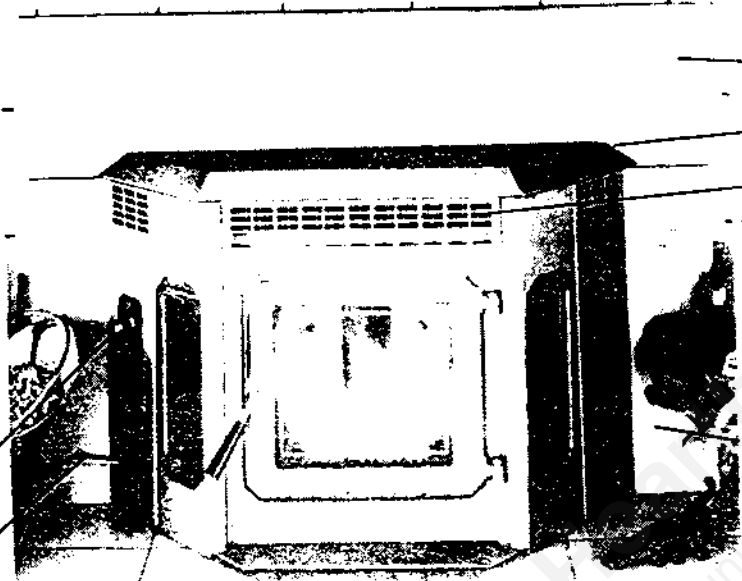


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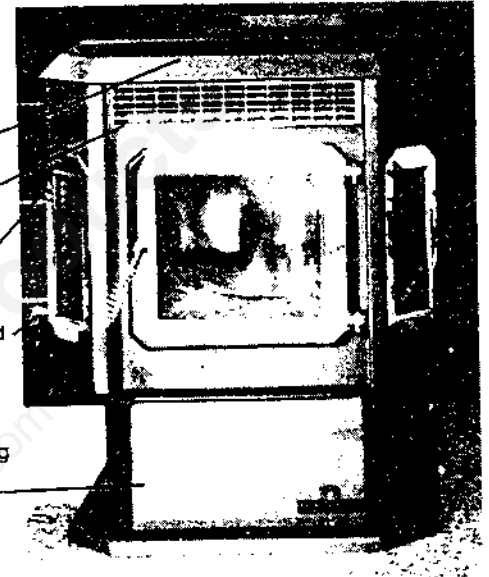
B Y B R E C K W E L L

Control Panel  
Damper Rod



MODEL P32 Fireplace Insert

Top Flashing  
Hopper Lid  
Cowl  
Control Panel  
Damper Rod  
Side Flashing  
Pedestal



MODEL P26 Freestanding Stove

## OWNERS MANUAL

Manufactured by  
National Steelcrafters of Oregon, Inc.  
P.O. Box 2501  
Eugene, Oregon 97402

8 92

**SAFETY NOTICE:** If your 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.

ALL UNITS TESTED AND LISTED BY

**Warnock Hersey**



ICBO TL-116 NER-QA-219

©NATIONAL STEELCRAFTERS  
OF OREGON, INC.

1992

Thank you for purchasing the Breckwell Pellet Burning Stove. You are now prepared to burn wood in the most efficient, convenient way possible. To achieve the safest, most efficient and most enjoyable performance from your stove, you must do three things; 1) Install it properly 2) Operate it

correctly and 3) Maintain in regularly. The purpose of this manual is to help you do all three. PLEASE read this manual thoroughly before beginning your installation and KEEP IT in a handy place for future reference and future owners.

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2.2 Clearances	3.3 Building A Fire	4.3 Blowers
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## 1.0 INTRODUCTION

Models P32 and P26 have been independently tested and approved in accordance with the relevant portions of ULC S627 CSA B366.2-M1983 "Standard for Space Heaters for use with Solid Fuels", UL 1482-1988 "Standard for Room Heaters", ASTM proposed standard E06.54-1991, CSA C22.2 No. 3 "Electrical Features of Solid Fuel Burning Appliances", and installation as a stove heater and insert for masonry or metal fireplaces, plus Oregon new rules for mobile homes (814-23-900 through 814-23-909).

Model P26 has been tested to UL1482-1987 and H.U.D. requirements for installation as a stove heater, plus Oregon new rules for mobile homes. Both have been tested to EPA method 28A and have been proven exempt from EPA emissions regulations.

These appliances are designed specifically for use only with pelletized wood. They are designed for residential installation according to current national and local building codes as a free standing room heater, and as an insert, the P32 is

designed to be installed on the hearth of a masonry or metal fireplace and as a zero clearance fireplace, when installed in new construction. It is also approved as a mobile home heater which is designed for connection with an outside air source.

They will not operate using natural draft, or without a power source for the blower systems and fuel feeding systems and must not be burned with any type of coal. (Section 3.1)

These stoves are designed to provide the optimum proportions of fuel and air to the fire in order to burn free of smoke and soot. Any blockage of the air supply to or from the stove will seriously degrade the performance and will be evidenced by a smoking exhaust and a sooting window. For the best operation the ash content of the pellet fuel should be less than 1% and the calorific value approximately 8200 BTU/LB. Avoid high ash content fuels as this will rapidly fill up the burn pot and eventually cut off the combustion air supply.

## 2.0 INSTALLATION

### 2.1 Preparation

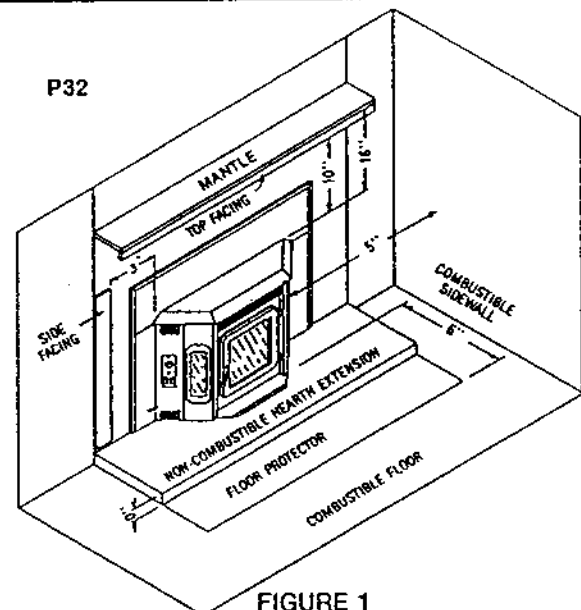
Factory packaging must be removed and some minor assembly work is required prior to installation. Access to the rear of the stove is necessary.

Foam protective blocks must be removed from all blowers and motors. This is a safety precaution. The circuit board must be unplugged and installed in the side panel. Instructions are packed with the board. The slide damper must be threaded together on the P26. Instructions are packed with damper rod. Free the power cord. **NOTE:** Normally, your dealer will perform this function.

