

Installation and Operating Manual

Model 5660 (I)



Tested &
Listed by



Portland
Oregon USA

OMNI- Test Laboratories, Inc.

Report #:
215-S-32-4 and 215-S-33-4

SAFETY NOTICE

Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow instructions may result in property damage, bodily injury, or even death.

If your heater is not properly installed, a house fire may result. For everyone's safety, follow all Installation and Operating Directions. Never use makeshift compromises during the installation of this appliance.

Contact your local building or fire officials about restrictions and installation inspection requirements in your area.

These Pellet Stove Room Heaters have been designed for use in the US and Canada and are suitable for mobile homes.

The French version of this manual is available for download at www.usstove.com

La version française est disponible pour téléchargement à partir du site US Stove: www.usstove.com

Save These Instructions.

This unit is not intended to be used as a primary source of heat.

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Introduction

The entire family of United States Stove Company thanks you for purchasing your new pellet burning room heater. At U.S. Stove, we build all of our products with a hands-on approach to detail and quality. Our old world team of Craftsmen take great pride in their superior workmanship to ensure you have years of trouble free use of your pellet heater.

U.S. Stove Pellet Burning Room Heaters have been tested and listed for installation in residential, mobile home and alcove installations. U.S. Stove Pellet Burning Room Heaters are available in free standing pedestal and fireplace insert versions.

U.S. Stove Pellet Burning Room Heaters have been certified by OMNI-Test Laboratories to:

ASTM E1509-04, ULC/ORD-C1482-M90, ULC-S627-00, & ULC-S628-00

The performance of your Pellet Stove Room Heater can be affected by the type of pellet fuel you choose to burn in it. It is important to use only pellet fuel that is dry and free from dirt or other impurities. The Pellet Fuel Industry has established standards for wood pellet manufacturers. We recommend that pellet fuel used in all U.S. Stove Pellet Burning Room Heaters meet or exceed the following specifications:

<u>Fines (fine particles):</u>	<u>Maximum through a 1/8" screen</u>
<u>Bulk Density:</u>	<u>Minimum 40 lbs per cubic foot</u>
<u>Size:</u>	<u>Maximum 3/8" Diameter by 1-1/2" length</u>
<u>Ash Content:</u>	<u>1% Maximum (Premium grade)</u> <u>3% Maximum (Standard grade)</u>
<u>Moisture Content:</u>	<u>8% Maximum</u>
<u>Heat Content:</u>	<u>Minimum 8,200 btu's per hour</u>

It is important to note that the ash content of the fuel and frequency of operation will determine the frequency of which you will be required to clean your Pellet Stove. A high ash fuel may result in daily cleaning, while a low ash content fuel may result in less frequent cleaning.

Occasionally, impurities in the fuel will cause a hard mass build up in the burn pot of your Pellet Stove. Impurities, such as silica, can virtually form little glass balls when subjected to the high heat generated in the burn pot. When allowed to collect, a hard base build up may block air flow through the burn pot, which will significantly affect the performance and efficiency of your Pellet Stove. It is a good idea to check the burn pot for any hard mass buildup or other blockage on a daily basis, and if necessary let the burn pot cool and then clean the burn pot.

U.S. Stove Company realizes that it cannot control the quality of pellet fuel you choose to use in your Pellet heater; U.S. Stove assumes no responsibility for that choice.

CAUTION: BE SURE TO STORE PELLETT FUEL A MINIMUM OF 3 FEET (914.5MM) AWAY FROM THE PELLETT HEATER. RADIANT HEAT CAN IGNITE THE FUEL.

Please note that the rating label is located on the inside of the hopper lid on freestanding models and on the back side of the ash pan cover for insert models.

SAFETY INFORMATION

Be sure to read the entire owner's manual prior to installing and operating this Pellet heater. Failure to follow these instructions could result in fire, property damage, bodily injury or even death.

This stove's exhaust system works with negative combustion chamber pressure and a slight positive chimney pressure. It is extremely important to ensure that the exhaust system is sealed and airtight. The ash pan and viewing door must be securely fastened in order for the unit to be airtight. This Pellet heater will not operate using natural draft or without a power source for the blowers.

CAUTION: Burning fuel creates carbon monoxide and can be hazardous to your health if not properly vented.

CAUTION: A working smoke detector must be installed in the same room as this product. It must be installed at least 15 feet (4.57 m) from the appliance in order to prevent undue triggering of the detector when reloading.

The use of grates or other methods of supporting the fuel is not permitted.

This Pellet heater is designed to burn pellet wood fuel only. Do not use any other type of fuel; doing so will void any warranties stated in this manual.

THE USE OF SOLID WOOD FUEL IS PROHIBITED BY LAW.

This Pellet heater is designed for residential installation according to current national and local building codes. It is also approved as a mobile home heater, which requires connection to an outside combustion air source. When installing a Pellet Stove in a mobile home, it must be electrically grounded to the steel chassis of the home and bolted to the floor. Make sure that structural integrity of the home is maintained.

Make sure that structural integrity of the home is maintained when passing vent pipes through walls, ceilings and roofs.

It is recommended that the exhaust vent be cleaned bi-annually or after every two tons of pellets.

Soot or creosote may accumulate when the pellet heater is operated under incorrect conditions, such as an extremely rich burn (black tipped lazy orange flames). Do not operate the stove if the flame becomes dark or sooty or if the burn pot overfills with pellets. Turn the stove off and call your dealer.

The grounded electrical cord must be connected to a standard 120 volt, 60 hertz electrical outlet. Ensure that the electrical cord is not trapped under the appliance and that it is clear of any hot surfaces or sharp edges.

The ash pan and viewing door must be locked securely for proper and safe operation.

DO NOT PLACE UNBURNED OR NEW PELLETS FUEL IN THE ASH PAN. A fire in the ash pan may occur.

Do not operate your pellet heater if you smell smoke coming from it. Turn it off, monitor it and call your dealer.

Repair and servicing of your U.S. Stove Pellet Burning Room Heater may only be done by a qualified technician.

Disconnect the power cord before performing any maintenance or repair.

NOTE: Turning the Pellet Stove Room Heater to "off" does not disconnect power from the unit.

The Pellet Stove Room Heater will not operate during a power outage. If a power outage or tripped circuit occurs, check for smoke spillage and open windows or doors to ventilate as necessary.

CAUTION DO NOT CONNECT TO OR USE IN CONJUNCTION WITH ANY AIR DISTRIBUTION DUCTWORK UNLESS SPECIFICALLY APPROVED FOR SUCH INSTALLATIONS.

Know the symptoms of carbon monoxide poisoning: headache, dizziness, weakness, nausea, vomiting, sleepiness, and confusion. Carbon monoxide reduces the blood's ability to carry oxygen. Low blood oxygen levels can result in loss of consciousness and death.

See a doctor if you or others develop cold or flu-like symptoms while cooking or in the vicinity of this appliance. Carbon monoxide poisoning, which can easily be mistaken for a cold or flu, is often detected too late.

Alcohol consumption and drug use increase the effects of carbon monoxide poisoning.

Carbon monoxide is especially toxic to mother and child during pregnancy, infants, the elderly, smokers, and people with blood or circulatory system problems, such as anemia, or heart disease.

SAFETY INFORMATION - continued

Keep foreign objects out of the hopper.

Contact your local building officials to obtain a permit and information on any installation restrictions or inspection requirements in your area.

Be sure to notify your insurance company of your new U.S. Stove Pellet Burning Room Heater.

Allow the Pellet Stove Room Heater to cool before performing any maintenance.

Ashes must be disposed of in a steel container with a tight lid and placed on a noncombustible surface well away from your home.

Check the venting system, at least twice a year, for creosote build-up.

Keep all door/lid seals and gaskets in good condition.

Adequate ventilation air is required to operate this heater. During operation, the heater draws air for combustion which can be assisted by the installation of outside combustion air inlets. However, certain weather conditions such as icing or use of kitchen exhaust fans may impact and reduce the effectiveness of vents. It is important to note that room air starvation will negatively impact the operation of the heater.

If power outages with battery backup or room air starvation occurs during operation of heater, smoke in the house may result. This may trigger smoke detectors if they are installed.

CAUTION:

DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE. 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 HEATER WHILE IT IS IN USE. USING THESE CHEMICALS COULD CAUSE BODILY HARM, HEATER DAMAGE AND WILL VOID THE WARRANTY.

DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY FROM THE HEATER. CONTACT MAY CAUSE SKIN BURNS. YOUNG CHILDREN SHOULD BE SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE STOVE.

DO NOT ATTEMPT TO OPERATE THE HEAT EXCHANGER VENT TUBE CLEANER WHILE THE PELLET STOVE IS IN OPERATION OR COOLING DOWN; WAIT UNTIL PELLET STOVE HAS COOLED COMPLETELY BEFORE PERFORMING THIS PROCEDURE.

ENSURE THAT PEOPLE ARE AWARE THAT THE HEAT EXCHANGER VENT TUBE CLEANER KNOB WILL BE VERY HOT DURING PELLET STOVE OPERATION AND CAN BE A BURN HAZARD.

OTHER RADIANT SURFACES OF THE STOVE WILL BE HOT DURING OPERATION AND CAN BE A BURN HAZARD.

A working smoke detector must be installed in the same room as this product.

It must be installed at least 15 feet (4,57 m) from the appliance in order to prevent undue triggering of the detector when reloading.

SPECIFICATIONS

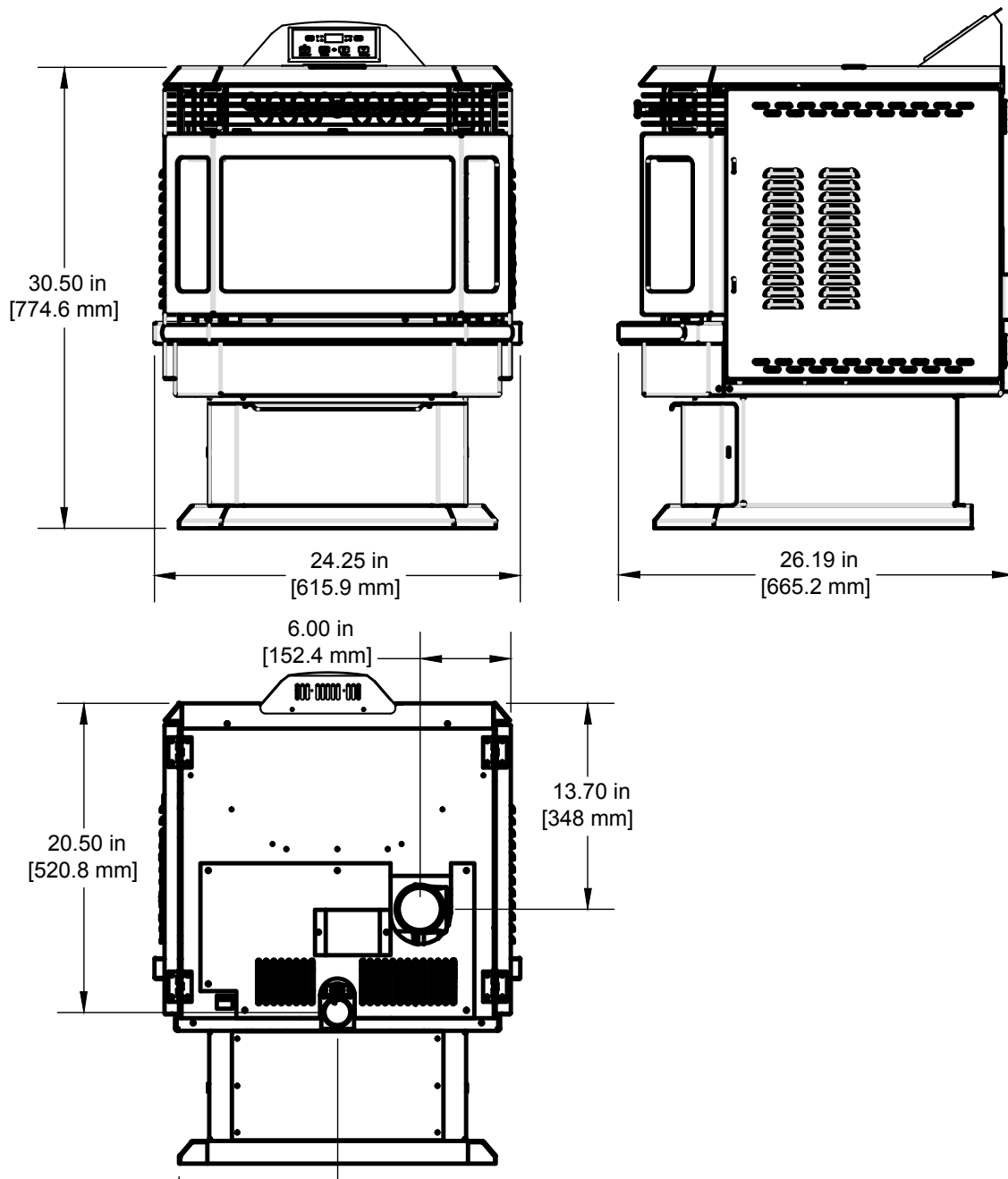
Heating Specifications:

Burn Rate: *43,900 btu's per hour or 5.1 lbs. of fuel per hour
Hopper Capacity: 55 lbs.

*Dependent upon quality and heating value of pellet fuel.

DIMENSIONS

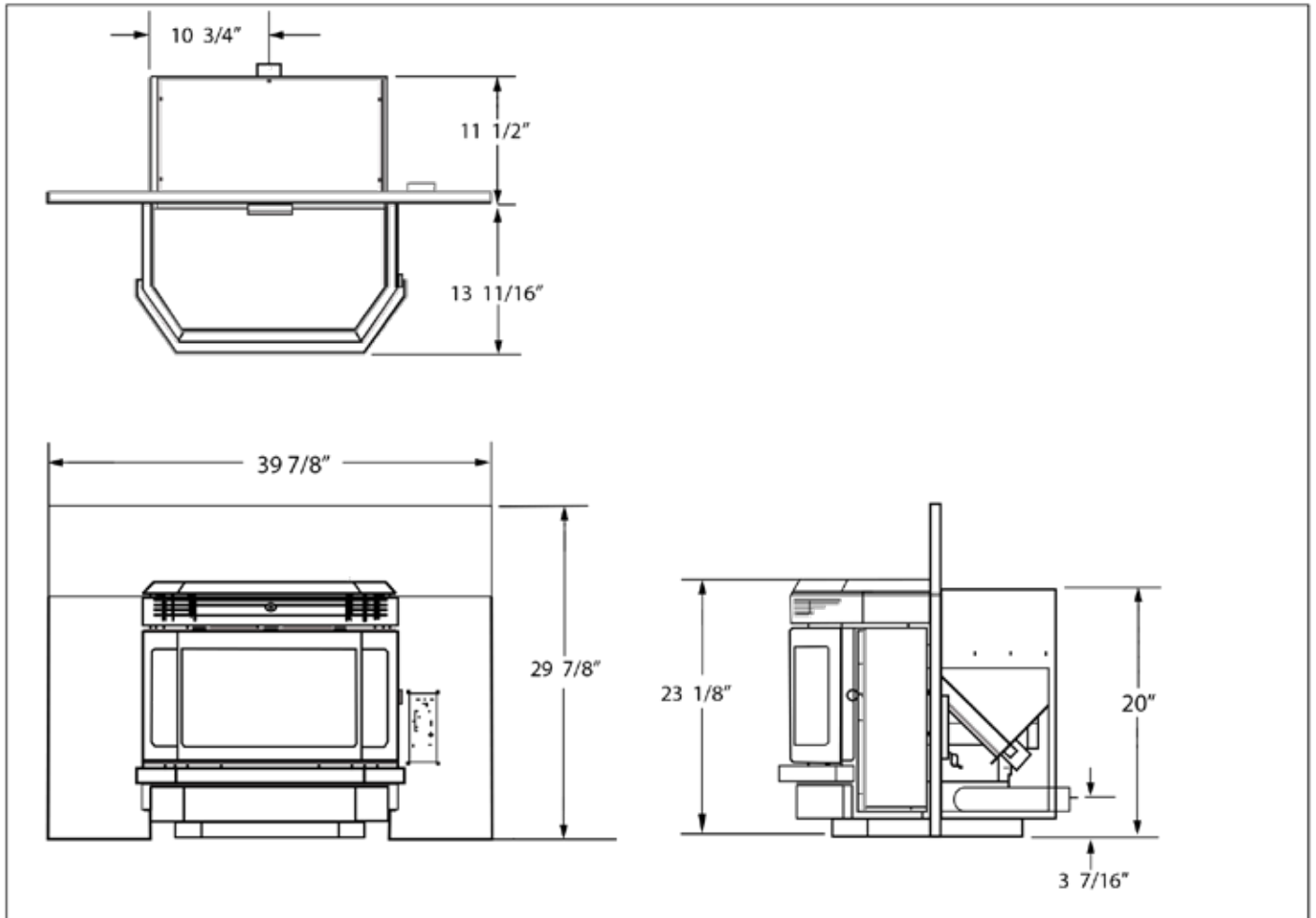
Figure 1



DIMENSIONS - continued

The minimum installation dimensions, of the insert opening, are:
32" (813mm) wide x 22-3/4" (578mm) high x 12-1/4" (311mm) deep.

