



# Homestead

Hearth Mount (#8570H) & Freestanding (#8570F)

NON-CATALYTIC WOODSTOVE

# Owner's Manual Installation and Operating Instructions





Save these instructions for future reference!

Please read this entire Owner's Manual before you install and use your new Homestead Wood Stove. To reduce the risk of fire, follow the following instructions. Failure to follow these instructions may result in property damage, bodily injury, or even death.



Contact local authorities having jurisdiction (your local building department or fire officials) about the required permits, any restrictions, and an installation inspection

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# Introduction

Congratulations! You have just invested in a most unique wood stove—the Homestead wood burning stove from Hearthstone Quality Home Heating Products Inc®. Both the Homestead Model 8570F and 8570H, with their 2.0 cubic foot firebox capacity, are the cleanest burning EPA certified, non-catalytic wood burning stoves in their class at 1.9 grams per hour particulate emissions. The generous width allows for loading wood up to 19 inches long! You can be proud to join the Hearthstone family.

Your purchase ensures years of clean, comfortable heat with minimal maintenance. You will receive the benefits of the most advanced technology in wood burning without the cost and maintenance requirements of a catalytic stove. The Homestead blends modern technology with the unique beauty and heating qualities of soapstone (traditionally renowned for its even heat production and long heat retaining ability). We trust that you will appreciate the quality of our handcrafted product.

Please read this manual in its entirety before installing your stove. It explains how to safely install your stove, break it in, operate it, and maintain it. This information will be useful to you now and in years to come, so keep the manual handy and refer to it as needed.

Use these instructions as well as national, state, and local building codes to install your stove. Be sure to maintain the designated stovepipe and stove clearances to walls, ceilings, hearth, and other combustible surfaces. This will help reduce the risk of fire. Failure to follow these instructions can result in property damage, bodily injury, and even death.

Locate your stove in a safe, convenient, open area; away from traffic flow, and doors and hallways; and near a chimney and chimney connector. Review the proper clearance measurements from combustible surfaces. You can safely reduce required clearances in most cases with special connector pipe and special wall coverings or as specified by this manual, the NFPA 211 codes, and your local authorities having jurisdiction.

Keep furniture, drapes, curtains, wood, paper, and other combustibles far away from the stove. Never install the stove in locations where gasoline, kerosene, charcoal lighter, or any other flammable liquids are used or stored.

The soapstone walls of a Hearthstone soapstone stove produce an even, radiant heat. Locate the

stove centrally in your living area to allow the heat to travel naturally to distant rooms. We suggest that you do not locate your stove in an uninsulated basement. The amount of radiant energy required to heat concrete basement walls is so great that most of the useable heat is absorbed by them and lost.

SAFETY NOTICE: A HOUSE FIRE MAY RESULT IF THIS STOVE IS NOT INSTALLED PROPERLY. FOR YOUR SAFETY, CAREFULLY FOLLOW THE INSTALLATION DIRECTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA.

The performance of your stove depends on many variables. Since all installations are unique, the general information and operating procedures presented here can only serve as useful guidelines rather than hard and fast rules. Should you experience any problems or have any questions, do not hesitate to contact your dealer for additional information.

Validate your warranty — return your warranty registration card to Hearthstone within 30 days of purchase. Once your warranty is validated, contact your dealer for any necessary warranty service.

This stove is manufactured and warranted by:

Hearthstone *Quality Home Heating Products Inc*<sup>®</sup> 317 Stafford Avenue Morrisville, VT 05661

### Codes

When you install your Homestead, it is imperative that you adhere to all local codes, which can be obtained from either of the following two national 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 Homestead in a mobile 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.

### Ensure you install your stove:

- According to the recommendations and instructions presented in this manual.
- According to all applicable codes.
- With the proper-sized chimney.

### When using your stove:

- Warn children and others unfamiliar with wood stoves about the danger of touching the hot, radiating surfaces of your stove. For your additional safety, obtain hearth and stove guards from your local dealer.
- Follow recommended break-in procedure as outlined in this manual.
- Burn natural wood only. Higher efficiencies and lower emissions result when burning air-dried, seasoned wood, as compared to green or freshly cut wood.
- Keep the front door closed at all times except when loading wood.
- Use caution when loading firewood into a hot stove.
- Keep the ash pan tray fully inserted and the ash grate closed.

- Inspect the stovepipe, chimney connector, and chimney frequently, as recommended.
- Make sure the removable ash lip is in place as it was certified for operation — while using the stove. If the ash lip is not installed properly, the hearth may exceed safe temperatures.

#### Follow these safety precautions:

- Never modify this stove in any way, especially the primary air control system.
- Never burn kiln dried wood, painted or treated wood, solvents, trash, plywood, colored or glossy paper, artificial logs, cardboard, coal, garbage, or driftwood. *Especially, do not burn coal in this stove.*
- Never use gasoline type fuel, kerosene, charcoal lighter fluid, or other liquid fuels or solid fire starters to start or invigorate a fire. These fuels can possibly generate carbon monoxide, which can deplete the supply of oxygen or create an explosion. Keep all such materials away from the stove.
- Never use the stove if the ash pan is loose, not in place or if the ash grate is open.
- Never use a wood grate or other device to elevate the fire.
- Do Not allow logs to rest against or otherwise come in contact with the glass when the door is closed.
- Do Not slam the door; or use it to force wood in to the stove.
- Mever over-fire your stove. (See page 38.)
- Never put articles of clothing or candles on a hot stove.
- Do Not connect the stove to a flue that is serving another appliance. (See page 28.)

### Other Safety Guidelines

- As a general rule keep all combustible items, such as furniture, drapes, clothing, and other items, at least 36" (0.92 meters) from the stove.
- Install a smoke detector.
- Keep a fire extinguisher handy. We recommend the type rated "A B C".
- Dispose of ashes properly. (See page 39)
- Keep children and pets away from the stove; they could be burned by touching a hot stove.

Clean your system as needed. (See page 40.)

### **Periodic Checklist**

Perform each of the following tasks at the specified intervals.

### At the End of Every Week (or as required):

• Empty the ashes from the firebox and the ash pan, sooner if the firebox or the ash pan begins to fill up.

### At the Beginning of Every Month:

 Visually inspect the chimney connector and chimney for creosote; clean them accordingly.

#### At the Beginning of Every Other Month:

 Check door seals using the "dollar bill test" when the fire is out and the stove cool, shut the door on a dollar bill. Try to slide the dollar out. If the bill pulls out without any resistance, then your stove's door isn't sealed properly. To tighten the seal, change the door gasket.

### At the End of Every Season (once a year):

- Dismantle the chimney connector and thoroughly clean it. 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 gaskets; replace the gaskets if they are worn, frayed, cracked, or extremely hard.

### **Emergency Procedures**

In 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 closed and ash pan inserted all the way.

WARNING: DO NOT ATTEMPT TO PUT OUT A STOVEPIPE OR CHIMNEY FIRE BY THROWING WATER ONTO THE STOVE, STOVEPIPE, OR CHIMNEY. THE EXTREMELY HIGH TEMPERATURES ASSOCIATED WITH SUCH FIRES CAN CAUSE INSTANTANEOUS STEAM AND SERIOUS BODILY HARM.

Once the chimney fire has expired, leave the primary air control closed and let the fire in the stove die out completely. The stove should not be fired again until the stove, stovepipe, and chimney are all thoroughly inspected for any sign of damage. You must correct any damage before using your stove again.

### **Specifications**

(Specifications are for both the #8570F and #8570H unless otherwise noted)

**Maximum Heat Output:** 50,000 BTUs per hour of cordwood (based on independent laboratory test results).

**Heat-Life:** Twelve hours Heat-Life is a trademark of Hearthstone and is defined as thermal capacitance or quantity of heat stored. Used here, it refers not just to burn time, but also to hours of usable heat obtained from a single load of fuel.

