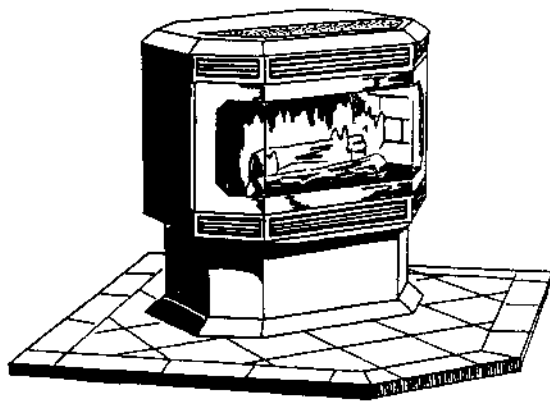


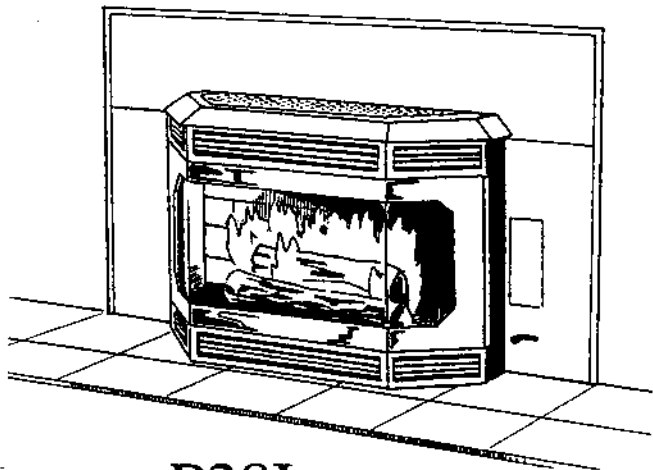


BRECKWELL

Hearth Products



P28FS



P28I

OWNER'S MANUAL

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.

FACTORY RECOMMENDS PROFESSIONAL INSTALLATION

ALL UNITS TESTED AND
LISTED BY

Warnock Hersey



ICBO TL-116 NER-QA-219

Manufactured by
National Steelcrafters of Oregon, Inc.
P.O. Box 24910
Eugene, Oregon 97402

NATIONAL STEELCRAFTERS OF
OREGON INC.

1997

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 it 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 for future owners.**

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1.0 INTRODUCTION

Note which model you have purchased (either P28FS free-standing model or P28I built-in fireplace or fireplace insert). Some instructions refer to only one model or the other.

This stove has 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 E1509-93, CSA C22.2 No. 3 "Electrical Features of Solid Fuel Burning Appliances," Oregon new rules for mobile homes (814-23-900 through 814-23-909) and installation as a stove heater.

This appliance is designed specifically for use only with pelletized wood. It is designed for residential installation according to current national and local building codes as a freestanding room heater. It is also approved as a mobile home heater which is designed for connection to an outside combustion air source.

The stove 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 (see section 3.1).

This stove is 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 because this will rapidly fill up the burn pot and eventually cut off the combustion air supply.

Commercial and industrial installations of Breckwell Pellet Stoves should not be used since operational control is often not well managed in these settings.

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 gear motor. **This is a safety precaution.** The circuit board/control panel must be unplugged and installed in the P28I side panel. Instructions are packed with the board/panel. Free the power cord.

NOTE: Normally, your dealer will perform these functions.

2.2 CLEARANCES

The Breckwell P28FS has been tested and listed for installation in residential, mobile home and alcove applications.

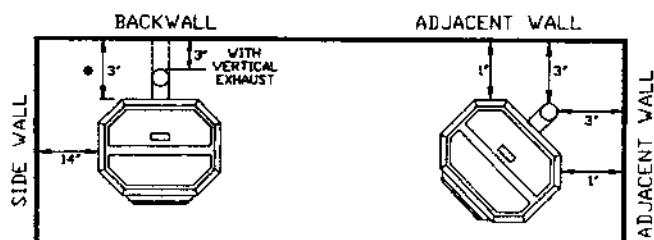
The P28I is approved for installation into masonry fireplaces and also factory-built, built-in, zero-clearance fireplaces of the following description: all brands at least 36" wide and 20" high. The P28I is also approved as a built-in fireplace, as long as minimum chase size and material specifications are maintained (see section 2.42D).

FLOOR PROTECTION (P28FS) minimum 29" wide by 29" deep. The stove must be placed on a continuous (grouted

joints) noncombustible material such as ceramic tile, cement board, brick, 3/8" asbestos millboard or equivalent, or other approved or listed material suited for floor protection. Check local codes for approved alternatives.

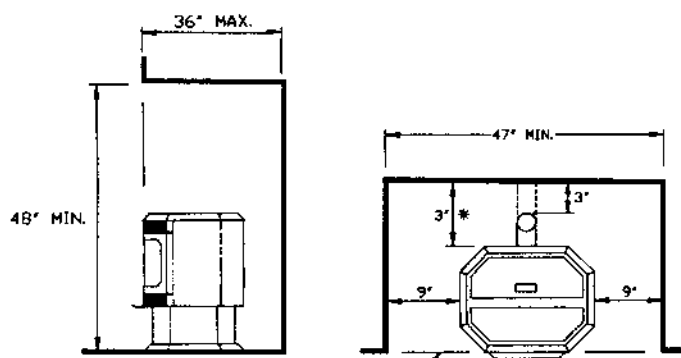
Clearances are measured from the sides, back and face (door opening) of stove body (see Figure 1A).

DO NOT USE MAKESHIFT MATERIALS OR COMPROMISES IN THE INSTALLATION OF THIS UNIT.



MINIMUM SIDEWALL CLEARANCES

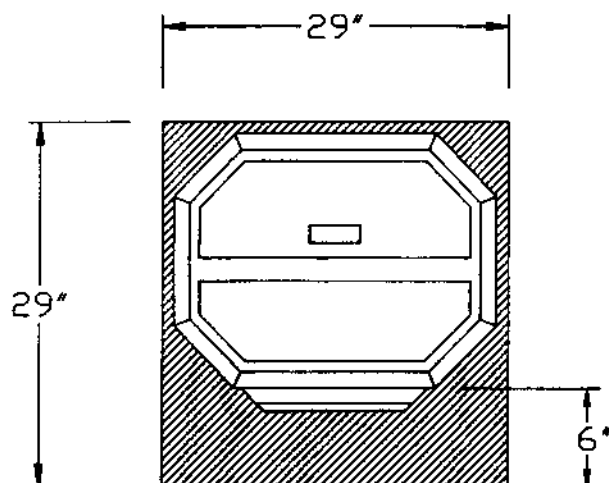
*With Horizontal Exhaust



STOVE DOOR FACE MUST BE
EQUAL TO OR PROTRUDE OUT
FROM FACE OF ALCOVE.

