Owner's Manual

Safety, Installation, Operation, & Maintenance Guidelines

MODEL 1300 NON-CATALYTIC WOOD HEATER

Safety Notice:

If this wood heater is not properly installed, a house fire may result. For your safety, please carefully read and follow the installation directions. Contact the local Building or Fire Official or other Authority Having Jurisdiction (AHJ) about code requirements, restrictions, and installation inspection in your area. The AHJ can advise you if there is a need to obtain a permit before installation.

Failure to follow these instructions can result in property damage, bodily injury, or even death.

DO NOT DISPOSE OF THIS MANUAL

INSTALLER: Leave this manual with the individual (s) responsible for operating this wood heater.

OPERATOR: The Owner's Manual contains important safety, operating, and maintenance information. Please read and understand the entire Owner's Manual before installing or operating this wood heater. If you have questions please contact your High Valley Dealer for assistance.

SAVE THIS OWNER'S MANUAL FOR FUTURE REFERENCE

NATIONAL FIREPLACE INSTITUTE CERTIFIED www.nficertified.org

We suggest that our woodburning hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Woodburning Specialists or who are certified in Canada by Wood Energy Technical Training (WETT).

Wood Energy Technical Training www.wettinc.ca

Obadiah's Woodstoves
1660 Whalebone Dr. | Kalispell, MT 59901

MODEL 1300 NON-CATALYTIC WOOD HEATER

Safety Tested by:
OMNI-Test Laboratories, Inc | Portland, Oregon
Report 512-S-01-2 | Tested 12/2012 to UL 1482-2011 & ULC S627-00

Emissions & Efficiency Tested by:
DIRIGO Laboratories, Inc | Clackamas, Oregon
Report 014-S-001-1 | Tested to July 1990 Particulate Emission Standards

U.S. ENVIRONMENTAL PROTECTION AGENCY

Certified to comply with 2015 particulate emission standards.
Not approved for sale after May 15, 2020.

Under specific test conditions this non-catalytic wood heater has been shown to deliver heat at rates ranging from 12,548 to 28,846 Btu/hr. Emissions were determined to be 3.1 g/hr. The default EPA efficiency rating for non-catalytic heaters was 63% at the time of this test. Results of CO (Carbon Monoxide) testing are not available at this time.

This non-catalytic wood heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with the operating instructions provided in the owner's manual.

This non-catalytic wood heater needs periodic inspection and repair for proper operation. Consult the maintenance section of this owner's manual for further information.

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

DO NOT BURN:

- Garbage;
- Lawn clippings or yard waste;
- Materials containing rubber, including tires;
- Materials containing plastic;
- Waste petroleum products, paints or paint thinners, or asphalt products;
- Materials containing asbestos;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Manure or animal remains;
- Salt water driftwood or other previously salt water saturated materials;
- Unseasoned wood; or
- Paper products, cardboard, plywood, or particleboard. The prohibition against burning these materials does not prohibit the use of fire starters made from paper, cardboard, saw dust, wax and similar substances for the purpose of starting a fire in an affected wood heater.

Burning these materials may result in release of toxic fumes or render the heater ineffective and cause smoke.

Smoke Detectors should be Installed in the living areas and bedrooms of your home. Many jurisdictions now require hard wired Smoke Detectors and/or Carbon Monoxide (CO) Detectors be installed in single family homes. If you are not subject to such a requirement then battery operated detectors should be installed. Test them regularly and install new batteries every six months. A smoke detector installed in the same room as a wood heater should be situated as far away from the heater as possible to prevent accidental activation when lighting or refueling the fire. Smoke and CO detectors should be installed per the manufacturer's instructions and code requirements.

This manual describes the installation, operation, and maintenance of High Valley Stoves Model 1300 non-catalytic wood heater. This heater is certified to comply with the U.S. Environmental Protection Agency's crib wood emission limits for wood heaters sold after May 15, 2015.

Throughout this manual you will find important safety notices and other information may be repeated a number of times. The repetition is intentional in an effort to reinforce safety instructions and to place them in context.

Table of Contents

General Safety Information

Thank you for choosing a wood heater from High Valley Stove. Safe and efficient operation of your wood heater depends greatly on proper installation as outlined in this owner's manual. If this wood heater is not properly installed, a house fire may result. To reduce the risk of fire follow all instructions, cautions, and safety notices contained herein. Installation must also meet all State and Local Code requirements and/or restrictions. Check with your local Building Official, Fire Official, or other Authority Having Jurisdiction (AHJ) regarding the need to obtain a permit prior to installing a wood heater; and whether an inspection of the installation is required upon completion. Understand that code requirements and follow-up inspection are not put in place to make the installation process more difficult. Rather they are designed to help ensure your safety. Don't take shortcuts, use or allow makeshift methods, or other compromises in the installation. Safety is paramount and the key to enjoying your new wood heater. We strongly recommend installation by an experienced professional installer who has the specialized knowledge, tools, and equipment to complete the installation safely. Look for an installer who is certified by the The National Fireplace Institute (NFI) as a Woodstove Specialist or Master Hearth Professional (MHP) to have demonstrated their mastery of the knowledge required in all phases of safe woodstove installation, and of best current industry practices. Be sure to contact your insurance company to inquire whether they have additional requirements.

Safety Precautions

BURN SOLID WOOD FUEL ONLY. This wood heater is designed and approved for the burning of cord wood fuel only. Burning any type of fuel other than cord wood in this wood heater is against all safety testing and will void all warranties.

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 wood heater. Keep all such liquids well away from the heater at all times. Storing these or other flammable liquids near a wood heater could cause a fire.

DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL. Cord wood is the only fuel approved for use in this wood heater.

DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE.

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

DO NOT OPERATE IN AN EXTREME MANNER AS TO OVER-FIRE THE WOOD HEATER. If any part of the wood heater, the chimney, or the chimney connector glows, you are over-firing. If over-firing occurs, close all combustion air controls immediately. Over-firing can cause damage to the wood heater and may cause a fire.

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING, AND FURNITURE WELL AWAY. CONTACT MAY CAUSE SKIN BURNS. Observe all minimum clearances as listed in this manual. Maintain a 36" area around the wood heater to be kept free of combustible materials including furniture and window treatments. **DO NOT** allow unattended children in the area of an operating wood heater.

BURN DIRECTLY ON FIRE BRICKS. Do not use grates, andirons, or other methods to support fuel.

FUEL STORAGE. Store bulk cord wood covered in a well ventilated area to ensure that the wood fuel is dry as possible. Do not store wood fuel within stove clearances or within the space needed for loading stove or ash removal.

ASH DISPOSAL. Ashes should be placed in a steel container with a tight-fitting lid and moved outdoors immediately. 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 thoroughly cooled. Other waste shall not be placed in this container.

CREOSOTE FORMATION & REMOVAL: Inspect chimney connector and chimney twice monthly, and clean if necessary. Creosote accumulation in the connector pipe, chimney, or flue lining can create an extremely hot fire if ignited.

Installation Planning

Your new High Valley Model 1300 has been designed to give you years of clean, efficient service. Take time to consider carefully where your new wood heater will be installed in your home. If you are planning to use an existing chimney and/or hearth, many of the decisions have been made for you. Consult with your High Valley dealer before committing to a final location and take full advantage of their experience. Consider how you plan to use your wood heater, your expectations, and the physical layout of your home. Once the wood heater has been installed it would require significant effort and expense to change its location. Perhaps, after considering all factors, you may come to the conclusion that the location of an existing chimney may not be the best place for your new wood heater. Evaluate all of your options fully before making a final decision.

Location: The wood heater should be located in a place where it will be convenient to fuel and maintain the stove, but well away from human traffic flow, and clear of hallways and doors. It must be possible to maintain the minimum clearances to combustibles which were determined by safety testing (see page 5). Ensure that furniture, window treatments (draperies and curtains, wood materials including wood fuel, and any other combustible materials will be no closer than 36" to the wood heater. If children reside in the home or visit regularly consider how the area immediately around the heater can be closed off to keep children safely away from hot surfaces. Consult your High Valley dealer for advice on safety gates and other safety products.

Heating Considerations: Ideally the wood heater will be centrally located in the area that you wish to heat. A wood stove is an excellent area heater or space heater. Properly sized and operated it will heat the area where it is located and heated air will naturally move throughout the home. Keep in mind that a stove does not have the advantage of a distribution system to deliver the heat around your home like a central heating boiler or furnace. Don't expect the type of even heat distribution that a central heating system can deliver. If your goal is to heat a family room, an addition, or a portion of the main house, the stove should be sized and operated to create a warm, comfortable space with the surplus heat allowed to travel around the home on natural convection (air) currents. A large wood stove with the capacity to heat a home will typically overheat the area where it is located unless the home is constructed with an open floor plan. If heating a typical partitioned home with wood as a primary heat source is truly the goal, then it would be wise to consider installing a number of smaller sized wood heaters throughout the space to be heated rather than a single large wood heater. The number would depend on the size and layout of the home. We do not recommend installing your wood heater in an uninsulated basement. Much of the heat produced will be lost to the uninsulated walls of the basement. NEVER cut holes or vents in a ceiling/floor in an attempt to get warm air to rise to the rooms above. You will be compromising a firebreak in your home and could, should a fire ensue, jeopardize your homeowners insurance coverage. Contact your local Fire Officials or Building Official, or other Authority Having Jurisdiction for guidance.

Chimney Location: Once the best physical location for your wood heater from a heating perspective is agreed upon, the feasibility of providing a safe and effective chimney in that location must be considered. If the chimney is to run up through the ceiling and/or the roof then the space above must be clear. The layout and location of floor joists and/or roof rafters must be ascertained. Most factory-built chimney components are designed to fit into standard construction without the need for cutting and boxing frame members. A factory-built chimney can also exit through the sidewall of the house and up the side of the home. Another alternative would be to construct a new masonry specifically for the woodstove. In any case, the wood stove must not be vented into a chimney flue serving any other appliance. Once again, we strongly recommend that chimney installation be performed by a certified professional installer who is thoroughly familiar with the requirements of modern wood heaters.

