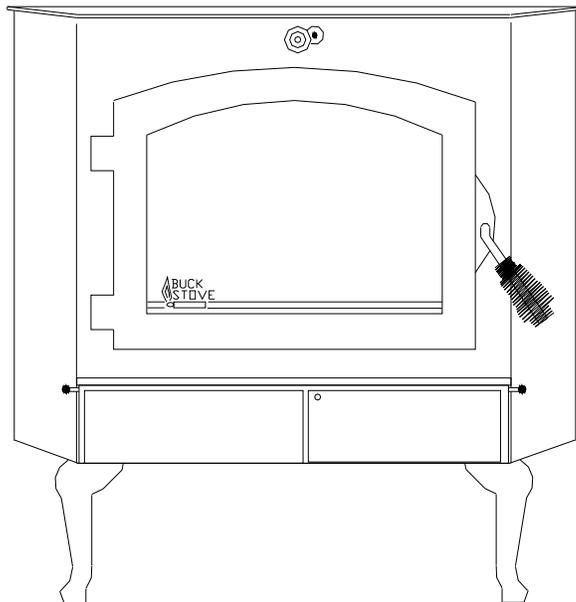


# BUCK STOVE

“MEETS PHASE II EPA STANDARDS”



## MODEL 80 HEATER

### FEATURES

PREPARATION      INSTALLATION  
OPERATION      MAINTENANCE      SAFETY

### SAFETY NOTICE

If this heater 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 requirements in your area.

Manufactured by New Buck Corp.—Spruce Pine, NC 28777—

Revised 2/03  
PN-PI-8000660

Tested by ITS





## TABLE OF CONTENTS

<b>SECTION I</b>	
Room Heater Features .....	3
Important Statements .....	5-6
<b>SECTION II</b>	
Masonry Insert Installation .....	7-10
<b>SECTION III</b>	
Residential Freestanding Heater Installation .....	11-17
<b>SECTION IV</b>	
Wood Heater Safety .....	18
<b>SECTION V</b>	
Operation .....	19-20
<b>SECTION VI</b>	
Preventive Maintenance/Parts Replacement .....	21-22
<b>SECTION VII</b>	
Troubleshooting .....	23-24
<b>WARRANTY</b> .....	25



# SECTION I

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The New Buck Corporation room heater Model 80 is one of the safest and most efficient heating systems available when installed and operated as specified in these instructions and as stipulated on the operation and installation labels affixed to the unit. The unit is designed to burn wood fuel only.

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

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

Install and use only in accordance with the manufacturer's installation and operating instructions. Do not connect this unit to a chimney flue serving another appliance. This unit is not designed for installation into a Mobile Home.