Figure 2



CLEARANCES TO COMBUSTIBLES

INSTALL ALL VENTS AT CLEARANCES SPECIFIED BY THE VENT MANUFACTURER!

When your Pellet Stove Room Heater is being installed on a combustible floor it is mandatory that a 1/2" (13mm) thick non-combustible hearth pad be installed under the heater. The non-combustible hearth pad must extend at least 6" beyond the fuel loading and ash removal openings and at least the depth of the heater plus 6 inches (152mm) out in front of the heater. The floor protector must extend 2" (51mm) beyond each side of the exhaust vent. This applies to both freestanding heaters and insert heaters.

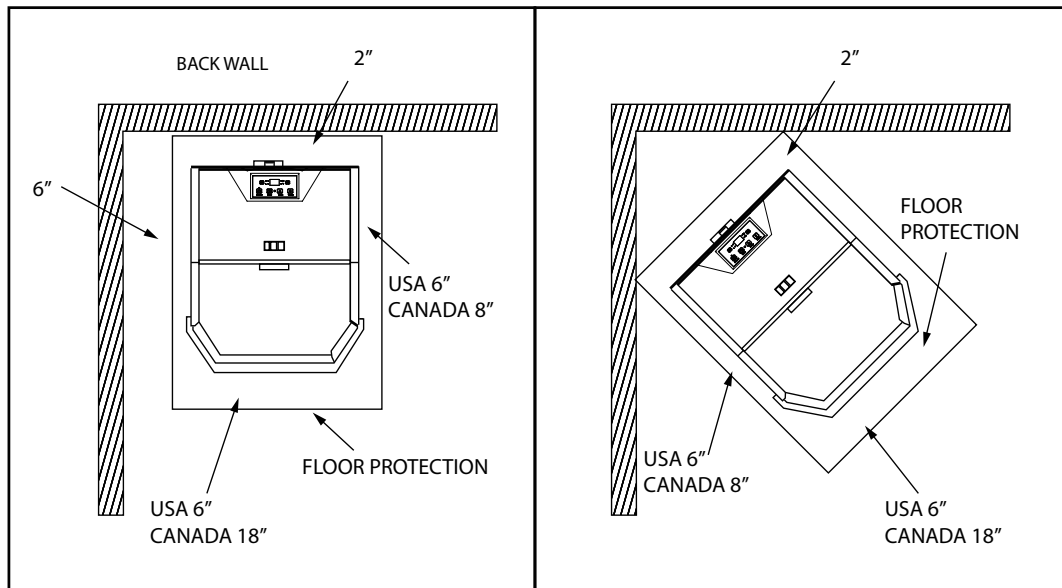
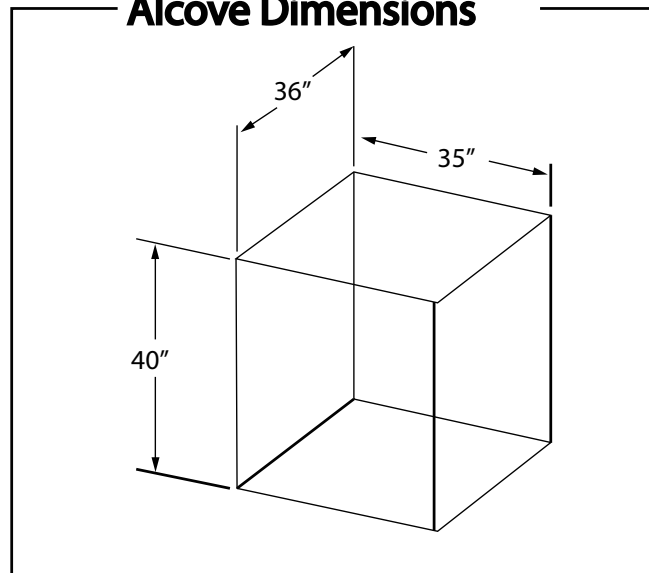


Figure 5



Alcove Dimensions



INSTALLING YOUR ROOM HEATER

You have already made the important decision of choosing your U.S. Stove Pellet Burning Room Heater; now your next step is to determine where to install your new pellet stove heater. To get the most efficient use of re-circulated heat, you should consider a room that is centrally located within your home. Choose a room that is large and open.

It is **Extremely Important** to maintain proper clearances from any combustible surfaces or materials in the room where your heater will be located. You can find proper clearance measurements on page 12 of this manual and on the rating label of your pellet stove.

The pellet stove can be vented through an exterior wall or into an existing masonry or metal chimney. The chimney must be lined if it is over 6" (150mm) in diameter or if it has a cross-sectional area of over 28 square inches (711mm²). Venting can pass through the ceiling and roof if approved pipe is used. Where passage through a wall, or partition of combustible construction is desired, the installation must conform to CAN/CSA-B365.

DO NOT OBTAIN COMBUSTION AIR FROM THE ATTIC, GARAGE OR ANY OTHER UNVENTILATED AREA. YOU MAY OBTAIN COMBUSTION AIR FROM A VENTILATED CRAWL SPACE.

DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS UNIT.

DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER HEATER, FURNACE OR APPLIANCE.

INSTALL VENT AT CLEARANCES SPECIFIED BY THE VENT MANUFACTURER.

ONLY USE APPROVED MATERIAL FOR INSTALLATION, FAILURE TO DO SO MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY, OR EVEN DEATH.

This appliance is certified for use with listed 3 inch or 4 inch "PL" or "L" pellet venting products as well as Selkirk's Direct-Temp Vent system for pellet burning appliances. The use of other components other than stated herein could cause bodily harm, heater damage, and void your warranty.

HORIZONTAL EXHAUST VENT INSTALLATION

1. Locate your pellet stove in a location which meets the requirements of this manual, but in an area where it does not interfere with the house framing, wiring, etc.
2. Install a non-combustible hearth pad underneath the pellet stove. This pad should extend at least 6" (152mm) in front of the unit.
3. Place the pellet stove approximately 15" (381mm) away from the interior wall.
4. Locate the center of the exhaust pipe of your unit. This point should then be extended to the interior wall of your house. Once you have located the center point, on the interior wall, cut a 7" (175mm) diameter hole through the wall.
5. The next step is to install the wall thimble, refer to the instructions which come with the wall thimble for this step.
6. Install the appropriate length of exhaust vent pipe into the wall thimble. See steps 11 and 12 when determining the correct length of exhaust vent to use.
7. **Outside Fresh Air is Mandatory when installing this pellet stove room heater in airtight homes and mobile homes.** Be sure that the outside air vent has an approved cap on it to prevent rodents from entering. Be sure to install in location that won't become blocked with snow, etc.
8. The air intake pipe is equipped with a butterfly valve that is preset to maximum air intake. For optimum operating efficiency you may calibrate the butterfly valve to provide less intake air. (See Figure 7) **Caution: Too much restriction on the intake air will cause dirtier burn, therefore, will require more frequent cleaning.**

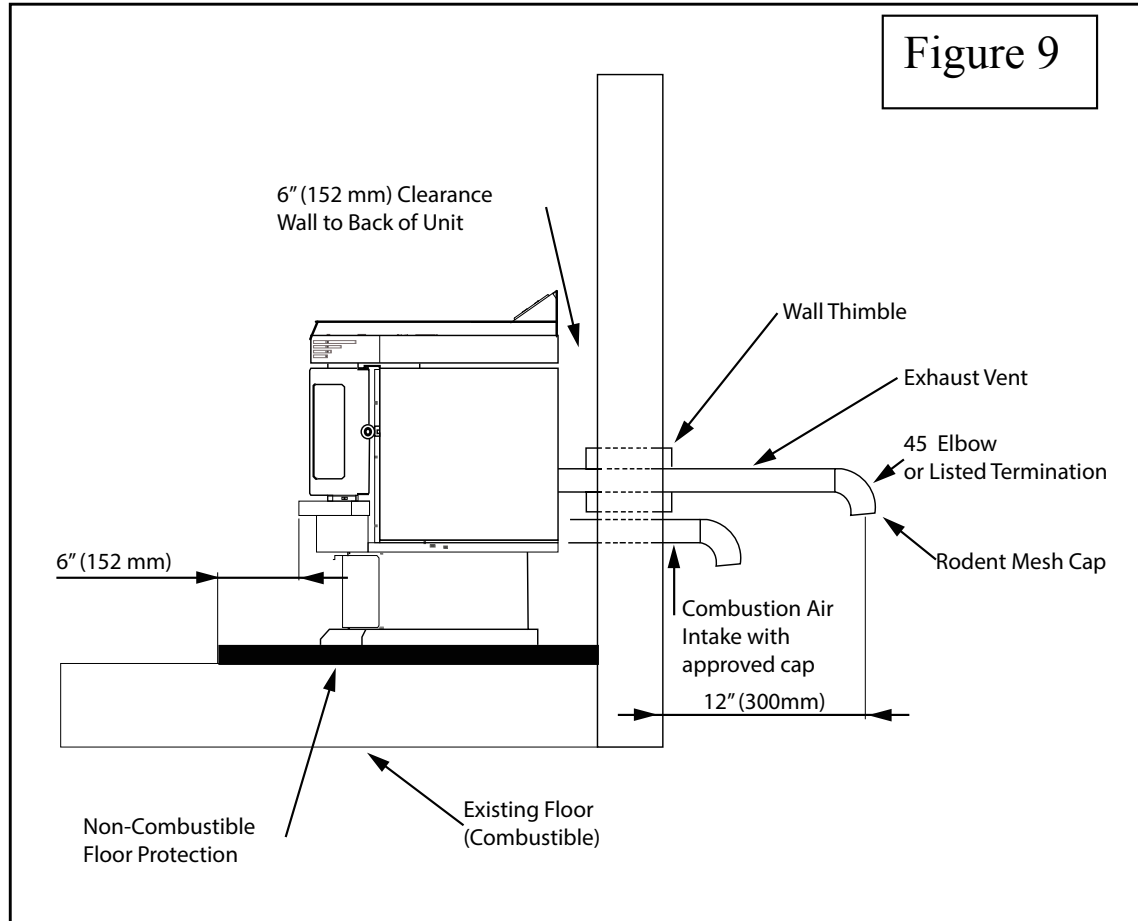
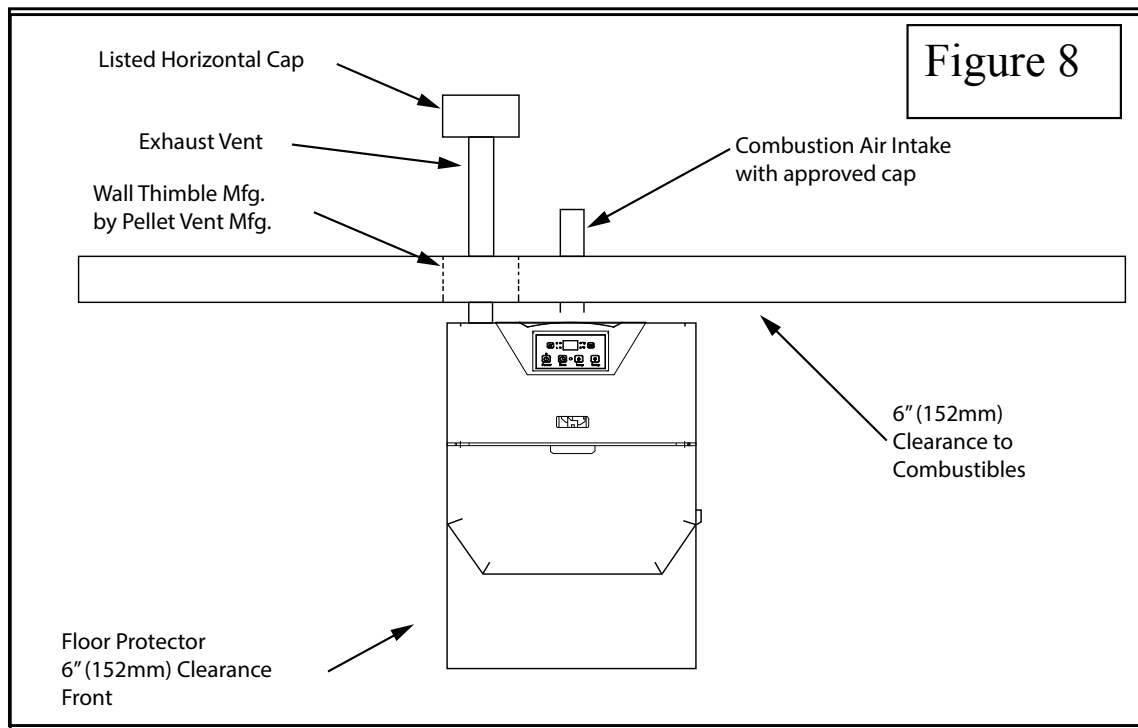


Figure 7

9. Connect the exhaust vent pipe to the exhaust outlet of your pellet stove.
10. Secure all vent joint connections with 3 screws. Seal the exhaust vent joint connections with high temperature silicone sealant.
11. Push the unit straight back to the interior wall, being sure to maintain the minimum clearances to combustibles 6" (152mm) to the back of the unit. Seal the annular space of the wall thimble and around the vent pipe with high temperature silicone sealant.
12. The exhaust vent pipe must extend at least 12" (300mm) out past the exterior wall. Seal the annular space of the wall thimble and around the vent pipe with high temperature silicone sealant.
13. Install an approved horizontal termination cap or if necessary install a 90° elbow and appropriate length of vertical venting. An approved vertical vent cap is recommended.

