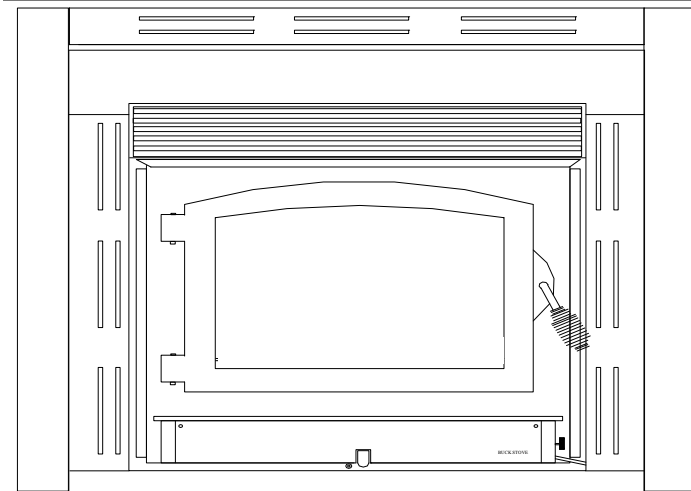


# MODEL 51ZC / MODEL 21ZC ZERO CLEARANCE CABINET

**FOR USE WITH FIREPLACE MODELS 51, T-51, 74, T-74 and 21 ONLY. MAY BE INSTALLED IN RESIDENTIAL AND MOBILE HOME.**

Contact your ins

stallation inspection.



## WARNING

**Do not attempt to build a fire in this product. It has been designed and safety tested for use only with Models 51,T-51,74,T-74 manufactured by NEW BUCK CORPORATION. Read and follow the installation and operating instructions for this model.**

## 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 HAVE JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ect.) SHOULD BE CONSULTED 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,

SPRUCE PINE, N.C. 28777

Revised January 2013

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



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## SECTION I

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# RESIDENTIAL INSTALLATION

Listed NEW BUCK CORPORATION:

**Model**

**51ZC** Zero Clearance Cabinet Assembly For Use With Models 51, T-51, 74, and T-74 Only.

**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 the 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 the utmost importance that these parts be installed only in accordance with these instructions.

**“DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.”**

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

**“DO NOT BUILD A FIRE DIRECTLY INSIDE THE ZC CABINET. IT IS DESIGNED SOLELY FOR HOUSING THE MODELS 51, T-51, 74, T-74 STOVES.”**

**“WARNING -THIS FIREPLACE HAS NOT BEEN TESTED WITH AN UNVENTED GAS LOG SET. TO REDUCE THE RISK OF FIRE OR INJURY, DO NOT INSTALL AN UNVENTED GAS LOG SET INTO THIS FIREPLACE.”**

**CAUTION:**

“Never use gasoline, gasoline - type lantern fuel , kerosene, charcoal lighter fluid, or similar liquids to start or ‘freshen up’ a fire in this fireplace. Keep all such liquids well away from the fireplace while it is in use,”

“Disposal of Ashes:

Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.”

“Do Not Use Grate or Elevate Fire-Build Wood Fire Directly on Hearth in Stove.”

For operation and use of air, and damper controls, see stoves Owners Manual for use of air, and damper control.

For operation and use of electrical assemblies, see stoves Owners Manual for use of electrical assemblies

**“USE SOLID WOOD FUEL ONLY.”.**

The Zero-Clearance Cabinet and the Models 51, T-51, 74, and T-74 Installed (hereafter referred to as the 51ZC) is designed for installation in a family dwelling, where minimum clearance is desired.

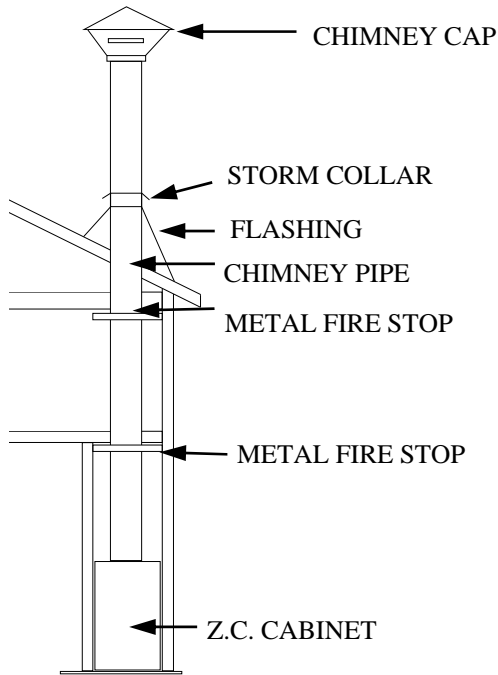
## INSTALLATION PRECAUTIONS

The following precautions are mandatory for a safe installation.

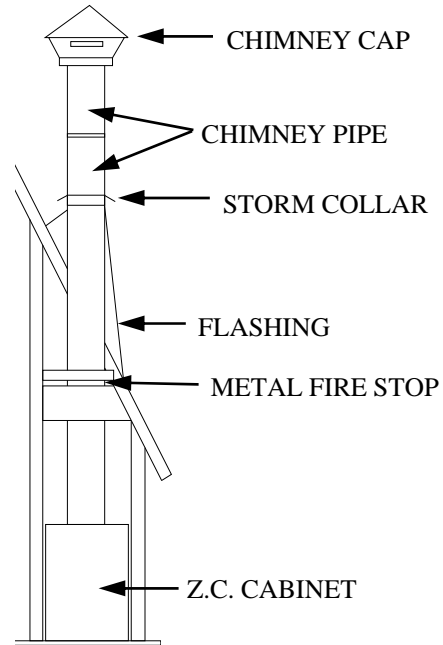
- (A) Compliance with local building codes and regulations is mandatory.
- (B) Be careful not to damage the unit in handling and unpacking component parts and accessories.
- (C) **Model 51zc Cabinet, use only 6"listed 2100° UL 103 HT TYPE Chimney with the 51zc Cabinet (ONLY AFTER) one of the following new Buck Corporation Stoves 51, T-51, 74, T-74, has been installed into the 51ZC Cabinet.**
- (D) The chimney must extend a minimum of three feet (3') above the highest point where it penetrates the roof (three feet (3') above a flat roof or up to a 2 /12 pitch roof ), and the chimney must extend a minimum of two feet (2') higher than any portion of the building within ten feet (10') of the chimney. The minimum height is fourteen feet (14'). The maximum height is thirty feet (30'). A two-inch (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. Use the factory approved rain cap which is approved for the type chimney being installed.
- (F) **“DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.” DO NOT USE A FLUE INTENDED FOR A GAS APPLIANCE.”DO NOT CONNECT TO ANY DISTRIBUTION DUCT OR SYSTEM.”**

## SELECTING A CHIMNEY INSTALLATION AND LOCATION

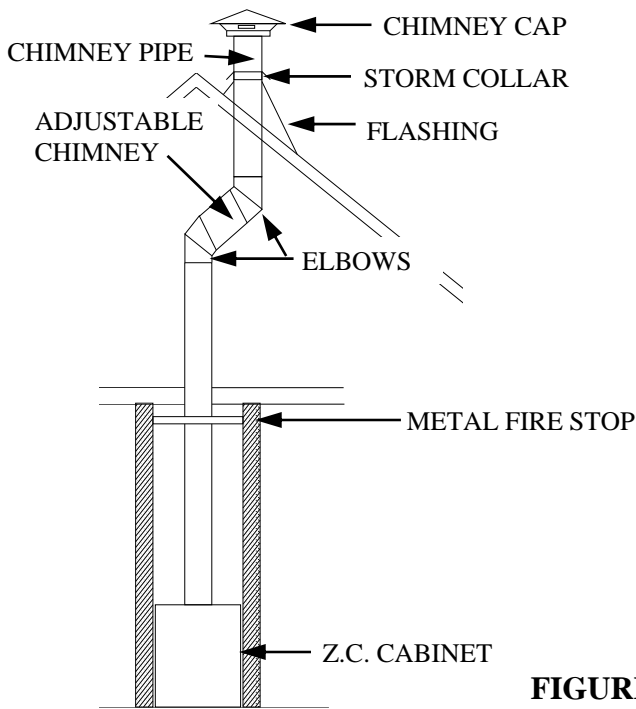
There are two basic types of chimney installation possible with the 51ZC; straight up through a ceiling, or a chase installation, either outside or inside. These are normally used as follows:



**FIGURE 1 THROUGH CEILING**



**FIGURE 2 THROUGH CATHEDRAL CEILING**



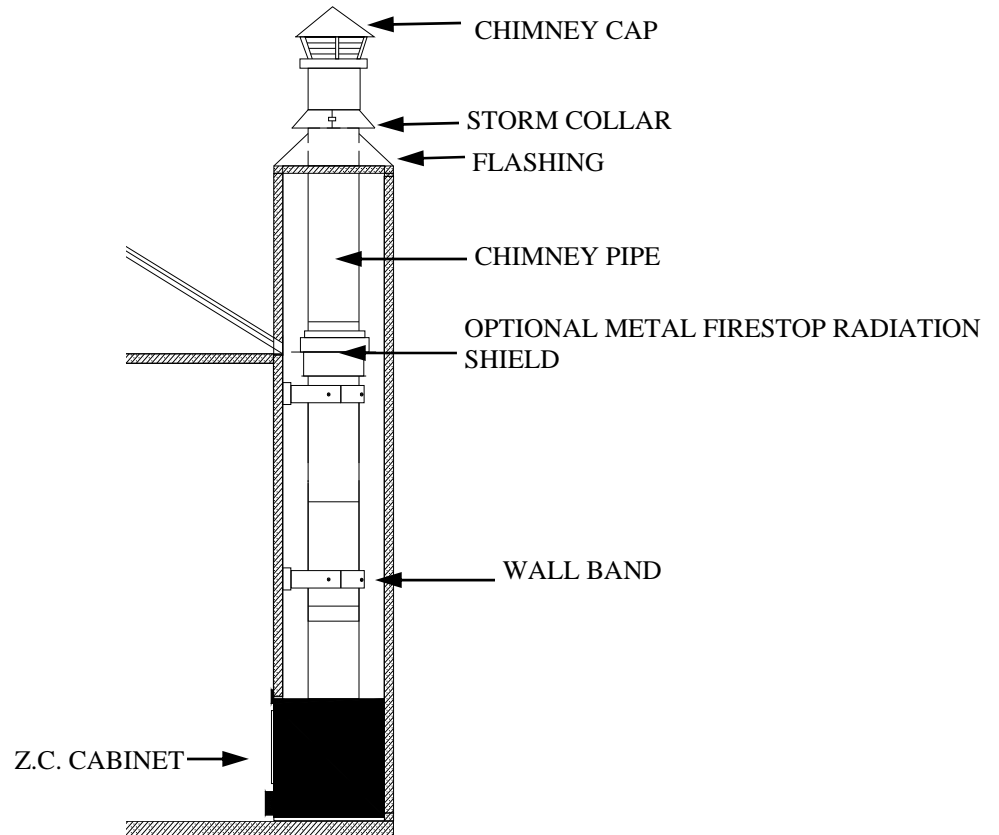
**FIGURE 3 OFFSET TO CLEAR OBSTRUCTION**

**WARNING:** Only one pair of 15 degree or 30 degree offsets can be used.

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

- A. Straight up through ceiling (See Page 4 Figures 1 and 2). This is a simple installation normally used when installing a Model 51ZC inside an existing room, and in some cases, in new construction. Refer to (Page 4 Figure 3) if an offset to clear an obstruction is needed.

**WARNING:** Only one pair of 15 degree or 30 degree offsets can be used.



**FIGURE 4 EXTERIOR WALL CHASE**

- B. Exterior Chase Installation: (See Figure 4). A chase is an enclosure built specifically to house a chimney. The interior of a chase is open from Model 51ZC to the roof, eliminating the need to cut through ceilings and the roof. Normally, a chase is built through the wall, and the Model 51ZC is located in the bottom of the chase, with the front of the unit flush with the interior wall. Chases are commonly veneered on the outside with brick, stone or wood to give the 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 the chimney manufacturer's instructions prior to building, as there are specific requirements for bracing a free standing flue that must be planned for. There are also occasions where offsets are used within a chase to accommodate unusual building designs, or to locate the Model 51ZC further into a room.

# Floor Protection: or Hearth Protector

Floor protection 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:

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

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

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

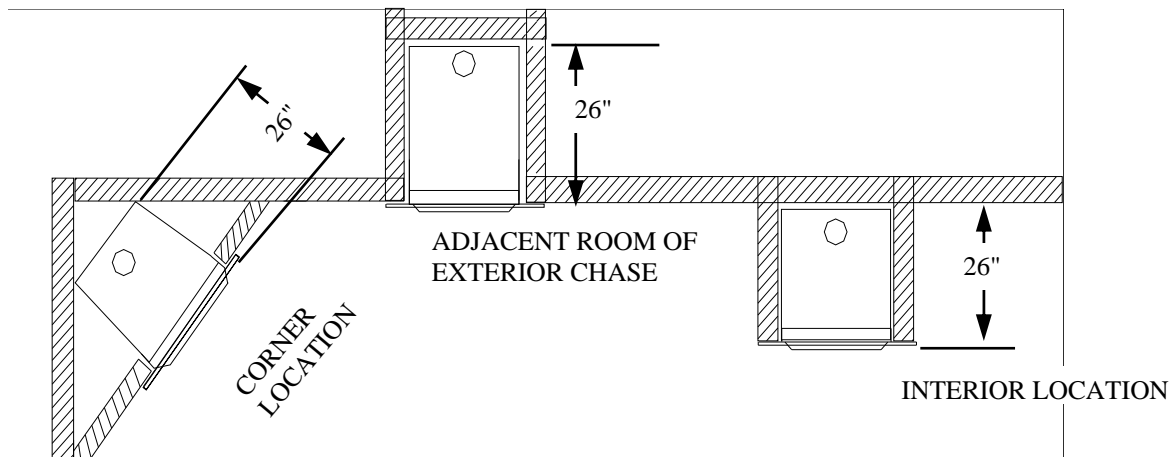
Install in accordance with 24 CFR, Part 3280 (HUD).

# FRAMING CONSTRUCTION AND INSTALLATION

Except as noted, the 51ZC can be installed almost anywhere you desire. There are, however, a few clearance and framing restrictions that must be followed. (See Page 10 Figure 9), and (Page 11 Figure 10) to make sure that these clearance restrictions are met. It is much wiser to place your Model 51ZC correctly at the start.

You must ensure that the floor is of adequate strength to accept the load of this unit. If inadequate, the floor will require additional support, such as bracing. **NOTE:** A wooden base constructed of plywood or 2" x 4" boards is required in order to get proper clearance above the extended hearth (millboard, rock stone, etc.).

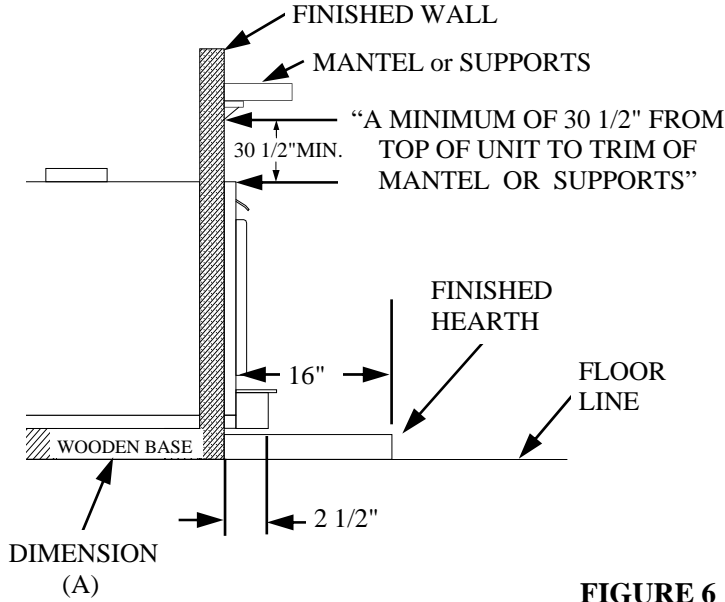
Good planning is essential for a satisfactory installation, therefore, at this point you should have decided where the 51ZC is to be located and the route the chimney will follow to the roof—straight up or chase. If you cannot decide the best route, contact your Dealer for assistance with the planning.



**FIGURE 5**

Above (Figure 5) are framing location examples with depth dimensions for some typical configurations. These are finished measurements so install accordingly.

**CONTINUED FRAMING AND INSTALLATION**



**FIGURE 6**

The base for the Model 51ZC must be level with or slightly higher than the “finished” hearth height dimension (A) Figure 6.

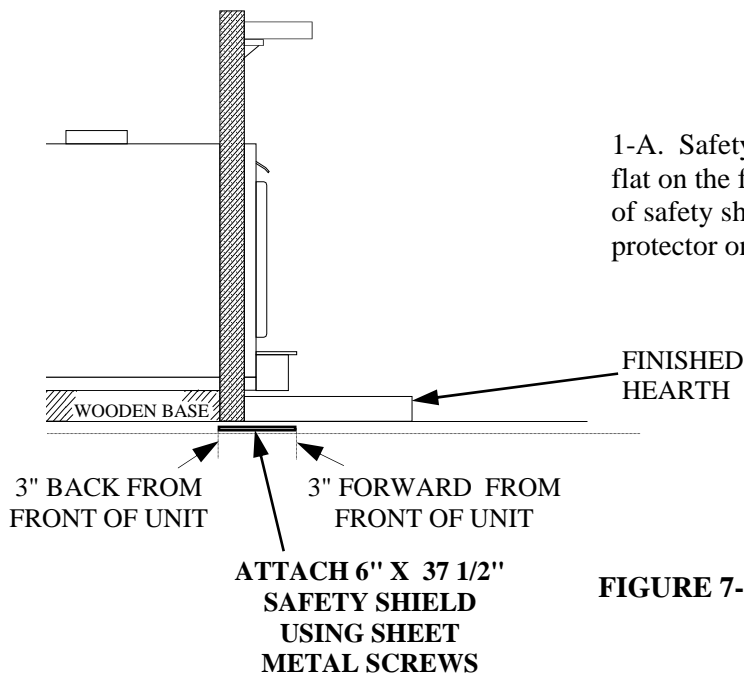
Framing must be accomplished after the Model 51ZC is set in place. The chimney can be installed after framing, but installation is considerably more difficult and in some cases, impossible. Therefore, it is recommended that the chimney be installed prior to framing when a choice exists. Figure 5 on the previous page shows framing location examples with depth dimensions for some typical configurations. These are finished measurements so install accordingly.

**NOTE:** Before framing, combustible floor coverings (carpets, tiles, etc.) must be removed to outer dimensions of the unit framing, including the 16" x 37 1/2" area for the hearth extension.

**WARNING:** Install the hearth protector only as specified. The hearth extension must be a minimum of 16" in front of the stove door opening and must be 37 1/2" wide minimum. (See page 6)

**NOTE:** No floor protector is needed directly under the Model 51ZC Cabinet, only the hearth protector. (See page 6)

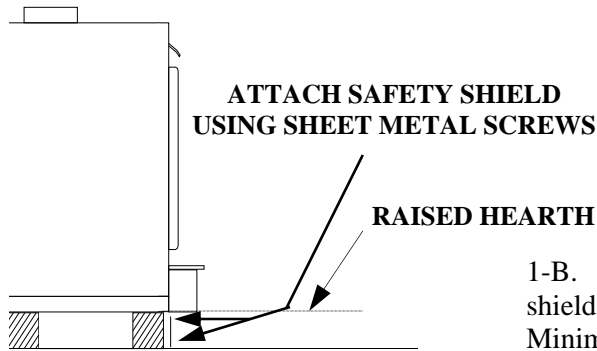
**NOTE: “Safety Shield for hearth extension must be used on installation.”**



1-A. Safety shield for millboard hearth extension for flat on the floor installation. Place (3") three inches of safety shield under the ZC Cabinet. Place hearth protector on top of safety shield.

**FIGURE 7-A**

**CONTINUED FRAMING AND INSTALLATION**



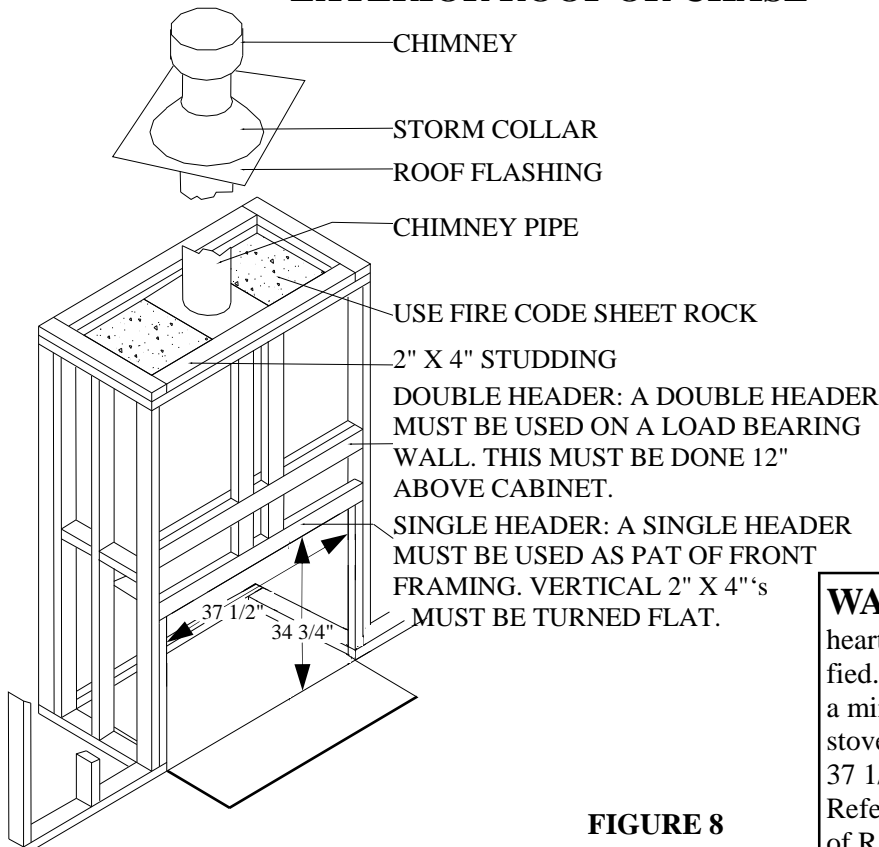
**NOTE:** For raised hearth, safety shield must be under cabinet (See Page 8, Figure 7-A). Also shield must cover any face of combustible material supporting cabinet where hearth connects. (See Figure 7-B)

1-B. Safety shields for brick or rock hearth: cut vertical shield to fit installation height as needed. Use 26 GA. Minimum metal being sure to cover any combustibles on the base area.