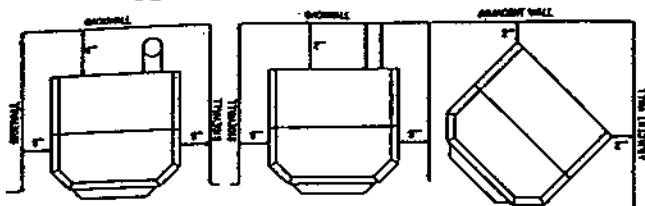
### 2.2 Clearances

The Cadet P32 has been tested and listed for installation into masonry fireplaces and factory-built "zero-clearance" fireplaces of the following description: all brands at least 30" wide and 20" high; also into mobile home factory built fireplaces of the following description: all brands at least 30" wide and 20" high.

The Cadet P26 has been tested and listed for installation in residential, mobile home, and alcove applications. **DO NOT USE MAKESHIFT MATERIALS OR COMPROMISES IN THE INSTALLATION OF THIS UNIT.**

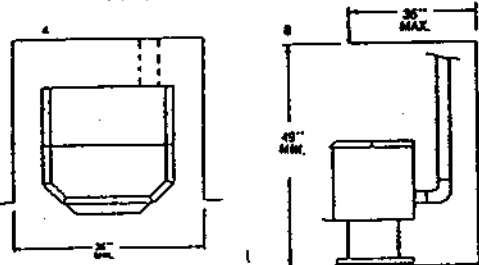


## P26 CLEARANCE TO COMBUSTIBLES



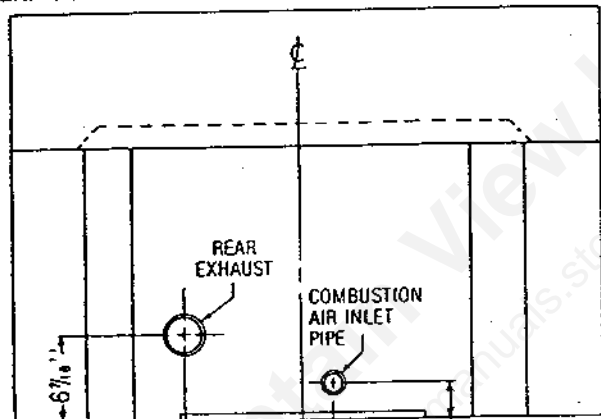
FLOOR PROTECTION ON P26 MUST EXTEND 6" FROM FRONT FACE.

## ALCOVE DIMENSIONS

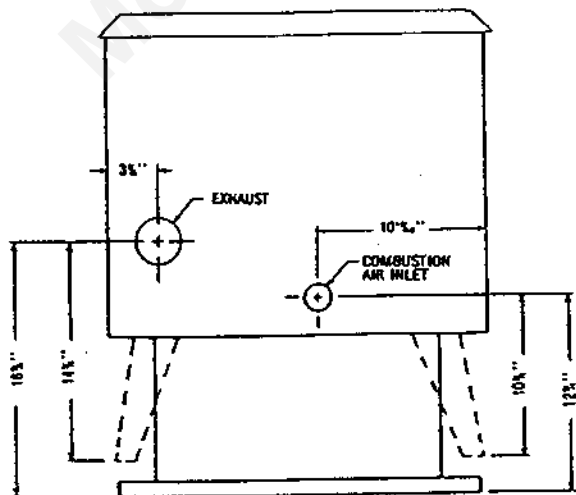


## 2.3 Combustion Air Supply

For mobile home installation the stove must be connected to an outside source of combustion air. A 1 3/4" inside diameter metallic pipe, either flexible or rigid should be used when outside air is to be connected. It attaches to an outlet on the stove's rear (see figure 2) and its terminus should have a wind hood or be turned 45° to prevent back draft. It should also terminate with a rodent guard.



BACK VIEW — P32



BACK VIEW — P26

FIGURE 2

## Sources of Outside Combustion Air

### A. Fireplaces

1. Ash cleanout door on exterior wall.
2. Hole drilled in rear wall of firebox when fireplace is on an exterior wall (masonry fireplace only).
3. Top of chimney (see figure 6). All factory built fireplaces requiring outside air must use this method.

### B. Freestanding Stoves

1. Hole in floor to accommodate outside air pipe.
2. Hole in rear wall to accommodate outside air pipe.

## 2.31 When Outside Air Is Not Used

When outside air is not used, stove must be fitted with a Breckwell Check Valve (part #A-CV). This prevents smoke spillage in the event of combustion blower failure due to competing negative pressure in the house, like bathroom or kitchen exhaust fans. This part must be attached to the end of the combustion air inlet tube at the rear of the stove (see figure 3A). If outside air is not provided, combustion air to the inlet should NOT be restricted (see figure 14). Hence, in P32 installations, flashing vents should be allowed to provide air to the fireplace cavity. The fireplace opening should not be sealed at the face. **DO NOT OPERATE UNIT UNLESS EITHER CHECK VALVE OR OUTSIDE AIR IS CONNECTED.**

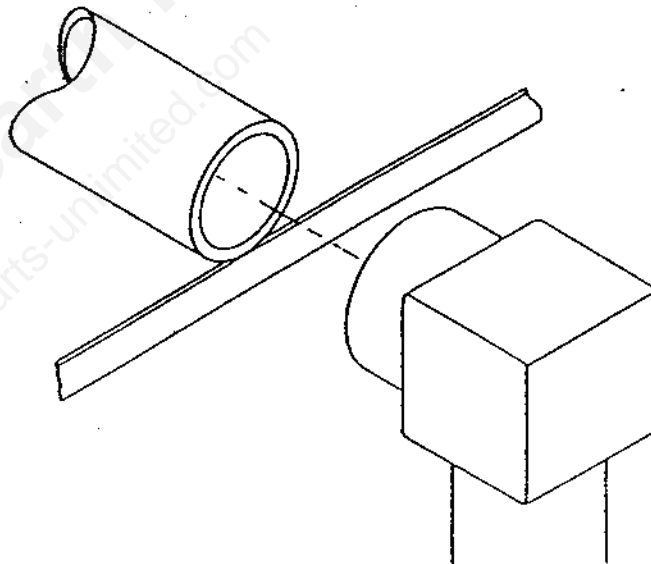


FIGURE 3

## 2.4 Venting

Both Breckwell Cadet models are certified for use with listed Type L vent, 3 inch or 4 inch diameter in size. Class "A" chimney is not required. Do not connect this unit to a chimney flue serving another appliance. Do not install a flue damper in the exhaust vent of this unit.