INSTALLING YOUR ROOM HEATER - continued

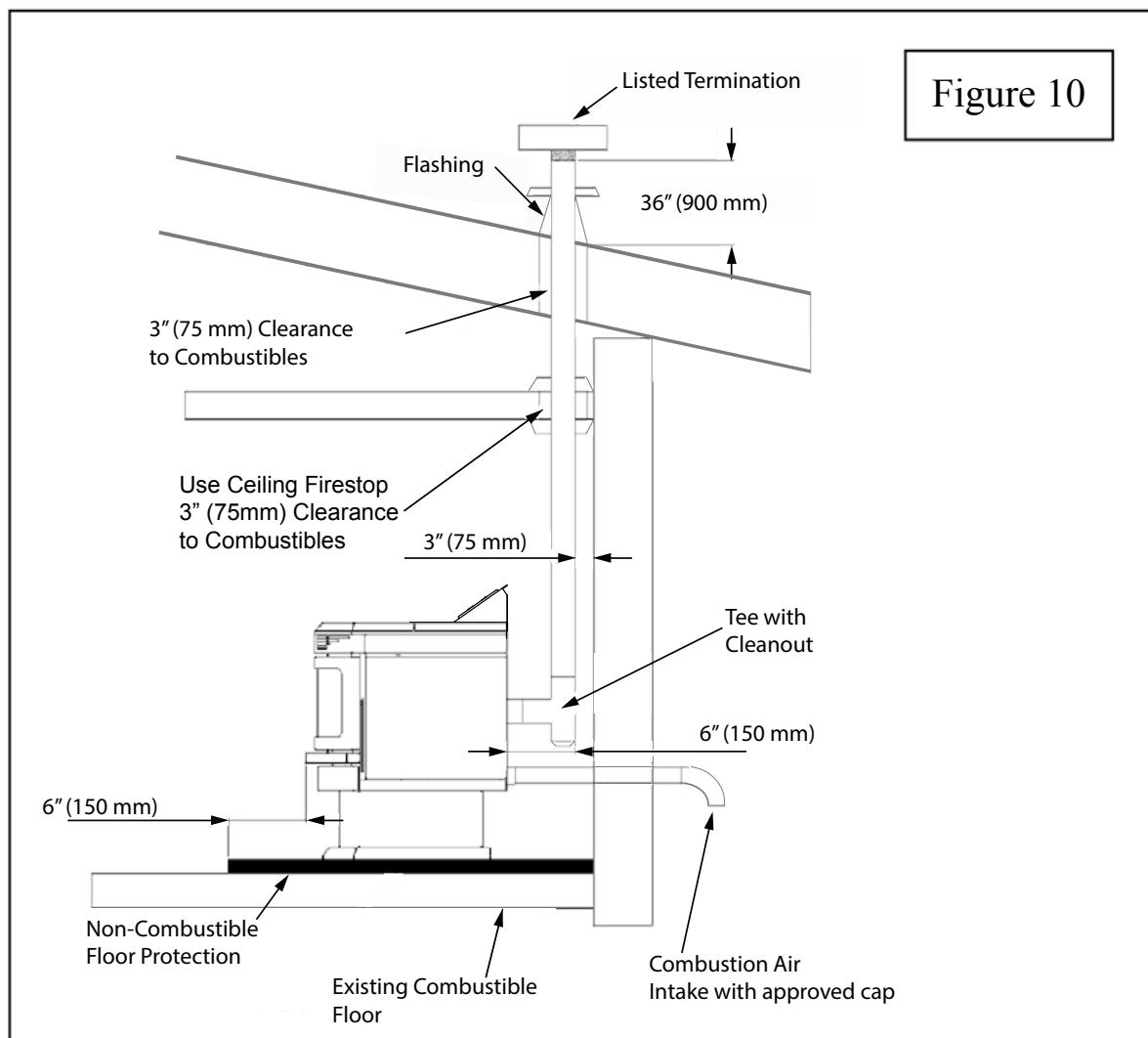
HORIZONTAL EXHAUST VENT INSTALLATION



INSTALLING YOUR ROOM HEATER - continued

FREESTANDING INTERIOR VERTICAL INSTALLATION

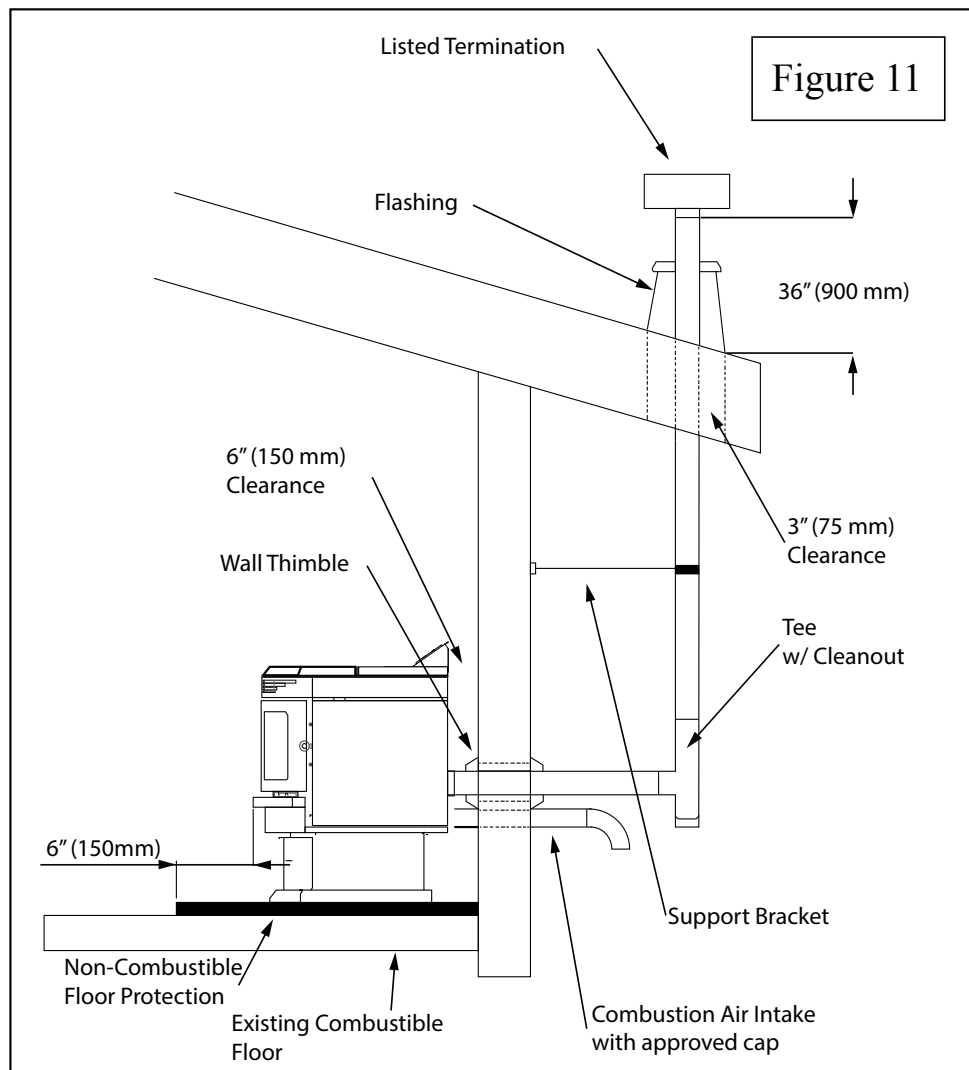
1. Locate your Pellet Stove Room Heater in a location which meets the requirements of this manual, but in an area where it does not interfere with the house framing, wiring, etc.
2. Install a non-combustible hearth pad underneath the pellet stove. This pad should extend at least 6" (152mm) in front of the unit.
3. Place your Pellet Stove Room Heater on the hearth pad and locate the unit in a manner that will leave the exhaust vent with a minimum of 3" (75mm) clearance to any combustible wall.
4. When installing the air intake, locate the center of the combustion air intake pipe at the back of your unit. Line up the center with the same spot on your exterior wall and cut a 2-1/2" (64mm) diameter hole through the wall.
5. Install the combustion air intake pipe.
6. Secure all vent joint connections with 3 screws. Seal the exhaust vent joint connections with high temperature silicone sealant.
7. Install a tee, with a cleanout, on the exhaust pipe found at the rear of your unit.
8. Install approved vent upward through the ceiling. When you pass through the combustible framing ensure that the appropriate ceiling fire stop is used. You must maintain a minimum 3" (75mm) clearance to combustibles and keep any insulation away from the exhaust vent.
9. Extend the exhaust vent through the roof flashing and ensure that the vertical cap is approximately 36" (900mm) above the roof.



INSTALLING YOUR ROOM HEATER - continued

FREESTANDING EXTERIOR VERTICAL INSTALLATION

1. Locate your Pellet Stove Room Heater in a location which meets the requirements of this manual, but in an area where it does not interfere with the house framing, wiring, etc.
2. Install a non-combustible hearth pad underneath the pellet stove. This pad should extend at least 6" (152mm) in front of the unit.
3. Place your Pellet Stove Room Heater on the hearth pad and locate the unit in a manner that will leave the exhaust vent with a minimum of 3" (75mm) clearance to any combustible wall.
4. If installing the optional air intake, locate the center of the combustion air intake pipe at the back of your unit. Line up the center with the same spot on your exterior wall and cut a 2-1/2" (64mm) diameter hole through the wall.
5. Secure all vent joint connections with 3 screws. Seal the exhaust vent joint connections with high temperature silicone sealant.
6. Locate the center of the exhaust pipe, at the back of the unit. Line up the center with the same spot on the exterior wall and cut a 7" (178mm) diameter hole through the wall.
7. Install the wall thimble; (refer to the instructions which come with the wall thimble).
8. Install an approved exhaust vent through the wall; be sure to make sure that 3" (75mm) clearances to combustibles are maintained.
9. Secure all vent joint connections with 3 screws. Seal the exhaust vent joint connections with high temperature silicone sealant.
10. Install a Tee with a cleanout on the end of the exhaust pipe and then install approved venting upward from there. Be sure to install support brackets every 5' (1525cm) to keep the venting straight and secure.
11. Extend the exhaust vent through the roof flashing and ensure that the vertical cap is approximately 36" (900mm) above the roof.



INSTALLING YOUR ROOM HEATER - continued

SELKIRK DIRECT-TEMP VENT SYSTEM FOR PELLET STOVE HEATERS

Images courtesy of Selkirk

ADVANTAGES - DIRECT-TEMP® for Pellet and Corn

- Inherent design of Direct-Temp® eliminates fly ash into room
- 1" clearance to combustibles
- Preheats intake air for more efficient combustion
- Gasketed joints eliminate need for messy sealant
- One installation includes outside air for combustion
- Single stack looks more like a wood burning stove

OPTIONAL TERMINATION CONFIGURATIONS

Vertical Termination –
4DT-VPTA, 4VP-VC

Horizontal Termination –
4DT-VPTA, 4VP-EC or
4DT-DCC

**Horizontal Termination
with 45° Horizontal
Termination Elbow –**
4DT-VPTA, 4DT-VPTE,
4VP-EC or 4DT-DCC

PELLET STOVE HORIZONTAL TERMINATIONS (4VP-EC)

- Straight out exhaust using Selkirk Model VP Exit Cap (4VP-EC) or Decorative Cone Cap (4DT-DCC)
- 45-degree Horizontal Termination Elbow with 4VP-EC or 4DT-DCC to divert exhaust directionally

PELLET STOVE TERMINATION ADAPTER (4DT-VPTA)

- Connects to Direct-Temp® direct vent system
- Includes intake for outside combustion air
- Connects to either horizontal Selkirk Model VP Exit Cap (4VP-EC), Decorative Cone Cap (4DT-DCC), 45-degree Horizontal Termination Elbow with 4VP-EC, 4DT-DCC or vertical Selkirk Model VP Vertical Termination (4VP-VC)



THE BEST LIFETIME
WARRANTY
IN THE INDUSTRY!

PELLET STOVE ADAPTER (4DT-VP5A)

- Connects to pellet vent tee for vertical installations
- Connects direct to pellet stove for straight out horizontal installations
- Allows outside combustion air to be directed to pellet stove
- Flue gases exhaust in 304 stainless steel pipe