**FIGURE 7-B**

2. Set the Model 51ZC unit in place and attach the safety shield to the unit as shown in (Page 8 Figure 7-A) and Figure 7-B. You must use a non-combustible material or a UL listed floor protector R-Value 0.6 .(See Page 6) A minimum of 16" in front of stove door opening and 37 1/2" the width of the cabinet (See Figure 8)
3. Frame the ZC Cabinet using 2" x 4" studs or local building code framing. Some minor framing restrictions are required: Mantel Height (See Page 8 Figure 6 )
  - (A) Adjacent side walls must be at least 16" from the outer edge of the Cabinet trim panel.
  - (B) The overall opening dimensions must be at least 37 1/2" wide and 34 3/4" high and 26" in depth.
  - (C) 2"x 4" framing above the unit must be turned flat. This allows proper clearance from framing (2" minimum). (See Page 5 Figure 4.)

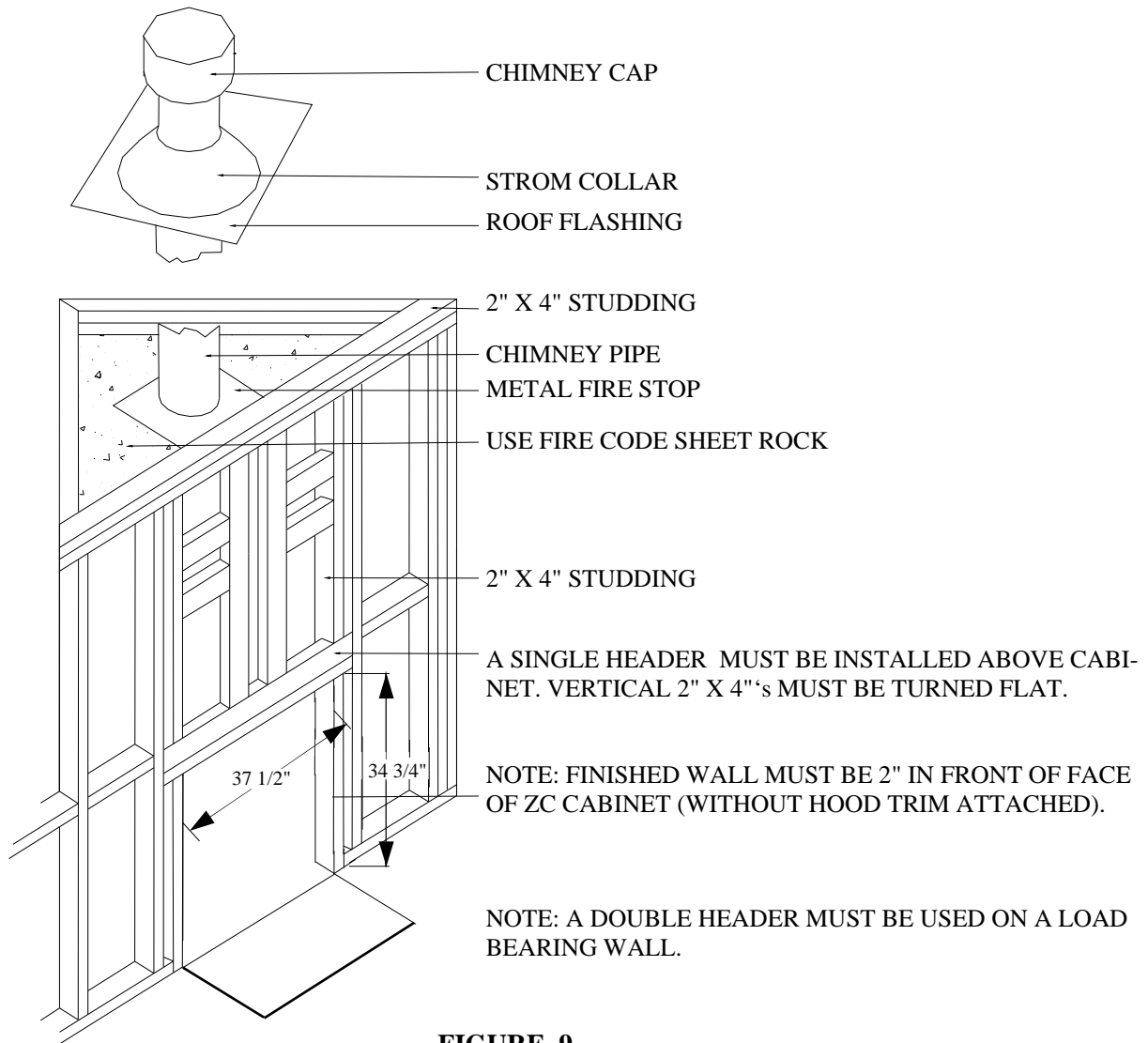
**EXTERIOR ROOF OR CHASE**



**WARNING:** Install the hearth protector only as specified. The extension must extend a minimum of 16" in front of the stove door opening and must be 37 1/2" wide minimum. Refer to (Page 6) for calculation of R, and K values.

**FIGURE 8**

## CORNER LOCATION FRAMING



**NOTE:** No floor protector is needed directly under the Model 51ZC Cabinet, only the hearth protector is needed.

**WARNING:** Install the hearth protector only as specified. The extension must extend a minimum of 16" in front of the stove door opening and must be 37 1/2" wide minimum. Refer to (Page 6) for calculation of R, and K values.

## CONTINUED FRAMING AND INSTALLATION

Position Model 51ZC for installation as follows:

1. Thoroughly clean the area where the unit and hearth extension will be placed. Remove any carpeting/padding from the area where the 51ZC will be installed.
2. Layout the location on the floor for the ZC cabinet .(See Page 7 Figure 5.)
3. Now place the Model 51ZC in desired location.
4. A sheet metal safety shield is placed 3" under the cabinet. It must extend out under the floor protector.
5. Now you are ready to install the chimney system for the 51ZC. 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 the point on the ceiling directly over the center of the 51ZC chimney adapter.
  - b. After locating the center of the hole, install the firestop spacer per chimney manufacturer's instructions.
6. Obtain the listed and approved chimney installation instructions and follow exactly.
  - a. Obtain the starter section of pipe and install on the 51ZC cabinet. It may be necessary to crimp the inside of the starter pipe to ease installation into the 51ZC cabinet.
  - b. Obtain the two short sheet metal "ell" brackets and sheet metal screws provided with the 51ZC and secure the starter section of pipe to the 51ZC cabinet.

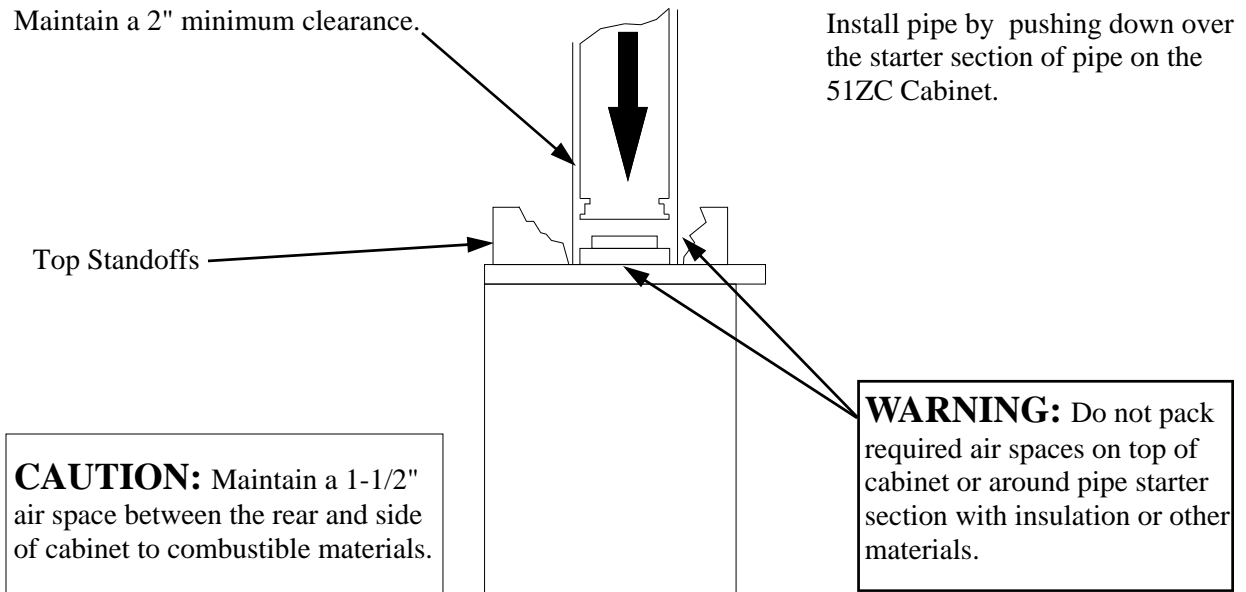


FIGURE 10

- c. Continue adding lengths of chimney until you are ready to penetrate another ceiling or the roof.
- d. Now, plumb bob the center of the ceiling or roof above the chimney and install another firestop for another ceiling penetration or follow pipe manufacturer's instructions for attic and roof penetration.
- e. Once the roof penetration is made, install the flashing.
- f. Add applicable lengths of chimney, extending through the roof until the following conditions are met:

**CONTINUED FRAMING AND INSTALLATION**

1. Chimney height is at least 12' to 15' minimum.
2. The chimney must extend a minimum of 3' above the highest point where it penetrates the roof.
3. The chimney must extend a minimum of 2' higher than any portion of the building within 10' of the chimney.
- g. Install the chimney cap and storm collar.
7. The 51ZC cabinet is now ready for framing as follows:
  - a. Frame the 51ZC using 2" x 4" studs or local building code framing. Some minor framing restrictions are required.
    1. Adjacent side walls must be at least 10" from the outer edge of the 51ZC trim panel.
    2. The overall opening dimensions must be at least 37 1/2" wide and 34 3/4" high.

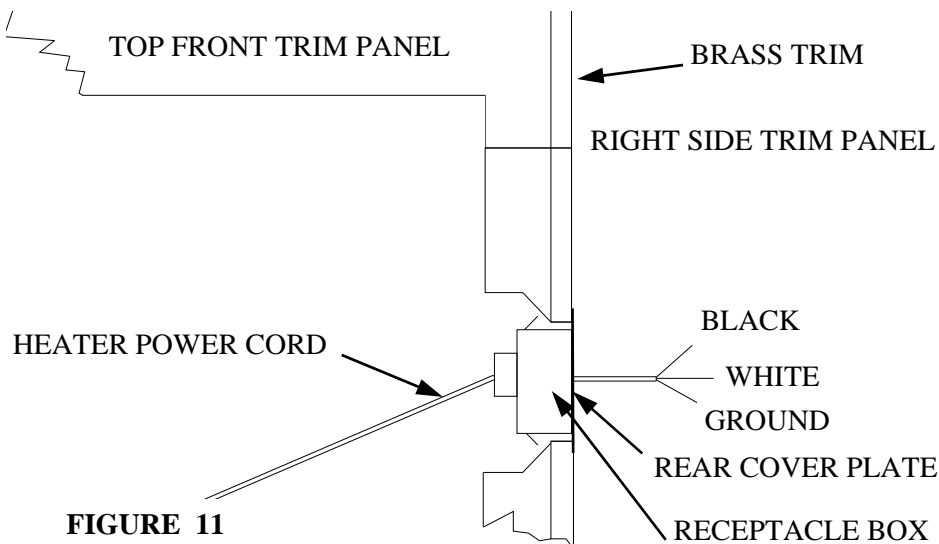
**NOTE:** Maintain 1 1/2" clearance at the side walls and rear of the cabinet and combustible material.
  - b. 2" x 4" framing above the unit must be turned flat. This allows proper clearance from framing to chimney (2" minimum). (See Page 5 Figure 4, and Page 10 Figure 9)
8. Next construct the hearth extension out of non-combustible inorganic building materials as follows:
  - a. The hearth extension must extend 16" from the stove door opening.
  - b. The hearth extension width must be at least 37 1/2".
  - c. The hearth extension must be made of brick 2" thick, or a listed "Hearth Extension" or "Floor Protector" with R- value of: R=0.6 , or a hearth extension made of non-combustible inorganic material with a K \* factor of K=2.5 BTU ( (HR)(ft<sup>2</sup>)(F/in.) (See Page 6)
9. The next step is the electrical installation. **NOTE:** An electrician must wire the 51ZC into the home wiring system using No. 15 AWG (with ground wiring) as minimum or in accordance with local wiring codes.

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

- a. Remove brass trim.
- b. Remove top panel and right side panel.
- c. Now an electrician must do the wiring.
10. Finish the wall around the 51ZC using brick, rock, sheetrock, paneling, or any type of finishing material.

**CAUTION:** Do not block any openings designed into the unit.

11. Install a mantel above the unit if desired. **NOTE** that a combustible mantel must be positioned at least 30 1/2" above the top of the stove.



## SECTION II

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### MOBILE HOME INSTALLATIONS

Listed NEW BUCK CORPORATION:

**Model**

**51ZC**

Zero Clearance Cabinet Assembly For Use With Models 51,T51,74, and 74 Only.

**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 the 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 the utmost importance that these parts be installed only in accordance with these instructions.

**“DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.”**

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

The Zero-Clearance Cabinet and the with either Models 51, T-51, 74 models, and T-74 (here after referred to as the 51ZC) 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 the unit in handling and unpacking component parts and accessories.
- (C) Any 6" chimney systems that bear the UL 103 HT Label are approved for use the model ZC51.
- (D) The chimney must extend a minimum of three feet (3') above the highest point where it penetrates the roof (three feet (3') above a flat roof or up to a 2 /12 pitch roof ), and the chimney must extend a minimum of two feet (2') higher than any portion of the building within ten feet (10') of the chimney. The minimum height is fourteen feet (14'). The maximum height is thirty feet (30'). A two-inch (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. Use the factory approved rain cap which is approved for the type chimney being installed.
- (F) **“DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.” DO NOT USE A FLUE INTENDED FOR A GAS APPLIANCE.”DO NOT CONNECT TO ANY DISTRIBUTION DUCT OR SYSTEM.”**
- (G) Do not build a fire directly inside the ZC Cabinet. It is designed solely for housing the Models 51, T-51, 74, and T-74 stoves.
- (H) **“WARNING” Do not install in a sleeping room.**
- (I) The structural integrity of the mobile home floor, wall, and ceiling/roof must be maintained.

# FRAMING CONSTRUCTION AND INSTALLATION

## FRAMING CONSTRUCTION AND INSTALLATION

Except as noted, the 51ZC can be installed almost anywhere you desire. There are, however, a few clearance and framing restrictions that must be followed. (See Page 6, Figure 5, and Page 7, Figure 6, also Figure 12) to make sure that these clearance restrictions are met. It is much wiser to place your 51ZC correctly at the start of the installation than to be forced to relocate it after much of the work is done.

You must ensure that the floor is of adequate strength to accept the load of this unit. If inadequate, the floor will require additional support, such as bracing. **NOTE:** A wooden base constructed of plywood or 2" x 4" boards is required in order to get proper clearance above the extended hearth (millboard, rock, stone, etc.). (See Page 16.)

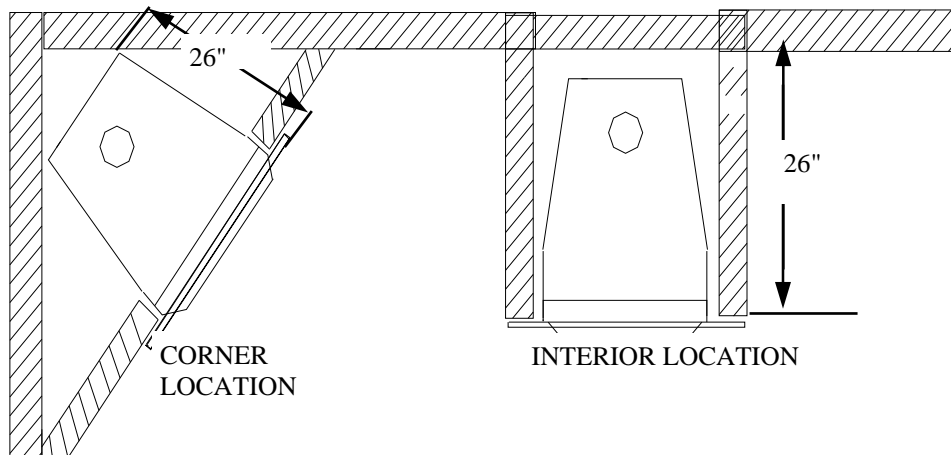


FIGURE 12

1. Thoroughly clean the area where the unit will be placed. Remove any carpeting/padding from the area where the 51ZC will be installed.
2. Layout the location on the floor for ZC cabinet.  
**NOTE:** Maintain 1 1/2" clearance between the rear of the cabinet and combustible material.

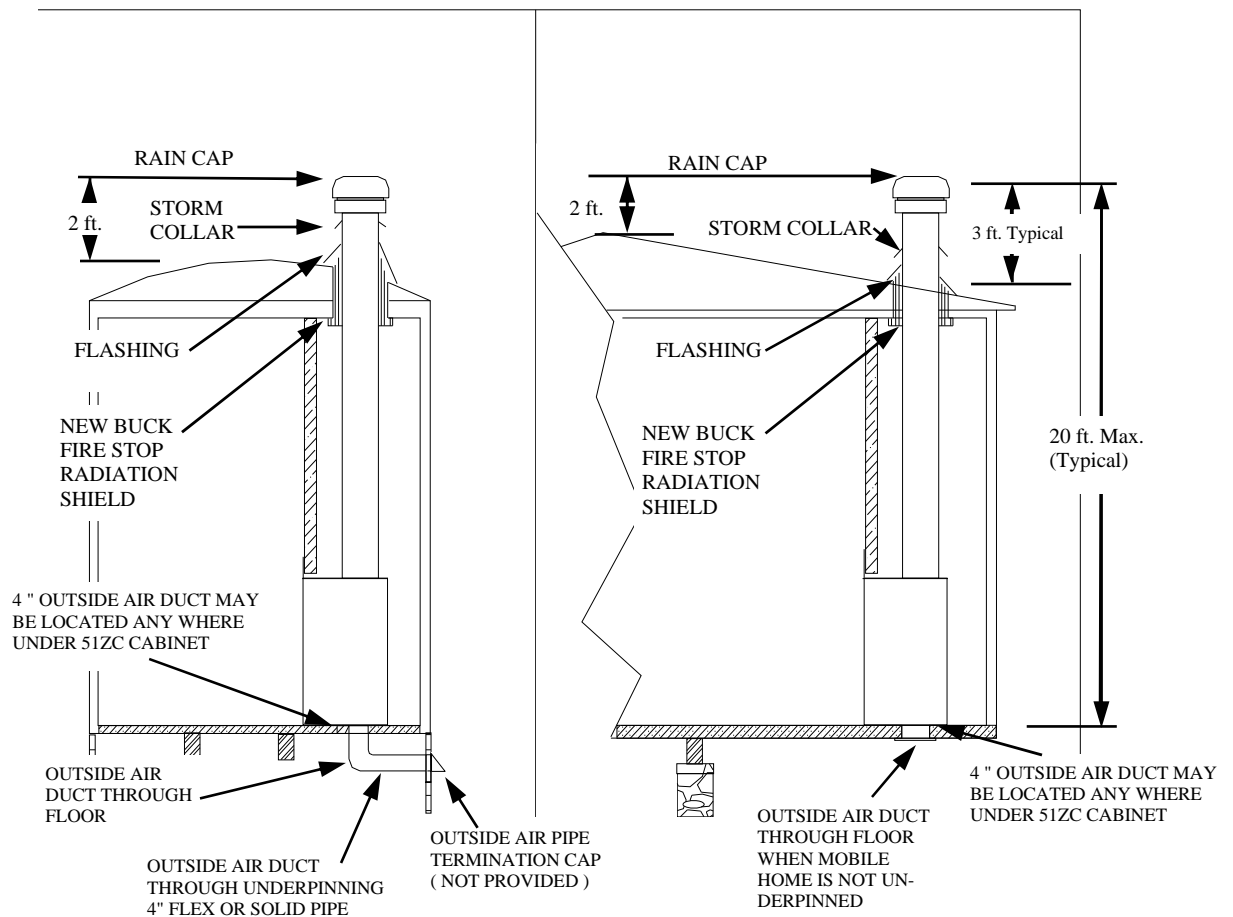
### CAUTION

**THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED.**

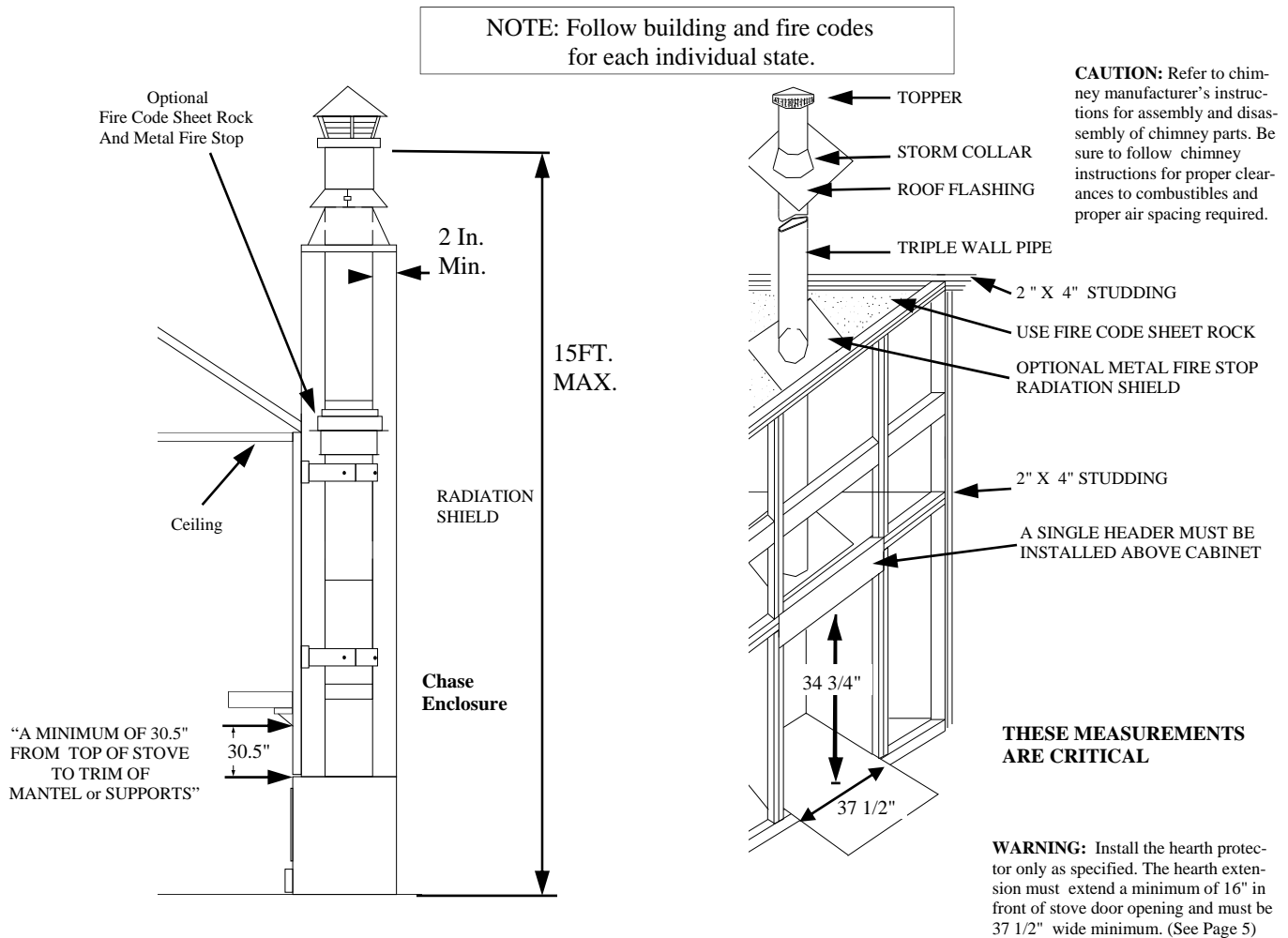
**(MOVE OPENING AND/OR REPOSITION HEATER LOCATION IF NECESSARY).**

3. Layout for hearth extension preparation and removal of carpet and padding .  
The hole for the out side air kit may be located anywhere under the 51ZC Cabinet. A 4 1/4" diameter hole with a 2 1/8" radius from center line must be cut through floor. 4" Outside air duct kit # PP70075-01 is to be installed. 4" flex or solid pipe and outside air pipe termination cap ( not provided). Slide the outside air duct down through the hole in the floor, and secure out side air duct with 4 screws (not provided).  
(See Page 15, Figure 13.)  
**NOTE:** The maximum length of the out side air pipe is determined by having to reach the same atmospheric pressure with the out side air inlet as the exhaust.  
**NOTE:** "Combustion air inlet ducts shall not terminate in attic spaces
4. Place the sheet safety shield provided with unit 1 1/2" under the front of the cabinet. It must extend out under the floor protector. Drop a plumb line, locate and mark point on ceiling directly over center of 51ZC chimney adapter. After locating the center of hole, install firestop spacer per chimney manufacturer's instructions.