Your High Valley Model 1300 is approved for installation into either a masonry chimney or a Type HT factory-built chimney listed to UL-103-HT or ULC-S629 standards. A masonry chimney is a permanent installation requiring a load bearing footing to support the mass of the chimney. Factory-built chimneys offer flexible installation options and use proprietary support systems for through-the-roof or sidewall installation. A properly constructed chimney that provides adequate draft is essential for the safe and efficient operation of your wood heater. More specific information about draft and various chimney installations and material will follow, but lets begin at the beginning. Look back to a time when fireplaces, wood stoves, and later, solid fuel central heating were relied on as the only source of heat in cold weather. Proper chimney construction and location could spell the difference between surviving the winter and not. Those chimneys had to work. Life revolved around the fireplace and, later, the cook stove and parlor stove. The chimney helped warm the home but also was kept warm by the home. A warm chimney drew better. Likewise the chimney was as tall as possible. A tall chimney drew better and was less likely to be affected by wind and weather.

Chimney Performance

Chimneys that were constructed in homes built before the advent of oil and gas-fired central heating systems were invariably constructed within the walls of the home, typically centrally located, and exited the roof at or near the ridge. The principals that applied then apply today. A chimney is best located within the envelope of the home to keep it warm, and it should be installed as close to the peak of the roof as possible. If you have a modern fireplace that was constructed with the chimney outside the home, exposed to the cold, and with a relatively short chimney, it may not be your best choice for use with a modern, efficient wood stove. As central heating became prevalent fireplaces and their chimneys were moved outside the walls of the home to conserve floor space. If they didn't draw well it was not considered a major problem because the central heating system kept the home warm.

Draft: The Environmental Protection Agency defines draft this way: ''Draft is the force which moves air from the appliance up through the chimney." Simply stated, heated air (wood stove exhaust or any heated gas for that matter) becomes more buoyant and tends to rise. The hotter the gasses contained in a chimney flue are, compared to the temperature of the air outside, the greater the draft should be. There are many variables and the scientific explanation can become complicated. (There are books and scientific papers written for those who would like to know more.) Suffice to say that you need it; and without it your wood heater cannot perform well. The draft of the chimney provides the suction that pulls air into the stove to support combustion. A wood heater provided with adequate draft cannot leak smoke, as air is being drawn into the heater, connector pipe, and chimney. If a wood stove is leaking smoke or spills a lot of smoke during refueling, inadequate draft is most likely the culprit.

A complete explanation of all of the elements that may affect draft are beyond the scope of this manual but, briefly, some factors that contribute to a properly drafting chimney are these:

- **Flue Size:** We recommend that the flue size of the chimney be the same size as the flue outlet on the stove. Theoretically a larger chimney flue should have a greater flow capacity than a smaller flue. In practice though, the heated flue gases are diluted by the extra air in the larger flue and cool faster Draft is decreased and, if cooled too much, creosote may be deposited in the flue. The Model 1300 has a 6" flue collar and 6" factory-built HT chimney is readily available. With an existing masonry chimney it can be more challenging. A typical masonry flue tile is 8" square; considerably larger than the 6" flue recommended. Consider that the cross-sectional area of a 6" flue is @ 28¼ sq. in. (Area = πr^2 or A = $\pi 3^2$ or A = 3.14 X 9) where Pi = 3.14 (enough for this purpose.) The cross sectional area of an 8" round flue is 50¼ sq. in.; the cross sectional area of an 8" square masonry flue tile is @ 64 sq. in. In addition, the masonry construction tends to cool more quickly with cold outside temperatures. If a new masonry chimney is being constructed, ask the mason to try to source round flue tiles. They are available and can be insulated with vermiculite or other approved chimney insulation materials. The performance of an existing masonry chimney may be improved with the installation of an insulated chimney liner that is the same size as the flue outlet of the stove.

- **Insulation:** A chimney flue that is kept warm is more likely to draft well than a cold chimney. Keeping the chimney within the walls of the home is the best solution if space allows. If the chimney must be constructed outside the home, then insulating it is strongly recommended. Factory-built HT chimneys are packed with insulating material and can be further protected by installing them inside an insulated chimney chase (enclosure) outside the home. Masonry chimneys may require an insulated flue liner to provide adequate draft in all seasons. Consider that when it is cold (say 20 degrees for example) outside the home, the air inside the flue of an outdoor chimney will be the essentially same temperature. When lighting the fire it will be necessary to provide enough heat to overcome that column of cold air acting like a plug in the chimney flue. Once the wood heater is lit and burning hot flue gasses will be cooled more quickly in a chimney exposed to the elements and draft will be negatively affected; perhaps to the point were the draft becomes inadequate to maintain an efficient fire.

- **Height:** A tall chimney is more likely to draft well than a short chimney. The taller column of heated gas creates a greater temperature and pressure differential with the outside atmosphere and better draft is the result. As above, the flue size and insulation also play significant roles in the process. We recommend a minimum chimney height of @ ten feet (10') and a maximum height of @ thirty feet (30') measured from the top of the wood heater. Locating the chimney where it will project above the ridge of the roof, rather than near the eaves of the home, will net the tallest chimney height practical for your home. External elements like tall trees, hills, tall buildings, and the like can affect draft when the wind is blowing from a particular direction. Locating a short chimney at the eaves of the home may result in draft problems when the wind blows across your own roof ridge. Height alone is not the only factor to consider when specifying a chimney but, in general, taller is better.

Chimney Requirements

Your High Valley Model 1300 must be connected to either a factory-built Type HT chimney or to a masonry chimney with a flue liner of a construction that meets all current code requirements. If the wood heater is to be connected to an existing chimney , have the chimney inspected prior to installing the wood heater by an NFI certified hearth installer, a CSIA chimney sweep, or a qualified mason in the case of a masonry chimney. The chimney must prove to be sound and serviceable and to meet all applicable codes. An existing factory-built chimney must be Type HT with a minimum 6" (152mm) and maximum 8" (203mm) flue diameter. An existing masonry chimney must have a clay tile liner or approved stainless steel insulated liner. The wall thimble or pass-through construction should be inspected to ensure it conforms to current NFPA 211 guidelines. The flue size must not be less than the flue collar (6" or 152mm) or greater than three times (3X) the cross-section of the flue collar. NOTE: An oversize masonry chimney may not prove to provide adequate draft and may require the installation of an insulated liner approved to UL 1777 to function satisfactorily.

If a new chimney is to be constructed to vent the wood heater we strongly advise that the chimney be professionally installed. Factory-built chimney must be Type HT-2100°F tested to the UL 103 standard and/or ULC S629 standard. A six inch (6") diameter factory-built chimney is preferred. All components of the factory-built chimney must be from the same manufacturer and be of the same type to ensure proper connection of components. All chimney components needed for the installation including but not limited to wall pass-throughs, tees and tee supports, ceiling supports, insulation shields, fire stops, roof support packages, roof flashings, chimney caps,etc. must be installed exactly to the manufacturer's instructions. Installation specification and clearances may vary from manufacturer to manufacturer and must be carefully adhered to according to the individual manufacturer's instructions.

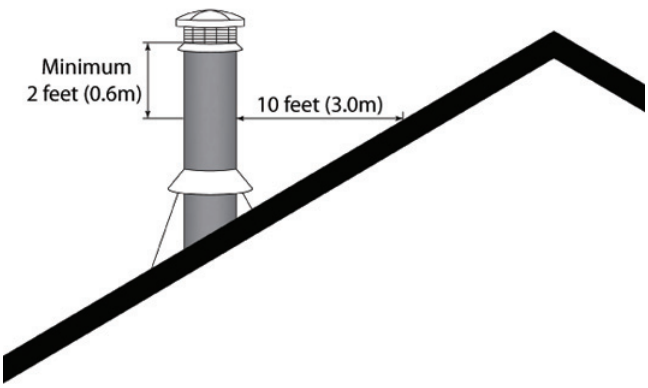
If a new masonry chimney is to be constructed we strongly recommend the use of a professional masonry contractor. Specialized knowledge is needed to ensure proper construction and support for a masonry chimney. The chimney must be constructed in accordance with the latest edition of NFPA standard 211 and must conform to all applicable state and local codes. Wall thimble construction and clearances to combustibles must meet NFPA 211 guidelines. A permit and inspection may be required by the local Building Official, Fire Official, or other Authority Having Jurisdiction. A six inch (6") round or 8" x 8" square flue tile is required. The flue tiles must be mortared together with the approved material and provided with an air space as required by NFPA 211 and applicable codes.

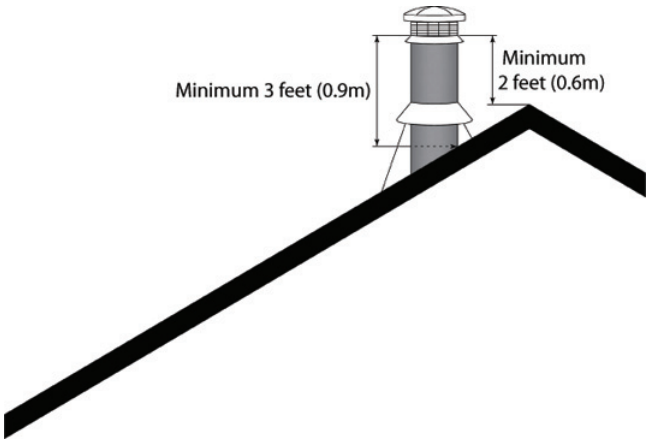
Chimney Guidelines

The following information about chimney construction and requirements is intended for reference only. The use of a professional installer is strongly recommended. Specific installation instructions and/or requirements must conform to the chimney manufacturer's instructions and/or applicable building codes. Seek the advice of your High Valley Dealer and/or the local Authority Having Jurisdiction as to local code, permitting, and inspection requirements.

Chimney Height

- The top of the chimney must be at least two feet (2' or 0.6m) taller than the highest point of the roof or any part of the roof or other structure within ten feet (10' or 3m) measured horizontally from the chimney termination.
- The chimney must be at least three feet (3' or 0.9m) taller than the high side of the roof penetration.





