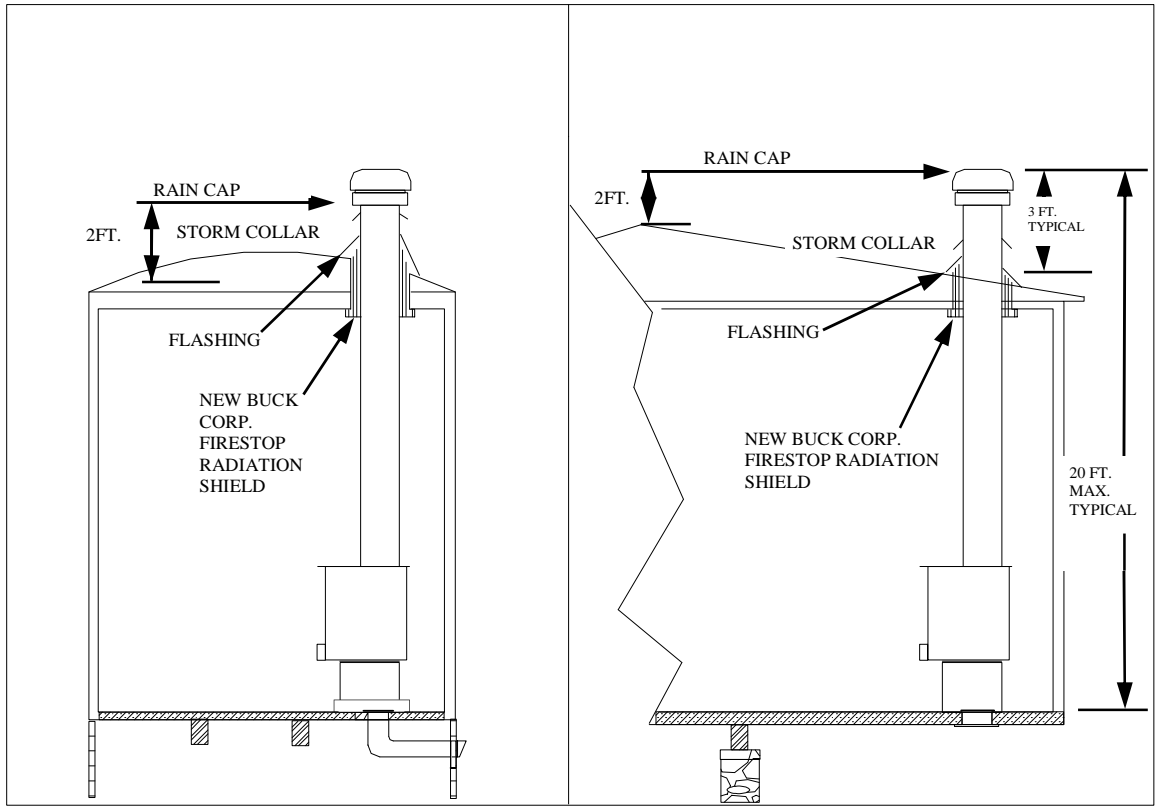


FIGURE 5

## FINAL CHECK

1. Recheck specified clearances.
2. Remove all foreign material from firebox area.
3. Open primary air draft and damper bypass.
4. Plug power cord into a **115V AC** outlet. Set switch to “Manual” and rheostat to “High” position to ensure motor operates properly.
5. Place crumpled pieces of newspaper in stove. Light it and close door. Ensure that stove draws properly through primary draft.
6. Check for smoke leaks around door.
7. Open door and check for smoke escaping from front of stove. Smoking usually indicates defective or poorly positioned chimney. Some chimneys with a marginal draft can be preheated by lighting newspaper and holding it near open damper with a poker or fire tong. Once the chimney heats up, a proper draft can usually be obtained.

If a thorough review of Troubleshooting Guide in the rear of manual does not reveal problem, contact your dealer for assistance.

**NOTE:** The unit is painted with a specially formulated high temperature paint that cures during first two or three firings. You may notice a slight smoking effect and an odor of burning paint when you build first fires. This is normal and is not a cause for alarm. In some cases, these fumes will activate a smoke alarm. Opening a window near the unit will allow these fumes to escape. **DO NOT** build a large, roaring fire until this curing is complete or the heater finish may be damaged.

# SECTION V

## PRE-FAB INSERT INSTALLATION

### INSTALLATION PRECAUTIONS

This room heater is listed by Warnock-Hersey Laboratories for installation into the following Zero-Clearance Cabinet Models. These are:

**MAJESTIC**—M-36, M-43, L-36, L-42, MD36, MD42, MD36-AO, MD42-AO

**HEATILATOR**—FP36, 3036, 3042, 3048, 3138, 3138 EP

**PREWAY**—DW36, DW42, BI36, BI42, BI36B, BI42B, BI36EM, BI42EM, BI36CEM, BR42CEM, BI36SEM, BI42SEM

**NOTE:** A Preway unit has to use insert trim panels.

Other models of those brands may also be acceptable for installation of the Model 20 unit into them. However, factory approval from New Buck Corporation and Warnock-Hersey Laboratories is required prior to installation. Installation must conform to New Buck Corporation installation instructions or addendums.

### INSTALLATION (Pre-Fab Fireplace Insert)

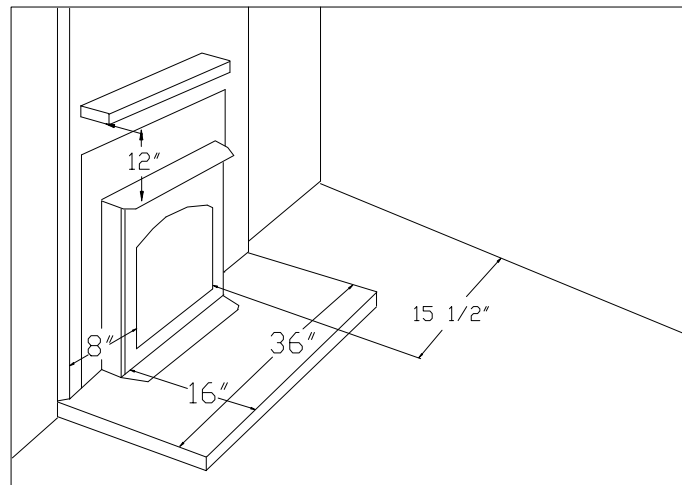


FIGURE 1

PRE-FAB FIREPLACE INSERT

### MINIMUM CLEARANCES

## INSTALLATION PREPARATION

### Pre-Fab Fireplace

1. Locate furniture and other materials away from front of fireplace to allow free access to fireplace.
2. Cover hearth and adjacent floor areas with drop cloth to protect from soiling or marring surface.
3. Remove existing fireplace damper plate/damper rod assembly.

4. Thoroughly clean fireplace of ashes and soot.
5. Check chimney and smoke chamber for excessive buildup of creosote or soot. Also, check for obstructions, such as birds' nest. If chimney is excessively dirty, clean it or have someone clean it professionally before installing or using room heater.
6. The Firebrick, Ash Lip, Smoke Baffle and Smoke Shelf may also be removed if necessary to provide room for the Model 20.



**CAUTION:** Any parts removed from the Pre-Fab Fireplace must be stored inside unit or given to homeowner for re-installation should the Model 20 be removed.

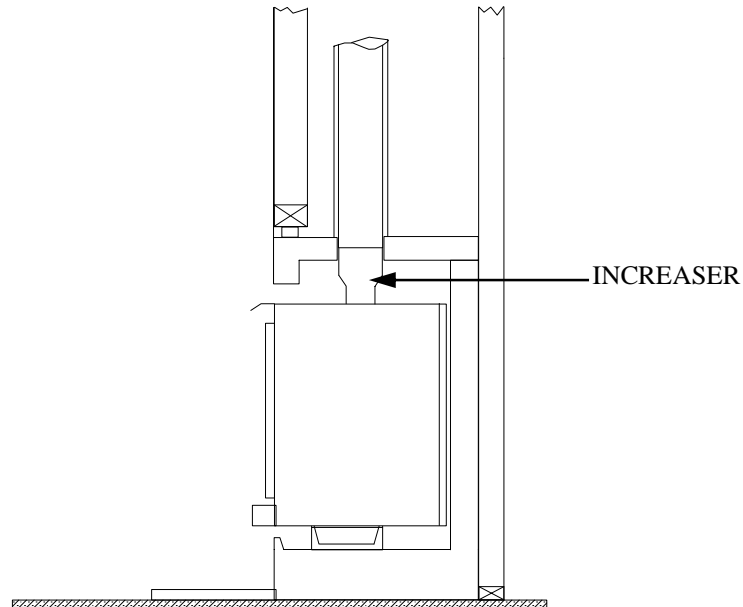
## Heater Preparation

1. Inspect unit for any obvious physical damage.
2. Plug power cord into a **115V AC** outlet. Set switch to “Manual” and rheostat to “High” position to ensure motor operates properly.
3. Check primary air draft control to ensure that it operates freely.
4. Check operations of damper control to ensure that it will open and close properly.

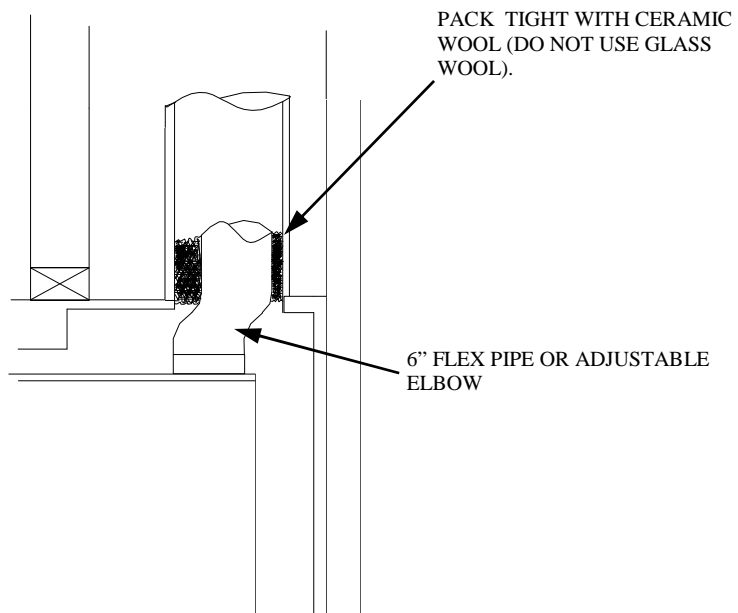
## Heater Installation

1. There are three listed and tested methods of installation of the Model 20 heater into the specified Pre-Fab Models.
  - A. 6” Increaser
    1. The preferred method is to use an increaser made of 24 ga. (minimum) stainless steel to go from 6” inside diameter to exact diameter of fireplace throat/chimney. (See Figure 2).
    2. Position increaser into throat/chimney of the Pre-Fab Cabinet at a height slightly higher than Model 20 will be after installation (22” + above Pre-Fab heater supports). **NOTE:** The increaser may be a two part slip connector type if desired.
  - B. Ceramic Blanket
    1. The second method is to use a 6” stainless steel connector (rigid or flex) and a ceramic blanket (available from your dealer). (See Figure 3).
    2. Cut connector at least 18” long and tightly wrap upper portion of connector with ceramic blanket to almost the size of fireplace throat/chimney.
    3. Insert connector into fireplace throat/chimney and use additional ceramic insulation and tightly pack around connector and throat/chimney at a height slightly higher than the Model 20 will be after installation (22” + above Pre-Fab heater supports). **NOTE:** The increaser may be a two part size connector type if desired.

## MINIMUM CLEARANCE TO COMBUSTIBLES



**FIGURE 2**



**FIGURE 3**

### C. Sealing Trim Kit

1. This third method of installation is to use the masonry fireplace trim kit to seal the stove to the Pre-Fab fireplace.

**CAUTION!** Although this method is a tested and approved method, some codes may not allow this type installation so be sure to check local codes for approval prior to making this type of installation.

2. To complete this installation, follow the basic masonry fireplace trim kit installation instructions except:

The trim kit may have to be cut down in size so as not to block any cooling vents/chambers of the Pre-Fab Fireplace.

3. To complete methods 1 and 2:

Position heater into the Pre-Fab Fireplace and center flue exit under connector.

4. Slide connector (or slip connector) down into flue exit of heater approximately 3/8", Check that damper operates without hitting connector. Now, seal connector to heater (and fireplace throat if method #1 is used) using refractory cement.

**CAUTION!** Do not loosen ceramic blanket.

5. **CAUTION!** Crimped end of connector must be placed into heater throat.

6. Check installation minimum clearances and install an approved heater extension or floor protector to meet at least the minimum clearances.

This heater is now ready for use. Please read heater operation Section VII of this manual before burning a fire in the heater.

# SECTION VI

## WOOD HEATER SAFETY

---

Certain safety hazards are inherent in any wood heater installation. You should be aware of these so that a safe and proper installation can be made.


1. **FAULTY CHIMNEY:** An older masonry chimney should be thoroughly checked to be sure there are no holes or weak spots which could allow sparks or hot gases to escape.
2. **HEAT CONDUCTION:** Placing combustible materials too close to a heater or chimney can be a fire hazard.

By keeping these particular hazards in mind as you install and use your room heater you can ensure a safe, reliable installation.

- **NOTE: When burning any unit or appliance that combusts fuel for heat, such as coal, oil, wood or natural and (L.P.) liquid petroleum gas. We highly recommend the use of smoke and carbon monoxide detectors in your home.**

## SAFETY PRECAUTIONS

For your protection, read and follow these safety precautions closely.

 **CAUTION: NEVER** use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or “freshen up” a fire in heater. Keep all such liquids well away from the stove when it is in use. All fluids of this type give off volatile fumes and can and **WILL EXPLODE!!** Don’t take a chance with the safety of your home and family.

**WARNING:** Hot while in operation. Keep children, clothing and furniture away from stove. Contact may cause skin burns.

1. Use a spark arresting shield (3/8” mesh) on top of chimney. Check monthly as this is a code requirement in some areas.
2. Use smoke detectors around heater as well as in sleeping areas.
3. Keep a fire extinguisher rated for Class “A” fires near heater.
4. Check with your insurance company to be sure your policy covers installation and use of a wood fired room heater.
5. **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 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.

The connector and/or chimney should be inspected at least once a month during heating season to determine if a creosote buildup has occurred.