FLEX PIPE

- For outside combustion air
- Included in 4DT-CAK

DIRECT-TEMP®

**Complete direct vent
system components to
fit most any pellet or
corn installation.**



PELLET PIPE®

**Complete line
of components to fit
any 3" or 4" pellet
or corn stove.**

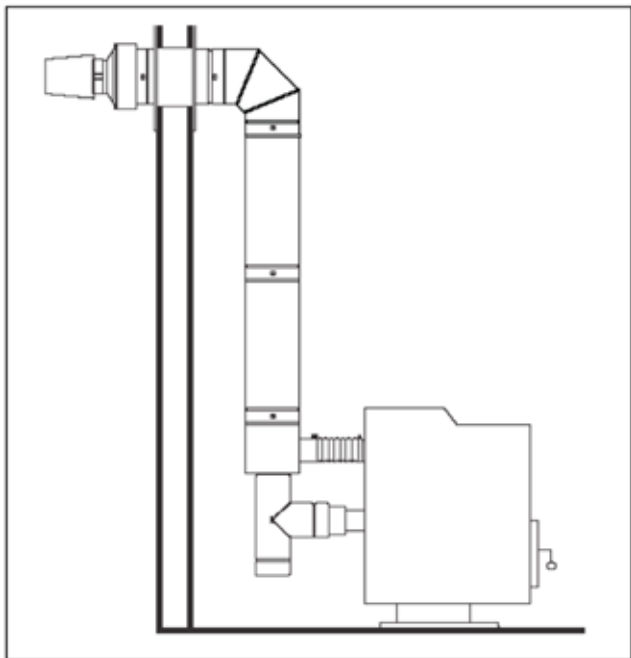


INSTALLING YOUR ROOM HEATER- continued

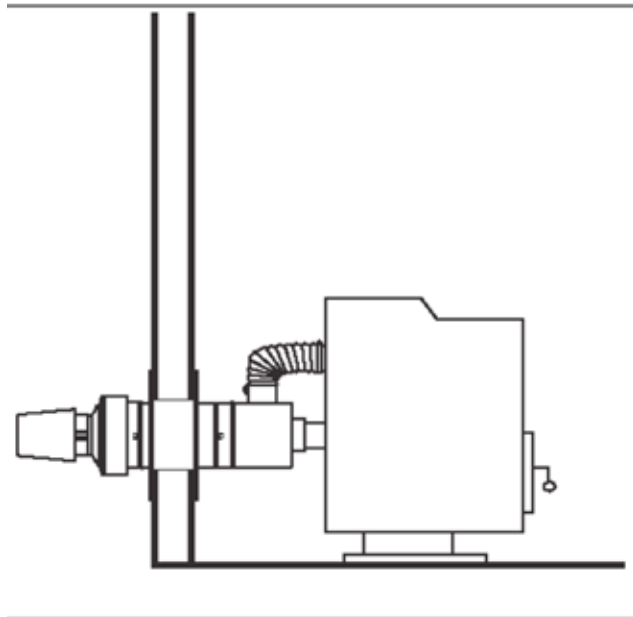
SELKIRK DIRECT-TEMP VENT SYSTEM FOR PELLET STOVE HEATERS

Images courtesy of Selkirk

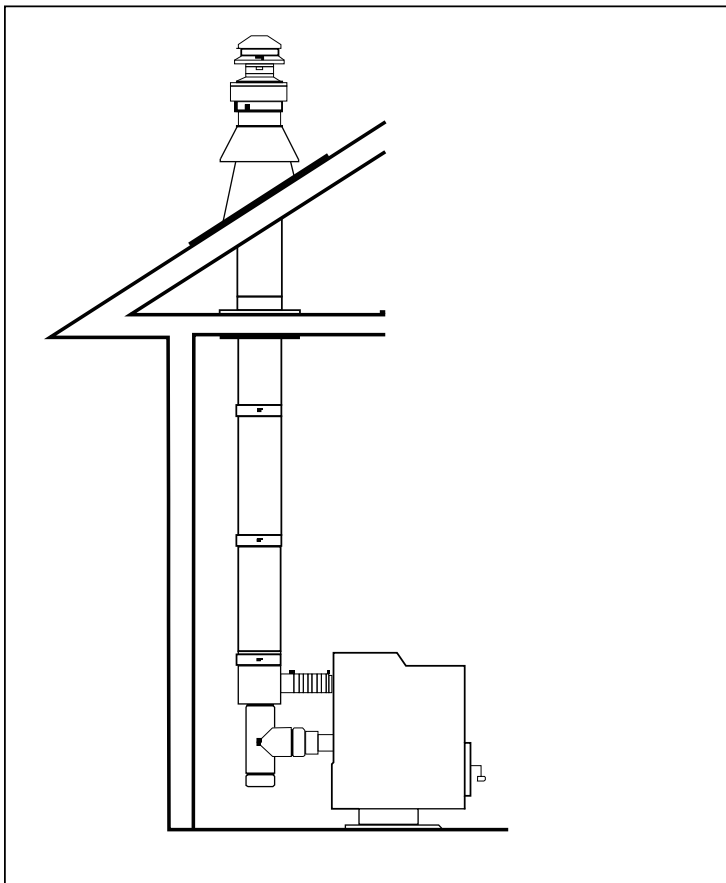
UP AND OUT HORIZONTAL TERMINATION KIT



STRAIGHT OUT HORIZONTAL TERMINATION KIT



STRAIGHT OUT HORIZONTAL TERMINATION KIT



MOBILE HOME INSTALLATION

Mobile home installation should be done in accordance with the Manufactured Home and Safety Standard (HUD), CFR 3280, Part 24. Canadian installations require that the heater must be connected to a 3 or 4 inch, factory-built chimney conforming to CAN/ULC-S629. See the installation illustrations in this manual for minimum height above the roof. U.S. Stove suggests the use of Selkirk's Pellet Venting Products. Refer to their installation instructions for proper installation of the exhaust and combustion air intake. The chimney installation must allow for removal in case of mobile home transportation, especially outside connections. You may contact your local building authority or person having jurisdiction on height restrictions.

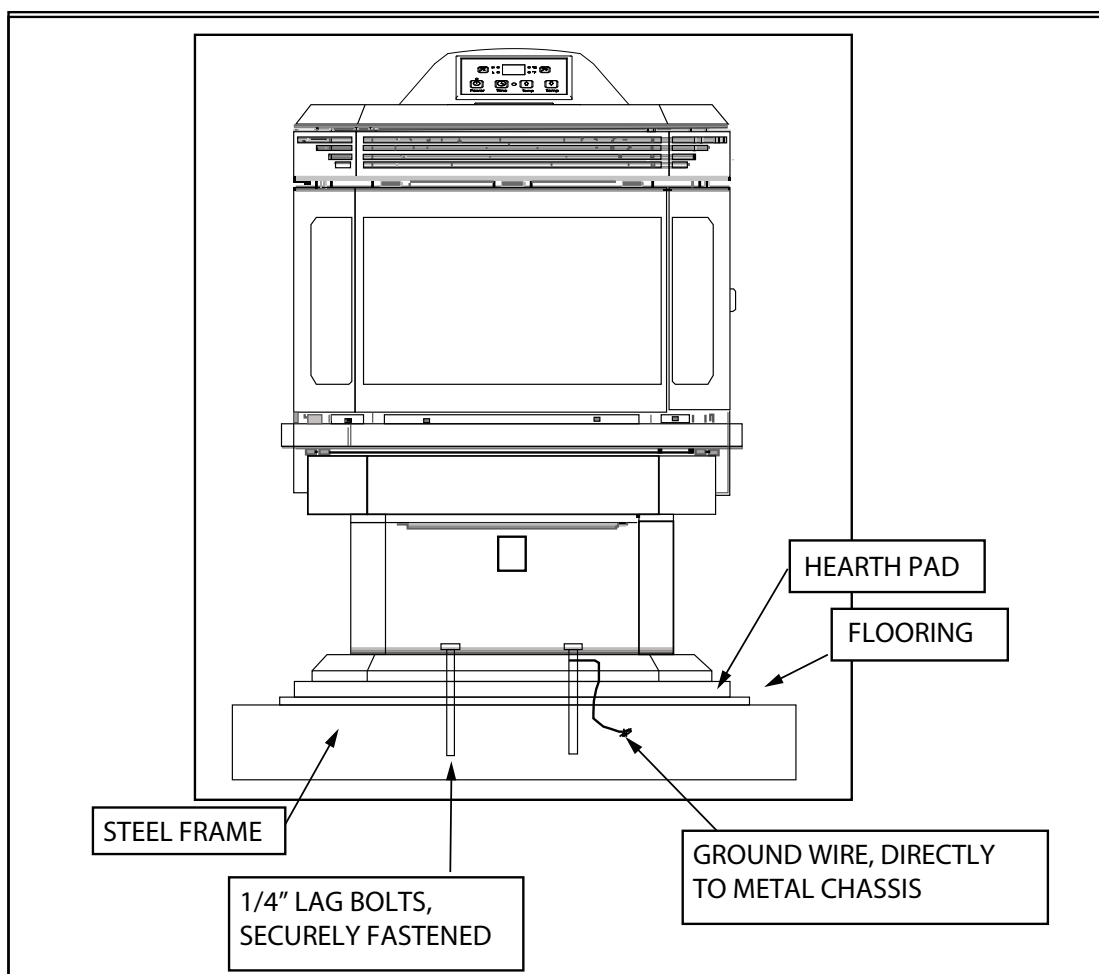
In order for this unit to be installed in a mobile home the following criteria must be met:

- The unit must be secured to the floor using lag bolts in the holes provided in the pedestal base.
- Ensure that the unit is permanently electrically grounded to the chassis of your home with 18 gauge copper wire.
- All exhaust systems must have a spark arrestor.

IT IS MANDATORY TO TAKE THE COMBUSTION AIR FROM THE OUTSIDE WHEN INSTALLING THIS UNIT IN AIR TIGHT OR MANUFACTURED/MOBILE HOMES.

CAUTION: THE STRUCTURAL INTEGRITY OF THE MANUFACTURED HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED. MAKE SURE TO MAINTAIN AN EFFECTIVE VAPOR BARRIER BY SEALING WITH SILICONE WHERE THE CHIMNEY OR OTHER COMPONENTS PENETRATE TO THE EXTERIOR OF THE STRUCTURE. REFER TO AND FOLLOW THE CHIMNEY MANUFACTURER'S INSTALLATION INSTRUCTIONS.

WARNING: DO NOT INSTALL IN SLEEPING ROOM.



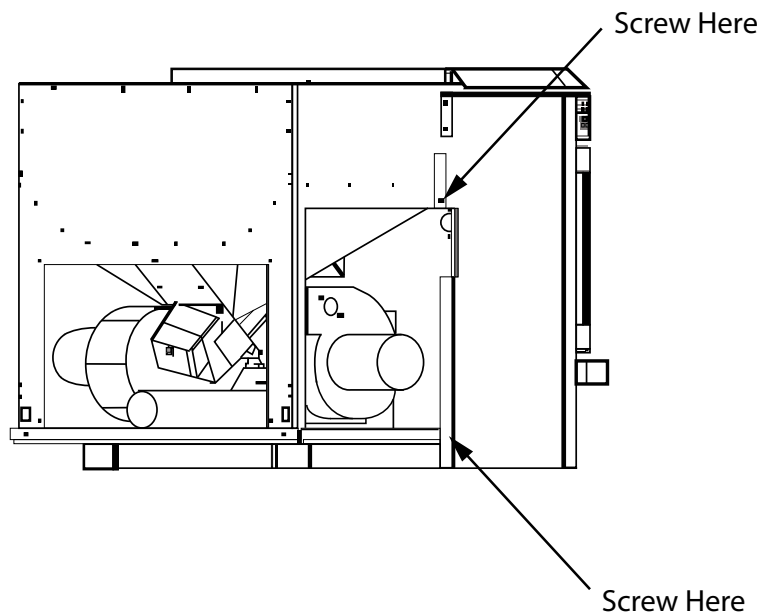
NOTE: Only the freestanding model is approved for installation into a mobile home.

INSERT PELLET STOVE INSTALLATION

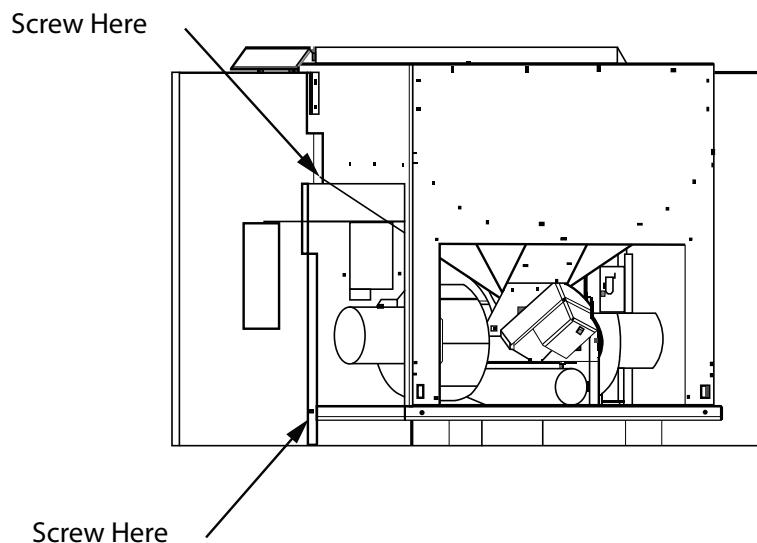
U.S. Stove Pellet Burning Room Heaters are also available as an insert into existing masonry of factory-built fireplaces. Do not alter the existing fireplace in any way either by removing bricks and mortar which could weaken the structural integrity of the fireplace. There is a small amount of assembly required when installing this model. The steps are as follows:

Note: The shroud must be installed before unit is set into its final position.

Step 1: Shroud Side: Facing the back of the unit take the left shroud side piece (no control panel hole) and fasten, as shown, with 2 screws provided.

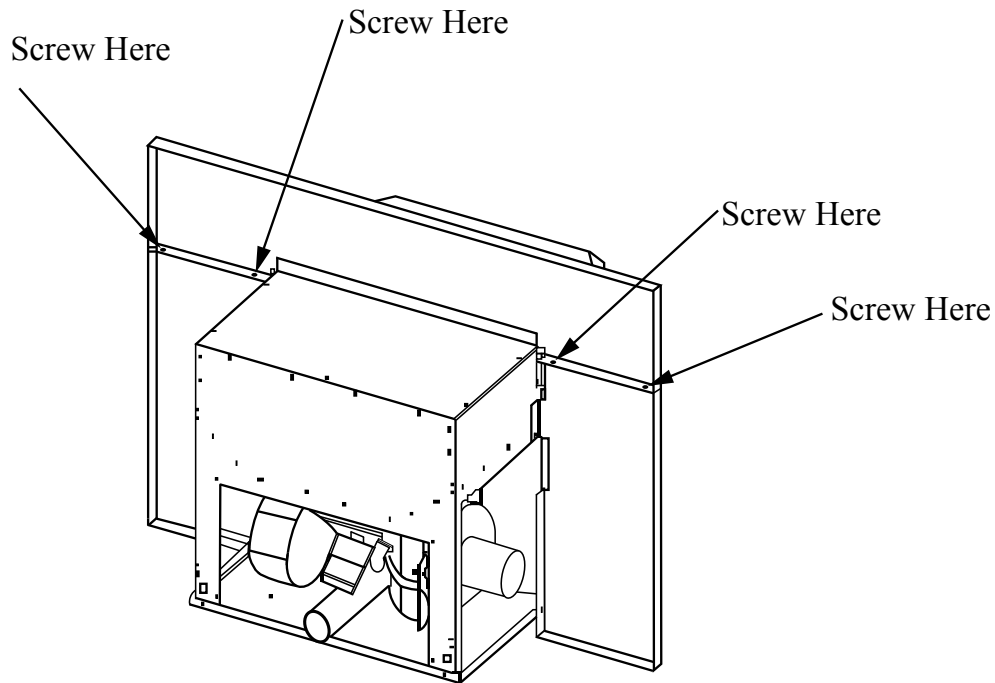


Step 2: Shroud Side: Facing the back of the unit take the right shroud side piece (with control panel hole) and fasten, as shown, with 2 screws provided.

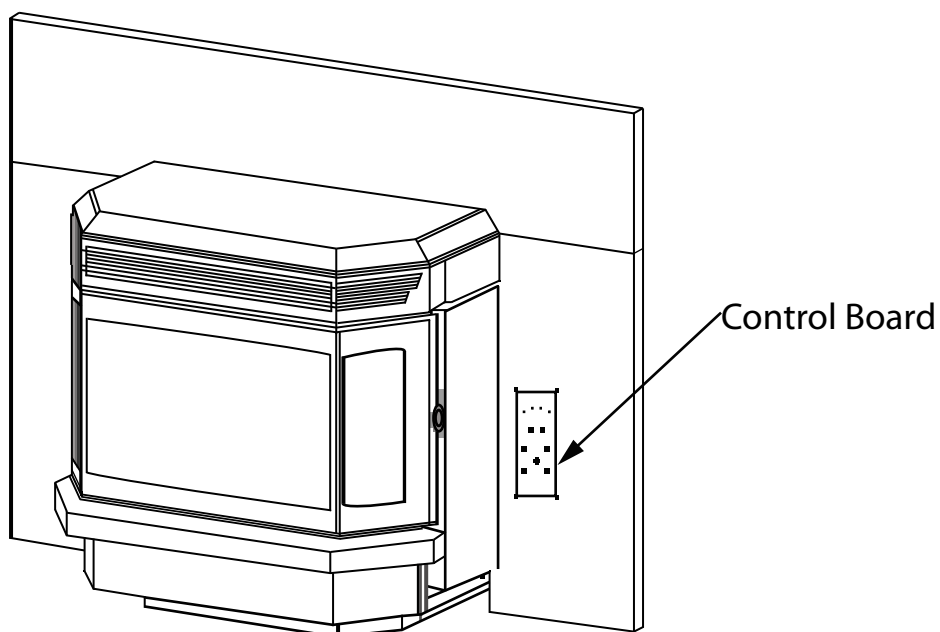


INSERT PELLET STOVE INSTALLATION - continued

Step 3: Shroud Top: Facing the back of the unit take the top shroud side piece and fasten, as shown, with 4 screws provided.