5. Obtain the Listed and Approved Chimney Installation instructions and follow exactly.
  - a) Obtain the starter section of pipe and install on the 51ZC cabinet. It may be necessary to crimp the inside of the starter pipe to ease installation into the 51ZC cabinet.
  - b) Obtain the two short sheet metal "ell" brackets and sheet metal screws provided with the 51ZC and secure the starter section of pipe to the 51ZC cabinet.
  - c) Add applicable lengths of chimney extending through the roof until the following conditions are met:
    1. The chimney must extend a minimum of 3' above the highest point where it penetrates the roof.
    2. The chimney must extend a minimum of 2' higher than any portion of the building within 10' of the chimney but not to exceed 15' above the hearth.
  - d) Install the flashing, storm collar, and chimney cap as indicated in the manufacturer's installation instructions.
6. The 51ZC Cabinet is now ready for framing as follows:
  - a) Frame the 51ZC using 2"x 4" studs or local building code framing. Some minor framing restrictions are required:
    1. Adjacent side walls must be at least 10" from the outer edge of the 51ZC trim panel.
    2. The overall opening dimensions must be at least 37 1/2" wide and 34 3/4" high.
    3. Clearances from mantel, and trim to the top of stove must be a minimum 30.5" (See Page 16, Figure 14).
  - b) 2" x4" framing above the unit must be turned flat. This allows proper clearance from framing to chimney (2" minimum). (See Page 16, Figure 14).



**FIGURE 13**



**FIGURE 14 CHASE ENCLOSURE AND CORNER LOCATION FRAMING**

7. Next construct the hearth extension out of non-combustible inorganic building materials as follows:
  - a) The hearth extension must extend 16" from stove door opening .
  - b) The hearth extension width must be at least 37 1/2".
  - 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:

$$K = 2.5 \text{ BTU } ((\text{HR}) (\text{ft}^2) (\text{°F}/\text{in.})) \text{ or R-Value } R=0.6 \text{ See Page 6 for formula.}$$

## ALTERNATE FLOOR PROTECTORS MATERIALS

With the 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:  
 Required thickness = .9375.0° x 2 inch  
 = 3/8 inch

## 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.

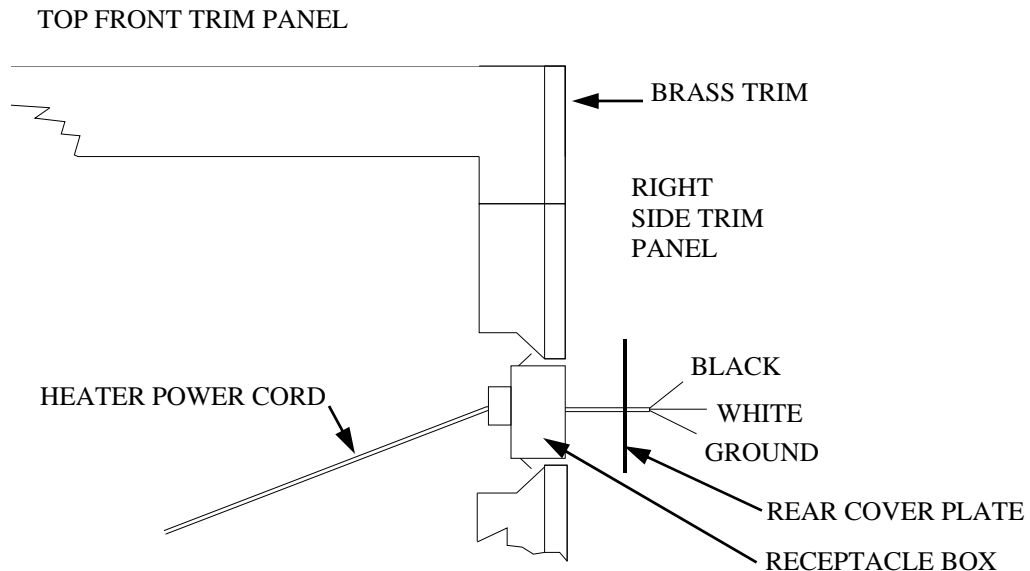
\*The K\* factor represents the thermal conductivity of a material and is the time rate of heat flow through a homogeneous material under steady-state conditions, through unit area, per unit temperature gradient in the direction perpendicular to a surface.

- The next step is the electrical installation. **NOTE:** An electrician must wire the 51ZC into the 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 15 POWER HOOK-UP**

- Finish the wall around the 51ZC using brick, rock, sheetrock, paneling, or any type finishing material. **CAUTION:** Do not block any openings designed into the unit.
- Install a mantel above the unit if desired. Note that a combustible mantel must be positioned at least 30 1/2" above the top of the stove.
- The 51ZC and Model 51,T51,74 or T-74 fireplace are now ready for use. Refer to the stove owners manual for operation, safety, and chimney maintenance. Refer to the back of this manual for 51ZC 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 the unit is located in a moist or damp location, check thoroughly for signs of condensation during times when the unit is not in use.
- C. When the heating season is over, the 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 the stove as well as in sleeping areas.
- 2. Keep a fire extinguisher rated for Class “A” fires near the stove.
- 3. Check with your insurance company to be sure your policy covers the 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 the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.

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

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

- 5. Locate furniture and any other combustibles away from the stove.
- 6. Store firewood at a safe distance from the 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 the ground well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.
- 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 the fireplace. Keep all such liquids well away from the 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 the safety of your home and family.

# PREVENTIVE MAINTENANCE/ SAFETY PRECAUTIONS

## CHIMNEY

A. The chimney should be cleaned as necessary to remove creosote, soot, leaves, bird's 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 the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.

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 the chimney, which is controlled by the operator of the stove.

B. A neglected chimney can eventually cause a draw restriction or can ignite and burn hot enough to cause damage to the chimney.

C. For proper inspection the 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 the 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 the 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 the spark arrestor with a wire brush.

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

4. **No Chemical Cleaners**-Do not use chemical chimney cleaners. Their use does not eliminate the 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 the 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.

## REMOVING MODELS 51, T-51, 74, AND T-74 ROOM HEATER FROM THE MODEL 51ZC CABINET

At some point you may need to remove your Model 51, T-51, 74, T-74 room heater from the Model 51ZC cabinet, if so follow these instruction exactly. Remember if the room heater has been in use allow time for cooling.

1. First remove the seven (7) 5/16" screws from the Top Front Trim. You may need a standard screwdriver to lift one of the outer corners of the Top Front Trim before being able to remove it. (See Page 22, Figure 18.)
1. Remove the three (3) 5/16" screws from the Right Side Trim. This will enable you to access the power cord and receptacle, to disconnect the power supply to the room heater. (See Page 22 ,Figure 18.)
1. Located between the room heater and the ZC cabinet is the Flue Connector. On each side of the Flue Connector there is a threaded rod which is attached to the top of the ZC cabinet and has two (2) 9/16" nuts with a bracket between them that is attached to the Flue Connector. You will first need to run the top nuts up the threaded rod about 1 1/4" (Do this on both the right and left side's). Next run

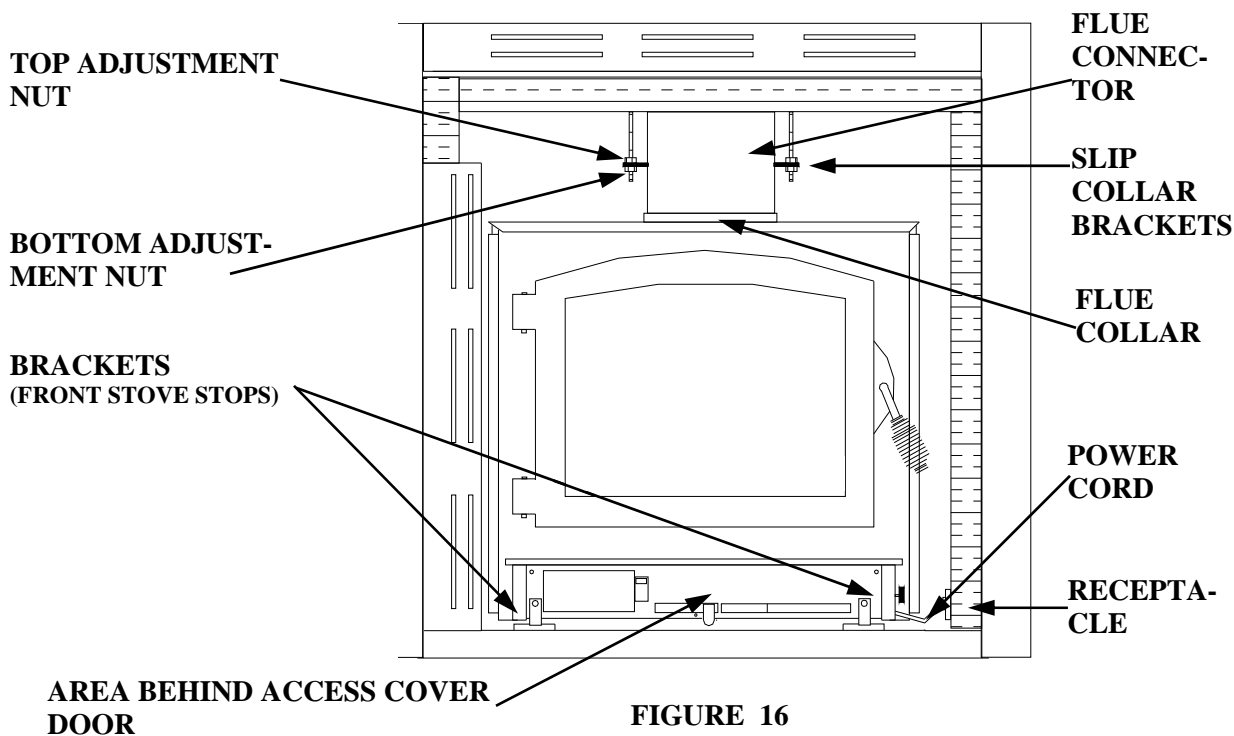


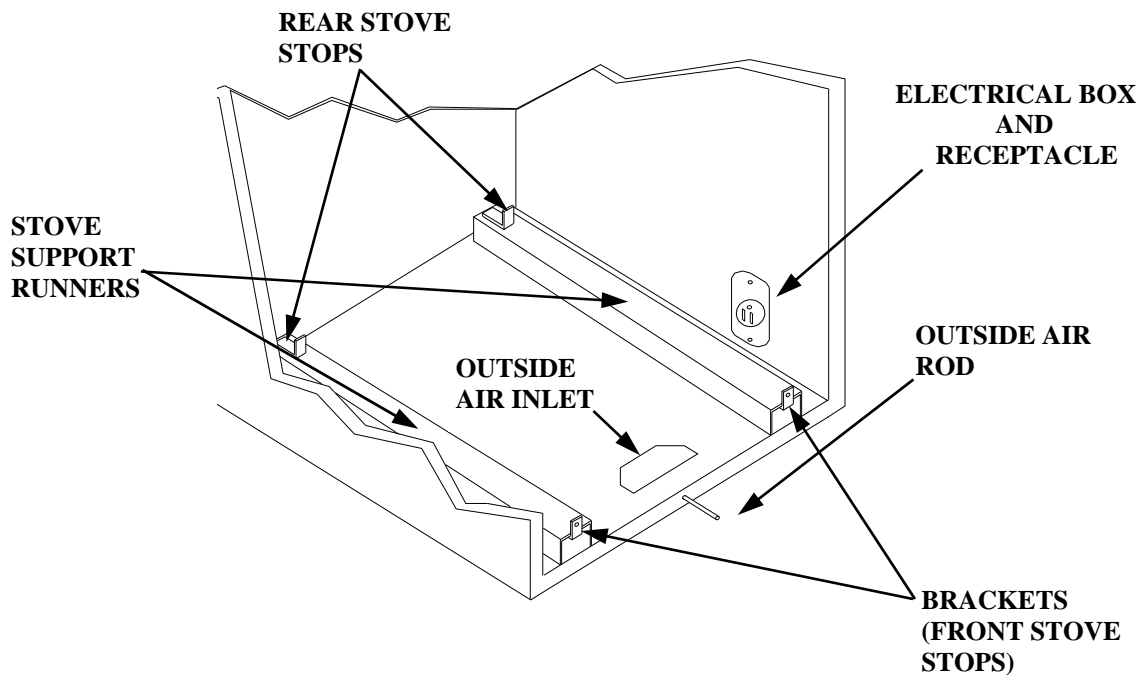
FIGURE 16

4. Remove the access cover door located at the bottom front of the room heater. There are two (2) philips head screws which must be removed, one (1) in each top corner of the access cover door.
5. Next, under the hearth on the left and right sides there are 3/8" head screws which attaches the room heater unit to a bracket (Front Stove Stop) on the ZC cabinet. These two (2) screws must be removed at this time.

**NOTE:** Disconnect the power cord from the receptacle inside the ZC cabinet before removing the Model 51, T-51, 74, T-74 room heater. Do not damage the power cord while pulling the room heater out.

## Continued Removing Room Heater From ZC Cabinet

6. Facing the unit from the front, lift the room heater up and pull out by the front corners of the room heater top. You must lift the room heater up high enough for the bottom to clear the brackets (front stove stops) on the bottom front of the ZC Cabinet. **NOTE:** If you need more clearance to lift the room heater inside the ZC cabinet at this point you may need to adjust the Flue Connector up more.



**FIGURE 17 MODEL 51ZC CABINET CUTOUT**

**NOTE:** Before pulling the room heater out of the ZC cabinet you may need to place a drop cloth where the heater is to be placed to protect your floor covering.

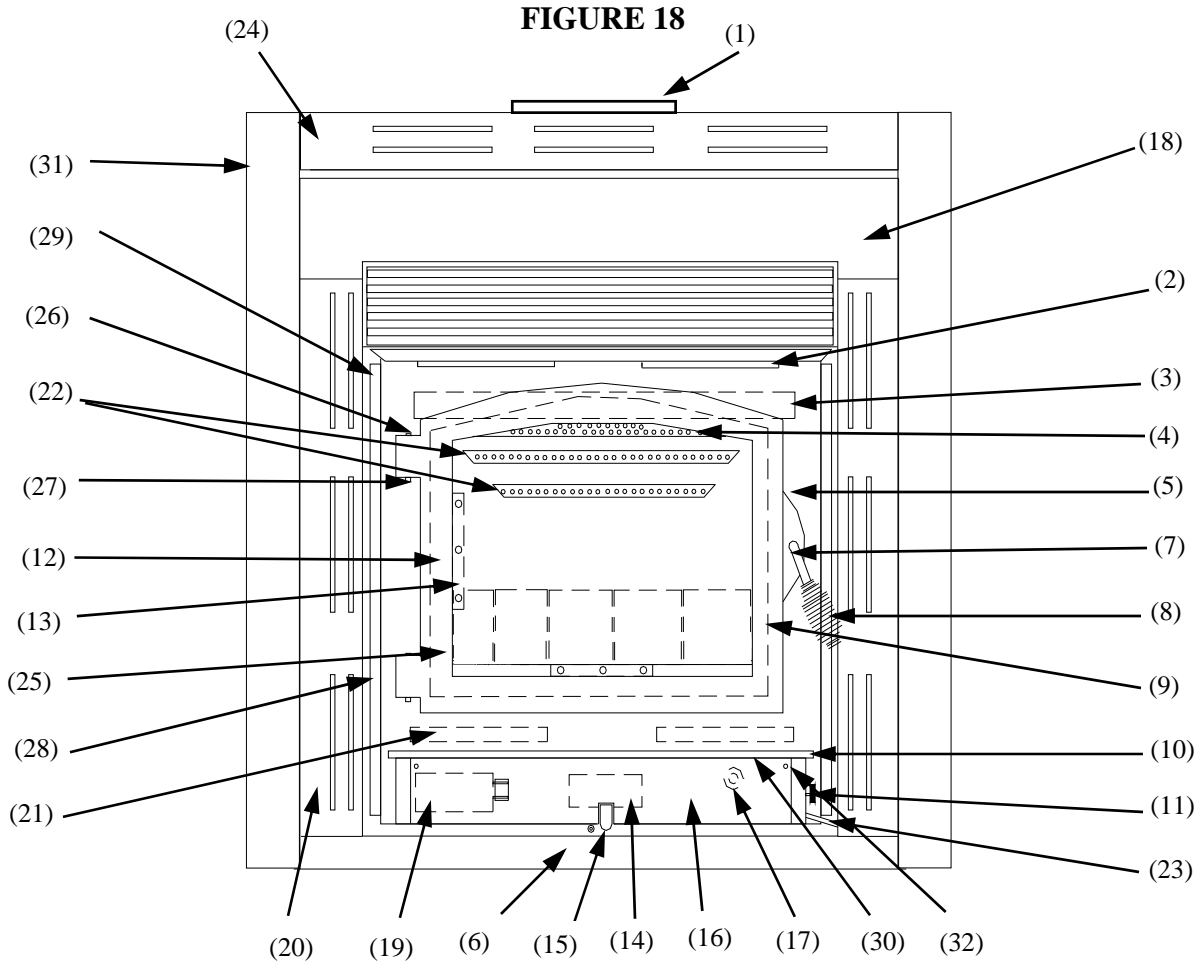
## REINSTALLING THE MODEL 51, T-51, 74, T-74 ROOM HEATER IN THE MODEL 51ZC CABINET

1. First lift the rear of the room heater up and over the front stove stop brackets. The rear of the heater should rest on the support runners, keep the heater angled with the front lifted up and slide the heater back into the ZC cabinet.
2. Slide the heater back until it stops at the rear stove stops.
3. Next reattach the front stove stop brackets to the heater using the two (2) 3/8" head screws.  
**NOTE:** The front stove stop brackets may have become bent while sliding the heater in and out of the ZC cabinet, if so bend the brackets back in place and reattach as instructed.
4. Now you must reconnect the Flue Connector to the Model 51, T-51, 74, T-74 room heater. Run the bottom nuts down almost to the end of the threaded rod. Align the Flue Connector with the room heater and place it into the Flue collar. At this point you must run the top nuts down until they are tight and the Flue connector is secure into the Flue Collar, then run the bottom nuts back up until they are tight.

**Continued Reinstalling Room Heater In ZC Cabinet**

5. Next reconnect the heater power cord to the ZC cabinet receptacle.
6. Replace the Right Side Trim using the three (3) 5/16" screws.
7. Then replace the Top Front Trim using the seven (7) 5/16" screws.

**MODELS 51,T-51,74 or T-74 ROOM HEATERS AND MODEL 51ZC  
CABINET IDENTIFICATION  
(See Figures 16 & 17 For Additional Identification)**



- |                   |                                  |   |
|-------------------|----------------------------------|---|
| 1. 6" Flue Exit   | 13. Glass Clips                  | 24. Top Outside Trim                          |
| 2. Hot Air Vent   | 14. Second Air Intake            | 25. Glass & Logo                              |
| 3. Top Fire Brick | 15. Combustion Air Supply Handle | 26. Brass Hinge Cap                           |
| 4. Air Wash       | 16. Access Cover Door            | 27. Hinge Pins                                |
| 5. Side Brick     | 17. Thermostat                   | 28. Hinge Block                               |
| 6. Outside Trim   | 18. Top Front Trim               | 29. Optional Side Close Clearance Heat Shield |
| 7. Door Handle    | 19. Motor                        | 30. Hearth Brass                              |
| 8. Brass Spring   | 20. Left & Right Front Trim      | 31. Left & Right Outside Trim                 |
| 9. Door Rope      | 21. Bottom Fire Brick            | 32. Access Cover Mounting Screws              |
| 10. Hearth        | 22. Secondary Air Tubes          |   |
| 11. Rheostat      | 23. Power Cord                   |   |
| 12. Door          |                                  |   |

**NEW BUCK CORPORATION (NBC)**  
**"LIMITED WARRANTY" FOR THE BUCK STOVE**  
**PLEASE READ THIS WARRANTY CAREFULLY**

**PRODUCTS COVERED**

This warranty covers the New Buck Stove 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 such as refractory cement or firebrick;
- Gaskets.