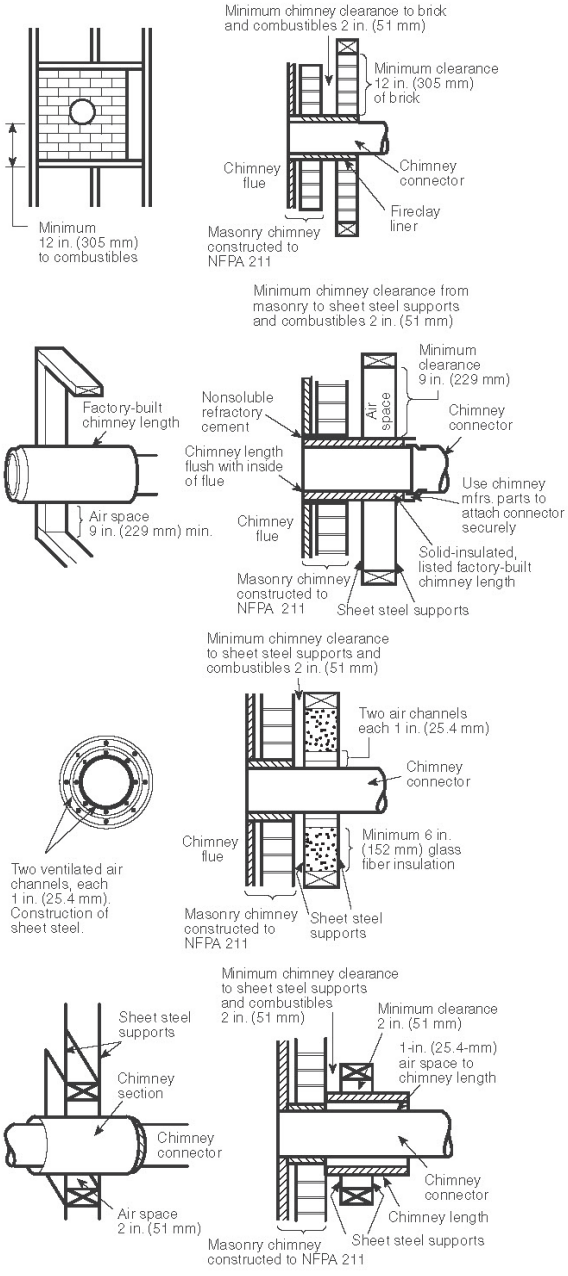
Chimney Clearances & Thimble Details

Chimney Clearances

- Special care must be exercised to ensure that all chimney clearances to combustibles meet current standards.
- Existing chimneys should be inspected to ensure that clearances to combustibles are in compliance.
- Factory-built chimney clearances are defined in the manufacturer's installation instructions.
- Masonry chimney clearances to combustibles are described in the current NFPA standard 211.
- Clearances to combustibles may vary for indoor and outdoor installations.

Chimney Thimble Details

- Special construction techniques are required to ensure safe connection to a chimney through a combustible wall. Seek the current version of NFPA standard 211 and the approval of the local Authority Having Jurisdiction.

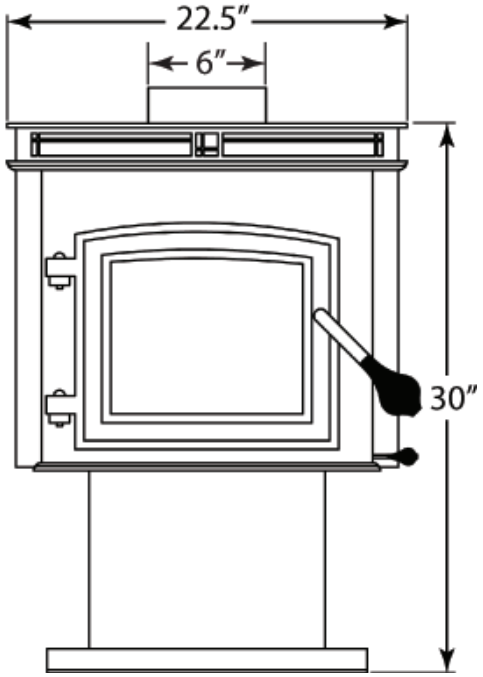


- Minimum 3.5 inch (90mm) thick brick masonry wall framed into combustible wall with a minimum of 12 inch (305mm) brick separation from clay liner to combustibles. Fireclay liner (ASTM C 315, Standard Specification for Clay Fire Linings, or equivalent), minimum ⅝ inch (16mm) wall thickness, shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.
- Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4mm) or more of insulation with a minimum 9 inch (229mm) air space between the outer wall of the chimney length and combustibles. The inner end of the chimney length shall be flush with the inside of the masonry chimney flue and shall be sealed to the flue and to the brick masonry penetration with non-water-soluble refractory cement. Supports shall be securely fastened to wall surfaces on all sides. Fasteners between supports and the chimney length shall not penetrate the chimney liner.
- Sheet steel chimney connector, minimum 24 gauge [0.024 inch (0.61 mm)] in thickness, with a ventilated thimble, minimum 24 gauge [0.024 inch (0.61mm)] in thickness, having two 1 inch (25.4mm) air channels, separated from combustibles by a minimum of 6 inch (152mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge [0.024 inch (0.61mm)] in thickness. Supports shall be securely fastened to wall surfaces on all sides and shall be sized to fit and hold chimney section. Fasteners used to secure chimney section shall not penetrate chimney flue liner.
- Solid-insulated, listed factory-built chimney length with an inside diameter 2 inch (51mm) larger than the chimney connector and having 1 inch (25.4mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge [0.024 inch (0.61mm)] thickness, with a minimum 2 inch (51mm) air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inch (305mm). Chimney section concentric with and spaced 1 inch (25.4mm) away from connector by means of 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 of minimum 24 gauge [0.024 inch (0.61mm)] thickness. Supports shall be securely fastened to wall surfaces on all sides and shall be sized to fit and hold chimney section. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

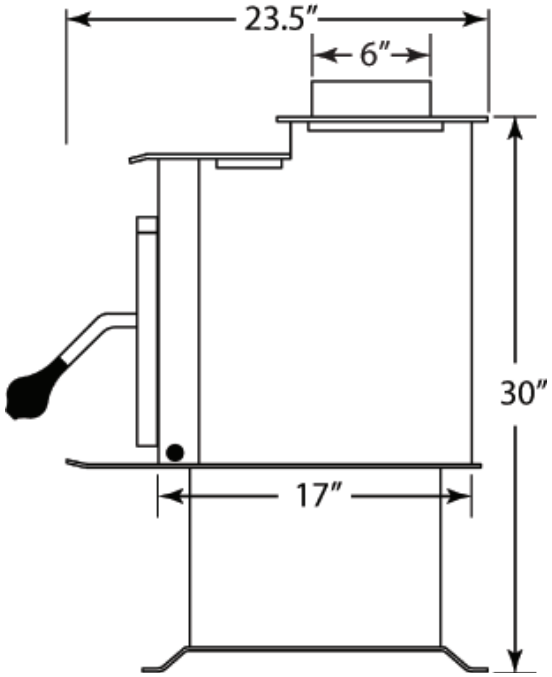
Additional Requirements:

- Insulation material used as part of wall pass-through system shall be of noncombustible material and shall have a thermal conductivity of 1.0 Btu-in./hr-ft - °F (4.88 kg-cal/hr-m - °C) or less.
- All clearances and thicknesses are minimums; larger clearances and thicknesses shall be permitted.
- Any material used to close up an opening for the connector shall be of noncombustible material.
- A connector to a masonry chimney, except for System B, shall extend in one continuous piece through the wall pass-through system and the chimney wall to the inner face of the flue liner, but not beyond.

Model 1300 Specifications & Clearances



Front View

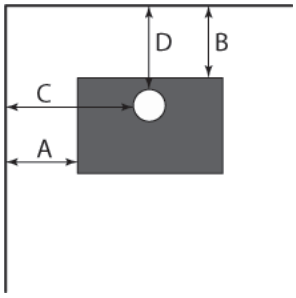


Side View

Model 1300 Over All Width:	22 ½″	Flue Size:	6″
Model 1300 Over All Depth:	23 ½″	Firebox Volume:	1.34 cu. ft.
Model 1300 Height with Pedestal:	30″	Firebox Dimensions:	16" wide x 11" deep
Weight:	314 lbs	Maximum Log Length:	314 lbs.

Minimum Clearances to Combustibles Measured from the Wood Heater Body

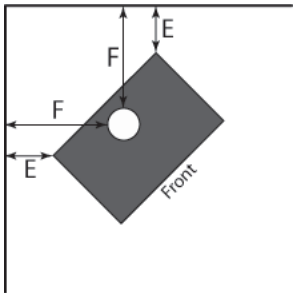
Backwall / Sidewall



Stove to Combustibles
A = 14″ *(356mm)*
B = 12″ *(305mm)*

Flue Pipe to Combustibles
C = 22″ *(560mm)*
D = 15.5″ *(394mm)*

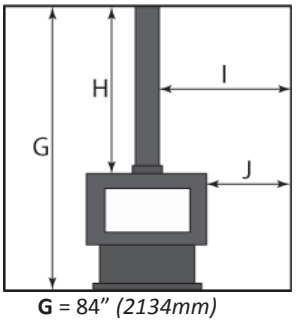
Corner Clearances



Stove to Combustibles
E = 8″ *(203mm)*

Flue Pipe to Combustibles
F = 18″ *(457mm)*

Alcove Clearances

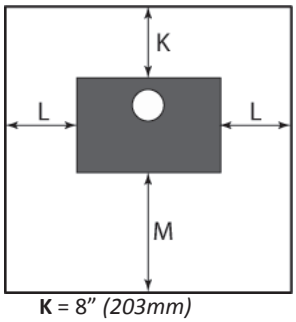


G = 84″ *(2134mm)*
H = 54″ *(1372mm)*
I = 24″ *(610mm)*
J = 16″ *(406mm)*

Stove to Rear Wall
16.5″ *(419mm)*

Flue to Rear Wall
19″ *(483mm)*

Floor Protection



K = 8″ *(203mm)*
L = 8″ *(203mm)*
M = 18″ *(457mm) U.S.*
M = 18″ *(457mm) CN*

Minimum Floor Protector Size
38″w x 43″d U.S.
965mm w x 1092mm d CN

Floor Protection:

Use UL 1618 Type 2 Floor Protector R = 1.19 or continuous non-combustible material equivalent to 1″ thickness, k = 0.42

NOTE: Clearances to combustible materials may be reduced using shielding methods as described in the current edition of NFPA 211 Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances. Any reduction of clearances must be approved by the local Authority Having Jurisdiction.