### 2.41 Equivalent Vent Length (EVL)

The longer the run of pipe in your installation (both with inserts and freestandings), the more restriction there is in the system. Therefore, larger diameter pipe should be used. Here is how you determine whether 3" or 4" should be used in your installation.

If you have over 15 feet of equivalent vent length, we recommend the use of 4" pipe.

To calculate EVL, use the following conversions:

90° elbow or "T" = 5 equivalent feet

45° elbow = 3 equivalent feet

Horizontal Pipe

Run = 1 equivalent foot per actual foot

Vertical Pipe Run = 0.5 equivalent feet per actual foot

NOTE: At altitudes above 3,000 feet, we suggest the use of 4" diameter vent at an EVL of 7 feet.

## 2.42 P26 INSTALLATION

Venting should be with 3" or 4" diameter pellet vent (L-Vent) chimney. The stove was tested with Simpson Duravent brand. Refer to the instructions provided by the chimney manufacturer, especially when passing through a wall, ceiling, or roof. Model P26 is designed for rear exhaust.

Because it is a pressurized exhaust, pipe joints must be sealed to insure consistent performance and avoid smoke spillage.

An exhaust adapter is included with freestanding models to adapt to Dura Vent L-Vent chimney. It should be attached directly to the combustion blower transition (see figure 4) and permanently sealed.

### A. P26 REAR EXHAUST INSTALLATION Horizontally Through Wall

1. Position stove, adhering to clearances shown in section 2.2.
2. Locate position of hole in wall, directly behind stove's exhaust vent (see figure 2).
3. Cut opening in wall, 9 $\frac{1}{2}$ " square for 3" L-Vent, 10 $\frac{1}{2}$ " square for 4" L-Vent. This provides space for thimble which fits between wall studs. Attach thimble.
4. Attach enough pipe to penetrate and extend at least 6" beyond exterior walls (see figure 4).
5. Attach cap and seal outside wall thimbles with non-hardening waterproof mastic.
6. Termination should not be located such that hot exhaust gases can ignite trees, shrubs, grasses, or be a hazard to children. Exhaust gases can reach temperatures of 500°F and cause serious burns if touched. Locate termination a) not less than 3 feet above any forced air inlet located within 10 feet; b) not less than 4 feet below or horizontally from, or one foot above any door, window or gravity air inlet into any building; c) not less than two feet from an adjacent building and not less than 7 feet above grade when located adjacent to a public walkway.

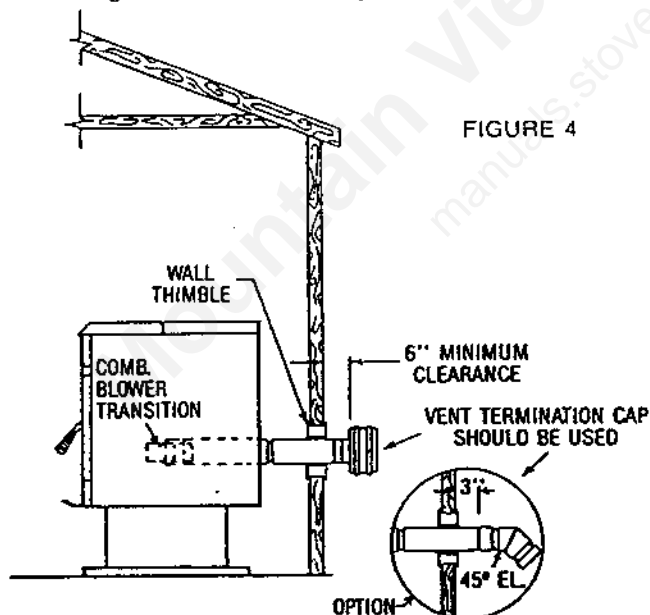


FIGURE 4

### B. P26 VERTICAL INSTALLATION New Chimney System (see figure 5)

NOTE: Follow L-Vent Chimney manufacturer's instructions.

1. Install 90° L-Vent Tee to stove exhaust.
2. Locate stove, drop plumb bob to center of tee outlet, mark center point on ceiling. Cut square hole in ceiling, for firestop support assembly (for 3", cut 9 $\frac{1}{2}$ " square; 4", cut 10 $\frac{1}{2}$ " square).

### 3. Connect chimney sections from stove upwards.

4. When pipe passes through firestop at ceiling, tighten bolt and clamp around pipe.
5. Always maintain 3" clearance from combustible materials. When passing through additional floors or ceilings always install firestop spacer.
6. After lining up for hole in roof, cut either round or square hole in roof, always 3" larger all the way around pipe. Install upper edge and sides of flashing under roofing materials, nail to the roof along upper edge. Do not nail lower edge. Seal nail heads with non-hardening waterproof mastic.
7. Apply non-hardening, waterproof mastic where the storm collar will meet the vent and flashing, slide storm collar down until it sets on the flashing and put cap on, twist to lock (see figure 6).

### C. P26 VERTICAL INSTALLATION Existing Chimney System (figure 5)

Install 90° L-vent tee to stove exhaust. Adapters are available to adjust from 3" to 6" or 8". As an alternative, 3" or 4" pipe can be run inside existing chimney to termination. Follow guidelines in section 2.41 (equivalent vent length).

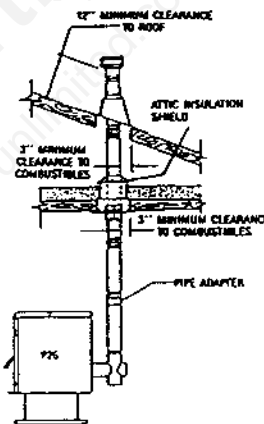


FIGURE 5

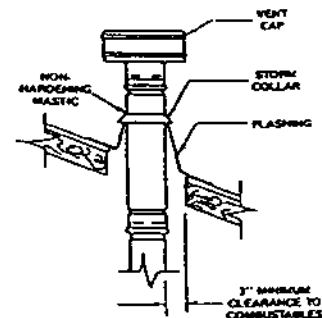


FIGURE 6

## 2.43 P32 INSTALLATIONS

Insert installations must be vented with 3" or 4" pipe (see section 2.41). Pipe may be single wall stainless steel flexible pipe. Vent may terminate within chimney beyond a blanking plate or extend to the chimney top. See section 2.3 for outside air access information. In zero-clearance fireplace installations, when the fireplace opening is above the floor or raised hearth, the stove's front can be supported by threading two  $\frac{3}{8}$ " bolts into holes under the front corners.