This Warranty will also 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 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 the date of purchase and extending for 5 years as long as the Buck Stove 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 the heating unit. Parts not permanently attached to the heating unit are defined as those items designed to be removed from the stove, including those removable with common hand tools. The costs of parts only are included. The customer pays any labor or transportation charges required.

**PROCEDURE**

Should you feel that your BUCK STOVE is defective, you should contact any Buck Stove dealer for the name of your nearest authorized Buck Stove 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 is no other express warranty. All implied warranties of Merchantability and Fitness for Use are limited to the duration of the Express Warranty.
- C. New Buck Corporation is not liable for indirect, incidental, or consequential damages in connection with the 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 the 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 entirety and mailed within 30 days from the date of purchase or from the 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 Buck Stove Dealer Code Number and the Certified Installer's number (if applicable) for warranty coverage to begin.

To be completed by selling distributor or dealer for customer:

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

Address \_\_\_\_\_

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

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

**MODEL 51ZC / 74ZC** - Serial Number \_\_\_\_\_

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

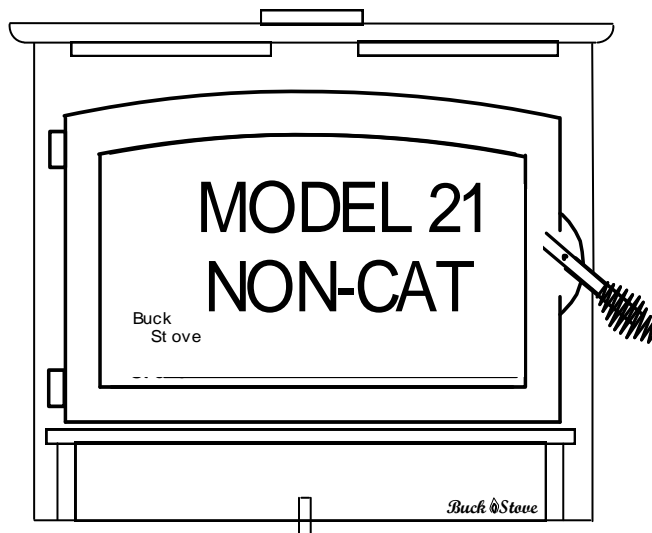
Installer's Name \_\_\_\_\_

Installer's Certification Number \_\_\_\_\_

Dealer's Name \_\_\_\_\_

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

# MODEL 21 NON-CATALYTIC UNIT



## FIREPLACE INSERT & FREESTANDING

### FEATURES

PREPARATIONS  
OPERATION

INSTALLATION  
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  
P.O. BOX 69  
SPRUCE PINE, N.C. 28777  
www.buckstove.com

Revised July 2013



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# INSTALLATION AND OPERATION

## READ THIS FIRST

### IMPORTANT INSTRUCTIONS

#### WARNING

THIS UNIT GENERATES A LOT OF HEAT, SO TREAT UNIT WITH CARE. **HOT WHILE IN OPERATION!** KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. DO NOT USE CHEMICALS OR FLUIDS TO START FIRE. DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS. DO NOT CONNECT TO ANY DISTRIBUTION DUCT OR SYSTEM. READ ALL INSTRUCTIONS BEFORE INSTALLING AND USING APPLIANCE. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR EVEN DEATH. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCES.

- The New Buck Corp. non-catalytic systems have been tested by ITS, Warnock Hersey to ANSI/UL Standards: UL 1482-2000: UL 1482 (2010).
- Install and operate your units according to instructions provided in this manual. Local building codes may apply; therefore, contact your local building inspector or fire marshal for necessary installation requirements and permits which may go beyond these instructions. The authority having jurisdiction should be consulted before installation to determine the need to obtain a permit.
- **If appliance is installed in mobile homes:  
DO NOT INSTALL IN SLEEPING ROOMS.**
- **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.**
- The Model 21 is approved for use in specified Pre-Fabricated fireplaces (ZCF's). Use the list on Page 11 or contact your dealer for additional units.
- Examine the masonry fireplace and chimney prior to installation of the fireplace accessory to determine that the construction meets the minimum fireplace construction requirements illustrated in the instructions, that it is free from cracks, loose mortar, creosote deposits and other blockage or other signs of deterioration.

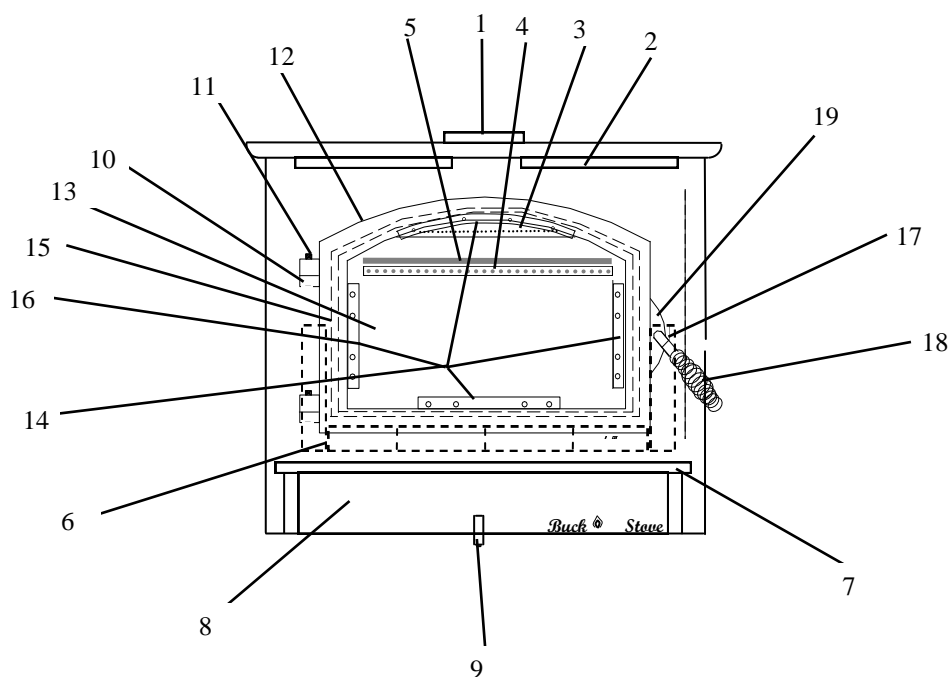
#### CAUTION

DO NOT USE MORE THAN ONE STOVE TO A CHIMNEY. DO NOT USE A FLUE INTENDED FOR A GAS APPLIANCE.

## EPA COMPLIANCE STATUS

This manual describes installation and operation of the **New Buck Corporation Model 21** wood heater. This heater meet 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 41,500 BTU/hr for the Model 21.

## MODEL 21 WOOD STOVE IDENTIFICATION



- |  |                                    |
|--|------------------------------------|
| 1. 6" Flue Exit                          | 15. Door Gasket                    |
| 2. Warm Air Outlets                      | 16. Door Glass Gasket              |
| 3. Air Wash and Screen                   | 17. Door Handle                    |
| 4. Secondary Air Tubes                   | 18. Spring Handle                  |
| 5. Top Baffle Board                      | 19. -Door Latch                    |
| 6. Firebrick                             | -Door Latch Screw                  |
| 7. Hearth Extension and Hearth Trim      | -Door Handle Bushing               |
| 8. Cover Door                            | -Door Handle Spacer                |
| 9. Primary Air Control                   | -Door Latch Flat Washer            |
| 10. Hinge Block                          | -Door Latch Screws (Phillips Head) |
| 11. Hinge Pins                           | -Door Latch Screws (Allan Head)    |
| 12. Cast Door                            |                                    |
| 13. Door Glass                           |                                    |
| 14. Glass Clips Small; Side, Top, Bottom |                                    |

## CAUTION

YOUR CHIMNEY OR FLUE MUST BE CORRECTLY SIZED. A CHIMNEY OR FLUE THAT IS TOO SMALL OR LARGE IN DIAMETER, OR TOO SHORT, CAN CAUSE YOUR STOVE TO SPILL SMOKE WHEN DOOR IS OPENED.

## SECTION I

### INTRODUCTION

Your new MODEL 21 is a non-catalytic unit designed to meet the most stringent emissions standards without the use of a catalytic combustor. This effect is achieved through the use of secondary air which is mixed with primary air in the unit's firebox.

For peak performance, we suggest the use of hard seasoned natural wood, loading wood length way from front to rear.

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

You should not burn trash or garbage, artificial or paper logs, gift wrapping, treated or painted wood or any type of coal.

**DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.  
DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS.”**

The primary air, which is controlled by the user, burns the wood. Secondary air is admitted into firebox through secondary air tubes at top of the firebox. This secondary air burns impurities in the smoke released from initial wood burning. The temperature necessary for this combustion is maintained through the firebrick refractory. If any more technical information is necessary, contact your local dealer.

A factory-built prefabricated chimney may be used for your unit when installed in compliance with the manufacturer's specification and uniform building code.

These units may also be used with optional room air blower. To order optional motor assemblies you must specify the stove model number and give one of the following part number:

\*Model 21 Motor Assembly—MA5126715

For operation and use of these electrical assemblies, see instructions provided with the motor assembly kits.

## SECTION II

### MASONRY INSERT INSTALLATION

The Model 21 may be installed using an all masonry fireplace built in accordance with the Uniform Building Code and National Fire Protection Association (NFPA). The first step in this type of installation is to determine the acceptability of fireplace and chimney for use with a woodstove. Both construction and condition of fireplace are important considerations when installing a woodstove. The chimney should extend at least 3' above roof and at least 2' above any point of the roof within 10'.

### 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.

### MINIMUM CLEARANCES TO FLOOR AND COMBUSTIBLES

#### MINIMUM CLEARANCE MASONRY INSERT

##### MODEL 21

A. Side Wall Combustible	25"
B. Front Floor Protector	16"
C. Side Floor Protector	8"
D. Side Wood Trim	17"
E. Top Wood Trim	17"
F. Mantel or Brackets	25"

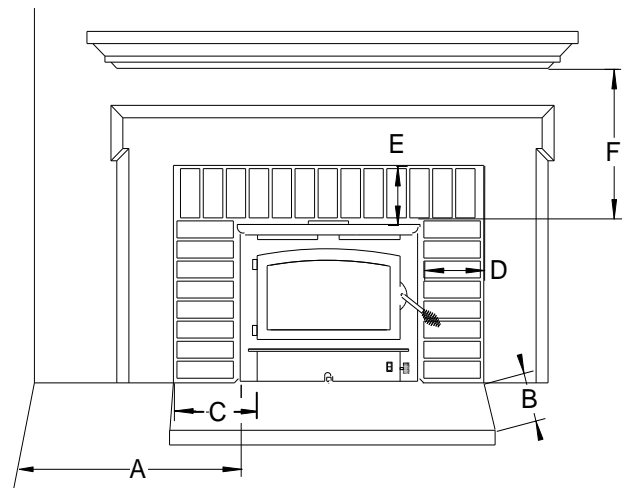


Figure 1

1. The hearth must be of masonry construction and must extend a minimum of 16" in front of firebox opening and a minimum of 8" to either side of the firebox opening. (See Figure 1).
2. If there is not minimum hearth protection from the front of firebox opening and front of masonry hearth, a floor protector must be used in front of hearth to protect combustible materials. The floor protector must be 3/8" minimum thickness non-combustible material or equivalent. (See Page 5).

## Floor Protection:

When installing freestanding heater, a floor protector must be use. 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 grater 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:

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

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

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

## 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

1. Relocate 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 birds 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 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 are to meet codes in certain areas it is recommended that one of the following procedures be followed:

- A. A **Chimney Connector** can be installed from the appliance flue exit through the damper and an air-tight face seal. See option (A) (page 7).
- B. A listed **Direct Connect** can be installed from the appliance flue exit through the damper into the first section of the flue liner with air-tight seal. See option (B) (page 7).
- C. A **Positive Connect** can be installed from the appliance flue exit continuing up through the entire chimney and exiting at the top of the chimney. See option (C) (page 7).

**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)**

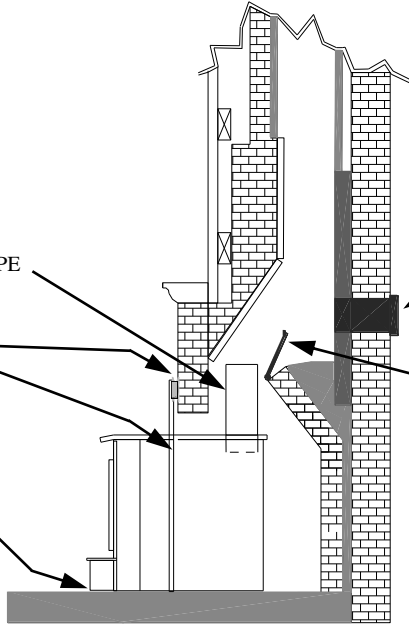
SEAL TRIM PANELS AND UNDER FRONT OF STOVE UNIT WITH INSULATION OR HIGH TEMPERATURE CAULK

STARTER PIPE

AIRTIGHT INSULATED CLEAN-OUT

REMOVE DAMPER OR WIRE IT OPEN

**NOTE:** New Buck Corporation grants no warranty, implied or stated, for the installation or maintenance of your appliance, and assumes no responsibility of any consequential damage



**OPTION (B)**

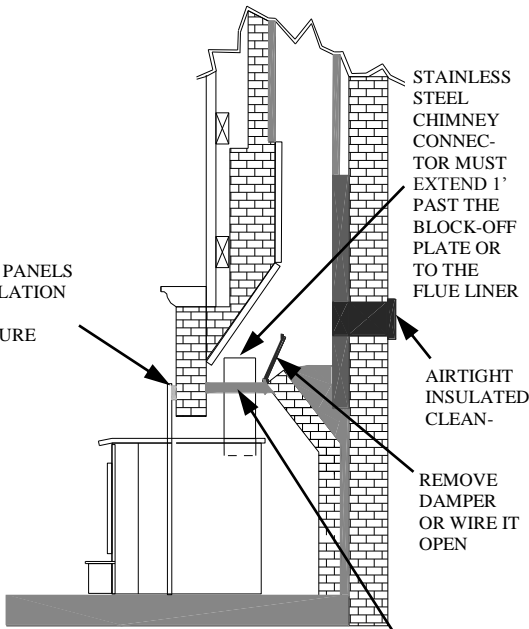
**NOTE:** Follow installation instruction with Direct Connection Kit. (Kit sold separately)

SEAL TRIM PANELS WITH INSULATION OR HIGH TEMPERATURE CAULK

STAINLESS STEEL CHIMNEY CONNECTOR MUST EXTEND 1' PAST THE BLOCK-OFF PLATE OR TO THE FLUE LINER

AIRTIGHT INSULATED CLEAN-OUT  
REMOVE DAMPER OR WIRE IT OPEN

BLOCK-OFF PLATE OR DAMPER ADAPTER



**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

CAP PREVENTS WATER FROM ENTERING)

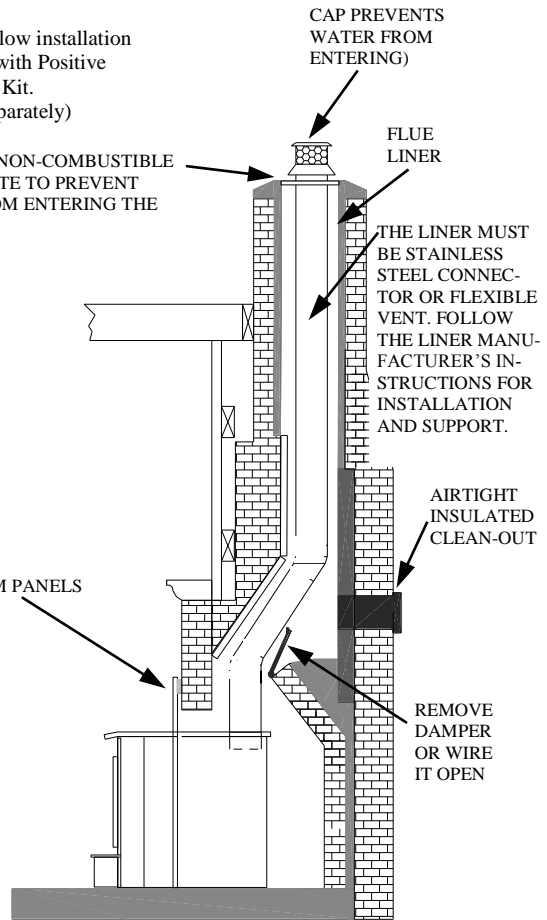
FLUE LINER

THE LINER MUST BE STAINLESS STEEL CONNECTOR OR FLEXIBLE VENT. FOLLOW THE LINER MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AND SUPPORT.

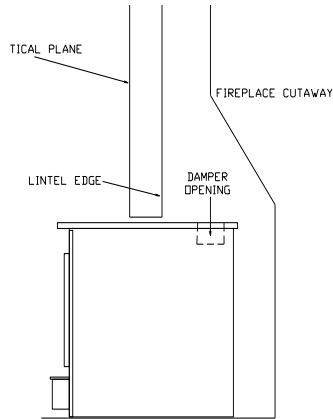
AIRTIGHT INSULATED CLEAN-OUT

REMOVE DAMPER OR WIRE IT OPEN

TRIM PANELS



# INSTALLATION PROCEDURE (Use a Listed Direct or Positive Connect)(See Page 6).



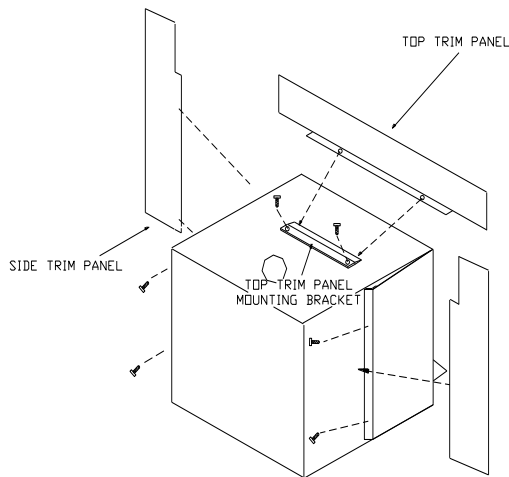
**FIGURE 2** POSITIONING

## POSITIONING THE HEATER

**NOTE:** If the three suggested installations have been chosen, certain steps must be followed when installing heater into a masonry fireplace.

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

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



**FIGURE 3** MOUNTING TRIM PANELS

## MOUNTING THE TRIM PANELS

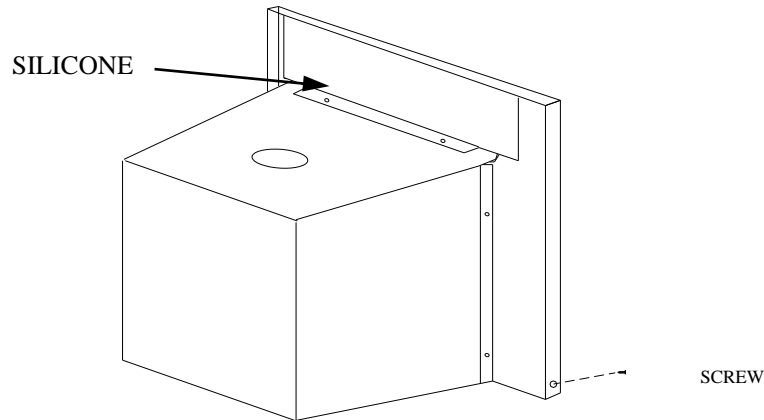
After unit is positioned as shown in (Figure 2), mark mounting position of trim panels as follows:

1. Place side trim panels in place, flat against the face of the fireplace. Mark down front edge of trim panel with a pencil to make a vertical reference line. (See Figure 3).
2. Place top (long) trim panel in place on top of unit. The panel should be flat against the outside face of fireplace and standing vertically. Mark along lower edge of trim panel with a pencil to make a reference line for mounting.

3. Slide unit out of the 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 panels 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. Take top trim panel mounting bracket 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 down screws.
6. Now, follow installation procedures in the listed direct connect or positive connect kit you are using and install heater connect kit in the fireplace.
7. Slide unit back into fireplace. Check to be sure that trim panels are properly positioned and lie flat against front of fireplace. If one or more of the panels is out of position, slide unit out and reset by loosening mounting screws and repositioning in slot.
8. Reinstall top trim panel by sliding rear lip of top trim panel underneath front lip of mounting bracket already secured to top of unit.

**NOTE:** Mount top trim panel so that it sits in front of top of side trim panels.
9. Obtain brass trim kit provided with unit and slip over top and sides of trim panels. (Top ends of brass may need to be trimmed to fit).

10. If direct connect or positive connect kit is not used, follow instructions in *mounting trim panels, steps 1-4c* on page 8.
11. Mount top trim panel by drilling mounting holes in center of trim panel mounting brackets, with top end side of top panel overlapping side panel.
12. Using insulation provided, peel and stick to back of panels overlapping fireplace dimensions by 1" on each side and top. (See Page 8, Figure 3).
13. Next using high heat silicone or furnace cement run heavy bead of caulking around where panels meet stove. (See Figure 4).
14. Slide the unit back into 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. Using the bar, lift stove in front. Place insulation across front and the surface of hearth or bottom of fireplace, to make complete seal.
15. 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.



**FIGURE 4**

## **FINAL CHECK**

1. Recheck specified clearances.
2. Remove all foreign material from firebox area.
3. Open the primary air draft.
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 the 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 the chimney heats up, a proper draft can usually be obtained.

If a thorough review of the Troubleshooting Guide in the manual does not reveal the 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 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.**

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 THE 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.**

## SECTION III

# PRE-FAB INSERT INSTALLATION

The Model 21 has been tested with the following:

Heatilator	Security
Tempco	Preway
Marco	FMI
Woodside	Majestic

NOTE: The Model 21 may be installed in any of the pre-fabricated fireplaces listed above if they are big enough to accept heater.

NOTE: A FULL CHIMNEY LINER IS REQUIRED IN A ZERO CLEARANCE OR PRE - FABRICATED FIREPLACE.

NOTE: The ash lip, smoke baffle and smoke shelf may be removed if necessary to provide room for these models. Any other alteration to unit will void ALL NEW BUCK CORPORATION, responsibility and liability. The warning label below must be attached to the pre- fabricated fireplace before unit is installed.

Except for the “notes” above, please follow the instructions for Masonry Insert Installation including Minimum Clearances for stove and floor protector in Section II.

NOTE: When installing trim panels DO NOT COVER ANY EXITING LOUVERS OR AIR OPENING IN PRE-FABRICATED FIREPLACE .