Size of Heated Area: Up to 2,000 square feet

**Firebox Capacity:** 2.0 cubic feet (.057 cubic meters) or 40 pounds of wood (The amount and weight of wood contained per cubic foot of firebox volume can vary from 15 to 36 pounds depending on the type of wood, its moisture content, the packing density, as well as other factors. As a constant for comparison and test purposes, these specifications assume 20 pounds of seasoned hardwood per cubic foot of firebox volume.)

Maximum Log Length: 19" (483 mm)

Height (#8570H with 4" legs): 251/2" (648 mm)

Height (#8570F with 6" legs): 27<sup>1</sup>/<sub>2</sub>" (699 mm)

Width: 27" (686 mm)

**Depth:** 19" (483 mm)

Front Door Size: 18" wide x 12" high (457 mm x 305 mm)

Stovepipe Size: 6" (152 mm) diameter

Metal Chimney: 6" (152 mm) inside diameter

**Masonry Chimney:** Up to 8" x 8" (203 mm x 203 mm) square flue

Flue Exit: Top or rear exit

Actual Weight: 360 pounds

#### Shipping Weight: 400 pounds

**Crated Dimensions:** Height (#8570H with 4" legs or #8570F with 6" legs):  $34\frac{1}{2}$ " (876 mm); Width:  $31^{1}/_{8}$ " (790 mm); Length  $24^{7}/_{8}$ " (631 mm)

**Optional Equipment for Model #8570H:** Rear Heat Shield Kit, Outside Air Kit, Freestanding Conversion Kit (for adding 6" legs and a bottom heat shield), Surround Kit, and Freestanding Oval-to-Round Adapter. (Please see "Optional Accessories" on page 46 for complete descriptions of this optional equipment.) **Optional Equipment for Model #8570F:** Rear Heat Shield Kit, Blower Fan Kit, Outside Air Kit, Hearth Mount Conversion Kit (for adding 4" legs), Surround Kit, and Hearth Mount Oval-to-Round Adapter. (Please see "Optional Accessories" on page 46 for complete descriptions of this optional equipment.)

**Soapstone Finish:** Polished gray soapstone, which varies from gray to gray-blue, according to its natural composition.

**Castings Finish:** Painted black matte and Porcelain enamel colors.

# Installation

# Unpacking

Hearthstone Stoves packages your Homestead stove with the greatest care, so that it ships safely. Under certain circumstances, however, damage can occur during transit and handling. When you receive your stove, unpack it carefully, inspecting your stove and all parts for damage. Also, make sure that all parts are included in the box.

# Your Homestead Model #8570H package includes:

- Hearth Mount Wood Stove
- 💩 Ash Lip
- Hearth Mount Compact Oval-to-Round Adapter (For a freestanding installation, you will need the Freestanding Conversion Kit — please see "Optional Accessories" on page 46 for more information.)
- i Owner's Manual

# Your Homestead Model #8570F package includes:

- Freestanding Wood Stove
- 💩 Ash Lip
- Freestanding Oval-to-Round Adapter (For a Hearth Mount installation, you will need the Hearth Mount Conversion Kit — please see "Optional Accessories" on page 46 for more information.)
- Owner's Manual

If any parts are damaged or missing, please contact your dealer immediately.

# **Installing Your Stove**

First you must decide where your stove will reside. After choosing an appropriate spot, inspect this location to make sure that the stove will have enough clearance to combustible materials that would surround the stove. These combustibles can include walls, floor, ceiling, fireplace, and chimney. You must carefully consider the clearances to all of these combustibles before actually connecting your stove.

When considering these clearances, consider:

 If you are installing your stove in a fireplace or in a freestanding location.

- The kind of floor the stove will rest on. Depending on your floor, you can install your stove as a Hearth Mount stove with 4" legs or as a Freestanding stove with 6" legs, a bottom heat shield, and a freestanding oval-to-round adapter.
- The optional Surround Set, which reduces the clearances to the fireplace's mantle and side trim.

Please use this section to plan how to locate your stove in your particular location. Consider both the clearances of the stovepipe and the stove itself to the surrounding combustibles.

Read this chapter to obtain a sound understanding of how to properly install your stove. Depending on your installation, however, you only need read one of the following three sections:

- Read "Fireplace Install For Hearth Mount Stove (#8570H) with 4-inch Legs" (page 11) only if you are installing a Hearth Mount stove with 4" legs into a fireplace, with or without a surround.
- Read "Fireplace Install for Freestanding stove (model #8570F) with 6-Inch Legs" (page 17) only if you are installing a Freestanding stove with 6" legs into a fireplace, with or without a surround.
- Read "Freestanding Install" (page 22) only if you are installing either a Hearth Mount or a Freestanding stove in a freestanding location.

You can reduce some clearances by adding the optional Rear Heat Shield Kit manufactured by Hearthstone and available through your local dealer. (See page 46 for a description; a companion Blower Fan Kit is also available for freestanding installations.)

Close clearance connector stovepipes must be tested to UL standards and listed. Check the listing for your pipe for actual clearances. The diagrams in this manual represent typical installations, but are specific to the Simpson Dura-Vent DVL brand.

Do not reduce clearances described in this chapter without using heat shields and/or close-clearance connector stovepipes. In addition, do not reduce clearances unless you protect surfaces per NFPA 211standards.

### Clearances to NFPA 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 211 for specifications and complete details. You can obtain this information directly from NFPA.

### National Fire Protection Agency (NFPA)

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

### Outside Air Kit

The optional Outside Air Kit (#95-53700) for both the Hearth Mount and the Freestanding installation allows you to draw air from outside your home rather than inside—to aid the draft of your stove. Drawing air from the outside reduces drafts within the room and air infiltration within the building. This can also improve your stove's performance in a particularly airtight house.

If your home is well insulated and tight, consider adding the Outside Air Kit—it might even be required by code. Use this kit for both a fireplace and a freestanding installation. (Please see "Optional Accessories" on page 46 for more information.)



The Outside Air Kit allows for a direct stove connection of a 3" (76 mm) diameter duct (which you can obtain from another manufacturer); this duct leads to the outside of the house. Connect the duct to your stove in a number of ways (illustration is typical for both Hearth Mount and Freestanding models). Choose the one that is most convenient.



#### (Model #8570H shown)

When running the duct from your hearth to the outside, make sure you avoid all structural members of your house. At the point where the duct meets the outside wall of your house, make sure that snow, leaves, or other materials cannot obstruct the duct's opening. Also, screen this opening so that small animals and insects can't crawl or fly in.

### Surround Kit

To reduce clearances around your wood stove, you can install an optional Surround Kit (#95-59710). The metal attachments of the surround match the look of your wood stove and block the exposed spaces between the stove and the fireplace.

The surround is designed to be installed on a stove with either 4" or 6" legs. For 4" legs, the surround is 44" wide and 32" high; for 6" legs, the surround is 44" wide and 34" high.

The Surround Kit is available from your Hearthstone dealer, and comes complete with all mounting hardware and instructions. (Please see "Optional Accessories" on page 46 for more information.)



### Hearth Requirements and Floor Protection

Install your Hearth Mount stove with 4-inch legs on one of the following:

A noncombustible floor, such as a slab, cement, or stone hearth. (A noncombustible floor will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or the anticipated heat from your stove.) A floor protector with an R-value of 6.6 or more that you obtain from your dealer. (A floor protector is any noncombustible on the floor underneath and extending to the front, sides, and rear of the wood stove.)