### A. WHEN VENT PIPE EXTENDS TO CHIMNEY TOP

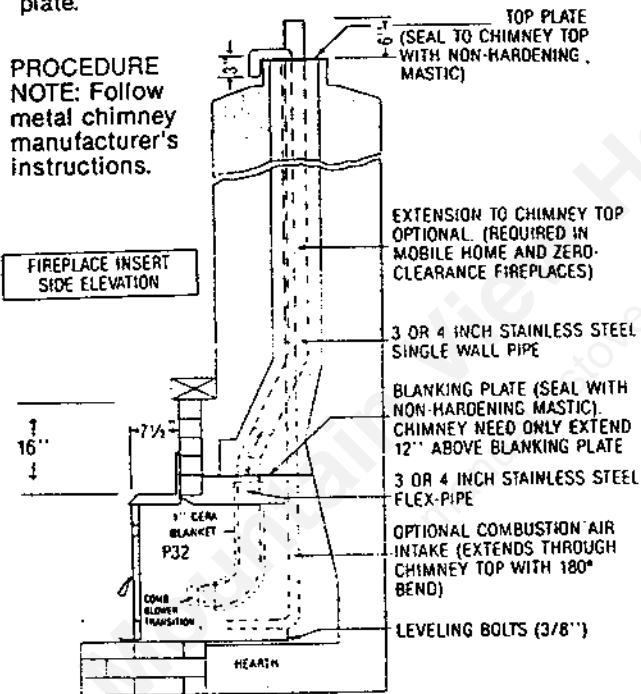
1. You will need a pipe length equal to the chimney height (from hearth) plus one foot. If outside combustion air is to be used, you will need an air pipe length (see section 2.3) equal to the chimney height plus 12 inches.
2. Attach cerablanket wrap, which comes with stove, to that end of vent pipe that will connect to stove. This is to protect interior components from excess heat.
3. Set insert on hearth, adjust leveling bolts on rear sides, slide in far enough to attach vent pipe (and combustion air pipe if used). Use RTV, metallic tape, and/or

self tapping screws to assure tight connection.

- Attach flashing (see figure 9), route power cord out the side nearest a 120V receptacle. Slide in insert. Seal is not necessary. Do not restrict air to or from vents in flashing.
- Measure and build chimney top. Cut out holes for vent pipe (and combustion air pipe if used). Install and seal with non-hardening mastic to prevent water leakage. Install vent cap.

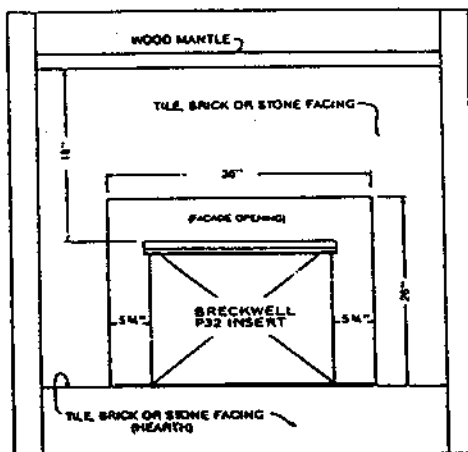
### B. WHEN VENT PIPE EXTENDS THROUGH CHIMNEY BLANKING PLATE

- You will need a pipe length equal to the hearth to blanking plate height plus six inches. **NOTE:** Outside combustion air cannot be drawn from chimney cavity in this installation.
- Attach cerablanket as on previous page.
- Measure and build blanking plate. Cut out hole for vent pipe (and combustion air intake pipe, if used). Install and carefully seal blanking plate as in previous step 5. Failure to properly seal may result in smoke spillage.
- Slide vent pipe (and intake pipe if used) up through blanking plate hole, leaving enough to grab and pull down.
- Set insert on hearth, complete steps 4 and 5 in 2.43A. Be sure to seal where pipe passes through blanking plate.



### C. NEW CONSTRUCTION — SPECIAL CHASE

Figure 8 describes a P32 installation vented into either a special chase built outside an outer wall or a false inside wall. This is especially suited for new construction or remodeling.



### P32 Flashing Assembly

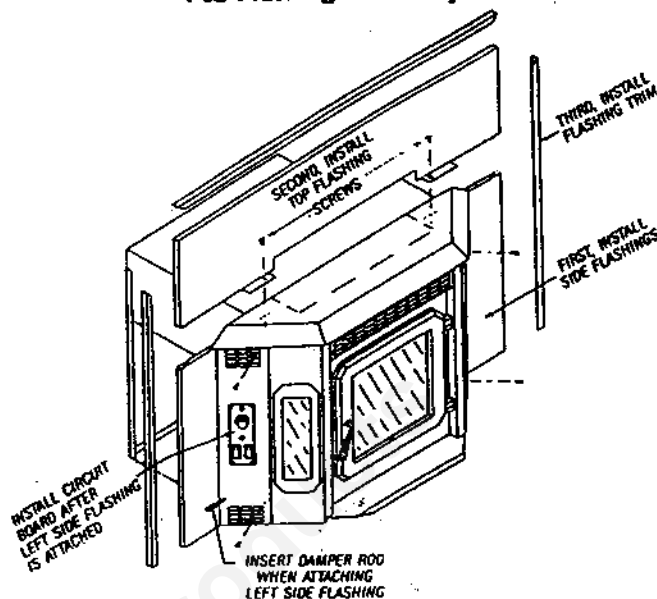


FIGURE 9

### 2.5 Electrical Installation

This stove is provided with an 8-foot grounded electrical cord extending from the rear of the stove. This should be connected to a standard 3 prong 120 volt, 60 hz electrical outlet. Voltage variations can lead to serious performance problems. The Breckwell electrical system is designed for 120 volts AC with no more than 5% variation. National Steelcrafters of Oregon, Inc. cannot accept responsibility for poor performance or damage due to inadequate voltage. If connected to an older two-prong outlet, a separate ground wire should be run to a proper ground.

### 2.6 Special Mobile Home Requirements

Mobile Home installations made prior to the initial sale of the mobile home are governed by US Department of Housing and Urban Development (HUD) standards. They include the following: a. Stove should be grounded, with #8 copper wire and terminated with NED approved grounding device; b. Stove should be attached to mobile home during shipment.