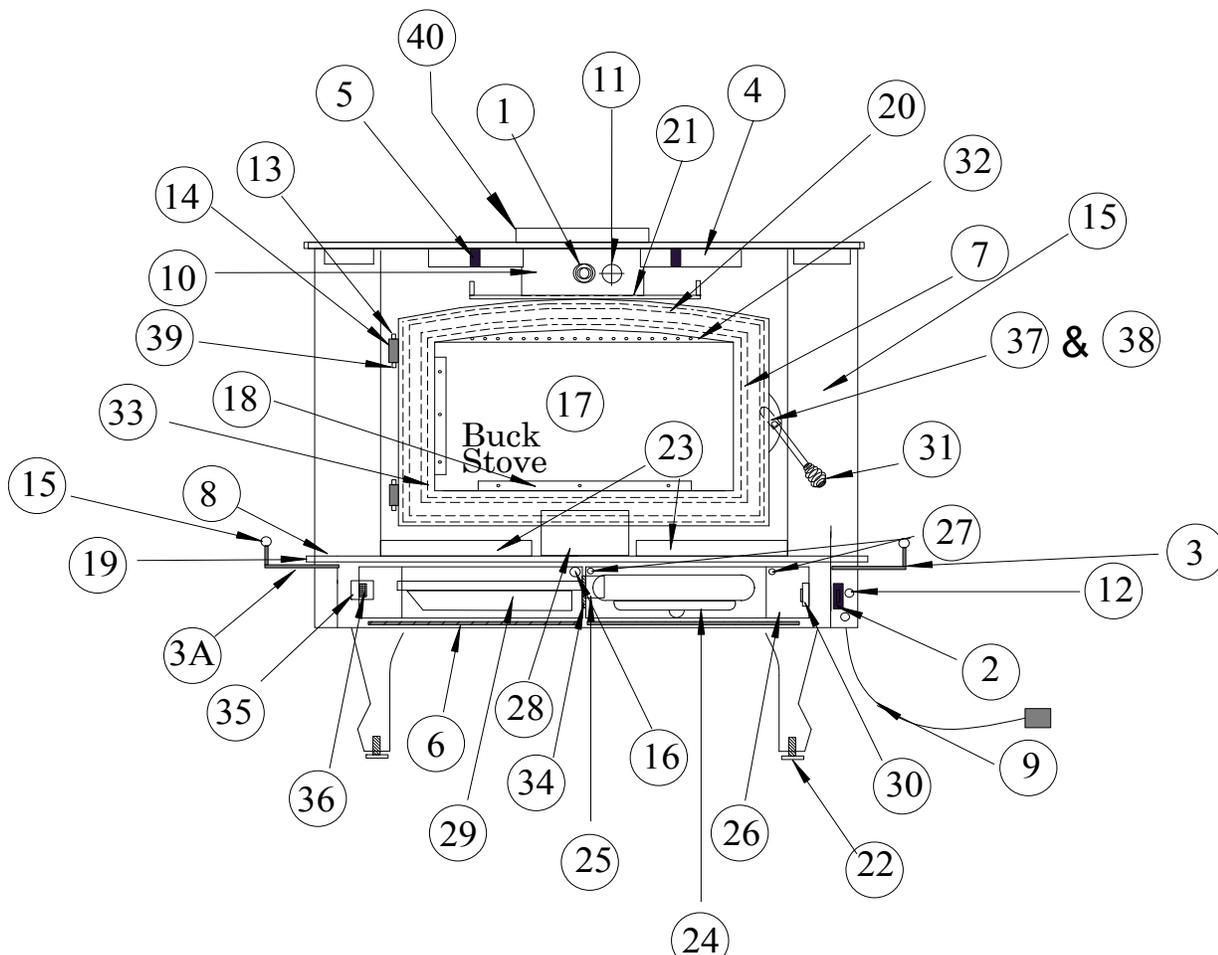
## ROOM HEATER FEATURES

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

 **WARNING:** Model 80 heater was not designed for fire grates.

1. **Bypass Damper:** The bypass damper control is located in the top center of the heater front just under the top. It is operated by pushing or pulling the rod. The damper is fully open when the handle is pulled out and fully closed when it is pushed in. The damper must be **open** before the door is opened.
2. **Blower Control:** The blower control (Rheostat) is located on the side of the unit. This switch controls the variable speed blower. For blower to operate turn switch from "OFF" position to either "LOW", "MEDIUM" or "HIGH". When stove temperature reaches 110° blower will automatically come on.
3. **Primary Air Controls:** The primary air intake draft controls are located at the left and right side of the hearth. They are operated by moving in and out to control the amount of primary air entering the firebox.
4. **Warm Air Outlets:** Provides heat extraction from the top of the firebox.
5. **Baffles:** Directs air flow around the unit for maximum heat transfer.
6. **Air Inlet:** Allows cool air near the floor to be circulated through the blower and back into the warm air chamber of the heater.
7. **Stand:** Elevates heater above the floor for safety and a neat appearance.
8. **Door:** Provides an "airtight" feature. The door allows a much higher burning efficiency than can be obtained with an open firebox.
9. **Hearth Extension:** Offers protection from spilled ashes and cinders.
10. **Power Cord:** Provides electrical power to operate the blower.
11. **Chimney Connector:** Used to connect unit to chimney or direct connect kit.
12. **Catalysts:** Enables the unit to burn cleanly and efficiently.
13. **Temperature Monitor:** The location can be used for either a fireplace insert or freestanding installation. Monitor hole is located to the right of the damper rod on the front. Remove plug and insert probe provided by manufacturer.
14. **Cover Door:** Conceals blower, blower controls and ash pan.
15. **Airway:** Primary air is directed in such a way as to provide a "sweeping" air wash over the glass to assist in keeping it clean.
16. **Ash Pan:** Provides for easy ash removal.

# Model 80 Wood Stove



- |                                         |                                       |
|-----------------------------------------|---------------------------------------|
| 1. By Pass Damper & Brass Spring Handle | 21. Lower Heat Shield                 |
| 2. Blower Control (Rheostat)            | 22. Leveling Screws                   |
| 3. Primary Air Control (Right Side)     | 23. Bottom Firebrick                  |
| 3a. Primary Air Control (Left Side)     | 24. Motor                             |
| 4. Warm Air Outlets                     | 25. Motor Mount Bracket               |
| 5. Baffles (Interior of Stove)          | 26. Cover Door                        |
| 6. Air Inlet                            | 27. Cover Door Screws                 |
| 7. Door                                 | 28. Shotgun Air Box                   |
| 8. Hearth Extension                     | 29. Ash Pan                           |
| 9. Power Cord                           | 30. Disc Thermostat                   |
| 10. Catalyst (interior firebox)         | 31. Door Handle & Brass Spring Handle |
| 11. Catalyst Probe                      | 32. Air Wash Screen                   |
| 12. Automatic / Off / Man. Switch       | 33. Glass Gasket                      |
| 13. Brass Cap                           | 34. Cover Door Hinge                  |
| 14. Hinge Block                         | 35. Magnet Holder                     |
| 15. Air Control Brass Knobs             | 36. Cover Door Magnet                 |
| 16. Shotgun Air Control                 | 37. Door Latch                        |
| 17. Door Glass                          | 38. Door Latch Screw                  |
| 18. Glass Clips                         | 39. Hinge Pins                        |
| 19. Hearth Brass                        | 40. 8" Flue Exit                      |
| 20. Door Gasket                         |                                       |

## **EPA COMPLIANCE STATUS**

This manual describes the installation and operation of the New Buck Corporation, Model 80 wood heater. These heaters 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 9,000 to 40,300 BTU/hr for the Model 80.

## **CATALYST EQUIPPED**

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

## **CATALYST WARRANTY**

The combustor supplied with this heater is a 3 cell catalyst with an overall dimension of 2" x 6" x 7". Consult the catalytic combustor warranty also supplied with this heater. All warranty claims should be addressed to:

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

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

## **PROPER FUEL SELECTION**

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

## **DO NOT BURN:**

Treated Wood	Garbage	Solvents	Trash
Coal	Cardboard	Colored Paper	

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

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

## **ACHIEVING CATALYTIC LIGHT-OFF**

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

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

During the refueling and rekindling of a cool fire, or a fire that has burned down to the charcoal phase, operate the stove at a medium to high firing rate for about 15 minutes to ensure that the catalyst reaches approximately 600° F.

## **CATALYST MONITORING**

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

This catalytic heater is equipped with the means to install a temperature probe to monitor catalyst operation. Properly functioning combustors typically maintain temperatures in excess of 1000° F. If catalyst temperatures are not in excess of 500° F refer to Catalyst Troubleshooting Section of this owner's manual.



### **CAUTION AGAINST OVER-FIRING**

Do Not Over-fire This Heater.

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

## **ASH REMOVAL**

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

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

# SECTION II

## MASONRY INSERT INSTALLATION INSTALLATION PRECAUTIONS

It is not necessary to direct connect this unit, but testing has shown that it is necessary for best performance in a poorly drawing flue, oversized flue liner or a short chimney.

Use the following to complete the installation of the unit as an insert:  
Kit # PA FP80

**Note:** Clearances to mantel may be reduced by using a tested or listed mantel shield.

## INSTALLATIONS (Fireplace Insert)

Minimum Clearances to Combustible Materials (in inches):

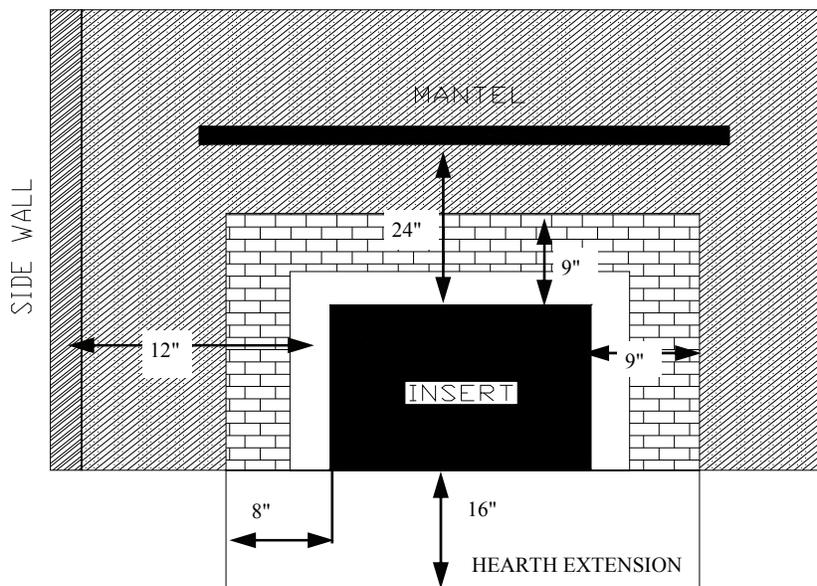


FIGURE 1

FIREPLACE INSERT

## MINIMUM CLEARANCES:

The Model 80 Fireplace Insert is intended for installation in accordance with the standard for chimneys, fireplaces, vents, and solid-fuel burning appliances. NFPA-211 Code: **NOTE:** This model is not intended for installation into zero clearance or pre-fabricated fireplace.