**WARNING: This fireplace must be restored to its original condition for safe use, if the fireplace insert is removed.**

## SECTION IV

# RESIDENTIAL FREESTANDING INSTALLATION

### 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 STOVE FOR INSTALLATION

1. Remove the protective plastic wrapping from unit, inspect unit for any obvious physical damage.
2. Plug power cord into a 115V AC outlet to test motor and fan when optional motor is being used. Do not run cord under unit or in high traffic areas.
3. Check primary air draft control to ensure that it slides freely.(See Figure 5).
4. Remove any items from within firebox. Spread a dropcloth on floor behind heater. Next, tilt heater so that back is on drop cloth.
5. **(Leg Kit):** If legs are to be used, obtain four legs, attach legs to holes in bottom of unit with bolts and washers supplied with the leg kit. (See Figure 5).
6. **(Pedestal Kit):** If pedestal kit is being used an outside air is required, see *Out Side Air Installation* below. Open freestanding kit and obtain stand. Place stand against bottom of heater (angle side to heater). Center stand front to back and also center stand left and right. Mark screw locations on bottom of stove through outer holes of stand mounting angles. Set stand aside and drill four 7/32" holes in heater bottom. Before attaching heater to stand, take a large flat screwdriver or pliers and remove the 2" x 2" knockout on bottom of unit. (See Figure 5A). Then mount stand to bottom of heater with screws provided. (See Figure 5A).
7. Obtain four (4) 3/16" self-tapping screws and secure stand to heater.
8. Reposition heater to the upright position.

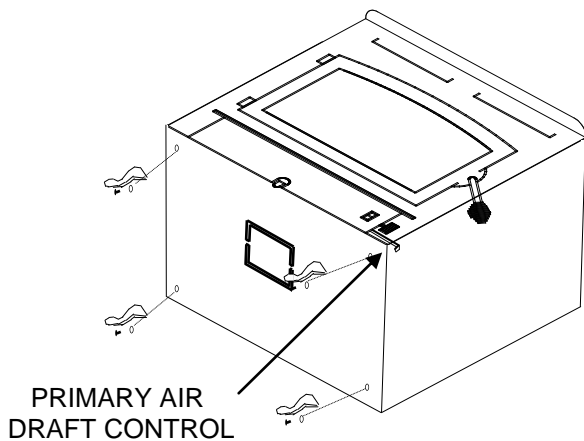


Figure 5

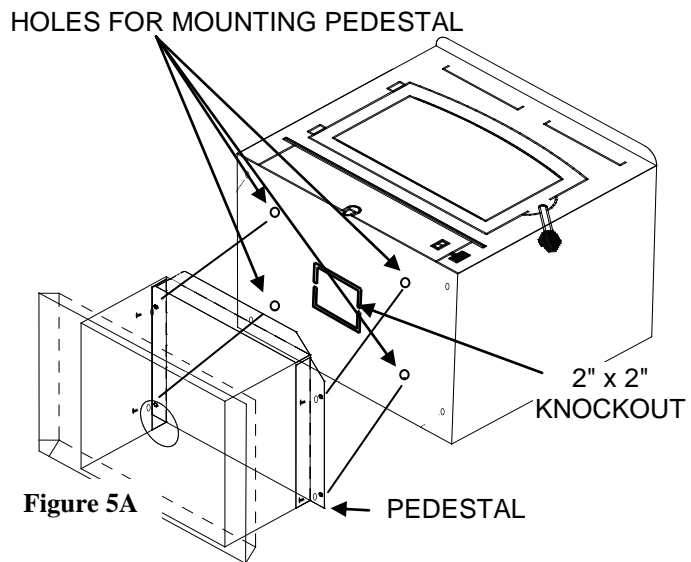


Figure 5A

### Out Side Air Installation

## CAUTION

**THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR MUST BE MAINTAINED. (MOVE OPENING AND/OR REPOSITION HEATER LOCATION IF NECESSARY).**

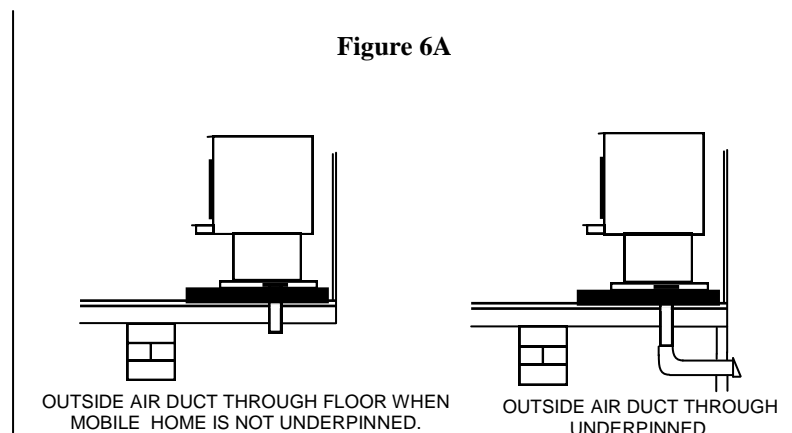
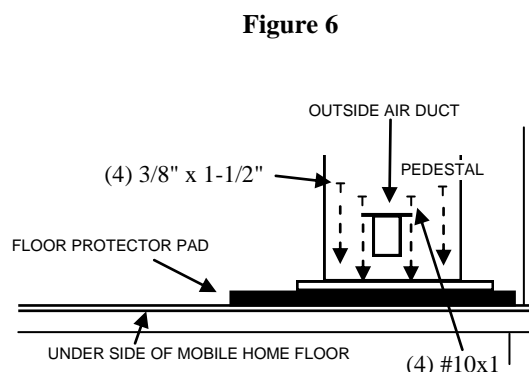
1. Select an installation location that gives the best airflow from the front of heater to remainder of home.
2. Place protective floor pad in position. For minim floor protection (See Page 14).

3. Place unit on pad making sure minimum clearance specifications are met.
4. Lightly mark with a pencil the location of pedestal on protective pad.
5. Next, remove the 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 on the protective pad, now mark outside air opening in bottom of pedestal stand on to the pad.
7. Mark center line of outside air opening. Set stand aside for now.
8. Cut a 4 1/4" diameter hole 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. Now, reposition pedestal stand on pad being sure to line stand up with reference marks on pad.
10. Using an electric drill and 3/8" masonry bit, drill four (4) holes in the protective pad using holes in the bottom of the pedestal stand as a guide. Be careful to drill only through pad and not into floor. Change the bit to a 1/4" metal bit and drill through floor.
11. Using four (4) 3/8" x 1-1/2" lag bolts provided, 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 the box in pedestal kit marked FA P21B.
13. Slip duct down through the 4-1/4" hole until the face of outside air duct with screen wire, contacts bottom of pedestal.
14. Secure outside air duct to inside bottom of pedestal using four (4) #10x1 screws provided. (See Figure 6).
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 6A).



## Floor Protection:

Floor protection 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:

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

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

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

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

## Chimney

This model is designed for connection to any listed 2100° UL103 HT chimneys and parts. Follow chimney manufacturer's instructions carefully.

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.

## PREPARING THE ROOM HEATER LOCATION

1. Select an installation location that will give the best airflow from the front of the heater to the remainder of the home.
2. Place the protective floor pad in position.
3. Place unit on pad making sure 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.

**NOTE:** This model is designed for connection to: any Listed 2100° UL 103 HT. TYP chimney also any Listed UL DVL Close Clearance Pipe or Single wall minimum 24 ga. Blued or Black Pipe. Follow pipe manufacturer's instructions carefully.

## CHIMNEY

This room heater must be converted to (1) a chimney complying with 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 flue liner.



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

## HOW TO LOCATE CHIMNEY EXIT AND INSTALL

### Residential Installation

- A. Vertical Exit using (6" Single Wall minimum 24 ga. blued or black pipe and any Listed 2100° UL 103 HT. chimney).**

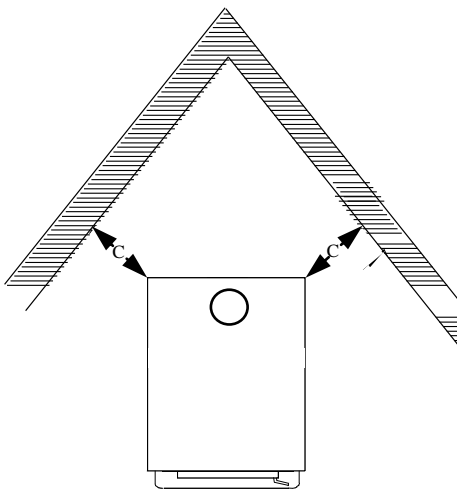
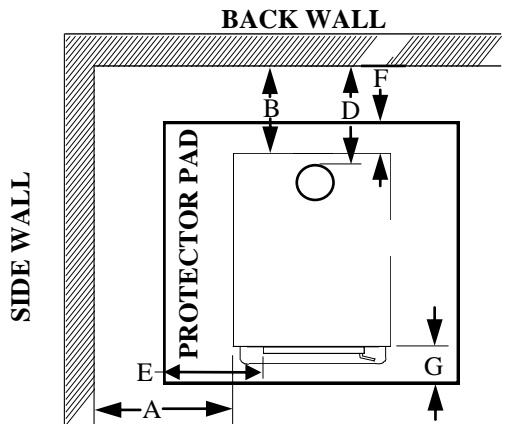
**Without optional close clearance shield and pipe shield.**

**NOTE: For minimum clearances (See Page 16, Figure 7).**

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.
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 6" Single Wall minimum 24 ga. blued or black 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) sheet metal screws or rivets to connector collar on heater.(See Page 16, Figure 8).
4. **NOTE:** If your local code requires outside air for residential installation, refer to pages 13-14 for outside air installation.

**A. Vertical exit using (6" Single Wall minimum 24 ga. blued or black pipe and any listed 2100° UL 103 HT. TYPE Chimney)  
Without optional close clearance shield and pipe shield  
Model 21 minimum clearance to combustibles**

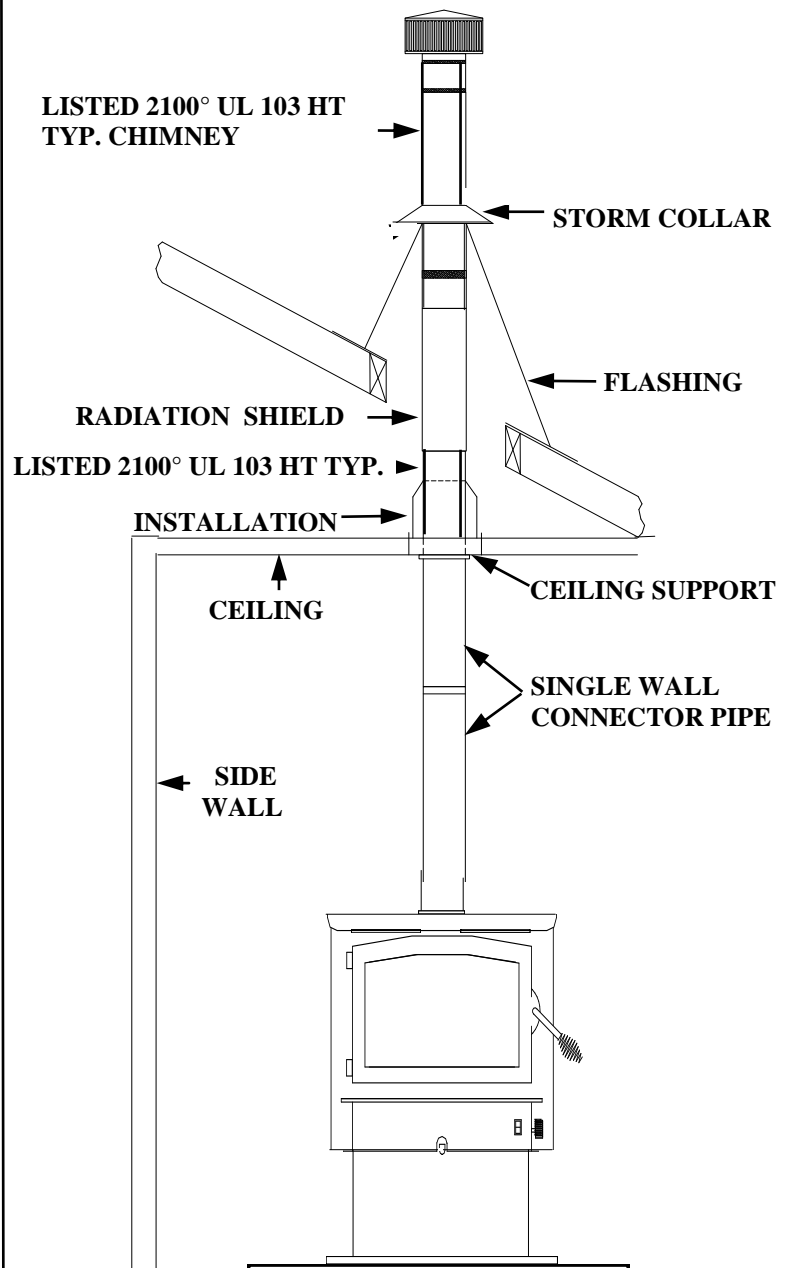
Figure 7



A B C D E F G

MODEL 21 25" 13" 13" 15.5" 8" 6" 16"

Figure 8



**NOTE:** All clearances are to combustibles without close clearance shields and pipe shield, using 6" Single Wall minimum 24 ga. blued or black pipe and minimum floor protector. The clearances above may be reduced. Follow **NFPA-211** codes if available or follow instructions on (Pages 19, 20 or Pages 23, 24).

# HOW TO LOCATE CHIMNEY EXIT AND INSTALL

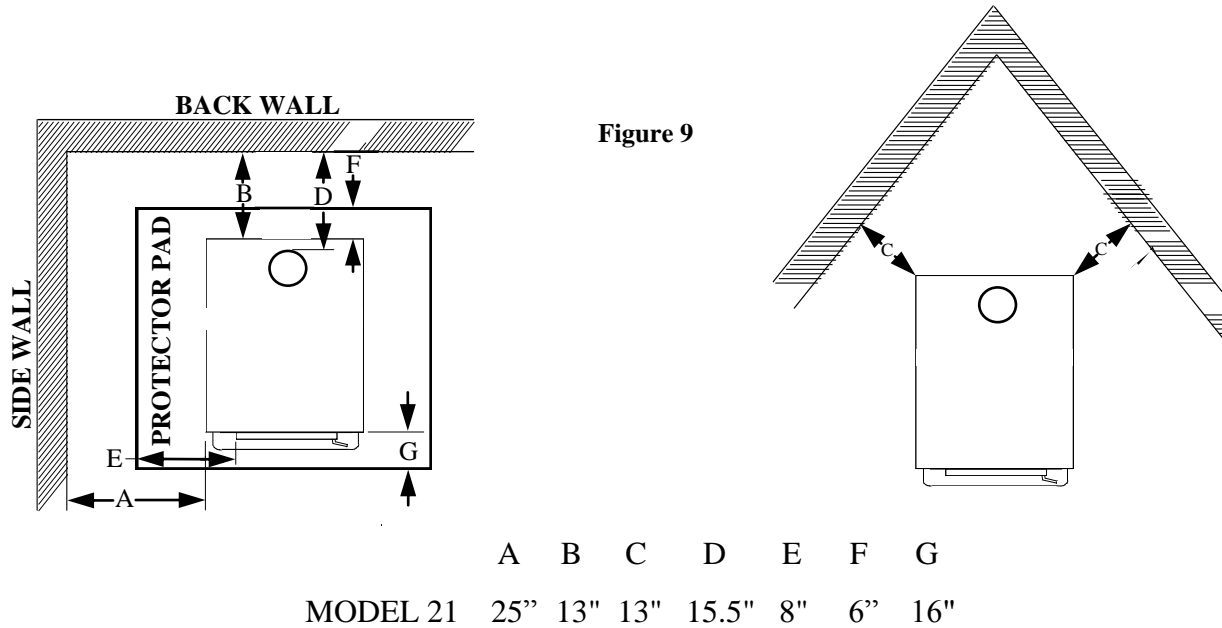
## Residential Installation

**B. Vertical Wall Exit using (6" Single Wall minimum 24 ga. blued or black pipe with elbow and any Listed 2100° UL HT chimney and Listed 2100° UL HT. T-Box assembly). Without optional close clearance shields and pipe shield.**

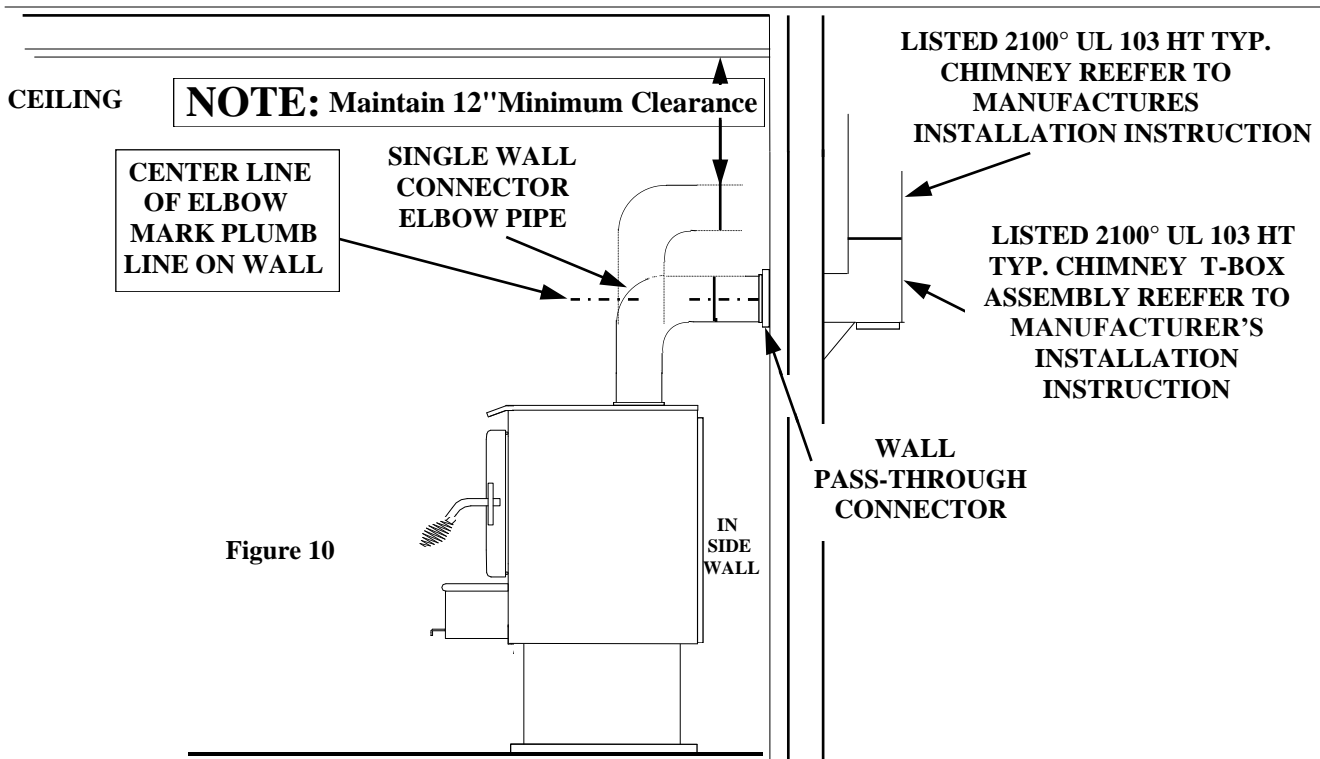
**NOTE: For minimum clearances (See Page 18, Figure 9).**

1. Mark the plumb line on wall directly behind center of heater.  
(See Page 18, Figure 10).  
**NOTE:** When using 6" Single Wall minimum 24ga. blued or black pipe, maintain 18" minimum clearances" between pipe and ceiling.
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 (Page 18, Figure 10). This will give you center of hole for the chimney penetration.
4. After locating center of penetration, install tee-box and chimney, per chimney manufacturer's specifications.
5. Connect chimney collar to tee-box using 6" Single Wall minimum 24 ga. blued or black pipe. (DO NOT USE GALVANIZED PIPE). Connect each section so crimped end faces downward and secure each section to each other using three (3) sheet metal screws or rivets. Single wall pipe is to be connected with three (3) sheet metal screws rivets to connector collar on heater. (See Page 18, Figure 10).
6. **NOTE:** If your local code requires outside air for residential installation, refer to pages 13-14 for outside air installation.

**B. Vertical wall exit using (6" Single Wall minimum 24 ga. blued or black pipe with elbow and any listed 2100° UL 103 HT. TYPE Chimney and Listed 2100° UL HT. T-Box assembly). Without optional close clearance shield and pipe shield. Model 21 minimum clearance to combustibles.**



**NOTE:** All clearances are to combustibles without close clearance shields and pipe shield, 6" Single Wall minimum 24 ga. blued or black pipe with elbow and minimum floor protector. Clearances above may be reduced. Follow **NFPA-211** codes if available or follow instructions on (Pages 21,22 or Pages 25, 26).



# HOW TO LOCATE CHIMNEY EXIT AND INSTALL

## Residential and Mobile Home Installation

### C. Vertical Exit using (6" DVL Close Clearance pipe and any Listed 2100° UL 103 HT chimney).

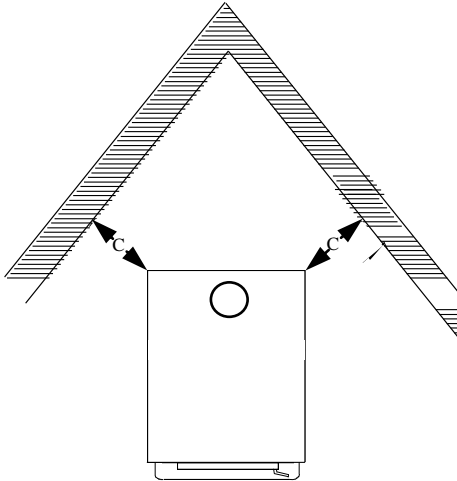
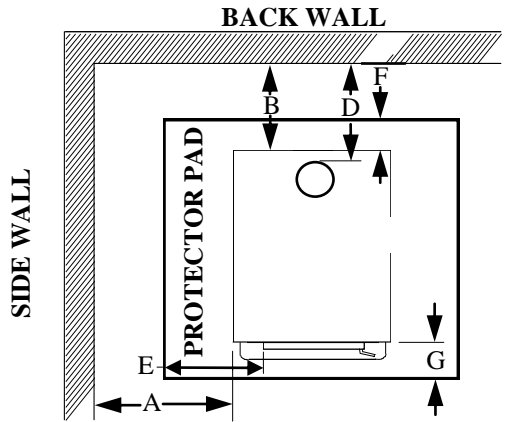
**Without close clearance shield and pipe shield.**

**NOTE: For minimum clearances (See Page 20, Figure 11).**

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 the 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 DVL close clearance pipe. Connect each section per manufacturer's instructions. Secure each section to each other using minimum (3) sheet metal screws or rivets. DVL close clearance is to be connected with (3) sheet metal screws or rivets to connector collar on heater (See Page 20, Figure 12).
4. NOTE: If your local code requires outside air for residential installation, refer to pages 13-14 for outside air installation.

