



hase  **LIMA**

(Model 8150)

Wood Stove OWNER'S MANUAL

INSTALLATION AND OPERATING INSTRUCTIONS



We recommend that our products be installed and serviced by professionals who are certified in the U.S. by NFI (National Fireplace Institute).

www.nficertified.org



**SAVE THIS OWNER'S MANUAL
FOR FUTURE REFERENCE**

**PLEASE READ THIS ENTIRE OWNER'S
MANUAL BEFORE YOU INSTALL AND USE
YOUR NEW LIMA WOOD STOVE.**

To reduce the risk of fire, follow the installation instructions. Failure to follow these instructions can result in property damage, bodily injury, or even death.

CONTACT LOCAL AUTHORITIES WITH JURISDICTION (BUILDING DEPARTMENT or FIRE OFFICIALS), ABOUT PERMITS REQUIRED, RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA.

Notes on Stove Operation and Efficiency

Rating:

You have purchased a Hearthstone Lima 8150 tested to EPA Method 28, 28A and 5H, 40 CFR Part 60 where applicable. This stove is certified to comply with the U.S. Environmental Protection Agency 2015 particulate emissions standard and is not approved for sale after May 15, 2020. It is certified at 3.57 gr/hr emission rate and under specific test conditions has been shown to deliver heat at rates ranging from 11,805 to 31,653 Btu (output).

This wood heater has a manufacturer-set minimum allowable 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 operating instructions in this manual.

Please refer to the Warranty section of this manual for registration instructions. In case of warranty claims, please contact the point of original sale or the nearest authorized Hearthstone dealer. All warranty claims are processed by our dealer network. Authorized Hearthstone dealers can be located at www.hearthstonestoves.com.

This 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, material containing rubber (including tires), materials containing plastic, waste petroleum products paints or paint thinners, asphalt products, materials containing asbestos, construction or demolition debris, railroad ties, pressure treated wood, manure or animal remains, salt water driftwood or other previously salt water saturated materials, unseasoned wood, paper products, cardboard, plywood or particleboard.* This 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 a release toxic fumes or render the heater ineffective and cause smoke.

Following the maintenance guidelines set forth in this manual will help insure the efficient use of your wood heater and minimize visible emissions. Having your stove inspected by a trained professional on a regular basis will greatly increase the potential for recognizing potential impacts to efficiency.

Proper draft is important to the efficient operation of your heater. Refer to the Normal Operation section of this manual for information regarding adequate draft. Both excessive and sub-minimum draft can affect the efficiency of your wood heater. Excessive draft can lead to over-consumption of fuel, lower overall heating capacity of the stove and potential over firing. Low draft can result in inefficient burns, low heat output, expulsion of smoke into the living area when stove doors are opened and an increased potential for build-up of flammable materials in the flue.

Efficiency:

Efficiency was captured using EPA Method 28-5H and weighted using CSA B415-10 methodology. A weighted average was used to calculate the overall efficiency across all of the 4 burn rate categories using the higher heating value (HHV).

To maximize the efficiency of your wood stove make sure it is sized properly for the space you plan to heat. An oversized stove will often be forced to burn at a lower and dirtier burn rate. Consult with your dealer for sizing and correctly placing the stove in your home. An incorrectly placed stove can greatly reduce efficiency. Maximizing the efficiency of your stove will heat your house quickly, burn cleaner and use less wood.

Refer to the Choosing Firewood section of this manual for appropriate fuel selection. Seasoned firewood is typically at or near 20% moisture content. This can be measured with any number of hand-held moisture meters available through your local hearth shop. Follow instructions included in the meter you purchase to measure fuel wood moisture content. Burn only dry, seasoned wood as using wet wood will greatly reduce your efficiency.

CO Emissions:

The Lima 8150 has the following CO emission rates by burn level: Category 1 - 0.55%, Category 2 - 0.48%, Category 3 - 0.58% and Category 4 - 0.28%. In general, the higher burn rate that can be safely maintained without over-firing the stove the cleaner the stove will operate. Wet wood or unapproved fuel described above can greatly affect the emissions of a wood burning stove.

Smoke/Fire/CO Detectors:

It is highly recommended that smoke and CO detectors be installed throughout the heated space when a wood burning heater is installed. Be certain to install these devices not only in the area where the wood appliance is located, but also in bedrooms, hallways leading to other areas of the house and all common areas of the heated space. Check the batteries in these devices and assure operation by performing whatever test operations are recommended by the manufacturer.

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Introducing Your Lima Wood Stove

Thank you for purchasing a HASE Collection Lima woodstove from Hearthstone Quality Home Heating Products. This stove will provide years of comfortable heat. This stove also provides the benefits of advanced technology in wood burning without the cost and maintenance requirements of a catalytic device. The Lima blends modern technology with the unique beauty and qualities of steel and soapstone. We trust that you will appreciate the quality of this handcrafted product.

Your Lima woodstove is designed to burn efficiently, and produce a large amount of heat. However, you should not consider your Lima the primary heat source for your home. The Lima's unique ability to rotate 180 degrees and the very large curved glass window allow you to enjoy the fire from a variety of locations in the room.

Please read this manual in its entirety. Its purpose is to familiarize you with your stove's safe installation, proper break-in, operation and maintenance. It contains extremely important information so keep it handy and refer to it often.

A qualified heating technician may need this owner's manual as a reference when installing this stove in your home. There are national, state, and local building codes that direct the technician on how to install your stove. These codes stipulate the dimension of stovepipe and clearances to walls, ceilings, hearth, and other combustible surfaces. The codes exist to reduce the risk of fire. Failure to follow these instructions can result in fire, property damage, bodily injury, and even death.

Install the stove in a safe, open area, away from traffic flow, doors, and hallways. If possible, try to install the stove near an existing chimney and chimney connector. It is extremely important to install this stove with the proper clearance from combustible surfaces. You can purchase specific connector pipe and special wall coverings as specified by this manual and the NFPA 211 code to protect combustible surfaces. Keep furniture, drapes, curtains, wood, paper, and other combustibles at least 36 inches (92 cm) away from the stove. Never install the stove in a location where gasoline, kerosene, charcoal lighter fluid or other flammable liquids are used or stored.

Install the stove in your living area to allow heat to radiate naturally to distant rooms. Do not install your stove in a poorly insulated area. This is inefficient and would likely result in higher fuel usage and possibly unsafe burning conditions.

- **SAFETY NOTICE: AN IMPROPERLY INSTALLED STOVE CAN RESULT IN A HOUSE FIRE. FOR YOUR SAFETY, CAREFULLY FOLLOW THE INSTALLATION DIRECTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA.**

The safety of your stove will depend on many factors, some of which include: distance to combustible objects, correct venting, and adequate chimney maintenance. Should you have any questions, do not hesitate to contact your dealer for additional information.

Contact your dealer for any necessary warranty service.

This stove is warranted by:

Hearthstone Quality Home Heating Products, Inc®
317 Stafford Ave.
Morrisville, Vermont 05661
www.hearthstonestoves.com

CODES

When you install your Lima wood stove, it is imperative that you adhere to all Federal and local codes. Obtain these codes from either of the following sources:

American National Standards Institute, Inc. (ANSI)
1430 Broadway
New York, NY 10018

National Fire Protection Association, Inc. (NFPA)
Battery March Park
Quincy, MA 02269

If you are installing your Lima in a mobile or manufactured home, follow the guidelines described in the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 (United States).

SAFETY INFORMATION

Read and understand this Owner's Manual thoroughly before installing and using this stove.

Make sure to install your stove:

- According to the manufacturer's recommendations,
- In accordance with all applicable codes, and
- With the proper sized chimney.

When using your stove:

Warn children and others of the danger of touching hot, radiating surfaces of your woodstove. For your additional safety, you can purchase hearth and stove guards through your local dealer.

- Burn natural wood only. Higher efficiencies and lower emissions result when burning air-dried, seasoned wood, as compared to green or freshly cut wood.
- Use caution when loading firewood into a hot stove.
- Keep the front door closed and secured at all times except when loading wood.
- Keep the ash pan tray fully inserted and the handle tightly latched.
- Inspect the stovepipe, chimney connector and chimney, as recommended.

Follow these safety precautions:

- **Never** modify this stove in any way.

- **Never** burn kiln dried, painted or treated wood in this stove.
- **Never** burn garbage or trash, colored or glossy paper, solvents, plywood, artificial logs, cardboard, or driftwood, in this stove.
- **Never** burn coal in this stove.
- **Never** use gasoline, kerosene, charcoal lighter fluid, or other flammable fluids to start or invigorate the fire. These fuels will cause dangerous burning conditions in the stove. Keep all such materials away from the stove.
- **Never** use the stove if the ash pan is open, damaged, not present, or does not fully seal. The ash pan cover must be present under the pan to ensure the pan seals properly.
- **Never** use a wood grate or other device to elevate the fire.
- **Never** allow logs in the firebox to contact with the glass when the door is closed.
- **Never** slam the door or use the door to force wood in to the stove.
- **Never** over-fire your stove. (See page 21)
- **Never** put articles of clothing or candles on a hot stove.
- **Never** connect the stove to a flue used by another appliance.

Other safety guidelines:

- Keep all combustible items such as furniture, drapes, clothing, and other items, at least 36" (0.92 m) from the stove (See page 11)
- Install a smoke detector, preferably in an area away from your wood stove.
- Keep a fire extinguisher handy. We recommend the type rated "A B C."
- Dispose of ashes properly. (See page 21)
- Keep children and pets away from the stove when it is burning; they could be seriously injured by touching a hot stove.
- Clean your chimney system as needed. (See page 22)
- Outside combustion air may be required if:
 1. This solid-fuel-fired appliance does not draw steadily, smoke rollout occurs, fuel burns poorly, or back-drafts occur whether or not there is combustion present.

2. Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft whether or not there is combustion present.
3. Opening a window slightly on a calm (windless) day alleviates any of the above symptoms.
4. The house is equipped with a well-sealed vapor barrier and tight fitting windows and/or has any powered devices that exhaust house air.
5. There is excessive condensation on windows in the winter.
6. A ventilation system is installed in the house.

If these or other indications suggest that infiltration air is inadequate, additional combustion air should be provided from the outdoors. Outside combustion air can be provided to the appliance by using the optional outside air kit #91-53500 / #91-53502.

PERIODIC CHECKLIST

Perform each of these tasks at least at the specified intervals.

At the End of Every Week:

- Empty ashes from the firebox and ash pan, sooner if the firebox or the ash pan is full.

At the Beginning of Every Other Month:

- Depending upon your use of the stove, visually inspect the chimney connector and chimney for creosote. (Please see page 22)
- Check door seals using the "dollar bill test." - When the stove is cool, shut the door on a dollar bill. If the bill pulls out without any resistance, then your stove's door is not sealing properly. To tighten the seal, adjust the door latch mechanism or change the door gasket. (Refer to page 22.)

At the End of Every Season:

- Dismantle the chimney connector and clean it thoroughly. Replace any pieces that show signs of rust or deterioration.
- Inspect and, if necessary, clean your chimney.
- Thoroughly clean out the inside of the stove.
- Inspect all door gasket material and replace if worn, frayed, cracked or extremely hard.

- Inspect and replace cracked or damaged vermiculite panels.

EMERGENCY PROCEDURES

If you have a stovepipe or chimney fire, follow these instructions:

1. If the fire is too threatening, leave the area and call the fire department immediately! If not, perform the next three steps.
 2. Close the primary air control.
 3. Close the stovepipe damper (if present).
 4. Keep the stove front door and ash pan closed!
- **WARNING: DO NOT ATTEMPT TO PUT OUT A STOVEPIPE OR CHIMNEY FIRE BY THROWING WATER ONTO THE STOVE, STOVEPIPE, OR CHIMNEY. THE EXTREMELY HIGH TEMPERATURE OF SUCH FIRES CAN CAUSE INSTANTANEOUS STEAM AND SERIOUS BODILY HARM.**

Once the chimney fire expires, leave the primary air control closed and let the fire in the stove die out completely. Inspect the stove, stovepipe, and chimney thoroughly for any sign of damage before firing the stove again. You must correct any damage before using your stove again.

SPECIFICATIONS

Maximum Heat Output: 35,000 per hour of cordwood (based on independent laboratory test results).