1. The hearth must be of masonry construction and must extend a minimum of 16" in front of the firebox opening and a minimum of 8" to either side of the firebox opening.
2. Floor protector must be 3/8" minimum thickness non-combustible material or equivalent.
3. If your fireplace has wood trim above it, the wood trim must be at least 9" above the top of the unit.
4. If your fireplace has a wood mantel, the mantel or mantel supports must be located at a height of 24" above the top of the unit.

## REQUIRED FIREPLACE DIMENSIONS

Minimum and/or maximum fireplace dimensions:

	Height		Width	
	Min.	Max.	Min.	Max.
Model 80	23 1/2"	32 1/2"	29"	46"

## **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

Insulation (Provided in trim kit package)

## **INSTALLATION PREPARATION**

### **Fireplace**

1. Locate furniture and other materials away from the front of the fireplace to allow free access to the fireplace.
2. Cover the hearth and adjacent floor areas with the drop cloths to protect from soiling or scarring the surface.
3. Remove the existing fireplace damper plate.
4. Thoroughly clean the fireplace of ashes and soot.
5. Check the chimney and smoke chamber for excessive buildup of creosote or soot. Also, check for obstructions, such as birds' nest. If the chimney is excessively dirty, clean it, or have someone clean it professionally BEFORE installing the room heater.
6. If the 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 the fireplace chamber.

### **Heater Preparation**

1. Inspect the unit for any obvious physical damage.
2. Check the primary air draft controls to ensure that they slide freely.
3. Check the operation of the damper control to ensure that it will open and close properly.

It is not necessary to direct connect this unit unless installed in an improper drawing fireplace or oversized flue.

## **POSITIONING THE HEATER**

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

1. The front of the damper opening must be BEHIND the rear edge of the lintel to ensure proper draft. (See Figure 2)
2. The vertical plane of the fireplace front must fall BEHIND the side panels of the unit. (In other words, it is possible to have the heater too far in as well as not far enough.)
3. Center the heater in the fireplace opening.

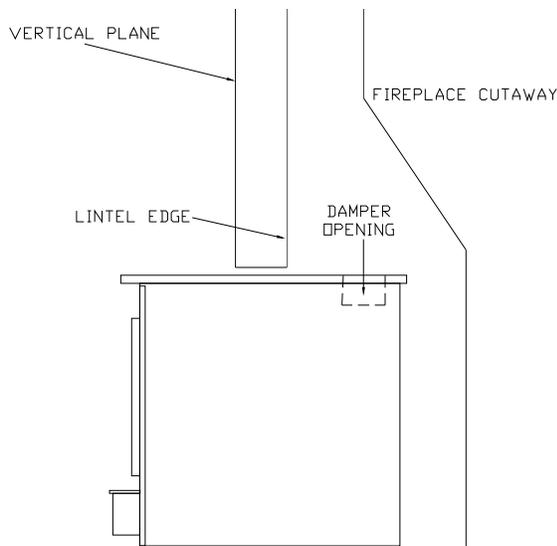


FIGURE 2 POSITIONING

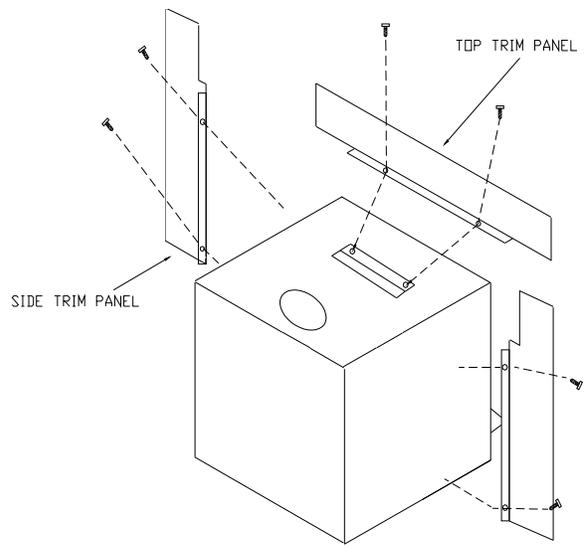


FIGURE 3 MOUNTING TRIM PANELS

## MOUNTING THE TRIM PANELS

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

1. Set the side trim panels in place, flat against the face of the fireplace. Mark down the inside edge of the trim panel to make a vertical reference line.
2. Set the top (long) trim panel in place on top of the unit. The panel should be flat against the outside face of the fireplace, and standing vertically. Mark along the lower edge of the trim panel with a pencil to make a reference line for mounting.
3. Slide the unit out of the fireplace far enough to work behind the trim panel reference lines.
4. Mount the side trim panels. (See Figure 3)
  - A) Position the trim panel on the reference line.
  - B) Drill mounting holes in center of the trim panel mounting brackets to allow for adjustment in and out if necessary.
  - C) Mount the trim panel using self tapping screws provided.
5. Mount top trim panel to the side panes with screws provided.
6. Next slip the brass trim over the top edge of the trim panels and slide all the way down until sides and tops interlock.
7. Slide the unit back into the fireplace. Check to be sure that the trim panels (and brass) are properly positioned and lie flat against the front of the fireplace. If one or more of the panels is out of position, slide the unit out and reset by loosening the mounting screws and repositioning in the slot. (See Figure 5)

**NOTE:** If side and top panels gap due to unevenness of fireplace (normally on rock faced fireplaces), you will need to drill a 5/32" hole through both side and top panels near where the panels intersect and install a #10 self threading screw to eliminate the gap. (Paint screws to match.)

8. Using insulation provided peel and stick to back of panels overlapping fireplace dimension by 1" each side on top. (See Figure 4)
9. Next using high silicone or furnace cement run bead of caulking on backside of panel where they meet stove. (See Figure 4)
10. Steps 10 and 11 will not be necessary when using direct connect or positive connect.