If creosote has accumulated, it should be removed to reduce risk of a chimney fire.

 **CAUTION:** Never remove ashes from your heater with blower running.

6. Locate furniture and any other combustibles away from the heater.
7. Store firewood at a safe distance from heater.
8. **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 non-combustible floor or on 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 closed container until all cinders have thoroughly cooled. Ashes can ignite up to 72 hours after removal.
9. Always exercise caution when using your heater. Be particularly careful when there are children around an operating heater.

# SECTION VII

---

## OPERATION

This section of manual is to help you get the maximum efficiency and maximum smoke (particulate) reduction from your heater. If you should experience any difficulty or have any questions concerning your heater, contact your dealer for assistance. **NOTE: The manufacturer recommends that for maximum performance burn natural seasoned hard wood.**

**Build a fire for maximum efficiency.** This model burns wood and extracts heat so efficiently, a large fire is not necessary. A large fire not only wastes energy, it usually results in home being too warm for comfort.

The following steps will serve as a guide for operating your stove.

### BUILDING A FIRE:

1. Open door.
2. While looking inside the firebox, operate damper bypass door in and out observing movement. If door does not operate freely and seal to door opening, then door has jumped out of its track during shipping and/or installation.
3. Open primary air control on right side of stove. Also, open outside air control if so equipped (mobile home installations).
4. Twist two pieces of non-colored newspaper into a roll and place them on floor of firebox.  
**NOTE: "Do not use grate or elevate fire. Build wood fire directly on inner bottom of fire box."**
5. The Model 20 is not designed for use of grates and irons or other methods of supporting fuel.
6. Lay several pieces of dry kindling on top of newspaper.
7. Place three or four small pieces of firewood, 2-3" in diameter, on top of kindling.
8. Light newspaper in front, close and latch door. Don't leave fire unattended at this point. The draft system of heater should start quickly. It may be necessary to preheat chimney to get draft started. To do this, open door and add newspaper to top rear of wood. Light or let this paper ignite and allow to burn while holding door slightly cracked. Once draft has started, close and lock door.
9. **NOTE: After embers and a coal bed have been established, load heater with seasoned natural hard wood, placing it length way front to rear.**

**NOTE: If blower is being used on the Model 20 Room Heater, it is equipped with a automatic thermostat. When stove gets hot enough, thermostat will activate room air blower. (For operation of switch and blower, See Page 36)**

**NOTE: When refueling or removing ashes turn "OFF" room air blower. Be sure to turn room air blower back on when finished.**

**NOTE: Do not run power cord underneath heater or in walk way or heavy traffic areas.**

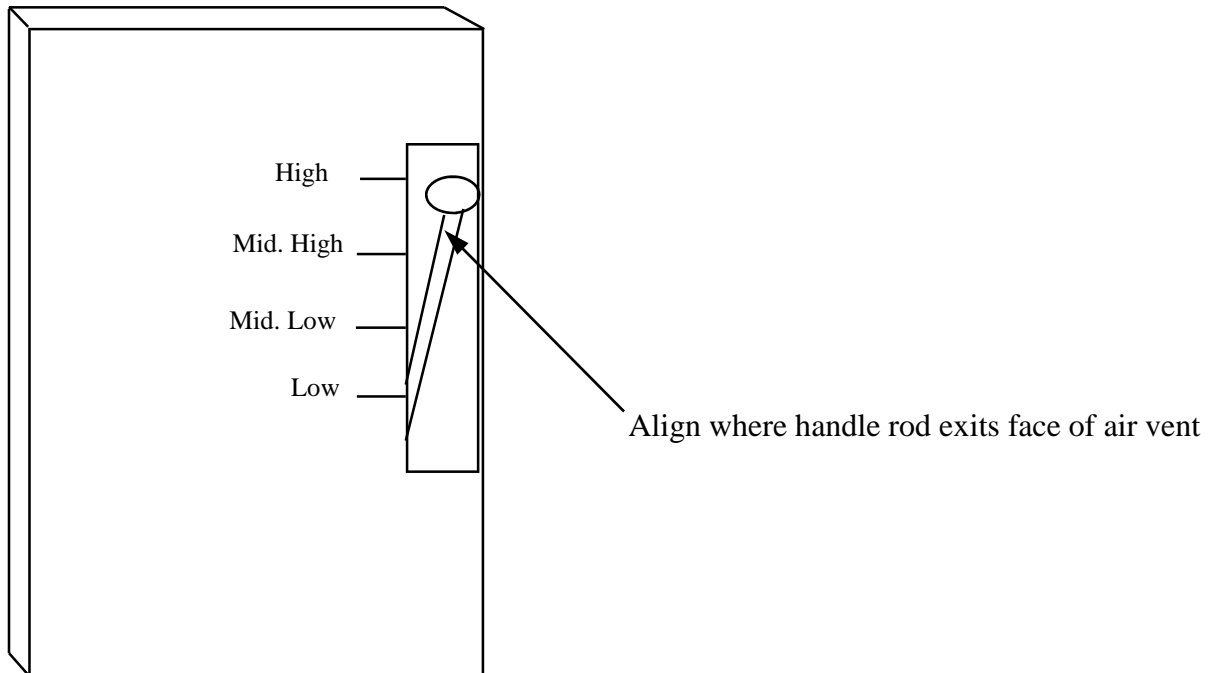
**NOTE: THE FUELING DOOR MUST REMAIN CLOSED DURING OPERATION.**

### MODEL 20 OPERATION

- A. **Low Burn Rate:** Set primary air control to low setting. Set the Auto-Off-Manual switch to Auto position. **Wood Loading**—During refueling, open (pull-out) bypass damper to allow smoke in firebox to escape, open door and add wood. Immediately close door and bypass damper. Reopen door 1/4" for one (1) minute to charge wood. Close and latch door. After most of wood is burned, if you are not planning on reloading immediately, it may be necessary to open bypass damper and door to rake wood and coals into a pile near front center of firebox. (Be certain wood chunks are pulled out of rear corners.) Close door and bypass damper. This step will assure continued combustion and thorough burning of wood.
- B. **Medium—Low Burn Rate:** Set primary air control to medium-low setting. Set Auto-Off-Manual switch to Auto position. **Wood Loading**—During refueling, open bypass damper, open door and add wood. Immediately close door and bypass damper. Open primary air control wide open for five minutes to charge wood. Reset primary air control to med-low setting. After most of wood is burned, if you are not planning on reloading immediately, it may be necessary to open bypass damper and door to rake wood and coals into a pile near front center of firebox. (Be certain wood chunks are pulled out of rear corners.) Close door and bypass damper. This step will assure continued combustion and thorough burning of wood.

- C. **Medium—High Burn Rate:** Set the primary air control wide open. Set the Auto-Off-Manual switch to Auto position. **Wood Loading**—During refueling, open bypass damper, open door and add wood. Immediately close door and bypass damper. Open primary air control wide open for five minutes to charge wood. Reset primary air control to med-high setting. After most of wood is burned, if you are not planning on reloading immediately, it may be necessary to open bypass damper and door to rake wood and coals into a pile near front center of firebox. (Be certain wood chunks are pulled out of rear corners.) Close door and bypass damper. This step will assure continued combustion and thorough burning of wood.
- D. **High-Burn Rate**—Set primary air control wide open. . Set the Auto-Off-Manual switch to the Auto position. **Wood Loading**—During refueling, open the bypass damper, open the door, and add wood. Immediately close door and bypass damper.

**NOTE:** To select primary air setting, center rod where it exits the air vent opening and align to the marked settings on the heater.



You will have to experiment with the rate until you find the particular setting for heating your home. Chimney drafts, tightness of the house doors and windows, and atmospheric conditions all influence which setting you must have so it may take you several firings to learn the setting necessary for your installation.

Although the catalytic heaters decrease ash residue, routine removal of excess ash is still necessary.

## OPERATING AND SAFETY HINTS:

When preparing to refuel heater, open bypass damper (taking the heater out of catalytic mode) and wait for smoke to clear out of firebox before opening the door.

Burn only natural seasoned hard wood in your catalytic heater. You should not burn trash or garbage, artificial or paper logs, gift wrapping, treated or painted wood, nor should you start a fire with lighter fluid or chemical starter. These and other compositions may contain lead, zinc or other elements that can coat catalyst and reduce its activity.

**Manufacturer recommendation for peak performance and long catalyst life is to burn natural seasoned hardwood (wood dried 6-12 month) and place wood from front to back position in the heater.**

**NOTE: Soft woods such as pine, create more creosote, clogging of chimney and produce a less efficient burn performance.**

GUIDE TO THE DIFFERENT BURNING QUALITIES OF WOOD			
Type of Wood	Ease of Starting	Coaling Qualities	Amount of Sparks
Apple	Poor	Excellent	Few
Ash	Fair	Good	Few
Beech	Poor	Good	Few
Birch	Good	Excellent	Moderate
Cherry	Poor	Excellent	Few
Cedar	Excellent	Poor	Many
Elm	Fair	Good	Very Few
Hemlock	Good	Low	Many
Hickory	Fair	Excellent	Moderate
Locust	Poor	Excellent	Very Few
Maple	Poor	Excellent	Few
Oak	Poor	Excellent	Few
Pine	Excellent	Poor	Moderate

The Main Audubon Society recently charted the heat produced by a wood fire. They noted that heat produced by a wood fire varies greatly with kind of wood burned. Beech is considered best wood for a fire. A cord of well-seasoned Beech will produce as much heat as 169 gallons of fuel oil; Sugar Maple and Red Oak produce as much heat as 166 gallons of fuel oil; followed by White Ash 154; American Elm 130; White Birch 124; and White Pine 94.

## HELPFUL HINTS

**CURING THE PAINT ON YOUR HEATER:** During the first several firings, burn small fires to cure paint and to prevent damage to finish. It is a good idea to flip toggle switch to "Manual" position during these first firings so blower will run continuously. This will allow paint to cure at a slower rate and creates a better overall finish.

**CAUTION:** Never remove ashes from your heater with blower running.



### TIPS ON FIRE BURNING

**GREEN WOOD vs. NATURAL SEASONED HARD WOOD-**Green wood has a high moisture content and therefore requires a hotter ignition temperature. Natural seasoned hard wood-cut at least one year before use-allows for a quicker, prolonged burn and more complete combustion.

**SPLIT WOOD vs. ROUND WOOD-**Split wood burns easier and more rapidly, whether it's seasoned or green. If used after starting a fire, it should be packed tightly to achieve a longer burn.

Round wood burns longer, but requires more effort to start. Inserting a round piece over a bed of red coals with damper and drafts open will help it catch fire. Round wood should be used to accomplish an all-night burn.

# SECTION VIII

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## PREVENTIVE MAINTENANCE / PARTS REPLACEMENT

### Check Chimney

- A. The chimney should be cleaned as necessary to remove creosote, soot, leaves, birds' nests, etc. (Refer to Page 27, #5 Creosote Formation.)
- B. A neglected chimney can eventually cause a draw restriction or can ignite and burn hot enough to cause damage to chimney.
- C. For proper inspection chimney should be cleaned.
- D. A chimney cap should be installed to prevent moisture from entering chimney, to prevent sparks and burning materials from escaping chimney and to keep birds and foreign materials from entering.

**NOTE:** Some areas may require an approved spark arrestor.

### CLEANING THE HEATER

- A. The heater should not be cleaned with any type of detergent as most all detergents have an oil base and cannot be painted over.
- B. The heater should be lightly sanded with fine sandpaper or steel wool, then repainted or touched up with high temperature paint.
- C. If the heater is located in a moist or damp location, check thoroughly for signs of condensation during times when heater is not in use.
- D. When heating season is over, heater should be cleaned out completely with a wire brush or cloth to help eliminate ash and burned wood smell.

**CARE OF GLASS DOOR:** The glass door on your heater permits you to enjoy the beauty of the fire while retaining efficiency of your heater. Although brand of glass used in heater door has well established and recognized heat resistant and strength characteristics, it can be broken through improper care. To achieve maximum utility and safety of your glass door, we advise that you observe following use and safety tips:

1. Inspect glass regularly for cracks or breaks. If you detect a crack or break extinguish fire immediately and return door to your dealer for glass replacement before further use.
2. Do not slam heater door or otherwise impact glass. When closing door, make sure that no logs or other objects protrude to impact against glass.
3. Do not clean glass with materials which may scratch it (such as steel wool) or otherwise damage glass. Scratches on the glass can develop into cracks or breaks.

The glass can be cleaned with a commercial oven cleaner, providing it does not contain abrasives. A build-up on glass that has been there for a considerable length of time can be burned off with a propane torch.

### CATALYTIC INSPECTION

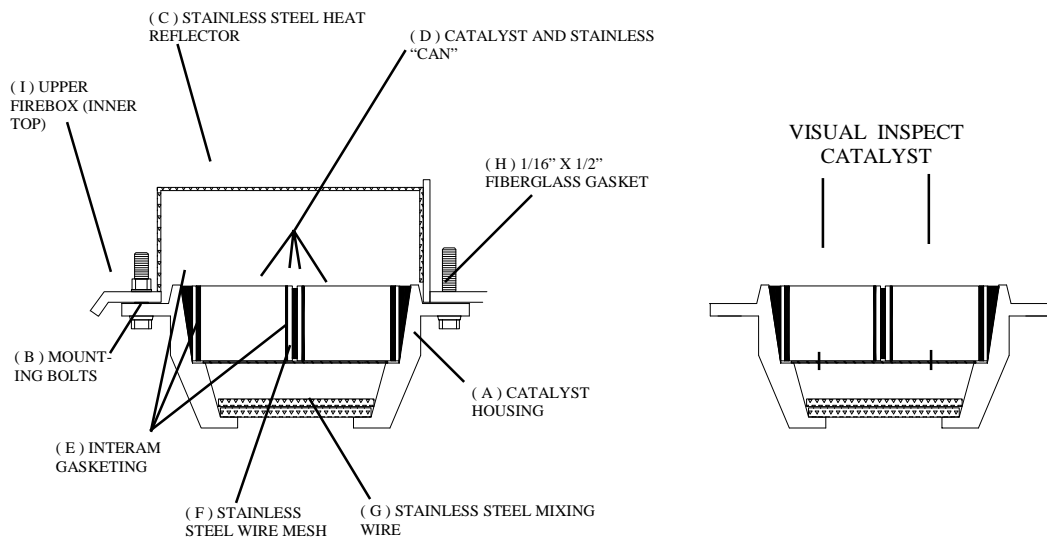
Catalytic combustors should be visually inspected at least three times during heating season to determine if physical degradation has occurred.