Install your Freestanding stove with 6" legs with the floor heat shield on one of the following:

- A hearth pad listed to UL 1618 standards. These are noncombustible floor protectors; no other type of floor protector is acceptable.
- A composite (homemade) floor protector with an R-value of 2.5 or more.

The hearth pad or floor protector must measure at least 41"w x 41"d square (1041mm x 1041 mm). Place your stove so that the floor protector extends 16 inches (450 mm), [18 inches in Canada] to the front and centered beyond each side of the fuel loading and ash removal openings (as illustrated, looking down onto the top of the stove).



### Figure 1 – Hearth Dimensions (US)

Regardless of where your stove is installed, the area extending at least 16 inches in front of the stove must have an insulating R-value of 2.5; you can also use a listed floor protector for this area. This provides floor protection in front of the loading door. You must also place floor protection under the chimney connector, extending 2" (50 mm) beyond each side.

Floor protector's come with various types of specifications. To convert a floor protector's specification to an R-value, do one of the following:

If the R-value is given, use that value—no conversion is needed.

- If a K-factor is given with a required thickness
  (T) in inches, use this formula: R-value = 1/K x T
- If a C-factor is given, use the formula: R-value = 1/C

To determine the R-value of the proposed alternate floor protector:

- Use either the K-factor or the C-factor formula explained above to convert specifications not expressed as R-values.
- For multiple layers of floor protectors, simply add the R-values of each layer to determine the overall R-value of the layers.

If the overall R-value of your setup is greater than the R-value of the specified floor protector, then your setup is acceptable.

### Fabricating a Homemade Floor Protector

You can make your own floor protector by stacking together noncombustible materials from the following table. Simply add together the listed R-values to attain the necessary requirements for installing your stove.

Noncombustible Material	Thickness	R-value
Gypsum or plaster board <sup>1</sup>	<sup>1</sup> / <sub>2</sub> "	0.45
Wallboard, Wonderboard, or Durock <sup>1</sup>	<sup>1</sup> / <sub>2</sub> "	0.20
Ceramic board (Fiberfrax or Micor) <sup>1</sup>	<sup>1</sup> / <sub>2</sub> "	1.10
Nominal solid clay brick <sup>1</sup>	1"	0.20
Ceramic wall or floor tile <sup>1</sup>	<sup>1</sup> / <sub>4</sub> "	0.01
Mineral wool insulation <sup>2</sup>	1"	3.12
Cement mortar <sup>2</sup>	1"	0.20
Horizontal still air <sup>2</sup> *	<sup>1</sup> / <sub>8</sub> "	0.92

#### Note: You cannot "stack" horizontal still air to accumulate R-values; you must separate each layer of horizontal still air with another noncombustible material.

To fabricate a floor protector for a wood floor with an R-value of at least 2.5, consider the following examples:

1/2" ceramic board	1.10
"8" horizontal still air	0.92

<sup>&</sup>lt;sup>1</sup> According to Intertek Testing Services, Inc.

<sup>&</sup>lt;sup>2</sup> According to ASHRAE Handbook of Fundamentals 1977

4" solid clay brick	0.80
Total R-value	2.82
1/2" mineral wool insulation	1.56
<sup>1</sup> 8" horizontal still air	0.92
<u>1" cement mortar</u>	0.20
Total R-value	2.68

### Fireplace Install For Hearth Mount Stove (#8570H) with 4-inch Legs

Before installing your Hearth Mount stove with 4-inch legs, understand the following dimensions and clearances.

# Dimensions and Clearances for Stove's with 4-inch Legs but without Surrounds

The following four illustrations depict the dimensions and fireplace, mantle, and wall clearances for a stove with 4-inch legs and without a surround.

### Stove Dimensions (4-inch legs, without surround)



Trim and side wall clearances for fireplace installations

D = 23" - TO SIDE TRIM E = 23" - TO SIDE WALLS



FRONT VIEW







SIDE VIEW

### Wall Clearances (4-inch legs, without surround)

# Fireplace Clearances (4-inch legs, without surround)

The Homestead stove with 4-inch legs fits uniquely under a 22-inch lintel.



# Dimensions and Clearances for Hearth Mount (#8570H) Stove with 4-Inch Legs and Surrounds

The following four illustrations depict the stove's dimensions and fireplace, mantle, and wall clearances for a stove with 4-inch legs *with* a surround. (Please refer to "Surround Kit" on page 9 for information about this option.)

### Stove Dimensions (4-inch legs, with surround)



### Mantle Clearances (4-inch legs, without surround)



### Fireplace Clearances (4-inch legs, with surround)

The Homestead stove with 4-inch legs fits uniquely under a 22-inch lintel.



### Wall Clearances (4-inch legs, with surround)



D = 9" - TO SIDE TRIM E = 14" - TO SIDE WALLS

# Mantle Clearances (4-inch legs, with surround)



### Hearth Clearances (for stoves with 4-inch legs)

The following three illustrations describe the clearance to combustible requirements for three different hearth heights:

Hearths raised less than 2 inches

Hearths raised from 2 inches to 9 inches

Hearths raised 9 inches or more

All three illustrations present the same information regarding the stove's connection to the fireplace and chimney; only the dimensions and information regarding the hearths differs.

### Hearth Raised Less Than 2 Inches



#### Hearths Raised From 2 Inches to 9 Inches



### Hearths Raised 9 Inches or More



# Fireplace Install for Freestanding stove (model #8570F) with 6-Inch Legs

Before installing your Freestanding stove with 6-inch legs and a bottom heat shield, understand the following dimensions and clearances

### Dimensions and Clearances for a Freestanding Stove with 6-inch Legs, but without Surrounds

The following four illustrations depict the dimensions and fireplace, mantle, and wall clearances for a stove with 6-inch legs and *without* a surround.

### Stove Dimensions (6-inch legs, without surround)



Trim and side wall clearances for fireplace installations

D = 23" - TO SIDE TRIM E = 23" - TO SIDE WALLS



# Fireplace Clearances (6-inch legs, without surround)

The Homestead stove with 6-inch legs fits uniquely under a 24-inch lintel.



### Mantle Clearances (6-inch legs, without surround)



Wall Clearances (6-inch legs, without surround)

### Dimensions and Clearances for Freestanding Stove with 6-Inch Legs and Surrounds

The following four illustrations depict the stove's dimensions and fireplace, mantle, and wall clearances for a stove with 6-inch legs, a bottom heat shield, *with* a surround. (Please refer to "Surround Kit" on page 9 for information about this option.)

### Stove Dimension (6-inch legs, with surround)



### Fireplace Clearances (6-inch legs, with surround)

The Homestead stove with 6-inch legs fits uniquely under a 24-inch lintel.



### Wall Clearances (6-inch legs, with surround)



E = 14" - TO SIDE WALLS

Mantle Clearances (6-inch legs, with surround)



### Hearth Clearances (for stoves with 6-inch legs)

The following three illustrations describe the clearance to combustible requirements for three different hearth heights:

- Hearths not raised
- Hearths raised less than 7 inches
- Hearths raised 7 inches or more

All three illustrations present the same information regarding the stove's connection to the fireplace and chimney; only the dimensions and information regarding the hearths differs.

### Hearths Not Raised



with an "R"-value of 2.5 or listed to U.L. 1618, extending 16" in front of glass and 8" beyond either side of the fuel and ash door openings.