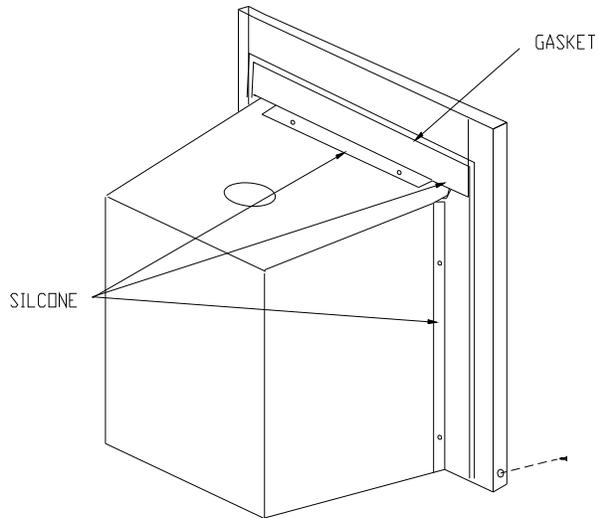


FIGURE 4

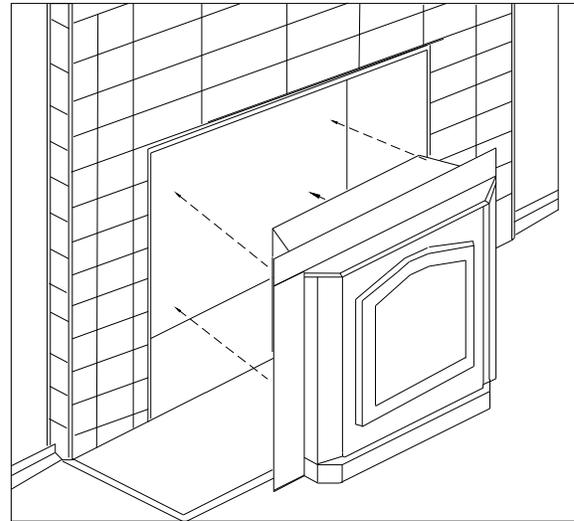


FIGURE 5

11. Pull the unit back out of the fireplace and remove the brass and top trim panel to facilitate the installation of the direct connect or positive connect.
12. Now, follow the installation procedures in the listed direct or positive connect kit you are using and install the heater and connector kit in the fireplace.
13. Reinstall the top trim panel.
14. Obtain the brass trim and slip over the top and sides.

## FINAL CHECK

1. Recheck the specified clearances.
2. Remove all foreign material from the firebox area.
3. Open the primary air drafts and damper bypass.
4. Plug the power cord into a 115 VAC outlet.
5. Place crumpled pieces of newspaper in the stove. Light it and close the doors. Ensure that the stove draws properly through the primary drafts.
6. Check for smoke leaks around the door.
7. Open the doors and check for smoke escaping from the front of the 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.

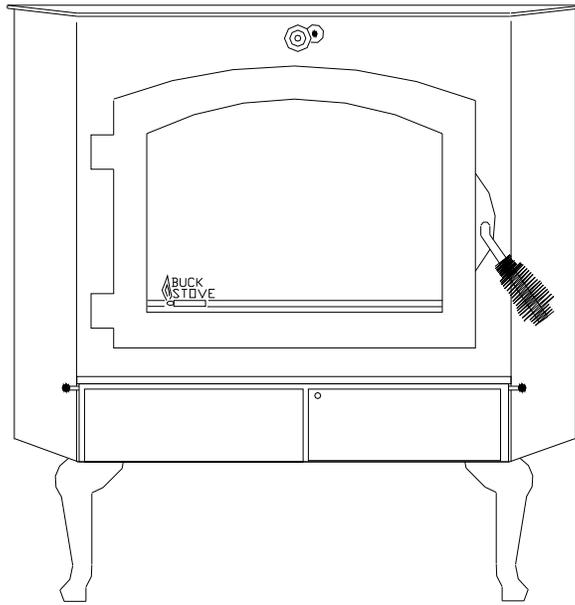
If a thorough review of the Troubleshooting Guide in the rear of the manual does not reveal the problem contact your dealer for assistance.

**NOTE:** The unit is painted with a specially formulated high temperature paint that cures during the first two or three firings. You may notice a slight smoking effect and an odor of burning paint when you build 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 III

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## RESIDENTIAL FREESTANDING ROOM HEATER INSTALLATION



### INSTALLATION PRECAUTION

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

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

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

Use pedestal kit as follows:

Model 80 #4171B



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

## MODEL 80

### Minimum Clearances

The New Buck Corporation Model 80 must be installed in compliance with the instructions contained in this manual.

Clearance from combustible walls and ceilings. (Using single wall chimney connector)

The minimum lateral distance between any part of the room heater and combustible wall is shown in Figures 6 and 7.

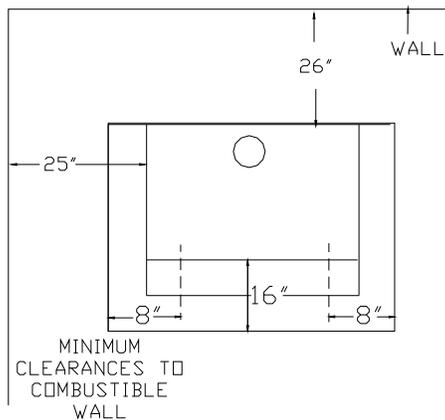


FIGURE 6

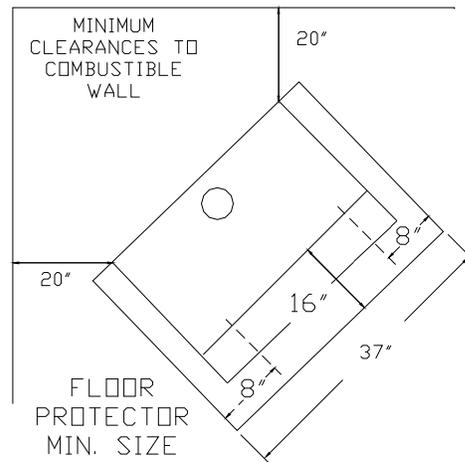


FIGURE 7

## FLOOR PROTECTION

If a freestanding model is to be installed on a combustible floor, a non-combustible pad must be placed below it to protect the floor from burning material from the stove. The pad must be 37" wide by 37 1/2" deep. Floor protector must be 3/8" in minimum thickness, non-combustible material or equivalent.

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

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

## TOOLS FOR INSTALLATION

Drop Cloth  
Electric Drill with 7/32" drill bit  
1/2" - 9/16" combination wrench  
3/8" magnetic socket chuck adapter, 3/8" wrench (box or socket) or adjustable wrench  
Socket Set  
Tape Measure  
Pencil  
Level  
Screw Driver

## Preparing The Stove for Installation

1. Inspect the unit for any obvious physical damage.
2. Check the primary air draft controls to ensure that they slide freely.
3. Check the operation of the bypass damper control to ensure that it will open and close properly.
4. Remove any items from within the firebox. Spread the drop cloth on the floor behind the heater. Next, tilt the heater so that the back is on the drop cloth.
5. Using a tape measure, make a line down 3" from the front of the heater.
6. Open the corresponding box and obtain the pedestal. Place the pedestal against the bottom of the heater (angle side to heater) at the marked line. Center the pedestal left and right and mark screw locations on bottom through outer holes of pedestal mounting angles. Set pedestal aside and drill four 7/32" holes in heater bottom.
7. Obtain four 1/4" self tapping screws and secure the pedestal to the heater.
8. If you chose legs rather than a pedestal, open box, attach legs to pre-drilled holes in bottom of heater.
9. Reposition the heater to the upright position.
10. Obtain the chimney connector from your dealer. Position on top of stove at flue exit. Position the two "J" bolts in connector using lock washer and nuts provided. Lock in place.