Floor Size of Heated Area: Up to a maximum of 1,400 square feet. Factors unique to your home can reduce the square footage the stove will heat. Home insulation value, number and efficiency of windows, floor plan, stove placement, quality of the fuel and other conditions may limit the heating ability of the stove.

Firebox Capacity: 1.25 cubic feet or 46 pounds of wood (The amount and weight of wood contained per cubic foot of firebox volume can vary from 15 to 36 lbs. per cubic foot depending on type of wood, moisture content, packing density and other factors. As a constant for comparison and test purposes, we are assuming 20 lbs. of seasoned hardwood per cubic foot of firebox volume).

Maximum Log Length: 17" (43 cm), vertically

Stove Dimensions

Height: 47-3/4" (121 cm)
Diameter: 19" (48cm)

Stovepipe Size: 6" (152 mm) diameter

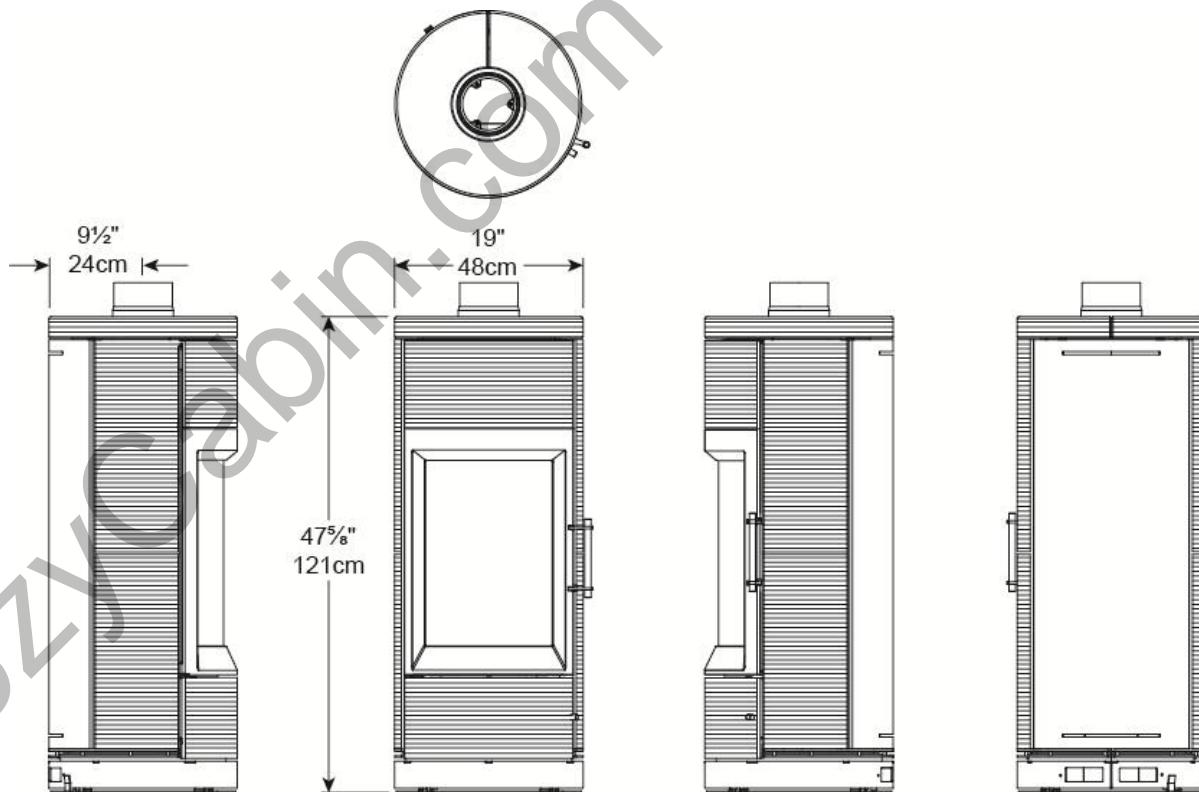
Metal Chimney: 6" (152 mm) inside diameter

Masonry Chimney: 6" (15.2cm) inside diameter
(round flue) 8" x 8" (20 x 20cm) (square flue)

Actual Weight: 392 pounds (178 kg)

Optional Equipment:

- 91-53500 Outside Air Kit (For Black models)
- 91-53502 Outside Air Kit (For Titanium models)
- 91-99500 Mobile Home Lockdown Kit
- 90-53308 4" duct adapter for mobile home outside air.



Installing Your Lima Wood Stove

UNPACKING

Hearthstone packages your Lima stove with the greatest care so that it ships safely. Under certain circumstances, however, damage may occur during transit and handling. When you receive the Lima, carefully unpack and inspect the stove and all accompanying parts. Make sure that all parts are included in the box. If any parts are damaged or missing, please contact your dealer immediately.

If you purchased a stove with ceramic panels, they have been shipped already in place. You will need to carefully remove all plastic wrapping and cardboard shipping materials before lighting the unit for the first time.

INSTALLING YOUR STOVE

Choose a place to install your Lima woodstove. Inspect this location to make sure that the stove and stovepipes will have the required clearance from combustible materials that are near the stove. Combustibles include walls, floor, ceiling, and chimney chase. You must carefully consider the clearances to all of these combustibles before actually connecting your stove.

If the floor is made of combustible material, then a non-combustible floor protector is required between the floor and the stove. *An example of a non-*

combustible floor protector is a hearth constructed with a continuous layer of a listed backer board (such as Micore, Wonder-Board or Durock) used for ember protection with a tile, brick, slate, or another non-combustible facing.

If you use a close clearance connector pipe, ensure it is listed with Underwriter's Laboratories. Check the listing of your pipe with UL for the correct clearances.

The diagrams in this manual represent typical installations, but are specific to the Simpson Dura-Vent DVL brand.

CLEARANCES TO NFPA CODE 211 PROTECTED SURFACES

You can reduce the clearances to combustible surfaces by using any National Fire Protection Agency (NFPA) approved wall protection system. Please refer to NFPA Code 211 for specifications and complete details. You can obtain this information directly from the NFPA.

National Fire Protection Agency

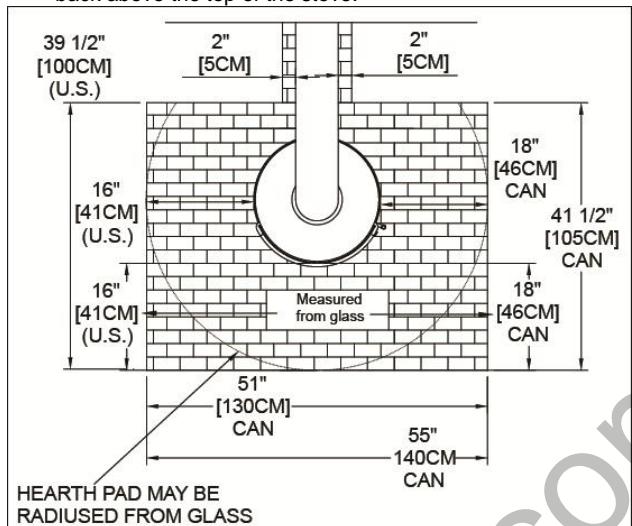
Batterymarch Park
Quincy, MA 02269
1-800-344-3555
1-617-770-3000
www.nfpa.org

HEARTH REQUIREMENTS AND FLOOR PROTECTION

Ensure you protect combustible flooring with a covering of a noncombustible material. The Lima does not require an insulated hearth pad. The floor protection must extend beyond the **body** of the stove at the minimum as follows:

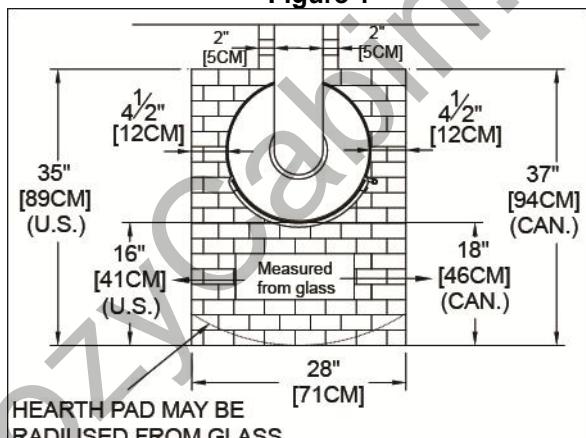
In Figures 1 and 2 you will find two hearth options; one hearth for the freely rotating stove and the other for the locked stove.

- * Installations in Canada require 18" (45.72 cm) of floor protection on both side and front.
- ** Rear clearance required only if stovepipe runs horizontally back above the top of the stove.



FLOOR PROTECTOR:
STOVE CAN ROTATE 180 DEG.

Figure 1



FLOOR PROTECTOR:
STOVE IN THE LOCKED POSITION ONLY.

Figure 2

- Note: Dimensions shown in previous figures are from the **body** of the stove.

ROTATION LOCK

The Lima wood stove has a unique feature that allows it to rotate. This rotation allows positioning the body of the stove into 13 different positions, up to a full 90 degrees to either side. In order to install the Lima onto the smaller hearth protector shown in Figure 2, you must lock the stove in place. To do this, follow the instructions below:

Rotation Lock Install Procedure

1. Open the lower control door and locate the rotation control.
2. Ensure the stove is in its 0-degree orientation (line up the index marks)(see fig. 3), and then position the stove to center the door on the hearth.
3. Press the control lever and release. Using a 13mm wrench, remove the hex screw at the base of the control knob and washer (see fig. 4).
4. Rotate the stove body very slightly. Slide the Locking Stopper down through the hole on the deck of the control knob. Be sure the Stopper slides all the way into place over the matching groove (see fig. 5).
5. Rotate the stove back to the zero position. Rotate the stove in the opposite direction as Step 4 slightly. Slide the second Locking Stopper down into place (see fig. 6).
6. Rotate the stove back to the zero position and replace the Control knob (see fig. 7).