Pre-Installation Assembly

⚠ CAUTION

- **If this wood heater is not properly installed, a house fire may result. To reduce the risk of fire follow all instructions, cautions, and safety notices contained herein.**
- Installation must also meet all State and Local Code requirements and/or restrictions. Check with your local Building Official, Fire Official, or other Authority Having Jurisdiction (AHJ) regarding the need to obtain a permit prior to installing a wood heater; and whether an inspection of the installation is required upon completion.
- Don't take shortcuts, use or allow makeshift methods, or other compromises in the installation. Safety is paramount and the key to enjoying your new wood heater.
- We strongly recommend installation by an experienced professional installer who has the specialized knowledge, tools, and equipment to complete the installation safely. Look for an installer who is certified by the The National Fireplace Institute (NFI) as a Woodstove Specialist or Master Hearth Professional (MHP) to have demonstrated their mastery of the knowledge required in all phases of safe woodstove installation, and of best current industry practices.
- Be sure to contact your insurance company to inquire whether they have additional requirements.

Inspection

Your High Valley stove was carefully inspected before being packaged at the factory. Chances are that your High Valley Dealer has un-boxed and assembled your stove prior to delivery. Your dealer has the equipment and the experience to handle heavy stoves. If you have taken delivery of your Model 1300 stove still in the box proceed as follows:

- Carefully remove the shipping materials. Use caution. The contents are heavy.
- Carefully inspect the stove and accessories, if any, for signs of damage.
- If any damage is noted or suspected please contact your High Valley Dealer for assistance.
- DO NOT proceed with installation until the stove has been inspected and replacement parts obtained.

Pedestal Installation

If your Model 1300 was not assembled before delivery, the stove body must be fastened to the pedestal base. **USE EXTREME CAUTION.** The wood heater is very heavy. At least two strong individuals will be needed to lift the stove body onto the pedestal base. Personal injury and/or damage to the stove or personal property may result if the stove is handled improperly. If you have concerns about handling the stove please contact your dealer for assistance.

Materials Included: Stove Body, Pedestal Base, four (4) each 3/8" - 16 x 1" bolts, Owner's Manual.

- Place the un-boxed pedestal on the floor close to where the stove will be installed.
  Place a piece of cardboard under the pedestal base to protect the floor while assembling the stove.
- Carefully lift the Model 1300 stove body and place it gently top of the pedestal.
  - Do not drop the stove body onto the pedestal base. Damage to the floor, the floor covering, or the floor protector may result.
  - Ensure that the stove body is roughly centered on the pedestal.
- Align at least one of the holes in the pedestal with threads in the stove with appropriate holes in pedestal.
  - Insert one of the 3/8 -16 x 1" bolts through the hole in the pedestal base and into the threaded hole in the stove body. Tighten finger tight only at this stage.
  - Pivot the stove body carefully on the pedestal base to align the remaining three bolt holes.
  - Thread the remaining 3/8 -16 x 1" bolts into the threaded holes in the stove body.
- Tighten the four (4) bolts securely using a 9/16" or 14mm wrench, an adjustable wrench, or similar tool.

Blower Installation

The Blower is a standard feature on the Model 1300 and is installed at the factory.

- The Blower is pre-wired at the factory, so no additional wiring is necessary in the field.
- If removal or replacement of the Blower is needed in the future, a wiring diagram is provided on Page 16.

Wood Heater Installation

We suggest that our woodburning hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Woodburning Specialists or who are certified in Canada by Wood Energy Technical Training (WETT).

If this wood heater is not properly installed, a house fire may result. To reduce the risk of fire follow all instructions, cautions, and safety notices contained in this manual.

Do not take shortcuts. Do not use or allow makeshift methods or other compromises in the installation. Safety is the most important step toward enjoying your wood heater responsibly.

Floor Protector Installation

- The Model 1300 requires a UL 1618 Type 2 Floor Protector R = 1.19 or continuous non-combustible material equivalent to 1" thickness, k = 0.42. If a hearth or floor protector is to be site-built, or an existing hearth is to be utilized, the thermal resistance must be determined to ensure the minimum requirement are met. See Appendix - C on Page 18.
- Minimum floor protection must be continuous under the wood heater and 8 inches (8") to the back and each side, and eighteen inches (18") in front of the loading door. The minimum size is 38"w x 43"d in the U.S. and Canada.
- Floor protection must extend under any horizontal section of connector pipe and at least two inches (2") to each side.
- We strongly recommend using a floor protector that is larger than minimum size that will cover the flooring to the wall and provide for extra non-combustible working space for a metal ash container, tools, gloves, etc.

Wood Heater Installation

- With the floor protection in place, carefully move the Model 1300 into position.
- Use extreme caution when lifting the Model 1300. It is **VERY HEAVY.** We recommend the use of lifting straps (furniture moving straps) by at least two strong individuals. Personal injury and/or damage to the stove or personal property may result if the stove is handled improperly. If you have concerns about handling the stove please contact your High Valley dealer for assistance.
  - Lift the wood heater and gently set it in place. Do not drop the wood heater onto the floor protector. Do not slide the wood heater into position. Damage to the floor protection may result. Setting the wood heater onto pieces of heavy cardboard will minimize the possibility of scratching the floor protection and allow final positioning of the wood heater. Remove the cardboard before lighting the first fire in the wood heater.
- The wood heater should be centered on the chimney if possible to allow for the shortest and most direct connection. The wood heater does not necessarily need to be centered on the floor protection as long as the minimum side protection requirement (8") is met. An asymmetrical installation may provide more usable space to one side.
- The wood heater and floor protector must be positioned to maintain at a minimum the clearances to combustibles as shown in the chart on **Page 9** of this manual and on the safety label affixed to the wood heater.
- Clearances to combustible materials may be reduced if needed by using shielding methods as described in the current edition of NFPA 211 Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances. Any reduction of tested clearances must be approved by the local Authority Having Jurisdiction (AHJ).

Connector Pipe Requirements

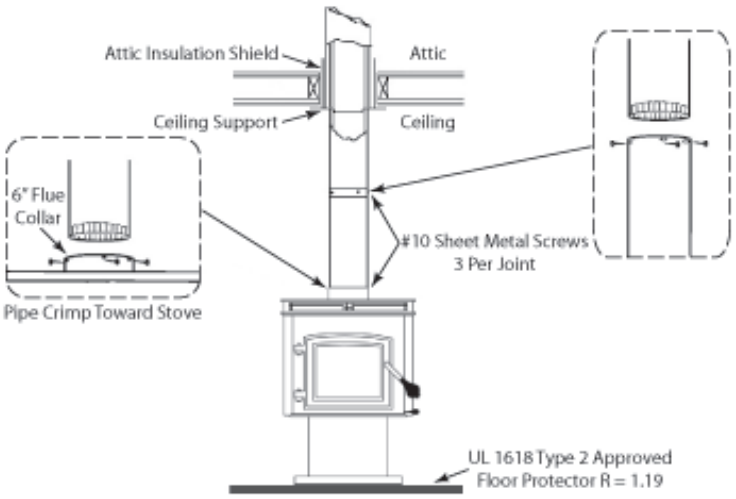
- Before connecting the wood heater to a factory-built or masonry chimney, have the chimney inspected to ensure that it is properly installed, clean, and in good repair. Have the chimney cleaned if necessary.
- Do not pass a chimney connector pipe through any combustible wall (s) or ceiling (s). Special methods are required when passing a chimney through any combustible wall, ceiling, or roof. Ensure that all chimney clearance requirements are met and all penetrations through combustible walls and/or ceilings meet manufacturer's installation requirements, NFPA 211, and/or applicable code requirements. See **Pages 8 & 9** for additional information.
- **Do not connect this wood heater to a chimney flue serving another appliance.**
- Use six inch (6") (152mm) diameter minimum 24 MSG black steel connector pipe or pipe of a greater gauge.
- Use three (3) #10 sheet metal screws to fasten each section of connector pipe together and to secure the connector pipe to the flue collar of the wood heater. The length of the screws should be long enough to penetrate both sections of pipe (@ ¼") or the flue collar and pipe (@ ½") but not overly long.
- Crimped connector pipe ends should point away from the chimney and toward the wood heater flue collar.
- Connector pipe should be kept as short and straight as possible. Extra pipe and extra elbows can impede the flow of flue gasses and may cool the flue gasses to a point that negatively affects draft.

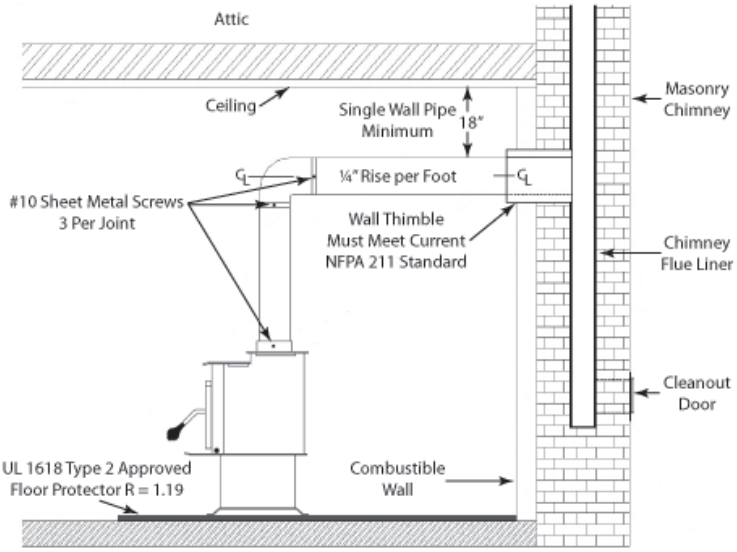
Wood Heater Connection to the Chimney

Vertical Connector Installation

Using Single Wall Pipe

- Center the wood heater flue collar directly under the chimney pipe if possible. All Clearances to combustibles must be maintained.
- Confirm that any ceiling support, roof support, fire-stops, insulation shields, etc. are installed correctly and match the brand of Type HT 2100° chimney being used.
- If the wood heater must be offset from the chimney opening, use 15° or 45° pipe elbows to make corrections for the offset.
- Crimped connector pipe ends must point downward toward the wood heater flue collar.
- Secure each pipe section to each other and the flue collar using three (3) #10 sheet metal screws (see Page 11).