### Hearths Raised Less Than 7 Inches



(Model #8570F shown)

Hearths Raised 7 Inches or More



(Model #8570F)

# Freestanding Install for Hearth Mount Stove (#8570H) With 4 Inch Legs and For Freestanding Stove (#8570F) With 6 Inch Legs

### Clearances to Hearths for Hearth Mount Stoves (#8570H) with 4-inch Legs

The following three illustrations, while similar in appearance, describe the clearance to combustible requirements for stoves with 4-inch legs to three different hearth heights:

- Hearths raised less than 2 inches
- Hearths raised from 2 inches to 9 inches
- Hearths raised 9 inches or more

All three illustrations present the same information regarding the stove's connection to the stovepipe; only the dimensions and information regarding the hearths differs.

Hearths Raised Less Than 2 Inches



#### Hearths Raised From 2 Inches to 9 Inches



### Clearances to Hearths for Freestanding Stoves (#8570F) with 6-inch Legs

The following three illustrations (while similar in appearance to the previous ones) describe the clearance to combustible requirements for stoves with 6-inch legs to three different hearth heights:

- Hearths not raised
- Hearths raised less than 7 inches
- Hearths raised 7 inches or more

All three illustrations present the same information regarding the stove's connection to the stovepipe; only the dimensions and information regarding the hearths differs.

### Hearths Not Raised



#### Hearths Raised Less Than 7 Inches



### Clearances to Combustible Surfaces for Both Heart Mount (4" legs) and Freestanding (6" legs) Stoves

You can use any of the following stovepipes when installing your stove in a freestanding location.

- A single wall connector stovepipe can be either 24 MSG or 25 MSG blued steel. You must comply with larger clearances with single wall pipe.
- A double wall connector, close clearance stovepipe, must be used with a listed factorybuilt "Type HT" chimney or double wall pipe to reduce clearances. Double wall connector pipe is available from several manufacturers; ask your dealer to help you choose the most appropriate pipe for your installation.
- Several types of air insulated connector stovepipes are Simpson Dura Vent DVL, Metalbestos DS, Security, GSW, and Ameritec.

When installing a chimney connector, do not pass them through a floor, a ceiling, any attic or roof space, closet, or similar concealed space. If you are passing stovepipe through a combustible wall or partition, your installation must conform to NFPA 211 or CAN/CSA–B365 standards.

For the sake of safety, make sure you allow for the minimum clearances from chimney connectors to all surrounding surfaces such as walls, ceilings, and floors—combustible or not.

The clearances for a typical chimney connection and two freestanding locations—in a corner and in an alcove—follow. The single wall clearances are generic; the Double wall clearances are for Simpson Dura Vent DVL. *Ensure you check the exact specifications from the manufacturer of your connector.* 

### Rear Heat Shield and Blower

You can reduce stove and pipe clearances when you install the optional Rear Heat Shield Kit (part number 95-68700). (Please see "Optional Accessories" on page 46 for more information.)

### **Clearances from Stovepipes**

This table and illustration lists the minimum clearances from your single- and double-wall stovepipe to both unprotected and NFPA 211 protected surfaces. (For more information about NFPA protected surfaces, please refer to "Clearances to NFPA 211 Protected Surfaces" on page 8.)

Connector Type	Unprotected Surfaces	NFPA 211 Protected Surfaces
Single wall connector pipe	18" (460 mm)	12" (305 mm)
Double wall connector pipe (see manufacturer's specifications)	6" (155 mm)	3" (80 mm)



(Model #8570F shown)

### Clearances from a Stove to a Corner

This table and illustrations list the minimum clearances from the back of your stove to the walls in a corner, both when your stove is parallel and angled to the corner, and to unprotected and NFPA 211 protected walls.

	Unprotected Surfaces		Protected Surfaces (NFPA 211)			
Installation Type	Parallel Side	Parallel Rear	Corner	Parallel Side	Parallel Rear	Corner
No Heat Shield (optional accessory)	23" (584- mm)	26" (660- mm)	18" (460- mm)	12" (305- mm)	12" (305- mm)	12" (305-mm)
Rear Heat Shield, and single wall connector	16" (406- mm)	13" (330- mm)	12" (305- mm)	12" (305- mm)	12" (305- mm)	9" (229-mm)
Rear Heat Shield, and double wall connector	16" (406- mm)	7" (178-mm)	12" (305- mm)	10" (254- mm)	7" (178-mm)	7" (178-mm)



### Clearances to an Alcove

This table and illustration list the minimum clearances from your stove to the walls of an alcove, both unprotected and NFPA 211 protected walls.

Unprotected Surfaces			Protected Surfaces (NFPA 211)		
Minimum Width	Maximum Depth	Minimum Height (stove to ceiling)			Minimum Height (stove to ceiling)
59."(1499-mm)	48ฺ"(1220-mm)	36ౖ"(915-mm)	5 <u>1</u> "(1295-mm)	48ٍ"1220-mm)	18ฺ"(460-mm)



# **Venting Components and Configuration**

### 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 within the clearances to combustibles discussed earlier to install your stove safely.

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 wood stove to the chimney. Install it into the stainless steel oval-to-round connector (mounted on the flue collar) on the wood stove and connect it to an approved chimney. The chimney connector stovepipe must be a 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.
- A wall thimble is a manufactured (or siteconstructed) device installed in combustible walls through which the chimney connector passes to the chimney. It keeps 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 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 flue serving another appliance; you will compromise the safe operation of both the wood stove and the connected appliance.
- A *liner* is the UL 1777or ULC S635 (for factory built fireplace or masonry) chimney. It connects the stainless steel oval-to-round adapter to the chimney rain cap.

You must connect your stove to a chimney or liner 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 THE STOVE TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.









Stovepipe

Support Box with built-in Starter

section

Figure 2 - Model #8570F shown

### Installing a Venting System

Attach stovepipe sections to the stove 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 the outside of the stovepipe and onto the stove.

Secure all joints, including attaching the stovepipe to the stove's flue collar, with three sheet metal screws. Install #10 x1/2" (3 mm x 13 mm) sheet metal screws into the holes pre-drilled in the flue collar. Omitting the screws can cause your joints to separate from the vibration resulting from a creosote chimney fire.

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

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 should always rise away from the stove a minimum of 1/4" per foot (21 mm per meter).

*Do not* use long runs of stovepipe to increase heat dispersal. Using longer lengths of stovepipe or more connecting elbows than necessary increases the chance of draft resistance and the accumulation of creosote buildup.

In general, you do not need to install a stovepipe damper with the Homestead. 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 Homestead requires a draft between 0.06" wc and 0.1" wc. For drafts above 0.1" wc, install a stovepipe damper.

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

# **Connecting Your Wood Stove**

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

### Installing in a Fireplace

You can install the Homestead in a masonry or zero clearance fireplace. For a rear exit, you must first remove and remount the flue exit. Using a 3/8 inch wrench or socket, simply remove the four bolts that hold the flue exit in place. (Be careful not to drop the flue exit when all the bolts are out.) Rotate the flue exit 180 degrees and reinstall the four bolts, tightening them snugly.

Before installing the stove in a factory-built fireplace, the fireplace must have the following characteristics:

- 1. Listed per UL 127 or ULC S610.
- Include a full height listed chimney liner meeting type HT requirements (2100° Fahrenheit) per UL 1777 (United States) or ULC S635 (Canada) standards.
- 3. The means to prevent room air passage to the chimney cavity of the fireplace.
- 4. Does not disturb the airflow in or within the fireplace when installed (louvers, or cooling air inlet or outlet ports must not be blocked).
- 5. Not be altered in any way, except for the following:
  - a. External trim pieces which do not affect the operation of the fireplace can be removed, providing they are stored on or within the fireplace for re-assembly if the insert is removed.
  - b. The chimney damper can be removed to install the chimney liner.
- 6. Must not have blocked circulating chambers (if available).
- 7. The means for removing the insert to clean the chimney flue.

8. Have a permanent metal warning label (provided with the Homestead—see illustration to the below) attached to the back, stating that the fireplace must be restored to its original condition for safe use without the insert.