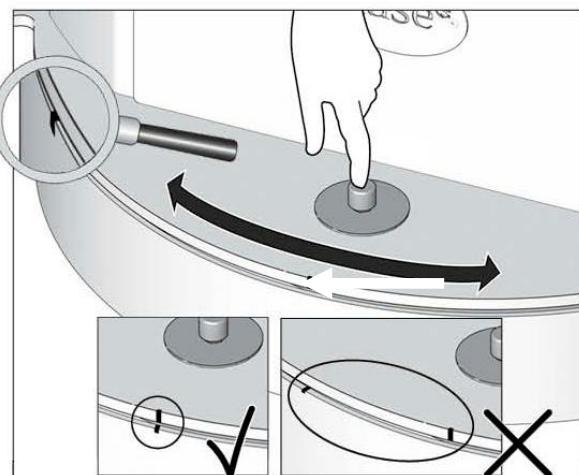


Figure 3 - Zero Index Marks

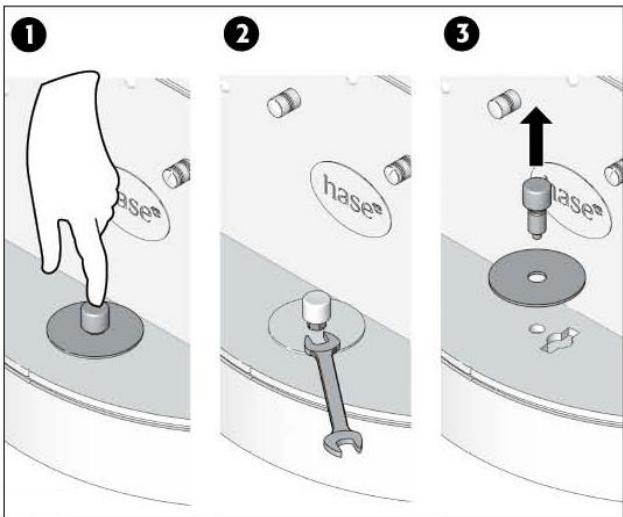


Figure 4: Remove Mounting Screw

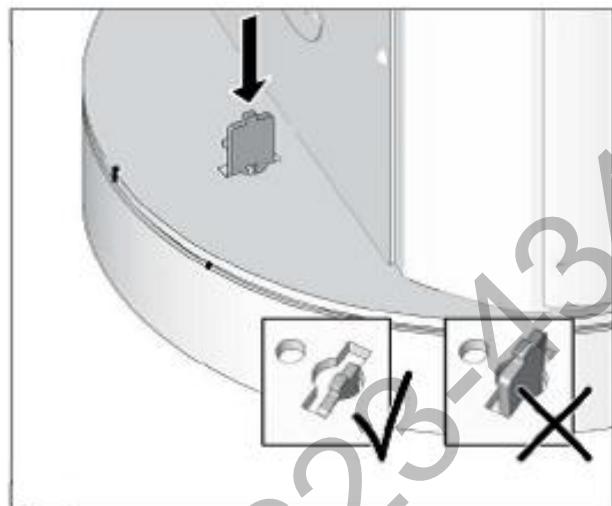


Figure 6: Insert Second Rotation Locking Stopper

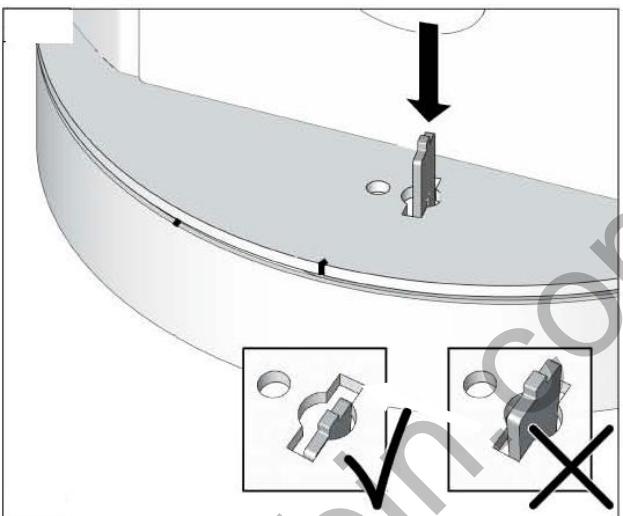


Figure 5: Insert First Rotation Locking Stopper

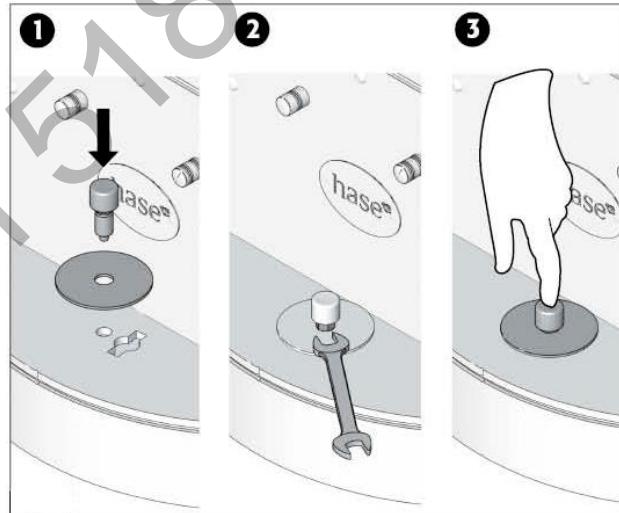
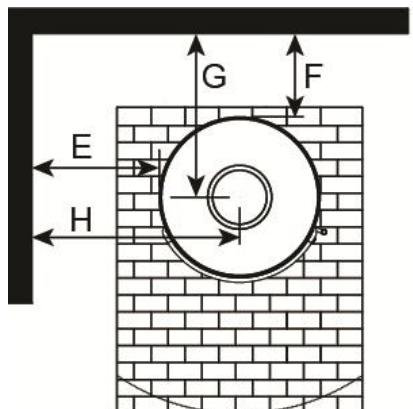


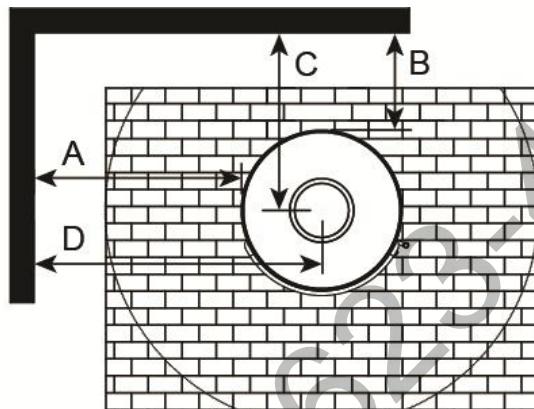
Figure 7: Tighten Mounting Screw

COMBUSTIBLE SURFACE REQUIRED CLEARANCES

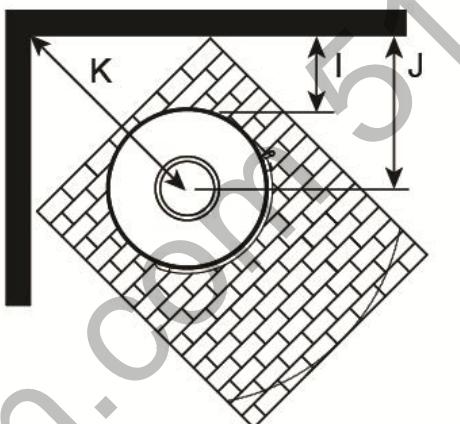
It is very important to follow minimum clearances for chimney connectors to combustibles such as walls and ceilings when installing the stove near combustible surfaces.



Stove Locked in Position



Stove Free to Rotate



Stove Locked in Position

Figure 8: Clearance to combustibles

Clearances	Parallel								Corner		
	A	B	C	D	E	F	G	H	I	J	K
Single or double wall Inches	38	17	26.5	47.5	17	7	16.5	26.5	12	21.5	30.5
Centimeters	96.5	43	67.5	120.5	43	18	42	67.5	30.5	55	77.5

Alcove Clearances (inches)	Unprotected Surfaces	Protected Surfaces (NFPA-211)
Minimum alcove width	46	See NFPA-211
Maximum alcove depth	48	See NFPA-211
Alcove ceiling from floor	90.25	See NFPA-211

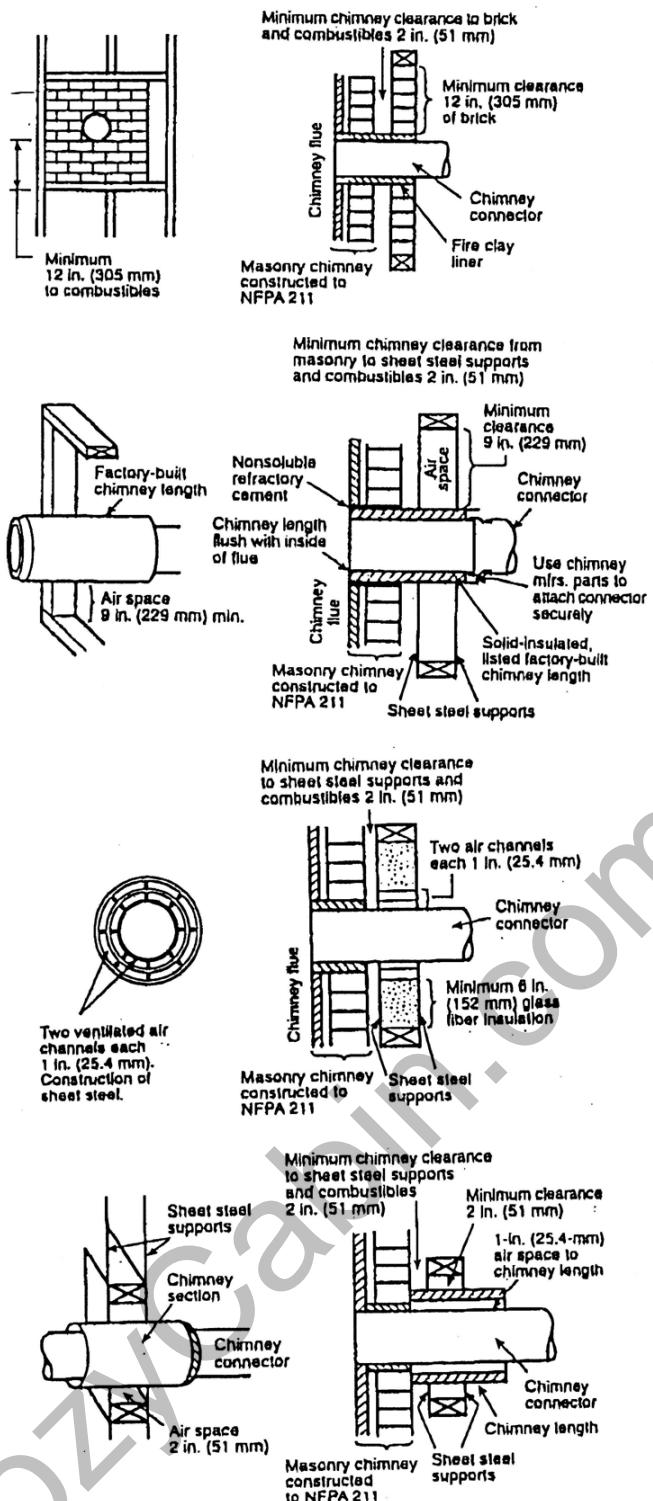


Figure 9: Chimney Connector Clearances

CHIMNEY CONNECTOR SYSTEMS AND CLEARANCES FROM COMBUSTIBLE WALLS FOR RESIDENTIAL HEATING APPLIANCES

- A. Minimum 3.5in thick brick masonry all framed into combustible wall with a minimum of 12in. brick separation from clay liner to combustibles. The fire clay 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 1in. or more of insulation with a minimum 9in. 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 1in. air channels, separated from combustibles by a minimum of 6in 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 2in. larger than the chimney connector and having 1in. 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 2in. air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12in. chimney section spaced 1in. 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.

OUTSIDE AIR SUPPLY

(Kit #91-53500 Black stove models)

(Kit #91-53502 Titanium stove models)

You can connect an outside air source directly to this stove using an optional outside air kit. The advantage of providing outside air directly to the stove is that the air used by the stove for combustion is taken from outside the residence rather than from within the room where the stove is located.

The outside air kit for this stove allows for the direct connection of the stove's air intake to a minimum 3" (76 mm) diameter duct (supplied by others) which leads to the outside of the house. When considering placement of the duct from the outside of the house to the hearth, keep in mind the need to avoid structural members of the house. The outside air kit will attach to the back of the stove.

The International Residential Code (IRC) does not allow the outside air duct to terminate higher than the appliance. Some building officials also do not like to see any vertical rise in the duct's termination. Hearthstone recommends the termination be at the same level, or lower than the air intake on the stove.

Locate the termination of the duct on the outside wall of the home in such a manner to avoid the possibility of obstruction by snow, leaves or other material. Screen the termination using $\frac{1}{4}$ " x $\frac{1}{4}$ " mesh rodent screen and cover it with a rain/wind proof hood (flex pipe, outside termination, mesh, and hood supplied by others) Contact your dealer for availability).

An adaptor for 4" duct is available from Hearthstone if needed. A 4" fresh air intake is required for mobile home installation. Kit # 90-53308.

VENTING COMPONENTS AND CONFIGURATION REQUIREMENTS

- **WARNING: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE USED BY ANOTHER APPLIANCE**
- Single wall connector that is 24 MSG or 25 MSG blued steel stovepipe.
- Double wall connector (close clearance pipe) which is used with a listed, factory-built "Type HT" chimney or with a masonry chimney to reduce clearances, is available from several manufacturers, your dealer can help you choose. Some air insulated connector pipe models available are Simpson Dura Vent DVL and Metalbestos DS. Security, GSW and Ameritec

also have acceptable close clearance connector pipe.

- When used in a mobile home, a spark arrester is required. (See page 17)
- The chimney connector cannot pass through a floor or ceiling, nor any attic or roof space, closet or similar concealed space. Where venting requires passage through a wall or partition of combustible construction, the installation must conform to NFPA Code 211 or CAN/CSA - B365.
- It is very important to follow minimum clearances for chimney connectors to combustibles such as walls and ceilings when installing the stove. Typical chimney connector clearances are outlined below. The single wall clearances are generic; the double wall clearances shown are for Simpson DuraVent DVL.
- **CHECK THE SPECIFICATIONS FROM THE MANUFACTURER OF YOUR CONNECTOR.**

COMPONENTS OF A VENTING SYSTEM

The complete venting system consists of several components: chimney connector, wall thimble, wall pass-through, chimney, and liner. It is *absolutely necessary* that you install all of these components and maintain the clearances to combustibles discussed earlier to ensure a safe stove installation.