**Preferred Inspection Method:** The easiest method to determine condition of catalysts is to observe glow of catalyst after ignition (med-low firing or hotter). You can observe the catalysts by leaning down and looking up through the door glass.

- a. Properly functioning catalysts will be exhibiting a uniform glow from one end to other (indicating ignition).
- b. Physically degraded catalysts will have cold places (areas not igniting) where plugging, crumbling or other degradation has occurred. If this occurs, monitor probe temperature will not increase at a normal rate. For further inspection it will be necessary to go by disassembly method as follows:

**Disassembly Inspection Method:** For thorough catalysts inspection, removal of catalyst housing is necessary (cold heater only).

- a. Spread a drop cloth in front of heater.
- b. Open door and clean out any ash.
- c. Open bypass door to give access to two rear mounting bolts.
- d. Using 9/16" wrench or 9/16" socket, loosen four bolts and remove catalyst housing (drop down) and place in a suitable inspection area (it may be necessary to use penetrating oil if nuts and bolts have seized).
- e. Inspect top and bottom side of catalysts for plugging, crumbling and other physical degradation.
  1. If a problem exists, refer to Troubleshooting section of manual for possible cause of problem and solution (including replacement if necessary).
  2. Reassemble if catalysts are okay being sure stainless steel heat reflector is positioned back in its original position and bolt housing and heat reflector securely back in place.

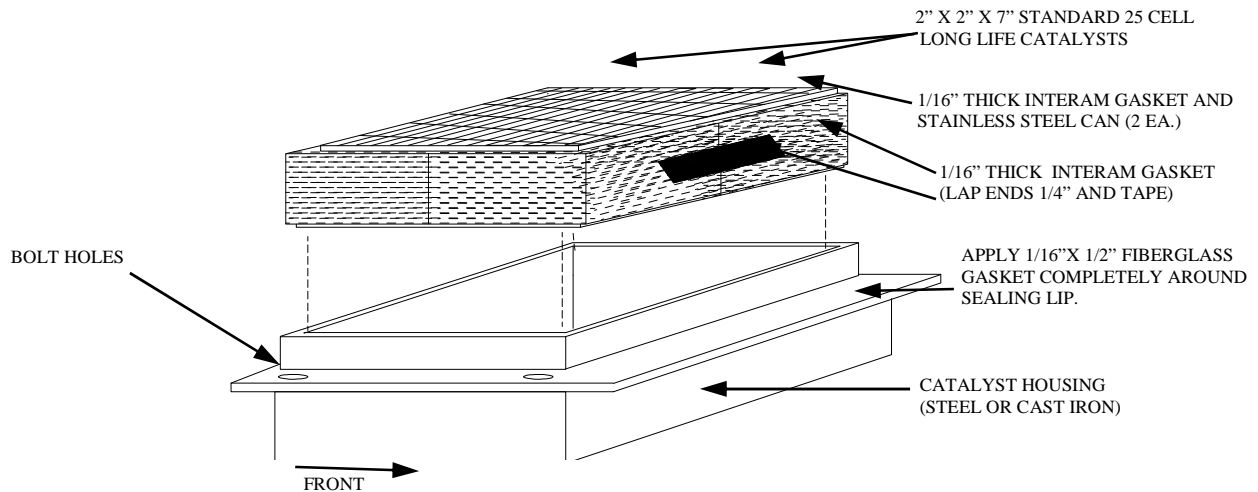


## CATALYST REPLACEMENT (Off-Season Replacement Recommended)

The catalysts in your stove are designed for many years of use. If after several years of use, efficiency of stove decreases or if a notable increase in amount of smoke is observed, catalysts may need to be replaced. See Catalyst Warranty prior to replacement.

1. Spread a drop cloth in front of stove.
2. Open door and clean out any ash.
3. Open bypass door to give access to two rear mounting bolts.

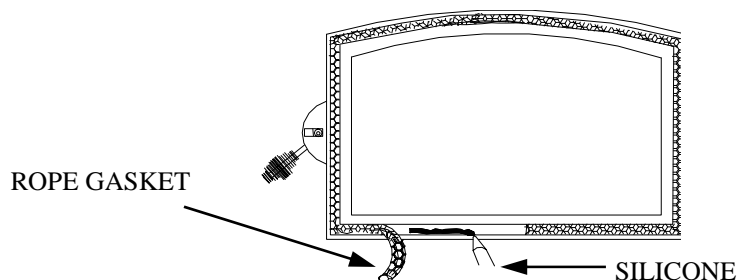
4. Using penetrating oil, generously lubricate four (4) bolt threads holding catalyst housing in place. Allow to penetrate.
5. Using a 9/16" wrench or 9/16" socket, loosen four (4) bolts and remove catalyst housing (drop down) and place in a suitable work area.
6. Using needle nose pliers, grasp front edge of stainless steel "can" which houses a catalytic element and pull upward.
7. Using a small putty knife or scraper, remove any gasket that may have adhered to atalyst housing.
8. Obtain new catalysts and wrap the stainless steel "can" with interam gasket and tape ends together using scotch tape or masking tape.
9. Insert new catalysts into catalytic housing and push down until they are seated on top of stainless steel wire mesh supports.
10. Reinstall catalyst housing into stove and secure in place with bolts.
11. The stove is now ready for use.



## DOOR GASKET REPLACEMENT (Cold Heater)

To replace deteriorated gaskets, following steps must be taken to ensure proper installation of gaskets.

1. Obtain proper gaskets and silicone glue from your local dealer.
2. Using pliers, remove any worn and deteriorated gaskets.
3. Using a scraper, wire brush and sandpaper or steel wool, clean glue and gasket residue from door frame.
4. Measure and cut gaskets to length. Care should be taken not to stretch gaskets. What you want is a full and loose gasket weave after attachment to framing.
5. Obtain silicone glue and run a 3/16" bead inside door frame.
6. Obtain gasket (s) and place in gasket channel areas. Use a technique which assures that gasket is applied in a loose like manner. **DO NOT STRETCH GASKETS.**
7. After gasket (s) are applied to glue, use your finger and go over all gasket gently pressing gasket to the channel. Use same pressure against gasket so that final result is an evenly applied gasket.
8. Leave door open and allow at least one hour for glue to dry.
9. Once gaskets are checked, heater is ready for use.
10. This should be done annually. Allowing gaskets to deteriorate can cause over-firing and shorten burn time.



## OPERATION OF SWITCH

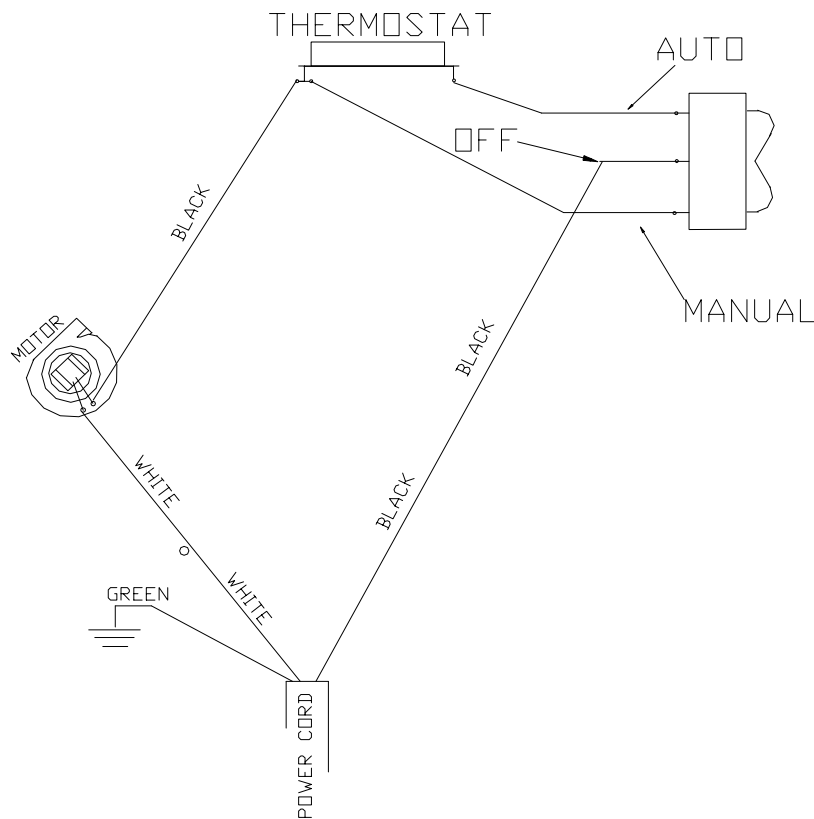
With Power Cord Plugged Into 115V AC Outlet.

Do not run power cord underneath heater or in walk way or heavy traffic areas.

- (A) For Auto position push in top of switch. When room heater becomes warm enough Room Air Blower will come on and stay on until your room heater falls below activating temperature for thermostat.
- (B) For Off position place switch in middle position.
- (C) For Manual position push in on bottom of switch. This will allow your Room Air Blower to operate without thermostat being activated. With switch placed in this position, Room Air Blower will continue to operate until it is Manually shut Off.

## WIRING SCHEMATIC

(Changes refer to page 34 in your owners manual: Due to the Auto-Off-Manual switch replacing the Rheostat.)



**NOTE:** When ordering replacement parts for your Model 20/ZC20 Room Heater, be sure to have the serial number available to insure that you receive the correct parts.

**NOTE:** When refueling or removing ashes turn "OFF" room air blower. Be sure to turn room air blower back on when finished.

# SECTION IX

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## CATALYTIC TROUBLESHOOTING

### CONTENTS

Definitions

Possible Problems

- Plugging
- Extreme Temperatures
- Flow Restrictions
- Creosote Build-up
- Chemical Deactivation
- Excessive Handling
- Condensation in Chimney
- Backpuffing
- Non-uniform flow

Troubleshooting

#### **Heater Related Problems**

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2. Drop in Overall Efficiency
3. High Fuel Consumption
4. Backpuffing
5. Smoke Rollout When Heater Door Is Opened
6. Low Catalytic Temperature
7. Creosote Running From Draft Inlet Openings

#### **Chimney-Related Problems**

1. Creosote Accumulation
2. Tar and Liquid Creosote Leaking from Metal Flue Joints
3. Heavy Concentration of Smoke Leaving Chimney
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#### **Combustor-Related Problems**

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5. Substrate Cracking-Thermal
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7. Substrate Crumbling
8. Color Variations

## DEFINITIONS

**AIRTIGHT HEATER**—In an airtight heater, all air enters in through inlets. Generally, non-airtight stoves are not as efficient and their level of heat output is less controllable than that of an airtight.

**BURN CYCLE**—Time span between refuelings in which wood is reduced to a bed of hot coals.

**BYPASS**—Movable door inside a woodstove that is opened when stove door is opened to give a path of least resistance to smoke to prevent roll-out.

**CREOSOTE**—Condensed wood-gas vapor.

**DOWNSTREAM TEMPERATURE**—Outlet temperature of combustor or temperature of gas leaving combustor from chimney side or face.

**DRAFT**—Amount of vacuum created by buoyant hot air in chimney. Draft pulls in oxygen for combustion process and pulls out exhaust gases.

**FIREBRICK**— Brick capable of withstanding high temperatures. Used in furnaces, kilns and stoves. Used to mean only “hard” or “dense” firebrick as distinguished from “soft” or “insulating” firebrick.

**FIRING RATE**—Rate at which fuel is burned in a heater.

**FLAME IMPINGEMENT**— Flames directly contacting combustor face.

**FLUE COLLAR**—The part of a stove to which chimney connector or chimney attaches.

**GLOW-PLUG EFFECT**—When a combustor is at temperatures above 1400° F (760° C) and periodically causes pockets of wood gas in firebox to ignite spontaneously.

**GREEN WOOD**—Non-dried, freshly cut wood from a live tree.

**IGNITION TEMPERATURE**—The minimum temperature of a flammable mixture of gases at which it can spontaneously ignite.

**LIGHT-OFF**—Activation temperature of combustor catalyst.

**NOBLE-METAL CATALYST**—A catalyst is a substance that can accelerate a chemical process without being consumed by it. A noble-metal catalyst is one made of a precious metal or metals. (In the combustor, platinum and palladium are used because they are stable under high heat conditions.)

## POSSIBLE PROBLEMS

Problems encountered with operation of catalytic-combustor equipped wood heaters are usually the same as those experienced in operation of traditional wood heaters. Our experience has shown that adoption of good operating practices will eliminate most of these problems. In addition, it should be noted that problems with catalytic combustors are rare. Fewer than 1 percent of combustors are returned for any reason. Nonetheless, installers and retailers should make themselves aware of nature, cause and solution to possible problems so as to serve their customers better.

**Plugging-**Plugging can occur if combustor is operated improperly. It may occur if wrong materials are burned. Evidence of these types of plugging is a coating of black soot, creosote or fly ash on combustor. Burning materials that produce large flakes of char, such as Christmas wrapping paper or cardboard, can plug enough cells to cause smoke spillage.

**Extreme Temperature-**A combustor becomes extremely hot during operation. Temperatures between 1400° F and 1600° F (760° C - 870° C) are common, but operating temperatures between 1200° F and 1400° F (650° C - 760° C) are recommended. Most of this heat is transmitted to surrounding heater parts via thermal radiation.

**Flow Restrictions-**Because combustor is mounted in gas flow stream, it does offer resistance to draft. This restriction or resistance presents two problems:

If the bypass is not open when fuel-loading door is opened, smoke rollout will occur.

Chimneys that produce marginal draft may prevent operation of a combustor-equipped device. A chimney that provides, on average, .02" of water draft in low-fire operation would probably not operate with a catalytic combustor appliance in low-fire mode. In such a case, combustor resistance would offset remaining draft, resulting in a system that will not draft.

**Creosote Build-up-**Even though reduction of creosote is one of primary advantages of a combustor-equipped device, some creosote-forming gases will escape unburned during normal operation. In event combustor ceases to function, creosote can be expected to accumulate. Consequently, flues and chimneys should be inspected regularly (every 2-3 months of operation) and any creosote build-up removed. Failure to do this could result in a chimney fire.