## CHIMNEY

### Ceiling Exits (using Single Wall Pipe and UL 103 HT type chimney system listed with manufacturer in this section of manual)

The Model 80 is designed for connection to:

- (1) Simpson Duravent (2) Security (3) Selkirk Metalbestos (4) Metal Fab (5) Air Jet, listed as 2100 degree pipe and parts.

Follow the chimney and chimney connector manufacturer's instructions and local building codes for installation through combustible walls or ceilings.

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

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

### DETERMINING THE CHIMNEY LOCATION

1. Suspend a plumb bob from the ceiling above the unit so that the weight is hanging in the center of the flue exit. (A small weight on a string will serve as a plumb bob.) Mark the ceiling where the string is suspended to locate the center of the chimney.
2. After locating the center of the hole, install the ceiling support box, chimney or chimney connector, flashing, and rain cap per the chimney manufacturer's instructions, and local building codes for installation through combustible walls or ceilings.

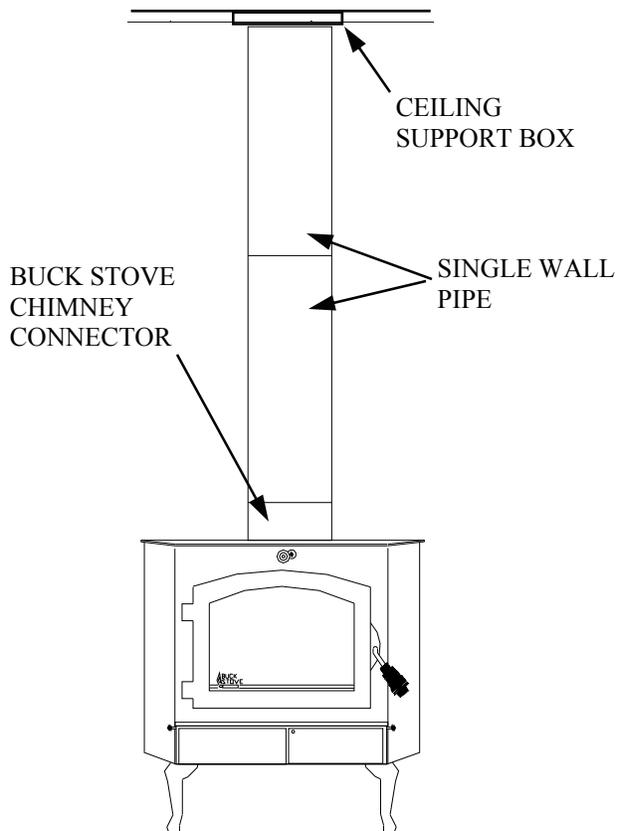


FIGURE 8

- Now connect the stove to the ceiling support box by using #24 ga. minimum blued or black steel chimney pipe. (Do not use galvanized pipe.) Connect each section so the crimped end faces downward, and secure each section to each other using at least three (3) sheet metal screws or rivets. (See Figure 8)

### Wall Exit Into Metal Tee-Box

- Mark the plumb line on the wall directly behind the center of the heater. (See Figure 9)

**NOTE:** When using #24 ga. min. blue or black steel pipe, maintain 18" between pipe and ceiling.

- Place the vertical portion of the heater pipe and the elbow in position and project a point onto the plumb line level with the center of the elbow.
- Measure up so there will be at least 1/4" rise per foot of horizontal connector pipe, maintaining clearances to the ceiling as noted in Figure 10. This will give you the center of the hole for the chimney penetration.
- After locating the center of the penetration, install the tee-box and chimney as per the chimney manufacturer's specifications and local building codes for installation through combustible walls or ceilings.

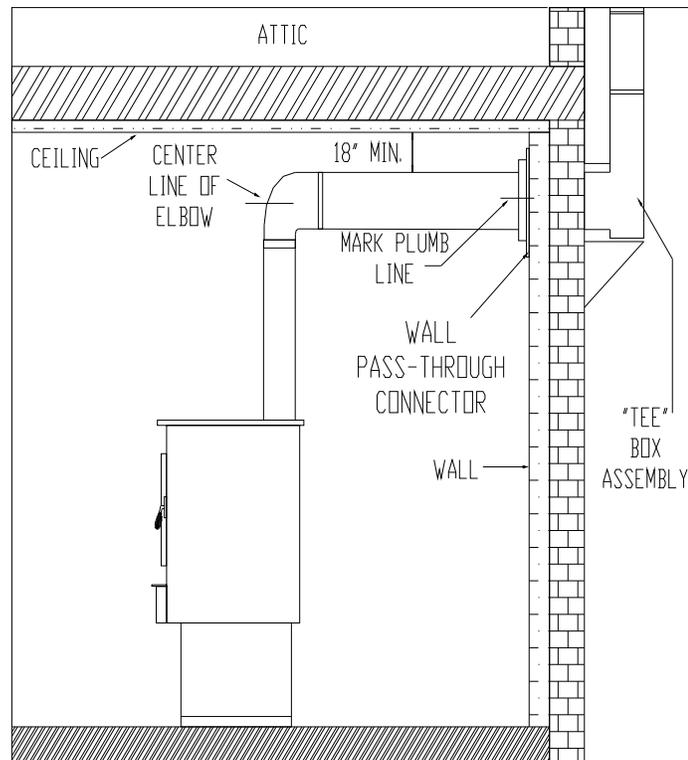


FIGURE 9

- Connect the chimney collar to the tee-box using #24 ga. minimum blued or black steel connector pipe. DO NOT USE GALVANIZED PIPE. Connect each section so the crimped end faces downward, and secure each section to each other using at least three steel sheet metal screws or rivets.

### Wall Exit Into Masonry (using single wall pipe)

- Before connecting the Model 80 to a masonry chimney, determine that the masonry fireplace wall pass-through connector thimble meets the NFPA-211 Code and local building codes and is a minimum of 18" from the ceiling. If the connector thimble does not meet these codes, the pass-through connector must be modified. Connectors may pass through walls or partitions constructed of combustible material if the connector is:
  - either listed for wall pass-through or is routed through a device listed for wall pass-through and is installed in accordance with the conditions of the listing.
  - selected or fabricated in accordance with the conditions and clearances as stated in tables 5-7 of the 1988 NFPA 211 Code. Any unexposed metal that is used as part of a wall pass-through system and is exposed to flue gases shall be constructed of stainless steel or other equivalent material that will resist corrosion, softening, or cracking from flue gases at temperatures up to 1800° F.

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

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

2. Once the through-the-wall thimble codes are met, simply connect the chimney pipe to the wall pass-through connector using #24 ga. minimum, blued or black steel pipe as follows:

- (a) Maintain 1/4" rise per foot (horizontal length) from the appliance to the chimney.
- (b) Each section of pipe should fit into the section below or into the opening on the stove, for drip free operation.
- (c) Secure each section to each other using at least three (3) sheet metal screws or rivets.
- (d) Use three (3) screws to connect pipe to New Buck Corp. Chimney Connector.