To protect against the possibility of a house fire, you *must properly install and constantly maintain the venting system*. Upon inspection, immediately replace rusted, cracked, or broken components.

- The *chimney connector* is the stovepipe from the woodstove to the chimney. The chimney connector stovepipe is 6" (152 mm) diameter, 24 MSG or 25 MSG blued steel connector pipe. *Do not use aluminum or galvanized steel pipe* - they cannot withstand the extreme temperatures of a wood fire.
- The *thimble* is a manufactured (or site-constructed) device installed in combustible walls through which the chimney connector passes to the chimney. It keeps the walls from igniting. You must use a wall thimble when installing a chimney connector through a combustible wall to the chimney.
- A *wall pass-through* (or chimney support package) also keeps the walls from igniting. You must use one when connecting through a wall or ceiling to a prefabricated chimney.

- Only install this stove to a *lined masonry chimney* or an approved high temperature *prefabricated residential* type building heating appliance chimney. *Do not* connect this stove to a chimney serving another appliance; you will compromise the safe operation of both the wood stove and the connected appliance.
- A *liner* is the UL 1777 or ULC S635 (for factory built fireplace or masonry) chimney.

You must connect your stove to a chimney comparable to those recommended in this manual. *Do not use stovepipe as a chimney.* Use stovepipe for freestanding installations only to connect the stove to a proper chimney.

WARNING: DO NOT CONNECT THIS APPLIANCE TO ANY AIR DISTRIBUTION DUCT OR SYSTEM

INSTALLING A VENTING SYSTEM

Install the rotating flue collar adaptor to the top of the stove. Attach stovepipe sections to the rotating adaptor and to each other with the crimped end toward the stove. If creosote builds up, this allows the creosote to run into the stove and not on the outside of the stovepipe or onto the stove.

Secure all joints, including attaching the stovepipe to the stove's flue collar, with three sheet metal screws. Install #10 x 1/2" (3 mm x 13 mm) sheet metal screws into the holes pre-drilled in the flue collar. Disregarding the screws can cause joints to separate from the vibrations that result from a creosote chimney fire.

You can simplify connecting stovepipe by using additional accessories such as telescoping pipes, slip-connectors or clean-out tees. These accessories ease the periodic inspection of your chimney, as well as allow you to dismantle the stovepipe easily (without moving the stove).

Install the stove as close as practical to the chimney, while maintaining all proper clearances. Install stovepipe that is as short and as straight as possible. Horizontal runs of stovepipe must always rise away from the stove at a minimum of 1/4" per foot (21mm/m).

We do not recommend long runs of stovepipe to increase heat dispersal. Longer lengths of stovepipe or more connecting elbows than necessary increase the chances of draft resistance and the accumulation of creosote buildup.

In general, you do not need to install a stovepipe damper with the Lima. Some installations, however, could benefit from a stovepipe damper, such as a

tall chimney which can create a higher than normal draft. In such cases, a damper can help regulate the draft. The Lima requires a draft between 0.06" and 0.1" WC. For drafts above 0.1" WC, install a stovepipe damper. Check the draft at stove installation time.

Remember, the NFPA recommends minimum clearances for chimney connectors to combustibles such as walls and ceilings. Once the stove is installed at safe distances from these combustible surfaces, it is important to maintain these connector clearances for the remainder of the installation.

CONNECTING THE STOVE TO A CHIMNEY

You can install your Lima to a prefabricated metal chimney, or a masonry chimney.

CONNECTING TO A PREFABRICATED METAL CHIMNEY

There are two ways to install a prefabricated metal chimney:

1. An *interior* installation where the chimney passes inside the residence through the ceiling and roof.
2. An *exterior* installation where the chimney passes through the wall behind the stove then up the outside of the residence.

Whenever possible, choose an interior chimney. An interior chimney heats up quickly and retains its heat; thus promotes a better draft and discourages the formation of creosote. An exterior chimney does not benefit from the warmth of the building, so it typically operates at lower flue temperatures than an interior chimney. An exterior chimney's draft is not as strong and may experience increased creosote accumulation.

When connecting the Lima to a prefabricated metal chimney, you must follow, precisely, the manufacturer's installation instructions. Use only Type HT (2100 deg. F), prefabricated metal chimneys listed per UL 103 or ULC S629 standards.

Ensure the size of the chimney's flue is appropriate for the Lima. The Lima requires a 6" (152 mm) inside diameter flue for new installations. A 6" diameter flue provides adequate draft and performance. You can use an 8" (203 mm) diameter existing flue with a reducer. An oversized flue contributes to creosote accumulation. (In this case, bigger is **NOT** better.)

When purchasing a prefabricated chimney to install with your stove, Ensure you also purchase from the same manufacturer the wall pass-through (or ceiling support package), "T" section package, fire-stops

(when needed), insulation shield, roof flashing, chimney cap, and any other needed accessories. Follow the manufacturer's instructions when installing the chimney and accessories. In addition, ensure you maintain all manufacturers' recommendations for the proper clearances to the chimney.

CONNECTION TO A MASONRY CHIMNEY

Consider two primary elements when connecting your stove to a masonry chimney: the chimney itself, and the thimble where the stovepipe connects to the chimney. Use only Code approved masonry chimneys with an appropriate flue liner.

Before connecting to a masonry chimney, hire a professional to examine the chimney for cracks, loose mortar, and other signs of deterioration and blockage. If the chimney needs repair, complete them before installing and using your stove. Do not install your stove until the chimney is safe for use. Make sure the chimney's cleanout is complete and working properly. To avoid a loss of draft, the cleanout door must close completely and provide a tight seal. If the cleanout door leaks, the chimney will cool, your stove will perform poorly, and creosote will build up.

Ensure the size of the chimney's flue is appropriate for this stove and that it is not too large. Use a masonry chimney with a maximum 8" x 8" (203 mm x 203 mm) tile size for best results. An oversized flue contributes to the accumulation of creosote.

Use the following checklist to ensure that your masonry chimney meets these minimum requirements:

Masonry Chimney wall construction:

- Mortared brick at least 4" (102 mm) thick, modular block at least 4" (102 mm) thick, or

mortared rubble or stone wall require one of the following flue liners:

- Tile - minimum wall thickness of 5/8" (16 mm), installed with refractory mortar, and with at least 1" (25 mm) air space between tile and masonry chimney.
- Stainless steel - UL listed 6" diameter, insulated or wrapped liner, or the space around the liner filled with vermiculite or suitable material (these keep the liner warmer for better performance)
- Ensure any equivalent flue liner is a listed chimney liner system meeting type HT requirements or other approved material.

Interior chimney requirements:

- At least 2" (51 mm) clearance to combustible materials
- Fire stops installed at the spaces where the chimney passes through floors and/or ceiling
- Any insulation is at least 2" (51 mm) from the chimney

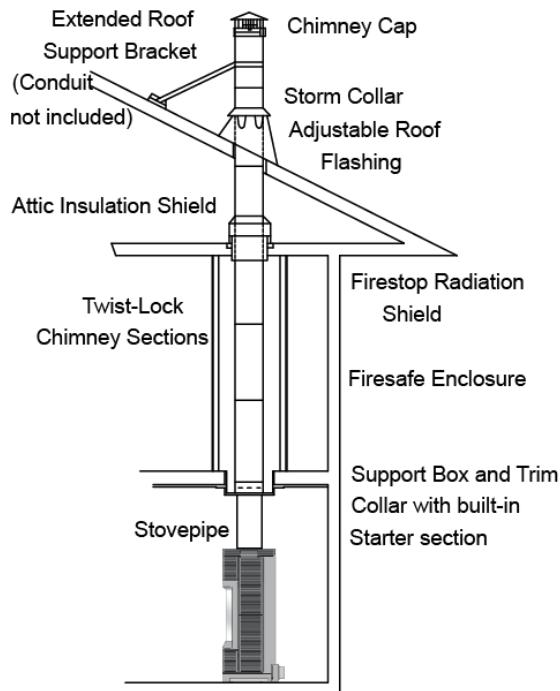
Exterior chimney requirements:

- At least 1" (25 mm) clearance to combustible materials

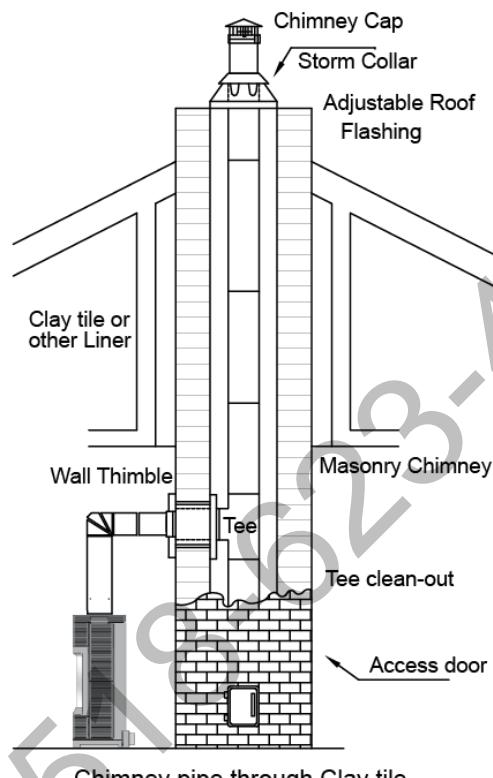
Chimney height requirements (See Figure 10 below):

- At least 3 feet (0.9 m) higher than the highest part of the roof opening through which it passes.
- At least 2 feet (0.6 m) higher than any part of the roof within 10 feet (3 m) measured horizontally from the top of the chimney.

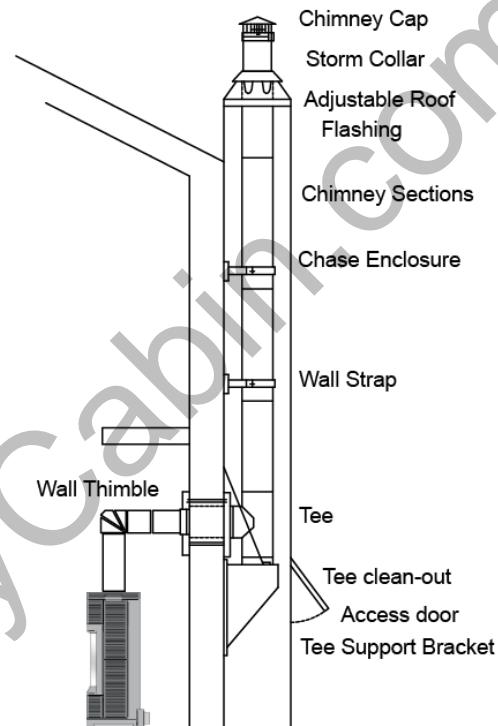
This stove requires a minimum chimney height of 13 feet (4 m). The maximum recommended chimney height is 30 feet (9m).



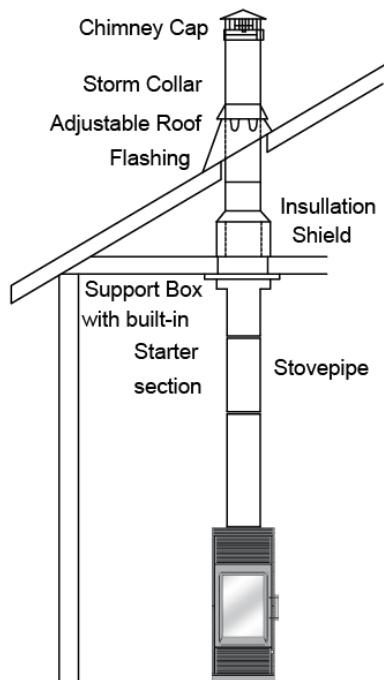
Two story house installation with attic.



Chimney pipe through Clay tile or other Lined Masonry Chimney



Chimney through outer wall with enclosed chase.
Chimney is supported by Tee Support Bracket.



One story house installation with attic.
Chimney is supported by Ceiling.

