

# INSTRUCTIONS

Supersedes all previous instructions before 2023

## The Pioneer Princess Airtight Cookstove

**Read this entire manual before you install and use your new room heater. If this room heater is not properly installed a house fire may result. To reduce the risk of fire follow the installation instructions. Failure to follow instructions may result in property damage, bodily injury or even death.**

### ASSEMBLY AND INSTALLATION INSTRUCTIONS

(The heater is not to be connected to any air distribution system.)

- 1) Remove all wooden crating from around the stove, being careful not to wedge or pry against the stove, as damage to the enameled liner may result.
- 2) Inspect stove for possible shipping damage, and notify your freight carrier immediately if any damage has occurred.
- 3) Loosen the bolts at the base of the stove that hold it to the pallet, and lift stove from pallet.
- 4) Remove all parts from the oven.
- 5) Install the ash & fire door by holding them perpendicular with the stove. Insert the top pin through the top hinge eyelet then align the bottom pin to drop through the bottom hole to allow it sit on the hinge. Make sure both doors swings freely and latches properly.
- 6) Move your **Pioneer Princess** to the desired position.
- 7) Install the back and shelf to the stove body with the bolts that are supplied. Bolts should be tightened until snug, but do not overtighten.
- 8) Install the thermometer bracket on the oven door; slide both of the wooden handles on either side of the bracket. Using the bolts provided, screw the 3/4" x 1 5/8" chrome plated, cylindrical spacers between the handle to the oven door.
- 9) Install the spring knob by sliding it onto the 3/8" threaded rod that protrudes from the left side of the stove, just below the top. This is the thermostat handle. Position the pointer to low and tighten the allen screw.
- 10) The removable flue opening at the rear accepts a 7-inch stove pipe, crimped end down. It is important that with an airtight stove, the crimped end of the stove pipe be turned down. We recommend that a stainless steel stove pipe be used if possible. If an ordinary black pipe is used, it must be 24 gauge or better and should be checked for signs of corrosion every 3 months.

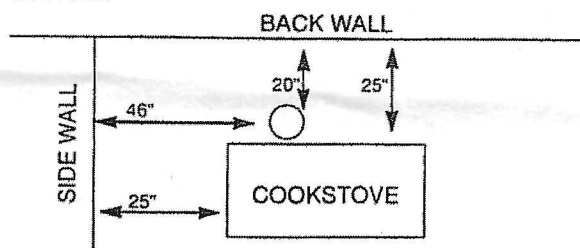
The removable flue adapter has not been attached to the stove for shipment. After the stove has been moved into your house and put into place, this should be attached. The short angle flanges on the flue adapter must go inside of the stove flue. This will ensure that the chimney creosote drains into the stove instead of dripping on the floor. Bolts and nuts are supplied to fasten it with, nuts go on the outside.

Secure the stove pipe to the flue adapter by screwing through the tabs provided in flue adapter. You may need to predrill the 7" pipe before installing. Use a minimum of three evenly spaced screws at each joint of stove pipe.

- 11) Your **Pioneer Princess** cookstove does not require a damper in

the stove pipe.

- 12) Read these instructions carefully before installing your new cookstove. **Consult your local government offices, such as Municipal Building Department, Fire Department or Fire Prevention Bureau to determine whether you need a permit to install this unit. Installation must comply with all local and national building codes.**
- 13) Clearances to combustibles (measured from unit).  
48" from front  
25" from rear  
25" from side  
18" from right side  
  
Clearances to combustibles (measured from chimney connector).  
20" from rear  
46" from side

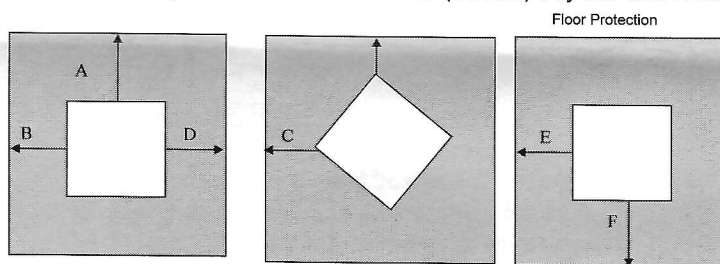


- 14) For reduced clearance and further information on using your wood stove safely, obtain a copy of the following booklet:

In United States: National Fire Protection Association publication "Using Coal and Wood Safely", NFPA No. 115-8-1974. The address of NFPA is: 470 Atlantic Ave., Boston, MA 02210.