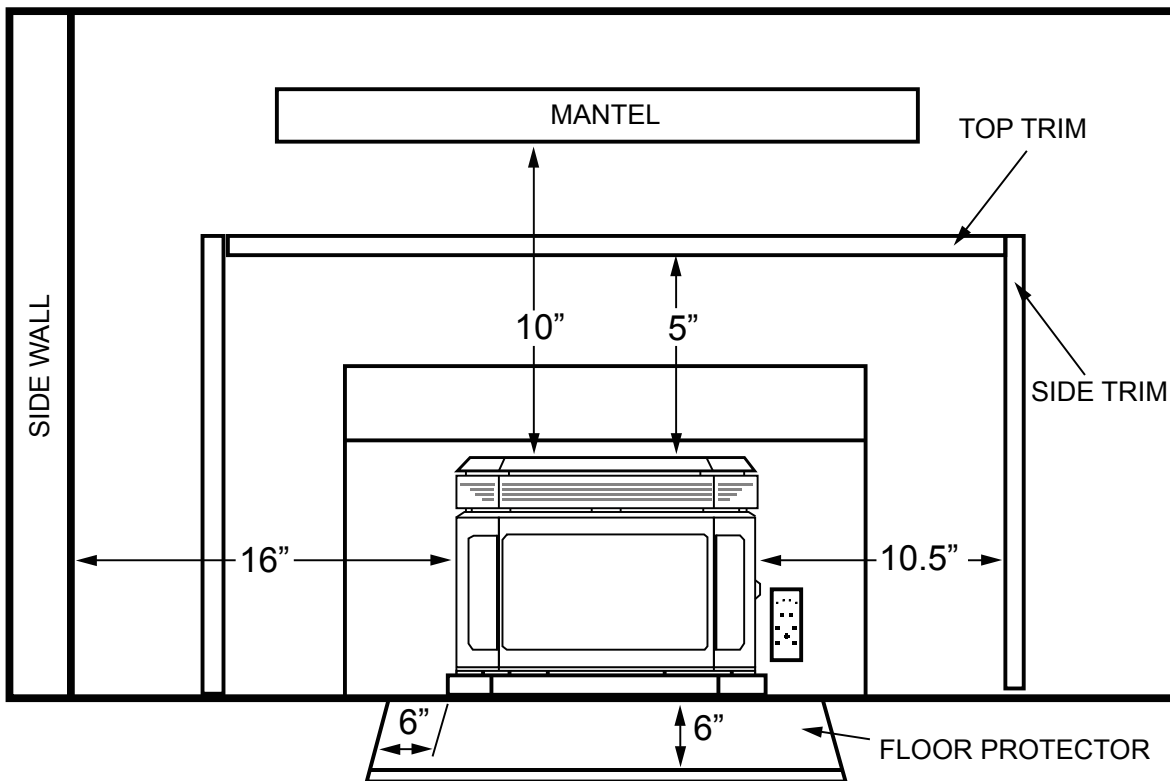


Step 4: Control Board: Take the control board and insert it from the back of the right shroud side (facing front of unit). Fasten control board in place with 4 screws provided (top & bottom of board).



INSERT PELLET STOVE INSTALLATION - continued

Minimum Clearance to Combustibles and Floor Protection



- A: Side wall: 16" to side of appliance
- B: Top Trim: 5" above top of appliance
- C: Side trim: 10.5" to side of appliance
- D: Mantle: 10" above top of appliance

Floor Protection

When in MASONRY fireplaces, use ½ inch thick non-combustible material.

When in Factory-built fireplaces, use a 1 inch, non-combustible surface with a k factor of 0.84. For multiple layers, add R-values of each layer to determine the overall R-value. The R value for the required board is 1.2.

Convert specification to R-value:

k-factor is given with a required thickness (T) in inches: $R=1/k \times T$. The C-factor is given: $R=1/C$

Example:

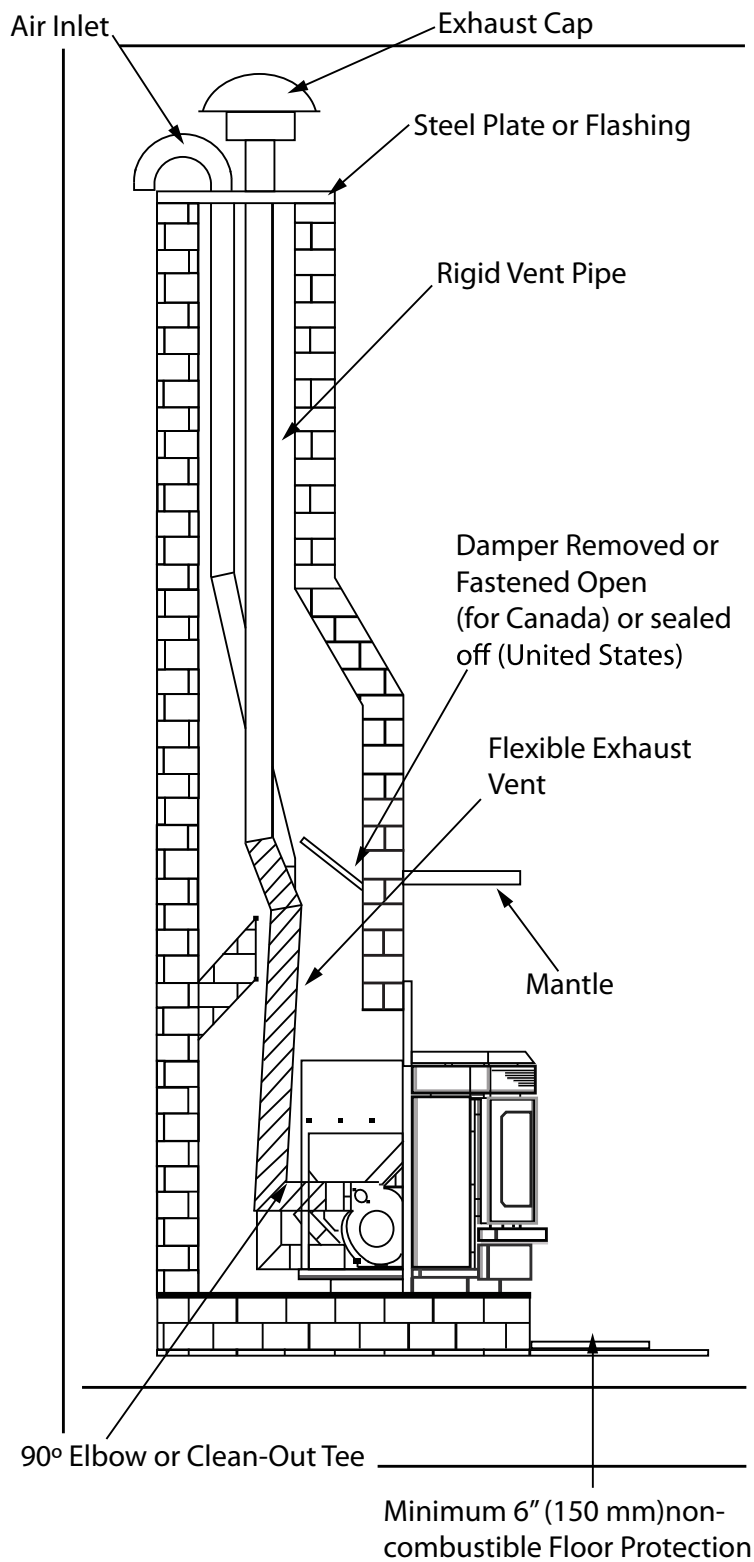
If the floor protector is 4" brick with a C-factor of 1.25 over 1/8" mineral board with a "k" factor of 0.29 the total R-value of the system is:

4" brick $C=1.25$, $R=1/1.25=0.8$

1/8" mineral board $K=0.29$, $R=1/0.29 \times 0.125=0.431$

Total $R = R_{\text{brick}} + R_{\text{mineral}} = 0.8 + 0.431 = 1.231$

Total R is greater than 1.2, the system is acceptable.



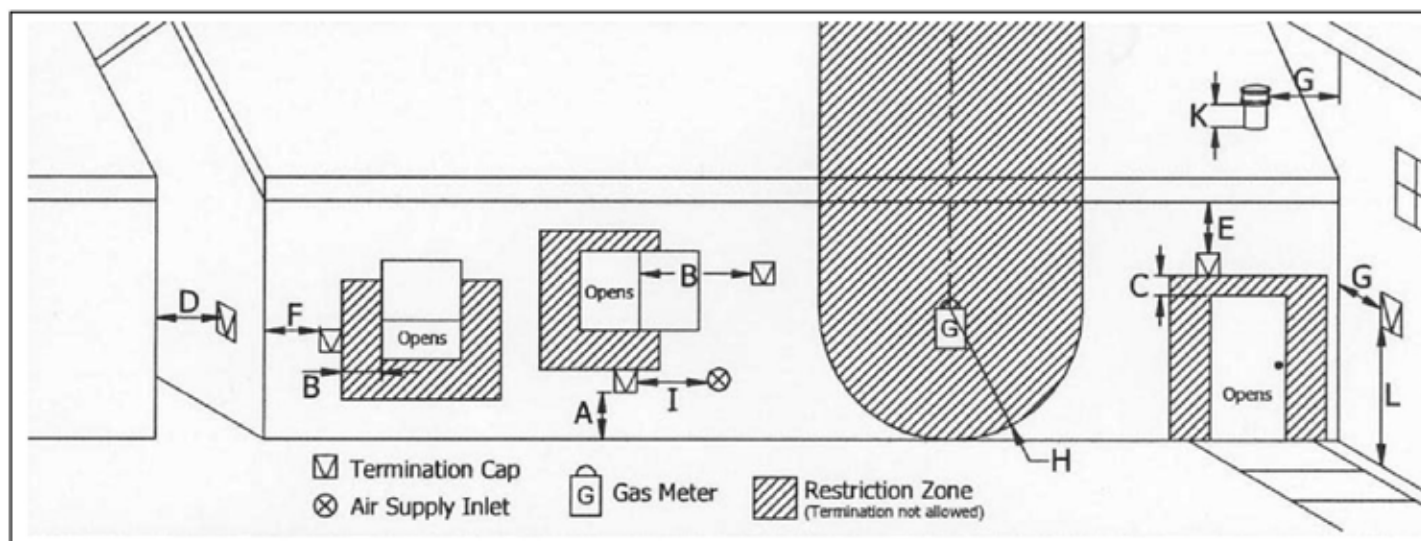
Installation into a Masonry Fireplace:

1. Your chimney must be inspected by a certified chimney sweep or installer to determine its structural condition.
2. Measure amount of venting required to top chimney **plus 14"** to ensure the termination is adequate distance above the roofline.
3. The first 5' of exhaust will be Simpson Dura Vent pellet stove flex vent; the remainder uses rigid pipe. For each joint subtract 1-1/2" to allow for the overlap. You may need an adjustable length section to achieve the correct height. The air intake may be 2" aluminum flex vent.
4. Assemble the first rigid section of exhaust pipe to the flex vent pipe insuring that the "UP" arrows shown on the pipe labels are pointing up. Connect sections and twist to lock. Repeat the process for the remainder of the pipe sections and lower the assembly down the chimney. Lower the intake and exhaust pipes below their normal position to connect the pipe to back of heater. Tie a line to the top section of venting to pull it back up to the correct position.
5. Connect to the exhaust of the stove by installing a pipe adapter to the exhaust fan and either a 90° elbow or a clean out tee with cap. The air intake can be attached to the heater with a hose clamp.
6. Connect the heater to the coupling on the bottom of the exhaust flex vent and twist to the locked position. Push the heater into the fireplace to its final position.
7. From the top of the chimney, pull the vent system up to the desired height.
8. For the exhaust termination of the pellet vent use a tall cone flashing and a storm collar. This requires 14" of pipe above the top of the masonry chimney. Pull the pipe up through the flashing to the desired height and mark where the storm collar will go. Slip the storm collar down over the pipe and fasten it to the pipe with a 1/4" stainless steel sheet metal screw. The storm collar will then support the entire exhaust vent system.
9. Install the air intake vent through the chimney cap by cutting a hole and install cap as shown or attach air intake vent to a flashing and cap. The chimney top must be properly sealed to prevent rain and or snow from entering the chimney.
10. Install the cap and seal around the joint of the storm collar and any other joints that are visible.

Perform these instructions in reverse if the removal of this appliance is ever needed for maintenance or repair.

VENT TERMINATION LOCATIONS

Figure 22



Letter	Minimum Clearance	Description
A	24" (60 cm)	Above grass, top of plants wood, or any other combustible material.
B	48" (122 cm)	From beside/below any door or window that may be opened.
C	24" (60 cm)	From any door or window that may be opened.
D	24" (60 cm)	To any adjacent building, fence and protruding parts of the structure.
E	24" (60 cm)	Below any eave or roof overhang.
F	12" (30 cm)	To outside corner.
G	12" (30 cm)	To inside corner, combustible wall.
H	3' (91 cm) within a height of 15' (4.5 m) above the meter/regulator assembly	To each side of center line extended above natural gas or propane meter/regulator assembly or mechanical vent.
I	3' (91 cm)	From any forced air intake or other appliance.
J	12" (30 cm)	Clearance to non-mechanical air supply inlet to building, or the combustion air inlet to any appliance.
K	24" (60 cm)	Clearance above roof line for vertical terminations.
L	7' (2.13 m)	Clearance above paved sidewalk or paved driveway located on public property.

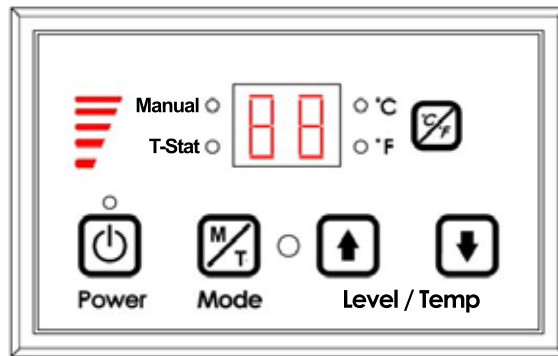
CONTROL PANEL

PANEL CONTROLS

The blowers and automatic fuel supply are controlled from a panel on the top of the appliance. The control panel functions are as follows.

A. ON/OFF SWITCH (“POWER” BUTTON)

- When pushed, the stove will automatically ignite. No other fire starter is necessary. The igniter will stay on for at least 10 and up to 12 minutes, depending on when Proof of Fire is reached. The fire should start in approximately 5 minutes.
- The red light located above the “POWER” button will turn green when pressed and remain green until the stove is turned off.
- After pushing “POWER”, the auger motor is on for 3.5 minutes, off for 1 minute. During the remainder of the start-up period, the auger motor operates on the heat range “1” setting.
- During start up the heat level advance (Up and Down keys) will change the heat range indicator level accordingly, but there is no change in the stove's operating conditions until start-up is completed.
- During start-up ignition must occur within 12 minutes or the stove will error out and show E4.
- During the start-up phase, the Mode key does not function.



B. LEVEL / TEMP ARROW BUTTONS

- These buttons when pushed will set the pellet feed rate, hence the heat output or heat range of your stove.
- The levels of heat output will incrementally change on the bar graph starting from heat range “1” to heat range “5”.