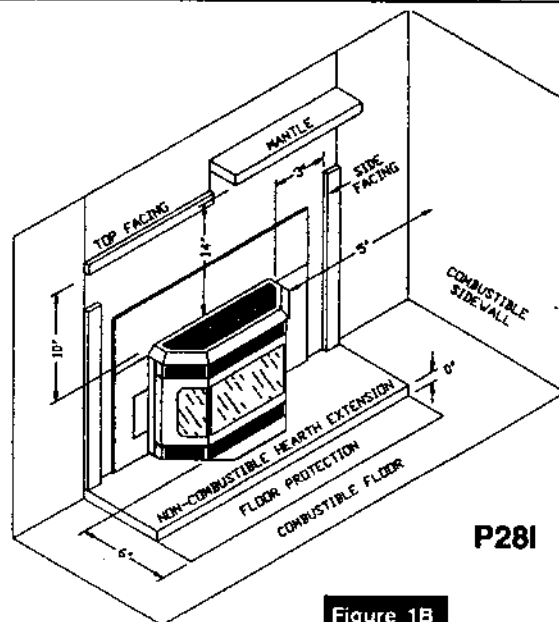
ALCOVE CLEARANCES

*With Horizontal Exhaust



FLOOR PROTECTION
(Minimum 29" Wide X 29" Deep)

Figure 1A



P28I

Figure 1B

2.3 COMBUSTION AIR SUPPLY

For mobile home installation the stove must be connected to an outside source of combustion air. A 13/4" inside diameter metallic pipe, either flexible or rigid, should be used when outside air is to be connected. It attaches to an outlet at the stove's rear (see Figure 2), and its terminus should have a wind hood or be turned 45° to prevent overdraft when located on windy side of home. In some cases, rodent guards are suggested.

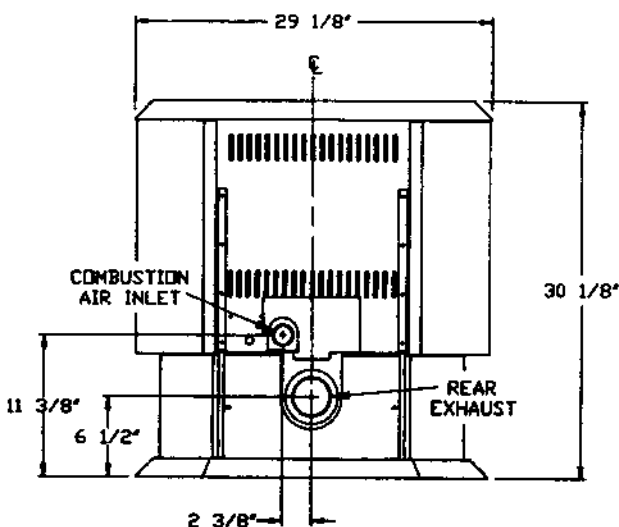
Sources of Outside Combustion Air

A. For freestanding installations

1. Hole in floor near stove rear
2. Hole in wall behind stove.

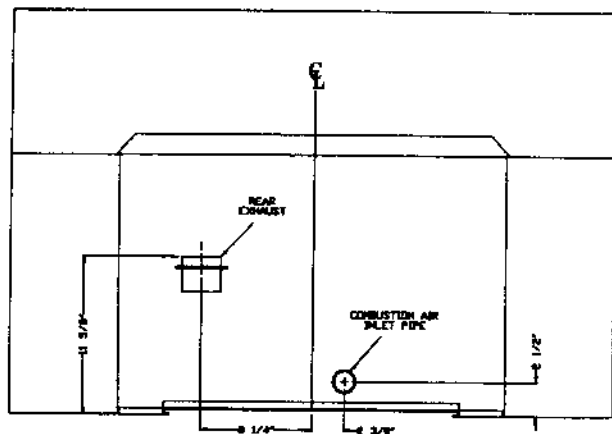
B. In fireplaces

1. Ash cleanout door
2. Masonry fireplaces only—hole drilled in rear of firebox (when fireplace is on an outside wall)
3. Top of chimney (see Figure 8). All factory-built fireplaces



REAR VIEW
(P28FS)

Figure 2



REAR VIEW P28I

Figure 2B

requiring outside air must use this method unless outside air is already provided.

2.31 WHEN OUTSIDE AIR IS NOT USED

If outside air is not used, it is important that combustion air is easily available to the inlet. In P28I installations, flashing vents should not be restricted. The flashing should not necessarily seal the fireplace face.

2.4 VENTING

The Breckwell P28FS is certified for use with listed TYPE L-Vent, 3" or 4" diameter in size. The stove was tested with Simpson Duravent brand. Class "A" chimney is not required. Refer to the instructions provided by the vent manufacturer, especially when passing through a wall, ceiling or roof.

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. This is a pressurized exhaust system. The pipe joints should be sealed to ensure consistent performance and avoid smoke spillage.

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.

Use 4" pipe if you have more than 15 feet of equivalent vent length.

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 foot per actual foot

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

2.41 P28FS INSTALLATIONS

A. HORIZONTALLY THROUGH WALL (see Figure 3)

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

1. Position stove, adhering to clearances shown in section 2.0.

2. Locate position of hole in wall, directly behind stove's exhaust vent (see Figure 2).
3. Install L-Vent wall thimble per L-Vent manufacturer's instructions.
4. Attach enough pipe to penetrate and extend at least 6" beyond exterior walls. An 8-foot vertical pipe run is suggested where possible to reduce the possibility of smoke leakage in the event of a power failure.
5. Attach cap and seal outside wall thimbles with non-hardening waterproof mastic.
6. Termination should not be located so that hot exhaust gases can ignite trees, shrubs, or grasses or be a hazard to children. Exhaust gases can reach temperatures of 500°F and cause serious burns if touched. Locate terminations: 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.