**WARNING:** Do not install in a sleeping room.

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

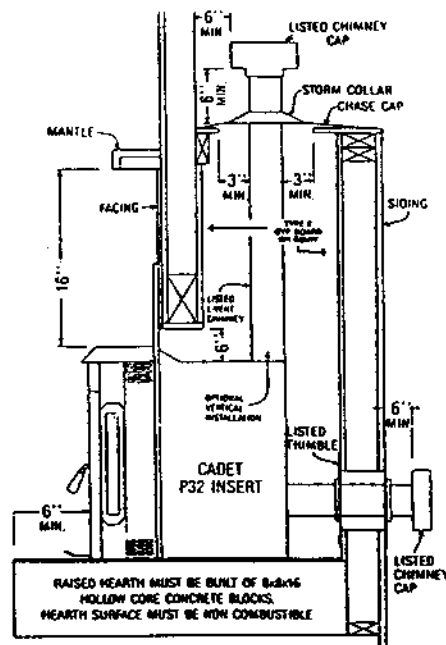


FIGURE 8

## 3.0 OPERATION

### 3.1 Proper Fuel

**THIS STOVE IS APPROVED FOR BURNING PELLETIZED WOOD FUEL ONLY!** Factory-approved pellets are those 1/4" or 3/8" in diameter and not over 1" long. Longer or thicker pellets sometimes bridge the auger flights which prevents proper pellet feed. Burning wood in forms other than pellets is not permitted. It will violate the building codes for which the stove has been approved and will void all warranties. The design incorporates automatic feed of the pellet fuel into the fire at a carefully prescribed rate. Any additional fuel introduced by hand will not increase heat output, but may seriously impair the stove's performance by generating considerable smoke. Do not burn wet pellets. The stove's performance depends heavily on the quality

of your pellet fuel. We recommend the use of pellet fuel that conforms to the standards of the Association of Pellet Fuels Industries (left). Avoid pellet brands which display these characteristics:



a. Excess Fines — "fines" is a term describing crushed pellets or loose material that looks like dust or sand.

Pellets can be screened before being placed in hopper to remove most fines.

- b. Binders — Some pellets are produced with materials to hold them together, or bind them.
- c. High ash content — Poor quality pellets will often create smoke and dirty glass. They will create a need for more frequent maintenance. You will have to empty the burn pot and ash pan DAILY plus vacuum the entire system more often. Poor quality pellets could damage the auger. National Steelcrafters of Oregon, Inc. cannot accept responsibility for damage due to poor quality pellets.

### 3.2 Pre-Startup Check

Clean firebox of all residue ash by scraping ash into ash pan (see sections 4.1 and 4.2). Remove burn pot and dump ash into ash pan making sure no air holes are blocked. Remove ash pan and dump ash into metal container with lid. Replace ash pan and burn pot. Clean door glass if necessary (a dry cloth is usually sufficient). Check fuel in hopper and refill if necessary. **NOTE:** Hopper capacity is approximately 50 lbs.

### 3.3 Building a Fire

**NOTE:** During the first few fires, your stove will emit an odor as the high temperature paint cures or becomes seasoned to the metal. Maintaining smaller fires will minimize this. Avoid placing items on stove top during this period as paint could be affected.

- Check to make sure power cord from stove is plugged in.
- Fill burn pot by hand or by pressing "MANUAL FEED" switch on control panel, (See Figure 10) to level just below top air holes. Add approved fire starter (see 3.92)), light and close door. Keep door tightly closed during operation.
- Push damper control rod (located on left side of stove) all the way in.
- Push on/off switch to "on" position. Set fuel control knob to "LOW".
- When fire is burning well in burn pot, push "auger" button. When forced air flow becomes warm and auger starts feeding pellets, (usually in about 10 minutes), set pellet feed knob to desired setting. Readjust damper (see section 3.6). **NOTE:** Auger will not start feeding pellets until firebox temperature reaches preset level.

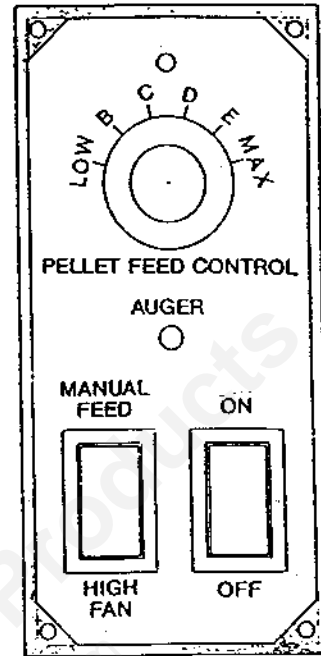


FIGURE 10

### 3.4 Panel Controls

The blowers and automatic fuel supply (auger) are controlled from a panel on the left side of the stove. The on-off switch turns the blowers on. The "auger" button activates the automatic feed system. When the green light is on, there is power to the auger circuit. The auger will not begin feeding pellets until the firebox has warmed up to a preset temperature. In case of a power outage lasting more than three to five seconds, this button must be pushed to re-engage the auger. There are six fuel feed settings. On "LOW", the feed rate is approximately 0.75 to 1.5 lb. per hour. On "MAX" the feed rate is approximately 3.6 to 4.0 lbs. per hour.

The convection blower speed varies directly with feed rate. The "High Fan" switch overrides this variable speed function. It will set the convection blower speed to high at any feed rate setting. The "Manual Feed" switch allows you to add fuel to the burn pot automatically. **CAUTION: Do not use this control during normal operation as it could smother the fire and lead to a dangerous condition (see 3.92a).** During normal operation, this switch should be in its central position, neither on "HIGH FAN" or "MANUAL FEED".

### 3.5 Optional Thermostat

A remote thermostat will help you maintain a constant house temperature automatically. A low voltage thermostat is recommended. When engaged, the stove will automatically switch between two settings. When warm enough, it will switch to "low", which also slows the convection blower. If the house then cools below your thermostat setting it will switch to the feed rate of your knob setting with a maximum rate of "D". Thermostat must be installed by an Authorized Breckwell Dealer.

### 3.6 Damper Control

The damper control rod on the stove's left side adjusts the combustion air. This control is necessary due to the varied burn characteristics of individual installations, different pellet brands and pellet feed rates. It allows you to improve the efficiency of your stove. Providing correct combustion air will reduce the frequency of cleaning your glass door and prevent the rapid build-up of creosote inside your stove and chimney.

You should adjust the rod based on the fire's appearance. A low, reddish, dirty fire can be improved by pulling the damper out slightly. A "blow torch" fire can be improved by pushing the damper in a bit.

As a general rule, on lower feed rate settings, the damper should be in farther. On higher feed rates, the damper should be more open. Through trial and error, you will find the best settings. Consult your dealer if you need help. **NOTE: On "LOW", damper should be out approximately 1/2".** If damper is out too far, it can cause the fire to go out.

### 3.7 Refueling

We recommend that you not let the hopper drop below 1/4 full.

**KEEP HOPPER LID CLOSED AT ALL TIMES EXCEPT WHEN REFILLING. DO NOT OVERFILL HOPPER.**

### 3.8 Breckwell Maintenance Tool



A tool has been provided to help with the following functions:

- Stir Pellets in Hopper — Unlike liquids in a tank, pellets do not drain evenly into the auger. Bridging across the opening can occur. Pellets can hang up on the sides of the hopper. Occasionally "stirring" the hopper can help.

b. Ash Pan Removal — See instructions in section 4.1.

c. Scrape ashes from burn pot.