#### Ceiling Exit—Close Clearance

1. Suspend a plumb bob from the ceiling above the unit so that the weight is hanging in the center of the flue exit. (A small weight on a string will serve as a plumb bob.) Mark the ceiling where the string is suspended to locate the center of the chimney hole.
2. After locating the center of the hole, install the ceiling support box, chimney or chimney connector, flashing, and rain cap.
3. Next, install a New Buck Corp. Chimney Connector to the flue of the heater.
4. Install Double Wall Connector and chimney system per manufacturer's list of tested pipes

**Caution:** Because of the high efficiency and low flue gas temperature, freestanding catalytic heaters connected to masonry chimneys with oversized flue lines may encounter drafting problems.

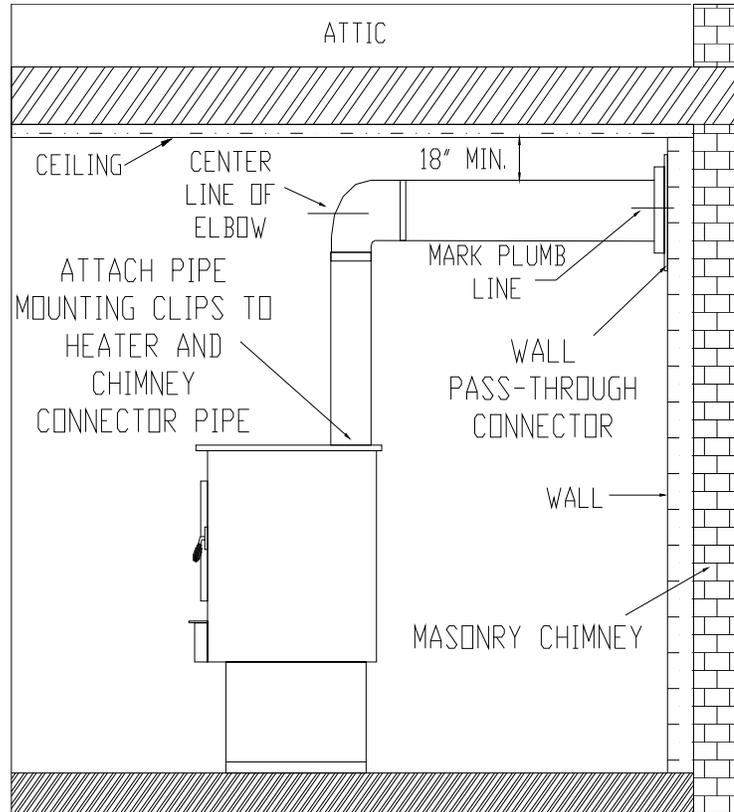


FIGURE 10

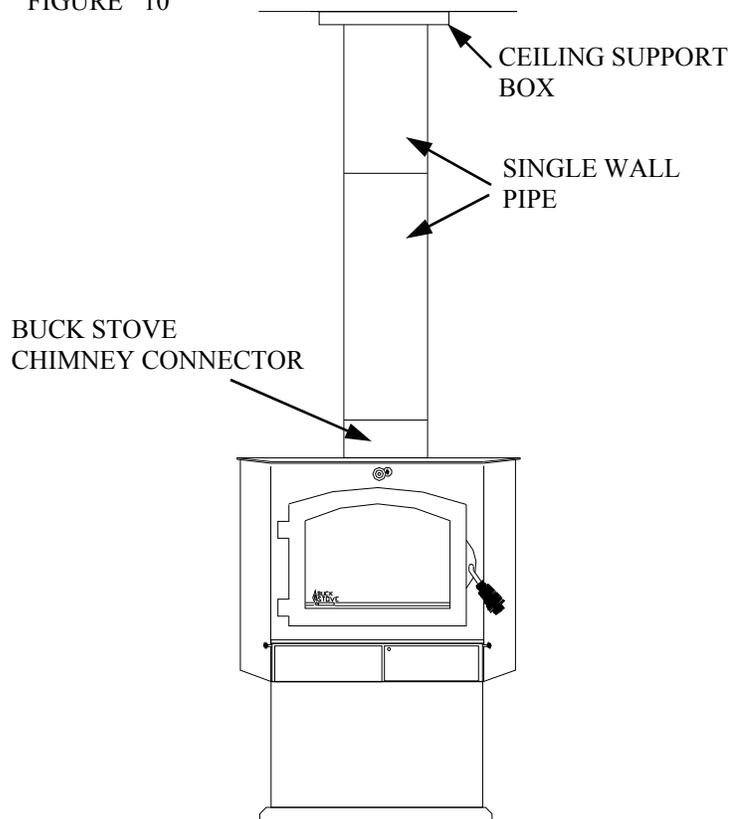
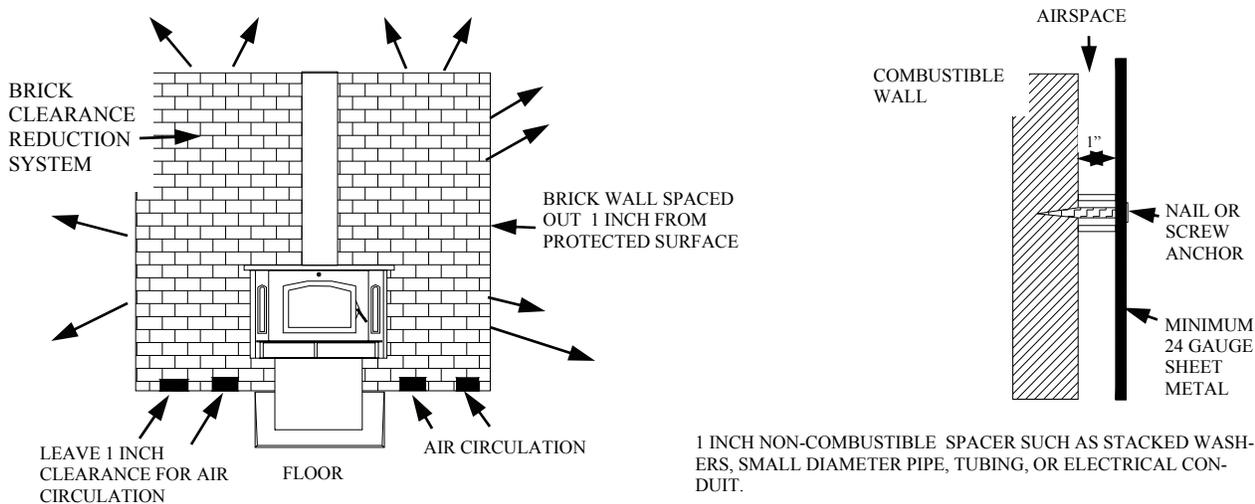


FIGURE 11



BRICK WALLS MAY BE ATTACHED TO COMBUSTIBLE WALLS USING WALL TIES. IF BRICK IS USED, BE SURE FLOOR CAN WITHSTAND THE WEIGHT OF THE BRICK.