**Chemical Deactivation-**Deactivation can occur when catalyst is attacked by materials such as compounds of sulphur, phosphorus or lead and other heavy metals. Burning large quantities of trash, pressure-treated lumber or painted wood can deactivate catalyst. The operator takes a chance when burning anything other than natural wood. The catalysts are durable and are not likely to be greatly affected by an occasional mistake, but burning large quantities of chemical-laden materials will appreciably shorten life of combustor. The catalyst can also be deactivated when it is coated with excessive creosote, carbon or fly ash. This build-up greatly reduces the amount of catalyst available to react with the smoke.

**Excessive Handling-**An older combustor, especially one that is "uncanned", is susceptible to handling damage. Stress-relief cracks may develop in service but will not affect performance of combustor if it is not moved or handled. Handling a unit with these cracks, however, could result in it breaking apart. Excessive handling could also potentially remove some of catalyst coating.

**Condensation In Chimney-**The burning that takes place in a combustor converts harmful hydrocarbons and carbon monoxide to heat, carbon dioxide and water. The additional water produced by this complete burning can lead to associated problems in the chimney.

**Backpuffing**-A hot combustor (above 1400° F) can sometimes act like a glow plug (spontaneous combustion ignitor). Usually wood gas-to-air mixture is either too lean or too rich to form a highly flammable mixture. There are times when this mixture is just right within firebox during normal burning process. If combustor is running at or above ignition temperature of mixture, spontaneous combustion will result, causing stove to vent puffs of smoke.

**Non-Uniform Flow**-Non-uniform flow causes combustor to heat and cool unevenly and is a result of fuel-loading configuration. This occurs when flow pattern of fire is concentrated on one side of combustor. This condition causes thermal stress within ceramic, resulting in cracking.

## TROUBLESHOOTING

Operation of any wood heater can create problems. While use of a catalytic-combustor equipped stove will substantially lessen some of these problems—such as creosote formation—other traditional wood-heater problems may remain.

The following guidelines apply to operation of all wood heaters, with problems related to catalytic heaters addressed where appropriate.

### HEATER RELATED PROBLEMS

Problem	Possible Cause	Solution
1. Sluggish heater performance	1. Obstruction in chimney	1. Check for and remove obstruction
	2. Improperly sealed trim kit or direct connect kit	2. Check trim kit gasketing seal to fireplace and gasket as necessary to seal unit. Gasket under stove if needed. Check seal of direct connect and correct
	3. Manual damper in chimney is closed	3. Open manual damper and wire shut with stainless steel wire or remove damper
	4. Closing bypass or exhaust damper too soon	4. Follow <b>New Buck</b> instructions for proper firing procedures
	5. Wet or unseasoned wood being burned	5. Burn dry, natural seasoned hard wood
	6. Too much wood added to too few coals	6. Add small amounts of wood to small coal beds. Once a good bed of coals has been established more wood can be added
	7. Dislodged stove parts	7. Check all movable heater parts. Replace if necessary
	8. Poor chimney draft	8. See section in “Chimney-Related Problems”
	9. Combustor is plugged	9. See section in “Combustor-Related Problems”
2. Drop in Overall Efficiency	1. Cold, windy weather	1. Weather stripping, caulking, insulation, storm windows
	2. Burning wet, pitchy or spongy wood	2. Burn quality wood available in your area
	3. Combustor not in operating mode	3. Close bypass or engage combustor when temperatures are high enough and stabilized
	4. Combustor not functioning	4. See “Combustor-Related Problems”

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
3. High Fuel Consumption	<ol style="list-style-type: none"> <li>1. Inexperience in catalytic operation</li> <li>2. Improper regulation of draft or inlet air</li> <li>3. Burning wet, unseasoned wood or pitchy spongy wood</li> <li>4. Cold, windy weather</li> <li>5. Smoke bypassing combustor</li> <li>6. Bypass stuck out</li> <li>7. Combustor not engaged</li> <li>8. Combustor not functioning</li> </ol>	<ol style="list-style-type: none"> <li>1. Operate stove with desired heat output in mind. Do not be overly concerned with maintaining light-off temperatures</li> <li>2. Close inlet air control as much as possible to maintain desired heat output. Check gaskets, reinstall fiberglass gasketing around door and glass as necessary</li> <li>3. Burn dried natural seasoned hard wood</li> <li>4. Weather stripping, caulking, insulation, storm windows</li> <li>5. Replace warped stove parts</li> <li>6. If warped or broken, replace</li> <li>7. Put combustor in operating position or close bypass in stove</li> <li>8. See “Combustor-Related Problems”</li> </ol>
4. Backpuffing	<ol style="list-style-type: none"> <li>1. Gusts of wind</li> <li>2. Hot combustor (Above 1400° F)</li> <li>3. Opening doors in a tightly constructed house</li> </ol>	<ol style="list-style-type: none"> <li>1. Install chimney cap</li> <li>2. Avoid burning soft, pitchy wood or large amounts of small diameter wood</li> <li>3. Slowly open and close outside door</li> </ol>
5. Smoke Rollout When Heater Door Is Opened	<ol style="list-style-type: none"> <li>1. Bypass is closed, or combustor is in operating position</li> <li>2. Wind gusts blowing down chimney</li> <li>3. Opening heater door too fast</li> </ol>	<ol style="list-style-type: none"> <li>1. Open bypass or place combustor in bypass position before opening stove door</li> <li>2. Install wind-resistant chimney cap</li> <li>3. Wait a few seconds after opening bypass before opening heater door to give smoke a chance to exit heater</li> </ol>
6. Low Catalytic Temperature	<ol style="list-style-type: none"> <li>1. Bypass is open</li> <li>2. Light-off not obtained</li> <li>3. Fuel charge is spent</li> <li>4. Gases bypassing combustor</li> <li>5. Combustor coated with fly ash or soot</li> </ol>	<ol style="list-style-type: none"> <li>1. Once light-off temperatures have been reached and unit is stabilized, close bypass</li> <li>2. Follow manufacturer’s operating instructions</li> <li>3. Refuel as necessary for combustor operation</li> <li>4. Check parts, particularly bypass. Replace if warped.</li> <li>5. See section on “Combustor-Related Problems—Catalyst Masking”</li> </ol>

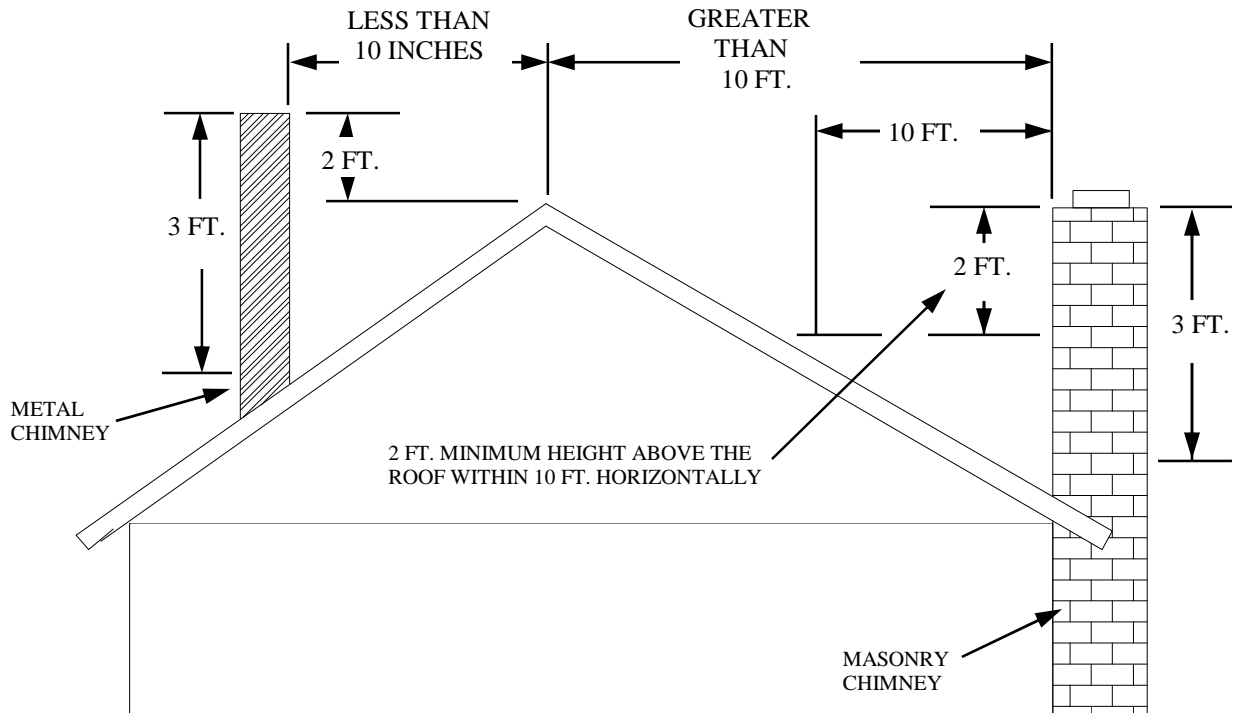
<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
	6. Heater dampered down too much	6. Ensure that proper air mixture and draft are available for wood pyrolysis to continue
	7. Combustor not functioning	7. See section on “Combustor-Related Problems”
7. Creosote Running From Draft Inlet Openings	1. Burning wet, pitchy woods	1. Burn dried, natural seasoned hard wood
	2. Burning too much wood in one load	2. Burn reasonably sized loads so the combustor has a chance to burn the wood gases that are produced
	3. Cool heater walls	3. Keep a good bed of coals in the heater

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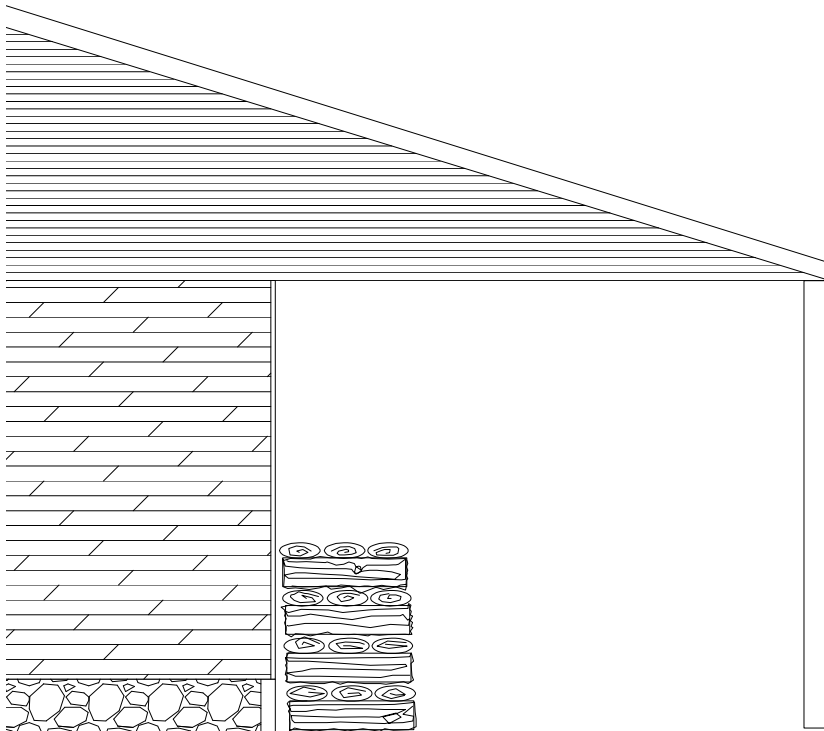
**CHIMNEY-RELATED PROBLEMS**

1. Creosote Accumulation	1. Leading bypass baffle plate	1. Replace any damaged parts
	2. Types and amounts of wood burned	2. Try not to burn pitchy wood Don't overstuff the firebox, burn pieces of wood with an approximate diameter of 6" or larger
	3. Poorly insulated chimney	3. Replace single-walled metal chimneys with double-walled insulated chimney sections (Meet local codes) Install a chimney liner in a masonry chimney. (Meet local codes) In new installations utilize an interior chimney rather than an exterior one
	4. Combustor not functioning	4. See section on “Combustor-Related Problems”
2. Tar and Liquid Creosote Leaking From Metal Flue Joints	1. No chimney cap on chimney	1. Install a chimney cap
	2. Metal flue assembled improperly	2. Top flue sections should be inserted into lower flue sections
	3. Normal increase in moisture due to catalytic burning (Condenses on cool chimney walls)	3. Replace single-walled chimneys with doubled-walled insulated sections (Meet local codes) Install chimney liner in masonry chimney (Meet local codes) In new installations try to utilize an interior chimney rather than an exterior one

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
3. Heavy Concentration of Smoke Leaving Chimney	<ol style="list-style-type: none"> <li>1. Water vapor. (On cold, still days water vapor may be mistaken for smoke. The difference is that water vapor appears white and will tend to rise vertically and dissipate rapidly while smoke is usually dark or bluish brown and will drift down and settle in low areas near the ground before slowly dissipating)</li> <li>2. Wet, pitchy wood is being burned</li> <li>3. Combustor not functioning</li> <li>4. Bypass warped or in open position</li> </ol>	<ol style="list-style-type: none"> <li>1. Water vapor is normal and should be of little concern</li> <li>2. Burn dried, natural seasoned hard wood</li> <li>3. See section on Combustor-Related Problems</li> <li>4. Replace warped bypass. Close bypass.</li> </ol>
4. Rusted or Corroded Flue Parts	<ol style="list-style-type: none"> <li>1. Added moisture from efficient burning</li> <li>2. Overheated flue parts due to a chimney fire</li> <li>3. Age. Failure due to normal use</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace worn-out parts with corrosion-resistant parts or materials</li> <li>2. Same as #1 above. Have chimney inspected every 2-3 months of operation for creosote build-up</li> <li>3. Replace worn-out parts with corrosion-resistant replacements</li> </ol>
5. Odor-Both Inside and Outside The Home	<ol style="list-style-type: none"> <li>1. Bypass is open</li> <li>2. Smoke is leaking around combustor</li> <li>3. Backpuffs due to wind or hot combustor</li> <li>4. Combustor not functioning</li> <li>5. Insert trim panels or direct connect kit not sealed</li> </ol>	<ol style="list-style-type: none"> <li>1. Close bypass</li> <li>2. Check for warped or damaged parts. Replace if necessary</li> <li>3. See "Backpuffing"</li> <li>4. See "Combustor-Related Problems"</li> <li>5. Check seal and regasket as necessary</li> </ol>
6. Poor-Drafting Chimney	<ol style="list-style-type: none"> <li>1. Improper chimney height</li> <li>2. Wrong flue size being used. Ex. - using a 10" flue on an 8" flue collar</li> <li>3. Cooler temperatures caused by external chimney</li> <li>4. Massive stone or masonry chimney</li> </ol>	<ol style="list-style-type: none"> <li>1. Extend height of chimney (Meet Codes)</li> <li>2. Use properly sized flue. Install topper with 8" chimney cap to hold heat in</li> <li>3. Insulate chimney or build chimney higher. In new installations, try to utilize internal chimney</li> <li>4. Install chimney liner (meet codes) Extend height</li> </ol>



CHIMNEY "10 FT." RULE (MINIMUM HEIGHTS)



Stack wood in criss-cross pattern under a shelter to allow air flow to dry wood and to keep wood from rain. Green wood may have 50-60% moisture content. Wood seasoned outside uncovered may have 40% moisture content. Wood properly seasoned in a covered environment will have less than 20% moisture content.