C. °C / °F Button

- The °C / °F button changes your two digit display from degrees Celsius to degrees Fahrenheit.

D. MODE (M/T) BUTTON

- The Mode of the stove can be switched between manual and controlled with a Thermostat. Separate LEDs to the left of the two digit display indicate the mode of operation – Manual or T-Stat. The stove has to be in normal operation to be switched from Manual to T-Stat mode.
- Manual mode operates according to the 5 set levels of feed on the bar graph from heat range “1” to heat range “5”.
- T-Stat mode works as follows:
 - The stove has a built in Thermostat into the controls of the appliance. The temperature sensor for the T-Stat is located on the back of the stove behind the display board.
 - Once the stove has gone into run mode the stove can be switched into T-Stat mode.
 - The Up and Down Level / Temp Arrow buttons are used to change the desired set-point temperature. Once the desired temperature is reached the two digit display will flash for four seconds and reset to the actual room temperature.
 - Once the stove reaches within 3°F of the desired temperature set point, it returns to the heat range that the stove was set on before it was switched to T-Stat mode (if the stove was running on heat range “5” when switched to T-Stat mode when it gets within 3°F of the set point it will return to heat range “5”).
 - Once the stove reaches the desired set-point, the stove will drop to heat range “1”.
 - When room temperature drops below desired set-point the stove will ramp back up until it reaches the desired temperature.

OPERATION

- △ **DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE - NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR “FRESHEN UP” A FIRE IN THIS STOVE. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE STOVE WHILE IT IS IN USE.**
- △ **DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA, OR ENGINE OIL.**
- △ **HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

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 stoves 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 that display these characteristics:

1. 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.
2. Binders – Some pellets are produced with materials to hold the together, or “bind” them.
3. 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. We cannot accept responsibility for damage due to poor quality pellet.

PRE-START-UP CHECK

Remove burn pot, making sure it is clean and none of the air holes are plugged. Clean the firebox, and then reinstall burn pot. Clean door glass if necessary (a dry cloth or paper towel is usually sufficient). Never use abrasive cleaners on the glass or door. Check fuel in the hopper, and refill if necessary.

BUILDING A FIRE

Never use a grate or other means of supporting the fuel. Use only the burn pot supplied with this heater.

Hopper lid must be closed in order for the unit to feed pellets.

During the start-up period:

1. Make sure burn pot is free of pellets.
2. DO NOT open the viewing door.
3. DO NOT open the damper, the damper needs to be closed during start up.
4. DO NOT add pellets to the burn pot by hand.

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.

THE HOTROD AUTOMATIC FIRESTARTER

1. Fill hopper and clean burn pot.
2. Press “On/Off” button. Make sure green light comes on.
3. The damper should be completely closed or open no more than ¼ of the way during start-up. This will vary depending on your installation and elevation. Once fire is established adjust for desired flame increasing the amount the damper is open as the heat setting is increased. (See “DAMPER CONTROL”)
4. Adjust feed rate to desired setting by pressing “Heat Level Advance” button.

If fire doesn’t start in 12 minutes, press “On/Off”, wait a few minutes, clear the burn pot, and start procedure again.

OPERATION

DAMPER CONTROL

The damper control lever is located on the back of the stove on the lower left side. The dampener 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 buildup 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 turning the dampener slightly to the right. A "blow torch" fire can be improved by turning the dampener to the left a little bit.

As a general rule, on lower feed rate settings, the damper should be farther to the left closing it off. On higher feed rates, the damper should be open more by having it set more towards the right. Through trial and error, you will find the best setting. Consult your dealer if you need help.

NOTE: On heat range "1", damper should be either completely closed or open no more than a ¼ of the way. If damper is open to far, it can cause the fire to go out.

OPENING DOOR

If the door is opened while the stove is in operation it must be closed within 30 seconds or the stove will shut down. If the stove shuts down push the "On/Off" button to re-start your stove. The stove will have to fully shut down and turn off before you will be able to restart the stove.

ROOM AIR FAN

When starting your stove the Room Air Fan will not come on until the stove's heat exchanger warms up. This usually takes about 10 minutes from start-up.

IF STOVE RUNS OUT OF PELLETS

The fire goes out and the auger motor and blowers will run until the stove cools. This will take 30 minutes or longer depending on the heat remaining in the appliance. After the stove components stop running all lights on the display will go out and the two digit display will begin flashing "E3"

REFUELING

- The hopper and stove top will be hot during operation; therefore, you should always use some type of hand protection when refueling your stove.
- Never place your hand near the auger while the stove is in operation.

We recommend that you not let the hopper drop below ¼ full.

KEEP HOPPER LID CLOSED AT ALL TIMES EXCEPT WHEN REFILLING.

DO NOT OVERFILL HOPPER.

SHUTDOWN PROCEDURE

Turning your stove off is a matter of pressing the "POWER" button on the display board. The green light will turn back to red when the "POWER" button is pushed. The auger motor will stop, and the blowers will continue to operate until the internal firebox temperatures have fallen to a preset level.

WARNING: Never shut down this unit by unplugging it from the power source.

1. Your stove is equipped with a high temperature thermdisc. This unit has a manual reset thermdisc. This safety switch has two functions.
 - A. To recognize an overheat situation in the stove and shut down the fuel feed or auger system.
 - B. In case of a malfunctioning convection blower, the high-temperature thermdisc will automatically shut down the auger, preventing the stove from overheating.

NOTE: On some units, once tripped, like a circuit breaker, the reset button will have to be pushed before restarting your stove. On other units the thermdisc has no reset button and will reset itself once the stove has cooled. The manufacturer recommends that you call your dealer if this occurs as this may indicate a more serious problem. A service call may be required.

2. If the combustion blower fails, an air pressure switch will automatically shut down the auger.

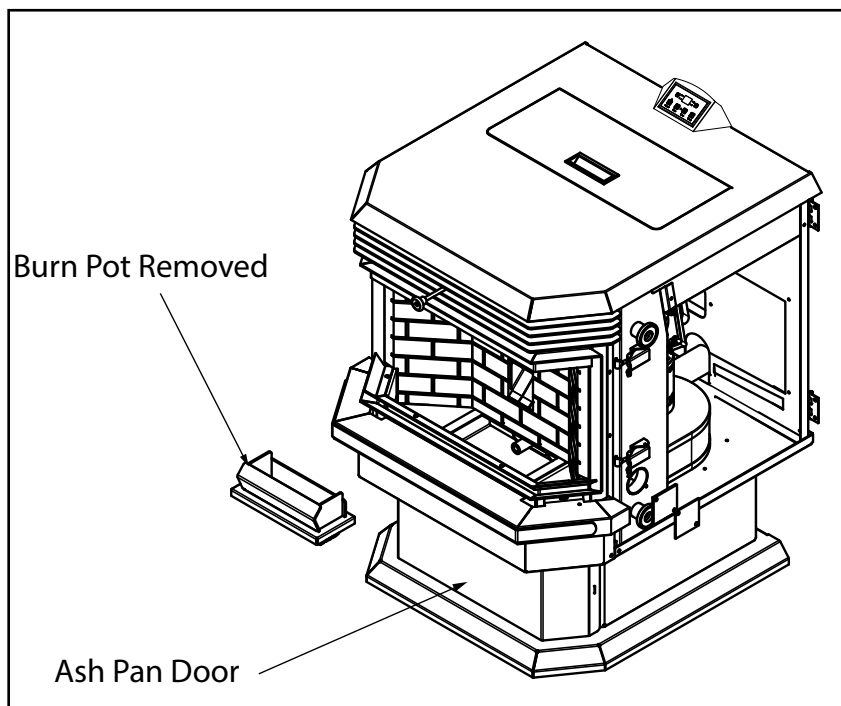
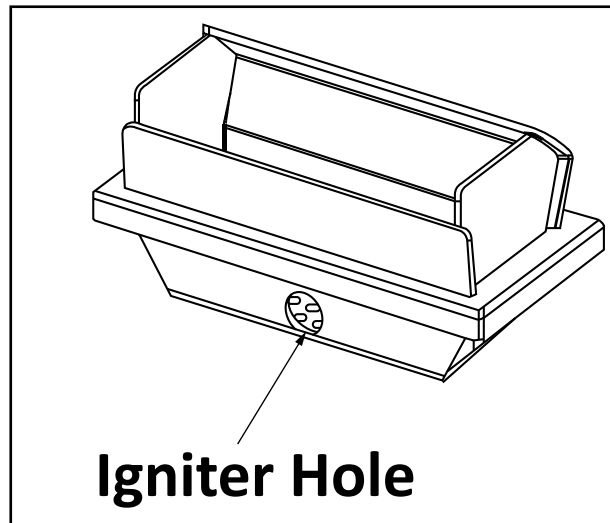
NOTE: Opening the stove door for more than 30 seconds during operation will cause enough pressure change to activate the air switch, shutting the fuel feed off. The stove will shut down and show "E2" on the two digit display. The stove has to fully shut down before restarting.

MAINTENANCE

FAILURE TO CLEAN AND MAINTAIN THIS UNIT AS INDICATED MAY RESULT IN POOR PERFORMANCE AND HAZARDOUS SITUATIONS. CLEAN THE HEATER FREQUENTLY AS ACCUMULATION OF SOOT, CREOSOTE OR FLYASH MAY OCCUR. NEVER CLEAN THE UNIT WHEN HOT.

Burn Pot:

Note: Let the unit cool to room temperature before inspecting the burn pot. Inspect the burn pot regularly to check that the holes have not become plugged. If necessary clean thoroughly. It is imperative that the burn pot be re-installed the correct way or the unit will not light. The end of the burn pot with an igniter hole in it (see Figure 23) must be installed facing the rear of the unit. This hole allows the igniter to heat up the pellets to the point of ignition.



MAINTENANCE - continued

Ash Removal - Freestanding Unit:

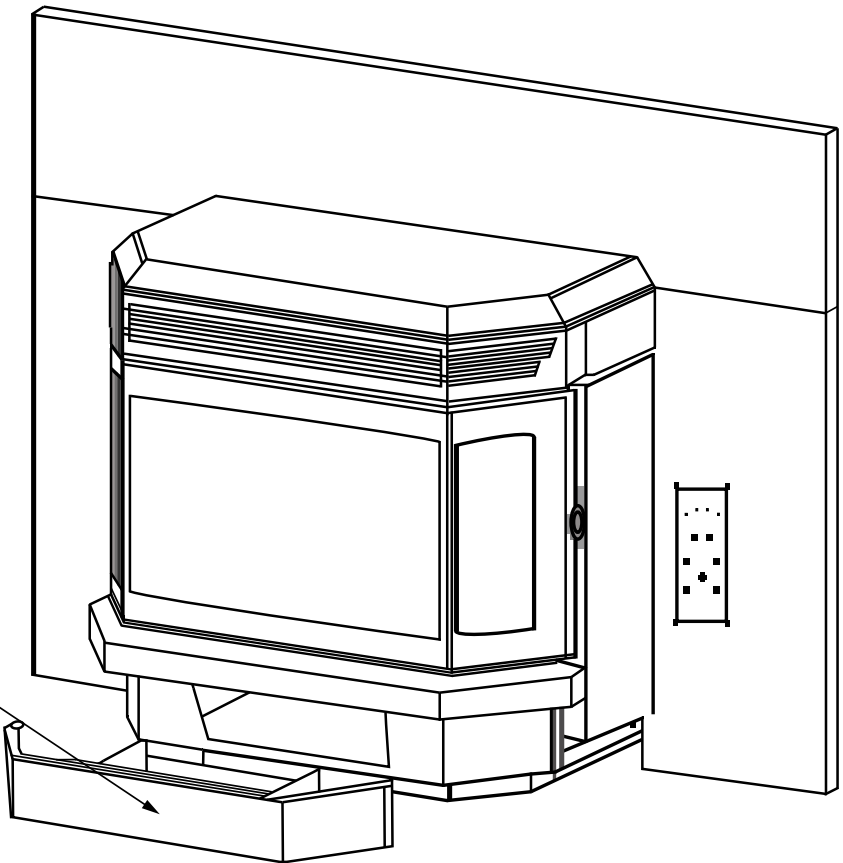
Remove the ashes periodically to avoid unnecessary ash build up. Ash removal is as follows:

1. Let fire burn out and allow unit cool to room temperature.
2. Clean the heat exchanger tubes (see Heat Exchanger Cleaning section) – Make sure Pellet Stove is at room temperature before touching .
3. Open the ash pan door, remove the burn pot and empty into metal container.
4. Vacuum to remove ashes from the firebox.
BE SURE THAT ASHES ARE COOL TO THE TOUCH BEFORE VACUUMING. Some vacuum cleaners may leak ash into the room. Your vacuum cleaner should have a special filter or bag to eliminate leakage.
5. Remove ash pan and dispose of ashes into metal container.
6. Reinstall ash pan.
7. Reinstall burn pot.

Ash Removal - Insert Unit:

Figure 25

Ash Pan Door



1. Allow Heater to cool to room temperature
2. Lift the ash pan door up and pull out
3. Follow directions for freestanding unit above on this page.

Disposal of Ashes

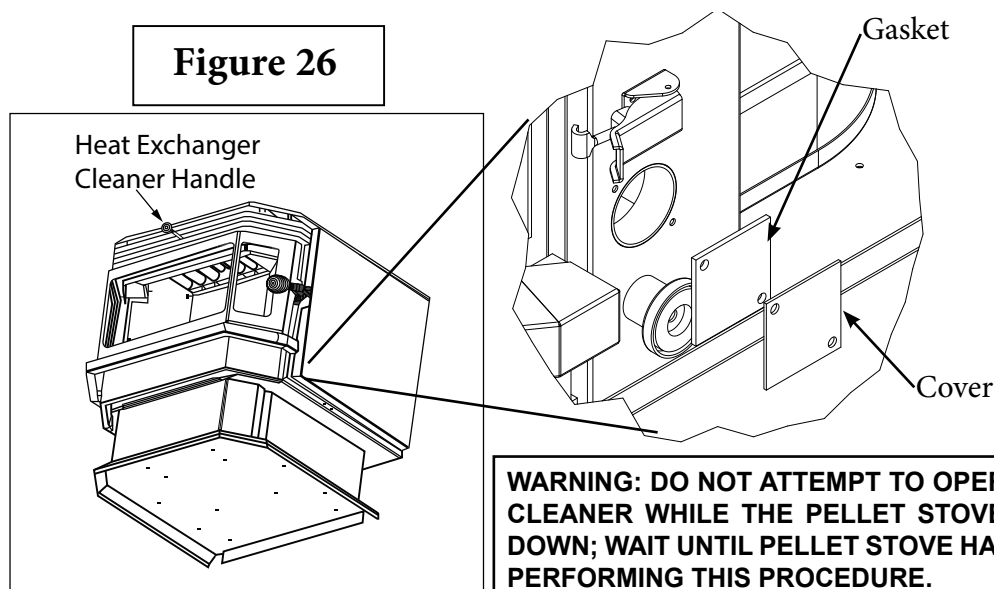
Ashes should be placed in a steel metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have been thoroughly cooled. Do not place other waste in the same container.

MAINTENANCE - continued

Cleaning

Heat Exchanger Tubes – Your Pellet Stove Room Heater is designed with a built in heat exchanger tube cleaner. This should be used every 2 or 3 days to remove ash build up on the heat exchanger tubes, which can reduce heat transfer. The handle, for the heat exchanger tube cleaner, is located in front of the vent tubes on front side of heater. Slide the rod front to back several times to clean the tubes then follow the instructions for ash removal.