DO NOT USE FASTENERS DIRECTLY BEHIND CHIMNEY CONNECTOR OR STOVE

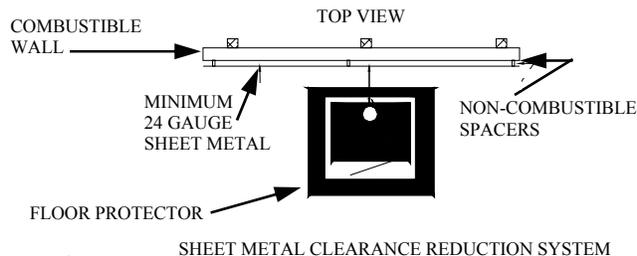
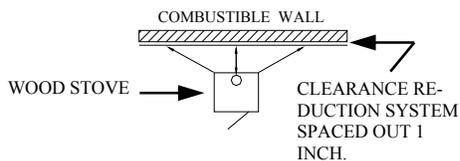


FIGURE 12

## ALTERNATIVES FOR WALL PROTECTION

Example: The rear clearance for the Model 80 from page 12 is 26". (Measurement A.) This clearance may be reduced by 66% by using either of the wall protection devices mentioned below.

### Tested and Listed Wall Protector

Clearances to combustibles may be reduced if a tested and listed wall protector is installed over a combustible surface when the following condition exist:

1. A dead air space or 1" separates the listed and tested wall protector from the combustible surface.
2. The tested and listed wall protector extends from floor to ceiling with a 1" clearance for air circulation at both the floor and ceiling.
3. The 1" spacers (preferable ceramic rather than metal) must be located at the corners rather than behind the heater or the chimney connector.

### Unlisted and Untested Wall Protector

Wall protectors may be constructed of masonry, 24 gauge or thicker sheet metal, or non-combustible 1/2" thick insulation board. Conditions 2 and 3 above must be observed but the air space in condition 1 must be increased to 1 1/2".

## FINAL CHECK

1. Recheck the specified clearances.
2. Remove all foreign material from the firebox area.

3. Open the primary air drafts and damper bypass.
4. Plug the power cord into a **115 VAC** outlet.
5. Place crumpled pieces of newspaper in the stove. Light and close the door. Make sure that stove draws properly through the primary drafts.
6. Check for smoke leaks around the door.
7. Open the door and check for smoke escaping from the front of the 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 rear of the manual does not reveal your problem, contact your dealer for assistance.

**NOTE:** The unit is painted with a specially formulated high temperature paint that cures during the first two or three firings. You may notice a slight smoking effect and an odor of burning paint when you build 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 IV

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## 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 connector and/or chimney should be inspected at least once a month during the heating season to determine if a creosote buildup has occurred. Any buildup of soot should be removed to prevent the risk of a chimney fire. To remove chimney or chimney connector, remove screws and/or fasteners. Remove pipe and clean with a steel wire brush. Replace chimney or chimney connector and 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 the stove when it is in use. All fluids of this type give off volatile fumes and can **WILL EXPLODE!!** Don’t take a chance with the safety of your home and family.

# SECTION V

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## OPERATION

This section of the manual is to help you get maximum efficiency and maximum smoke (particulate) reduction from your Model 80 heater. If you should experience any difficulty or have questions concerning your heater, contact your Model 80 dealer for assistance.

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

Build a fire for maximum efficiency. Model 80 burns wood and extracts 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.

## GUIDE TO THE DIFFERENT BURNING QUALITIES OF WOOD

<b>Type of Wood</b>	<b>Ease of Starting</b>	<b>Coaling Qualities</b>	<b>Amount of Sparks</b>
Apple	Poor	Excellent	Few
Ash	Fair	Good	Few
Beech	Poor	Good	Few
Birch	Good	Excellent	Moderate
Cherry	Poor	Excellent	Few
Cedar	Excellent	Poor	Many
Elm	Fair	Good	Very Few
Hemlock	Good	Low	Many
Hickory	Fair	Excellent	Moderate
Locust	Poor	Excellent	Very Few
Maple	Poor	Excellent	Few
Oak	Poor	Excellent	Few
Pine	Excellent	Poor	Moderate

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

## Building a Fire:

1. **By-pass damper must be open (pulled out) when starting fire or adding wood to fire.**
2. Open the door.
3. While looking inside the firebox, operate the damper bypass door in and out observing the movement. If the door does not operate freely and seal to the door opening, then the door has jumped out of its track during shipping and/or installation.
4. Open the primary air control located on each side of the hearth. Also, open shotgun air control located in front center of hearth.
5. Twist 4 or 5 pieces of non-colored newspaper in a roll and place on the floor of the firebox.
6. Lay several pieces of dry kindling on top of the newspaper.
7. Place three or four small pieces of firewood, 2-3" in diameter, on top of the kindling.
8. Light the newspaper in the front, close and latch the door. Don't leave the fire unattended at this point. The draft should start quickly. If not, it may be necessary to preheat the chimney to get the draft started. To do this, open the door and add newspaper to the top rear of the wood. Light or let this paper ignite and allow to burn while holding the door slightly cracked. Once the draft has started, close and lock the door.
9. After embers and a coal bed have been established, load the heater with wood.
  - A. **Low Burn Rate:** Set primary air control to the low setting. Close the shotgun air control. Turn the rheostat to low. **Wood Loading-**During refueling, open (pull-out) the bypass damper to allow smoke in the firebox to escape, open the door, and add wood. Immediately close door and bypass damper. Open primary air control wide open for two minutes to charge wood. It may be necessary to open shotgun air for 2 to 5 minutes also. Close and latch door. After most of the wood is burned, if you are not planning on reloading immediately, it may be necessary to open the bypass damper and door to rake the wood and coals into a pile near the front corner of the firebox. (Be certain wood chunks are pulled out of the rear corners.) Close door and bypass damper. This step will assure continued combustion and thorough burning of the wood.
  - B. **Medium-Low Burn Rate:** Set the primary air control to the medium-low setting. Turn the rheostat to medium. **Wood Loading-**During refueling, open the bypass damper, open the door, and add wood. Immediately close door and bypass damper. Open primary air control wide open for two minutes to charge wood. It may be necessary to open shotgun air for 2-5 minutes. After most of the wood is burned, if you are not planning on reloading immediately, it may be necessary to open the bypass damper and door to rake the wood and coals into a pile near the front corner of the firebox. (Be certain wood chunks are pulled out of the rear corners.) Close door and bypass damper. This step will assure continued combustion and thorough burning of the wood.
  - C. **Medium-High Burn Rate:** Set the primary air control to the medium-high setting. Turn the rheostat to high. **Wood Loading-**During refueling, open the bypass damper, open the door and add wood. Immediately close door and bypass damper. Open primary air control wide open for two minutes to charge wood. It may be necessary to open shotgun air for 2-5 minutes. After most of the wood is burned, if you are not planning on reloading immediately, it may be necessary to open the bypass damper and door to rake the wood and coals into a pile near the front corner of the firebox. (Be certain wood chunks are pulled out of the rear corners.) Close door and bypass damper. This step will assure continued combustion and thorough burning of the wood.
  - D. **High Burn Rate:** Set the primary air control to the medium-high setting. Turn the rheostat to high. **Wood Loading-**During refueling, open the bypass damper, open the door, and add wood. Immediately close door and bypass damper.