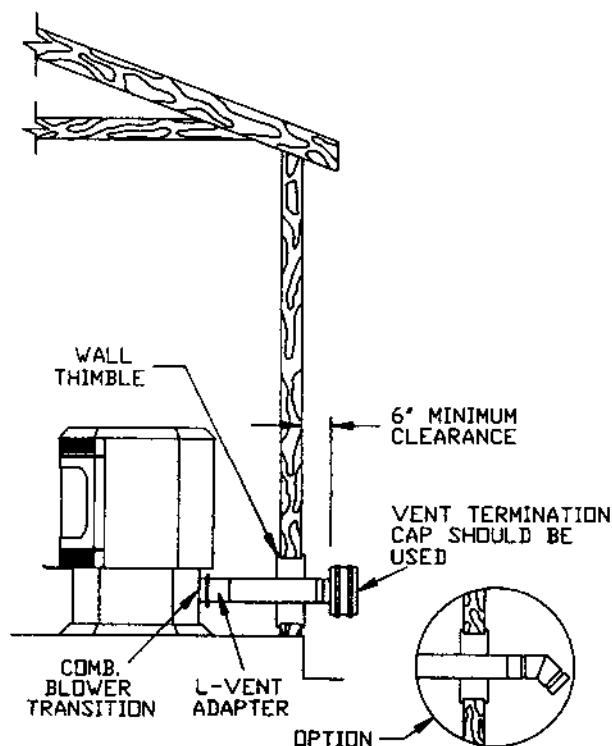


Figure 3

B. VERTICALLY WITH NEW CHIMNEY SYSTEM (see Figure 4)

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

OPTION: Install L-Vent elbow in place of clean-out tee. Locate stove. Drop plumb bob to center of tee outlet, mark point on ceiling. Install ceiling support and L-Vent pipe per L-Vent manufacturer's instructions.

1. Always maintain 3" clearance from combustible materials. When passing through additional floors or ceilings, always install firestop spacer.

2. 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.

3. Apply non-hardening, waterproof mastic where the storm collar will meet the vent and flashing. Slide storm collar down until it sits on the flashing. Seal and install cap.

C. VERTICALLY INTO EXISTING CHIMNEY SYSTEM (see Figure 5)

Adapters are available to adapt from 3" L-Vent to 6" or 8" Class-A chimney. As an alternative, 3" or 4" L-Vent can be run inside existing chimney to termination. This is the preferred method. Follow guidelines for equivalent vent length.

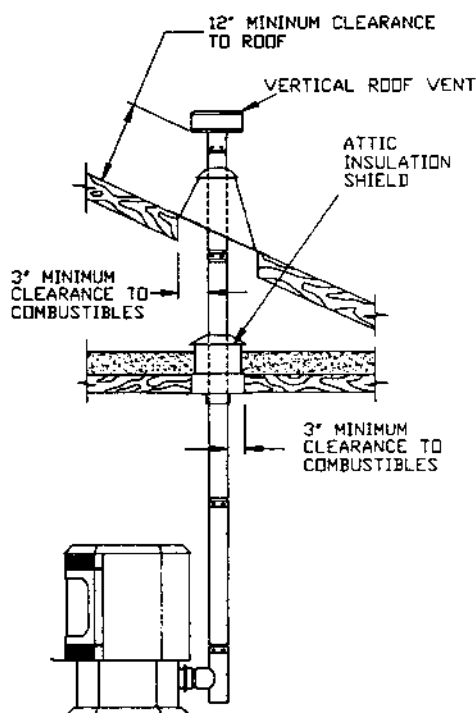


Figure 4

2.42 P28I INSTALLATIONS

Insert installations must be vented with 3" or 4" pipe. 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.

The fireplace and chimney should be cleaned thoroughly before starting installation. We suggest painting the interior of old and dirty fireplaces to seal any odors. In zero-clearance fireplace installations, when the fireplace opening is above the floor or raised hearth, the adjustable "Breckwell zero-clearance skirt" can be used to bridge the gap between hearth and stove bottom (see Figure 6).

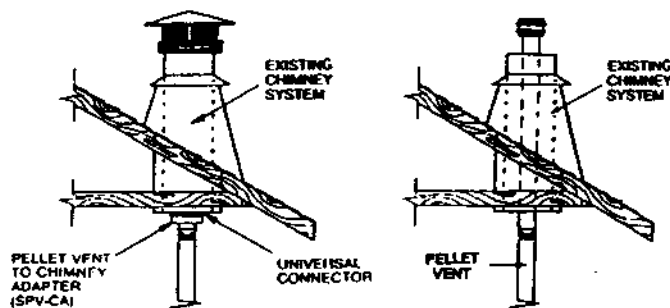


Figure 5

A. WHEN VENT PIPE EXTENDS TO CHIMNEY TOP

1. You will need a pipe length equal to the chimney height (from hearth) plus 6 inches. If outside combustion air is to be used, you will need a 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. Use 12" lengths of light gauge metal wire (not included) or metallic tape. 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.
4. Attach flashing (see Figure 7). Route power cord out the side nearest a 120V receptacle. Slide in insert. A tight seal of the flashing to the fireplace face is not necessary. Do **NOT** restrict air to or from vents in flashing.
5. 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.

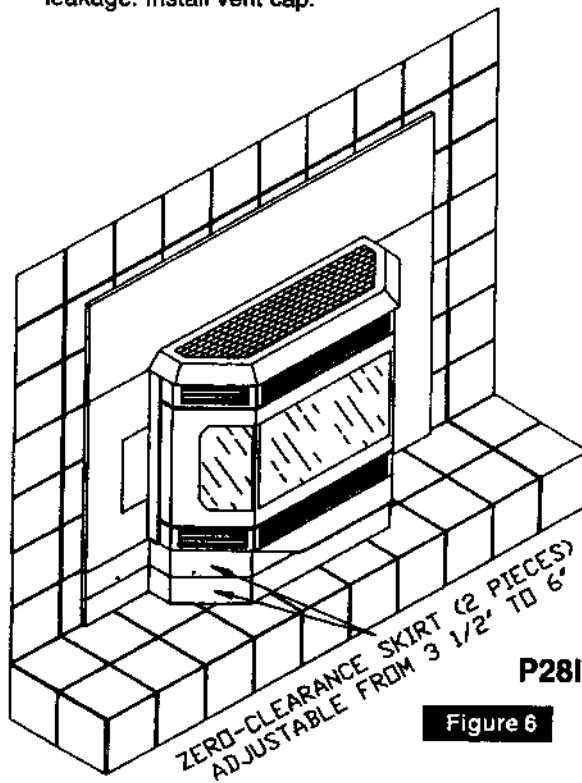


Figure 6

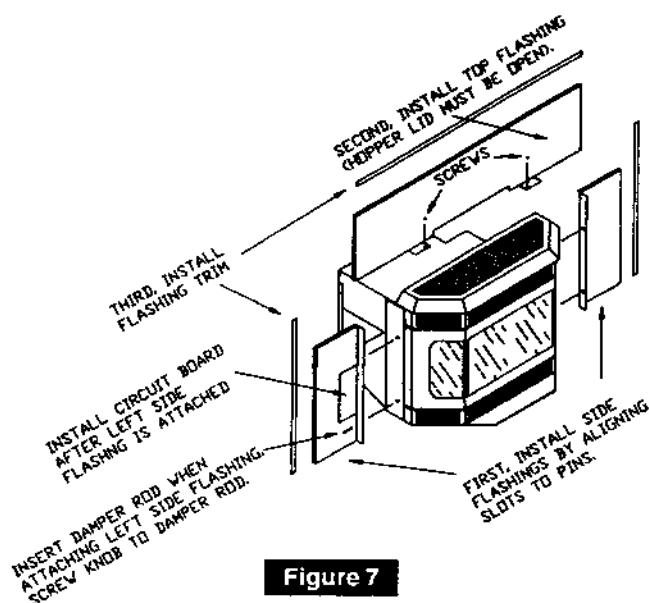


Figure 7

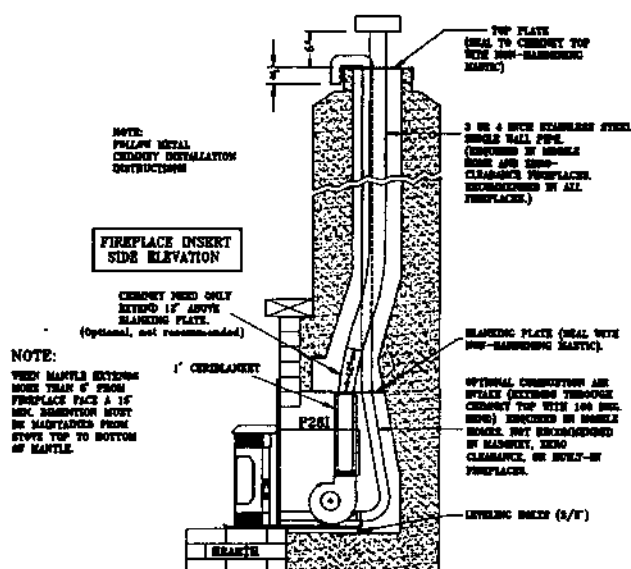


Figure 8

C. WHEN VENT PIPE EXTENDS THROUGH CHIMNEY BLANKING PLATE

1. You will need a pipe length equal to the hearth-to-blanking plate height plus 6 inches. **NOTE:** Outside combustion air cannot be drawn from chimney cavity in this installation.
2. Attach cerablanket as in section B.
3. 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.
4. Slide vent pipe (and intake pipe if used) up through blanking plate hole, leaving enough to grab and pull down.
5. Set insert on hearth, complete steps 4 and 5 in 2.42B. Be sure to seal where pipe passes through blanking plate.

D. AS A BUILT-IN FIREPLACE

Figures 9A & 9B describe a P28I 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. The chase dimensions shown are minimums and must be maintained.

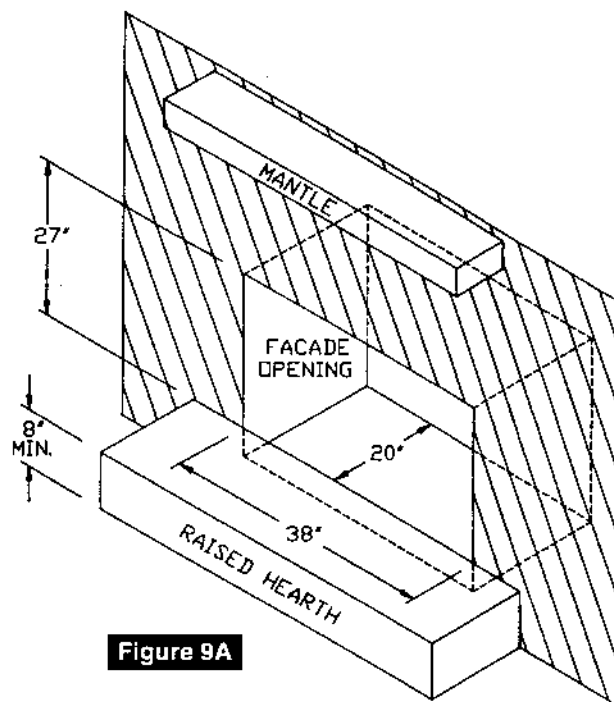


Figure 9A

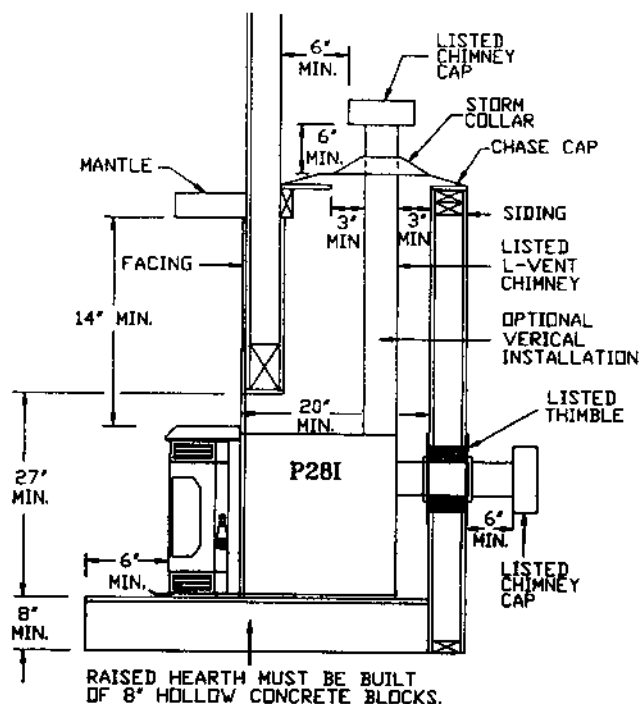


Figure 9B

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 three-prong, 120V, 60hz electrical outlet. Voltage variations can lead to serious performance problems. The Breckwell electrical system is designed for 120V 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 (refer this to a qualified technician).

2.6 SPECIAL MOBILE HOME REQUIREMENTS

Mobile home installations made prior to the initial sale of the mobile home are governed by U.S. Department of Housing and Urban Development (HUD) standards. These standards 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.

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 5/16" 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. Avoid pellet brands which display these characteristics:

- Excess fines**—"Fines" is a term describing crushed pellets or loose material that looks like sawdust or sand. Pellets can be screened before being placed in hopper to remove most fines.
- Binders**—Some pellets are produced with materials to hold them together, or "bind" them.
- 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 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. Your dealer can recommend a good quality pellet in your area.

3.2 PRE-START-UP CHECK

Remove extra-cost optional imitation log set if in use. Remove burn pot, making sure it is clean and none of the air holes are plugged. Clean fire box. Then replace burn pot. Clean door glass if necessary. (A dry cloth or paper towel is usually sufficient.) Check fuel in hopper, and refill if necessary.

NOTE: Hopper capacity is approximately 60 pounds in the P28FS and 60 pounds in the P28I.

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 because paint could be affected.

3.31. HOT ROD™ AUTOMATIC FIRE STARTER

- Fill hopper and clean burn pot.
- Push on/off switch to "ON" position.
- Prime auger by pressing manual feed switch until pellets start to drop in burn pot.
- Set fuel control knob to "D" setting.
- Close damper and press "auger" button.
- Fire should start within five minutes. When fire is well established pull out damper 1/2".
- Wait 15 minutes. Set fuel control and damper to desired setting.

NOTE: In the event of power failure, shut stove "OFF," wait 15 seconds, and repeat start-up procedure.

3.4 PANEL CONTROLS (see Figure 10)

The blowers and automatic fuel supply (auger on the P28FS) are controlled from a panel on the right side of the stove. On the P28I, panel controls are mounted in the left flashing. A hinged door covers the panel during normal operation. 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. In case of a power outage lasting more than three to six 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 4.25 to 4.75 pounds. per hour on the P28I and 6 to 6.25 pounds on the P28FS.

CAUTION: The "MAX" setting is designed for temporary use only. If used for extended periods, it can shorten the life expectancy of the unit's components. Avoid use at this setting for more than one or two hours at a time.

The P28FS and P28I have different circuit boards which are not interchangeable.

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 because it could smother the fire and lead to a dangerous condition** (see section 3.92a). During normal operation, this switch should be in its center position, neither on "HIGH FAN" nor "MANUAL FEED."

3.5 OPTIONAL THERMOSTAT

A remote thermostat may help you maintain a constant house temperature automatically. A millivolt thermostat is required. 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." The thermostat should be installed by a qualified service person.

NOTE: When using the thermostat, it is important to set your damper control rod at approximately halfway between a "LOW" burn setting and your higher burn setting.

3.6 DAMPER CONTROL

The damper control rod on the stove's lower 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 damper 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 1/8" to 1/4". 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.**

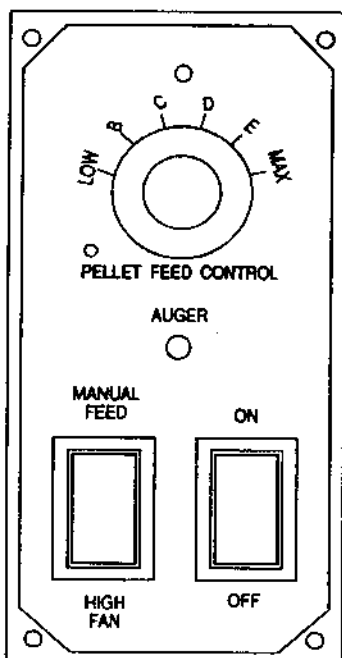


Figure 10

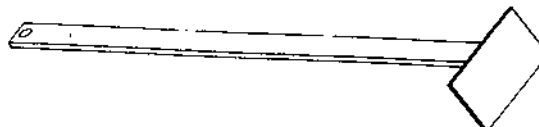
3.8 BRECKWELL MAINTENANCE TOOL

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

- Stirring 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.

NOTE: To help prevent bridging of pellets, common wax paper can be rubbed on the sidewalls and bottom of the hopper.

- Cleaning heat exchanger tubes**—See instructions, section 4.2.
- Scraping ashes from burn pot.**



3.9 SHUTDOWN PROCEDURE

Turning your Breckwell stove off is a matter of pressing the on/off 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 a few seconds, the auger will not operate once power is restored. This prevents pellets from being fed to a non-burning burn pot. Pressing the auger button on the panel control will reactivate the auger circuit. 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 automatically shut down the auger, preventing the stove from overheating. When stove has cooled, restart as instructed in sections 3.2 and 3.3.
- If the combustion blower fails, an air pressure switch will automatically shut down the auger.

NOTE: Opening the stove door or pedestal ash door (P28FS model only) 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, pull electrical cord plug on unit. **Do not open the door, change the damper setting or tamper with any controls on stove.** Wait 15 minutes or until firebox clears, open door, plug unit back in and restart fire as instructed in sections 3.2 and 3.3.
- DO NOT STORE OR USE FLAMMABLE LIQUIDS**, especially gasoline, in the vicinity of your Breckwell stove. Never use a gas or propane torch, gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid or similar fluids to start or "freshen up" a fire in this heater.

- c. **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.
- d. **KEEP ALL HOUSEHOLD COMBUSTIBLES, SUCH AS FURNITURE, DRAPES, TOYS, ETC. AT LEAST THREE FEET FROM THE OPERATING STOVE.**
- e. 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 that it may become necessary to open a window slightly or install an outside air vent to provide sufficient combustion air.
- f. 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.
- g. Do not open stove door (or pedestal ash door, P28FS model only) when operating unless necessary. This will create a dirty, inefficient burn and could allow smoke spillage or sparks to escape.
- h. Do not permit operation by young children or those unfamiliar with stove's operation.
- i. Do not service or clean this appliance without disconnecting power cord.
- j. Use only approved pellet stove 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 or propane torch to light your stove. Contact your Breckwell dealer.

4.0 MAINTENANCE

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

NOTE: Inspect burn pot periodically to see that holes have not become plugged. If so, clean thoroughly.

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

4.1 ASH DISPOSAL P28I

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

- a. Make sure fire is out and firebox is cool.
- b. Clean heat exchanger tubes (see section 4.2 and Figure 12).
- c. Remove extra-cost optional imitation log set, if in use. Remove burn pot by grasping and pulling straight out.

- d. Empty ashes from burn pot. Scrape burn pot with cleaning tool. Make sure burn pot holes are not plugged.
- e. Use small shovel or vacuum to remove ashes. (**WARNING: Make sure ashes are cool to the touch before using a vacuum.**) See section 4.12 VACUUM USE, below.
- f. Replace burn pot. Make sure it is level and pushed all the way back in when it is reinstalled.

4.11 ASH DISPOSAL P28FS

The P28FS has a large ash pan located in the pedestal column.

- a. Make sure fire is out and firebox is cool.
- b. Clean heat exchanger tubes (see section 4.2 and Figure 12).
- c. Remove extra-cost optional imitation log set if in use. Remove burn pot by grasping and pulling straight out.
- d. Empty ashes from burn pot into pedestal ash pan, through hole in bottom of firebox. Scrape burn pot with cleaning tool. Make sure holes are not plugged.
- e. Scrape remaining ash in firebox into pedestal ash pan, or vacuum. (**WARNING: Make sure ashes are cool to the touch before using a vacuum.**) See section 4.12 VACUUM USE below.
- f. Remove ash pan by lifting latch handles and turning counter clockwise 90 degrees (see Figure 7). Ash door will now lay down. Lift ash pan and pull out. (Be careful of ash door gasket.) Dispose of ashes (see section 4.0).
- g. Replace ash pan, making sure it is centered and that it is pulled forward to the ash bin stop. Before closing ash pan door, make sure both latches are pointed to your left. Close door, turn latch handles 90 degrees clockwise, and then push down on handle. Make sure ash door is closed and has a good seal. A poor seal can cause performance problems (see figures 5.1 #5 and 5.3 #2).
- h. Replace burn pot, making sure it is level and pushed all the way on.

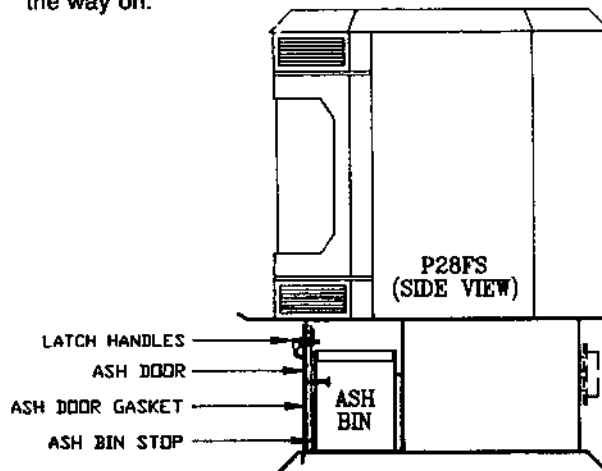


Figure 11

4.12 VACUUM USE

If a vacuum is used to clean your unit, we recommend using a vacuum designed for ashes (Love-Less Ash Vac is one brand).

Some regular vacuums and shop vacs leak ash into the room. Your vacuum or shop vac may have a special filter or bag available to eliminate this leakage.

4.2 CLEANING

- a. **Heat Exchange Tubes**—Your Breckwell stove is designed with a built-in heat exchange tube cleaner. This should be used every two or three days to remove accumulated ash on the tubes, which reduces heat transfer. Hook hole in end of handle of maintenance tool onto end of tube cleaner actuating rod in grill above stove door. Move maintenance tool (see previous section 3.8) backward and forward several times. Leave tube cleaner at rear of stove.

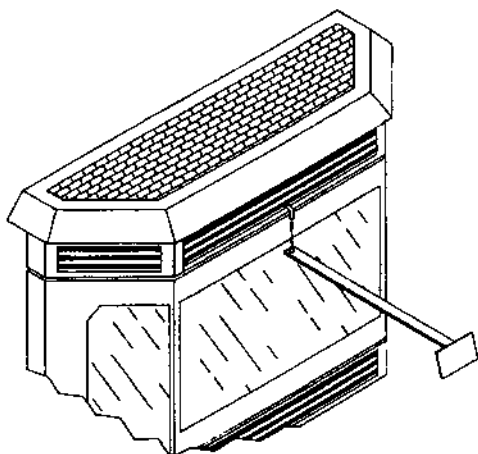


Figure 12

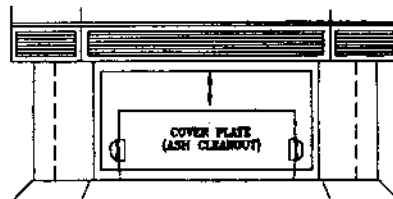
- b. **Interior Chambers**—Two ash doors in the firebox in the P28I can be removed for periodic cleaning (see Figure 13B). Both doors allow access to the chamber surrounding the firebox. Remove brick panel for access. Clean-out door is in the pedestal for P28FS (see figure 13A).

Periodically, you must vacuum ashes from this chamber. In some cases you will need to remove creosote, which can accumulate rapidly under certain conditions. A small wire brush can be used. It is important to remove this creosote because it is highly combustible. **INSPECT BEHIND THESE COVER PLATES AT LEAST ONCE PER TON OF PELLETS BURNED UNTIL YOU ARE FAMILIAR WITH HOW ASHES AND CREOSOTE ACCUMULATE WITH YOUR OPERATING PRACTICES.** Use the small wire brush to also clean the inside of the chamber walls, above the access doors.

4.3 BLOWERS

- a. **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 these ashes can impede performance. Creosote can also accumulate in the combustion blower. This needs to be brushed clean on the P28FS. The combustion blower is accessed by removing the left pedestal side and the pedestal rear sheet. Remove the blower with a ratchet and socket. If desired, blower can be disassembled for cleaning. The convection blower is accessed by removing the stove's right side pedestal panel. The P28I convection and combustion blowers are accessed by pulling stove out of fireplace. The convection blower is on the left (facing stove), the combustion blower on the right.

NOTE: When cleaning, be careful not to dislodge balancing clip on convection blower or to bend fan blades. Some stove owners lightly spray an anti-creosote chemical on the fire to help reduce creosote formation within the stove.



FRONT VIEW WITH PEDESTAL
DOOR OPEN AND ASH BIN
REMOVED
P28FS

Figure 13A

4.4 CHIMNEY CLEANING

a. **Creosote Formation**—When any 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.

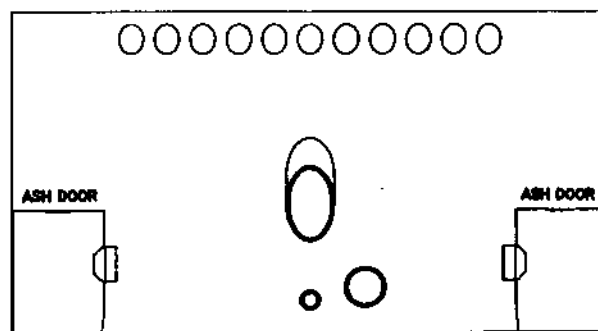
b. **Fly Ash**—This accumulates in the horizontal portion of an exhaust run. Though noncombustible, it may impede the normal exhaust flow. It should therefore be periodically removed.

c. **Inspection and Removal**—The chimney connector and chimney should be inspected monthly during the heating season to determine if a creosote or fly ash build-up 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 qualified chimney sweep can perform this service. It is also recommended that before each heating season the entire system be professionally inspected, cleaned and, if necessary, repaired.

To clean the chimney, you can easily detach the vent at the combustion blower transition with the quick release latches attached to the blower. Make sure gasket is in place when reattaching.



P28I

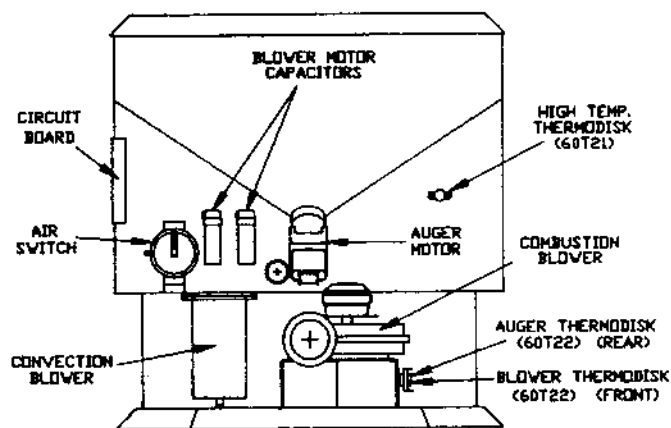
Figure 13B

4.5 RECOMMENDED MAINTENANCE SCHEDULE

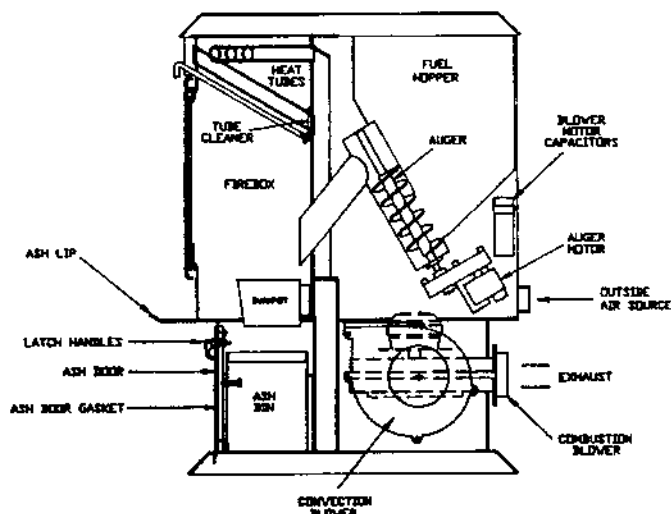
Use this as a guide under average-use conditions.

	Daily	Twice Weekly	Monthly or per ton	Annually
Burn Pot	stirred	emptied		
Glass	wiped			
Combustion Chamber		brushed		
Ashes			emptied	
Exhaust Passage			vacuumed	
Heat Exchange Tubes		two passes		
Combustion Blower Blades			vacuumed brushed	
Convection Blower Impeller			vacuumed brushed	
Vent System				cleaned
Gaskets				inspected

Gasket around door, door glass and pedestal ash door (P28FS model only) should be inspected and repaired or replaced when necessary (see section 6.0).



REARVIEW — P28FS



SIDE CUTAWAY — P28FS

Figure 14

5.0 TROUBLESHOOTING 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 problems related to 1 and 2. Your dealer can solve problems relating to 3, 4 and 5. Refer to figures 15, 16 and 17 to help locate indicated parts.

5.1 FUEL WILL NOT FEED

1. Check for fuel in hopper (see section 3.8a). 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 seconds.
2. Push "auger" button. Green light should come on.
3. Check for auger jam. Push the manual feed switch. If you can hear the auger motor trying to run, but no pellets fall into burn pot, you may have a jammed auger or set screw in coupling is loose. Contact your dealer.
4. If auger motor is not working, and there is power to the system (green light is on), the auger thermist disk may be stuck in "open" position. Check the thermist disk with continuity tester. Auger thermist disk closes with heat rise. If problem persists, call dealer.
5. If vacuum in the stove is lost, an air switch shuts off the auger. Inspect for source of lost vacuum. Stove door ajar may cause this. This may also occur if ash pan door has a poor seal (P28FS model only).
6. If a stove set at "MAX" is suddenly switched to "LOW," a temporary overheat condition may occur. This condition may stop the auger and cause the green light to go off. Press the "OFF" switch and the "HIGH FAN" switch. Allow stove to cool down, and restart as instructed in sections 3.2 and 3.3.

5.2 FIRE GOES OUT

(assuming the auger is feeding and that there is ample fuel in hopper and burn pot)

1. Check for blockage in combustion air inlet, burn pot and exhaust. With P28I you can pull unit out 1/4" to allow more air into fireplace cavity.
2. Restart fire, adjust feed rate to higher setting. Large pellets feed more slowly. A fire sometimes CANNOT be maintained on low. If this problem recurs, either change to another brand of pellet fuel, do not set feed rate below "B" or have dealer adjust circuit board.
3. Check to see if combustion blower is operating.

5.3 SMOKY FIRE (see section 3.6 first)

(reddish flame, soot deposits on door glass)

1. Check door and door glass gasket. Doors should be tightly sealed. Replace gaskets if necessary.
2. Poor seal on pedestal ash door of P28FS model.

3. Check that burn pot is installed properly and holes are not plugged.
4. Check for blockage in combustion air inlet and exhaust (see section 5.2, number 1).
5. Check quality of fuel (see section 3.1).
6. Adjust slide damper (see section 3.6).