This fireplace must be restored to it's original condition for safe use without the insert.

NOTE: When installing this unit as an insert, this label must be installed on/in the fireplace.

Remember, you must adhere to all previously

described floor protection requirements when installing into a zero clearance fireplace.

# Connecting to a Prefabricated Metal Chimney

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

#### WARNING: DO NOT CONNECT THE STOVE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

Ensure the size of the chimney's flue is appropriate for the Homestead. The Homestead 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, be sure to 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, maintain all manufacturers' be sure to recommendations for the proper clearances to the chimney.

There are basically two ways to install a prefabricated metal chimney:

- An interior installation where the chimney passes inside the residence through the ceiling and roof.
- 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 more quickly and retains its heat; this both promotes a better draft and discourages the formation of creosote. An exterior chimney does not benefit from the warmth of being surrounded by 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.

### **Connecting 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 a 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 repairs, 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 clean-out is complete and working properly. To avoid a loss in draft, the clean-out must close off completely. If allowed to cool, your stove will perform poorly and creosote will build up in the chimney.

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

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

### Chimney wall construction

- Brick or modular block at least 4" (102 mm) thick.
- A rubble or stone wall at least 12" (305 mm) thick.

### Flue liner

- Minimum thickness of 5/8" (16 mm).
- Installed with refractory mortar.
- ▲ At least 1" (25 mm) air space.
- An equivalent flue liner must be a listed chimney liner system meeting type HT requirements or other approved material.

### Interior chimney requirements

- At least 2" (51 mm) clearance to combustible structure.
- Fire stops must be installed at the spaces where the chimney passes through floors and the ceiling.
- Installation must be 2" (51 mm) from the chimney.

### Exterior chimney requirements

At least 1" (25 mm) clearance to combustible structure.

### Chimney height requirements (see illustration)

- At least 3 feet (0.9 meters) higher than the highest part of the roof opening through which it passes.
- At least 2 feet (0.6 meters) higher than any part of the roof within 10 feet (3 meters) measured horizontally from the top of the chimney.
- This stove requires a minimum chimney height of 13 feet (4 meters). The maximum allowable chimney height is 30 feet (9 meters).





## 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 attached the stove to your mobile home's floor. Use the 3/8" holes in each leg base to bolt down the stove.
- 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.

- Chimney must be removed when transporting Mobile Home.
- WARNING: DO NOT INSTALL IN A SLEEPING ROOM.
- CAUTION: MAINTAIN THE STRUCTURAL INTEGRITY OF THE MOBILE HOME WALLS, FLOOR, CEILING, AND ROOF WHILE YOUR STOVE IS INSTALLED AND IN USE.



Typical Mobile Home installation. Chimney supported by ceiling.

# Operation

Once your Homestead is set in place, connected, and assembled, you are ready to light a fire. Hearthstone Stoves tests each wood stove before we ship, so you should be able to easily light your first fire. You may, however, have to make a few small adjustments to compensate for altitude and other factors particular to your installation.

#### WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

Please 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 break-in your stove and use it on a daily basis.

### **Controls and Features**

Before lighting any fires, become familiar with the location of your stove's controls and features and learn how to properly use them. For your own safety, do not modify these features in any way.

*Front Door and Handle:* The front door allows you to load wood into your stove; a fixed handle allows you to operate the front door and allows you to latch the door closed. To open the door, lift the handle to the 10 o'clock position and pull the door. To latch the door, push the door closed tightly then lower the handle to the 7 o'clock position. Pull on the door to make sure it is properly latched.

*Primary Air Control:* This feature is located on the lower left side of the stove. The primary air control

allows you to regulate the amount of air entering the firebox. Generally speaking, the more air allowed into the firebox, the faster and hotter the rate of burn; conversely, the less air creates a slower burn. Pull the lever forward (towards the front of the stove) to open the primary air control; push the lever back (to the rear of the stove) to close the primary air control.

**Ash Pan:** The ash pan is located under the ash lip. The ash pan collects burned ash from a fire and allows you to conveniently remove the ash from your wood stove. The ash pan is easy to remove: spin the ash grate open, sift the ashes into the ash pan, spin the ash grate closed, then pull the ash pan's handle and carefully slide out the ash pan. After you have disposed of the ashes, push the ash pan all the way into the stove.



#### (Model #8570H shown)

Remove ashes when the stove is cold. If the ash pan is warm, use protective fireplace gloves. Be extremely cautious when handling, storing, or disposing of ashes.

DO NOT OPERATE THE STOVE UNLESS THE ASH PAN IS TIGHTLY INSERTED INTO THE STOVE AND THE ASH GRATE IS CLOSED. THIS COULD OVERHEAT AND DAMAGE THE STOVE.

### **Choosing Firewood**

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

CAUTION: DO NOT USE CHEMICALS OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA, KEROSENE, LIGHTER FLUID, OR ENGINE OIL TO START A FIRE. 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 Fireplace Insert. 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 Fireplace Insert.

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
		I
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.

### Thermo-Ceramic Baffle System

To enhance the combustion efficiency and reduce the emissions of the fire in your stove Hearthstone has developed an advanced THERMO-CERAMIC baffle system. This system uses a lightweight, durable ceramic material above the burner tubes to maintain the high temperatures in the secondary combustion area and maintain the low emission – high efficiency combustion you desire. This technology will not corrode, rust, dissolve, or lose its strength, however it is vulnerable to puncture or cracking due to rough handling.

Please exercise care when loading wood or cleaning your stove, not to damage the thermo-ceramic baffle

Located directly above the burner tubes in the firebox, this white sheet of material will break if wood or cleaning brushes impact it. Use care when loading and cleaning your stove to not break this material. If this piece fractures or a hole is punctured, it will cause the stove to function improperly. You must replace the board through a qualified Hearthstone dealer.

### **Building a Fire**

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

### **Breaking-In Your Wood Stove**

It is imperative that your stove be "broken in" slowly. Cast iron and soapstone must be seasoned; overfiring a new stove can cause castings to crack or can damage other stove parts. Moisture in the soapstone must be driven out slowly to minimize the "shock" to the stove of its first exposure to high firebox temperatures. Also the asbestos-free furnace cement must be cured slowly to ensure adequate sealing and bonding.

The bottom layer of soapstone in your firebox is intended to prevent thermal stress; leave it in place in the firebox at all times.

When you light your first fires, the wood stove will emit some smoke and fumes. This is normal "offgassing" of the paints and oils used when manufacturing the wood stove. 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 few fires may produce other odors from impurities that exist in the area immediately surrounding the stove. Some of these impurities can be cleaning solvents, paint solvents, cigarettes, smoke, 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.

### Building a Break-In Fire

Follow these steps when lighting a break-in fire. Before building a fire, make sure the ash grate is closed and the ash pan is pushed fully into the stove. If the ash grate is open or the pan is loose, the stove will over-fire and be damaged.

- Open the door and place five or six double sheets of tightly twisted newspaper in the center of the firebox. Arrange kindling in a crisscross pattern over the newspaper. Use about ten pieces of kindling, ½" (13mm) in diameter and 10" to 18" (254 mm to 457 mm) long.
- 2. Fully open the primary air control by pulling the lever forward.


- 3. Using a match, light the paper under the kindling. Leave the front door slightly ajar momentarily until the kindling has started to burn and a draft begins to pull.
- 4. Close the door and allow the fire to burn. Keep the door and ash drawer closed while the stove is in use.
- 5. *Keep a watchful eye on your stove;* maintain a steady, low-heat fire. Your first and subsequent break-in fires should make the stove warm but **not hot to the touch**. Add, at most, a few small chunks of wood to the fire to reach a safe break-in temperature.
- 6. Once the stove is warm—**but not hot to the touch**—close the primary air control (and allow the fire to die out completely.
- 7. Let the stove return to room temperature.