Horizontal Installation

Using Single Wall Pipe

- Center the wood heater flue collar in-line with the wall thimble if possible. All Clearances to combustibles must be maintained.
- Confirm that the factory-built wall pass through or masonry thimble meets manufacturer instructions and/or NFPA 211. (See Page 8)
- Limit the 90° bends to one (1) elbow and the 90° bend where the thimble meets the flue.
- Maintain at least 18" clearance from single wall connector to the ceiling.
- Floor protection must extend under horizontal section of connector pipe and at least two inches (2") to each side.
- Maintain 1/4" rise per foot in horizontal pipe.
- Crimped connector pipe ends must point toward the wood heater flue collar.
- Secure each pipe section to each other and the flue collar using three (3) #10 sheet metal screws (see Page 11).

Masonry Fireplace Installation

The Model 1300 was not designed or tested for installation into a fireplace. The top vent only configuration of the Model 1300 makes venting into most masonry fireplaces impractical.

Mobile Home Installation - U.S. ONLY

CAUTION: The Structural Integrity of Mobile Home Floor, Wall, and Ceiling/Roof Must be Maintained.

The installation must comply with all current HUD Regulations.

Floor protector requirements and installation, minimum clearances, and installation precautions are the same as those on Page 11 for conventional residential construction.

The wood heater must be anchored to the floor with bolts of sufficient size and length to penetrate the pedestal mount, floor protector, home floor, and subfloor.

The wood heater must be properly grounded to the chassis of the mobile home using #8 AWG copper wire or its equivalent.

WARNING: Do Not Install in a Sleeping Room.

For mobile homes use 6 inch diameter Class "A" chimney listed to UL 103 HT and/or ULC629, suitable for use with solid fuels, installed from the flue collar to the termination point and fitted with a Spark Arrestor and Rain Cap. The chimney must be removable in the event the home is to be transported.

An outside air inlet must be provided for combustion and be unrestricted while the unit is in use. Use High Valley outside air kit (P/N: AIRKIT). See Page 16.

The front loading door of the wood heater must be kept closed at all times except for starting and refueling the fire.

Pre-Operation Guidelines

CAUTION: Hot while in operation!

Glass and metal surfaces are very hot while the wood heater is burning. Contact may cause skin burns.

Keep children, clothing, furniture, and flammable materials well away.

Ensure that children and adults are aware of the danger of burns.

Children must be carefully supervised at all times.

A safety barrier should surround the wood heater to keep children away.

Always Use Safe Burning Practices:

Burn solid wood fuel only. This wood heater is designed and approved for the burning of cord wood fuel only. Never burn any type of coal in this heater. Burning any type of fuel other than cord wood in this wood heater is against all safety testing and will void all warranties.

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 wood heater. Keep all such liquids well away from the heater at all times. Storing these or other flammable liquids near a wood heater could cause a fire.

Burn directly on fire bricks. Do not use grates, andirons, or other methods to support fuel.

Do not operate in an extreme manner as to over-fire the Wood Heater. If any part of the wood heater, the chimney, or the chimney connector glows, you are over-firing. If over-firing occurs, close all combustion air controls immediately. Over-firing can cause damage to the wood heater and may cause a fire.

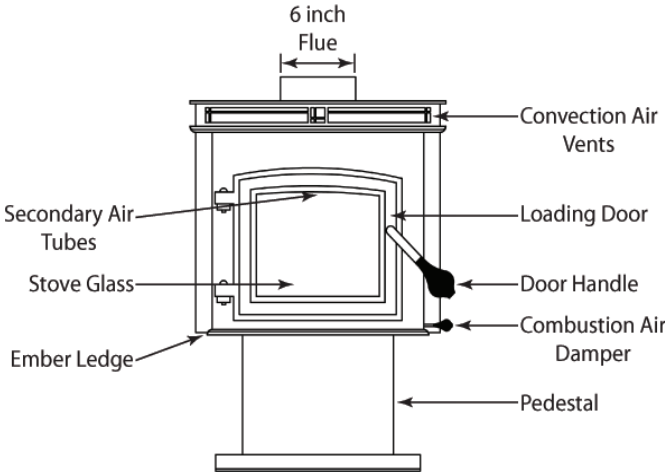
NOTICE: Before lighting the wood heater for the first time ensure that any inspection required has been completed and passed by the local Building Official, Fire Official, or other Authority Having Jurisdiction (AHJ).

Smoke and CO detectors should be installed on every floor of your home. A smoke detector installed in the same room as the wood heater should be located as far away from the heater as possible. See Page 2. Many states have requirements mandating the installation of smoke and CO detectors. Those regulations take precedence.

Be sure you have notified your homeowner's insurance company that a wood heater has been installed in your home.

We recommend that a "Type A B C" fire extinguisher be on hand in close proximity to the wood heater should hot embers escape the during the loading of fuel and removal of ashes. Please use care when loading or servicing the wood heater. Never throw water on a burning wood heater. Thermal shock could break the door glass exacerbating the problem and hot steam could increase the risk of burns or scalding.

Model 1300 Features & Components



Convection Air Vents: Powered by the standard convection blower to deliver heated air to the room.

Secondary Air Tubes: Introduce fresh combustion air over the fire to re-burn gasses. No adjustment necessary.

Loading Door: Allows access to the firebox for loading.

Stove Glass: Ceramic material withstands high temperatures and allows a view of the fire.

Door Handle: Rotate to latch/unlatch the loading door. Fitted with a spring handle for safer handling.

Ember Ledge: Designed to catch ash spillage.

Combustion Air Damper: Controls the amount of air fed to the fire and thereby regulates the burn rate. Pull out to open and push in to close using the spring handle.

ATTENTION: Your new wood heater has been painted with high temperature (1200°) stove paint. During the first few firings the heater may give off slight smoke, odors and/or vapors while the paint and oils used in manufacturing cure. These odors may be irritating to susceptible individuals. Open the windows in the room where the heater is installed while the paint cures.

ATTENTION: Any tags or stickers must be removed and optional plated loading doors and/or trim must be cleaned with ammonia free glass cleaner and a soft rag BEFORE lighting the wood heater for the first time. Failure to clean the glass or plated finish properly to remove any fingerprints or oils may permanently mar the finish. Never attempt to clean the door finish or door glass when hot.

Operation Guidelines

CAUTION: Before lighting your wood heater please read and/or re-read the safety information on pages 2, 4, 13, and elsewhere throughout this manual. Ensure that the wood heater has been installed according to the instructions given in this manual, to all applicable codes, and has been inspected as required. Always use safe burning and operating practices, and exercise extreme caution when fueling and maintaining the wood heater. Wear heat resistant gloves when operating the wood heater. Failure to follow these precautions may result in burns or a fire.

Lighting a Fire: Before loading the firebox with kindling it is best to test the draft conditions in the chimney.

- Open the Loading Door carefully.
- Pull the combustion Air Slide damper all the way out so that it is fully open.
- Crumple one or two pieces of newspaper into a ball, place them at the back of the firebox, ignite the paper, and close the loading door.
  - If the smoke from the paper is drawn up the chimney then proceed with building the fire.
  - If smoke has filled the firebox but does not seem to be venting, the chimney may be cold. Warming the chimney may take a few attempts. Open the loading door very slightly and see if extra air helps. ***NEVER*** leave the room with the loading door open. Continued operation with the door ajar can cause dangerous overheating of the heater and combustibles.
  - In the fall or spring of the year the outside temperature may not be cold enough to establish adequate draft. Wait for a cooler day and try again.

    NOTE: In a well insulated home draft may be affected negatively. In extreme cases draft may be reversed and cold air pulled down the chimney. Try opening a window near the wood heater to see if draft improves. Conversely try turning on a vent hood or dryer to see if combustion stalls in the fire box. Introducing outside air, or make-up air, to the appliance may be the solution. Consult your dealer.
- Once draft is established, begin to build the fire.
  - Build the fire directly on the firebrick floor. Never use fire-dogs, grates, or similar to elevate the fire.
  - Traditionally tightly twisted sheets of newsprint are placed at the back of the firebox with dry softwood kindling (½ to 1" diameter) on top, followed by finely split (1½" to 2") dry wood, and then small logs.
  - Using the "top-down" lighting technique instead is highly recommended. Simply invert the pile of kindling. Place the layer of small logs across the firebox with the finely split dry wood arranged on top of the logs and dry kindling wood as the next layer. Alternate the direction of each layer of wood and leave air spaces between the pieces of wood. Use twisted newsprint or clean burning firestarters to ignite the kindling. This method has been found to produce less smoke and emissions during startup.
  - Once the fire has fully ignited, open the loading door slowly and add larger pieces of dry firewood.
  - Control the fire using the combustion air damper.
- Burn dry, seasoned wood, preferably hardwood only. No other solid or liquid fuels may be used.

Kindling Stage: During the first stage of combustion keep the Air Damper fully, or nearly fully, open to help drive off moisture from the wood load. This stage may take up to an hour depending on the moisture in the wood.

Gas Vaporization & Ignition Stage: During the second stage of combustion the secondary air tubes at the top of the firebox will light off with a clean fame. Keep the air damper open enough to support the secondary burn. The actual opening will depend on the draft of the individual chimney but a medium to medium-high setting is usually optimal.

Charcoal Burning: During the final stage of combustion the Air Damper opening can be reduced to extend the burn time. Medium low to medium is optimal. This non-catalytic wood heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting.

Continuous Burning: To maintain a continuous fire fuel must be added while the charcoal bed it hot enough to kindle the fresh wood. Wear heat resistant gloves when operating and loading the wood heater. Fully open the Air Damper and then open the Loading Door ½" to 1" to allow room air balance with the air in the firebox. Open the Loading Door slowly to the fully open position to avoid pulling smoke into the room. Have fresh cord wood logs ready at hand before opening the Loading Door to minimize the length of time that the door must remain open. Cord wood should be cut to the appropriate length or shorter. You should never have to force logs into the firebox. Avoid contacting the firebrick or air tubes when loading fuel. Close the Loading Door gently, do not slam it shut. Keep logs from impacting the Door Glass and never use the door or Door Glass to push fuel into the firebox. Do not operate the wood heater with the door open. If it is necessary to keep the Loading Door slightly ajar to freshen the fire, never leave the room while the door is unlatched. Once loading is complete, reset the Air Damper.