Figure 10: Typical Venting Configuration

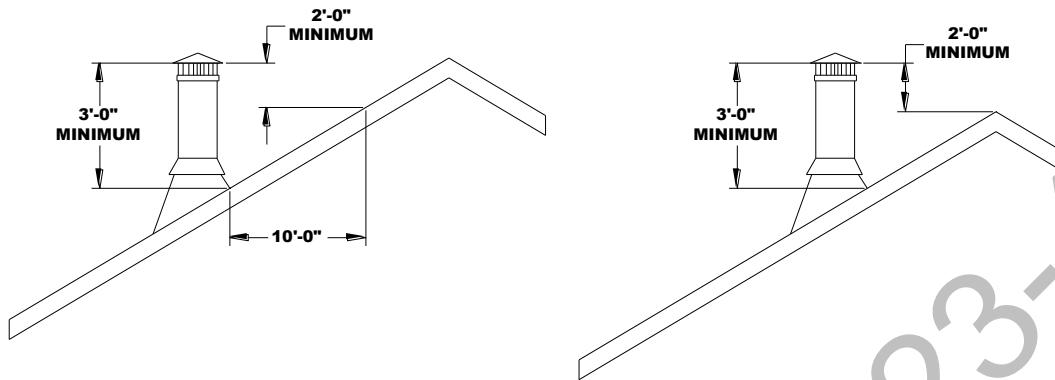


Figure 11: Chimney Height & Roof Clearance Requirements

INSTALLING IN A MOBILE HOME

Follow these special requirements for installing your stove in a mobile home.

Install the stove in accordance with 24 CFR, Part 3280 (HUD)

- Permanently attach the stove to your mobile home's floor. Use Hearthstone's Kit #91-99500 Mobile Home Lock Down Kit.
- An outside air kit must be used in all mobile home installations. A 4" fresh air intake is required for mobile home installation. Kit # 90-53308. See page 13 for more details.
- Install one of the following Dura-Vent Mobile Home Chimney & Connector Kits:

6DP-MH 6" Diameter S/N 9096N

7DP-MH 7" Diameter S/N 9196N

8DP-MH 8" Diameter S/N 9296N

Each kit includes:

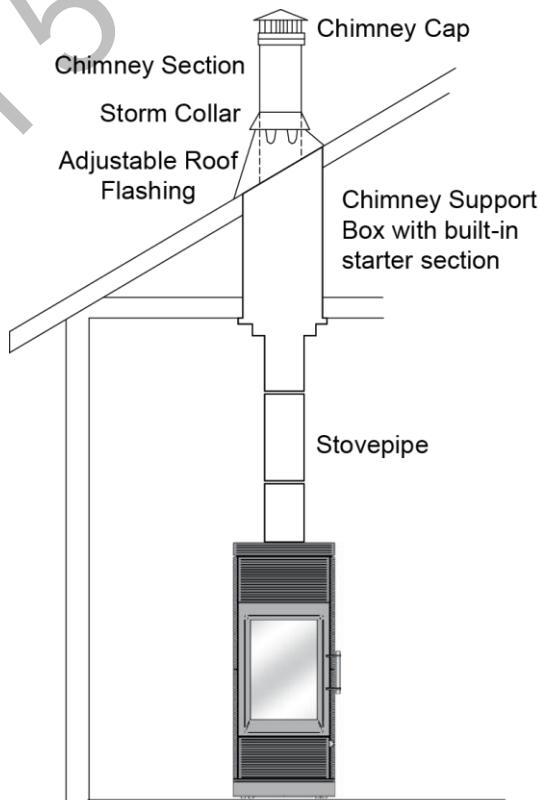
Stainless spark arrester cap, storm collar, Adjustable vented flashing – 0/12 – 6/12, Two 24" Dura/Plus* chimney pipes, 24" Support box with built-in starter section and trim.

* (UL or ULC approved equipment is acceptable)

- **WARNING: DO NOT INSTALL IN A SLEEPING ROOM IN A MOBILE HOME.**
- **CAUTION: MAINTAIN THE STRUCTURAL INTEGRITY OF THE MOBILE HOME WALLS,**

FLOOR, CEILING, AND ROOF WHEN INSTALLING AND USING YOUR STOVE.

- **CAUTION: REMOVE THE CHIMNEY WHEN TRANSPORTING THE MOBILE HOME!**



Typical Mobile Home installation.
Chimney supported by ceiling.

Figure 12

Operating Your Lima Wood Stove

Once your Lima is fully installed, you are ready to light a fire. Hearthstone tests each wood stove before we ship it, so you will easily light your first fire.

- WARNING: HOT WHILE IN OPERATION! KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT CAN CAUSE SKIN BURNS.**

Read this entire chapter before lighting your first fire. It explains the controls and features of your wood stove, how to choose firewood, and how to use your stove on a daily basis.

CONTROLS AND FEATURES

Before lighting any fires, become familiar with the location and operation of your stove's controls and features and learn how to use them (See Fig. 13). For your own safety, do not modify these features in any way. *The Lima wood stove radiates heat into the surrounding area. In doing this, the controls of the heater can become very hot. Please use caution when using any of the controls. Do not use the controls unless the stove is cool or you use the provided hearth glove.*

FRONT DOOR HANDLE: *(This becomes hot during operation. Use the provided fireplace glove to open the handle while the stove is in use)* The front door allows you to load wood into your stove; a fixed handle operates the front door. To open the door, pull out on the handle and pull the door away from the stove. To latch the door, push the door tightly towards the firebox then continue to push the handle until it latches shut. Gently pull on the door handle to ensure it is properly latched.

ASH GRATE LEVER: *(This becomes very hot during operation. It is best to operate the ash removal system after the stove cools.)* To access the lever, open the control door located under the front door. The grate lever is located above the ash pan. Use the ash grate lever to open the ash grate to move the ashes from the firebox to the ash pan. Pull the lever out to open the grate. Once you have sifted the ashes through the grate into the ash pan, push the lever back in towards the stove to close the grate.

ASH PAN: *(This becomes hot during operation. It is best to remove the ash pan only after the stove cools).* To access the ash pan you must open the control door, which is located under the firebox door. Open the control door and locate the ash pan's handle. To remove the ash pan, grip the handle,

rotate it clockwise $\frac{1}{4}$ turn, and then pull it out. The lid for the ash pan is stored under the ash pan. Use the lid to contain the ashes during transport for disposal. **The lid must be stored in place under the ash pan to support it, or the pan will not seal properly.** The ash pan collects the ash residue from each fire and when full, allows you to remove the ash conveniently from your wood stove. Clear the firebox of ashes periodically by opening the ash grate in the bottom of the firebox. Sift the ashes through the grate into the ash pan, and then return the grate to its closed position.

To replace the ash pan, place the pan lid back into the bottom of the ash pan receptacle and slide the ash pan back into place on top of the lid. The lid must be upright to support the ash pan properly. Turn the ash pan's handle counter-clockwise $\frac{1}{4}$ turn to tighten the seal around the pan and hold the pan in place.

- Do not operate the stove unless the ASH PAN is in place, properly sealed and the front loading door is closed. Not doing this could overheat and damage the stove.**

PRIMARY AIR CONTROL: *(This becomes hot during operation. It is best to operate the primary air system with the provided fireplace glove, or after the stove is cool.)* The primary air control handle is located on the front lower right of the stove, just under the ash pan. The primary air control allows you to regulate the amount of air entering the firebox. Generally, the more air allowed into the firebox, the faster the rate of burn; conversely, less air creates a slower burn. For maximum air flow, pull the primary air handle as far out as possible; push the primary air control handle in as far as possible for minimum air flow (does not close completely).

ROTATION CONTROL: Your Lima rotates a full 180 degrees. With the stove centered on your hearth, it will rotate 90 degrees to the left and 90 degrees to the right. There are 13 possible positions.

To access the rotation control you must open the control door that is located under the firebox door. Open the control door and locate the flip-down lever. Push down on the lever to free the unit to rotate to the position you desire. Once the stove is in position, release the lever and slightly turn the stove to ensure it locks into position. If the stove is positioned as you like, close the control door and enjoy the fire.

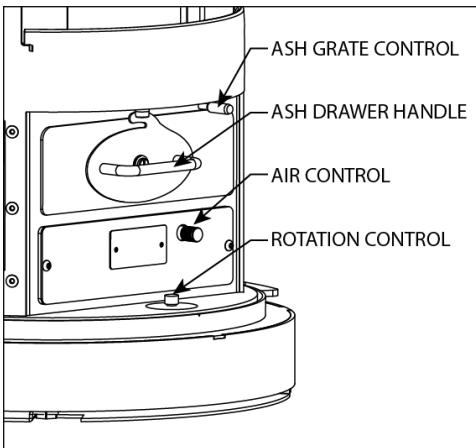


Figure 13: Controls

CHOOSING FIREWOOD

Your Lima Wood Heater is designed to only burn firewood-also known as cordwood.

- CAUTION: NEVER USE CHEMICALS OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA, KEROSENE, CHARCOAL LIGHTER FLUID GASOLINE-TYPE LANTERN FUEL OR ENGINE OIL TO START OR FRESHEN UP A FIRE. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE. DO NOT USE CHARCOAL, PELLETS, COAL, ARTIFICIAL LOGS OR ANY OTHER MATERIALS AS FUEL; THEY ARE NOT SAFE. DO NOT BURN GARBAGE.**

The quality of your firewood affects heat output, duration of burn and performance of your stove. Softwoods generally burn hotter and faster, while hardwoods burn longer and produce more long lasting coals. Density and moisture content are two critical factors to consider when purchasing wood for your stove.

The following is a list of wood species and their relative BTU (British Thermal Unit) content. The higher the BTU content the longer the burn. Firewood with higher a BTU content is generally considered ideal for a wood stove.

WOOD HEAT VALUE

Common Name	Lb/ cord	MBTU/ cord
High		
Osage Orange (Hedge)	4,728	32.9
Hickory, Shagbark	4,327	27.7
Hop Hornbeam (Ironwood)	4,267	27.3
Beech, Blue (Ironwood)	3,890	26.8
Birch, Black	3,890	26.8
Locust, Black	3,890	26.8

Hickory, Bitternut	3,832	26.7
Locust, Honey	3,832	26.7
Apple	4,100	26.5
Mulberry	3,712	25.8
Oak, White	4,012	25.7

Medium High

Beech, European	3,757	24
Maple, Sugar	3,757	24
Oak, Red	3,757	24
Ash, White	3,689	23.6
Birch, Yellow	3,689	23.6

Medium

Juniper, Rocky Mtn	3,150	21.8
Elm, Red	3,112	21.6
Coffeetree, Kentucky	3,112	21.6
Hackberry	3,247	20.8
Tamarack	3,247	20.8
Birch, Gray	3,179	20.3
Birch, White (Paper)	3,179	20.3
Walnut, Black	3,192	20.2
Cherry	3,120	20
Ash, Green	2,880	19.9
Cherry, Black	2,880	19.9
Elm, American	3,052	19.5
Elm, White	3,052	19.5
Sycamore	2,808	19.5
Ash, Black	2,992	19.1
Maple, Red	2,924	18.7
Fir, Douglas	2,900	18.1

Medium Low

Boxelder	2,797	17.9
Alder, Red	2,710	17.2
Pine, Jack	2,669	17.1
Pine, Norway (Red Pine)	2,669	17.1
Pine, Pitch	2,669	17.1
Catalpa	2,360	16.4
Hemlock	2,482	15.9
Spruce, Black	2,482	15.9
Pine, Ponderosa	2,380	15.2

Low

Aspen, American	2,290	14.7
Butternut (Walnut, White)	2,100	14.5
Spruce	2,100	14.5
Willow	2,100	14.5
Fir, Balsam	2,236	14.3
Pine, White (Eastern, Western)	2,236	14.3

Fir, Concolor (White)	2,104	14.1
Basswood (Linden)	2,108	13.8
Buckeye, Ohio	1,984	13.8
Cottonwood	2,108	13.5
Cedar, White	1,913	12.2

Moisture content also plays a key role in the performance of your stove. Wood freshly cut from a living tree (green wood) contains a great deal of moisture. As you might expect, green wood has difficulty burning and should be seasoned before using it in your wood stove. To properly season green wood: split, stack and allow to air dry for a period of one year.