Build and maintain your first two break-in fires as outlined above. Your patience will be rewarded by a properly seasoned stove.

### **Building and Maintaining an Everyday Fire**

If your stove is not used continuously or has not been used in quite some time, follow the break-in procedure at least once to minimize the stress of a hot fire on a cold stove before proceeding with normal operation. We recommend one break-in fire at the start of each heating season.

Remember, before building a fire, make sure the ash grate is closed and the ash pan is pushed fully into the stove. If the ash grate is open or the pan is loose, the stove will over-fire and be damaged.

Follow these steps to build a fire for everyday use.

- Open the door and place five or six double sheets of tightly twisted newspaper in the center of the firebox. Arrange kindling in a crisscross pattern over the newspaper. Use about ten pieces of kindling, <sup>1</sup>/<sub>2</sub>" (13 mm) in diameter and 10" to 18" (254 mm to 457 mm) long.
- 2. Fully open the primary air control by pulling the lever forward.
- 3. Using a match, light the paper under the kindling. Leave the front door slightly ajar momentarily until the kindling has started to burn and a draft begins to pull.

- 4. Close the door and allow the fire to burn. Keep the door and ash drawer closed while the stove is in use.
- 5. Once the kindling is burning, open the door and add logs, small at first, to build up the fire. Keep the logs away from the glass on the door in order for the air-wash system to work properly.
- 6. Once the fire is burning well, use the primary air control to regulate the desired rate of burn. Pull the lever forward for a higher rate of burn; push the lever back for a lower rate of burn.

*Note:* Whenever opening the door to reload or rearrange logs, open the door just a crack, pause for a moment, and then open the door completely. This procedure allows the firebox to clear of smoke before the door is opened fully. Also, reloading on a bed of hot, red coals reduces smoking time and brings fresh fuel up to a high temperature rapidly.

## **Operating Your Stove Efficiently**

Your Homestead stove is designed to burn firewood efficiently. The following operational tips explain how to obtain the most heat possible with minimal creosote build-up and emitted pollutants.

### **Burn Rate**

There are four basic burn rates: high burn, medium burn, low burn, and overnight burn. Each has its own purpose.

**High Burn Rate:** A high burn rate is recommended once or twice a day to fully heat the stovepipe and chimney; this also helps keep the amount of creosote in your stove and chimney to a minimum.

After the fire is established and both the stove and chimney are hot, create a high burn for maximum heat output. Pull the primary air control forward so that it's fully open or almost fully open. Fully load the firebox with wood on a bed of hot coals or on an actively flaming fire.

After you have attained a high burn rate, monitor the stove temperatures frequently to ensure that the stove is not over-fired. The surface temperature on top of the stove should not exceed 600°Fahrenheit (316°Celcius). Once you understand how your stove burns and heats in your particular setting, you can easily create a high burn rate without risk to the stove or chimney.

Once your room's temperature is comfortable, maintain your fire by loading smaller quantities of wood. Burning smaller amounts of wood at a high burn rate creates the most efficient fire, emits the lowest amount of pollutants, and creates the least amount of creosote in your chimney.

**Medium Burn Rate:** In general, you would usually create a medium burn rate, especially if your stove is left unattended. Set the primary air control to a mid-range setting, appropriate to maintain a comfortable temperature in the area being heated.

**Low Burn Rate:** Close the primary air control for a low burn rate. Set a low burn rate only periodically; over extended periods of time, a low burn rate promotes the accumulation of creosote. If you consistently maintain low burn rates, inspect your venting system frequently.

**Overnight Burn Rate:** An overnight burn, as you might expect, allows you to keep an area heated while you sleep. To create an overnight burn, first make sure the stove and chimney are hot from an

established fire. Next, pull the primary air control fully open, and then completely load the firebox with wood. Allow the fire to burn intensely for 20 to 30 minutes.

Finally, push the primary air control *close to* its lowest setting; the fire will settle into a lower burn rate with a small flame. The fire will now burn slowly and steadily. The length and intensity of the fire depends on the type of wood being burned, the strength of the chimney draft, and other variables, which vary from installation to installation.

In the morning, you should find a bed of hot coals buried within the ashes. The stove should be warm to the touch but not hot. To restart the fire without relighting, simply stir and rake the ashes with a poker until the hot coals have come to the surface. Place a handful of kindling on the coals, close the door, and fully open the primary air control. The fire should re-ignite within 5 to 10 minutes. Place a few logs on the burning kindling, close the door, leave the primary air control fully open, and allow the logs to ignite.

Running a high burn rate at least once a day burns off accumulated creosote from within the stove and venting system. Now, in the morning after an extended low burn rate, is a good time to create your daily high burn rate; run it for about 20 minutes or so. Not only does this hot fire promote a clean stove and chimney, it also helps keep the glass clean for easy viewing of the fire within.

Once the fire is burning briskly, regulate the primary air control to a medium setting for a medium burn rate.

### **Over-Firing Caution**

Over-firing means the stove is operating above the recommended temperatures stated previously in the "Burn Rate" section. You should carefully avoid overfiring since it damages your stove. Symptoms of over-firing include short burn times, a roaring sound in the stove or stovepipe, and discoloration of the stovepipe.

#### CAUTION: ANY SYMPTOMS OF OVER-FIRING WILL VOID YOUR WARRANTY!

Over-firing can be caused by an excessive draft, inappropriate fuel, and human error. Here are the steps to take for each of these causes.

**Excessive Draft:** Contact your 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. (Please refer to the Caution under "Choosing Firewood" on page 34 for more inappropriate fuels.)

Human Error: Make sure all the gaskets are in good condition; replace worn out or compressed gaskets. Ensure the ash pan is tight and pushed all the way in; make sure the ash grate is closed and the front door is closed.

The best way to determine if your stove is over-firing is by monitoring its temperature. Results of overfiring can include: warped or burned out internal parts, cracked stones, discolored or warped external parts, and damaged enamel. If you suspect that your stove is over-firing, contact your dealer immediately. Damage done by over-firing is not covered by your warranty.

#### **Removing and Disposing of Ashes**

Ashes should be removed when the stove is cold. Use protective fireplace gloves when the pan is warm. Exercise extreme caution when handling, storing, or disposing of ashes.

#### WARNING: THE STOVE'S ASH PAN AND HANDLE ARE EXTREMELY HOT WHILE A FIRE BURNS. DO NOT TOUCH THEM UNTIL YOUR STOVE COOLS DOWN!

To remove ashes from the firebox, spin the ash grate open so that the slots in the grate line up with

the slots in the bottom and sift the ashes across the ash grate using a poker or other suitable implement. *Spin the ash grate closed*—remember to close the ash grate now so that ashes don't fall out once the ash pan is removed. Remove the ashes by pulling the handle on the ash pan and carefully sliding it out.

Dump the ashes into a metal container with a tight fitting lid. Reserve this container for only ashes—do not place any other items or trash into the metal container. Replace the lid onto the container and allow the ashes to cool. Make sure the ash container sits on a noncombustible surface. Do not place the ash container on a combustible surface or vinyl flooring, as the container may be **hot!** 

Re-insert the ash pan by pushing it, firmly, all the way into the stove. Make sure the ash grate is closed.

You can also remove the ashes with a shovel through the front door, and dumping them directly into the metal ash container.

*Never* put ashes in wooden or plastic containers, or in paper or plastic bags—storing hot ashes in this manner could cause a fire. No matter how long your stove's fire has been out, coals within a bed of ashes can remain hot for several days even after they have been removed from the firebox.