## COMBUSTOR-RELATED PROBLEMS

Problem	Possible Cause	Solution
1. Plugging	<ol style="list-style-type: none"> <li>1. Burning materials that produce a lot of char and fly ash</li> <li>2. Burning wet, pitchy wood or burning large loads of small diameter wood with the combustor in the operating position without light-off taking place</li> <li>3. Combustor not functioning. If proper burning procedures have been followed to no avail, the combustor is not functioning</li> </ol>	<ol style="list-style-type: none"> <li>1. Do not burn materials such as garbage, gift wrap or cardboard</li> <li>2. Burn dried, natural seasoned hard wood. Don't place the combustor in the operating position until temperatures are high enough to initiate light-off. It may be possible to burn the accumulated soot or creosote off by putting the combustor in a partially open-partially closed position after a "hot" fire has been started.</li> <li>3. Replace combustor</li> </ol>
2. Catalyst Peeling	<ol style="list-style-type: none"> <li>1. Extreme temperatures (above 1800° F or 1000° C) at combustor surface can cause the catalyst to peel. Over-firing and flame impingement are primary causes</li> </ol>	<ol style="list-style-type: none"> <li>1. If peeling is severe, remove and replace combustor. Avoid extreme temperatures</li> </ol>
3. Chemical Deactivation	<ol style="list-style-type: none"> <li>1. Burning large quantities of trash, pressure treated lumber or painted wood</li> </ol>	<ol style="list-style-type: none"> <li>1. Burn quality wood available in your area. If you decide the catalyst has been deactivated, replace combustor</li> </ol>
4. Catalyst Masking—a catalyst with a layer of fly ash or soot which prevents catalytic activity	<ol style="list-style-type: none"> <li>1. Not maintaining light-off temperatures</li> <li>2. Burning coal causes a sulfur based compound to coat the catalyst</li> </ol>	<ol style="list-style-type: none"> <li>1. Place combustor in a partially closed position after a "hot" fire has been started to burn soot off.</li> <li>2. Revert to burning wood and fire the combustor at elevated temperatures for a period of 1 hour. (Five 20 minute high-fire startups would do it)</li> </ol>
5. Substrate Cracking-Thermal	<ol style="list-style-type: none"> <li>1. Normal operation, as long as combustor remains intact</li> </ol>	<ol style="list-style-type: none"> <li>1. If cracking causes blockage of exhaust gases, replace combustor</li> </ol>

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
6. Substrate Cracking— Mechanical	1. Mishandling or abuse	1. Handle with care
7. Substrate Crumbling	1. Extreme thermal shock 2. High draft	1. Combustor being continually overfired. Reduce burn rate. 2. Do not exceed .06" of water draft. Install a manual damper and draft gauge, or a barometric damper with free-standing units
8. Color Variations	1. Variation in color from combustor to combustor or within a combustor can occur (new combustors)	1. These color variations are normal and do not affect combustor performance

# **Zero Clearance Cabinet Model ZC20**

**For use with Fireplace Model 20 only**

## **FEATURES**

### **PREPARATION      INSTALLATION**

### **OPERATION      MAINTENANCE      SAFETY**

Contact your insurance company for coverage and installation inspection



## **SAFETY NOTICE**

**If this cabinet and intended fireplace are not properly installed, a house fire may result. For your safety, follow installation directions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.**

### **“WARNING”**

### **“THIS IS NOT A FIREPLACE”**

**Do not attempt to build a fire in this product. It has been designed and safety tested for use only with Model 20 manufactured by New Buck Corporation. Read and follow installation and operating instructions for this model. Do not remove or cover this label.**

# SECTION I

---

## RESIDENTIAL INSTALLATIONS

### PARTS REQUIREMENTS

#### Listed NEW BUCK CORP.

Model	Part Description/Part #
ZC20	Zero clearance cabinet assembly with Model 20 fireplace installed

#### UL Listed and factory approved Chimney Systems

	Description
Simpson Dura Vent	- 6" 2100° HT Type "DP" Chimney
Security	- 6" "ASHT" High Temp Chimney
Selkirk Metal Bestos	- 6" Model SSII Type HT Chimney
Metal Fab	- 6" 2100° HT Chimney

**CAUTION:** Read through all of these instructions carefully. Follow approved Chimney Manufacturer's Installation exactly. Failure to install the Cabinet Fireplace, Stove and Chimney as described in the instructions will void manufacturer's warranty and may have an effect on your Homeowner's Insurance. A major cause of chimney related fires is failure to maintain required clearances (air spaces) to combustible materials. It is of utmost importance that these parts be installed only in accordance with these instructions.

The Zero-Clearance cabinet and the Model 20 (hereafter referred to as the ZC20) is designed for installation in a family dwelling, where minimum clearance is desired.

### INSTALLATION PRECAUTIONS

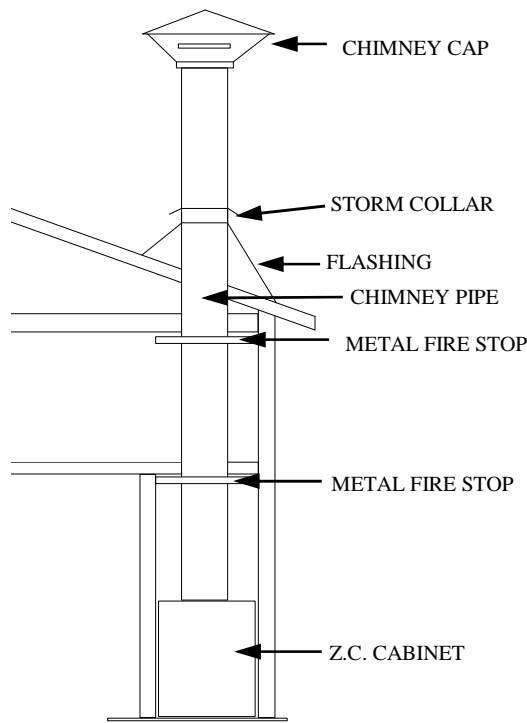
The following precautions are mandatory for a safe installation:

- A. Compliance with local building codes and regulations is mandatory.
- B. Be careful not to damage unit in handling and unpacking component parts and accessories.
- C. A UL Listed and Approved Chimney System is to be used and vented to outside of the building. See chimney list above.
- D. The chimney must extend a minimum of 3' above the highest point where it penetrates the roof (3' above a flat roof or up to 2 1/2 pitch roof), and chimney must extend a minimum of 2' higher than any portion of building within 10' of chimney. The minimum height is 12'. A 2" clearance must be maintained between chimney and any combustible materials at all points.
- E. A rain cap must be used to terminate chimney to prevent down-draft.

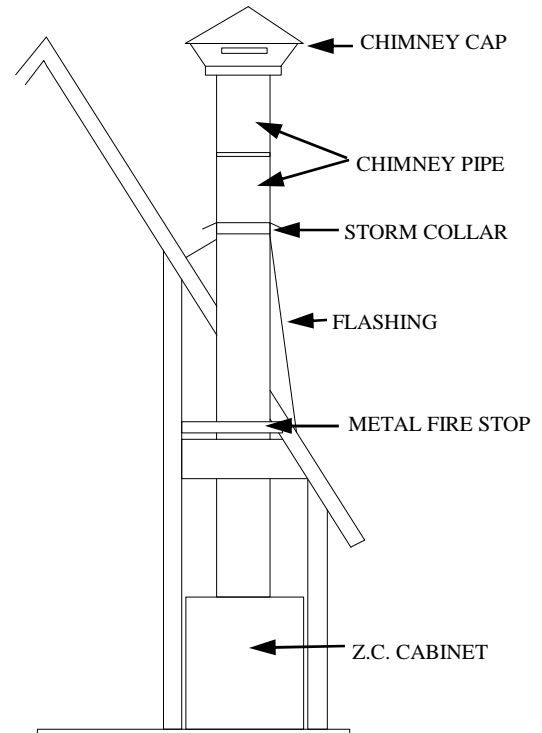
- F. DO NOT build a fire directly inside the ZC Cabinet. It is designed solely for housing Model 20 Stove.
- G. **WARNING:** This fireplace has not been tested for use with a chase above roof.
- H. Do not connect this unit to a chimney serving another appliance.

## SELECTING A CHIMNEY INSTALLATION AND LOCATION

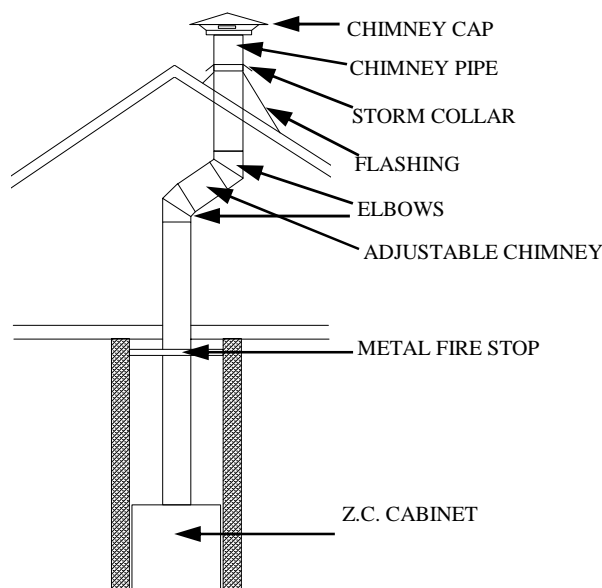
There are two basic types of chimney installations possible with the ZC20; straight up through a ceiling and chase installation, either outside or inside. These are normally used as follows:



**FIGURE 1 THROUGH CEILING**



**FIGURE 2 THROUGH CATHEDRAL CEILING**



**FIGURE 3 OFFSET TO CLEAR OBSTRUCTION**

**CAUTION:** Refer to chimney manufacturers instructions for assembly and disassembly of chimney parts. Be sure to follow chimney instructions for proper clearances to combustibles and proper air spacing required.

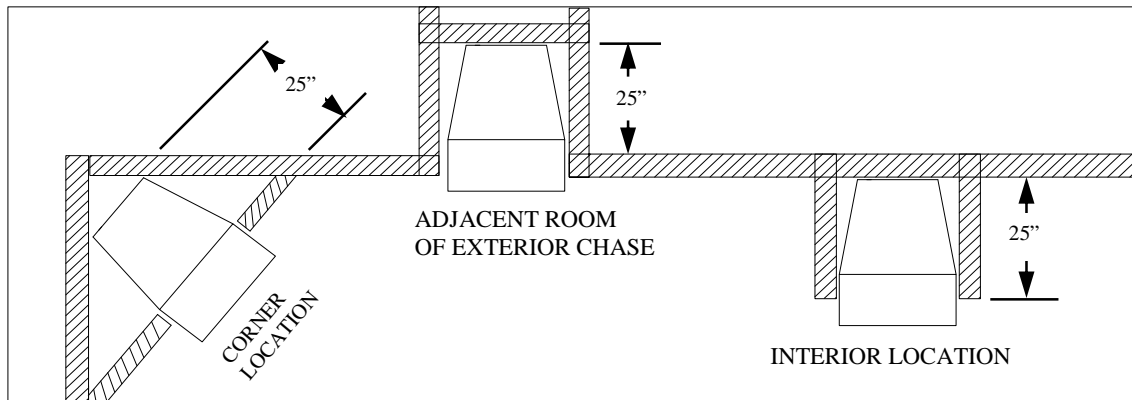
**NOTE:** Chase Installation: (See Figure 3). A chase is an enclosure built specifically to house a chimney. The interior of a chase is open from ZC20 to roof, eliminating need to cut through ceilings and roof. Normally, a chase is built outside and against exterior wall of a home. A hole is cut through wall and the ZC20 is located in bottom of chase, with front of unit flush with interior wall. Chases are commonly veneered on outside with brick, stone or wood to give appearance of a conventional fireplace flue. Occasionally, they are built inside and boxed in, similar to a stairwell. When making a chase installation, it is important to read chimney manufacturer's instructions prior to building, as there are specific requirements for bracing a free-standing flue and must be planned for. There are also occasions where offsets are used within a chase to accommodate unusual building designs or to locate ZC20 further into a room.

## FRAMING CONSTRUCTION AND INSTALLATION

Except as noted, ZC20 can be installed almost anywhere you desire. There are, however, a few clearance and framing restrictions that must be followed. See Figure 3 and 4 to make sure that these clearance restrictions are met. It is much wiser to place your ZC20 correctly at start of installation than to be forced to relocate it after much of work is done.

You must ensure that floor is of adequate strength to accept load of this unit. If inadequate, floor will require additional support, such as bracing. **NOTE:** A wooden base constructed of plywood or 2"x4" boards is required in order to get proper clearance above the extended hearth (millboard, rock, stone, etc.).

Good planning is essential for a satisfactory installation, therefore, at this point you should have decided where ZC20 is to be located and the route chimney will follow to the roof—straight up or chase. If you cannot decide best route, contact your Dealer for assistance with planning.