In Canada: Canada Mortgage and Housing Corp. publication "Heating With Wood Safely". It is available through any C.M.H.C. office.

- 15) Floor Protection: When installing this stove on a combustible floor, a UL1618 floor protector of minimum R0.60 must be used. This protector must extend at least 18 inches to front, 18 inches to each side of unit, and 10 inches behind. The parts or materials to be employed for the floor protector including the minimum areas to be covered and their relationship to the product. At least the following areas shall be specified. (1) Under the stove (78" x 50"), (2) Under the chimney connector and 2 inches (50 mm) beyond each side.



A = Unit to backwall - 25-inches (635-mm) B = Unit to right sidewall - 25-inches (635-mm)  
C = Unit to corner wall - 18-inches (457-mm) D = Unit to left sidewall - 18-inches (457-mm)  
E = Floor protection side - 8-inches (203-mm) F = Floor protection front - 16-inches (406-mm)  
Sidewall to chimney connector - 46-inches (1168-mm) Backwall to chimney connector - 20-inches (508-mm)

**HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE. DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS. DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM. NEVER LET THE TOP OF YOUR STOVE GET RED HOT. STEEL EXPOSED TO THAT AMOUNT OF HEAT WILL CRACK!**

**SAVE THESE INSTRUCTIONS**

To determine whether your floor protector meets the 0.60 R value, follow this procedure:

- 1) Convert specification to R-value:
  - i R-value is given - no conversion is needed.
  - ii K-factor is given with a required thickness (T) in inches:  $R = 1/k \times T$
  - iii C-factor is given:  $R = 1/C$
- 2) Determine the R-value of the proposed floor protector.
  - i Use the formula in step (1) to convert values not expressed as "R".
  - ii For multiple layers, add R-values of each layer to determine the overall R-value.
- 3) If the overall R-value of the system is greater than R0.60, the floor protector is acceptable.

**Example:**

The specified floor protector should be 3/4-inch thick material with a k-factor of 0.84. The proposed alternate is 4" brick with a C-factor of 1.25 over 1/8" mineral board with a k-factor of 0.29.

Step (a): Use formula above to convert specification to R-value.  $R = 1/k \times T = 1/0.84 \times .75 = 0.893$

Step (b): Calculate R of proposed system.

4" brick of C = 1.25, therefore  $R_{brick} = 1/C = 1/1.25 = 0.80$

1/8" mineral board of k = 0.29, therefore  $R_{min.bd.} = 1/0.29 \times 0.125 = 0.431$

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

Step (c): Compare proposed system R of 1.231 to specified R of 0.893. Since proposed system R is greater than required, the system is acceptable.

**Definitions:**

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

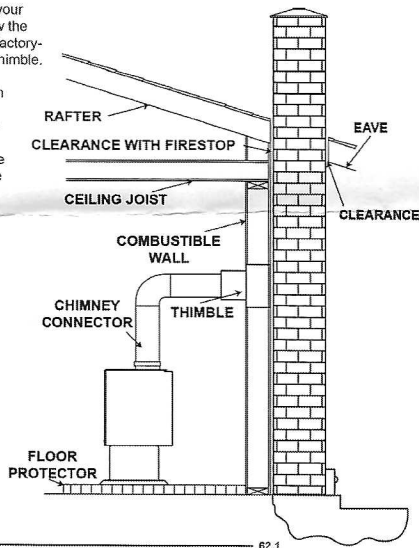
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$$\text{Thermal resistance} = R = \frac{(\text{ft}^2)(\text{hr})(\text{°F})}{\text{Btu}} = \frac{(\text{m}^2)(\text{°K})}{W}$$

- 16) Your cookstove must be connected to a code-approved masonry chimney with a flue liner, or a Listed Type HT (2100 °F) factory built chimney per UL 103 or ULC S629. Chimney size must be at 7 inches but not more than 12 inches. A chimney height of at least 15 feet, measured from the floor on which the cookstove stands is required.