### 3.9 Shut Down Procedure

Turning the Breckwell off is a matter of pressing the control panel switch to off. The blowers will continue to operate until internal firebox temperatures have fallen to a preset level.

#### 3.91 Safety Features

- If there is a power outage longer than several seconds, the auger will not operate once power is restored. This prevents pellets being fed to a non-burning burn pot. Pressing the auger button on the control panel will reactivate auger. The blowers will come on when power is restored to evacuate the combustion chamber of gases and stay on until off switch is pushed.
- In case of a malfunctioning convection blower, a high temperature thermodisk will shut down the auger, preventing the stove from overheating. When stove has cooled, restart as in 3.2 and 3.3.
- If the combustion blower fails, an air pressure switch will shut down the auger. **NOTE: Under some circumstances, opening the stove door during operation will cause enough pressure change to activate the air switch.** Closing the door and depressing the "auger" button will restart the system.

## 3.92 OPERATING SAFETY PRECAUTIONS

- If you notice a smoldering fire (burn pot full but no visible flame) AND a heavy smoke build-up in firebox, unplug unit. Do not tamper with any controls on stove. Wait 15 minutes or until firebox clears, open door, plug unit back in and restart fire. (See sections 3.2 and 3.3)
  - DO NOT STORE OR USE FLAMMABLE LIQUIDS**, especially gasoline, in the vicinity of your Breckwell Pellet Stove. Never use a propane torch, gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid or similar fluids to start or "freshen up" a fire in this heater.
  - WARNING: DO NOT OVERFIRE THIS STOVE.** This may cause serious damage to your stove and void your warranty. It also may create a fire hazard in your home. **IF ANY EXTERNAL PART OF THE UNIT BEGINS TO GLOW, YOU ARE OVERFIRING.** Immediately press "off" switch on control panel.
  - KEEP ALL HOUSEHOLD COMBUSTIBLES, SUCH AS FURNITURE, DRAPES, TOYS, ETC. THREE FEET, OR A CONSIDERABLE DISTANCE FROM THE BURNING STOVE.**
  - Maintain proper ventilation. It is important that adequate oxygen be supplied to the fire for the combustion process. Modern houses are often so well insulated, it may become necessary to open a window or install an outside air vent to provide sufficient combustion air.
- Since heating with a solid fuel fire is potentially hazardous, even with a well made and thoroughly tested stove, it would be wise to install strategically placed smoke detectors and have a fire extinguisher in a convenient location, near an exit.
  - Do not open stove door when operating unless necessary. This will create a dirty, inefficient burn and could allow smoke spillage or sparks to escape.
  - Do not permit operation by young children or those unfamiliar with stove's operation.
  - Do not service or clean this appliance without disconnecting power cord.
  - Use only approved firestarters. These include gelled alcohol types and solid types with wax as an additive. Do not use solid types with paraffin, or liquids like barbecue lighter fluid, gasoline or rubbing alcohol. Do not use a gas torch to light your stove.

## 4.0 MAINTENANCE

**FAILURE TO CLEAN AND MAINTAIN THIS UNIT AS INDICATED CAN RESULT IN POOR PERFORMANCE AND SAFETY HAZARDS.**

### 4.1 Ash Disposal/Burn Pot (see figure 11)

Remove ashes periodically as they fill the pan. To remove pan:

- Make sure fire is out.
- Remove burn pot by grasping and twist pulling straight out. The burn pot must be kept clean for proper operation. Clinkers and excessive ash must be removed when they block the air holes. If the fire's appearance changes or the door becomes dirty, you may need to clean the burn pot.
- Stirring the pot will often be sufficient. Other times it

will be necessary to remove the pot and empty it into the ash pan. Scrape it clean and make sure holes are not blocked.

- Use tool to lift pan and pull out carefully.
- To replace, reverse procedure. Make sure burnpot is level and pushed all the way back in when it is reinstalled.

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 surface or on the ground, well away from all combustible materials pending final disposal. If ashes are disposed of by soil burial or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

## 4.2 Firebox Cleaning

Periodically, fly ash must be removed from the exhaust manifold and combustion air chamber. Cleaning frequency depends on usage and pellet quality. Inspect the system monthly until you have determined ash and creosote accumulation with your operating patterns. To remove manifold:

- Turn "ON" switch to "OFF" position and let stove cool.
- Remove burn pot and ash pan. Remove firebox baffle (lift and remove from tabs). Use  $\frac{3}{8}$ " wrench to remove four bolts (see Figure 11). Remove manifold.
- Vacuum fly ash from all surfaces. Vacuum inside of pipe on which burn pot mounts (make sure slide damper is open). Vacuum combustion blower blades.
- To replace manifold, reverse procedure. Make sure burn pot mounts properly before tightening manifold bolts. **NOTE: Manifold must seal against firebox to insure proper operation. However, bolts should not be overtightened.**

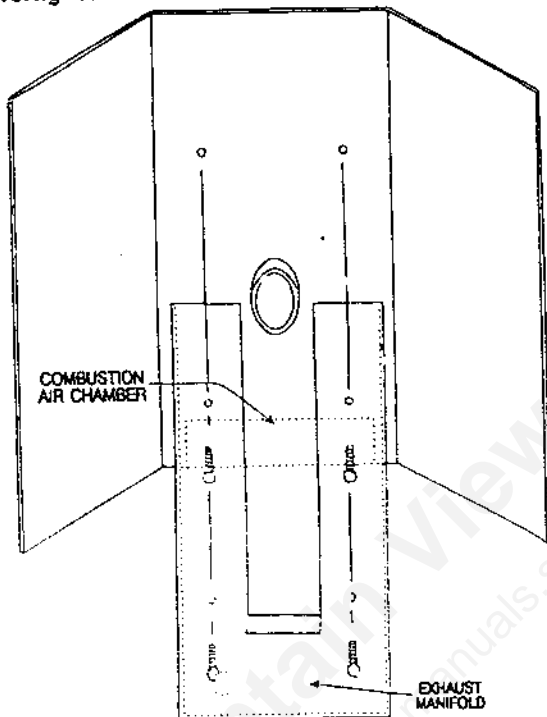


FIGURE 11

Gasket around door and door glass should be inspected and repaired or replaced when necessary (see section 6.0).

## 4.3 Blowers

- Cleaning** — Over a period of time, ashes or dust may collect on the blades of both the combustion blower and convection blower. Periodically the blowers should be vacuumed clean as dust and ashes can impede performance. Creosote can also accumulate in the combustion blower. This needs to be brushed clean. The convection blower is accessed by removing the stove's left side panel and the combustion blower is accessed by removing the exhaust manifold (see figure 11). **NOTE: Be careful when cleaning not to dislodge balancing clip on convection blower, or bend fan blades.**
- Oiling** — Blower manufacturers suggest oiling annually. See figure 13 for lubrication points. Use SAE 20W oil. Limit to one or two drops.