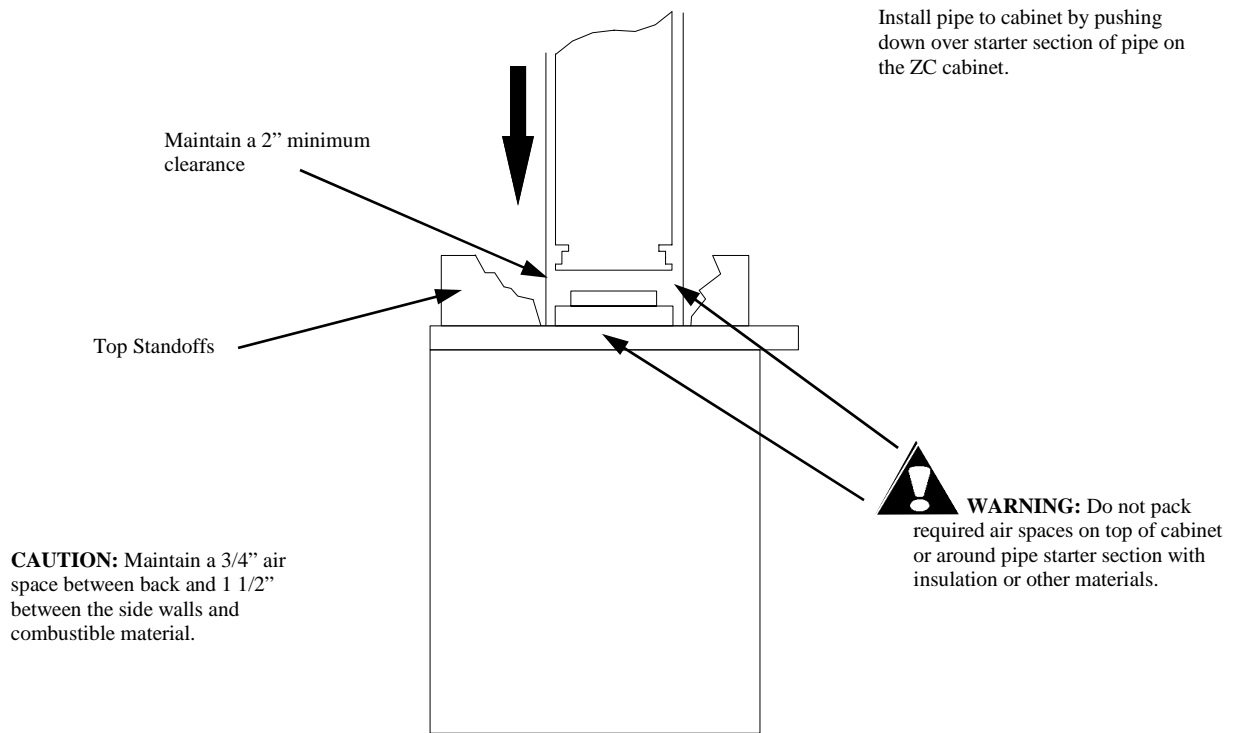
**FIGURE 4**

Above (Figure 4) are framing location examples with depth dimensions for some typical configurations. These are finished measurements so install accordingly.

Position ZC20 for installation as follows:

1. Thoroughly clean area where unit will be placed. Remove any carpeting/padding from area where the ZC20 will be installed.
2. Lay out location on the floor for ZC cabinet. (See Figure 4)
3. Lay out for hearth extension preparation and removal of carpet and padding.
4. A sheet metal safety shield is placed 1 1/2" under cabinet. It must extend out under floor protector.
5. Now, you are ready to install chimney system for ZC20. If you are building an outside chase, follow approved Chimney Manufacturer's instructions. If you are penetrating a ceiling, install the chimney as follows:
  - a. Drop a plumb line, locate, and mark point on ceiling directly over center of ZC20 chimney adapter
  - b. After locating center of hole, install fire stop spacer per chimney manufacturer's instructions.

6. Obtain listed and approved chimney installation instructions and follow exactly.
  - a) Obtain starter section of pipe and install on ZC20 cabinet. It may be necessary to crimp the inside of starter pipe to ease installation into the ZC20 cabinet.
  - b) Obtain the two short sheet metal “ell” brackets and sheet metal screws provided with ZC20 and secure starter section of pipe to the ZC20 cabinet.



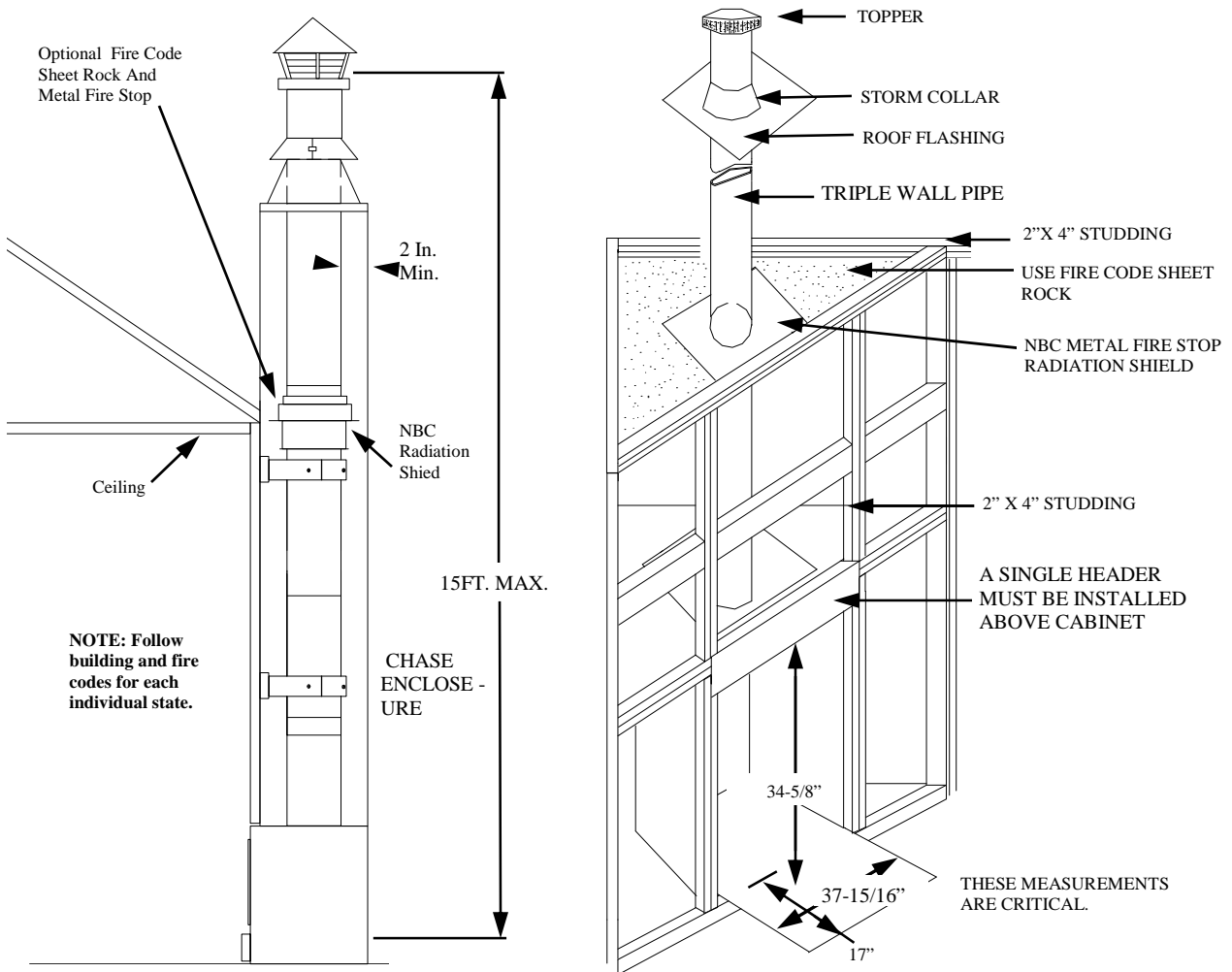
**Figure 5**

- c) Continue adding lengths of chimney until you are ready to penetrate another ceiling or roof.
- d) Now, plumb bob center of ceiling or roof above chimney and install another firestop for another ceiling penetration or follow pipe manufacturer’s instructions for attic and roof penetration.
- e) Once roof penetration is made, install flashing.
- f) Add applicable lengths of chimney, extending through roof until following conditions are met:
  1. Chimney height is at least 12’ to 15’ maximum.
  2. The chimney must extend a minimum of 3’ above highest point where it penetrates roof.
  3. The chimney must extend a minimum of 2’ higher than any portion of building within 10’ of the chimney.
- g) Install the chimney cap and storm collar.

7. The ZC20 cabinet is now ready for framing as follows:
- a) Frame the ZC20 using 2"x4" studs and local building code framing. Some minor framing restrictions are required:
    1. Adjacent side walls must be at least 16" from outer edge of ZC20 trim panel
    2. The overall opening dimensions must be at least 37 15/16" wide and 34 5/8" high.

**NOTE:** Maintain 1 1/2" clearance at side walls of cabinet and combustible material.
  - b) 2"x4" framing above the unit must be turned flat. This allows proper clearance from framing to chimney (2" minimum). (See Figure 6).

### ZC20/Model 20



**WARNING:** Install hearth protector only as specified. The hearth extension must extend a minimum of 17" in front of the fireplace opening and must be 37 15/16" wide minimum.

**FIGURE 6**

**CHASE ENCLOSURE AND CORNER LOCATION FRAMING**

8. Next construct hearth extension out of non-combustible inorganic building materials as follows:
- The hearth extension must extend 17" in front of rough framed opening on ZC20.
  - The hearth extension width must be at least 37 15/16".
  - The hearth extension must be made of brick 2" thick, a listed "Hearth Extension" or "Floor Protector" or a hearth extension made of non-combustible inorganic material with a K\* factor of:  

$$K = 2.5 \text{ BTU ((HR) (ft}^2 \text{ (}^\circ\text{F/in.))}$$

## ALTERNATE FLOOR PROTECTORS MATERIALS

With floor protector or hearth extension material specified as one layer of 2" thick brick with a K\* factor of 5.0, you may use alternate materials as long as the K\* factor (s) is calculated as follows:

Formula: Required thickness = (K of alternate material/K of millboard) X (thickness of millboard)

Example: An alternate inorganic non-combustible millboard with a K of .9375 would require a thickness as follows:

$$\begin{aligned} \text{Required thickness} &= .9375.0^0 \times 2 \text{ inch} \\ &= 3/8 \text{ inch} \end{aligned}$$

### K Factors of Alternate Materials:

Material	K	Required Thickness
Ceroform 126	.21	1/8"
Limestone	8.0	3.2"
Concrete	8.0	3.2"
Sandstone	13.0	5.2"
Marble	18.0	7.2"

Hearth extension or floor protector thickness above four (4) inches is generally not acceptable due to cost, floor load capacity and look. The alternate we recommend is using Ceroform No. 126 millboard 1/8" thick minimum and putting any type decorative brick or stone (any thickness) on top of it.

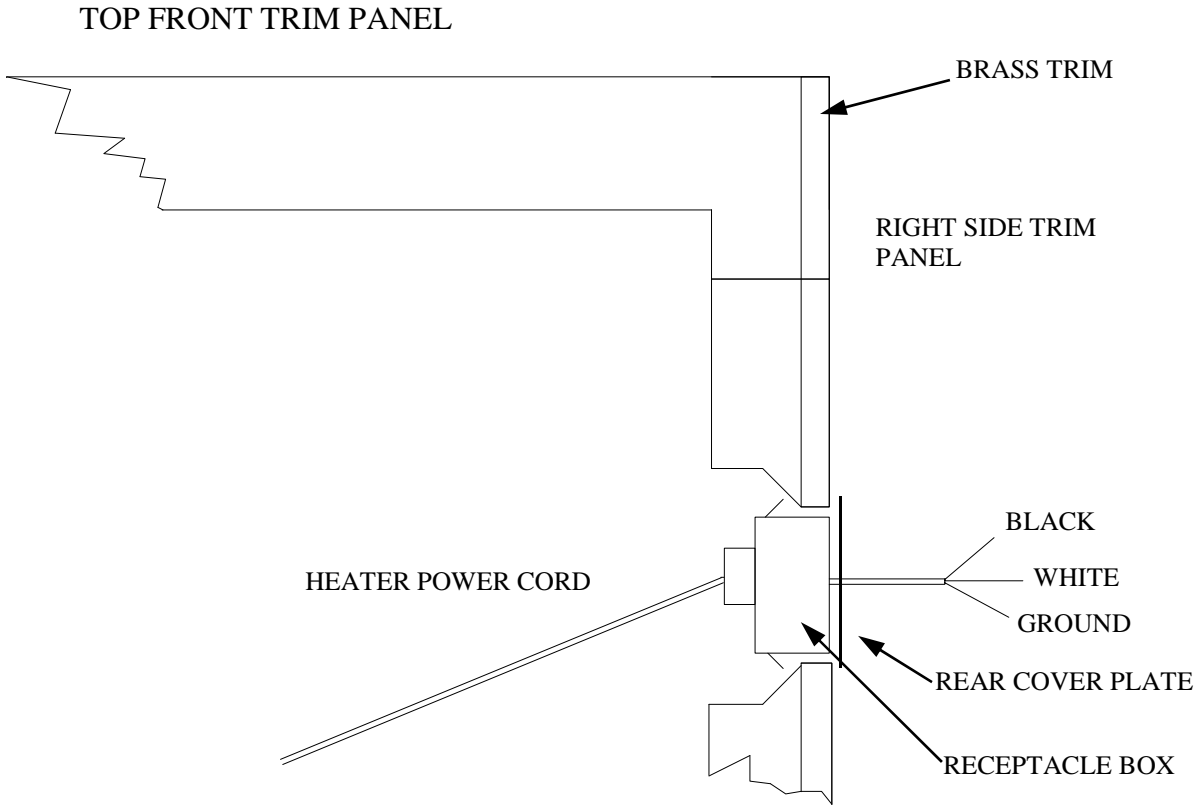
\*The K\* factor represents thermal conductivity of a material and is time rate of heat flow through a homogeneous material under steady-state conditions, through unit area, per unit temperature gradient in the direction perpendicular to a surface.

9. The next step is electrical installation. **NOTE:** An electrician must wire the ZC20 into home wiring system using No. 15 AWG (with ground wiring) as minimum in accordance with local wiring codes.