**TYPICAL EXISTING MASONRY**

You can also install your appliance using your existing masonry chimney. To do so, follow the guidelines below. You may want to use a factory-built thimble, or construct your own brick thimble. If you are using a masonry chimney, it is important that it be built in compliance with the specifications of the Building Code in your region. It must normally be lined with fire clay bricks, metal or clay tiles sealed together with fire cement. (Round flues are the most efficient). The maximum flue size is 8" x 8" square or 6" round.



- 17) Keep the use of stove pipe to a minimum, especially elbows, as every turn in your pipe cuts down on the draft. Be sure all horizontal stretches of pipe slope slightly back toward the stove.
- 18) Do not insert flue pipe into masonry chimney further than the wall of the flue tile. Also, single wall stove pipe must not penetrate combustible ceilings or walls. Stove pipe clearances must be at least 18" from combustibles.

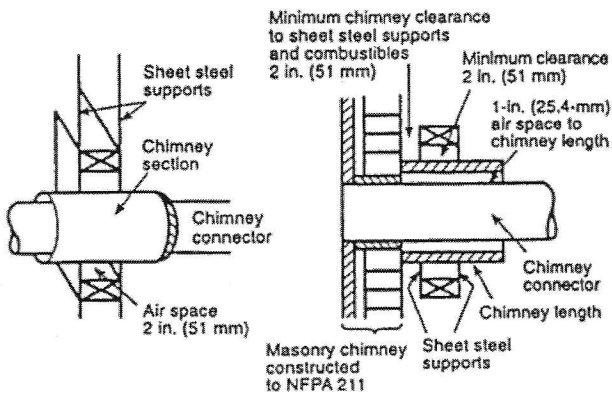
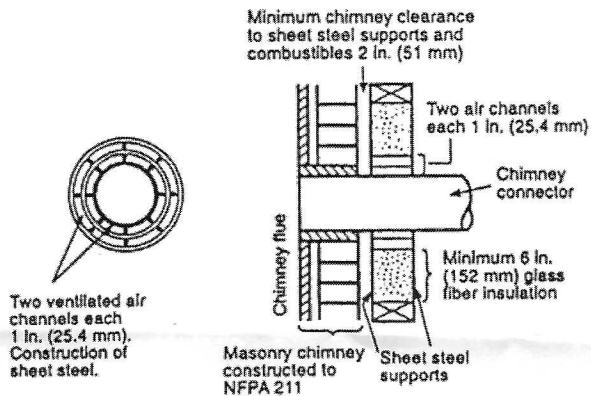
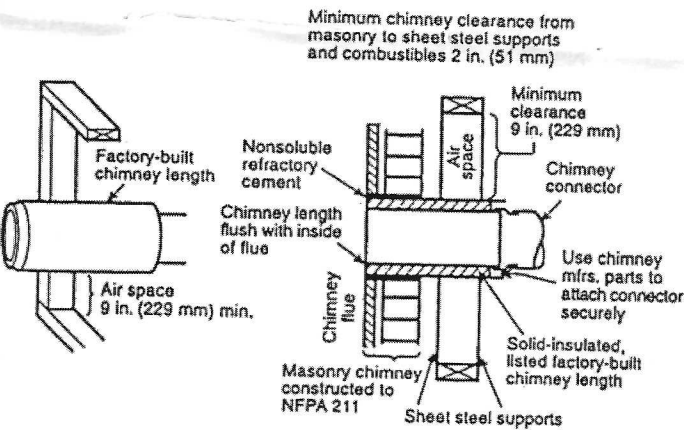
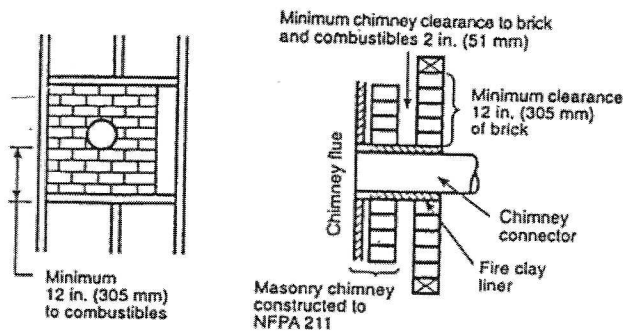
**See diagram** for instructions on connecting the stove to your chimney, and for installing chimney sections through a combustible wall. All combustible wall or ceiling penetrations must conform to CAN/CSA-B365. A chimney connector shall not pass through an attic, roof space, closet, floor, ceiling, or similar concealed space.