Stack the firewood on skids or blocking to keep it off the ground, cover only the top of the stack. Plastic or tarps that cover the sides of the stack of wood trap moisture and prevent the wood from drying. As for stacking, an old Vermonter said, "The spaces between the logs should be large enough for a mouse to get through, but not for the cat that's chasing it."

- **Do not store Firewood within the stove's specified clearances to combustible materials.**

BUILDING A FIRE

Once you understand the controls of your wood stove and have the appropriate firewood, you are ready to start a fire.

When you light your first fires, the woodstove will emit some smoke and fumes. This is normal "off-gassing" of the paints and oils used when manufacturing the woodstove. If you find it necessary, open a few windows to vent your room. The smoke and fumes will usually subside after 10 to 20 minutes of operation. The odor and smoke will end once the stove is "cured".

The first fires may produce other odors from impurities that exist in the area immediately surrounding the stove. Some potential impurities are cleaning solvents, paint solvents, cigarette smoke, and soot from scented candles, pet hair, dust, adhesives, a new carpet, and new textiles. These odors will dissipate over time. You can alleviate these odors by opening a few windows or otherwise creating additional ventilation around your stove. If any odor persists, contact your dealer or an authorized service technician.

If you adhere to the operating procedures in this manual, the steel, cast iron, and refractory components of your stove will give you many years

of trouble-free use. With use, the color of the refractory material will change and small fractures may appear on the surface. These changes will not affect the efficiency of your stove. However, if a panel is broken, it must be replaced.

Avoid the following conditions that can cause the glass, refractory panels, steel or cast iron pieces to break:

- Do not throw wood into the stove.
- Do not use the door for leverage to force wood into the stove.
- Do not load wood encrusted with ice into a burning stove - the thermal shock can cause damage.
- Do not use a manufactured log grate. Burn the fire directly on the cast iron bottom of the firebox.

NORMAL OPERATION

Prior to loading the stove, make sure the ash grate and the ash pan door are closed. If left open, the stove will over-fire and will suffer damage.

BUILDING A FIRE FOR EVERYDAY USE

- 1) Open the front door and place five or six double sheets of tightly twisted newspaper in the center of the firebox. Arrange kindling in a tee-pee configuration over the newspaper. Use approximately 10 pieces of kindling, 1/2" (13 mm) in diameter and 10" to 16" (254 mm to 406 mm) long.
- 2) Fully open the primary air control by pulling it completely out, away from the firebox.
- 3) Light the paper under the kindling. Leave the front door slightly ajar momentarily until the kindling begins to burn and draft begins to pull.
- 4) Close the door and allow the fire to burn.
- 5) Once the kindling is burning, open the front door and add logs, small at first, to build the fire up. Ensure you keep the logs away from the glass in front in order for the air-wash system to work properly. Keep the front door and ash pan closed while the stove is in use.
- 6) Once the fire is burning well, use the primary air control to regulate the desired rate of burn. Pull the handle out to open the primary air control for a high rate of burn; or push it in for a low rate of burn. The air control does not close completely.
- **Note:** When opening the front door to reload or re-arrange logs, it is advisable to open the door just a crack, pause for a moment then

open the door completely. This procedure allows the firebox to clear of smoke before the door is open fully. In addition, reloading on a bed of hot, red coals reduces smoking time and brings fresh fuel up to a high temperature rapidly.

BURN RATE

HIGH BURN: Fully load the firebox with wood on a bed of hot coals or on an actively flaming fire and fully open the primary air control by pulling it all the way out, away from the firebox. A high burn rate once or twice a day to heat the stovepipe and chimney fully, will help minimize creosote accumulation.

MEDIUM HIGH BURN: With the primary air control in the open position, push the control handle slightly towards the firebox, or about $\frac{1}{4}$ to $\frac{1}{2}$ the way in.

MEDIUM LOW BURN: With the primary air control in the open position, push the handle inward about $\frac{3}{4}$ of the way in. A medium-low burn rate is the typical setting and is preferable if the stove is unattended.

LOW BURN: Push the primary air control inward all the way to the firebox. This closes the air shutter to its minimum opening. A low burn rate over extended periods is not advisable as it can promote the accumulation of creosote. Inspect the venting system frequently if using low burn rates consistently.

OVER-FIRE CAUTION

Over-firing means the stove is operating at temperatures above the recommended temperatures outlined in the *BURN RATE* section. Carefully avoid over-firing, as it will damage the stove. Symptoms of chronic over-firing can include warped components, short burn times, a roaring sound in the stove or stovepipe, and discoloration of the stovepipe.

Excessive draft, inappropriate fuel, and operator error can cause over-firing. Correct an over-fire situation as follows:

- **EXCESSIVE DRAFT:** Contact your local dealer to have a draft reading taken. Any draft in excess of 0.1 WC requires a damper in the stovepipe. Some installations may require more than one damper.
- **INAPPROPRIATE FUEL:** Do not burn coal; kiln dried lumber, wax logs or anything other than natural cordwood.

- **OPERATOR ERROR:** Ensure all the gaskets are in good condition. Replace worn out or compressed gaskets. Do not burn the stove with the front door, ash pan, or the ash grate in the open position.

If you suspect that your stove is over-firing, contact your dealer immediately. **Damage caused by over-firing is not covered by your warranty.** Results of over-firing can include warped or burned out internal parts, cracked vermiculite panels, discolored or warped external parts, and damaged finish.

- **ANY SIGNS OF OVER-FIRING WILL VOID YOUR WARRANTY!**

REMOVAL AND DISPOSAL OF ASHES

Remove ashes only when the stove is cold. Use protective fireplace gloves if the ash pan is warm.

The ash pan is located behind the control door. The ash pan collects burned ash from a fire and allows you to remove the ash conveniently from your wood stove. Clear the firebox of ashes often, and do not let them build up more than 3 inches high. It is important to prevent ashes from building up around the front door opening. To remove ashes, pull the grate lever out to open the grate. Sift the ashes across the grate into the ash pan. Then return the ash grate to its closed position by pushing the lever back in towards the stove. The ash pan is easy to remove and has a handle and lid for convenient disposal of ashes. The lid must be stored under the ash pan when burning the stove. The ash pan will not seal properly without the lid under it.

Dump ashes from the ash pan directly into a **metal** container with a tight fitting lid. Do not place any other items or trash into the metal container. Do not pour water into the container. Replace the container's lid and allow the ashes to cool. Never place the ash disposal container on a combustible surface or vinyl flooring, as the container could be **hot!**

Pending disposal, place the closed ash container on a noncombustible floor or on the ground, well away from all combustible materials, liquid fuels, or vehicles. Retain ashes in the closed container until all coals thoroughly cool.

- **NEVER** place ashes in wooden or plastic containers, in trashcans with other trash, or in paper or plastic bags, no matter how long the fire has been out. Coals within a bed of ashes can remain hot for several days once removed from the firebox.

Maintenance

CREOSOTE FORMATION & NEED FOR REMOVAL

When wood burns slowly at low temperatures, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. These creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire, which may damage the chimney or even destroy the house. When burning wood, inspect the chimney connector and chimney at least once every two months during the heating season to determine if there is a creosote buildup.

If a creosote build-up occurs, inspect the stovepipe connector and chimney more often, at least monthly during the heating season to monitor the accumulation. If a creosote residue greater than 1/4" (6 mm) accumulates, remove it to reduce the risk of a chimney fire.

Prevention

Burn the stove with the primary air control fully open for 35 - 45 minutes daily to burn out creosote deposits from within the stove and the venting system.

After reloading with wood, burn the stove with the primary air control fully open for 15 to 20 minutes. This manner of operation ensures early engagement of the secondary combustion system that minimizes creosote buildup in the chimney.

If your glass always remains dirty, your operating temperatures are too low or your wood is wet; therefore, there is a higher risk of creosote buildup.

Inspect the venting system at the stove connection and at the chimney top. Cooler surfaces tend to build creosote deposits faster, so it is important to check the chimney at the top (where it is coolest) as well as from the bottom near the stove.

Cleaning

Remove accumulated creosote with a cleaning brush specifically designed for the type of chimney in use. We recommend you use a certified chimney sweep to perform this service. Contact your dealer for the name of a certified chimney sweep in your area (your dealer may be a certified sweep!).

We recommend that before each heating season you have the entire system professionally inspected, cleaned and repaired, if necessary.

DOOR REMOVAL PROCEDURE:

1. Open the door and remove the push nut from the upper hinge pin, and remove the pin.
2. Tilt the top of the door outward, and then lift the door up off the lower pin. The door weighs 81 pounds (37 kg) – so use a helper if necessary.
3. Ensure the brass washer remains in place on the lower pin.
4. Place the door face down on a padded work surface. Use two rolled up towels, or similar, under the door to stabilize the curved door during maintenance.
5. When reinstalling the door, use a new push nut on the upper hinge pin.

GASKETS

Replace door gasket material every two to three seasons, depending on stove use. If the door seal leaks, a new gasket will ensure a tight seal and improve stove performance.

We recommend you only use Hearthstone Hase Collection replacement gaskets and adhesive when you need to replace your door gasket. Contact your dealer for a gasket kit that includes instructions, adhesive, and the gasket for your stove.

Required Door Gasket: Part Number: 3110-205274, (20mm x 7.5mm x 2000mm).

DOOR GASKET REPLACEMENT PROCEDURES:

1. To replace the door gasket, remove the door from the stove (see door removal instructions above), and remove the door's side plates. Pull off the old rope gasket. Carefully remove any old gasket material and adhesive with a small screwdriver, or cold chisel and a hammer. Clean all gasket channels with a small wire brush if necessary.
2. Vacuum the inside of the door as required. Loosely re-attach the door's side plates.
3. Apply a 1/8-inch (3mm) bead of gasket adhesive to the channels. Fold the provided gasket rope in half to find its center point. Start at the top or bottom center of the door and push the new gasket into place uniformly without stretching or

compressing the gasket material. Pinch the gasket into place as necessary. Use masking tape to hold the rope in the channel along the top and bottom of the door.

4. Once the gasket is installed, tighten the door's sidepieces to clamp the gasket in place. The sidepieces form one side of the gasket's channel, and hold the gasket rope along the sides in place.
5. Re-install and close the door immediately to fully seat the gasket in the channel and ensure complete adhesion. Check the gasket seal using a dollar bill or aim a flashlight into the space around the door from the outside (then look in through the glass at the gasket – if you see light, the seal will leak). The leak will most likely be where the gasket was not fully inserted into the channel, or where stretched (thinner), or adjacent to an area where the gasket was compressed (thicker).
6. First, adjust the gasket as necessary by reseating it uniformly. If that does not work, adjust the latch mechanism (see below and Fig. 14 and 15) so it applies more pressure when the door is closed. Keep the door closed and do not burn the stove for 24 hours while the adhesive cures.
7. Remove the tape before burning the stove.

LATCH ADJUSTMENT PROCEDURES:

1. Test gasket seal quality with small latch adjustments first. The curved door geometry means a little movement goes a long way. Too much pressure makes the door difficult to open and close and prematurely wears the roller and the gasket.
2. Loosen bolts, adjust jackscrews, or use a combination of both to shift the latch assembly to apply more, or less closing pressure to the gasket (See Fig. 14).
3. If necessary, loosen the five bolts securing the door side plate containing the handle (mounting holes are slotted). Make additional adjustments by sliding the side plate in towards the stove (less pressure), or out away from the stove (more pressure) (See Fig. 15).