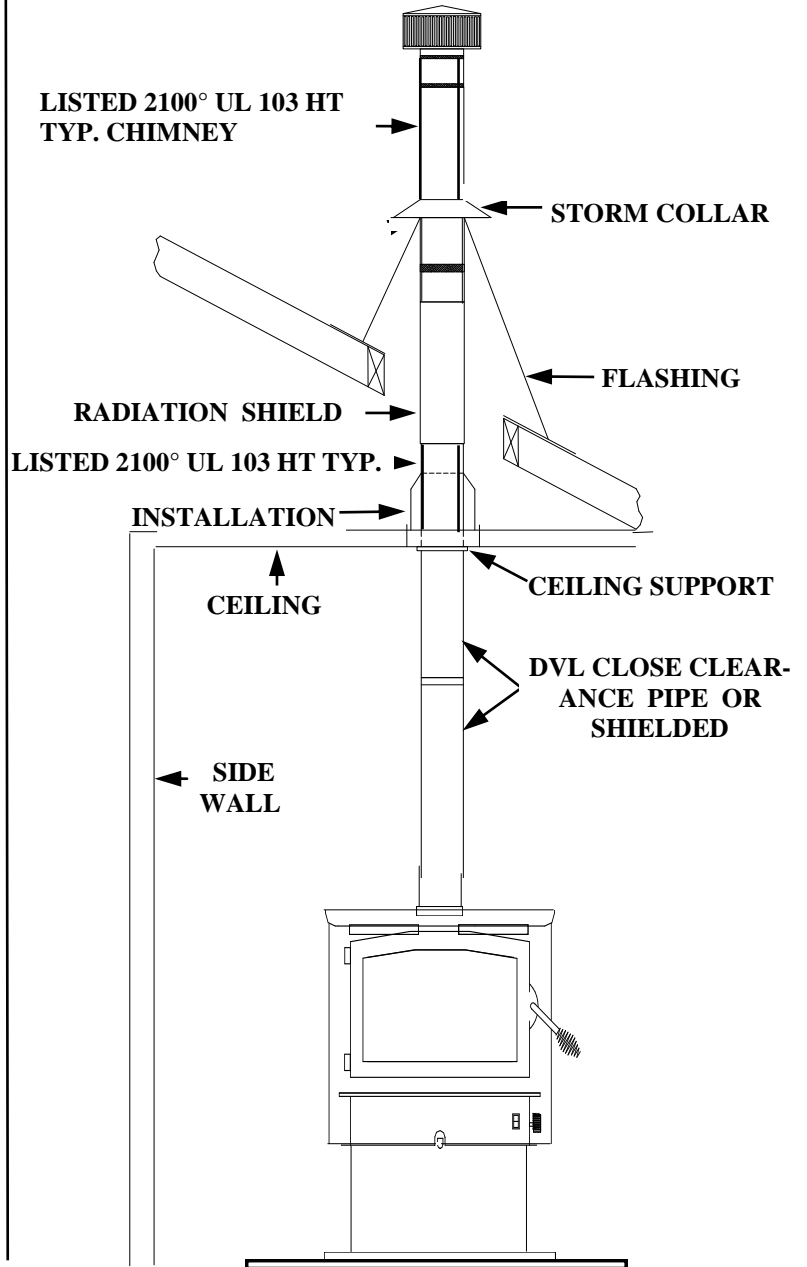
**C. Vertical exit using (6" DVL Close Clearance pipe and any listed 2100° UL 103 HT. TYPE Chimney). Without optional close clearance shield and pipe shield. Model 21 minimum clearance to combustibles.**

Figure 11



	A	B	C	D	E	F	G
MODEL 21	23"	9"	9"	10.5"	8"	6"	16"

Figure 12



**NOTE:** All clearances are to combustibles without close clearance shields and pipe shield, using DVL Close Clearance pipe and minimum floor protector. The clearances above may be reduced. Follow NFPA-211 codes if available or follow instructions on (Pages 23 and 24).

# HOW TO LOCATE CHIMNEY EXIT AND INSTALL

## Residential and Mobile Home Installation

### D. Vertical Wall Exit using (6" DVL Close Clearance Pipe and Elbow and any Listed 2100° UL HT chimney and Listed 2100° UL HT T-Box assembly).

**Without optional close clearance shield and pipe shield.**

**NOTE: For minimum clearances (See Page 22, Figure 13).**

1. Mark the plumb line on wall directly behind center of heater.  
(See Page 22, Figure 14).  
**NOTE:** When using DVL Close Clearance Pipe, maintain manufacturer's minimum clearances between pipe and ceiling.
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 (Page 21, Figure 14). This will give you center of hole for chimney penetration.
4. After locating center of penetration, install the tee-box and chimney, as per chimney manufacturer's specifications.
5. Connect the DVL close clearance pipe to tee-box, per manufacturer's instructions, DVL close clearance pipe is to be connected with (3) sheet metal screws or rivets to connector collar on heater (See Page 22, Figure 14).
6. **NOTE:** If your local code requires outside air for residential installation, refer to pages 13-14 for outside air installation.

**D. Vertical wall exit using (6" DVL Close Clearance pipe with elbow) and any listed 2100° UL 103 HT. TYPE Chimney and Listed 2100° UL HT T-Box assembly). Without optional close clearance shield and pipe shield. Model 21 minimum clearance to combustibles.**

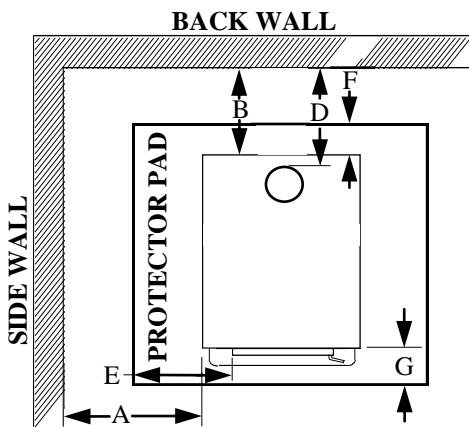
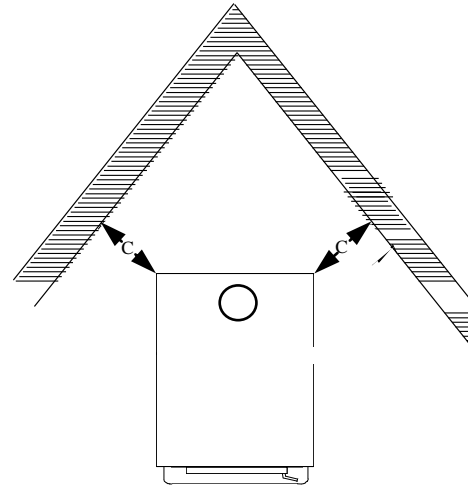


Figure 13



A B C D E F G

MODEL 21 23" 9" 9" 10.5" 8" 6" 16"

**NOTE:** All clearances are to combustibles without close clearance shields and pipe shield, DVL Close Clearance pipe with elbow and minimum floor protector. The clearances above may be reduced. Follow **NFPA-211** codes if available or follow instructions on (Pages 25 and 26).

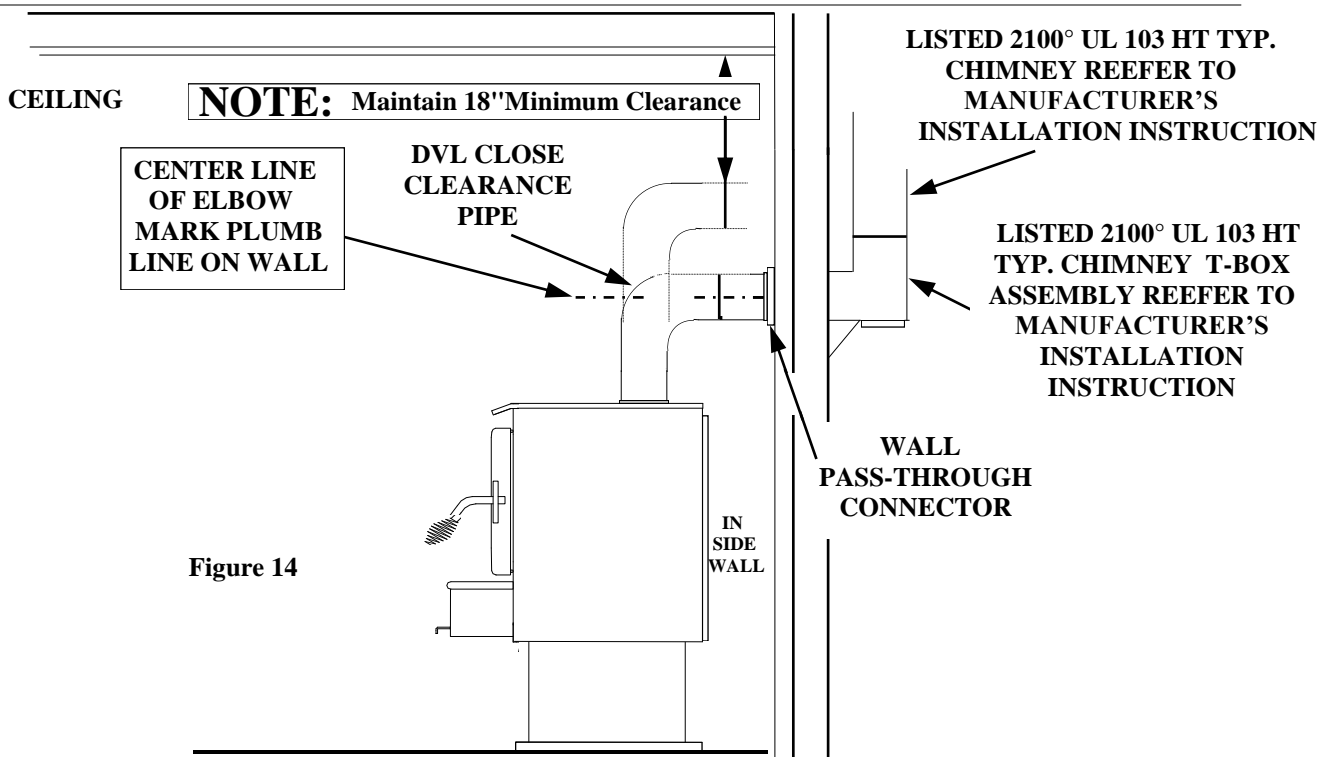


Figure 14

# HOW TO LOCATE CHIMNEY EXIT AND INSTALL

## Residential and Mobile Home Installation

### E. Vertical Exit using (6" DVL Close Clearance pipe and any Listed 2100° UL 103 HT chimney).

**With optional close clearance shield and pipe shield. NOTE: For installation of optional close clearance shields and pipe shield (See Page 33).**

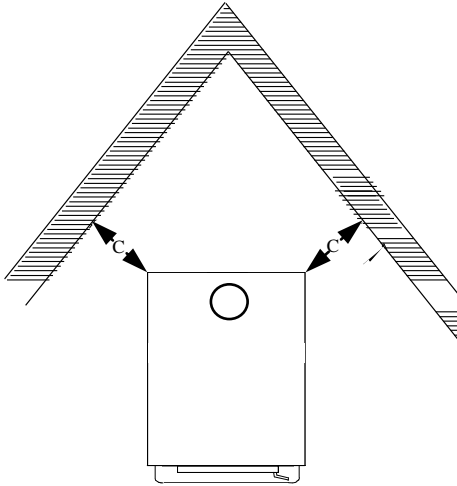
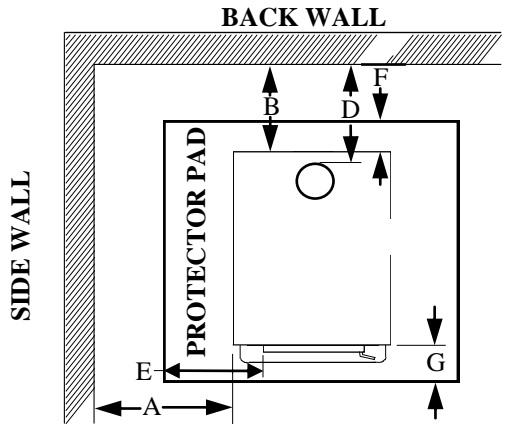
NOTE: For minimum clearances see page 24, figure 15.

If pedestal kit is being used and outside air is required (See Page 13).

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.
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 DVL close clearance pipe. Connect each section per manufacturer's instructions. Secure each section to each other using minimum (3) sheet metal screws or rivets. DVL close clearance is to be connected with (3) sheet metal screws or rivets to connector collar on heater (See Page 24, Figure 16).
4. NOTE: If your local code requires outside air for residential installation, refer to pages 15-16 for outside air installation.

**E. Vertical exit using (6" DVL Close Clearance pipe and any listed 2100° UL 103 HT. TYPE Chimney).  
With optional close clearance shield and pipe shield.  
Model 21 minimum clearance to combustibles.**

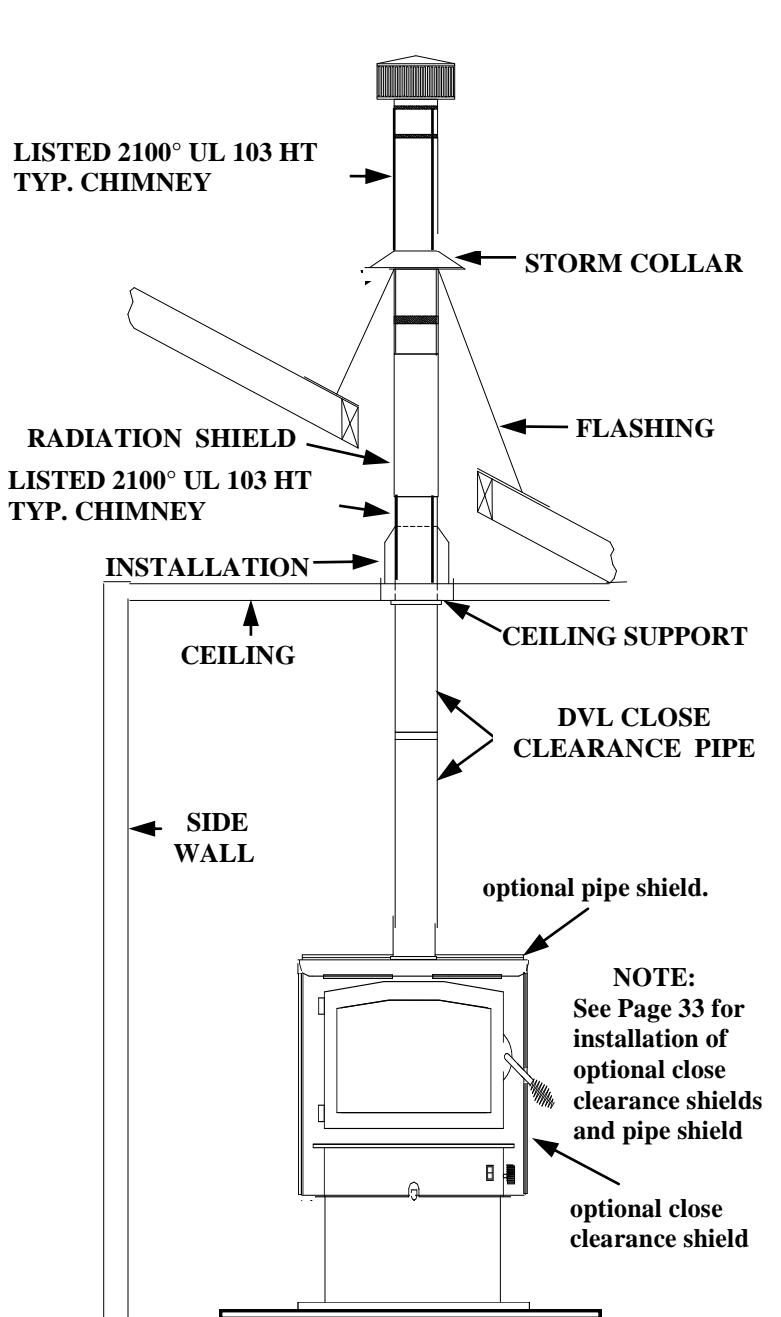
Figure 15



A B C D E F G

MODEL 21 19" 7" 7" 8.5" 8" 6" 16"

Figure 16



**NOTE:** All clearances are to combustibles with optional close clearance shields and pipe shield, using DVL Close Clearance pipe and minimum floor protector.

# HOW TO LOCATE CHIMNEY EXIT AND INSTALL

## Residential and Mobile Home Installation

- F. Vertical Wall Exit using (6" DVL Close Clearance Pipe and Elbow and any Listed 2100° UL HT chimney and Listed 2100° UL HT T-Box assembly).  
With optional close clearance shield and pipe shield NOTE: For installation of optional close clearance shields and pipe shield (See Page 33).**

NOTE: For minimum clearances (See Page 26, Figure 17).

If pedestal kit is being used and outside air is required (See Page 13).

1. Mark plumb line on wall directly behind center of heater.  
(See Page 26, Figure 18).  
**NOTE:** When using DVL Close Clearance Pipe, maintain manufacturer's minimum clearances between pipe and ceiling.
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 (Page 26, Figure 18). This will give you center of hole for chimney penetration.
4. After locating center of the penetration, install the tee-box and chimney, per chimney manufacturer's specifications.
5. Connect the DVL close clearance pipe to tee-box, per manufacturer's instructions. DVL close clearance pipe is to be connected with (3) sheet metal screws or rivets to connector collar on heater.(See Page 26, Figure 18).
6. NOTE: If your local code requires outside air for residential installation, refer to pages 13-14 for outside air installation.

**F. Vertical wall exit using (6" DVL Close Clearance pipe with elbow and any listed 2100° UL 103 HT. TYPE Chimney and Listed 2100° UL HT T-Box assembly).  
With optional close clearance shield and pipe shield.  
Model 21 minimum clearance to combustibles.**

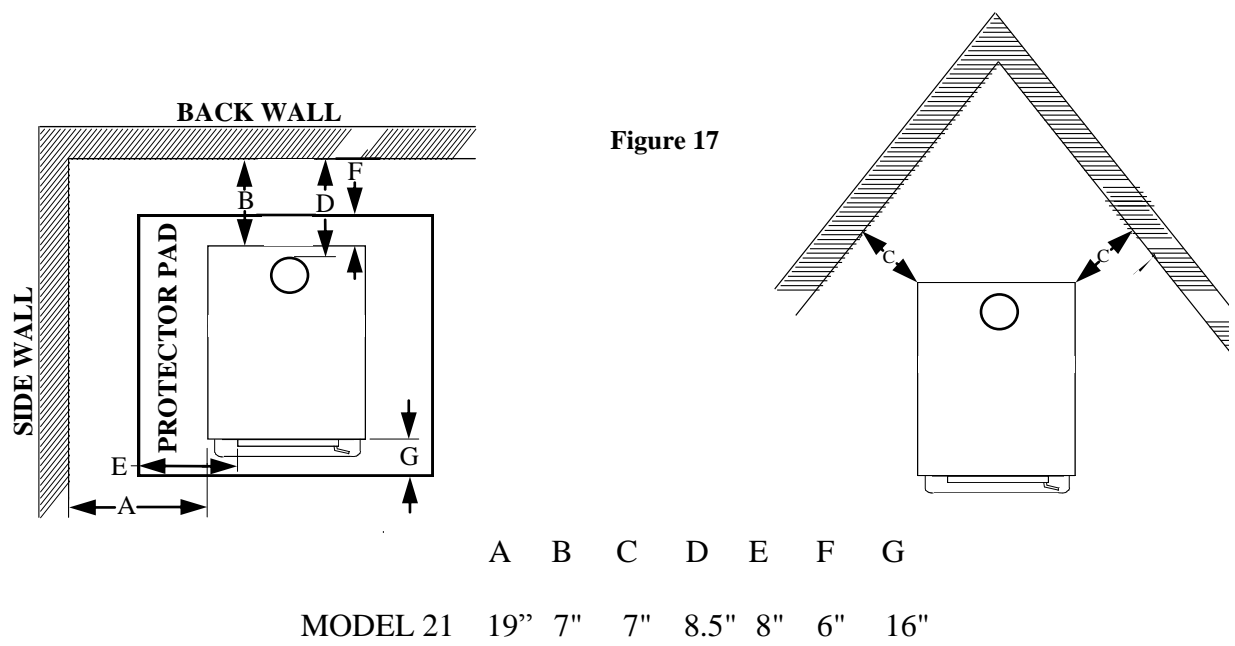


Figure 17

**NOTE:** All clearances are to combustibles with close clearance shields and pipe shield, DVL Close Clearance pipe with elbow and minimum floor protector.