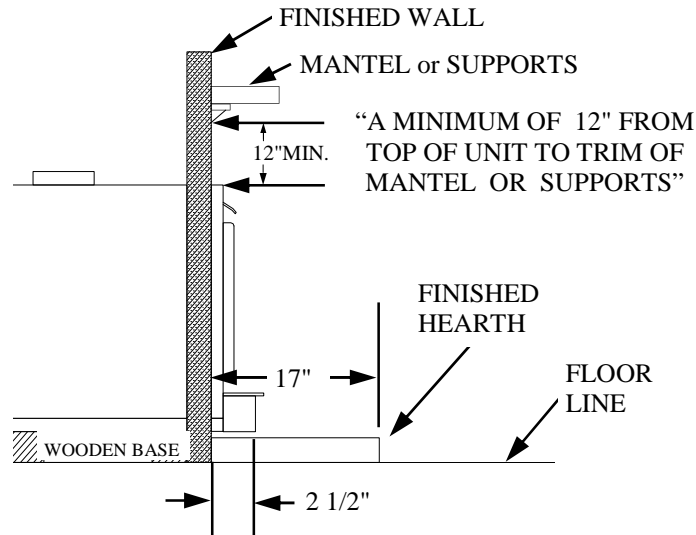


**CAUTION:** Stove is plugged into cabinet receptacle.

- Remove brass trim.
- Remove top panel and right side panel.
- Now an electrician must do the wiring.



**FIGURE 7A POWER HOOK-UP**



**FIGURE 7 B**

10. Now, finish the wall around the ZC20 using brick, rock, sheetrock, paneling or any type finishing material. **CAUTION:** Do not block any openings designed into unit.
11. Install a mantel above unit if desired. Note that a combustible mantel must be positioned at least 12" above top of ZC20 cabinet from mantel trim or supports.

# SECTION II

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## MOBILE HOME INSTALLATIONS

### PARTS REQUIREMENTS

#### Listed NEW BUCK CORP.

Model	Part Description/Part #
ZC20	Zero clearance cabinet assembly with Model 20 fireplace installed New Buck Firestop Radiation Shield # PA 6FRS20

#### UL Listed and Factory Approved Chimney Systems

	Description
Simpson Dura Vent	- 6" 2100° HT Type "DP" Chimney
Security	- 6" "ASHT" High Temp Chimney
Selkirk Metal Bestos	- 6" Model SSII Type HT Chimney
Metal Fab	- 6" 2100° HT Chimney

**CAUTION:** Read through all of these instructions carefully. Follow approved Chimney Manufacturer's Installation exactly. Failure to install Cabinet Fireplace, Stove and Chimney as described in instructions will void manufacturer's warranty and may have an effect on your Homeowner's Insurance. A major cause of chimney related fires is failure to maintain required clearances (air spaces) to combustible materials. It is of utmost importance that these parts be installed only in accordance with these instructions.

The Zero-Clearance cabinet and Model 20 (hereafter referred to as the ZC20) is designed for installation in a family dwelling, where minimum clearance is desired.

### INSTALLATION PRECAUTIONS

The following precautions are mandatory for a safe installation:

- A. Compliance with local building codes and regulations is mandatory.
- B. Be careful not to damage unit in handling and unpacking component parts and accessories.
- C. A UL Listed and Approved Chimney System is to be used and vented to the outside of the building. (See chimney list above.)
- D. The chimney must extend a minimum of 3' above highest point where it penetrates roof (3' above a flat roof or up to 2 1/2 pitch roof) and chimney must extend a minimum of 2' higher than any portion of building within 10' of chimney. The minimum height is 12'. A 2" clearance must be maintained between the chimney and any combustible materials at all points.
- E. A rain cap must be used to terminate the chimney to prevent down-draft.

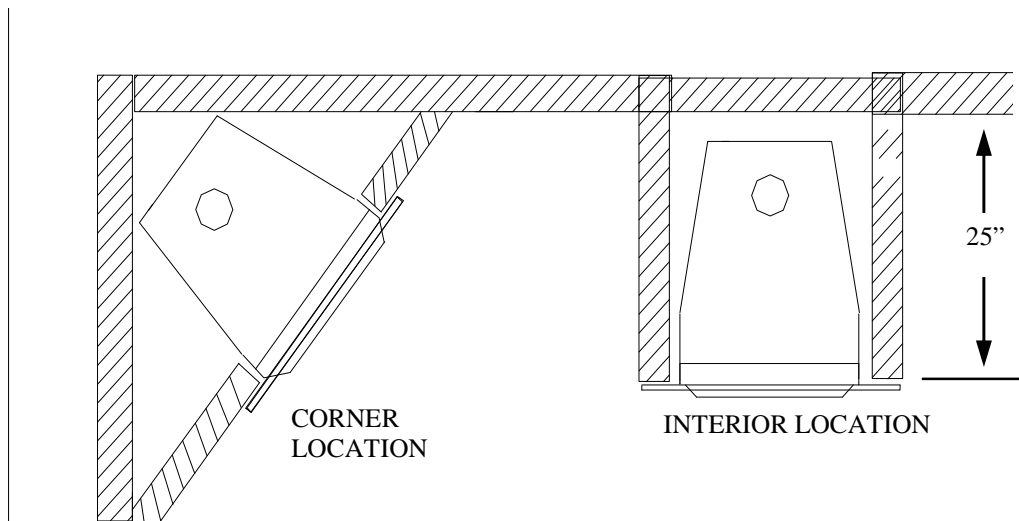
- F. DO NOT build a fire directly inside the ZC20. It is designed solely for housing the Model 20.
- G. **WARNING:** Do not install in sleeping room.
- H. **CAUTION:** The structural integrity of mobile home floor, wall, and ceiling/roof must be maintained.
- I. Do not connect this unit to a chimney serving another appliance.

## FRAMING CONSTRUCTION AND INSTALLATION

Except as noted, ZC20 can be installed almost anywhere you desire. There are, however, a few clearance and framing restrictions that must be followed. See Figure 5 and 6 to make sure that these clearance restrictions are met. It is much wiser to place your ZC20 correctly at start of the installation than to be forced to relocate it after much of work is done.

You must ensure that the floor is of adequate strength to accept load of this unit. If inadequate, floor will require additional support, such as bracing. **NOTE:** A wooden base constructed of plywood or 2"x4" boards is required in order to get proper clearance above extended hearth (millboard, rock, stone, etc.)

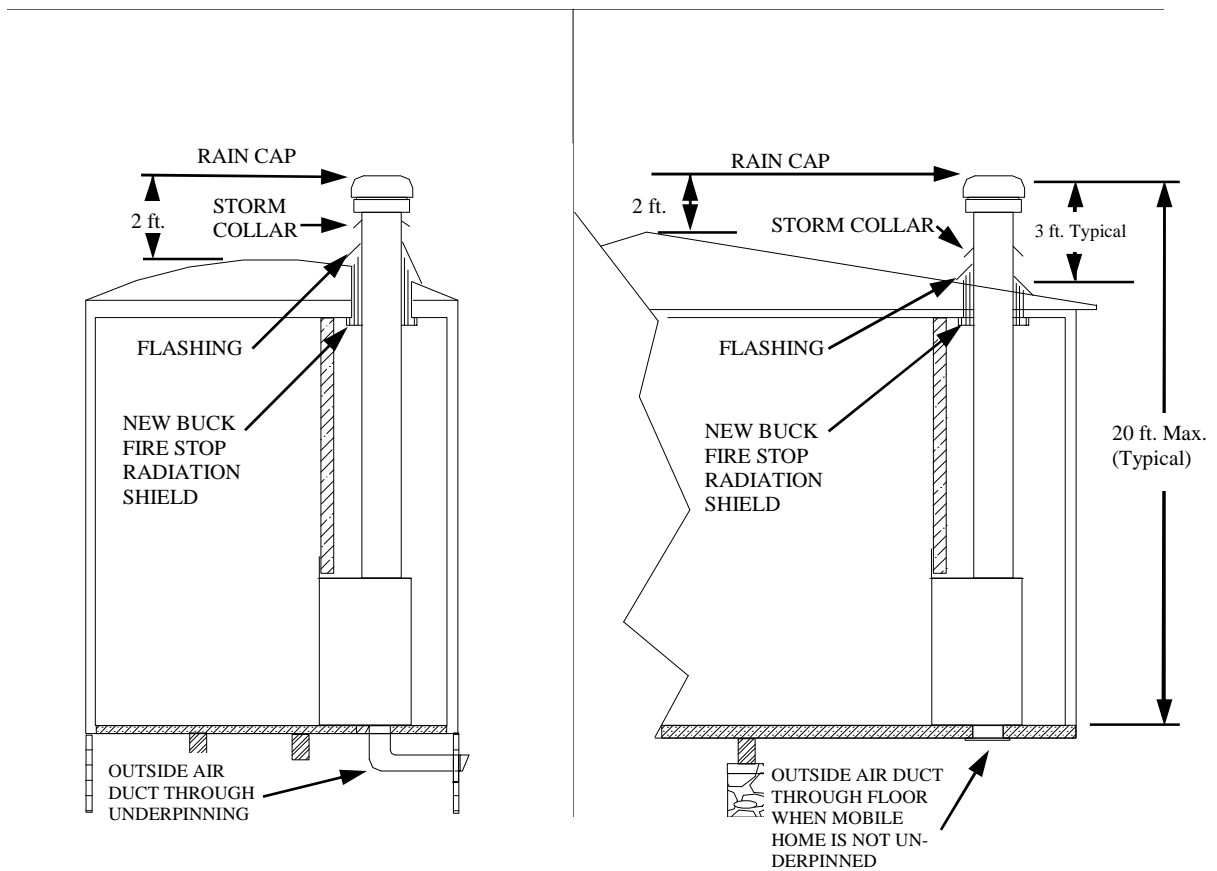
Where cabinet is to be placed, a 4 1/4" diameter hole with a 2 1/8" radius from center line must be cut through floor. Outside air duct kit #PP 70075-01 is to be installed. (See Figure 9).



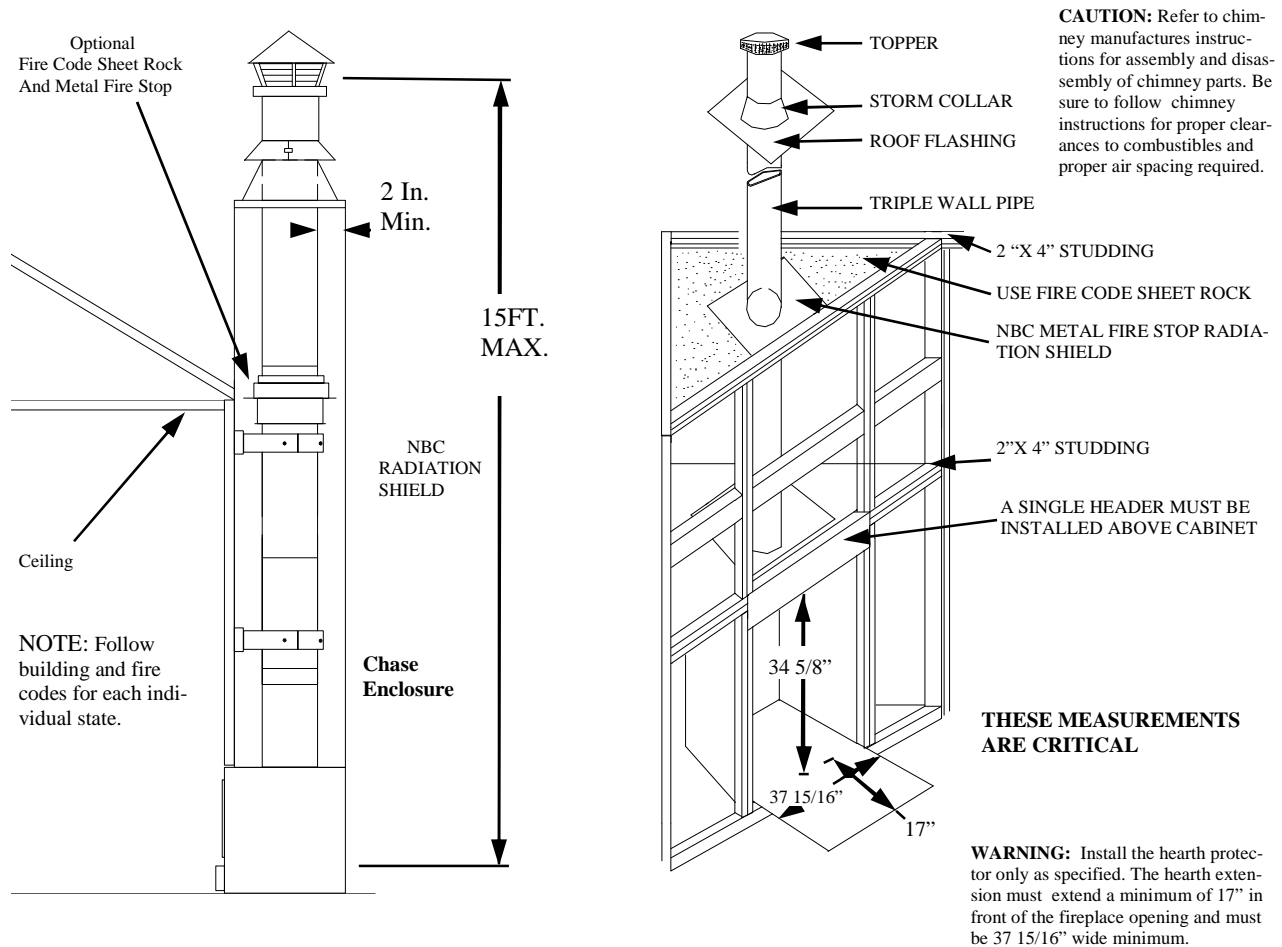
**FIGURE 8**

1. Thoroughly clean area where unit will be placed. Remove any carpeting/padding from area where ZC20 will be installed.
2. Layout location on floor for ZC cabinet. **NOTE:** Maintain 3/4" clearance between rear of cabinet and combustible material.
3. Layout for hearth extension preparation and removal of carpet and padding . Where cabinet is to be placed, a 4 1/4" diameter hole with a 2 1/8" radius from center line must be cut through floor. Outside air duct kit # PP 70075-01 is to be installed. (See Figure 9).
4. Next, a sheet metal safety shield is placed 1 1/2" under front of cabinet. It must extend out under floor protector. Drop a plumb line, locate and mark point on ceiling directly over center of ZC20 chimney adapter. After locating center of hole, install firestop spacer per chimney manufacturer's instructions.