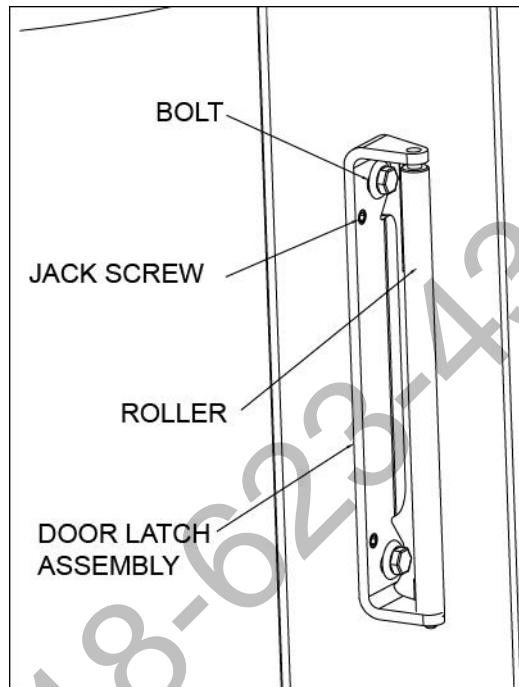


Figure 14: Latch Assembly Detail

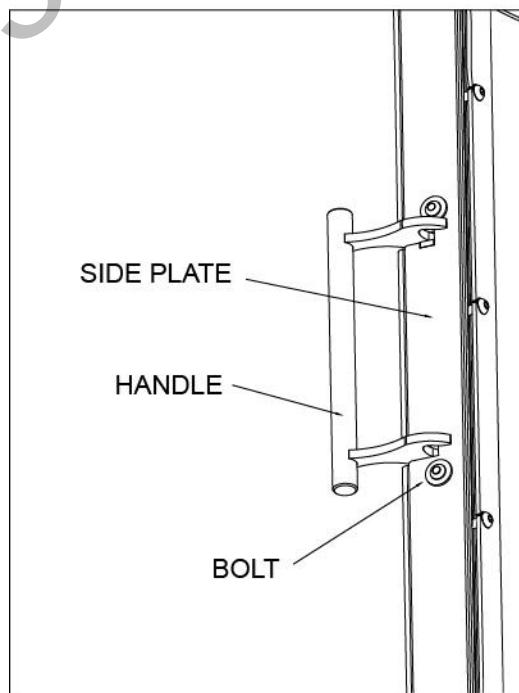


Figure 15: Handle Assembly Detail

GLASS

The glass used in our stoves is not plain glass, but a tough, clear ceramic material capable of operating at temperatures up to 2300° F. Do not operate the stove with a broken door glass. Do not abuse the front door by striking or slamming.

When necessary, clean the glass with commercial stove glass cleaners, which are available from your local dealer. Never attempt to clean the glass while the fire is burning or while the glass is hot. Remove deposits by following the instructions provided with the cleaner. To clean heavier, stubborn deposits, remove the door from the stove (See door removal procedures on page 22). Lay the door face down on a clean, padded workbench or table, use rolled up old towels, or similar, to stabilize the curved door so the heavy deposits are at the lowest point. Apply the cleaner to the glass and allow it to soak for a few minutes. Reposition the door as necessary to allow the cleaner to penetrate all the heavy deposits. Wipe the cleaner off with a soft cloth, or black & white newsprint.

Important: scratching or etching the glass will weaken the integrity of the glass. Do not use a razor blade, steel wool, or any other abrasive material to clean the glass. Use a cleaner specifically manufactured for woodstoves only.

The front door glass is a ceramic, shock-resistant glass, made specifically for use in woodstoves. Do not use any replacement glass other than the ceramic glass manufactured and supplied for use in this woodstove. Replacement glass is available through your local Hearthstone dealer.

Replace the door glass immediately if broken or chipped. Contact your local dealer for replacement glass. The glass kit includes instructions and everything needed for the repair. If you replace the glass yourself, wear work gloves and safety glasses.

Required Glass Kit: Part Number: 91-205270 (Glass with gasket applied).

GLASS REPLACEMENT PROCEDURES:

1. Follow the instructions included with the replacement glass kit.
2. Remove the door (see door removal procedure on page 22).
3. Remove the screws from the glass retainer (use penetrating oil if necessary) – lift the retainer off the glass. Set aside for reinstallation.

4. Remove the inner glass frame from around the glass. Set aside for reinstallation.
5. Carefully lift the damaged glass out of the door and discard.
6. Remove any remaining glass and old gasket material.
7. Clean the screw holes and place a small amount of anti-seize compound in each one.
8. Place the gasketed new glass onto the door.
9. **Important! Center the glass** and ensure that the edges of the curved glass are parallel with the edges of the opening.
10. Reinstall the inner glass frame (limits pressure on glass from the retainer).
11. Check glass position again (centered, and parallel), then screw the glass retainer back on the door using a crisscross pattern. Tighten the screws no more than 1/8th of a turn after they seat. (The glass will break at this point if not positioned correctly. If the glass shifts too much to one side, you will see the gasket from the outside)
12. Apply a light film of anti-seize lubricant on the door's hinge pins and washer if needed.
13. Install the door.
14. After 5 or 6 fires, check the glass retainer screws, and retighten if necessary.

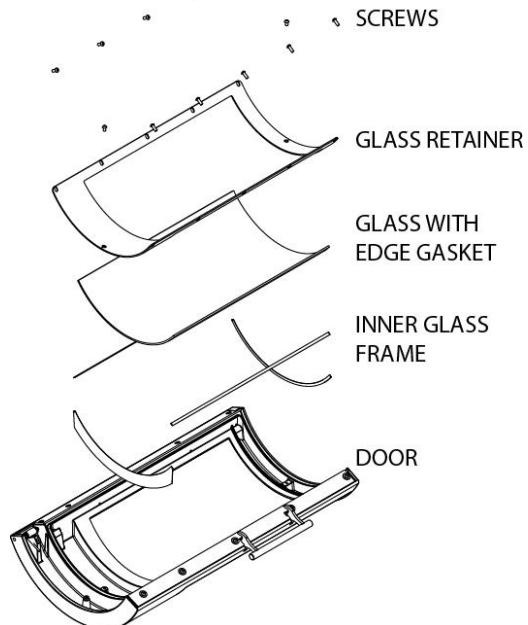


Figure 16: Glass Assembly

VERMICULITE PANEL REPLACEMENT:

1. Remove packing material from spaces along front edges of the outer left and outer right panels.
2. Remove the panel lock plate above the outer right panel.
3. Slide outer right panel slightly to the right, tilt top into firebox, and remove the panel.
4. Slide all other panels to the right, tilt, and remove.
5. To remove the upper panel, remove the screw securing the air tube, slide the air tube to the left, and remove it. Drop down the upper panel.
6. Install the side panels by placing each one into the right most position and then slide it to the left. All side panels are identical.
7. Replace the side panel lock plate.
8. Push side panels together tightly and center them so the spaces along the front edges are equal. Insert packing to prevent panel separation.
9. To install the upper panel, insert the panel rear edge first into the space below the baffle plate – hold in place and insert the air tube. Seat air tube to the right and reinstall screw.

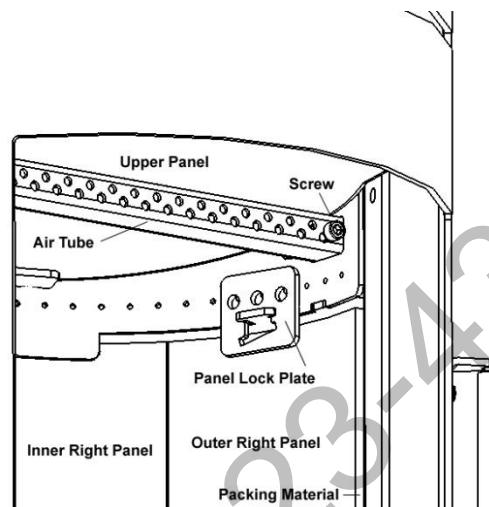


Figure 17: Panel Detail

CERAMIC PANELS

The ceramic panels do not require maintenance other than an occasional dusting. On a cold stove use a dry, clean cloth to wipe off any debris that may have landed on the panels or top ring. A standard glass cleaner may be used lightly to remove any stains.

Troubleshooting

COMMON ISSUES

Virtually all woodstove operators experience basic common problems at one time or another. Most are correctable and generally require only a minor adjustment of the stove, installation, or operating technique. In cases where weather conditions dramatically affect stove performance, the problems are typically temporary and solve themselves once the weather changes.

If you question whether your stove is producing adequate heat, the best way to troubleshoot the problem is to monitor the temperature of the stack no more than 12 inches (30 cm) above the flue collar. A 400° F (200° C) stovepipe confirms the stove is supplying sufficient heat. Keep in mind that your house itself will regulate room/house temperatures. How well the walls, floors and ceilings are insulated, the number and size of windows, the tightness of outside doors, and the construction or style of your house (vaulted ceilings or other open spaces which collect large percentages of heat, ceiling fans, etc.) all are determining factors of room temperature.

Your stove's performance is also dependent on its installation. One common cause of poor performance is an oversized chimney flue. Oversized chimney flues result in decreased draft, which prevents the smoke from rising out the chimney. Oversized flues are also more difficult to heat effectively, especially when burning a high efficiency stove. Cool flue temperatures inhibit the establishment of a strong draft (and encourage the accumulation of creosote). The lack of a strong draft will cause the fire to die down and may even force smoke to pour into the room.

If your chimney is the proper size and a strong draft is not easily established, there is the possibility that the chimney is too cold. Again, hot chimneys promote stronger drafts. Opening a window briefly while lighting the stove may help.

Other draft guidelines are as follows:

An "AIRTIGHT" HOUSE: The air supply (infiltration) to the interior of the house may be inadequate if your home is super-insulated or especially well sealed. This phenomenon of air starvation within the building

is exacerbated if exhaust fans, such as clothes dryers, bathroom fans or cookstove exhaust fans, are in operation within the home. Outfitting your stove with the optional outside air adaptor connected to an air duct, which leads to the outside of the building, can correct this problem.

TALL TREES OR BUILDINGS: These obstructions, when located close to the top of the chimney can cause chronic or occasional downdrafts. When selecting a site for a new chimney, consider the placement of other objects near the proposed chimney location.

WIND VELOCITY: Generally, the stronger and steadier a wind, the stronger (better) the draft. However, "gusty" wind conditions can cause erratic downdrafts. For consistent problems, consider a high wind cap, such as the Vacu-Stack.

BAROMETRIC PRESSURE: Chimney drafts are typically sluggish on balmy, wet or muggy days (low barometric pressure). This is a weather-related phenomenon, which generally is self-correcting as the weather changes.

BRISKNESS OF FIRE: The hotter the fire in your stove, the hotter your chimney and, therefore, the stronger the draft.

BREAKS IN THE VENTING SYSTEM: An unsealed clean-out door at the bottom of the chimney, leaky stovepipe joints, a poor stovepipe-to-thimble connection, missing caps, or a leaky chimney all can cause inadequate draft.

SEASONAL FACTORS: Early fall and late spring are generally difficult seasons in which to establish proper drafts. The colder the outside air is relative to room temperature, the stronger the draft.

OPERATING THE STOVE

As outlined above, there are days when a good draft is just not easy to establish. The causes are usually seasonal factors or a cold chimney. Try starting the fire by using small kindling and fuel to obtain a quick, hot fire. Tend the fire frequently with small fuel until the chimney is hot and the draft is well established. Sometimes, partially opening a first floor window briefly will help quickly get draft established.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTIONS
STOVE SMOKES	Operating Technique	Fully open the primary air control one minute before opening doors.
	Cold Chimney	Preheat the chimney when first starting a fire. Briefly open a window in the room containing the stove.
	Blocked Chimney	Examine the chimney and stovepipe for blockage or creosote accumulations.
	Oversized Chimney	Reline the chimney to the appropriate diameter
	Undersized Chimney	Install a draft inducer or replace the chimney.
	Chimney Too Short	Lengthen the chimney.
	Air Infiltration Into The Chimney	Seal chimney connections and openings such as clean-out doors.
	More Than One Appliance Connected to the Flue	Disconnect all other appliances and seal openings.
BACK-PUFFING OR GAS EXPLOSIONS	Operating Technique	Fully open the primary air control one minute before opening the door and keep it fully open for a few minutes after reloading.
	Extra Low Burn Rate	Burn the stove at a higher burn rate.
	Chimney Down-draft	Install a chimney cap.
	Excessive Ash Build-up	Empty the ash pan more frequently. Increase efficiency of burns, and avoid using poor quality or green wood.
UNCONTROLLED OR SHORT BURN	Unsealed or Open Door	Close the door tightly or replace the gaskets.
	Open ash grate	Slide ash grate to closed position.
	Excessive Draft	Check the installation. Operate at LOW BURN. Install stovepipe damper.
	Extra Long Chimney	Shorten the chimney. Install stovepipe damper(s).
	Oversized Chimney	Reline the chimney to the proper diameter.
	High Winds or Hilltop Location:	Install a chimney cap.
INSUFFICIENT HEAT	Excessive Draft	Draft in excess of 0.1 WC should be corrected with a stovepipe damper(s)
	Poor Quality or Green Wood	Use only air-dried wood, preferably dried <u>at least</u> one year.
	Low Burn Rate	Operate the stove at a higher burn rate.
	Air Insulated Chimney	Replace with a pre-fabricated insulated chimney system or a properly sized masonry chimney.
	Cold Exterior Chimney	Reline or insulate the chimney.
	Leaky Stovepipe or Chimney	Check the installation.
	Too Much Heat Loss From House	Add insulation, use energy efficient windows, or caulk windows, and seal openings in home.
BLISTERING OF FINISH	Excessive Ash Build-up	Empty the ash pan more frequently. Increase efficiency of burns, and avoid using poor quality or green wood.
	Operating Technique	Do not over-fire the stove. Monitor stove temperatures. Use seasoned wood only.
	Excessive Draft	Check the DRAFT. A damper may be required. Operate the stove at a LOW BURN range.