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

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

# SECTION VI

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## PREVENTIVE MAINTENANCE / PARTS REPLACEMENT

### Disassembly Inspection and Catalytic Replacement

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

#### CATALYST REPLACEMENT (Off-Season Replacement Recommended)

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

#### GASKET REPLACEMENT (Cold Heater)

To replace deteriorated gaskets, the following steps must be taken to ensure proper installation:

1. Obtain the 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 sand paper or steel wool, clean glue and gasket residue from the door frame.
4. Measure and cut gaskets to length. Care should be taken not to stretch the gaskets. What you want is a full and loose gasket weave after attached to the framing.
5. Obtain the silicone glue and run a 3/16" bead inside the door frame.
6. Obtain the gasket(s) and place in the gasket channel areas. Use a technique which assures that the gasket is applied in a loose like manner. **DO NOT STRETCH GASKETS.**
7. After gasket(s) are applied to the glue, use your finger and go over all the gasket gently pressing the gasket to the channel. Use the same pressure against the gasket so that the final result is an evenly applied gasket.
8. Leave door **open** and allow at least one hour for the glue to dry.
9. Once gaskets are checked, the heater is ready for use.



# SECTION IV

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## TROUBLESHOOTING

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

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

### HEATER RELATED PROBLEMS

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
1. Sluggish Heater Performance	1. Obstruction in chimney	1. Check for and remove obstruction
	2. Improperly sealed trim kit or direct connect kit	2. Check trim kit gasketing or direct connect kit seal to fireplace and gasket as necessary to seal unit. Gasket under stove if needed. Check seal of direct connect and correct.
	3. Manual damper in chimney is closed	3. Open manual damper and wire shut with stainless steel wire or remove damper
	4. Closing bypass or exhaust damper too soon	4. Follow <b>New Buck</b> instructions for proper firing procedures
	5. Poor chimney draft	5. Improper chimney height or wrong size flue being used. Cooler temperatures caused by external chimney.
	6. Combustor is plugged	6. See section in "Combustor Related Problems"
	7. Wet or unseasoned wood being burned	7. Burn dry, seasoned wood
2. High Fuel Consumption	1. Inexperience in catalytic operation	1. Operate stove with desired heat output in mind. Do not be overly concerned with maintaining light-off temperatures
	2. Improper Regulation of draft or inlet air	2. Close inlet air control as much as possible to maintain desired heat output. Check gaskets. Reinstall fiberglass gasketing around doors and glass as necessary.
	3. Improper Door Fitting	3. Check door gasket. Check adjustment of door latch.
	4. Combustor not engaged	4. Put combustor in operating position in retrofit or close bypass damper in stove

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
3. Backpuffing	<ol style="list-style-type: none"> <li>1. Gusts of wind</li> <li>2. Hot combustor (Above 1400 ° F)</li> </ol>	<ol style="list-style-type: none"> <li>1. Install Buck draft inducer</li> <li>2. Increase the amount of combustion air slowly.</li> </ol>
4. Smoke Rollout when heater door is opened	<ol style="list-style-type: none"> <li>1. Bypass damper is closed, or combustor is in operating position</li> <li>2. Wind gusts blowing down chimney</li> <li>3. Opening heater door too fast</li> </ol>	<ol style="list-style-type: none"> <li>1. Open bypass damper. In retrofit place combustor in bypass position before opening stove door.</li> <li>2. Install Buck draft inducer</li> <li>3. Wait a few seconds after opening bypass damper before opening heater door to give smoke a chance to exit heater</li> </ol>
5. Low Catalytic Temperature	<ol style="list-style-type: none"> <li>1. Bypass damper is open</li> <li>2. Light-off not obtained</li> <li>3. Fuel charge is spent</li> <li>4. Combustor coated with fly ash or soot</li> <li>5. Heater dampered down too much</li> </ol>	<ol style="list-style-type: none"> <li>1. Once light-off temperatures have been reached and unit is stabilized, close bypass damper</li> <li>2. Follow manufacturer's operating instructions</li> <li>3. Refuel as necessary for combustor operation</li> <li>4. See section on "Combustor Related Problems"</li> <li>5. Ensure that proper air mixture and draft are available for wood pyrolysis to continue</li> </ol>

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### **COMBUSTOR-RELATED PROBLEMS**

1. Plugging	<ol style="list-style-type: none"> <li>1. Burning materials that produce a lot of char and fly ash</li> <li>2. Burning wet, pitchy wood or burning large loads of small-diameter wood with the combustor in the operating position without light-off taking place</li> </ol>	<ol style="list-style-type: none"> <li>1. Do not burn materials such as garbage, gift wrap or cardboard</li> <li>2. Burn dry, seasoned wood. Don't place the combustor in the operating position until high temperatures are high enough to initiate light-off. It may be possible to burn the accumulated soot or creosote off by putting the combustor in a partially open-partially closed position after a "hot" fire has been started.</li> </ol>
2. Catalyst Peeling	<ol style="list-style-type: none"> <li>1. Extreme temperatures at combustor surface can cause the catalyst to peel. Over-firing and flame impingement are primary cause</li> </ol>	<ol style="list-style-type: none"> <li>1. If peeling is severe, remove and replace combustor. Avoid extreme temperatures.</li> </ol>
3. Catalyst Masking	<ol style="list-style-type: none"> <li>1. Not maintaining light-off temperature</li> </ol>	<ol style="list-style-type: none"> <li>1. Place combustor in a partially closed position after a "hot" fire has been started to burn soot off</li> </ol>

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

**PLEASE READ THIS WARRANTY CAREFULLY  
PRODUCTS COVERED**

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

**PRODUCTS NOT COVERED**

This warranty does not cover the following:

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

**Thereafter**

**(B) Period II**

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

**PROCEDURE**

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

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

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

**CONDITIONS AND EXCLUSIONS**

- (A) Replacement of parts may be in the form of new or fully reconditioned parts, at NBC’s option.
- (B) There are no other warranties express or implied including warranties of Merchantability, Fitness for Purpose or Otherwise except those warranties expressly stated herein.
- (C) **New Buck Corporation** is not liable for indirect, incidental, or consequential damages in connection with the use of the product including any cost or expense or 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 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 Dealer Code Number and the Certified Installer’s number (if applicable) for warranty coverage to begin.