Smoke Opacity: Modern wood heaters can burn wood very cleanly and efficiently but, ultimately, it depends on the operator to manually adjust the combustion air. The correct combustion air setting is dependent on the draft of the chimney, the fuel being burned, and the stage of combustion. The amount and density of smoke coming from the chimney is a direct indicator of how the wood heater is burning. Ideally you will observe little or no smoke (0% opacity) if the fire is burning cleanly. Dense smoke indicates poor combustion. Develop a habit of checking the smoke opacity regularly, and at various stages of combustion. With experience a quick glance can confirm proper operation or signal that something needs correction. Be aware that in cold weather what looks like smoke could be moisture vapor condensing in cold air.

Over-firing: Never operate the wood heater in an extreme manner. If any part of the wood heater, the chimney, or the chimney connector glows, you are over-firing. A chimney with a very good draft may draw in too much combustion air, even with the Air Damper in a fully closed position. If the fire seems uncontrollable, consult your dealer. A hand damper installed in the connector pipe will allow for manual control under high draft conditions..

Smoke in the Home: Always operate the wood heater according to the guidelines on page 12, especially in regard to opening the Air Damper before opening the Loading Door and opening the door gradually. A modern wood heater, properly installed and connected to a good chimney which provides adequate draft, should not leak smoke into the home. Air will be drawn into the wood heater, and into any small gaps in the connector pipe, by the negative pressure created within the wood heater and chimney by "draft." If smoke is leaking into the home from the wood heater or the connector pipe there is inadequate draft or the chimney is blocked in some way. A smoke alarm or CO detector sounding will signal smoke leakage, and they should be installed throughout your home. But even before a smoke detector is activated, a whiff of smoke should alert you to the fact that there is a venting problem. By-products of wood heater combustion do contain carbon dioxide, carbon monoxide, water vapor, tars, etc., but the distinctive aroma of wood smoke also accompanies them.

Negative pressure in the home can also contribute to smoke leakage. Today's homes are constructed to be much tighter and better insulated than older homes. Older homes tended to "breathe" as fresh air was drawn in through myriad cracks to replace the air that rose up the chimney. Today well designed homes are equipped with "replacement air" systems to bring fresh air into the home. Without replacement air, tight homes can inhibit chimney draft and may cause the flow of the chimney to reverse when a vented appliance, such as a kitchen hood, is turned on. Tight homes and house pressures are complicated subjects, but they can be analyzed and corrected. If there is smoke leakage, or the fire in the wood heater slows or "stalls" under these conditions, consult your dealer. Outside air can be brought directly to the wood heater to help relieve negative house pressure conditions.

Creosote Formation & Removal: When wood is burned slowly, it produces tar and other organic vapors which combine with moisture to form creosote. Modern wood heaters, properly sized and operated, should not produce smoke or creosote to the degree that older stoves did, but the same elements are present. At one time it was popular to install a very large wood stove, load it full of wood, and reduce the combustion air; perfect conditions for producing creosote. Tars and vapors, combined with moisture, condense in the chimney at temperatures below @ 250°F. The resulting creosote can accumulate and cling tightly to the flue liner and, if ignited, can create a very hot and frightening chimney fire.

Creosote producing tars and vapors are burned at temperatures over 1100°F inside a modern wood heater evidenced by the flames at the top of the firebox during the second stage of combustion. Ensure that there is always enough combustion air to support secondary combustion. Even still, a relatively cool chimney, especially an exterior masonry chimney, can cool the exhaust gasses before they exit the flue and some creosote will be produced. The chimney connector and chimney should be inspected at least once every two months during the heating season to determine if creosote build-up has occurred. Contact your High Valley dealer or local chimney sweep if you are uncertain how to inspect the system for any build-up.

In Case of a Chimney Fire: If your wood heater is operated properly to maintain clean, efficient combustion, connected to a good chimney, burning good, dry wood, and inspected as needed, a chimney fire should be an unlikely occurrence. A chimney fire can create a loud rushing sound and, perhaps, banging noises within the chimney. Should a chimney fire occur despite your best efforts, alert everyone in the home and leave the building immediately. Contact the fire department. If it appears safe to enter the home, close the Air Damper and manual damper (if so equipped) wearing a heat resistant glove, to cut off air to the fire. Do not throw water on the wood heater. Thermal shock could break the door glass or otherwise damage the wood heater. Have the chimney inspected and cleaned or repaired as necessary before resuming operation of the wood heater. Always have the chimney cleaned at the end of the burning season or before the following fall.

Ash Disposal: Remove ashes once they get @ 2" to 3" deep, or deep enough to impede the primary air inlet beneath the Loading Door opening. Remove ashes when the fire is relatively cool at the end of the charcoal stage of combustion. Use a steel rake to gather unburned charcoal or embers to one side and leave them in the firebox to be consumed as fuel. Remove spent ash only, leaving @ ½" to 1" of ash remaining in the firebox to insulate the ember bed. Use a steel shovel to carefully remove the spent ashes into a steel container with a tight-fitting lid and move the container outdoors immediately. Take care to avoid shoveling up burning embers with the spent ash. Embers can stay hot in the bed of ashes for days insulated in the ash. The closed container of ashes should be placed on a non-combustible surface or on bare ground, well away from any building and all combustible materials, pending final disposal. If the ashes are to be disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all embers have thoroughly cooled. No other waste of any kind shall be placed in this container.

Some ashes may spill while removing them from the firebox. Ashes can be vacuumed up once they are proved to be completely cool, but be advised that fine ash can pass through the vacuum and into the home. Special vacuums, designed for ash clean-up and removal and equipped with heat resistant filters, are available through your dealer.

Ceramic Glass: Your wood heater is equipped with a clear window to permit a view of the fire. The material is generically referred to as "stove glass", but it is not glass in the conventional sense. The ceramic material is made to withstand the very high temperatures that a modern wood heater can attain and has excellent heat resistance and strength characteristics. However the ceramic can be damaged through improper use. Inspect the ceramic regularly for signs of damage. Never operate the wood heater with cracked, damaged, or broken ceramic glass.

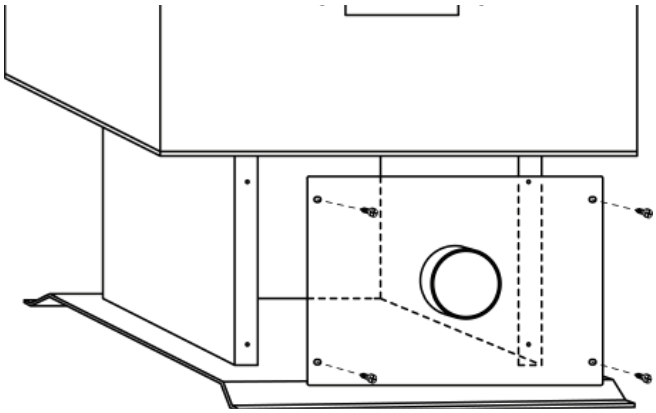
Allow the ceramic to cool completely before cleaning. Never use abrasive cleaners which may cause scratches which can develop into cracks. Use a mild window cleaner or special stove glass cleaners available from your dealer. Heavy deposits may be removable with a damp cloth or damp newsprint dipped in wood ash.

Outside Air & Maintenance

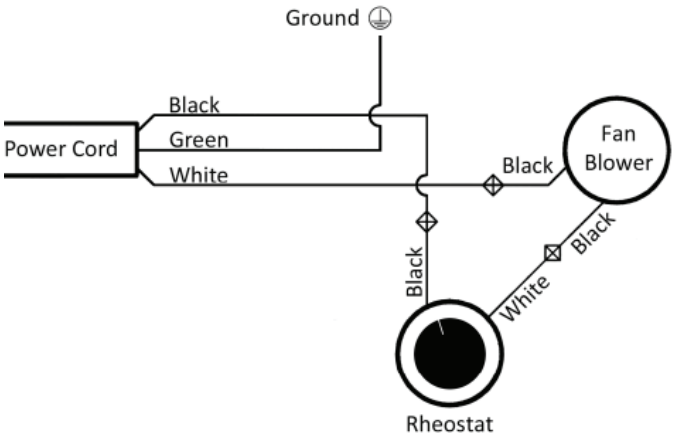
Outside Air Kit: Outside combustion air is required in mobile home installations and may be necessary in tight homes to improve stove performance. An outside air kit P/N AIRKIT) is available through your High Valley dealer.

The O/A kit mounts to the back of the pedestal, with the four (4) #8 x ½" self-tapping screws provided, into pre-punched holes. A 4" (102 mm) collar is provided for attachment of 4" diameter metal duct (supplied by others). Kits are available which include aluminum flexible duct, rain hood, and rodent screen as required by HUD regulations. Consult your dealer. The duct termination should be lower than the duct collar on the wood heater pedestal and in no case should the termination be higher than the wood heater itself. The maximum length of the 4 inch (102 mm) air intake duct should be no more than 12' (3.66 m)

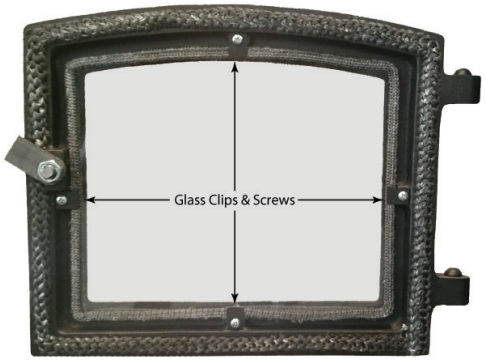
Combustion air may be drawn from outside of the home or from a ventilated crawl space. Combustion air must not be drawn from an enclosed space such as a garage, or an unventilated crawl space. If the combustion air duct is to pass through the floor of the home, do not make a hole in any floor protection within the minimum floor protector dimensions (8" [20.3 cm] to the sides and back of the wood heater.). (See page 8) Seal wall or floor penetrations with waterproof flexible sealer (not provided).



Blower Wiring: The Model 1300 comes with a standard convection blower pre-installed. If it is necessary to remove the blower for service or replacement, follow the wiring diagram below when reconnecting wiring. A replacement blower (P/N BLO1300) or a kit complete with a new rheostat (BLO1300KIT) are available.



NOTE: Use only OEM replacement parts or approved supplies. Do not substitute materials when purchasing parts or other materials. Contact your High Valley dealer for assistance.