- 19) Do not connect the unit to a chimney serving another appliance.
- 20) Make sure your chimney is high enough to give a good draft. Trees, hills, overhangs or other house, etc. near your chimney can cause a downdraft resulting in a, smoke-filled room. Exhaust fans, such as bathroom and kitchen, can cause a drop in air pressure in your house, which will increase the chance of your stove "puffing" smoke or leaking smoke. If you have any trouble with smoke leakage related to exhaust fans, you will need to provide extra ventilation to minimize the air pressure drop in you house.
- 21) Remove the protective sticker paper from the cooking surface of the stove.
- 22) Your stove is supplied with a stainless 5/8 inch tube, to serve as a protective railing along the front of the stove, at the level of the cooking surface. You will notice two chrome spacers (one end of spacer cut at an angle). These two spacers fit between the railing and the top of the stove. The railing is fastened by means of bolts supplied.
- 23) Makeshift compromise during installation may result in a fire hazard.
- 24) This stove is designed to burn solid wood. You will obtain the best results with cordwood cut to 16" lengths split and dried. Special care should be taken when burning scraps of framing lumber or furniture lumber because it is so easy to overheat your stove. Not only might you burn your bread, it is a potential fire hazard. Do not attempt to burn coal, plastic, or any other petroleum products. If you do not have smoke detectors be sure to install some.

**Your First Fire**

1. Open the flue damper slide (by pulling the handle out so that your smoke and gases can travel directly into the flue, without being circled around the oven. This will increase the draft to your firebox, and reduce the stove's tendency to smoke while the chimney is still cold.
2. Turn the thermostat knob to "High". Open the accessory draft knob behind the stove two (2) complete turns or more.
3. Place kindling and crumbled newspaper into the firebox. Light with a match at a point close to the air intake side. Do not overheat your stove during your, first burn. A small fire is best to break in your stove when it is new. If your fire becomes too hot, close the accessory draft and adjust the thermostat as necessary.

## Chimney Connector Systems and Clearances from Combustible Walls for Residential Heating Appliances



A Minimum 3.5-in thick brick masonry all framed into combustible wall with a minimum of 12-in brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

B Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1-in. or more of insulation with a minimum 9-in. air space between the outer wall of the chimney length and combustibles.

C Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1-in. air channels, separated from combustibles by a minimum of 6-in. of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

D Solid insulated, listed factory-built chimney length with an inside diameter 2-in. larger than the chimney connector and having 1-in. or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2-in. air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12-in. chimney section spaced 1-in. away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel supports securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

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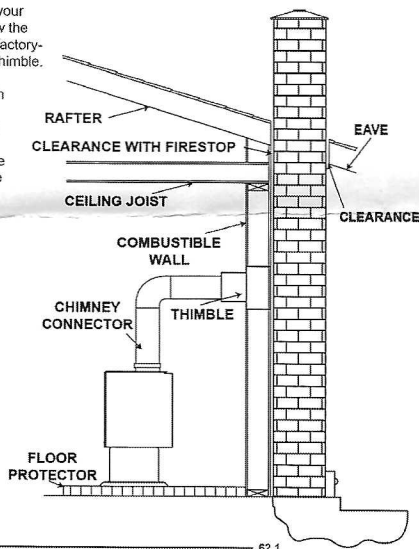
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