## 4.4 Chimney Cleaning

- Creosote Formation** — 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 newly started fire or from a slow burning fire.

As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire which may damage the chimney or even destroy the house.

Despite their high efficiency, pellet stoves can accumulate creosote under certain conditions.

- Fly Ash** — This accumulates in the horizontal portion of an exhaust run. Though non-combustible, it may impede the normal exhaust flow. It should therefore be periodically removed.
- Inspection and Removal** — The chimney connector and chimney should be inspected at least monthly during the heating season to determine if a creosote or fly ash buildup has occurred.

If creosote has accumulated, it should be removed to reduce the risk of a chimney fire. Inspect the system at the stove connection and at the chimney top. Cooler surfaces tend to build creosote deposits quicker, so it is important to check the chimney from the top as well as from the bottom.

The creosote should be removed with a brush specifically designed for the type of chimney in use. A chimney sweep can perform this service. It is also recommended that before each heating season the entire system be professionally inspected, cleaned, and repaired if necessary.

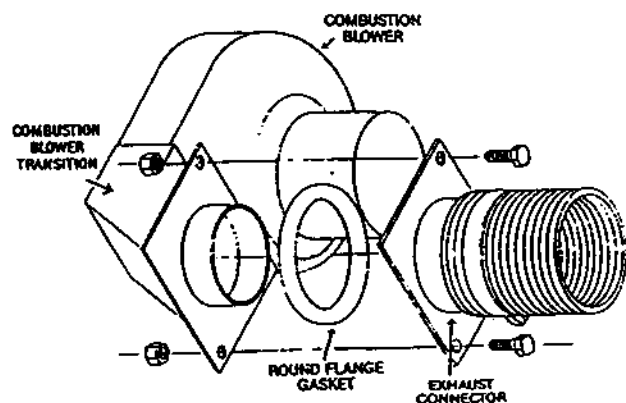
To clean the chimney, you can easily detach the vent at the combustion blower transition (see figure 12). Remove bolts. Make sure gasket is in place when re-attaching.

## 4.5 Recommended Maintenance Schedule

Use this as a guide under average use conditions.

	Daily	Twice Weekly	Monthly or per ton	Annually
Burnpot	stirred	emptied		
Clean Glass	wiped			
Combustion Chamber		brushed		
Ash Pan		emptied		
Exhaust Passage			vacuumed	
Combustion Blower Blades			vacuumed brushed	
Fan Motors				oiled
Vent System				cleaned
Gaskets				inspected

FIGURE 12



# 5.0 TROUBLE-SHOOTING GUIDE

When your stove acts out of the ordinary, the first reaction is to call for help. This guide may save time and money by enabling you to solve simple problems yourself. Problems can be due to only five factors: 1) poor fuel; 2) poor operation or maintenance; 3) poor installation; 4) component failure; 5) factory defect. You can usually solve those related to 1 and 2. Your dealer can solve those in 3, 4 and 5. Refer to figures 13, 14 and 15 to help locate indicated parts. **REMINDER: Pull plug before servicing, unless otherwise instructed.**

## 5.1 Fuel Will Not Feed

1. Check for fuel in hopper. See section 3.7. If stove runs out of fuel, pellets will not feed once hopper is reloaded until auger fills with pellets. This takes several full turns of the auger. Hold manual feed switch on for 30-40 sec.
2. Push "auger" button.
3. Check for auger jam. You can hear auger motor work at least every 15 seconds. If motor is working and auger is not, contact your dealer.
4. If auger motor is not working, and there is power to the system (green light is on) high temp. or auger thermodisk may be stuck in wrong position. Check for continuity and tap lightly. If problem persists, call dealer.
5. If suction or pressurization in the stove is lost, an air switch shuts off the auger. Inspect for source of lost pressure. Stove door ajar may cause this.
6. If stove set at "MAX" is suddenly switched to "LOW", a temporary overfire condition may occur which will stop the auger (green light will go out). Place High fan switch to High, wait ten to fifteen minutes, push the "AUGER" button, relight fire.

## 5.2 Fire Goes Out

(assuming auger is feeding and there is ample fuel in hopper and burnpot)

1. Check for blockage in combustion air inlet, burnpot and exhaust.
2. Restart fire, increase feed rate. Large pellets feed more slowly. A fire sometimes CANNOT be maintained on low. When the fire goes out, a thermodisk stops the auger when the unit cools. If this problem recurs, either change to 1/4" pellet fuel or do not set feed rate below "B".
3. Check to see if combustion blower is operating.

## 5.3 Smokey Fire (see section 3.6 first) (reddish flame, soot deposits on door glass)

1. Check door and door glass gasket. Door should be tightly sealed. Replace gasket if necessary.
2. Check that burnpot is installed properly and holes are not plugged.
3. Check for blockage in combustion air inlet and exhaust.
4. Check quality of fuel (see section 3.1).
5. Adjust slide damper (see section 3.6)

## 5.4 No Power

1. Check power supply to stove.

## 5.5 Blowers Will Not Operate Properly

1. Check power supply.
2. Check blower thermodisk with continuity tester.

## 3. Check combustion blower for creosote or ash buildup.

NOTE: When "on" switch is pushed at start-up, convection fan and combustion fan both come on.