While you are filling your metal ash container, place the closed container on a noncombustible floor or on the ground, well away from all combustible materials. Retain the ashes in the closed container until all cinders have thoroughly cooled.

# Maintenance & Cleaning

## **Stove's Interior**

## Monitoring Your Stove's Temperature

Monitor your stove's temperature to make sure that your fire is giving off the proper amount of heat. Place a stove thermometer (available from your dealer) on the top center stone of the stove. The thermometer could read between 300° to 400° Fahrenheit (149° to 204° Celsius) on a low burn, and as high as 600° Fahrenheit (316° Celsius) on a high burn. **Do not exceed the high burn rate temperature; over-firing your stove will result in voiding the warranty.** 

# Cleaning Your Stove and Removing Creosote

Slow burning wood produces tar and other organic vapors, which combine with expelled moisture to form creosote. These creosote vapors condense and accumulate in the relatively cool chimney flue of a slow-burning fire. When ignited, this creosote makes an extremely hot fire, which can damage the chimney or even destroy the house.

To prevent the buildup of creosote:

- 1. Burn the stove's fire at a high burn rate (with the primary air control fully open) for 30 minutes daily. This intense fire burns out creosote deposits from within the stove and the venting system.
- 2. After reloading your stove with wood, again burn the stove's fire at a high burn rate for 20 to 30 minutes.

Burning at a high burn rate engages the secondary combustion system, which minimizes the buildup of creosote in the chimney. As a result, you need to clean your chimney less often.

Inspect your stovepipe connector and chimney at least once a month during the heating season to determine if creosote has built-up in the chimney's lining. Pay particular attention to the stove connections and the chimney top. Cooler surfaces tend to build creosote deposits quicker, so it is important to check the chimney at the top (where it is coolest) as well as from the bottom near the stove. If a creosote residue greater that ¼" (6 mm) has accumulated, remove it to reduce the risk of a chimney fire. Use a cleaning brush specifically designed for your type of chimney. Strongly consider hiring a certified chimney sweep to clean your chimney. Contact your dealer for the name of a certified chimney sweep in your area (your dealer may even be a certified sweep!).

Before each heating season, the entire system stove, stovepipes, connections, and chimney should be professionally inspected, cleaned, and repaired as necessary.

### Gaskets

Depending on how often you use your stove, replace the door and glass gaskets every two to three seasons. If the door seal is loose, a new gasket assures a tight seal and improves the performance of your stove. Contact your dealer for a gasket kit, which includes instructions, and gaskets for your stove.

To replace door gaskets:

- 1. Remove the old gaskets with a utility or putty knife.
- 2. Clean all gasket channels with a wire brush.
- 3. Apply gasket cement to the channels
- 4. Push the new gasket into place without stretching the gasket material.
- 5. Shut the door immediately to fully press the gasket into place and assure a positive seal. Use the following gaskets on the various parts of your Homestead.

**Glass:** 60" (1524 mm) long; <sup>3</sup>/<sub>4</sub>" (19 mm) wide; adhesive backed black tape. (Please refer to the next section for instructions on replacing gaskets on the glass.)

**Door:** 60" (1524 mm) long;  ${}^{3}/{}_{8}$ " (9.5 mm) diameter; low-density black tube.

**Ash Pan:** 40" (1016 mm) long; <sup>3</sup>/<sub>8</sub>" (9.5 mm) diameter; medium density, black rope.

*Reversible Flue:* 32" (1016 mm) long; ¼" (9.5 mm) diameter; low density, black

rope



Figure 3 – Glass Gasketing

Every two or three years, check the glass gasket. To replace the glass and glass gasket:

- 1. Remove the door by lifting it straight up off the hinges; leave the hinge pins in the door.
- 2. Place the door face down on a flat, smooth surface.
- 3. Apply penetrating oil to the screws in the retention frame. Remove the window frame screws to separate the window frame from the door.
- 4. Carefully lift the damaged glass from the door and discard.
- Peel the paper backing from the tape gasket. Apply the new gasket to the new glass (as illustrated) with the IR coating on the outside. (The IR coating will appear to have a soapy film on the surface.)
- 6. Place the gasketed glass onto the door
- 7. Screw the window frame back on the door.
- 8. Install the door. Check for a tight fit.

## **Stove's Exterior**

Your entire stove needs cleaning from time to time: the glass, the soapstone, and the cast iron.

### Glass

The stove's door glass allows you to see the fire. Occasionally, you will need to clean the glass; use a low alkaline-content commercial stove glass cleaner (which is available from your local dealer). Before cleaning the glass, allow the glass to cool. Never clean the glass while the fire is burning or the glass is hot. You can clean most deposits by following the instructions provided with the cleaner. To clean heavier deposits, first remove the door from the stove. Open the door and lift it straight up and off the stove (take care to save hinge pins and washers). Lay the door face down on a workbench or table. (By laying the door flat, it will allow the cleaner to penetrate rather than running off the surface of the glass.) Apply the cleaner to the glass and allow it to set for a few minutes. Wipe the cleaner off with a soft cloth.

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 LOW ALKALINE CONTENT CLEANERS ONLY.

The front door glass is a ceramic IR coated, shockresistant glass made specifically for use in wood stoves. Use only ceramic glass manufactured for use in this wood stove. Replacement glass, together with instructions and everything needed for installation, is available through your local dealer. Do not use any other type of replacement glass.

Do not abuse the stove's door by striking or slamming it; the glass could crack or break. Do not use your stove with a broken door glass; replace broken glass immediately. If you replace the glass yourself, wear work gloves and safety glasses.

#### Soapstone

You only need to occasionally clean your stove's polished soapstone finish to maintain its natural beauty. Clean the soapstone with water, any non-abrasive cleaner, and a soft cloth. Wipe dust from the stone with a clean cloth. Do not use chemical agents to wash the stone; do not use waxes or any polishing agents on the stone.

Take care not to scratch or chip the stone. Do not set items on top of your stove that can scratch or chip the stone, or its enamel finish.

Over time, and with use, subtle earth tones of brown, red, and yellow appear on the soapstone. This is a natural reaction in the soapstone and enhances its beauty. With normal use, hairline or surface cracks might appear on the stone. Such cracks do not affect the integrity or operation of the stove; there is no need to replace them.

### Cast Iron

The exterior cast iron parts of your stove are either painted with black, high-temperature stove paint or covered with an enamel finish in various colors that creates a porcelain finish.

If necessary, use black, high-temperature stove paint (such as satin black by Stovebright) to touch up and maintain the original appearance of painted cast iron. Use a damp sponge to wipe the cast iron clean. Be sure to dry the cast iron thoroughly to prevent rusting.

You can clean the enamel castings with a standard glass cleaner. With time and use, a very fine, subtle network of crazed lines may appear seemingly beneath the surface of the enamel. Crazing is a natural predictable process and does not represent a flaw.

# Troubleshooting

# Your Heating Needs

Nearly everyone who uses a woodstove experiences basic common problems at one time or another. You can correct most, usually with only a minor adjustment to the stove, installation, or operating technique. When weather conditions dramatically affect stove performance, the problems are typically temporary and solve themselves once the weather changes.

If you think your stove is not producing adequate heat, troubleshoot the problem by monitoring the temperature of the stovepipe. A 400° Fahrenheit (204° Celsius) stovepipe confirms the stove is supplying sufficient heat. Keep in mind that your house itself will regulate room and house temperatures through a number of factors: how well the walls, floors, and ceilings are insulated; the number and size of glass 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).

Your stove's performance is also dependant on its installation. One common cause of poor performance is an oversized chimney flue. Oversized chimney flues result in decreased pressure, 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 the smoke to pour into the room.