Replacing Ceramic Glass: Never operate the wood heater with damaged or broken ceramic glass. Never substitute window glass or tempered glass as a fire may result. Replacement 5mm high temperature ceramic, complete with gasket, is available from your dealer. (P/N GLS1300)

- Remove the loading door from the wood heater and lay it flat on a well padded work surface.
- Remove the retaining screws from the door and, wearing gloves, remove any remaining pieces of ceramic.
- Remove a short section of paper backing covering the gasket adhesive from the gasket. Center gasket material on the edge of the replacement ceramic and firmly press the gasket onto the edge. Continue around all four sides of the ceramic. Trim off any excess gasket.
- Center the ceramic in opening, position brackets in place, insert screws, and tighten evenly.

  CAUTION: Screws should be snug but not overly tight.

Door Gasketing: The Loading Door is equipped with ⅝" fiberglass rope gasket. Check the condition of the gasket on a regular basis for signs of wear. Over time the gasket will compress and the door may not seal tightly. Replace as necessary. A gasket kit (P/N GSKDOR) is available from your dealer and includes silicone adhesive. Remove all old silicone before installing a new gasket.

Stove Paint: Your High Valley wood heater has been painted with high temperature stove paint at the factory. Over time the paint may lighten in color with heat exposure or need touch-up. Stove Bright brand Satin Black # 1900 spray paint (available from your dealer) is compatible with the OEM paint. It is most often impractical to take the wood heater outside for painting. Open all windows for ventilation and protect all exposed surfaces and furnishings with drop cloths and/or plastic sheeting. Mask any areas not requiring paint. Apply light coats and follow all instructions and precautions on the can. Allow the paint to dry thoroughly before lighting a fire. The fresh paint produces an acrid odor as it cures. Open windows as necessary.

Appendix a ~ Basics of Wood Combustion

Before striking a match to light that first fire please read the following information outlining the basics needed for clean wood combustion. Space is limited here, but much has been written on the subject and is available elsewhere.

The Combustion Triangle: Air, Fuel, and Ignition are required to establish and support combustion whether wood, coal, wood pellets, gas, oil, etc. is the fuel being burned. The correct proportion of air and fuel will vary, but the three basic ingredients essentially the same.

Ignition: Ignition in a wood heater is straightforward. Typically it involves a match, paper, and kindling wood. Enough heat must be generated and sustained to get the cord wood burning (@ 350°C to 500°C**). For comparison matches are estimated to burn at 600°C to 800°C; a standard butane lighter is somewhat hotter at @ 800°C to 1100°C, paper will ignite at @225°C to 250°C and dry soft wood kindling at @350°C. You light the paper with a match to ignite the kindling and, finally, the cord wood.

NOTE: There are any number of "firestarters" on the market. They light easily with a match and eliminate the need for newspaper. We recommend the clean burning "food safe" firestarters. **NEVER use any type of flammable liquid to start or "freshen" the fire.**

Fuel: The Model 1300 is designed and approved for use with solid natural wood. Use of any other fuel may create excessive emissions and will void the warranty.

The cord wood that you will burn depends to a large degree on what species of trees are abundant where you live. Transporting hardwood from its source to an area where hardwood is scarce would be cost prohibitive. If you live where only softwood species are available, then that is what you will likely use for fuel. In fact all cord wood, regardless of species, has approximately the same potential BTU's* in each pound of wood. A pound of softwood has the same potential @ 8600 BTU's (kiln dry) per pound as a pound of hardwood. "Hardwood" is denser than "softwood", varies in specific gravity, and is therefore heavier by volume; and, of course, wood is sold by volume, not by the pound A cord of hardwood will take up the same space as a cord of softwood but it will be heavier and contain more potential BTU's.

NOTE: The common unit for the sale or purchase of firewood is the cord. One cord equals 128 cubic feet (4' high x 4' wide x 8' long). Because cord wood is irregularly shaped it would be impossible to achieve a solid 128 cu. ft. block of wood. Wood is supposed to be "well stacked" in a proper cord but that is a subjective measure. 85% wood and 15% air space is commonly accepted as the proper ratio but some sources cite 70% wood and 30% air space. That represents significant difference of @ 109 cu. ft. to @ 90 cu. ft. of usable wood.

Along with density, the other major variable in wood fuel is moisture content. Unseasoned or "Green" wood will contain 50% water or more. Good "air-dried" cord wood is about 20% moisture. At 20% moisture the available BTU's will be @ 6200 to 7000 per pound not 8600. At 50% moisture "green" wood will have only @ 4000 BTU's per pound or less. It follows that cord wood needs to be well seasoned. It may take 9 months for soft woods and up to 24 months for hard woods to air dry thoroughly.

Conclusion: Clean, efficient combustion in your wood heater depends on good quality, well seasoned fuel. Buying "seasoned" wood during the burning season is most often very disappointing. The best advice is to get "green" wood in spring and air dry it yourself. If you don't cut your own wood, find a reputable, reliable wood seller. Softwood species may be dry enough for use by the fall of the year while hardwoods may not be well seasoned until the following fall. Stack the wood off the ground in a well ventilated area, preferably under cover or, at the least, with a tarp over the top of the stack. More information on wood and wood species see Appendix - B on Page 18.

Air: The other leg of the combustion triangle is air. The air needed to support combustion is drawn into the firebox by the draft of your chimney. (See Page 6) Final air delivery and metering required much research and engineering to ensure clean combustion but, the good news is, you regulate the combustion air with one damper. As long as your chimney drafts well, air control is simplified. It is against federal regulations to alter the air control settings or controls in any way.

Stages of Combustion: Put the three elements of the Combustion Triangle together in your wood heater and you will have started a fire. The chemical and physical processes taking place in that fire are complex, and scientific papers on the subject are lengthy and detailed. Three major stages are worth noting and will help the operator understand how to achieve the cleanest burning fire.

STAGE ONE: Kindling & Moisture Evaporation: Kindling the fire has been covered above under Ignition. Provide enough heat to the wood for a long enough time and it will begin to burn. Before the fire can reach full heating potential moisture in the wood must be evaporated. This is why dry fuel is so important. More than 1000 BTU of potential heat will be needed to drive off each pond of water. Until the water present in the wood is boiled off the fire will be relatively cool, heat from the coal bed will be used up, and flue gas temperatures will be reduced. Burning green wood wastes a lot of energy.

STAGE TWO: Gas Vaporization & Ignition: Once moisture is driven off, the temperature of the fire builds and various hydrocarbons and other elements begin to vaporize. At temperatures between 540°F and 1225°F these gasses will ignite if oxygen is introduced. The stainless steel tubes at the top of the firebox meter in air automatically to ignite those gasses. Temperatures approaching 2000°F are possible, providing more heat to the home. A blueish flame at the top of the firebox indicates the burning of flammable gasses. If the flames disappear prematurely increase the air damper setting.

STAGE THREE: Charcoal Burning: After flammable gasses have been burned off, only charcoal remains. Charcoal burns cleanly at @ 1100°F in the presence of oxygen. Adjust the air damper as needed to extend the fire. If a continuous fire is desired, add fresh fuel while the charcoal bed is still hot enough to kindle the new wood.

*A British Thermal Unit (BTU) is a measure of the amount of energy (heat) required to raise one pound of water by 1°F at sea level.

**The temperatures are given in Celsius and the temperature ranges are approximate as the values vary from source to source.

APPENDICES B & C

Appendix B ~ Heating Values of Wood: Natural cord wood does not come with a specification sheet like the building materials described in Appendix C. Manufactured products can be made to strict, repeatable tolerances. Natural wood, on the other hand, varies considerably depending on where it grows, the climate, the mineral composition of the soil, and more. Even still, considerable research and scientific data is available on different varieties of wood. Added to the variations in the wood itself is the fact that fire wood is sold by volume; most typically by the cord. As discussed in Appendix A, a cord measures 4' wide X 4' high X 8' long or 128 cubic feet. Beyond those facts it begins to get murky.

The amount of burnable wood that will be available in a given cord can vary greatly on how it is cut, whether it is split, the sizes of the whole or split logs, and the skill (or perhaps the integrity) of the person stacking the wood. An apocryphal story attributed to a Vermont wood burner avers that well stacked wood will have spaces large enough for a mouse to crawl through but not large enough for the cat chasing him. Well stacked wood should be @ 85% wood and 15% air space. The air spaces are necessary to ensure proper drying. (FYI there is a lively debate amongst experienced wood burners whether the bark side of the split wood should be up or down.) Bark up or down the wood must be well seasoned (@ 20% moisture) to be considered good firewood. Burning green wood is inefficient and disappointing; cutting the BTU values given below approximately in half.

Below is an abbreviated chart that gives some approximate weight and BTU values for various species of wood. More comprehensive lists are available on line, but a word or two of caution. The statistics can vary widely depending on the source or, more likely, on the point they are trying to make. The numbers can be easily manipulated by changing assumptions. If a cord of wood is assumed to have 30% air space then the estimated available BTU's will be considerably less. Likewise, assuming that a pound of wood at 20% moisture contains say 8000 available BTU will net an appealing, inaccurate number. In researching data we found the variations considerable.

Use the numbers below as a point of comparison between species available to you, not as a score card. The best advice is to find an honest wood vendor and rely on them to deliver a full cord of the best wood available. Buy your wood well ahead of the burning season, dry it and keep it dry, and enjoy clean efficient wood heat.

Wood Species	Lbs. per Cord	BTU per Cord
American Elm	@ 3000 lbs.	@ 20,000,000
Apple	@ 3800 lbs.	@ 27,000,000
Cherry	@ 2925 lbs.	@ 20,500,000
Hemlock	@ 2700 lbs.	@ 18,000,000
Hickory	@ 4200 lbs.	@ 27,000,000
Red Oak	@ 3500 lbs.	@ 24,500,000
Shagbark Hickory	@ 4325 lbs.	@ 27,500,000
Sugar Maple	@ 3750 lbs.	@ 24,000,000
Tamarack	@ 3250 lbs.	@ 21,000,000
White Ash	@ 3500 lbs.	@ 24,000,000
White Birch	@ 3200 lbs.	@ 20,000,000
White Cedar	@ 1915 lbs.	@ 12,500,000
White Oak	@ 4200 lbs.	@ 29,000,000
White Pine	@ 2250 lbs.	@ 15,000,000
Willow	@ 2100 lbs.	@ 14,500,000

All values are approximate and for comparison only.