Replacement Parts & Optional Accessories

PART #	DESCRIPTION	PART #	DESCRIPTION
91-205270	GLASS W/ GASKET ASSEMBLY	565-132	REAR INNER AIR DUCT
5917-595-377-V	SECONDARY AIR SUPPORT	91-030-106-V1	FRONT DOOR ASSEMBLY
3110-205274	FRONT DOOR GASKET	5170-100	SECONDARY AIR RING ASSEMBLY(W/PIPE)
220-075-V1	FLUE COLLAR ASSEMBLY	565-137-V	INNER AIR DUCT
601-728-V4	FRONT DOOR LATCH BRACKET	565-138-V3	SECONDARY AIR PIPE
605-132-V	ASH PAN FAÇADE	360-080-V3	ASH TRAY
2110-701	ASH GRATE, ROTATING	360-077-V	ASH TRAY COVER
2110-700	ASH GRATE BASE	635-052-V3	ASH GRATE PLATE (CAST)
4700-200555	GRATE ROD	780-017-V	UPPER BAFFLE
650-047-V2	AIR CONTROL SHUTTER	3917-100125	GLOVE
070-053-V1	ASH DOOR HANDLE	6400-40510	OWNER'S MANUAL
080-027-V	AIR CONTROL KNOB	635-053-V	SHAKER GRATE ROD
91-170-050-V	VERMICULITE PANEL SET	91-83510	CERAMIC LAVA PANEL SET
3070-010	SIDE PANEL (4 EA)	91-83512	CERAMIC MOHAVE PANEL SET
3070-011	BAFFLE PANEL		
OPTIONAL ACCESSORIES			
91-53500	OUTSIDE AIR KIT (BLACK MODELS)		
91-53502	OUTSIDE AIR KIT (TITANIUM MODELS)		
90-53308	4" OUTSIDE AIR DUCT KIT		
91-99500	MOBILE HOME BOLT DOWN KIT		
91-99510	LOCK KIT: ROTATIONAL		



Limited Warranty

These warranties give you specific legal rights. You may also have other rights which vary from State to State.

Hearthstone Quality Home Heating Products, Inc. (Hearthstone) warrants to the original retail purchaser only (the "Original Purchaser") the new appliance manufactured by Hearthstone, purchased by the Original Purchaser and installed by an authorized Hearthstone dealer or their designated representative against any of the occurrences listed in this document that result from defects in material or workmanship. This warranty is not transferrable. All obligations of Hearthstone under this document commence on the date of the Original Invoice (the "Purchase Date"). The term "Limited Lifetime" is defined as 10 years from the beginning of warranty coverage.

Hearthstone appliances are designed to be operated only with the fuels listed in your owner's manual.

Warranty Period	Wood	Gas	Pellet	Covered Components
Limited Lifetime	X	X	X	Stone
	X	X	X	Cast iron not listed elsewhere
	X			Clean burning air supply system*
5 Year	X	X	X	Door handles and latches
	X	X	X	Steel Components and Firebox
		X		Burner and logs
3 Year			X	Burn Pot and Baffles
2 Year	X	X	X	Appliance Electrical and Gas Components
	X	X		Refractory, Vermiculite Panels, Baffles
1 Year	X	X	X	Enamel finish against peeling or fading
	X	X	X	Accessories
	X	X	X	Glass
	X			Ash Grate
	X	X	X	All components not listed elsewhere

Any parts repaired or replaced during the limited warranty period will be warranted under the terms of the limited warranty for a period not to exceed the remaining term of the original limited warranty or one year, whichever is longer.

Parts: Hearthstone will replace through an authorized dealer, defective parts covered by the foregoing warranty at no charge.

Labor: Within the first (1st) year after the Purchase Date, Hearthstone will pay for warranty labor performed by an authorized Dealer at Hearthstone's published labor rates in effect at the time the labor is performed only if the appliance is installed by an authorized dealer or their designated representative. Otherwise or thereafter, the Original Purchaser is responsible for the cost of labor.

Shipping cost for parts: Within the first ninety (90) days after the Purchase Date, Hearthstone will pay for the shipping of appliance parts covered by any of the foregoing warranties to and from Hearthstone or an authorized

Dealer, as the case may be. Thereafter, the Original Purchaser is responsible for all shipping costs related to shipping appliance parts to and from Hearthstone or an authorized Dealer, as the case may be.

Shipping cost for the appliance: Within the first (1st) year after the Purchase Date, if the Original Purchaser is instructed to return the appliance to Hearthstone or an authorized Dealer for repair, Hearthstone will pay fifty percent (50%) and the Original Purchaser will pay fifty percent (50%) of the shipping costs related to shipping the appliance to and from Hearthstone or an authorized Dealer, as the case may be. Thereafter, the Original Purchaser is responsible for one hundred percent (100%) of all of the shipping costs related to shipping the appliance to and from Hearthstone or an authorized Dealer, as the case may be. Notwithstanding any other provision of this document, in no event will Hearthstone pay for any Dealer fees or other fees for pick up or delivery of the appliance returned for repair; the Original Purchaser shall be responsible for any such fees.

EXCLUSIONS & CONDITIONS

The warranties contained in this document do not cover, nor is Hearthstone responsible for:

1. Damages resulting from:
 - a. Failure to install, operate, or maintain the appliance in accordance with the owner's manual, operating instructions, installation instructions, or safety rating label provided with the appliance.
 - b. Over-firing the appliance. Over-firing can be identified by, but not limited to, warped cast iron or steel, rust colored cast iron, bubbling, cracking and discoloration of steel or enamel finishes.
 - c. Failure to install the appliance in accordance with all national or local building codes.
 - d. Shipping or improper handling.
 - e. Improper operation, abuse, misuse, continued operation with damaged, corroded, or failed components, accident, or improper/incorrect service or repairs.
 - f. Environmental conditions, inadequate ventilation, negative pressure, or improper drafting caused by tightly sealed constructions, insufficient make-up air supply, or air handling devices such as exhaust fans, forced air furnaces, or other such causes.
 - g. Damage caused by direct exposure to water.
 - h. Use of fuels other than those specified in the owner's manual.
 - I. Installation or use of components not supplied with the appliance, or any other components not expressly authorized and approved by Hearthstone.
 - J. Modifications of the appliance not expressly authorized and approved by Hearthstone in writing
 - K. Interruptions or fluctuations of electrical power supplied to the appliance.
2. All stones are warranted against cracking or breakage due to thermal stress, excluding surface and hairline cracks and scratches that do not affect the operation, or safety of the appliance.
3. Repair or replacement of wear parts. Such parts that are subject to normal wear and tear during the warranty period such as paint, gaskets, baffles, refractory materials, ash grates, and glass.
4. Damage resulting from installation, modification, alteration, repair or service of the appliance by any party other than an authorized Hearthstone dealer (a "Dealer") or their designated representative, or Hearthstone.
5. Damage due to water or condensation due to installation of the appliance in a high moisture area.
6. Damage due to installation of the appliance in an atmosphere contaminated by damaging chemicals, including but not limited to chlorine, fluorine or salts.
7. Scratches on glass, enameled surfaces or stones due to mechanical abrasion.
8. Noise caused by expansion or contraction caused by the heating and cooling of the appliance.
9. Odors caused by the heating of the appliance, or surrounding materials
10. Consequential damage caused by leaking of condensate during startup
11. A defect in any part of the appliance if the Original Purchaser fails to comply with Hearthstone's or a Dealer's request to ship the part or the appliance to Hearthstone or a Dealer, as the case may be.
12. Replacement stones and enameled parts are taken from current stock, and may not match originals in color, grain, or pattern. Hearthstone will supply replacement parts for discontinued parts in finishes or colors as available, or at their discretion.
13. Hearthstone's obligation under this warranty does not extend to the appliance's ability to heat the desired space. Information is provided to assist the customer and the dealer in selecting the appropriate appliance for the application. Consideration must be given to appliance location and configuration, environmental conditions, insulation and air tightness of the structure.

THE WARRANTIES CONTAINED IN THIS DOCUMENT ARE EXCLUSIVE AND ARE GIVEN BY HEARTHSTONE AND ACCEPTED BY THE ORIGINAL PURCHASER IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND ANY OBLIGATIONS, LIABILITIES, RIGHTS, CLAIMS, OR REMEDIES IN CONTRACT OR

TORT, WHETHER OR NOT ARISING FROM HEARTHSTONE'S NEGLIGENCE, ACTUAL OR IMPUTED. ALL IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE GIVEN ONLY TO THE EXTENT REQUIRED BY FEDERAL OR STATE LAW. EXCEPT AS OTHERWISE REQUIRED BY STATE LAW, UPON THE EXPIRATION OF THE EXPRESS LIMITED WARRANTIES CONTAINED HEREIN, NO IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY TO THE SUBJECT APPLIANCE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

THE WARRANTIES CONTAINED IN THIS DOCUMENT EXTEND ONLY TO THE ORIGINAL PURCHASER OF THE APPLIANCE WARRANTED HEREUNDER. THEY ARE NOT TRANSFERRABLE AND DO NOT EXTEND TO ANY SUBSEQUENT OWNERS.

UNDER NO CIRCUMSTANCES SHALL HEARTHSTONE BE LIABLE TO THE ORIGINAL PURCHASER OR ANY OTHER PERSON FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO DAMAGE TO PROPERTY OR PERSONAL INJURIES, WHETHER ARISING OUT OF LOSS OF USE, BREACH OF WARRANTY, TORT, OR OTHERWISE, EVEN IF HEARTHSTONE HAS BEEN APPRAISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

QUALIFYING FOR WARRANTY COVERAGE

To obtain performance of any obligation under this document, the Original Purchaser must, within the applicable warranty time period, contact their original Hearthstone dealer, or the current responsible local Hearthstone dealer, for instructions regarding the return of defective parts for repair, the return of the appliance for repair, or to schedule a Dealer service call. The Original Purchaser should refer to the Dealer Network search engine contained on Hearthstone's Web site (www.hearthstonestoves.com) if the original dealer is not available, to find a Hearthstone dealer nearest to the Original Purchaser's location.

REMEDY

The remedy for any breach of the foregoing warranties will consist of repair or replacement, at Hearthstone's option, of any covered defect in the appliance. When the Original Purchaser contacts a Hearthstone Dealer, the Dealer on behalf of Hearthstone, as the case may be, will instruct the Original Purchaser to either return the defective part, or the entire appliance (if requested), to the Dealer or Hearthstone or allow a Dealer to make a service call at the place where the appliance is located. Hearthstone may require that a digital picture be provided to support the claim. Notwithstanding any other provision of this document, the Original Purchaser shall pay for any fees and service charges related to a Dealer's service call or the shipping charges associated with the return.

WARRANTY REGISTRATION

The Original Purchaser can complete their warranty registration on our website at www.hearthstonestoves.com, or send a completed and signed Warranty Registration Form, which is enclosed in the appliance document packet, to the following address:

Hearthstone Quality Home Heating Products, Inc.
Warranty Department
317 Stafford Avenue
Morrisville, VT 05661

NOTE: SENDING IN THE SIGNED WARRANTY REGISTRATION FORM IS NOT REQUIRED AS A CONDITION OF WARRANTY COVERAGE OR HEARTHSTONE'S PERFORMANCE.