Figure 26



Periodically remove the clean outs on either side of the heat exchanger. Clean out the ash, then follow the instructions for ash removal. Check the gasket before replacing the clean out cover. If gasket is damaged new gasket can be ordered. Alternatively, high temperature silicone can be used to ensure a proper seal between the clean out cover and the stove body.

WARNING: DO NOT ATTEMPT TO OPERATE THE HEAT EXCHANGE TUBE CLEANER WHILE THE PELLET STOVE IS IN OPERATION OR COOLING DOWN; WAIT UNTIL PELLET STOVE HAS COOLED COMPLETELY BEFORE PERFORMING THIS PROCEDURE.

Fans – DANGER: RISK OF ELECTRIC SHOCK. DISCONNECT POWER BEFORE SERVICING UNIT

Over time ash or dust may accumulate on the blades of the circulation & exhaust fans. The fans should be inspected, periodically, and if any accumulation is present vacuumed clean as the ash or dust can impede the fans performance. It is also possible that creosote may accumulate in the exhaust fan therefore, this must be brushed clean.

The exhaust fan can be found behind the left side panel (facing the front of the heater), the circulation fan can be found behind the right side panel. To access the igniter, remove the air inlet tube and cover (2 screws) (Figure 27). The auger motor is located in the center rear of the unit.

Note: When cleaning, take care not to damage the fan blades.

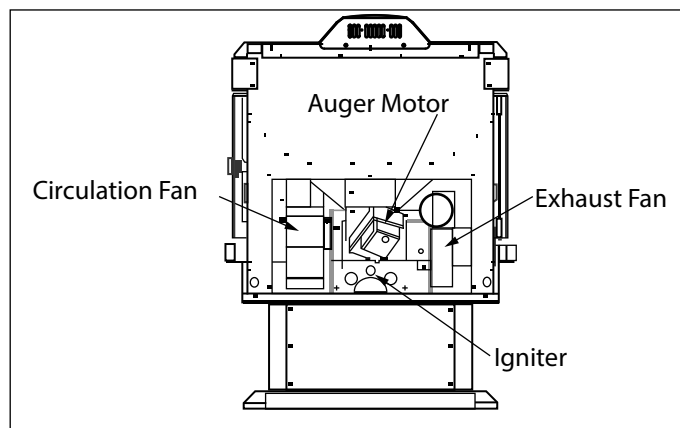


Figure 27

MAINTENANCE - continued

Chimney/Vent System Cleaning:

1. **Soot/Creosote Formation** – When wood products are burned slowly, they produce tar and other organic vapors which combine with expelled moisture to form soot. The soot vapors condense in the relatively cool chimney flue, as a result, soot/creosote residue accumulates on the chimney lining. When ignited, soot/creosote makes an extremely hot fire which can damage the chimney or cause a house fire. If a soot/creosote fire occurs, shut down the heater immediately and call the fire department.
2. **Soot and Flyash: Formation and Need for Removal**—The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year or per ton of fuel burned to determine if cleaning is necessary.

Door Gaskets:

Gaskets around the door and window panes should be inspected, cleaned and repaired when necessary to maintain good seal. If the unit is operated with damaged gaskets a poor burn or possible fire hazard can result.

Door Glass Removal and Replacement:

Do not attempt to operate the unit with broken glass. Replacement glass may be purchased from your U.S. Stove Pellet Burning Room Heater Dealer. If glass is broken, follow these removal procedures:

Replacement glass must be 0.197" thick tempered ceramic glass with a working service temperature of 1400 deg. F. Center Glass size: 10" x 10.67". Side glass size: 4" x 10.67"

1. Once the heater has cooled, remove the door from the heater.
2. Remove the rope gasket from the door followed by the eight(8) nuts holding the glass retainer in place.
3. While wearing gloves, carefully remove any loose pieces of glass from the door frame.
4. Replace the glass and gasket, making sure the gasket runs the full perimeter of the glass edge.
5. Re-install the retainer and eight nuts and rope gasket using high temperature silicone to adhere the gasket to the door.
6. Never use substitute materials for the glass.

Glass Cleaning: (Clean as needed)

1. Do not attempt to clean the glass while unit is hot. Wait until the pellet heater has cooled and then use a soft cotton cloth and mild window cleaner or gas and wood stove cleaner.
2. Do not use abrasive cleaners.
3. Do not abuse the glass by striking or slamming the door.

Task	Maintenance Schedule
Burn Pot	check daily
Combustion Chamber	weekly
Heat Exchanger Tubes	bi-weekly
Ash Pan	bi-weekly or every 10 bags of fuel
Convection Fan Blades	annually
Combustion Fan Blades	annually
Hopper	bi-weekly or every 10 bags of fuel
Venting System	annually
Glass	as needed
Gaskets	annually

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 encountered are often the result of 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.

For the sake of troubleshooting and using this guide to assist, you should look at your heat level setting to see which light is flashing.

- △ **Disconnect the power cord before performing any maintenance! NOTE: Turning the ON/OFF Switch to "OFF" does not disconnect all power to the electrical components of the stove.**
- △ **Never try to repair or replace any part of the stove unless instructions for doing so are given in this manual. All other work should be done by a trained technician.**

Display is Flashing "E1"	
Possible Causes	Possible Remedies: (Unplug stove first when possible)
1. The convection blower is overheating and tripping the internal temperature shutoff.	Clean any dust off of the windings and fan blade. If oiling the blower does not help, the blower may be bad.
2. The stove is being left on the highest setting for extended periods of time.	If operating the heater on the highest heat setting, the room temperature could increase enough and lead to potential overheating situations. If this happens try operating at a lower heat setting.
3. Fuel other than wood pellets is being burned in the stove.	This pellet stove is designed and tested to use wood pellets. Check for signs of fuel other than wood pellets. No other types of fuel have been approved for this pellet stove. If there are signs of other types of fuel being used, stop using them immediately.
4. Power surge or brown out situation.	A power surge, spike, or voltage drop could cause the high limit switch to trip. Check to see if a surge protector is being used on the stove. If not, recommend one to the customer.
5. High Limit Switch is malfunctioning.	If the other items check out OK, replace the high limit switch.

TROUBLE SHOOTING GUIDE continued...

Display is Flashing "E2"	
Possible Causes	Possible Remedies: (Unplug stove first when possible)
1. Airflow switch hose or stove attachment pipes for hose are blocked.	Unhook air hose from the air switch and blow through it. If air flows freely, the hose and tube are fine. If air will not flow throw the hose, use a wire coat hanger to clear the blockage.
2. The air inlet, burnpot, interior combustion air chambers, combustion blower, or exhaust pipe are blocked with ash or foreign material.	Follow all cleaning procedures in the maintenance section of the owner's manual.
3. The firebox is not properly sealed.	Make sure the door is closed and that the gasket is in good shape.
4. Vent pipe is incorrectly installed.	Check to make sure vent pipe installation meets criteria in owner's manual.
5. The airflow switch wire connections are bad.	Check the connectors that attach the gray wires to the air switch.
6. Combustion blower failure.	With the stove on, check to see if the combustion blower is running. If it is not, you will need to check for power going to the combustion blower. It should be a full current. If there is power, the blower is bad. If there is not, see #8.
7. Control board not sending power to combustion blower.	If there is no current going to the combustion blower, check all wire connections. If all wires are properly connected, you have a bad control board.
8. Control board not sending power to air switch.	There should be a 5-volt current (approximately) going to the air switch after the stove has been on for 30 seconds.
9. Air switch has failed.	To test the air switch, you will need to disconnect the air hose from the body of the stove. With the other end still attached to the air switch, very gently suck on the loose end of the hose (you may want to remove the hose entirely off the stove and the air switch first and make sure it is clear). If you hear a click, the air switch is working. BE CAREFUL TOO MUCH VACUUM CAN DAMAGE THE AIR SWITCH.

TROUBLE SHOOTING GUIDE continued...

Display is Flashing “E3”	
Possible Causes	Possible Remedies: (Unplug stove first when possible)
1. The hopper is out of pellets	Refill the hopper.
2. The air dampener is too far open for a low feed setting	If on the low setting, you may need to close the dampener all the way.
3. The burnpot holes are blocked.	Remove the burnpot and thoroughly clean it.
4. The air inlet, the interior chambers, or exhaust system has a partial blockage.	Follow all cleaning procedures in the maintenance section of the owner's manual
5. The hopper safety switch has failed or hopper is open.	When operating the unit, be sure the hopper lid is closed so that the hopper safety switch will activate. Check the wires leading from the hopper safety switch to the control panel and auger motor for secure connections. Use a continuity tester to test the hopper safety switch; replace if necessary.
6. The auger shaft is jammed.	"Start by emptying the hopper. Then remove the auger motor by removing the auger pin, then remove the two bolts that hold the auger bracket to the auger tube. The auger bracket will now be able to be removed from the auger tube. Remove the two bolts on the side of the auger tube to remove the lower bearing of the auger. Pull the auger out of the tube to free the jam.
7. The auger motor has failed.	Remove the auger motor from the auger shaft and try to run the unit. If the motor will turn the shaft is jammed on something. If the motor will not turn, the motor is bad.
8. The Proof of Fire (POF) thermodisc has malfunctioned.	Temporarily bypass the POF thermodisc by disconnecting the two wires and connecting them with a short piece of wire. Then plug the stove back up. If the stove comes on and works, you need to replace the POF thermodisc. This is for testing only. DO NOT LEAVE THE THERMODISC BYPASSED. Your blowers will never shut off and if the fire went out the auger will continue to feed pellets until the hopper is empty if you leave the POF thermodisc bypassed.
9. The control board is not sending power to the POF thermodisc or other auger system components.	There should be a 5-volt (approximately) current going to the POF thermodisc after the stove has been on for 10 minutes.

Display is Flashing “E4”	
Possible Causes	Possible Remedies: (Unplug stove first when possible)
1. The air inlet, burnpot, interior combustion air chambers, combustion blower, or exhaust pipe are blocked with ash or foreign material.	Follow all cleaning procedures in the maintenance section of the owner's manual.
2. The Proof of Fire (POF) thermodisc has come unplugged	Check the (POF) thermodisc to see if the wires are connected properly.
3. The Proof of Fire (POF) thermodisc has malfunctioned.	Temporarily bypass the POF thermodisc by disconnecting the two wires and connecting them with a short piece of wire. Then plug the stove back up. If the stove comes on and works, you need to replace the POF thermodisc. This is for testing only. DO NOT LEAVE THE THERMODISC BYPASSED. Your blowers will never shut off and if the fire went out the auger will continue to feed pellets until the hopper is empty if you leave the POF thermodisc bypassed.

TROUBLE SHOOTING GUIDE continued...

4. The hopper is out of Pellets.	Refill the hopper.
5. The hopper safety switch has failed or hopper is open.	When operating the unit, be sure the hopper lid is closed so that the hopper safety switch will activate. Check the wires leading from the hopper safety switch to the control panel and auger motor for secure connections. Use a continuity tester to test the hopper safety switch; replace if necessary.
6. The auger shaft is jammed.	Start by emptying the hopper. Then remove the auger motor by removing the auger pin. Remove the auger shaft inspection plate in the hopper so that you can see the auger shaft. Gently lift the auger shaft straight up so that the end of the auger shaft comes up out of the bottom auger bushing. Next, remove the two nuts that hold the top auger biscuit in. Then rotate the bottom end of the auger shaft up towards you until you can lift the shaft out of the stove. After you have removed the shaft, inspect it for bent flights, burrs, or broken welds. Remove any foreign material that might have caused the jam. Also, check the auger tube for signs of damage such as burrs, rough spots, or grooves cut into the metal that could have caused a jam.
7. The auger motor has failed.	Remove the auger motor from the auger shaft and try to run the unit. If the motor will turn the shaft is jammed on something. If the motor will not turn, the motor is bad.

Display is Flashing "E5"	
Possible Causes	Possible Remedies: (Unplug stove first when possible)
1. The stove automatically flashes "E5" when turned on	The T-stat sensor has come unplugged from the control board. Check to see if the sensor is unplugged. If the sensor is not unplugged then the sensor is damaged or has a short. If the sensor is damaged or has a short it will need to be replaced.

STOVE FEEDS PELLETS, BUT WILL NOT IGNITE	
Possible Causes:	Possible Remedies: (Unplug stove first when possible)
1. Air damper open too far for ignition.	Push the air damper in closer to the side of the stove for startup. In some situations it may be necessary to have the damper completely closed for ignition to take place. After there is a flame, the damper can then be adjusted for the desired feed setting.
2. Blockage in igniter tube or inlet for igniter tube.	Find the igniter housing on the backside of the firewall. The air intake hole is a small hole located on bottom side of the housing. Make sure it is clear. Also, look from the front of the stove to make sure there is not any debris around the igniter element inside of the igniter housing.
3. The burnpot is not pushed completely to the rear of the firebox.	Make sure that the air intake collar on the burnpot is touching the rear wall of the firebox.
4. Bad igniter element.	Put power directly to the igniter element. Watch the tip of the igniter from the front of the stove. After about 2 minutes the tip should glow. If it does not, the element is bad.
5. The control board is not sending power to the igniter.	Check the voltage going to the igniter during startup. It should be a full current. If the voltage is lower than full current, check the wiring. If the wiring checks out good, the board is bad.

TROUBLE SHOOTING GUIDE continued...

SMOKE SMELL COMING BACK INTO THE HOME

Possible Causes:	Possible Remedies: (Unplug stove first when possible)
1. There is a leak in the vent pipe system.	Inspect all vent pipe connections. Make sure they are sealed with RTV silicone that has a temperature rating on 500 degree F or higher. Also, seal joints with UL-181-AP foil tape. Also, make sure the square to round adapter piece on the combustion blower has been properly sealed with the same RTV.
2. The gasket on the combustion blower has gone bad.	Inspect both gaskets on the combustion blower to make sure they are in good shape.

Because it is a wood-burning device, your pellet heater may emit a faint wood-burning odor. If this increases beyond normal, or if you notice an unusual soot build-up on walls or furniture, check your exhaust system carefully for leaks. All joints should be properly sealed. Also clean your stove, following instructions in "MAINTENANCE". If problem persists, contact your dealer.

CONVECTION BLOWER SHUTS OFF AND COMES BACK ON

Possible Causes:	Possible Remedies: (Unplug stove first when possible)
1. The convection blower is overheating and tripping the internal temperature shutoff.	Clean any dust off of the windings and fan blades. If cleaning the blower does not help, the blower may be bad.
2. Circuit board malfunction.	Test the current going to the convection blower. If there is power being sent to the blower when it is shut off, then the control board is fine. If there is NOT power being sent to the blower when it shuts off during operation, then you have a bad control board.

STOVE WILL NOT FEED PELLETS, BUT FUEL FEED LIGHT COMES ON AS DESIGNED

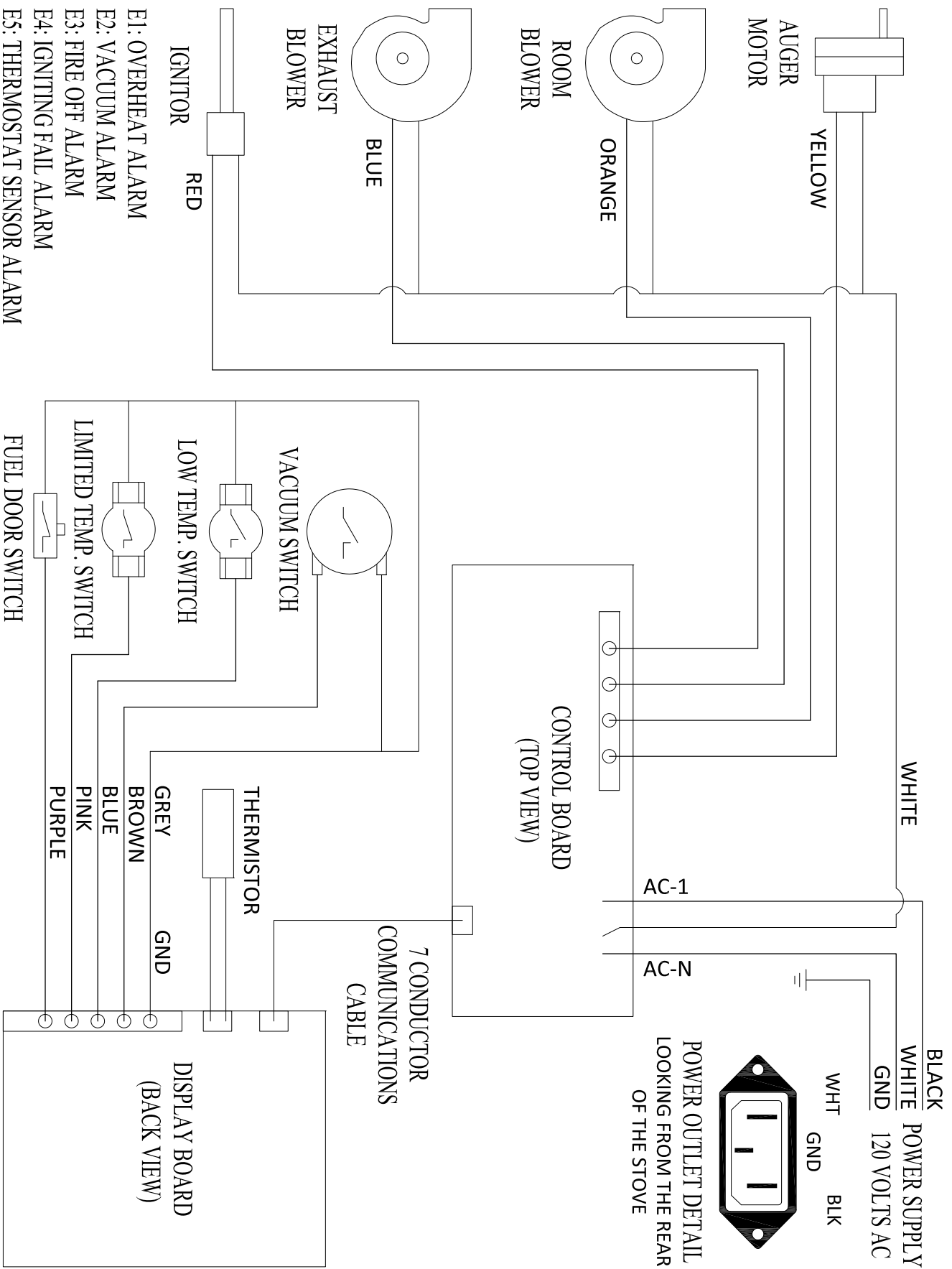
Possible Causes:	Possible Remedies: (Unplug stove first when possible)
1. High limit switch has tripped or is defective.	Wait for the stove to cool for about 30 - 45 minutes. Locate the High Limit thermdisc and press the reset button on the back of it. If the heater will not restart, check the thermdisc to see if it's bad. To test if the thermdisc is bad, you can bypass it as described previously for the POF thermdisc.
2. Bad Auger Motor.	Remove the auger motor from the auger shaft and try to run the unit. If the motor will turn the shaft is jammed on something. If the motor will not turn, the motor is bad.
3. Auger Jam.	Start by emptying the hopper. Then remove the auger motor by removing the auger pin. Remove the auger shaft inspection plate in the hopper so that you can see the auger shaft. Gently lift the auger shaft straight up so that the end of the auger shaft comes up out of the bottom auger bushing. Next, remove the two nuts that hold the top auger biscuit in. Then rotate the bottom end of the auger shaft up towards you until you can lift the shaft out of the stove. After you have removed the shaft, inspect it for bent flights, burrs, or broken welds. Remove any foreign material that might have caused the jam. Also, check the auger tube for signs of damage such as burrs, rough spots, or grooves cut into the metal that could have caused a jam.
4. Loose wire or connector.	Check all wires and connectors that connector to the auger motor, high limit switch, and the Molex connector.
5. Bad control board.	If the fuse is good, the wires and connectors check out good, and the high limit switch did not trip, test for power going to the auger motor. If there is not a full current going to the auger motor when the fuel feed light is on, you have a bad control board.

TROUBLE SHOOTING GUIDE continued...

HIGH LIMIT SWITCH KEEPS TRIPPING	
Possible Causes:	Possible Remedies: (Unplug stove first when possible)
1. The convection blower is overheating and tripping the internal temperature shutoff.	Clean any dust off of the windings and fan blades. If oiling the blower does not help, the blower may be bad.
2. The stove is being left on the highest setting for extended periods of time.	If operating the heater on the highest heat setting, the room temperature could increase enough and lead to potential overheating situations. If this happens, try operating at a lower heat setting.
3. Fuel other than wood pellets is being burned in the stove.	This pellet stove is designed and tested to use wood pellets. Check for signs of fuel other than wood pellets. No other types of fuel have been approved for this pellet stove. If there are signs of other types of fuel being used, stop using them immediately.
4. Power surge or brown out situation.	A power surge, spike, or voltage drop could cause the high limit switch to trip. Check to see if a surge protector is being used on the stove. If not, recommend one to the consumer.
5. High limit switch is malfunctioning.	If the other items check out OK, replace the high limit switch.

<ul style="list-style-type: none"> • GLASS “SOOT’S” UP AT A VERY FAST RATE • FLAME IS LAZY, DARK, AND HAS BLACK TIPS • AFTER STOVE HAS BEEN ON FOR A WHILE, THE BURNPOT OVERFILLS 	
Possible Causes:	Possible Remedies: (Unplug stove first when possible)
1. Stove or vent pipe is dirty, which restricts airflow through the burnpot.	Follow all cleaning procedure in the maintenance section of the owner's manual.
2. Vent pipe installed improperly.	Check to make sure the vent pipe has been installed according to the criteria in the owner's manual.
3. Air damper is set too far in (closed) for a higher setting.	Pull the damper knob farther out away from the side of the stove and try to burn the unit again.
4. Burnpot holes are blocked.	Remove the burnpot and thoroughly clean it.
5. Air damper is broken.	Visually inspect the damper assembly. Make sure the damper plate is attached to the damper rod. When the damper rod is moved the plate should move with it.
6. Blockage in air intake pipe.	Visually inspect the air intake pipe that leads into the burnpot for foreign material.
7. Combustion blower is not spinning fast enough.	Test the RPM on the blower after the blades have been cleaned. The RPM should be approximately 3000 RPM.
8. Bad Pellets. (Applies to GLASS “SOOT’S” UP AT A VERY FAST RATE Only)	The brand of pellets or the batch of pellets that are being used may be of poor quality. If possible, try a different brand of pellets. You might also want to try a brand that is made from a different type of wood (softwood vs. hardwood). Different woods have different characteristics when being burned.

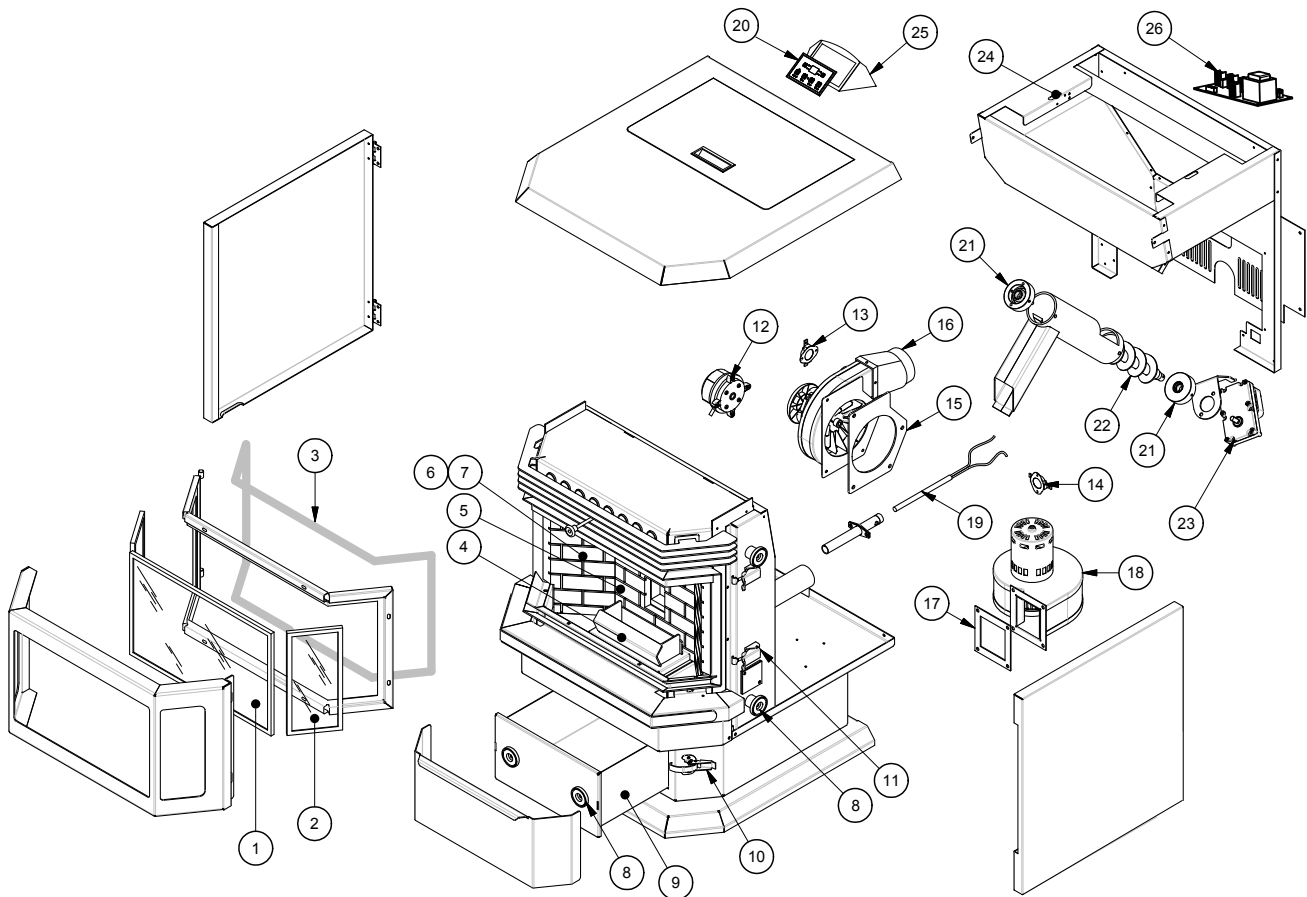
WIRING DIAGRAM



REPLACEMENT PARTS

Contact your authorized U.S. Stove Pellet Burning Room Heater dealer to obtain any of these parts. Never use substitute materials. Use of non-approved parts can result in poor performance, safety hazards, and will void your Warranty.

Key	Parts No.	Description	Qty	Key	Parts No.	Description	Qty
1	88161	Glass w/Gasket, Center	1	14	80601	Switch, Hi-Temp (w/Reset Button)	1
2	88162	Glass w/Gasket, Side	2	15	88166	Gasket, Exhaust Blower	1
3	88082	Gasket, Door	6 ft	16	80602	Blower, Exhaust	1
4	891994	Burn Pot	1	17	88167	Gasket, Convection Blower	1
5	88163	Brick Panel - Center	1	18	80622	Blower, Convection	1
6	88164	Brick Panel - Left	1	19	80604	Igniter	1
7	88165	Brick Panel - Right	1	20	80676	PCB, Circuit Board	1
8	891995	Magnet	4	21	891998	Bushing	2
9	891996	Ash Pan	1	22	891999	Auger	1
10	891997	Latch, Ash Pan	2	23	80606	Motor, Auger	1
11	891540	Latch, Door	4	24	80491	Micro Switch	1
12	80549	Pressure Switch	1	25	892199	Housing, PCBA Controller	1
13	80599	Switch, Low-Temp	1	26	80631	PCBA Board	1



IN ORDER TO MAINTAIN WARRANTY, COMPONENTS MUST BE REPLACED USING ORIGINAL MANUFACTURERS PARTS PURCHASED THROUGH YOUR DEALER OR DIRECTLY FROM THE APPLIANCE MANUFACTURER. USE OF THIRD PARTY COMPONENTS WILL VOID THE WARRANTY.

NOTES

NOTES

HOW TO ORDER REPAIR PARTS

THIS MANUAL WILL HELP YOU OBTAIN EFFICIENT, DEPENDABLE SERVICE FROM YOUR KING OR ASHLEY, AND ENABLE YOU TO ORDER REPAIR PARTS CORRECTLY.

KEEP THIS MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE.

WHEN WRITING, ALWAYS GIVE THE FULL MODEL NUMBER WHICH IS ON THE NAMEPLATE ATTACHED TO THE HEATER.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST:

1. THE PART NUMBER
2. THE PART DESCRIPTION
3. THE MODEL NUMBER: 5660
4. THE SERIAL NUMBER: _____



United States Stove Company
227 Industrial Park Road
P.O. Box 151
South Pittsburg, TN 37380
(800) 750-2723
WWW.USSTOVE.COM

CUT HERE



WARRANTY INFORMATION CARD

Name _____ Telephone #: (____) _____

City _____ State _____ Zip _____

Email Address _____

Model # of Unit _____ Serial # _____

Fuel Type: ☐ Wood ☐ Coal ☐ Pellet ☐ Gas ☐ Other _____

Place of Purchase (Retailer) _____

City _____ State _____ Zip _____

If internet purchase, please list website address _____

Date of Purchase _____

Reason for Purchase: ☐ Alternative Heat ☐ Main Heat Source

☐ Decoration ☐ Cost ☐ Other _____

What was the determining factor for purchasing your new appliance? _____

I have read the owner's manual that accompanies this unit and fully understand the:
Installation ☐ Operation ☐ and Maintenance ☐ of my new appliance.

Print Name

Signature

Date

Please attach a copy of your purchase receipt.

Warranty not valid without a Proof of Purchase.

Warranty information must be received within 30 days of original purchase.

Detach this page from this manual, fold in half with this page to the inside and tape together. Apply a stamp and mail to the address provided. You may use an envelope if you choose.

You may register online by going to www.usstove.com

All information submitted will be kept strictly confidential. Information provided will not be sold for advertising purposes.
Contact information will be used solely for the purpose of product notifications.

CUT HERE



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Fold Here

Fold Here



PLACE
STAMP
HERE

United States Stove Company
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South Pittsburg, TN 37380

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