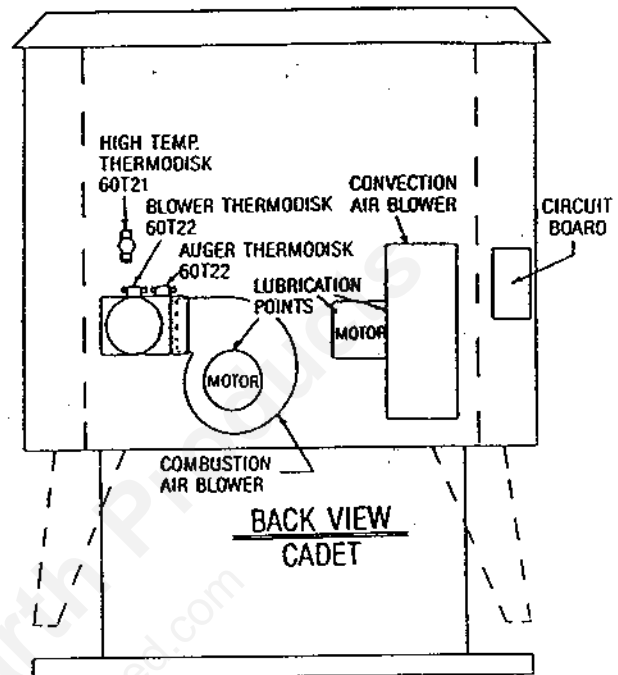
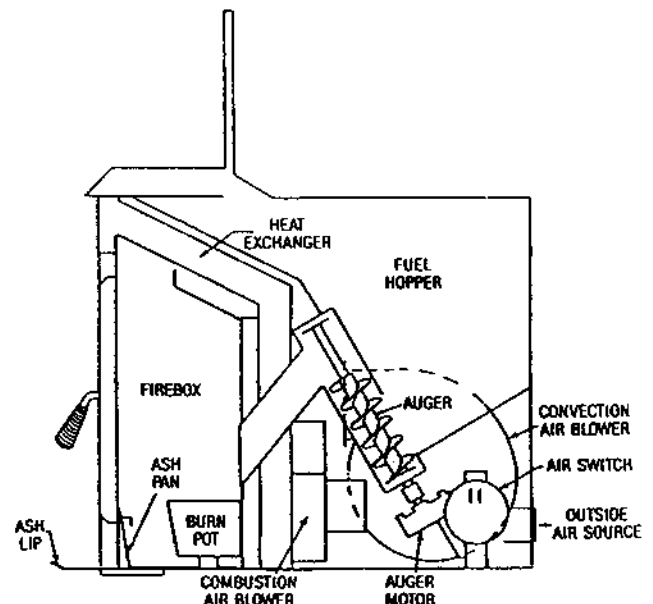


FIGURE 13

## 5.6 Noisy Operation

1. Identify source of noise (i.e. which motor).
2. Check tension of blower mounting screws if vibrating noise.
3. Check for dirty or unbalanced impeller wheel on blowers if clanging noise.
4. Oil blowers with SAE 20W oil. (1-2 drops only)
5. Readjust convection blower speed (pellet feed control knob), if harmonic vibration.



CADET  
RIGHT SIDE CUTAWAY  
FIGURE 14

# 6.0 REPLACEMENT PARTS

Contact an Authorized Breckwell Dealer to obtain any of these parts

## Item

- Spring Handle
- Door Glass
- Side Window Glass
- Window Clips
- Door Gasket (five feet)
- Window Gasket (five feet)
- Circuit Board & Speed Control
- Convection Blower
- Combustion Blower
- Round Flange Gasket
- Auger Gear Motor
- High Temp Thermodisk (T21)
- Auger/Blower Thermodisk (T22)
- EJm Pot
- Breckwell Maintenance Tool
- Furnace Cement (2-Oz.)
- Exhaust Adapter
- Air Switch

## Optional Items for Your Breckwell

- Brass Flashing Trim (P32)
- Decorative Etched Door Glass
- 22-Carat Gold Plated Cow/Check Valve
- Imitation Firelog Set
- 22-Carat gold plated door and window frames

## ELECTRICAL DIAGRAM

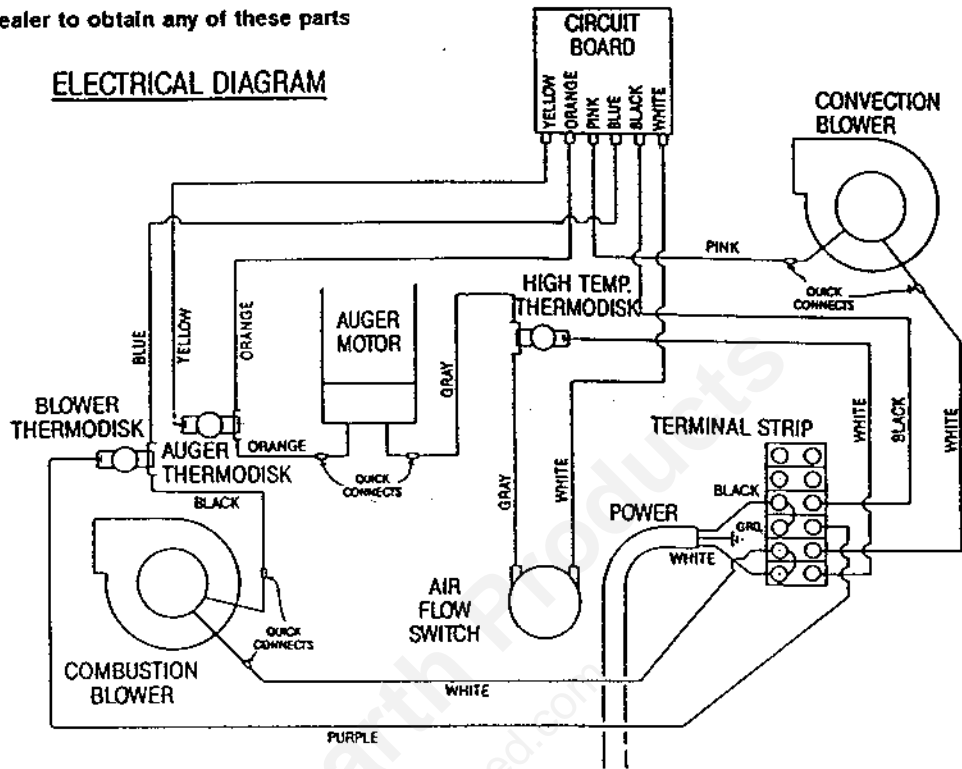


FIGURE 16

Date of Installation \_\_\_\_\_

Dealer \_\_\_\_\_

Control# \_\_\_\_\_

# WARRANTY

National Steelcrafters of Oregon, Inc. (NSO) provides the original consumer purchaser of the Breckwell Wood Pellet Stove with a five year limited warranty on non-electrical parts and a one year limited warranty on all electrical components, from the date of purchase. There is no warranty on glass window, gaskets, paint and burnpot, all of which may need periodic replacement.

This warranty covers defects in materials and workmanship in covered components, provided product has been installed and operated strictly in accordance with the instructions in this owner's manual. This warranty does not cover damage or breakage caused by improper handling, misuse, abuse, disassembly, unauthorized modification, or other circumstances beyond NSO's control.

If warranty service is needed during warranty period, notify nearest NSO Authorized Breckwell Dealer. Be prepared to provide your name, address, phone number, the installer, serial number of stove, date of purchase, and as much information as possible about the nature of the problem.

If dealer must examine Breckwell at consumer's residence, a reasonable service call charge may be incurred. If unit must be transported, those charges will be consumer's responsibility.

This warranty is limited solely to the purchase price of the product. NSO will not be liable for consequential or indirect damages to property or persons resulting from use of this product. No other express warranty is given and no affirmation of NSO or its agents by work or action shall constitute a warranty.

Warranty limitations may not apply in your area. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.