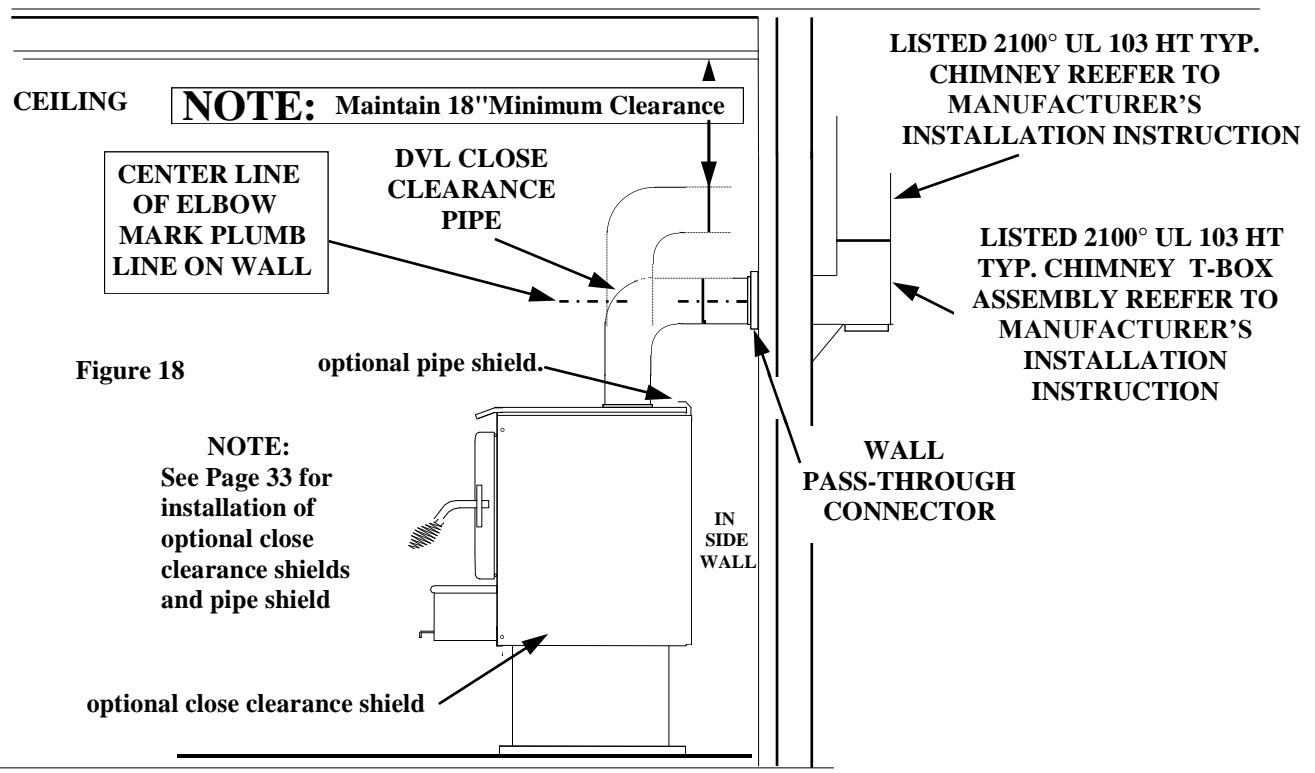


Figure 18

**NOTE:** Maintain 18" Minimum Clearance

CENTER LINE OF ELBOW MARK PLUMB LINE ON WALL

**NOTE:** See Page 33 for installation of optional close clearance shields and pipe shield

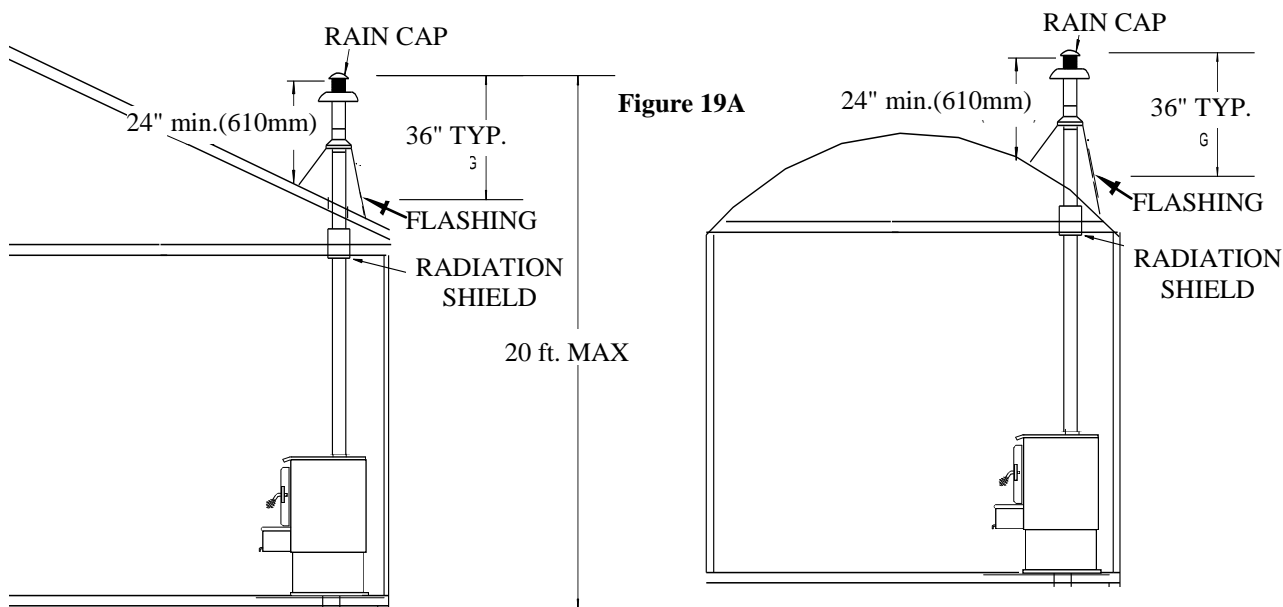
## Ceiling Exit (Using Close Clearance listed chimney)

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 hole.
2. After locating center of hole install ceiling support box, chimney flashing and rain cap. Only use 2100° UL 103 HT chimney and parts listed in this manual, per chimney manufacturer's instruction.

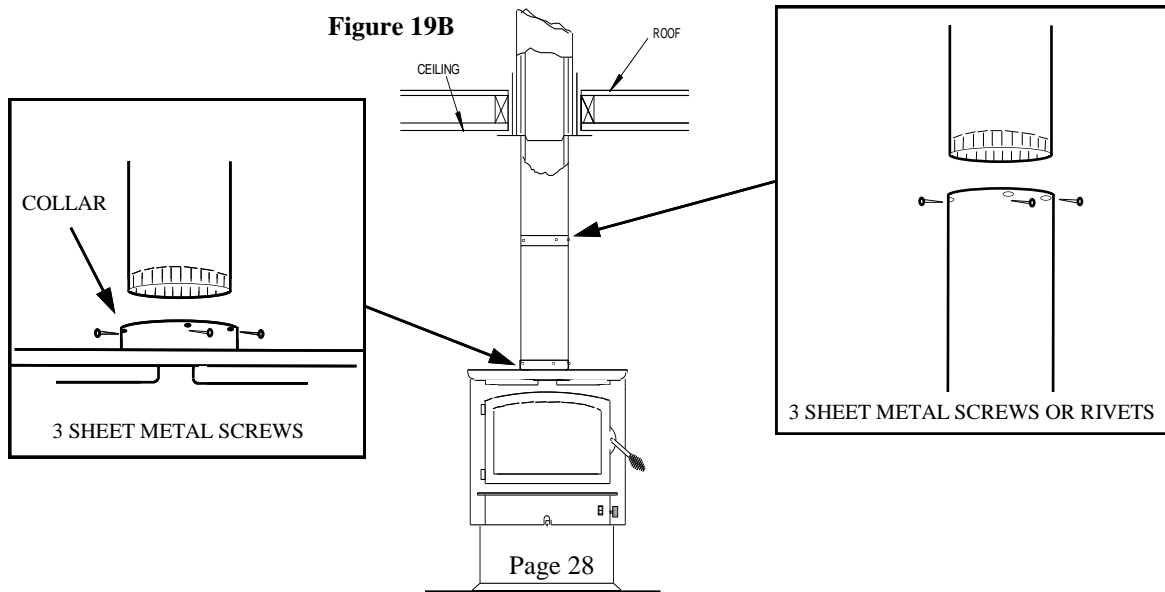
### CAUTION

**REFER TO CHIMNEY MANUFACTURER'S 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 following are met:
  - (a) Chimney pipe is 3 feet higher than roof at point where it penetrates roof.
  - (b) Chimney pipe height is at least 2 feet higher than any part of roof within 10 feet of chimney.
 (See Figure 19A).



4. Using only double wall chimney connector listed in this manual (See Page 11), connect heater to chimney by following chimney manufacturer's installation instructions exactly. (See Figure 19B).



## FINAL CHECK

1. Recheck specified clearances.
2. Remove all foreign material from firebox area.
3. Open primary air draft.
4. Plug power cord into a 115V AC outlet when using with optional motor. Do not run cord under unit or in high traffic areas.
5. Place crumpled pieces of newspaper in the stove. Light it and close the door. Ensure that stove draws properly through primary draft.
6. Check for smoke leaks around the door.

### CAUTION

**Open the door and check for smoke escaping from the 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 the chimney heats up, a proper draft can usually be obtained.**

If a thorough review of the Troubleshooting Guide in the 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 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 V

## ALCOVE INSTALLATION AND CLEARANCES

Select an installation location that will give the best airflow from the front of the heater to the remainder of the home

### PREPARING THE STOVE FOR INSTALLATION

1. Inspect the unit for any obvious physical damage.
2. Plug the power cord into a 115V AC outlet to test the motor and fan when optional motor is being used. Do not run power cord under unit or in high traffic areas.
3. Check the primary air draft control to ensure that it slides freely.(See Figure 20).
4. Remove any items from within firebox. Spread a dropcloth on door behind heater. Next, tilt heater so that back is on the drop cloth.
5. If leg kit is to be used follow steps 1-6.
6. Then obtain four legs, attach legs to holes in bottom of unit with bolts and washers supplied with the leg kit. (See Figure 20).
7. Open freestanding kit and obtain stand. Place stand against bottom of heater (angle side to heater).Center stand front to rear and also center stand left and right. Mark screw locations on bottom of the stove through outer holes of stand mounting angles. Set stand aside and drill four 7/32" holes in heater bottom.Then mount stand to bottom of heater with screws provided. (See Figure 21).
8. Obtain four (4) 3/16" self-tapping screws and secure the stand to the heater.
9. Reposition the heater to the upright position.

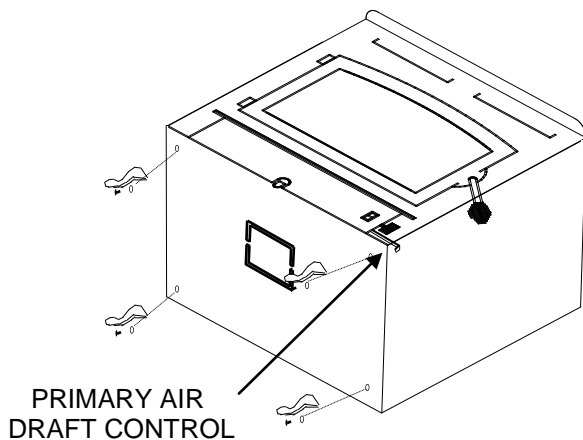


Figure 20

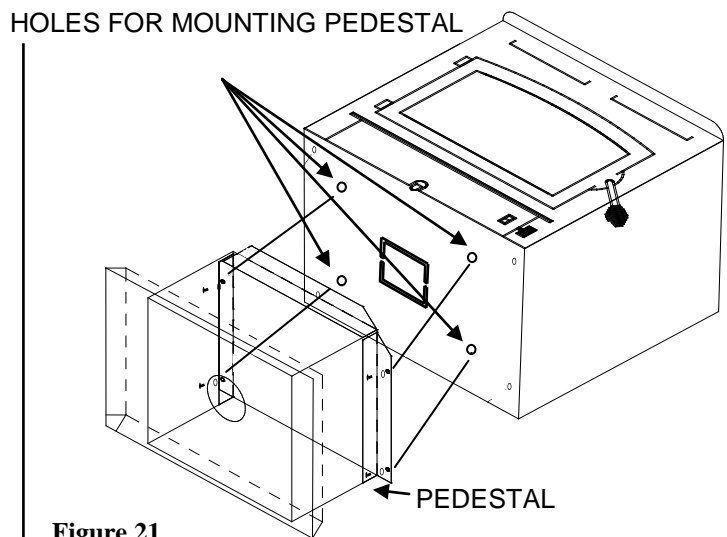


Figure 21

## Chimney

This model is designed for connection to any listed 2100° UL103 HT chimneys and parts. Follow chimneys manufacturer's instructions carefully.

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.

## Floor Protection:

Floor protection 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:

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

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

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

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

# HOW TO LOCATE CHIMNEY EXIT AND INSTALL

## Alcove Installation

**Vertical Exit using (6" DVL Close Clearance pipe and any Listed 2100° UL 103 HT chimney).**

**With optional close clearance shield and pipe shield. NOTE: For installation of optional close clearance shields and pipe shield (See Page 33).**

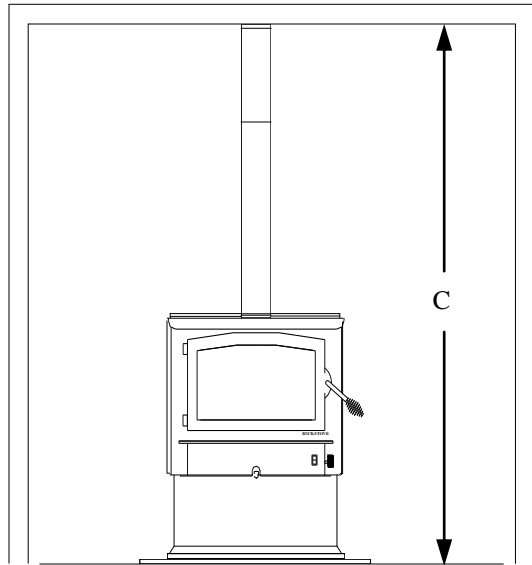
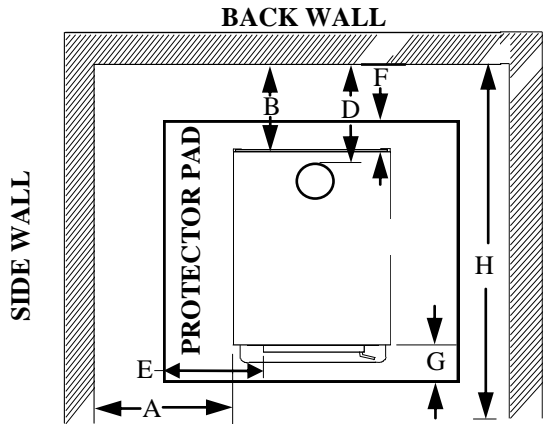
NOTE: For minimum clearances (See Page 32, Figure 22).

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 the center of the chimney.
2. After locating center of hole, install the 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 DVL close clearance pipe. Connect each section per manufacturer's instructions. Secure each section to each other using minimum (3) sheet metal screws or rivets. DVL close clearance is to be connected with (3) sheet metal screws or rivets to connector collar on heater.(See Page 27,Figure 19B).
4. NOTE: If your local code requires outside air for residential installation, refer to pages 13-14 for outside air installation.

# ALCOVE INSTALLATION AND CLEARANCES

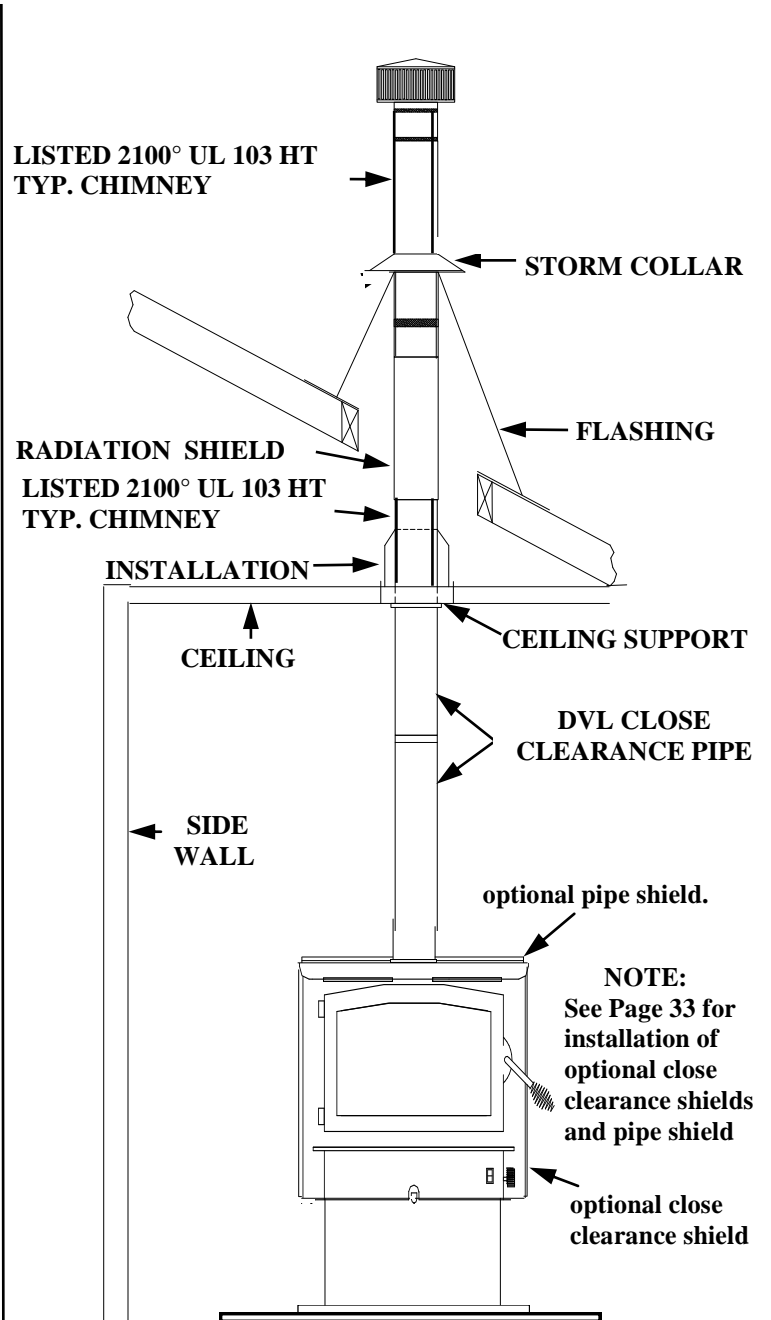
**Vertical exit using (6" DVL Close Clearance pipe and any listed 2100° UL 103 HT. TYPE Chimney).  
With optional close clearance shield and pipe shield.  
Model 21 minimum clearance to combustibles.**

Figure 22



	A	B	C	D	E	F	G	H
MODEL 21	19"	7"	84"	8.5"	8"	6"	16"	48"

Figure 23

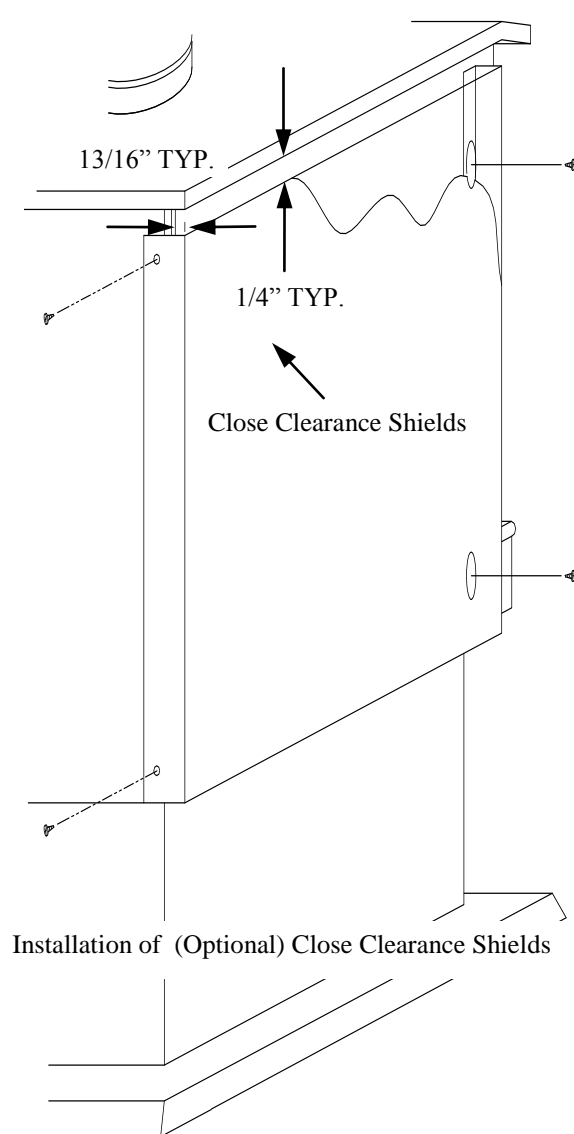
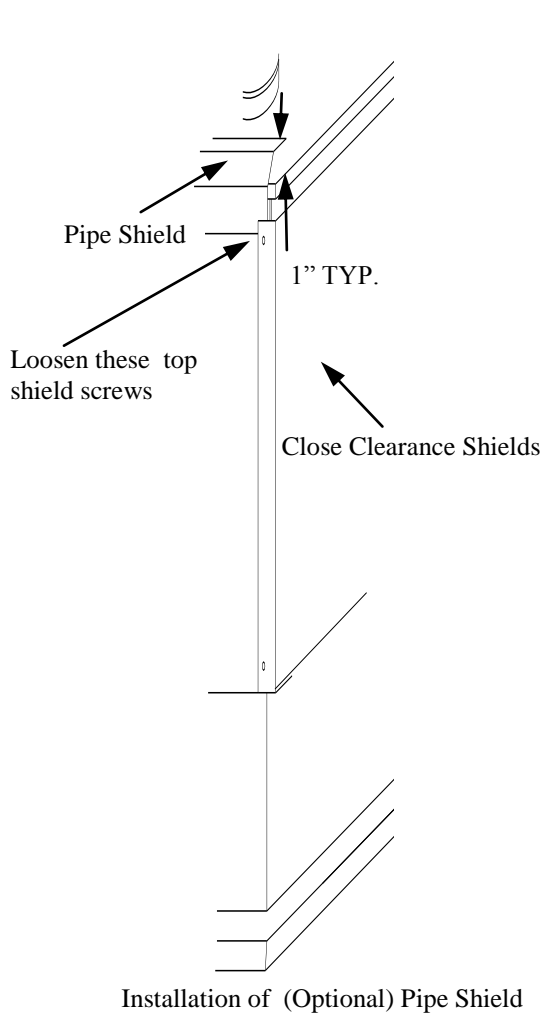


**NOTE:**  
See Page 33 for installation of optional close clearance shields and pipe shield

**NOTE:** All clearances are to combustibles with optional close clearance shields and pipe shield, using DVL Close Clearance pipe and minimum floor protector.

## Installation of (Optional) Close Clearance Shields and Pipe Shield

1. Taking close clearance side shields, hold up to side of stove leaving 1/4" gap between shield and top of stove.
2. Make reference mark in center of pre-punched hole in top & bottom of shield. Drill two (2) 3/32" holes in back of unit on each side. Insert self tapping screws in through shield into stove.(SEE PICTURE BELOW)
3. Drill two (2) 3/16" holes in the sides of the stove where the shield meets the front side. Insert two (2) 3/8" self-tapping screws. (SEE PICTURE BELOW)
4. Next loosen two (2) top screws holding side shield at rear top. Insert pipe shield where back shield and top rear side shield meets. Leave a 1" gap from the top of stove to the pipe shield, tighten screws.(SEE PICTURE BELOW)



## FINAL CHECK

1. Recheck specified clearances.
2. Remove all foreign material from firebox area.
3. Open primary air draft.
4. Plug power cord into a 115V AC outlet when using with optional motor. Do not run cord under unit or in high traffic areas.
5. Place crumpled pieces of newspaper in the stove. Light it and close the door. Ensure that stove draws properly through the primary draft.
6. Check for smoke leaks around the door.