5.4 NO POWER

1. Check power supply to stove.

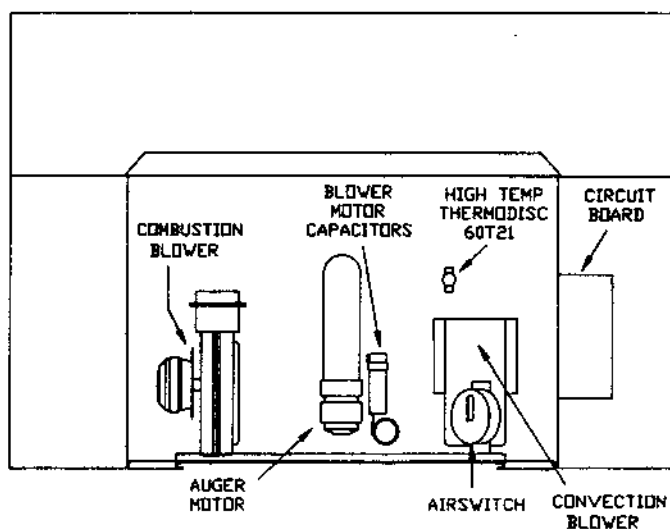
5.5 BLOWERS WILL NOT OPERATE PROPERLY

1. Check power supply.

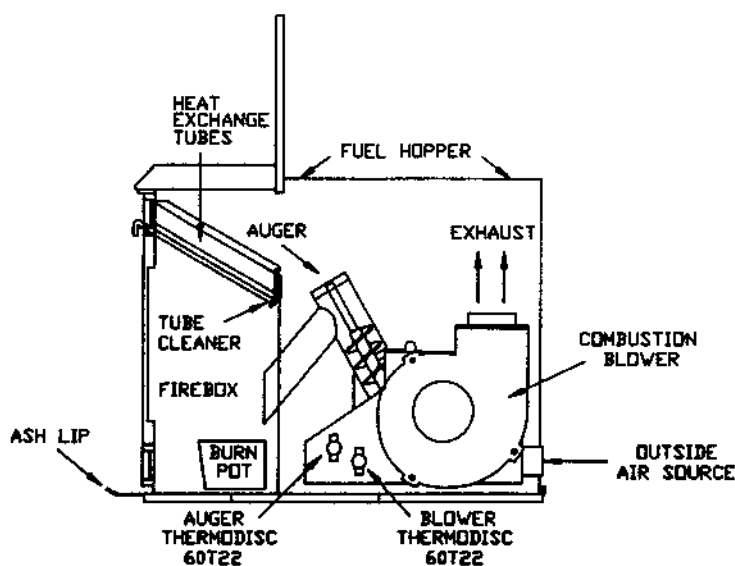
2. Check blower thermodisk with continuity tester. Blower thermodisk closes with heat rise
3. Check combustion blower for creosote or ash buildup.

5.6 NOISY OPERATION

1. Identify source of noise (i.e., which motor).
2. Check for dirty or unbalanced impeller wheel on blowers if clanging noise.
3. Readjust convection blower speed (pellet feed control knob), if harmonic vibration.



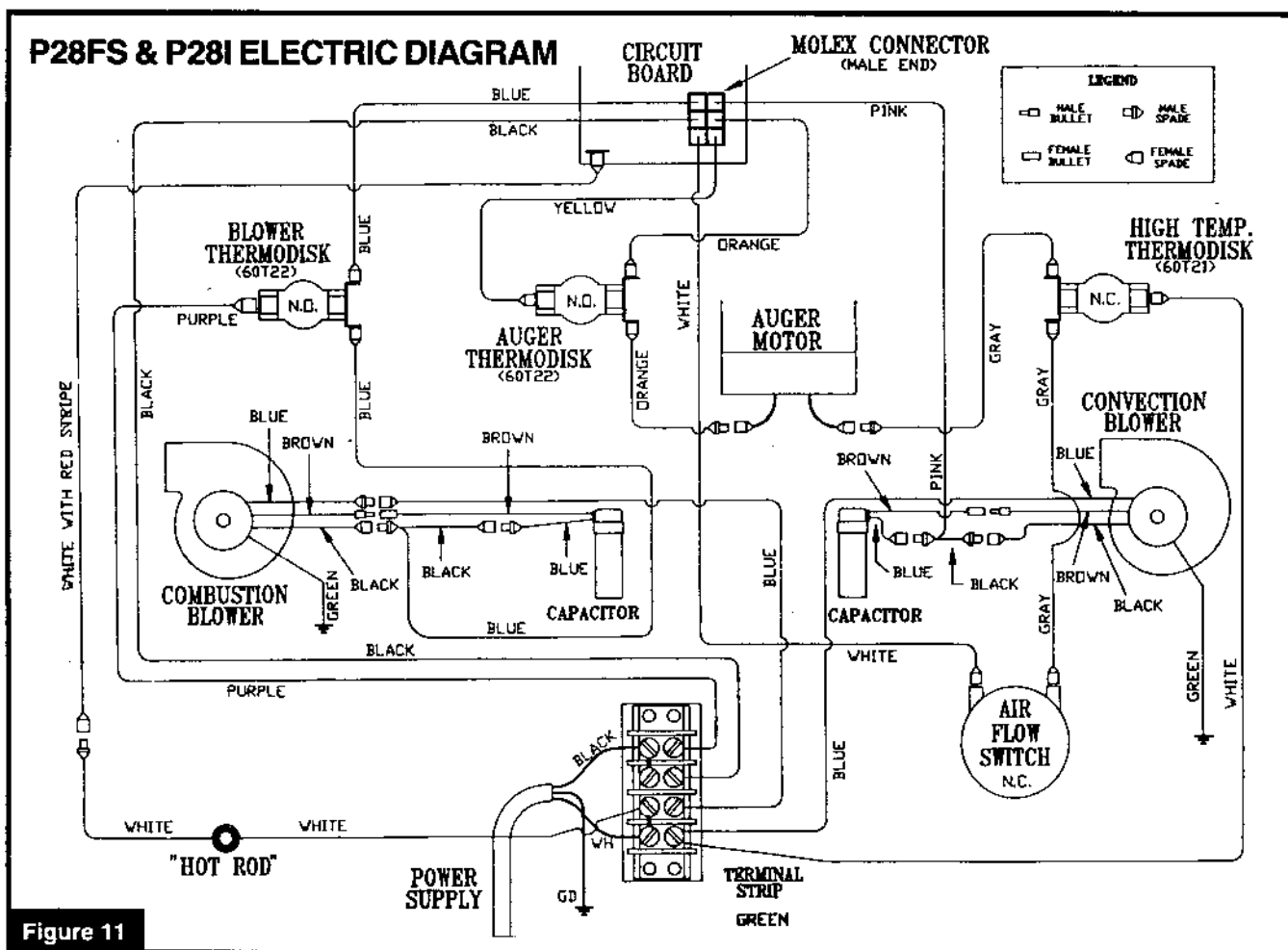
REARVIEW — P281



SIDEVIEW — P281

Figure 15

6.0 REPLACEMENT PARTS



Contact an Authorized Breckwell Pellet Stove Dealer to obtain any of these parts

Item

Wood Handle
Door Glass
Window Clips
Door Gasket (7'-6")
Window Gasket (7")
Ash Door Gasket (4'-6")
Circuit Board/Control Panel P28FS
Circuit Board Control Panel P28I
Convection Blower

Combustion Blower
Capacitors
Round Flange Exhaust Gasket
Auger Gear Motor
High Temp Thermodisk (T21)
Auger/Blower Thermodisk (T22)
Burn Pot
Breckwell Maintenance Tool
Exhaust Adapter

Air Switch
Air Switch Hose
Decorative Brick Panel
Imitation Firelog Set
4" Exhaust Adapter
Hot Red Element
Ash Door Latch Handles
Brass Trim (P28I)
Zero-Clearance Skirt (P28I)