5. Obtain Listed and Approved Chimney Installation instructions and follow exactly.
  - a) Obtain starter section of pipe and install on ZC20 cabinet. It may be necessary to crimp inside of starter pipe to ease installation into ZC20 cabinet.
  - b) Obtain two short sheet metal "ell" brackets and sheet metal screws provided with ZC20 and secure starter section of pipe to ZC20 cabinet.
  - c) Add applicable lengths of chimney extending through roof until following conditions are met:
    1. The chimney must extend a minimum of 3' above highest point where it penetrates roof.
    2. The chimney must extend a minimum of 2' higher than any portion of building within 10' of chimney but not to exceed 15' above hearth.
  - d) Install the flashing, storm collar and chimney cap as indicated in manufacturer's installation instructions.
6. The ZC20 Cabinet is now ready for framing as follows:
  - a) Frame the ZC20 using 2"x4" studs or local building code framing. Some minor framing restrictions are required:
    1. Adjacent side walls must be at least 17" from outer edge of ZC20 trim panel.
    2. The overall opening dimensions must be at least 37 15/16" wide and 34 5/8" high.
  - b) 2"x4" framing above unit must be turned flat. This allows proper clearance from framing to chimney (2" minimum). (See Figure 10).



**FIGURE 9**



**FIGURE 10 CHASE ENCLOSURE AND CORNER LOCATION FRAMING**

7. Next construct hearth extension out of non-combustible inorganic building materials as follows:
  - a) The hearth extension must extend 17" in front of rough framed opening on the ZC20.
  - b) The hearth extension width must be at least 37 15/16".
  - c) The hearth extension must be made of brick 2" thick, a listed "Hearth Extension" or "Floor Protector" or a hearth extension made of non-combustible inorganic material with a K\* factor of:

$$K = 2.5 \text{ BTU } ((\text{HR}) (\text{ft}^2) (\text{°F}/\text{in.}))$$

## ALTERNATE FLOOR PROTECTORS MATERIALS

With floor protector or hearth extension material specified as one layer of 2" thick brick with a K\* factor of 5.0, you may use alternate materials as long as K\* factor (s) is calculated as follows:

Formula: Required thickness = (K of alternate material/K of millboard) X (thickness of millboard)

Example: An alternate inorganic non-combustible millboard with a K of .9375 would require a thickness as follows:

$$\begin{aligned} \text{Required thickness} &= .9375.0^{\circ} \times 2 \text{ inch} \\ &= 3/8 \text{ inch} \end{aligned}$$

## K Factors of Alternate Materials:

Material	K	Required Thickness
Ceroform 126	.21	1/8"
Limestone	8.0	3.2"
Concrete	8.0	3.2"
Sandstone	13.0	5.2"
Marble	18.0	7.2"

Hearth extension or floor protector thickness above four (4) inches is generally not acceptable due to cost, floor load capacity and look. The alternate we recommend is using Ceroform No. 126 millboard 1/8" thick minimum and putting any type decorative brick or stone (any thickness) on top of it.

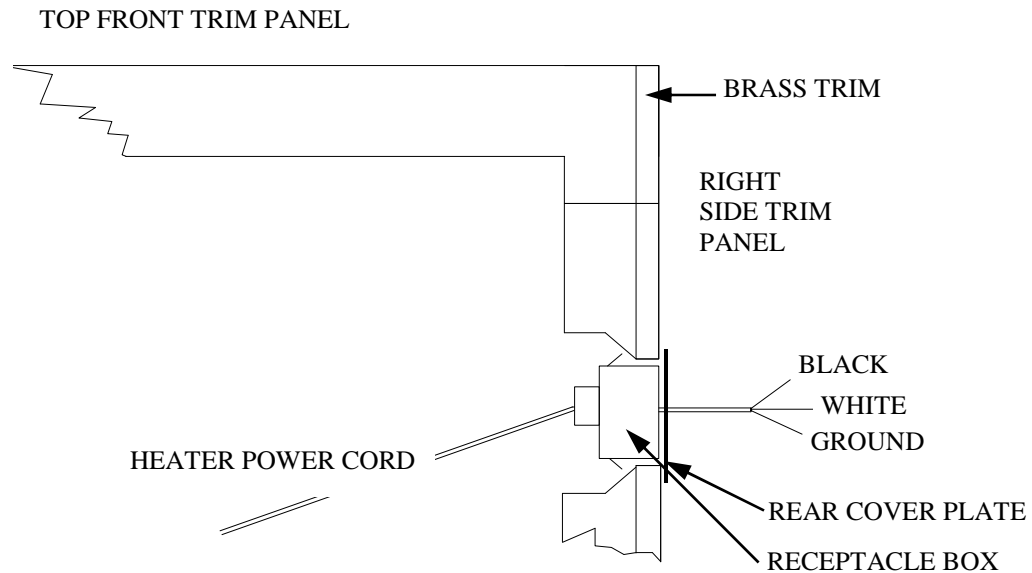
\*The K\* factor represents thermal conductivity of a material and is the time rate of heat flow through a homogeneous material under steady-state conditions, through unit area, per unit temperature gradient in direction perpendicular to a surface.

- The next step is the electrical installation. **NOTE:** An electrician must wire the ZC20 into home wiring system using No. 15 AWG (with ground wiring) as minimum in accordance with local wiring codes.



**CAUTION:** Stove is plugged into cabinet receptacle.

- Remove brass trim.
- Remove top panel and right side panel.
- Now an electrician must do wiring.



**FIGURE 11 POWER HOOK-UP**

- Now, finish wall around ZC20 using brick, rock, sheetrock, paneling or any type finishing material. **CAUTION:** Do not block any openings designed into unit.
- Install a mantel above unit if desired. Note that a combustible mantel must be positioned at least 12" above top of the ZC20 cabinet.
- The ZC20 and Model 20 fireplace are now ready for use. Refer to the Model 20 owners manual for operation, safety and chimney maintenance. Refer to the back of this manual for ZC20 warranty registration information.

## CLEANING THE UNIT

- A. The unit should be lightly sanded with fine sandpaper or steel wool, then repainted or touched up with high temperature black paint.
- B. If unit is located in a moist or damp location, check thoroughly for signs of condensation during times when unit is not in use.
- C. When heating season is over, unit can be cleaned out completely with a wire brush or cloth to help eliminate ash and burned wood smell.

## SAFETY PRECAUTIONS

- 1. Use smoke detectors around stove as well as in sleeping areas.
- 2. Keep a fire extinguisher rated for Class “A” fires near stove.
- 3. Check with your insurance company to be sure your policy covers installation and use of a wood burning appliance.
- 4. **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 relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on flue lining. When ignited this creosote makes an extremely hot fire.

The connector and/or chimney should be inspected at least once every two months during heating season to determine if a creosote buildup has occurred.

If creosote has accumulated, it should be removed to reduce risk of a chimney fire.

- 5. Locate furniture and any other combustibles away from stove.
- 6. Store firewood at a safe distance from stove.
- 7. **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 non-combustible floor or on ground well away from all combustible materials, pending final disposal. If ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in closed container until all cinders have thoroughly cooled.
- 8. Always exercise caution when using your fireplace. Be particularly careful when there are children around an operating fireplace.

**CAUTION:** NEVER use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or “freshen-up” a fire in fireplace. Keep all such liquids well away from stove when it is in use. All fluids of this type give off highly volatile fumes and can and WILL EXPLODE! Don’t take a chance with safety of your home and family.

# PREVENTIVE MAINTENANCE/ SAFETY PRECAUTIONS

## CHIMNEY

- A. The chimney should be cleaned as necessary to remove creosote, soot, leaves, birds' nests, etc.

### 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 relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on flue lining. When ignited this creosote makes an extremely hot fire.

The chimney connector and chimney should be inspected at least once every two months. More frequent inspection and cleaning may be necessary. Under certain conditions of use creosote build-up may occur rapidly.

Creosote is caused by low temperatures in chimney, which is controlled by operator of stove.

- B. A neglected chimney can eventually cause a draw restriction or can ignite and burn hot enough to cause damage to chimney.
- C. For proper inspection chimney should be cleaned.

## CHIMNEY CLEANING:

1. **Access**-Chimneys must be installed so that access is provided for inspection and cleaning.
2. **When to Clean**-The chimney should be inspected at least once every two months during heating season to determine if creosote or soot has built up. Check spark arrestor screens every 2-4 weeks. If creosote or soot has accumulated, it should be removed to reduce risk of chimney fire.
3. **How to Clean**-Have your chimney cleaned by a professional chimney sweep if you have doubts about your ability to clean it, using a plastic, wood, or steel brush. Do not use a brush that will scratch the stainless steel liner of your chimney. Scrub spark arrestor with a wire brush.

To remove chimney cap for cleaning, unscrew four screws that attach the cap's support legs to cap base. The top cleanout cap can be removed once screws are unscrewed. Remember to replace screws when you are through cleaning chimney.

4. **No Chemical Cleaners**-Do not use chemical chimney cleaners. Their use does not eliminate need for mechanical cleaning and they may be highly corrosive.
5. **In Case of Fire**-If a flue fire occurs, close all appliance draft openings and call your Fire Department. Do not use chimney again until it is inspected for possible damage.
6. **Chimney Protection**-Painting. To increase chimney life, coat all exterior metal parts with high temperature rust-proof paint. This is highly recommended, particularly in areas near the ocean. Wash the metal with a vinegar and water solution before painting.

**NEW BUCK CORPORATION (NBC)  
“LIMITED WARRANTY” FOR NBC RELATED PRODUCTS**

**PLEASE READ THIS WARRANTY CAREFULLY  
PRODUCTS COVERED**

This warranty covers the new heating unit so long as it is owned by the original purchaser, including optional and standard accessories purchased at the same time, subject to terms, limitations, and conditions herein set out.

**PRODUCTS NOT COVERED**

This warranty does not cover the following:  
Glass, Refractory material or firebrick, Gaskets.

This Warranty will not cover any damage and/or failure caused by abuse or improper installation of the Products Covered.

**WARRANTY TIME PERIODS**

**(A) Period I**

For one (1) year from the date of purchase, NBC will replace or repair, at its option, any part defective in materials or workmanship. The costs of parts only are included. The customer pays any labor or transportation charges required.

**Thereafter**

**(B) Period II**

For the period after the first year from date of purchase and extending for five (5) years as long as related product is owned by the original purchaser, NBC will repair or replace, at its option, any part defective in materials or workmanship, with the exception of: electrical motors, wiring, switches and components; optional and standard accessories; and all parts not permanently attached to heating unit. Parts not permanently attached to heating unit are defined as those items designed to be removed from unit, including those removable with common hand tools. The cost of parts only are included. The customer pays any labor or transportation charges required.

**PROCEDURE**

Should you feel that your **heater** is defective, you should contact any NBC dealer for the name of your nearest authorized heater service representative, who will instruct you on the proper procedure, depending on which Warranty Time Period (Period I or Period II) applies.

If for any reason you are dissatisfied with the suggested procedures, you may contact us in writing at:

**NEW BUCK CORPORATION  
Customer Service Department  
P. O. Box 69  
Spruce Pine, NC 28777**

**CONDITIONS AND EXCLUSIONS**

- (A) Replacement of parts may be in the form of new or fully reconditioned parts, at NBC's option.
- (B) There are no other warranties express or implied including warranties of Merchantability, Fitness for Purpose or Otherwise except those warranties expressly stated herein.
- (C) **New Buck Corporation** is not liable for indirect, incidental or consequential damages in connection with use of the product including any cost or expense of providing substitute equipment or service during periods of malfunction or non-use. Some states do not allow exclusion of incidental or consequential damages, so the above exclusion may not apply to you.
- (D) All warranty repairs under this warranty must be performed by an authorized Buck Stove service representative. Repairs or attempted repairs by anyone other than an authorized service representative are not covered under this warranty. In addition, these unauthorized repairs may result in additional malfunctions, the correction of which is not covered by warranty.

**OTHER RIGHTS**

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

**OWNER REGISTRATION CARD**

The attached Owner Registration Card must be completed in its entirety and mailed within 30 days from date of purchase or from date of installation, if installed by a factory certified installer, to New Buck Corporation, in order for warranty coverage to begin.

**PLEASE NOTE:** The Owner Registration Card must contain the Authorized Dealer Code Number and Certified Installer's number (if applicable) for warranty coverage to begin.

To be completed by selling distributor or dealer for customer:

**OWNER REGISTRATION CARD**

Name: \_\_\_\_\_  
(Last) (First)

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

CUSTOMER EMAIL: \_\_\_\_\_

Model 20 \_\_\_\_\_ Insert: \_\_\_\_\_ Residential: \_\_\_\_\_ Mobile Home: \_\_\_\_\_

Model 20 \_\_\_\_\_ Freestanding: \_\_\_\_\_ Residential: \_\_\_\_\_ Mobile Home: \_\_\_\_\_

Model 20ZC/20 \_\_\_\_\_ Residential: \_\_\_\_\_ Mobile Home: \_\_\_\_\_

Serial No. \_\_\_\_\_

Date Of Installation: Day: \_\_\_\_\_ Month: \_\_\_\_\_ Year: \_\_\_\_\_

Installer's Name: \_\_\_\_\_ Certification No.: \_\_\_\_\_

Dealer Name: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Dealer No.: \_\_\_\_\_

Distributor Name: \_\_\_\_\_

Distributor No.: \_\_\_\_\_

Is this appliance customer self-installed? Yes \_\_\_\_\_ No \_\_\_\_\_

Has appliance been completely checked out? Yes \_\_\_\_\_ No \_\_\_\_\_

Has customer been given appliance and operation orientation? Yes \_\_\_\_\_ No \_\_\_\_\_

- \_\_\_\_\_ (a) Damper/Door Vents
- \_\_\_\_\_ (b) Door-Handle
- \_\_\_\_\_ (c) Thermostat-Normal Operation
- \_\_\_\_\_ (d) Hot Surface Area
- \_\_\_\_\_ (e) Speed Control
- \_\_\_\_\_ (f) Paint-Curing
- \_\_\_\_\_ (g) Chimney Safety
- \_\_\_\_\_ (h) Rain Cap
- \_\_\_\_\_ (i) Wood Preparation
- \_\_\_\_\_ (j) Installation Instructions & Clearances (Self-Installation)

Has customer been given **WARRANTY REVIEW**? Yes \_\_\_\_\_ No \_\_\_\_\_

CUSTOMER SIGNATURE \_\_\_\_\_

New Buck Review

DATE \_\_\_\_\_

Mail To:

**New Buck Corporation**  
P.O. Box 69  
200 Ethan Allen Drive  
Spruce Pine, NC 28777