### CAUTION

**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 the 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 the Troubleshooting Guide in the manual does not reveal the 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 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 VI OPERATION

This section of the 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. The manufacturer recommends that for maximum performance burn dried natural seasoned hard wood.

**Build a fire for maximum efficiency.** These models burn wood and extract heat so efficiently, a large fire is not necessary. A large fire not only wastes energy, it usually results in the 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. Open primary air control under hearth, push in. To close pull all the way out.
3. Twist two pieces of non-colored newspaper into a roll and place them on the floor of firebox.
4. These models are not designed for the use of grates, andirons or other methods of supporting fuel.

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

5. Lay several pieces of dry kindling on top of newspaper.
6. Place three or four small pieces of firewood, 2-3" in diameter, on top of kindling.
7. Light newspaper in the 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 the 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. You are over heating the unit if the chimney and or connector glows red.
8. After embers and a coal bed have been established, load heater with dried natural seasoned hard wood.

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

**NOTE:** If optional blower is being used on the Model 21. Your stove is equipped with a automatic thermostat. When the stove gets hot enough, the thermostat will activate the room air blower. Set fan speed according to desired heat output.

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

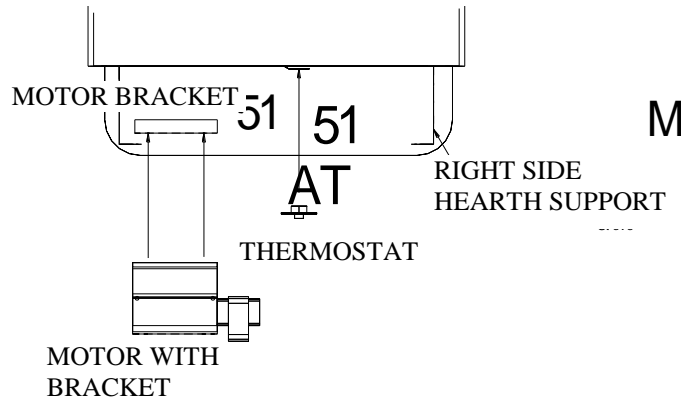
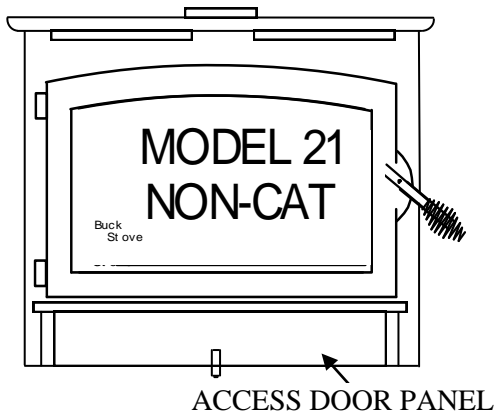
**NOTE:** Do not run power cord underneath heater or in walk way or heavy traffic areas.

# OPTIONAL MOTOR ASSEMBLY KIT INSTALLATION INSTRUCTIONS

- STEP 1: REMOVE ACCESS DOOR PANEL LOCATED AT BOTTOM OF UNIT. YOUR MOTOR ASSEMBLY COMES WITH A BRACKET ALREADY ATTACHED TO THE MOTOR. ALIGN THE HOLES IN MOTOR BRACKET WITH HOLES IN MOTOR MOUNT. SECURE BRACKET WITH TWO ½" HEX HEAD SCREWS PROVIDED.
- STEP 2: REMOVE THE PROTECTIVE BACKING OFF THE RHEOSTAT INDICATING LABEL AND PLACE THE HOLE IN CENTER OF LABEL TO LINE UP WITH HOLE IN THE RIGHT SIDE HEARTH SUPPORT AS YOU FACE THE UNIT. PLACE LABEL SO "OFF" POSITION IS AT THE 8 O'CLOCK POSITION AND "LOW" IS AT 4 O'CLOCK POSITION. MOUNT RHEOSTAT BY PLACING IT BEHIND HEARTH SUPPORT WITH WIRES ON BOTTOM SIDE. PLACE PLASTIC STUD SUPPORT WITH WIRES ON BOTTOM SIDE. PLACE PLASTIC STUD THROUGH HOLE IN BRACKET AND SECURE WITH RHEOSTAT MOUNTING NUT. PLACE INDICATOR KNOB ON PLASTIC STUD.
- STEP 3: REMOVE STRAIN RELIEF COVER FROM HEARTH SUPPORT AND DISCARD. MOUNT POWER CORD STRAIN RELIEF HOLDER IN COVER MOUNTING HOLES. PLACE THERMOSTAT BEHIND "C" CLIP LOCATED UNDER HEARTH TO THE RIGHT OF MOTOR. USE CABLE TIE TO SECURE LOOSE WIRES.
- STEP 4: REINSTALL ACCESS DOOR PANEL.
- STEP 5: PLUG POWER CORD INTO SUPPLY OUTLET. PLACE RHEOSTAT INDICATING KNOB IN POSITION DESIRED. WHEN HEATER REACHES TEMPERATURE, FAN WILL OPERATE AT DESIRED SPEED.

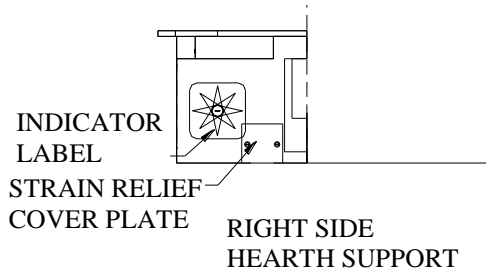
IT WILL BE NECESSARY TO OCCASIONALLY CLEAN FAN BLADES FOR MAXIMUM PERFORMANCE. DUST AND DIRT BUILDUP ON FAN BLADES WILL SHORTEN MOTOR LIFE AND RESTRICT AIR FLOW WHICH COULD DAMAGE MOTOR.

# STEP 1

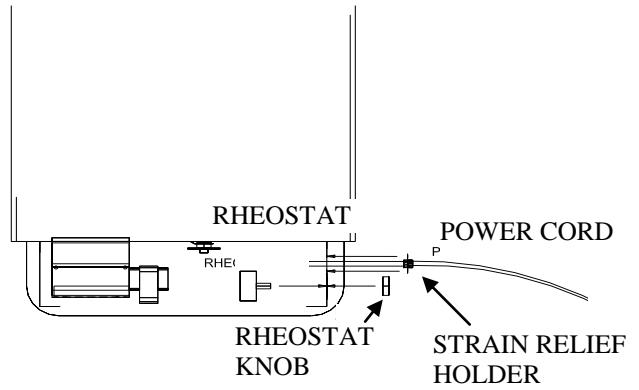


MODEL 21  
NON-CAT  
Buck Stove

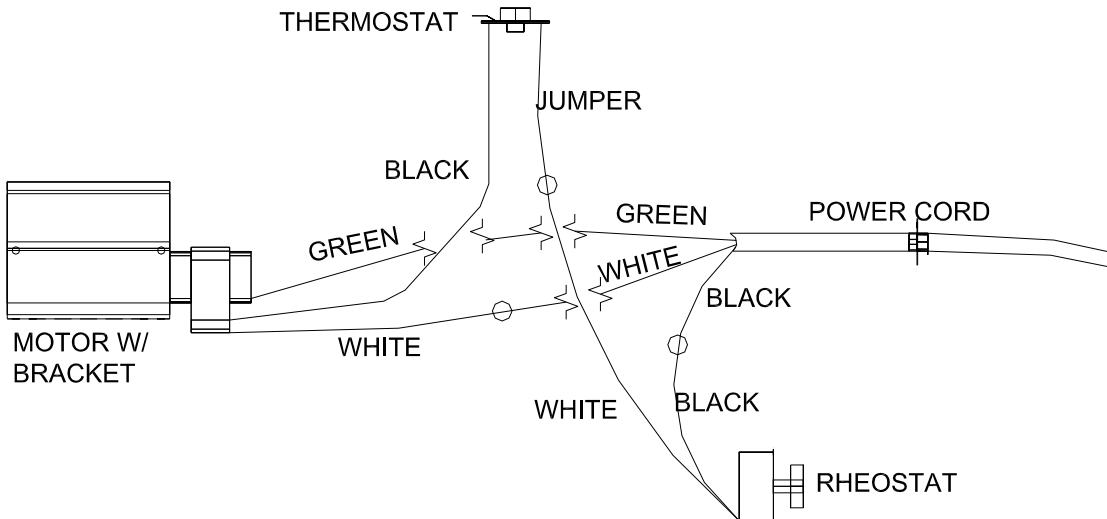
# STEP 2



# STEP 3



# WIRE DIAGRAM



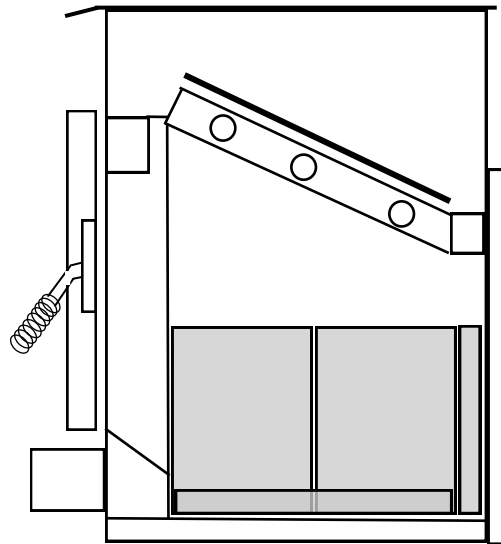
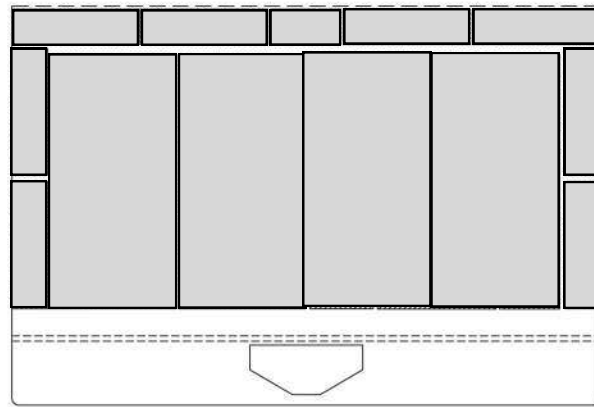
## OPTIONAL MOTOR KIT ASSEMBLY PARTS

- 1 - MOTOR (NON-CAT)
- 1 - MOTOR BRACKET
- 6 - #10 - 16 X 1/2" HEX HEAD
- 1 - #6 - 32 X 1/2" SLOT HEAD SCREW
- 5 - 1/8" X 1" BLACK FLAT GASKET WITH ADHESIVE
- 1 - JUMPER WIRE 4" MALE & FEMALE TERMINAL
- 1 - 110 THERMOSTAT
- 1 - RHEOSTAT
- 1 - RHEOSTAT NUT
- 1 - RHEOSTAT INDICATOR KNOB
- 1 - RHEOSTAT LABEL
- 1 - POWER CORD
- 1 - STRAIN RELIEF
- 1 - 6" WIRE TIE
- 1 - STRAIN RELIEF HOLDER (METAL)
- 1 - WIRE TIE FOR POWER CORD
- 1 - INSTRUCTIONS

**SECTION VII**

**MAINTENANCE**

**BRICK LAYOUT**

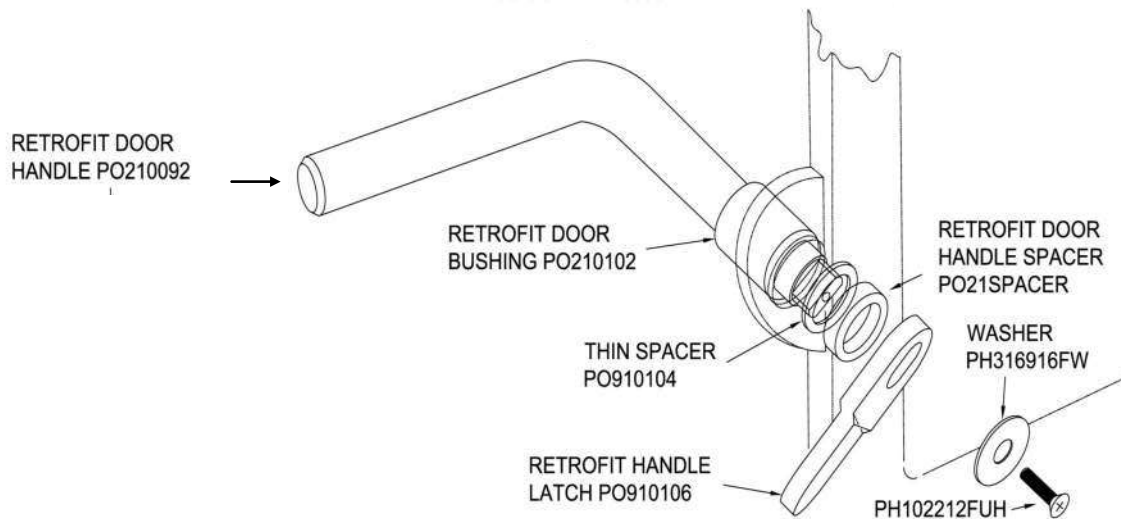
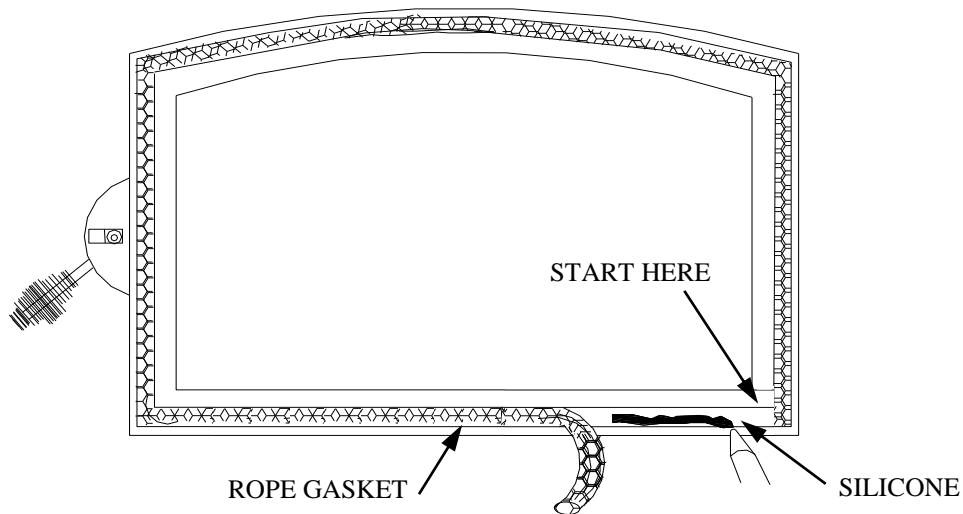


# MAINTENANCE

## 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 starting at lower right corner, see below. 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 two (2) hours 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.



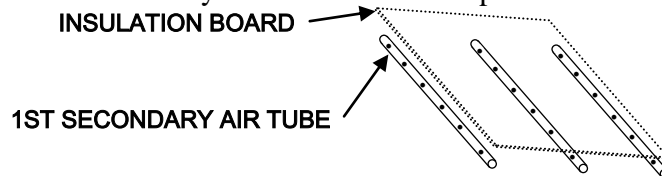
# MAINTENANCE

## CHECK CHIMNEY

- A. Chimney should be inspected twice a year.
- B. The chimney should be cleaned as necessary to remove creosote, soot, leaves, birds' nests, etc.

Before sweeping the chimney a few steps must be done.

1. Open feed door and remove the 1st Secondary Air Tube by removing cotter pin up in right side facing stove. Remove Air Tube and cotter pin, set aside.
2. Remove Baffle Board set aside.
3. Close feed door for cleaning chimney so debris don't fall out feed door while cleaning chimney.
4. Creosote and debris will fall into the bottom of the stove unit from the cleaning.
5. Clean out all the creosote and debris from inside stove unit, if any is left from clean sweeping chimney.
6. Replace Baffle Board and 1st Secondary Air Tube reverse steps 1-3



**⚠ NOTE:** 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 or 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

## SECTION VIII

### 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.

The chimney and chimney connector should be inspected once every two months. Any build-up of soot should be removed to prevent risk of a chimney fire. To remove chimney or chimney connector, remove screws or fasteners then remove pipe and clean with steel brush. Replace chimney or chimney connector. Replace screws and/or fasteners.

#### CAUTION

**NEVER USE GASOLINE, GASOLINE TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID OR SIMILAR LIQUIDS TO START OR "FRESHEN UP" A FIRE IN THE 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.**

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

**DISPOSAL OF ASHES:** Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials pending final disposal. If 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.

**CREOSOTE—FORMATION AND NEED FOR REMOVAL:** When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on flue lining. When ignited this creosote makes an extremely hot fire.

# REPLACEMENT PARTS FOR MODEL 21

## PAGE 1

NOTE: For replacement parts use only manufacturer's specified parts.

Description	Quantity	Part No.
1. Door Gold	1	PC212400-G
2. Door Black	1	PC212400-B
3. Door Pewter	1	PC212400-P
4. Door Handle	1	PO210092
5. Retrofit Door Bushing	1	PO210102
6. Thin Spacer	1	PO910104
7. Retrofit Door Handle Spacer	1	PO21SPACER
8. Retrofit Handle Latch	1	PO910106
9. Door Latch Washer	1	PH316916FW
10. Door Latch Screw	1	PH102212FUH
11. Door Roping 3/4"	1	RPFR2LD.750G
12. Glass Gasket	1	RPTKW197X.875GA
13. Door Glass	1	PG2124GL
14. Firebrick	1	PR900050
15. Glass Clips Small	1	PO210767
16. Glass Clip Screws Hex/Washer Slot Machine Screw 10-32 X 1/2"	10	PH103211HWHMC
17. Cotter Pin	3	PH182CPSS
18. Spring Handle	1	PO100150
19. Inner Firebox Air Tubes	3	PO210026
20. Hearth Trim Black	1	PO810705-BLK

# REPLACEMENT PARTS FOR MODEL 21

## PAGE 2

NOTE: For replacement parts use only manufacturer's specified parts.

Description	Quantity	Part No.
21. Primary Air Plate	1	MF201034
22. Screws for Primary Air Plate to Air Control Rod Hex/Washer Slot Machine Screw 10-32 X 1/4"	2	PH103214HWHSM
23. Air Control Rod	1	MF201035
24. Front Air Control Bracket	1	MF740017
25. Screws for Front Air Control Bracket to Stove Hex/Washer Self Drilling Screw 1/4-14 X 1"	2	PH14141TEKP
26. Top Baffle Board 1/2" X 9 1/2" X 19"	1	POBPFB01
30. Rheostat-Opt. <b>-Optional</b>	1	PEBC204
31. Rheostat Knob <b>-Optional</b>	1	PEBC204A
32. Indicator Label <b>-Optional</b>	1	PEKB9724
33. Thermostat 110 disc <b>-Optional</b>	1	PE400132
34. Power Cord <b>-Optional</b>	1	PE400240
35. Strain Relief <b>-Optional</b>	1	PE400320
36. Blower Kit <b>-Optional</b>	1	MA5126715
37. Motor Only <b>-Optional</b>	1	PESBRO84
38. Close Clearance Shields- <b>Optional</b>	1	MA21SHIELD

**SECTION IX**  
**TROUBLESHOOTING**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Sluggish Heater	Obstruction in chimney	Check for and remove obstruction
	Improperly sealed trim kit or direct connect kit	(a) Check trim kit gasketing seal to fireplace and gasket as necessary to seal unit. Gasket under front bottom of stove if needed. (b) Check seal if using direct connect and correct
	Manual damper in chimney is closed	Open manual damper and wire shut with stainless steel wire or remove damper
	Wet or unseasoned wood being burned	Burn dried natural seasoned hard wood
	Poor chimney draft	Improper chimney height or wrong size flue is being used. Cooler temperatures caused by external chimney

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
High fuel consumption	Improper regulation of draft or inlet air	(a) Close inlet air control as much as possible to maintain desired heat output (b) Check gaskets, reinstall fiberglass gasketing round doors and glass as necessary
	Improper door fitting	Check door gasket, check adjustment of door latch
Backpuffing	Gusts of Wind	(a) Smoke shelf in chimney is filled with creosote & ash (b) Chimney may need wind diverter. Raise chimney for better draft
Smoke rollout when heater door is opened	Wind gusts blowing down the chimney	(a) Smoke shelf in chimney is filled with creosote & ash (b) Chimney may need wind diverter. Raise chimney for better draft
	Opening heater door too fast	Crack door for 15 seconds before fully opening door

**NEW BUCK CORPORATION (NBC)**  
**"LIMITED WARRANTY" FOR THE BUCK STOVE**  
**PLEASE READ THIS WARRANTY CAREFULLY**

**PRODUCTS COVERED**

This warranty covers the new Buck Stove 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, Firebrick or 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 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 period after first year from date of purchase and extending for five years as long as Buck Stove 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, 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 stove, including those removable with common hand tools. The costs of parts only are included. The customer pays any labor or transportation charges required.

**PROCEDURE**

Should you feel that your BUCK STOVE is defective, you should contact any Buck Stove dealer for the name of your nearest authorized Buck Stove 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 suggested procedures, you may contact us in writing at:

New Buck Corporation  
Customer Service Department  
P. O. Box 69  
Spruce Pine, NC 28777  
Email: info@buckstove.com

## CONDITIONS AND EXCLUSIONS

- (A) Replacement of parts may be in the form of new or fully reconditioned parts, at NBC's option.
- (B) There is no other express warranty. All implied warranties of merchantability and fitness for use are limited to the duration of the Express Warranty.
- (C) New Buck Corporation is not liable for indirect, incidental or consequential damages in connection with use of product including any cost or expense of providing substitute equipment or service during periods of malfunction or non-use.  
Some states do not allow the exclusion of incidental or consequential damages, so 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 the date of purchase or from the 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 Buck Stove Dealer Code Number and the Certified Installer's number (if applicable) for warranty coverage to begin.

To be completed by selling distributor/ dealer/ customer:

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

Address \_\_\_\_\_

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

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

**MODEL 21** - Serial Number \_\_\_\_\_

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

Installer's Name \_\_\_\_\_

Installer's Certification Number \_\_\_\_\_

Dealer's Name \_\_\_\_\_

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