Appendix C ~ Floor & Wall Protection: UL Standard 1618; the Standard for Wall Protectors, Floor Protectors, and Hearth Extensions, was adopted as a standard in 2011. UL-1618 categorizes floor and wall protectors as Type 1 or Type 2 protection. A seemingly minor change in UL 1618 calls for the actual thermal properties of floor protection to be specified in R-value in place of k-value. In fact, that change makes it one step simpler to calculate thermal protection if it becomes necessary.

- Type 1: Ember Protection = No thermal value
- Type 2: Thermal Protection = R-value specified

Type 1 Ember Protection is deemed to be a continuous non-combustible material extending under the appliance and to the front , sides, and back in the size specified. Any thermal value a Type 1 protector may have is disregarded under UL-1618. Type 2 Thermal Protection provides thermal resistance in addition to ember protection. Thermal value is determined by laboratory test. UL-1618 calls for thermal requirements to be expressed as R-values rather than as k-values which were used in the past.

If a hearth or floor protection is to be built on-site, or there is an existing hearth already in place, then the thermal resistance must be calculated. This is where having thermal requirements expressed as an R-value vs. k-value simplifies calculations. R-values can be added together.

- R-value is a unit of measure of Thermal Resistance. It is best known as the common measure of insulation. As with insulation, the higher the number, the better.
- k-value is a unit of measure of Thermal Conductivity. k-value is the opposite (inverse) of R-value in that the smaller the k-value the greater the resistance.

R-values for different materials can be added together to determine the total R-value of composite layers of materials and k-values cannot. Converting k-value to R-value is relative simple but it tends to add some confusion. (It should be noted that there are other units of measure, such as C-value, Thermal Conductance, but they are not as commonly used in hearth applications.) So, again, if only the k-value is given, then it must be converted to R-value. (Keep in mind that the k-value is given per inch of material.) To convert k-value to R-value divide 1 by the k-value of the material and *divide by the thickness of the material.* C-values can also be converted to R-values (1 ÷ C-value) and R-values can also be converted to k-value (inches ÷ R) but by staying with R-values materials can be added together.

Floor protection requirements were once commonly expressed as "3/8" of asbestos millboard k = 0.84" or similar. The conversion is: 1 ÷ 0.84 = 1.19 X 0.375" = 0.45 R-value.

Today, with the R-value given, consider this example:
A wood heater requires R = 1.19. If 4" common brick is the material of choice; their R-value is 0.80 (0.20 X 4"). Add 1/2" of Durock (R = 0.26) and the protection is still not adequate (R = 1.06). Add one more layer of 1/2" Durock and the floor protection is now acceptable (R = 1.32). (Brick, tile, etc. must be mortared in place, not loose laid.)

Material	R-value	k-value
Common Brick	R = 0.20 per inch	k = 5.00 per inch
Durock	R = 0.52 per inch	k = 1.92 per inch
Hardibacker	R = 0.51 per inch	k = 1.95 per inch
Micore 160	R = 2.86 per inch	k = 0.86 per inch
Marble	R = @0.09 per "	k = @11 per inch

More complete lists of material specifications and more detailed explanations of calculations can be found online.

WARRANTY COVERAGE

High Valley Stoves by Stoll warrants its High Valley brand woodstoves to be free from defects in material or workmanship, under normal use and conditions of service, to the original purchaser, for a period of seven (7) years from the date of purchase subject to the following limitations: Electrical Components (blowers, switches, etc.) are warranted against mechanical and electrical failures, under normal use and conditions of service, to the original purchaser for a period of one (1) year. High temperature ceramic glass is warranted to be free from defects in material, under normal use and conditions of service, to the original purchaser for a period of one (1) year. Damage to glass caused by impact is considered abuse and is not covered under this warranty. Catalytic Combustors are warranted by the manufacturer for a period of five (5) years. The warranty is administered by the manufacturer of catalytic combustors directly. The original purchaser should register the purchase of any High Valley stove equipped with a catalytic combustor with the manufacturer within 30 days of purchase using the warranty registration provided by the manufacturer of the catalytic combustor. Terms and exclusions of warranty on catalytic combustors are established by the manufacturer of the catalytic combustor and not by High Valley Stoves by Stoll. The following items are not covered under warranty: Gaskets, Paint, Damper, Damper Handles and Rod, Fireclay Bricks or castable lining, and all parts not permanently attached to the heating unit. Parts not permanently attached to the heating unit are defined as any part removable with common hand tools. If, after installation, assemblies and/or components covered under this warranty are found to be defective in materials or workmanship during the warranty period, High Valley Stoves by Stoll will, at its option, repair or replace the covered components, subject to the limitations set forth in this warranty.

High Valley Stoves Limited Warranty Conditions: This warranty is nontransferable and is extended exclusively for the benefit of the original purchaser, provided that the appliance purchase was made through an authorized High Valley Stove dealer. The Stove should be used within 30 days of purchase by having a fire started, the blower operated, and heat generated in the owner's home to confirm proper operation of all components. The product must be installed, operated, and maintained in compliance with the instructions set forth in the Owner's Manual supplied with the product at all times. Installation, setup, and start-up procedures are considered to be normal required activities not associated with warranty service. Issues such as adjustments or venting should be included in setup of the product. Such procedures are not covered by warranty. Any installation, construction, transportation, or other related costs or expenses arising from defective part(s), repair, replacement etc., will not be covered by this warranty, nor will High Valley Stoves by Stoll assume responsibility for them. Further, High Valley Stoves by Stoll will not be responsible for any incidental, indirect, or consequential damages. This warranty constitutes the entire warranty with respect to High Valley Stoves by Stoll and/or its products. High Valley Stoves by Stoll makes no other warranty, expressed or implied, including any warranty of merchantability, or warranty of fitness for a particular purpose

Exclusions and Limitations: This warranty does not cover the following: Damage caused by transportation and/or handling of the product; damage due to incorrect installation not in accordance with the Installation Instructions included with the product and any applicable national, state, and local building and fire codes, etc.; [High Valley appliances must be installed by a qualified (preferably NFI certified) installer. It is the installer's responsibility to ensure that the product is installed and operating correctly at the time of installation. Chimney components and/or other non-High Valley accessories used in conjunction with the installation of this product are not covered under this warranty.] Damage caused by improper use, which is not in accordance with the Instructions for Use and Maintenance included with the product (over firing, use of corrosive fuel, etc.); Damage caused by unauthorized modification, use, or repair; Damage caused by the use of non-High Valley spare parts or accessories; Damage caused by lack of regular maintenance and cleaning by the owner as outlined in the Operating Instructions, or due to negligence or carelessness; Damage caused by misuse, accident, neglect, or willful abuse of the product; damage caused by the use of any type of coal in any High Valley stove. (The use of seasoned wood is required.); Damage due to accidental or uncontrollable environmental causes such as: intense cold, fire, lightning, voltage overload or drop, inadequate venting or ventilation, negative air pressures cause by mechanical systems such as furnaces, fans, clothes dryers, etc., and damage due to wiring or mechanical systems not in accordance with applicable national, state, and local codes; Damage caused by rust or corrosion due to condensation, dampness, humidity, or incorrect installation; Calls for warranty service that are determined to be occasioned by lack of maintenance or factors not related to the High Valley appliance; Normal wear and tear such as paint discoloration, abrasion, worn gaskets, etc.; Repair or replacement of wear-parts which are subject to normal wear and tear during the warranty period, or parts that may require replacement in connection with normal maintenance; The installation of consumer replaceable items and installation of upgraded components; Noise resulting from the movement of motorized parts or minor expansion and contraction which is considered normal, not a defect.

This Warranty is Void if: The appliance has been over-fired. Over-firing can be identified by, but not limited to, warped firebox components, discolored cast iron, discolored, bubbled, or cracked painted finishes; The appliance has been used to burn coal of any type; the appliance is subjected to prolonged periods of dampness or condensation; There is any damage to the appliance or other components due to water or weather damage which is the result of, but not limited to, improper chimney or venting installation.

Limitations of Liability: The exclusive remedy of the owner, and High Valley Stoves by Stoll sole obligation under this warranty, under any other warranty, express or implied, or in contract, tort or otherwise, shall be limited to repair or replacement as specified above. High Valley Stoves by Stoll assumes no liability for incidental damages or damages of any kind which may arise from the use of its products. In no event will High Valley Stoves by Stoll be held liable for any incidental, indirect, or consequential damages caused by defects in its products. The maximum amount recoverable under this warranty is limited to the purchase price of the product. This Warranty provides specific legal rights and the consumer may have other rights that vary from state to state. Some states do not allow exclusions or limitation of incidental or consequential damages, so these limitations may not apply to you. Except to the extent provided by law, High Valley Stoves by Stoll makes no express warranties on its High Valley Stoves other than the warranty specified herein. The duration of any implied warranty is limited to duration of the expressed warranty specified above.

If Warranty Service is Required: If, during the warranty period, a High Valley product is proved to be defective in material or workmanship, High Valley Stoves by Stoll will, at its own option, repair or replace the product as described below. Any claim for warranty service should be made to the dealer from whom this High Valley Stove was purchased. Confer with your dealer in advance to determine any additional costs associated with a warranty service call. Service charges and/or mileage are not covered under warranty. These charges vary from retailer to retailer. Your authorized High Valley Stove dealer will procure replacement parts and/or contact High Valley Stoves by Stoll to arrange for replacement should the appliance exhibit defects in material and workmanship which are beyond field repair. Extraordinary repairs which are deemed to require replacement must be approved by High Valley Stoves by Stoll prior to said repair or replacement. Any removal fees, transportation costs, reinstallation fees, construction costs, or any other related costs or expenses arising from replacement will not be covered by this warranty, nor will High Valley Stoves by Stoll assume responsibility for them.

OWNER' RECORD

High Valley Model: **1300**

Serial Number: _____

High Valley Dealer: _____

Date of Purchase: _____

Installed by: _____

Installation Date: _____

Inspected by: _____

Date of Inspection: _____

NOTES:

Obadiah's Woodstoves
1660 Whalebone Dr. | Kalispell, MT 59901
www.woodstoves.net

Obadiah's WOODSTOVES

1-800-968-8604

Serving you online since 1999