A properly sized chimney not easily establishing a strong draft is simply not cold enough. Again, hot chimneys promote stronger drafts. Other guidelines for producing a strong draft include the following:

An "Airtight" House. If your home is well insulated or especially well sealed, the infiltration air supply to the interior of the house may be inadequate. This phenomenon of air starvation can be exacerbated if exhaust fans (such as clothes dryers, bathroom fans, or cook stove exhaust fans) are used in your home. Outfitting your stove with the optional outside air supply adapter, connected to an air duct leading to the outside of your home, should 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, take care to consider the placement of other objects in the vicinity of the proposed chimney location.

*Wind Velocity.* Generally, the stronger and steadier a wind, the stronger (and better) the draft. However, "gusty" wind conditions may cause erratic downdrafts.

*Barometric Pressure.* Chimney drafts are typically sluggish on balmy, wet or muggy days. This is a weather-related phenomenon, which generally is self-correcting as the weather changes.

*Briskness of the Fire.* The hotter your stove's fire, the hotter your chimney, and thus the stronger the draft.

Breaks in the Venting System. An unsealed cleanout door at the bottom of the chimney, leaky stovepipe joints, a poor stovepipe-to-thimble connection, or a leaky chimney can all cause an inadequate draft.

Seasonal Factors. Early fall and late spring are generally difficult seasons in which to establish proper drafts. The colder the outside air (relative to room temperatures), the stronger the draft.

## **Operating the Stove**

There are days when a draft is not easily established. As outlined above, seasonal factors or a cold chimney may be the cause. Try starting the fire by using small kindling and wood to obtain a quick, hot fire. Tend the fire frequently with small wood until the chimney is hot and the draft is well established.

# Troubleshooting Guide

Symptom	Possible Cause	Corrective Action	
Your stove smokes	Operating technique	Fully open the primary air control one minute before opening the doors.	
	Cold chimney	Preheat the chimney when first starting a fire.	
	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 the chimney connections and openings in the clean-out doors.	
	More than one appli- ance connected to the flue	Disconnect all other appliances and seal the 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.	
Uncontrolled or short	Unsealed or open door	Close the door tightly or replace the gaskets.	
burn	Open ash grate	Spin the ash grate to its closed position.	
	Excessive draft	Check the installation. Operate at low burn. Install a stovepipe damper.	
	Deteriorated cement seals	Reseal the stove with furnace cement.	
	Extra long chimney	Shorten the chimney. Install a stovepipe damper.	
	Oversized chimney	Reline the chimney to the proper diameter.	
	High winds or hilltop location	Install a chimney cap.	
	Excessive draft	Draft in excess of 0.1 wc should be corrected with a stovepipe damper.	
Insufficient heat	Poor quality or green wood	Use only air-dried wood, preferably dried at least 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	Caulk the windows and seal any openings in your home.	
Blistering of enamel casting	Operating technique	Do not over-fire the stove. Monitor stove temperatures. Use only seasoned wood.	
	Excessive draft	Check the draft (see "Excessive Draft" on page 38). A damper may be required. Operate the stove at a low burn.	

# **General Information**

## **Parts and Accessories**

## **Replacement Part**

#### Castings

Part Number	Description		
2510-730	Ash Grate		
2510-720	Ash Grate Frame		
25xx-740*	Ash Lip		
25xx-710*	Bottom		
2510-770	Flue Collar		
20xx-500*	Front Door		
20xx-602*	Front Door Frame		
2010-550	Glass Retention Frame		
2510-750	Rear Panel		
25xx-700*	Short Foot (4" leg)		
25xx-705*	Long Foot (6" leg)		
25xx-760*	Side Leg		
25xx-780*	Тор		

#### Stone/Refractory

Part Number	Description
1141-253	Front Corner Soapstone 2 19/32" x 9 1/2"
1541-780	Top Soapstone 8" x 10 <sup>1</sup> / <sub>2</sub> "
1541-730	Side Soapstone 8 7/8" x 9 3/8"
1141-252	Front Bottom Soapstone 3 3/4" x 9 1/2"
1141-251	Front Top Soapstone 2 3/4" x 9 1/2"
1-0500-700	Refractory Soapstone 1 ½" x 9 ¾"
1-0500-701	Refractory Soapstone 5 ½" x 11 ¼"

#### Steel Set

Part Number	Description
5570-130	Air Tube Lock Bracket
5570-010	Ash Pan Box
5570-140	Front Baffle Support
5570-030	Label Cable
5570-040	Primary Air Control Slider
5570-050	Primary Air Handle
5570-080	Primary Air Plenum
5570-110	Secondary Air Plenum
5570-070	Secondary Air Riser Tube

5570-121	Secondary Air Tube #1
5570-122	Secondary Air Tube #2
5570-123	Secondary Air Tube #3
5570-150	Top Heat Shield
Miscellane	ous
Part Number	Description
3900-177	Black Wooden Handle
3120-920	Ceramic Baffle Board
Kits	
Part Number	Description
95-52700xx	Hearth Mount Conversion Kit
95-50700xx	Freestanding Conversion Kit
90-57005	Glass Replacement Kit
95-58700	Gasket Kit
95-54700	Ash Pan Assembly
90-73112	Front door Latch Assembly
95-52710	Compact Oval-to-Round Adapter (standard on model #8570H)
95-52705	Extended Oval-to-Round Adapter (standard on model #8570F)
95-83700	Firebrick 8 3/32" x 9 <sup>7</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>4</sub> "

\*xx = color code: 10 = Matte, 20 = Brown, 30 = Almond, 50 = Black, 66 = Navy, 80 = Green.

(Not all colors may be available)

## **Optional Accessories**

Part Number	Description	Picture	Explanation
90-57000	Blower Fan Kit		Not for use in an enclosure (such as a fireplace or alcove). Must be installed with the Rear Heat Shield Kit. For freestanding installations only.
95-50700xx*	Freestanding Conversion Kit	installation on a UL listed flo 2.5 and minimum dimension	nield and long (6") legs in matching colors. For por protector or a site built protector with an R-value of ns of 41" x 41". This conversion kit can also be used in a color code designations on the previous page.)
95-52700xx*	Hearth Mount Conversion Kit	floor, such as a slab, cemer 6.6 or more and minimum d	matching colors. For installation on a noncombustible ht, stone hearth or a floor protector with an R-value of limensions of 41" x 41". This conversion kit can also be on. (See color code designations on previous page.)
95-52705	Freestanding Oval- to-Round Adapter Kit		A stainless oval-to-round adapter that fits best in large fireplaces or freestanding configurations.
95-52710	Compact Oval-to- Round adapter Kit	Ĵ.	A stainless oval-to-round adapter that fits best in a hearth mounting configurations.
95-53700	Outside Air Kit		Allows for a 3" ducted inlet. For use where required by code or in well insulated homes. Three-position inlet for versatile installation.
95-68700	Rear Heat Shield Kit		Reduces rear, corner, and side clearances. Typically for freestanding installations.
95-59710	Surround Kit		A matte black, sheet metal, surround set for fireplace installations with short or tall legs. It "hangs" on brackets mounted to the rear of the stove. The depth (distance from the rear of the stove) is adjustable. This surround also acts as a heat shield, reducing the mantle and side trim clearances.

\*xx = color code: 10 = Matte, 20 = Brown, 50 = Black.

# Safety Label



### WARRANTY REGISTRATION

The Original Purchaser may complete their registration online on our website (<u>www.hearthstonestoves.com</u>), or send a completed and signed Warranty Registration Form, which is enclosed in the Stove Owner's Packet, to the following address:

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

**WARRANTY COVERAGE OR HEARTHSTONE'S PERFORMANCE.** 

Notes: