



# Craftsbury

(Model 8390)  
Wood Stove

## OWNER'S MANUAL INSTALLATION & OPERATING INSTRUCTIONS

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



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](http://www.nficertified.org)



Hearthstone Quality Home Heating Products, Inc. ®

Craftsbury Model 8390  
Manual: 6400-40454  
Revised: 3/14/12

## Stove Information

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Name of Dealer: \_\_\_\_\_

Address of Dealer: \_\_\_\_\_

Phone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

**🔥 WARNING: DURING THE BREAK-IN FIRES, YOU DO NOT HEAT THE STOVE TO HIGH TEMPERATURES AS YOU WOULD ONCE THE STOVE IS SEASONED. DUE TO THIS, YOU MAY NOTICE A SMALL AMOUNT OF BLACK LIQUID DRIPPING FROM THE BOTTOM OF THE STOVE. THIS IS FROM INCOMPLETE COMBUSTION OF THE WOOD AND FROM CONDENSATION WITHIN THE STOVE. THIS DRIPPING LIQUID WILL ONLY LAST FOR THE FIRST COUPLE OF FIRES. AFTER THIS THE DRIPPING WILL STOP. YOU MAY WANT TO PLACE A NONCOMBUSTIBLE MATERIAL UNDER THE STOVE TO PROTECT YOUR HEARTH FROM STAINS UNTIL YOUR BREAK-IN FIRES ARE COMPLETE.**



# TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>4</b>
CODES .....	5
SAFETY INFORMATION .....	5
PERIODIC CHECKLIST .....	6
EMERGENCY PROCEDURES .....	6
SPECIFICATIONS.....	7
<b>INSTALLATION .....</b>	<b>8</b>
UNPACKING.....	8
INSTALLING YOUR STOVE .....	8
CLEARANCES TO NFPA 211 PROTECTED SURFACES .....	8
FLOOR PROTECTION.....	8
MANTLE CLEARANCES FOR ZC OR MASONRY FIREPLACE.....	9
OUTSIDE AIR SUPPLY .....	9
CLEARANCES TO COMBUSTIBLES .....	10
VENTING CONFIGURATION .....	11
CONNECTING YOUR WOOD STOVE.....	12
INSTALLING IN A MOBILE HOME.....	15
<b>OPERATION .....</b>	<b>16</b>
CONTROLS AND FEATURES.....	16
CHOOSING FIREWOOD.....	17
WOOD HEAT VALUE .....	17
BUILDING A FIRE .....	18
BREAKING IN YOUR WOOD STOVE .....	18
NORMAL OPERATION .....	19
<b>MAINTENANCE .....</b>	<b>21</b>
<b>TROUBLESHOOTING .....</b>	<b>23</b>
<b>REPLACEMENT PARTS &amp; OPTIONAL ACCESSORIES .....</b>	<b>25</b>
<b>RATING LABEL.....</b>	<b>26</b>

# Introduction

**Welcome** to the Hearthstone family. You have made an investment in one of the finest solid fuel heaters available today. To own a Hearthstone is to make a statement – a statement that you appreciate exceptional quality and efficiency in a stove that is backed by the best warranty in the hearth industry.

Your purchase ensures you of 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 equipped stove. The Craftsbury blends modern technology with the time tested beauty of matte or enameled cast iron. We trust that you will appreciate the value of our handcrafted product.

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 information that is useful to you now and in years to come, so keep it 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, doors, and hallways. At the same time, keep it as close to the chimney as possible. Review the proper clearance measurements from combustible surfaces. You can safely reduce required clearances in most cases with the rear heat shield that the stove was tested with and close clearance pipe, or by following the NFPA 211 codes. Consult with your local authorities having jurisdiction.

Keep furniture, drapes, curtains, wood, paper, and other combustibles far 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.

The walls of a Hearthstone stove produce both radiant and convective heat. Locate the stove

centrally in your living area to allow the heat to travel naturally to distant rooms. To heat the maximum area, do not locate your stove in an uninsulated basement. The amount of energy required to heat the concrete basement walls is so great that most of the usable heat is absorbed by the walls 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 have any questions, do not hesitate to contact your dealer for additional information.

Validate your warranty - return your warranty registration card to Hearthstone. Once you have a registered warranty, contact your **dealer** for any necessary warranty service.

This stove is manufactured and warranted by:

**Hearthstone Quality Home Heating Products, Inc.**

®

317 Stafford Ave.

Morrisville, VT. 05661

[www.hearthstonestoves.com](http://www.hearthstonestoves.com)

## CODES

When you install your Craftsbury wood stove, it is imperative that you adhere to all local codes, which are obtained from either of the following two national sources for United States:

### **American National Standards Institute, Inc. (ANSI)**

1430 Broadway  
New York, NY 10018  
www.ansi.org

### **National Fire Protection Association, Inc. (NFPA)**

Battery March Park  
Quincy, MA 02269  
Or the CAN/ULC B 365 and the National Building Code for Canada.  
www.nfpa.org

If you are installing your Craftsbury in a mobile home, follow the specific guidelines described in the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 (United States). CAN/ULC B 365 and the National Building Code. (Can)

## SAFETY INFORMATION

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

### **Ensure you install your stove:**

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

### **When using your stove:**

- 🔥 Warn children and others unfamiliar with woodstoves of the danger of touching the hot surfaces of your stove. For additional safety, obtain hearth and stove guards through your local dealer.
- 🔥 Follow recommended break-in procedure as outlined in this manual (see page 18).
- 🔥 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 at all times except when loading wood.

- 🔥 Keep the ash pan door tightly closed and the ash grate closed to prevent over-firing.
- 🔥 Inspect the stovepipe, chimney connector and chimney frequently, as recommended.

### **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 fuels, kerosene, charcoal lighter fluid, or other liquid fuels to start or invigorate the fire. Keep all such materials away from the stove.
- 🔥 **Never** use the stove if the ash pan door is loose, or if the ash grate is open.
- 🔥 **Never** use a fireplace 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.
- 🔥 **Never** over-fire your stove. (See page 20)
- 🔥 **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 11)

### **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 10)
- 🔥 Install a smoke detector.
- 🔥 Keep a fire extinguisher handy. We recommend the type rated "A B C."
- 🔥 Dispose of ashes properly. (See page 20)
- 🔥 Keep children and pets away from the stove; they could be burned by touching a hot stove.
- 🔥 Clean your venting system as needed. (See page 21)

## PERIODIC CHECKLIST

Perform each of these tasks 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 begins to fill up.

### At the Beginning of Every Month:

- 🔥 Visually inspect chimney connector and chimney for creosote; clean accordingly.

### At the Beginning of Every Other Month:

- 🔥 A visual inspection of the chimney connector and chimney for creosote is recommended depending upon your use of the stove. (Refer to page 21 – Creosote Formation and Need For Removal)
- 🔥 Check door seals using the "dollar bill test." - When the fire is out and the stove is cool, shut the door on a dollar bill. 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. (Refer to page 21 – Gaskets)

### 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.
- 🔥 **CAUTION: THE CERAMIC BAFFLE INSIDE THE FIREBOX IS NOT PACKING MATERIAL! DO NOT REMOVE IT FROM THE STOVE PRIOR TO LIGHTING.**

## Hearthstone's 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 new 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. Be careful when loading and cleaning your stove to not break this material. If this piece has been fractured or a hole is punctured, it will cause the stove to function improperly. You must replace the board through a qualified Hearthstone dealer.

## 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, side and ash doors 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 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. Do not fire the stove 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

**Maximum Heat Output:** 40,000 BTUs per hour of cordwood (based on independent laboratory test results)

**Size of Heated Area:** Up to 1,300 square feet.

**Firebox Capacity:** 1.5 cubic feet (.042 cubic meters) or 37.5 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:** 17.5" (44.5 cm)

**Height:** 26-1/8" (66.4 cm)

**Width:** 22-3/8" (56.8 cm)

**Depth:** 17-3/8" (44.1 cm)

**Front Door Size:** 19-3/4" wide x 16-5/8" high (422 x 349 mm)

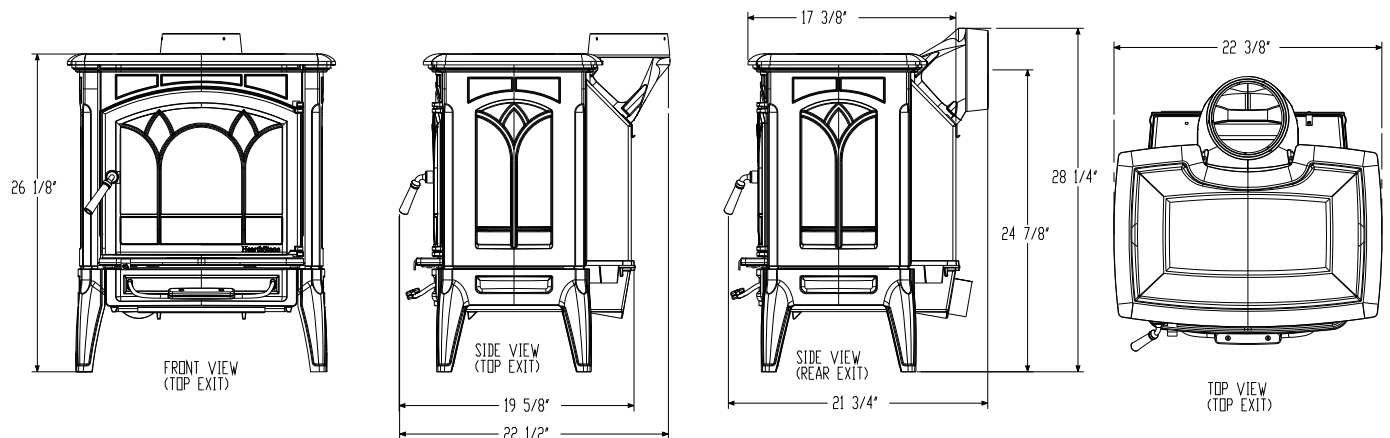
**Stovepipe Size:** 6" (152 mm) diameter

**\*Metal Chimney:** 6" (152 mm) inside diameter

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

**Flue Exit:** Horizontal or Vertical

**Optional Equipment:** Outside Air Kit, Blower, Rear Heat Shield



**Figure 1 – Craftsbury Dimensions**

# Installation

## UNPACKING

Your Craftsbury stove is packaged with the great 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. If any parts are damaged or missing, please contact your dealer immediately.

## INSTALLING YOUR STOVE

Please use this section to plan how to locate your stove in your particular situation. Consider both the clearances of the stovepipe and the stove itself to the surrounding combustibles. Read this entire section to obtain a sound understanding of how to properly install your stove.

First you must decide where your stove will be placed. 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, furniture, and curtains. You must carefully consider the clearances to all of these combustibles before actually connecting your stove. When considering these clearances, also decide the kind of floor the stove will rest on. The area under and directly in front of the stove must be protected as described on page 10.

If you use a close clearance connector pipe, it must be tested and listed to UL standards. *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. Clearances cannot be reduced without following the tested methods (rear shield and close clearance connector pipe) or by following the criteria specified in NFPA 211 for US and CAN/ULC B 365 for Canada.*

## 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 (US) and CAN/ULC B 365 (Can) for specifications and complete details. You can obtain this information directly from NFPA or CSA.

## National Fire Protection Agency

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

## FLOOR PROTECTION

Install your stove on one of the following:

- ✦ \*Noncombustible floor protector underneath the stove that extends 16 inches (US) / 46 cm (Can) beyond the front door and 8 inches US / 203 mm (Can) beyond each side of the fuel loading and ash removal opening. \*An example of a non-combustible floor protector would be a hearth constructed with a continuous layer of a listed backer board (such as Wonder-Board or Durock) used for ember protection with a tile, brick, slate, or another non-combustible facing.
- ✦ A commercially manufactured hearth that is tested and listed to UL 1618 can be used as the floor protection if it meets the minimum size requirement (38.5" by 41") US and (98cm by 109 cm) Canada.
  - For horizontal chimney connector installations, the floor protection must be installed beneath the connector and 2" beyond each side.

See Figure 2 for specific hearth details.

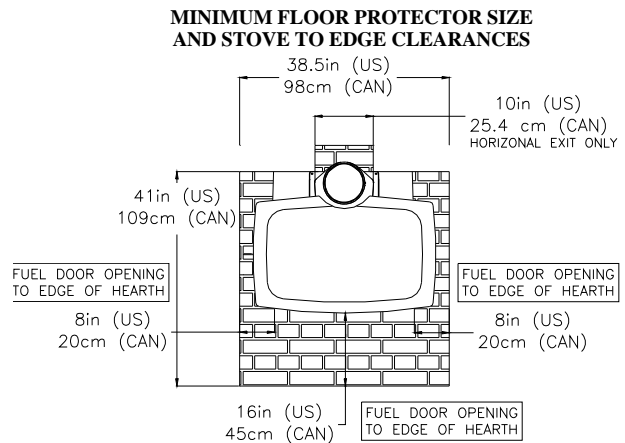


Figure 2 – Hearth Requirements



## MANTLE CLEARANCES FOR ZC OR MASONRY FIREPLACE

### SIDE CLEARANCE:

(from top corner)

8" - TO 2" OR LESS SIDE TRIM

9" - TO 2"-4" SIDE TRIM

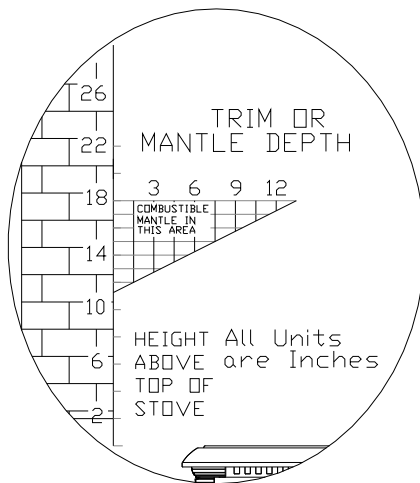
### TOP CLEARANCE:

(from top)

14"- TO 0"-6" MANTLE LENGTH

16"- TO 6"-8" MANTLE LENGTH

18"- TO 8"-10" MANTLE LENGTH

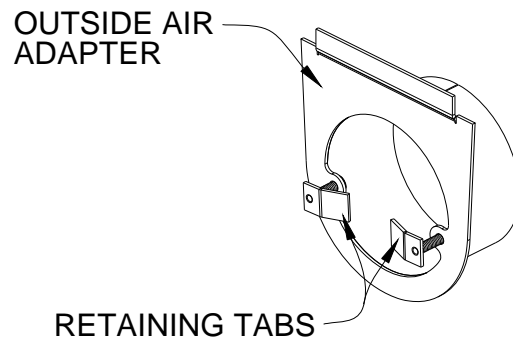


**Figure 3 – Mantle Requirements**

## OUTSIDE AIR SUPPLY

An outside air source may be connected directly to this stove using an optional outside air kit (Hearthstone part #90-53210). The advantage of providing outside air directly to the stove is that the air used by the stove for combustion is taken from outside of the residence rather than from within the room where the stove is located. With outside air supplied directly to the stove, drafts within the room and air infiltration within the building are reduced. Use of the outside air kit may also improve stove performance in a particularly airtight house where the house or other appliances may compete for the combustion air.

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 termination of the duct on the outside wall of the house should be located in such a manner so as to preclude the possibility of obstruction by snow, leaves or other material and should be screened against animals and insects.



**Figure 4 - OUTSIDE AIR CONNECTION**

# CLEARANCES TO COMBUSTIBLES

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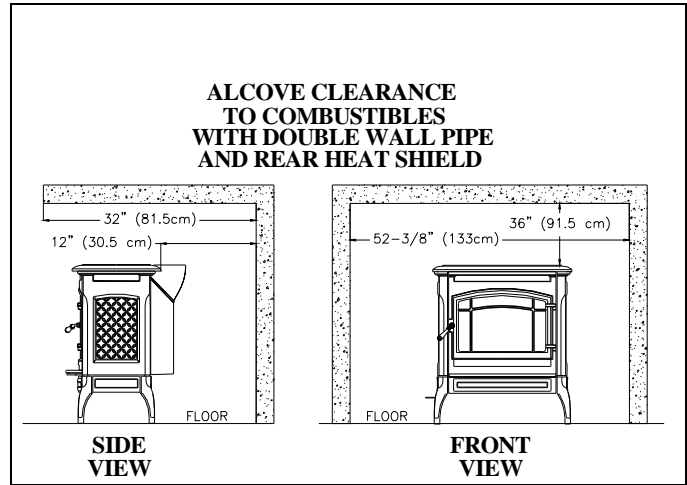
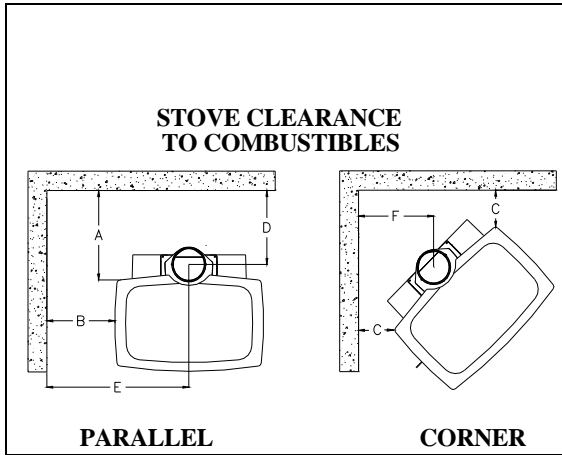
Please use this section to plan the layout for your stove. Consider clearance of *pipe* to

combustibles and stove to combustibles.

More specifics on installation follow.

\*\*\*\*\*

You must follow minimum clearances for the Craftsbury stove to combustibles such as walls and ceilings.



Clearances	Single wall connector				Double walls connector With rear heat shield kit			
	From unit (Top corner)		From pipe (center)		From unit (Top corner)		From pipe (center)	
	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)
Rear wall	A: 61	24	D: 53	21	A:30.5	12	D: 23	9
Side wall	B: 35.5	14	E: 62	24.5	B: 35.5	14	E: 62	24.5
Corner	C: 43	17	F: 57	22.5	C: 25.5	10	F: 38	15

ALCOVE	Double walls connector With rear heat shield kit			
	From unit (Top corner)		From pipe (center)	
	(cm)	(in)	(cm)	(in)
Rear wall	30.5	12	15	9
Side wall	38	15	57	25.5
Ceiling	91	36	N/A	N/A

## DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE!

- 🔥 Single wall connector is 24 MSG or 25 MSG blued steel stovepipe.
- 🔥 Double wall connector (close clearance pipe) which must be used with a listed factory-built "Type HT" chimney and may also be used with a masonry chimney to reduce clearances, is available from several manufacturers, your dealer can help you choose. Some manufacturers of close clearance connector pipe are Simpson Dura Vent, Metalbestos, Security, GSW and Ameritac.
- 🔥 When used in a mobile home, a spark arrester venting cap is required. (See page 15)
- 🔥 Chimney connector shall not pass through floor or ceiling, nor any attic or roof space, closet or similar concealed space. Where passage through a wall or partition of combustible construction is desired, the installation shall conform to NFPA 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 near non-combustible surfaces. Typical chimney connector clearances are outlined below. The single wall clearances are generic; the Double wall clearances are for Simpson Dura Vent DVL.

**CHECK THE SPECIFICATIONS FROM THE MANUFACTURER OF YOUR CONNECTOR. USE OF MAKESHIFT VENTING COMPONENTS MAY COMPROMISE THE SAFTY OF THE INSTALLATION.**

## VENTING CONFIGURATION

### COMPONENTS OF A VENTING SYSTEM

The complete venting system will consist 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 woodstove to the chimney. The chimney connector stovepipe must be 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 *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.
- 🔥 **WARNING: DO NOT CONNECT THIS APPLIANCE TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.**
- 🔥 A *liner* (listed to UL 1777 or ULC S635) creates an acceptable flue in a factory built fireplace or in an existing 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.

## INSTALLING A VENTING SYSTEM

Stovepipe sections must be attached 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 x 1/2" (3 mm x 13 mm) sheet metal screws into the holes pre-drilled in the flue collar. Failure to install the screws can cause joints to separate from the intense vibration 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 inspection of your chimney, as well as allow you to easily dismantle the stovepipe (without moving the stove) when you periodically inspection or clean 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 (21mm/m).

*Long runs of stovepipe to increase heat dispersal are not recommended.* Using longer lengths of stovepipe or more connecting elbows than necessary increases the chances of draft resistance and the accumulation of creosote buildup.

In general, you do not need to install a stovepipe damper with the Craftsbury. 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 Craftsbury 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 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 YOUR WOOD STOVE

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

### Reversing the flue collar

The Craftsbury is vented either horizontally or vertically by reversing the flue collar.

## CONNECTING TO A PREFABRICATED METAL CHIMNEY

When connecting the Craftsbury 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.

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

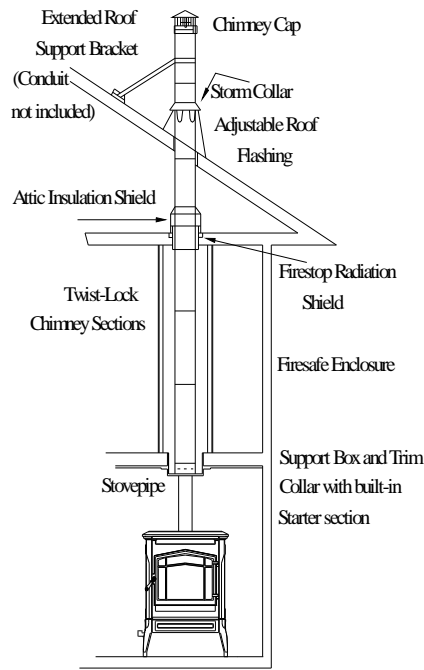
Make sure the size of the chimney's flue is appropriate for the Craftsbury. The Craftsbury requires a 6" (152 mm) inside diameter flue for new installations. A 6" diameter flue provides adequate draft and performance. You can use an 8" (203 mm) diameter existing interior flue with a reducer. An oversized flue, especially a cold, exterior flue, contributes to draft reduction and 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 all of the necessary components such as 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, be sure to maintain all manufacturers' recommendations for the proper clearances to the chimney.

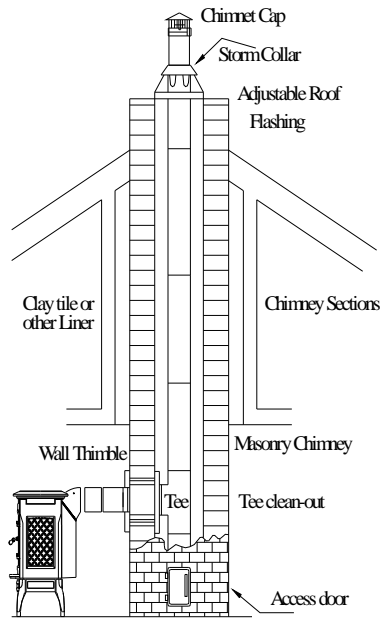
### **There are basically two ways to install a prefabricated metal chimney:**

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

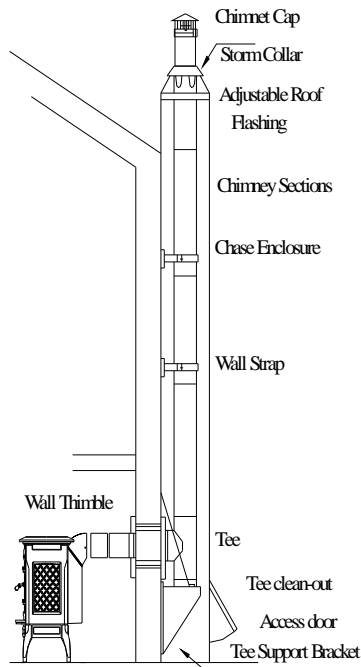
Whenever possible, choose an interior chimney. An interior chimney heats up more quickly and retains its heat; thus promotes a better draft and discourages the formation of creosote. An exterior chimney does not benefit from the warmth of being surrounded by the building, so it typically operates at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



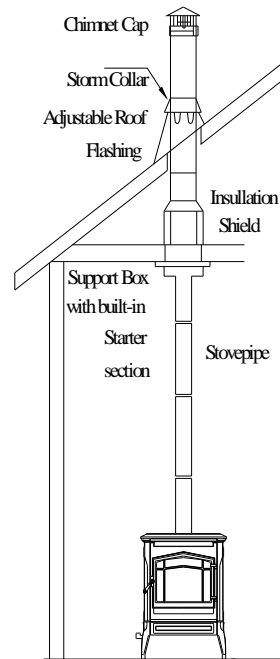
Two story house installation with attic.



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 5 – Typical Venting Configurations**

## 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 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 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 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 oversized flue will contribute 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/or ceiling.
- 🔥 Insulation must be 2" (51 mm) from the chimney.

### Exterior chimney requirements:

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

### Chimney height requirements: (See Figure 6)

- 🔥 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 allowable chimney height is 30 feet (9m).

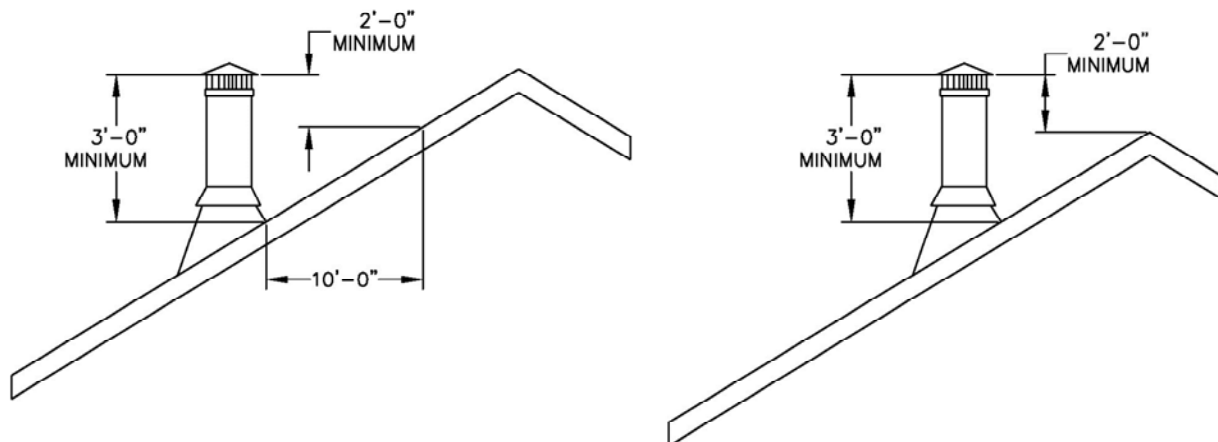


Figure 6 – Chimney Height Requirements

## 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) for US or CAN/ULC B 365 for Canada.

- 🔥 Permanently attach the stove to your mobile home's floor. Use the ¼-20 holes in each leg base to bolt down the stove.
- 🔥 The outside Air Kit (90-53210) must be used. (see page 9).
- 🔥 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 9296NEach 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)
- 🔥 Chimney must be removed when transporting Mobile Home.
- 🔥 DO NOT operate with the door(s) open or with Viewing Screen.
- 🔥 Use only with double-wall stove pipe.
- 🔥 **WARNING: DO NOT INSTALL IN A SLEEPING ROOM.**
- 🔥 **USE OF NON-SPECIFIED COMPONENTS MAY COMPROMISE THE SAFETY OF THE INSTALLATION.**
- 🔥 **CAUTION: MAINTAIN THE STRUCTURAL INTEGRITY OF THE MOBILE HOME WALLS, FLOOR, CEILING, AND ROOF WHILE YOUR STOVE IS INSTALLED AND IN USE.**

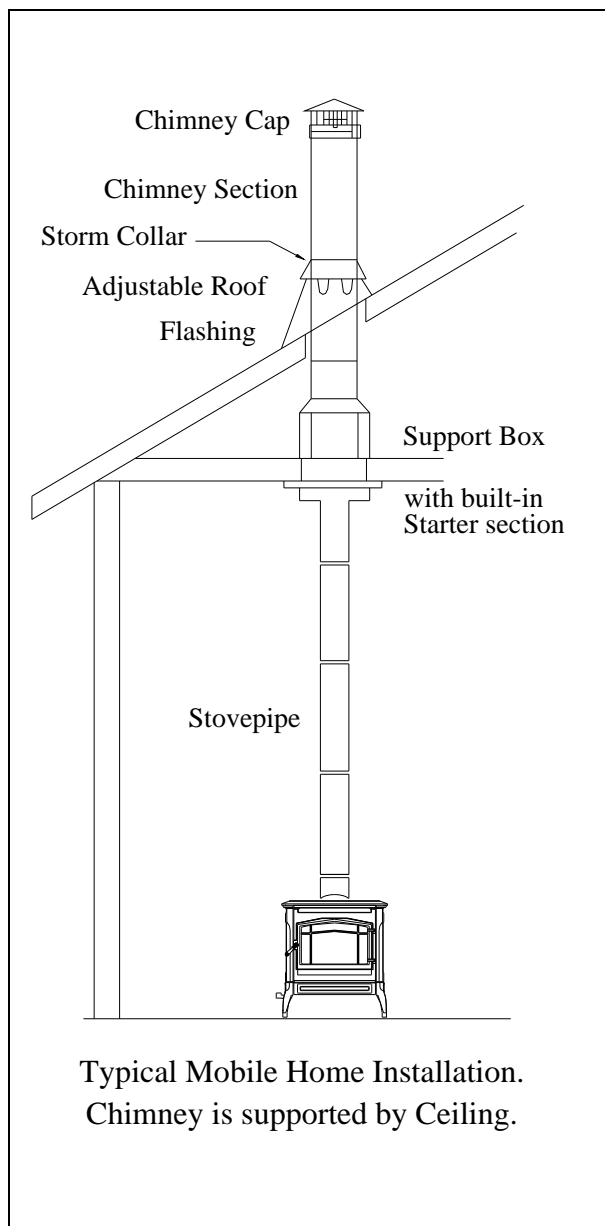


Figure 7 – Typical Mobile Home Configuration

# Operation

Once your Craftsbury 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 and operation of your stove's controls and features and learn how to use them. For your own safety, do not modify these features in any way.

### Removable Door Handle

The front door handle is held in place with a spring-loaded ball bearing. If the handle does not stay in place it can be adjusted. To do so, use a slotted jeweler's screwdriver to adjust the setscrew on the metal end of the handle. Turn the setscrew clockwise to increase the tension or counterclockwise to decrease.

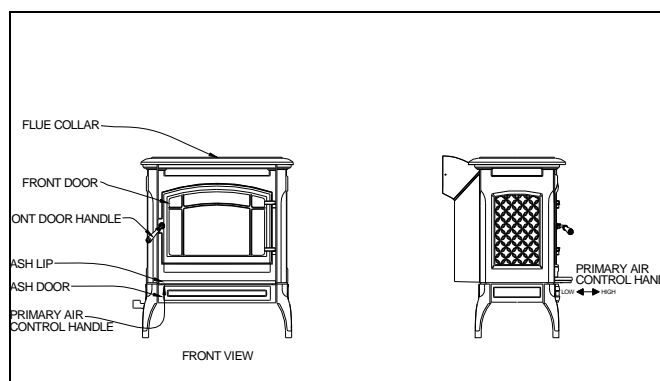
**FRONT DOOR HANDLE:** The front door allows you to load wood into your stove. To open the door, lift the handle to the 10 o'clock position and pull the door. To latch the door, lower the handle to the 7 o'clock position. Pull on the door to make sure it is properly latched. The wooden handle can be removed or left in place.

**PRIMARY AIR CONTROL:** This feature is located on the lower left front of the stove, under the ash lip. 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, less air creates a slower burn. Pull the lever out, away from the ash lip to open the primary air control; push the lever in under the ash lip of the stove to close the primary air control.

**ASH PAN DOOR & ASH PAN:** Open the ash pan door by lifting up on the handle bar and allowing the door to fall into the open position. The ash pan tray can now be easily removed by carefully pulling it straight out, use fireplace gloves if hot ashes or coals are present. You can now empty ashes that have been sifted into the tray through the grate in the firebox. After you have properly emptied the ashes into a covered, noncombustible container, push the ash pan all the way into the stove and close the ash door by lifting it up and locking it in place by pulling down on the handle bar.

**Do not operate the stove unless the ASH PAN DOOR is tightly closed. This could cause the stove to overheat and damage the components of the stove.**

It is best to remove ashes when the stove is cold. If the ash pan is warm, use protective fireplace gloves. Exercise extreme caution when handling, storing or disposing of ashes.





## CHOOSING FIREWOOD

Your Craftsbury 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, CHARCOAL 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 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 Fireplace Insert.

The following is a list of many common 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
<b>High</b>		
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
<b>Medium High</b>		
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
<b>Medium</b>		
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

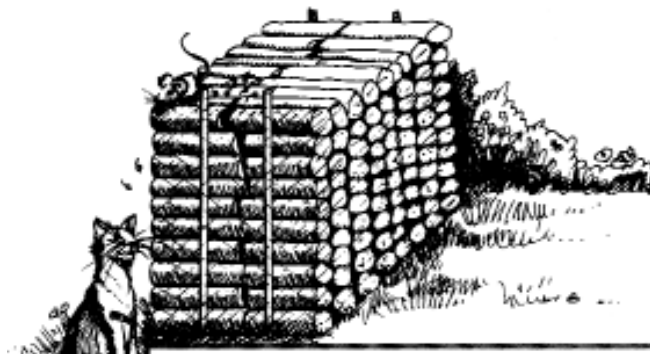
### Low

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, it should be split, stacked and allowed to air dry for a period of one year.

Stack the firewood on skids or blocks to keep it off the ground, cover only the top of the stack. Plastic or tarps that cover the sides of the woodpile 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 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 must be "seasoned"; over-firing a new stove may cause castings to crack or may damage other stove parts.

The soapstone on the back and bottom 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 "off-gassing" 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".

**During the break-in fires you will not be heating the stove to the maximum temperatures you will be once the stove is seasoned. Due to this you may notice a small amount of black liquid dripping from the bottom of the stove. This is due to incomplete combustion of the wood and the condensation within the stove. This liquid**

**will only last for the first couple of fires. After this the dripping will stop. You may want to place a noncombustible material under the stove to protect your hearth until your break-in fires are complete.**

## BUILDING A BREAK IN FIRE

1. 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. Kindling should consist of about ten pieces of very dry wood split to approximately 1/2" (13 mm) in diameter by roughly 10" (254 mm) long.
2. Fully open the primary air control by pulling the lever fully out, towards you.
3. Light the paper under the kindling. Leave the door slightly ajar momentarily until the kindling has started to burn and draft begins to pull.
4. Close the door and allow the fire to burn. Keep the front door and ash pan door closed while the stove is in use. Make sure the grate is in the closed position.
5. **KEEP A WATCHFUL EYE ON YOUR STOVE** to maintain a steady, low-heat fire. Your first and subsequent break-in fires should make the stove warm but **not hot to the touch**. At most, a few small chunks of split cordwood should be added to the fire to reach safe break-in temperatures.
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.

Your first **three** break-in fires should be built and maintained as outlined here. Your patience will be rewarded with a properly seasoned stove.


**NOTE:** Because of the cool flue gas temperatures present during the break-in procedure, creosote may build up quickly. We recommend a visual inspection (and cleaning if necessary) of your stovepipe and chimney once the break-in procedure is completed.

## NORMAL OPERATION

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. Prior to loading the stove, make sure the ash grate is closed and the ash pan door is tightly closed. If the ash grate is left open or the ash door is loose, the stove will over-fire and could be damaged.

## BUILDING A FIRE FOR EVERYDAY USE

1. 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. Kindling should consist of about ten pieces of very dry wood split to approximately 1/2" (13 mm) in diameter by roughly 10" (254 mm) long.
2. Fully open the primary air control by pulling the lever straight out from under the ash lip.
3. Light the paper under the kindling. Leave the door slightly ajar momentarily until the kindling has started 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 door and add logs, small at first, to build the fire up. Make sure to keep the logs away from the glass in front in order for the air-wash system to work properly. Otherwise, keep the door and ash door tightly 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. Pulling the lever out, away from the stove front opens the PRIMARY AIR CONTROL for a high rate of burn or pushing it under the ash lip the stove will produce a low rate of burn.

 **Note:** When opening the 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 will allow 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 will bring 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. A high burn rate is recommended once or twice a day to fully heat the stovepipe and chimney, which will help minimize creosote accumulation.

**MEDIUM BURN:** Set the primary air control to a mid-range setting by pulling the air control about half way out. This will be the appropriate setting for the heating needs of the area being heated. A medium burn rate should be the typical setting and is preferable if the stove is to be left unattended.

**LOW BURN:** Close the primary air control for a low burn rate. A low burn rate over extended periods of time is not advisable as it may promote the accumulation of creosote. The venting system should be inspected frequently if low burn rates are maintained consistently.

**CLEAN BURN:** After reloading with wood, burn the stove with the primary air control fully open for 20 to 30 minutes. This manner of operation ensures early engagement of the secondary combustion system which, when engaged, minimizes creosote buildup in the chimney.

## OVER-FIRE CAUTION

Over-firing means the stove is operating at temperatures above the recommended temperatures outlined above in the *BURN RATE* section. Over-firing should be carefully avoided since it will cause damage to the stove. Symptoms of over-firing include short burn times, a roaring sound in the stove or stovepipe, and discoloration of the stovepipe.

Over-firing can be caused by excessive draft, inappropriate fuel, and operator error. Correct an over-fire situation as follows:

**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, driftwood, wax logs or anything other than natural cordwood.

**OPERATOR ERROR:** Make sure all the gaskets are in good condition. Replace worn out or compressed gaskets. Do not burn the stove with the front or ash doors in the open position.

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

 **NOTE: ANY SYMPTOMS OF OVER-FIRING WILL VOID YOUR WARRANTY!!**

## REMOVAL AND DISPOSAL OF ASHES

Ashes are best removed when the stove is cool. In the morning before adding additional fuel is a good time for ash removal. Use protective fireplace gloves when the pan is warm. Exercise extreme caution when handling, storing or disposing of ashes.

To remove ashes from the firebox, sift the ashes across the open ash grate using an ash hoe, ash shovel, or other suitable implement. Wearing the fireplace gloves, open the ash door by lifting the handle bar up and allow the ash pan door to drop into the open position. Remove the ash pan by pulling the handle on the ash pan and sliding it

carefully out of the stove. Dump the ashes as described below. If needed, the pan can be used as a scoop to remove any ashes still remaining in the ash dump area. Re-insert the ash pan by pushing it in all the way. Wearing the fireplace gloves, lift the ash door and secure it by pushing down the handle bar.

Ashes should be dumped from the ash drawer into a **steel** container with a tight fitting lid. Do not place any other items or trash into the **steel** container. Replace the lid onto the container and allow the ashes to cool. Do not place the ash disposal container on a combustible surface or vinyl flooring, as the container will be **hot!**

Pending disposal, place the closed ash container on a noncombustible floor or on the ground, well away from all combustible materials. Ashes should be retained in the closed container until all cinders have thoroughly cooled.

Ashes should NEVER be placed in aluminum, wooden, or plastic containers, 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

## MONITORING STOVE TEMPERATURES

Monitor the stove temperatures with a stove thermometer (available from your dealer) placed on the top center of the stove. The thermometer could read as high as 600°F (427°C) on high burn and 300-400°F (149°C-204°C) on low burn.

**Do not over-fire the stove.** (Refer to page 19).

## CREOSOTE FORMATION AND NEED FOR REMOVAL

When combustion of the wood is incomplete due to smoldering, low temperature fires, 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, the chimney connector, and chimney should be inspected at least once every two months during the heating season to determine if a creosote buildup has occurred.

To prevent the buildup of creosote:

1. Burn the stove with the primary air control fully open for 30 minutes daily to burn out creosote deposits from within the stove and the venting system.
2. After reloading with wood, burn the stove with the primary air control fully open for 20 to 30 minutes. This manner of operation ensures early engagement of the secondary combustion system which, when engaged, minimizes creosote buildup in the chimney.

The stovepipe connector and chimney should be inspected at least monthly during the heating season to determine if a creosote build-up has occurred. If a creosote residue greater than 1/4" (6 mm) has accumulated, it should be removed to reduce the risk of a chimney fire.

The venting system must be inspected at the stove connection *and* at 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.

Accumulated creosote should be removed with a cleaning brush specifically designed for the type of chimney in use. A certified chimney sweep should be used 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!).

It is also recommended that before each heating season the entire system be professionally inspected, cleaned and repaired, if necessary.

Use of chimney sweeping logs, sprays, or powders may aid in the mechanical cleaning process, however, they should not be used as a substitute for the inspection and brushing of the flue and stovepipe.

## GASKETS

Gasket material should normally be replaced every two to three seasons, depending on stove use. If the door seal is loose, a new gasket will assure a tight seal and improved stove performance. Contact your dealer for a gasket kit, which includes instructions, and gaskets for your stove.

To replace door gaskets, first pull out the old gasket with needle nose pliers. Clean any debris from the gasket channel with a wire brush. Apply a thin, continuous bead of the gasket cement to the prepared channel and push the new gasket into place without stretching or bunching the gasket material. Cut off any excess rope gasket with sharp scissors. The door should be shut immediately to fully press the gasket into place and assure a positive seal.

The Craftsbury requires the use of the following gaskets sizes:

GLASS: 46-1/4 inches of 3/16" (4.8mm) diameter rope gasket  
FRONT DOOR: 53-1/2 inches of 1/2" (12.7mm) diameter rope gasket  
ASH PAN DOOR: 27 inches 1/2" (12.7mm) diameter rope gasket

## GLASS

Do not operate the stove with a broken door glass. Do not abuse the front door by striking or slamming.

When necessary, the glass can be cleaned with commercial stove glass cleaners, which are available from your local dealer. Never attempt to clean the glass while the fire is burning or the glass is hot. Following the instructions provided with the cleaner can clean most deposits. To clean heavier deposits, open the door and remove it by tapping up on the hinge pins (take care to save hinge pins and washers for reuse). Lay the door face down on a workbench or table. Apply the cleaner to the glass and allow it to set for a few minutes. By laying the door flat, it will allow the cleaner to penetrate rather than running off the surface of the glass. 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, 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 dealer.

The door glass should be replaced immediately if broken. Contact your local dealer for replacement glass, which is accompanied with instructions and everything needed for the repair. If you replace the glass yourself, wear work gloves and safety glasses.

The procedure for glass and glass gasket replacement is as follows:

1. Remove the door by tapping the pins up and out of the hinges with a hammer and punch. Save the pins for reassembly.

2. Place the door face down on a flat, smooth surface.
3. Apply penetrating oil to the three screws holding the glass retention clips. Remove the screws, clips, and flat clip gaskets. Save these for reassembly.
4. Carefully lift the damaged glass from the door and discard.
5. Remove the 3/16" rope gasket that was under the glass with needle nose pliers. Clean the debris from the gasket channel with a wire brush. Apply a thin, continuous bead of the gasket glue to the prepared gasket channel. Pack the new 3/16" rope into the gasket channel without stretching or bunching the rope. Cut off any excess gasket with sharp scissors.
6. Place the new glass onto the door.
7. Screw the three glass retention clips back on the door, making sure the flat gasket strips are between the glass and clips.
8. Install the door onto the stove.

## CAST IRON

Use black, high-temperature stove paint (satin black by Stovebright) to touch up and maintain the original appearance of painted cast iron. Use a damp sponge to wipe clean. Dry the cast iron thoroughly to prevent rusting.

Use black, high-temperature stove paint to touch up and maintain the original appearance of painted cast iron. Use a damp sponge to wipe clean. Dry the cast iron thoroughly to prevent rusting.

Enamel castings can be cleaned with a standard glass cleaner on a cool stove. 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

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 or not your stove is producing adequate heat, the best way to troubleshoot the problem is to monitor the temperature of the stack. 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 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) all are determining factors of room temperature.

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 spill into the room. If your chimney is the proper size and a strong draft is not easily established, there is the possibility of the chimney being too cold. Again, hot chimneys promote a stronger draft.

Other draft guidelines are as follows:

**AN "AIRTIGHT" HOUSE:** If your home is super-insulated or especially well sealed, the (infiltration) air supply to the interior of the house may be inadequate. This phenomenon of air starvation within the building can be exacerbated if exhaust

fans, such as clothes dryers, bathroom fans, or cook-stove exhaust fans, are in operation within the home. Outfitting your stove with the optional outside air supply adaptor connected to an air duct which leads to the outside of the building should correct this problem.

**TALL TREES OR BUILDINGS:** These obstructions, when located in proximity 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 (better) the draft. However, "gusty" wind conditions may cause erratic downdrafts. Wind caps, like the Vacu-Stack, for the top of the chimney are available as possible corrective measures here

**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 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, or a leaky chimney may 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 (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 very dry kindling and small pieces of cordwood to obtain a quick, hot fire. Tend the fire frequently with small fuel until the chimney is hot and the draft is well established.

## TROUBLESHOOTING GUIDE

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTIONS</b>
STOVE SMOKES	<p>Operating Technique</p> <p>Cold Chimney Blocked Chimney</p> <p>Oversized Chimney Undersized Chimney Chimney Too Short</p> <p>Air Infiltration Into The Chimney</p> <p>More Than One Appliance Connected to the Flue</p>	<p>Fully open the primary air control one minute before opening doors.</p> <p>Preheat the chimney when first starting a fire.</p> <p>Examine the chimney and stovepipe for blockage or creosote accumulations.</p> <p>Reline the chimney to the appropriate diameter</p> <p>Install a draft inducer or replace the chimney.</p> <p>Lengthen the chimney.</p> <p>Seal chimney connections and openings in clean-out doors.</p> <p>Disconnect all other appliances and seal openings.</p>
BACK-PUFFING OR GAS EXPLOSIONS	<p>Operating Technique</p> <p>Extra Low Burn Rate Chimney Down-draft Excessive Ash Build-up</p>	<p>Fully open the primary air control one minute before opening the door and keep it fully open for a few minutes after reloading.</p> <p>Burn the stove at a higher burn rate.</p> <p>Install a chimney cap.</p> <p>Empty ash pan more frequently.</p>
UNCONTROLLED OR SHORT BURN	<p>Unsealed or Open Door</p> <p>Excessive Draft</p> <p>Deteriorated Gasket Seals</p> <p>Extra Long Chimney Oversized Chimney</p> <p>High Winds or Hilltop Location: Excessive Draft</p>	<p>Close the front and ash doors tightly or replace the gaskets.</p> <p>Check the installation. Operate at LOW BURN. Install stovepipe damper.</p> <p>Reseal the stove with new, properly sized gaskets.</p> <p>Shorten the chimney. Install stovepipe damper.</p> <p>Reline the chimney to the proper diameter.</p> <p>Install a chimney cap.</p> <p>Draft in excess of 0.1 wc should be corrected with a stovepipe damper</p>
INSUFFICIENT HEAT	<p>Poor Quality or Green Wood</p> <p>Low Burn Rate Air Insulated Chimney</p> <p>Cold Exterior Chimney Leaky Stovepipe or Chimney</p> <p>Too Much Heat Loss From House</p>	<p>Use only air-dried wood, preferably dried <u>at least</u> one year.</p> <p>Do not burn punky or rotten wood.</p> <p>Operate the stove at a higher burn rate.</p> <p>Replace with a pre-fabricated insulated chimney system or a properly sized masonry chimney.</p> <p>Reline or insulate the chimney.</p> <p>Check the installation.</p> <p>Caulk windows, seal openings in home.</p>
BLISTERING OF ENAMEL CASTING	<p>Operating Technique</p> <p>Excessive Draft</p>	<p>Do not over-fire the stove. Monitor stove temperatures.</p> <p>Use seasoned wood only.</p> <p>Check the DRAFT. (See page 12) A damper may be required. Operate the stove at a LOW BURN range.</p>



# Replacement Parts & Optional Accessories

QPA PART #	DESCRIPTION	QPA PART #	DESCRIPTION
<b>CAST</b>		<b>STONE</b>	
1	2310-910 ASH PAN	2	0400-700 STONE 4 x 9, BOTTOM
1	2310-915 ASH PAN DOOR	2	0300-900 STONE 5-3/4 x 8-1/8 , REAR
1	2310-920 BOTTOM	<b>MISC</b>	
1	2310-925 ASH GRATE BASE	1	3030-047 GLASS
1	2310-927 ASH GRATE	1	3900-183 ASH PAN WOOD HANDLE
1	2310-930 ASH LIP	1	3900-181 WOOD DOOR HANDLE
2	2310-940 SIDES	1	3120-390 BAFFLE
1	2310-950 BACK	1	5240-137 1/2 SPRING
1	2310-955 SIDE INNER PANEL, LEFT	<b>ACCESSORIES</b>	
1	2310-957 SIDE INNER PANEL, RIGHT	93-68900	REAR HEAT SHIELD
1	2310-960 PRIMARY AIR MANIFOLD	93-69900	VIEWING SCREEN
1	2310-970 FRONT	90-57000	BLOWER
1	2310-975 DOOR	90-53210	OUTSIDE AIR SHROUD
1	2310-980 SECONDARY AIR RISER		
1	2310-985 SECONDARY AIR MANIFOLD, BOTTOM		
1	2310-987 SECONDARY AIR MANIFOLD, TOP		
1	2310-995 TOP		
1	2310-992 FLUE COLLAR ADAPTER W/ADAPTER		
<b>STEEL</b>			
1	5390-010 ASHPAN		
1	5390-020 ASH PAN HINGE, LEFT		
1	5390-025 ASH PAN HINGE, RIGHT		
2	5390-027 ASH PAN HINGE PLATE		
1	5390-030 HANDLE ROD		
1	5390-040 AIR CONTROL HANDLE		
1	5390-045 AIR CONTROL HANDLE PLATE		
1	5390-061 SECONDARY AIR TUBE #1		
1	5390-062 SECONDARY AIR TUBE #2		
1	5390-063 SECONDARY AIR TUBE #3		
1	5390-070 BAFFLE SUPPORT		
1	5390-080 HEAT SHIELD		
1	5390-085 TOP BRACKET		
1	5010-081 CRANK		
2	5012-066 BUSHING		
3	5021-060 GLASS CLIPS		
1	5390-050 LATCH		

# Rating Label

CONTACT YOUR LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA

Listed Room Heater, Solid Fuel Type  
Also Suitable for Mobile Home Installation Pursuant to (UM)84-HUD

MODEL NAME: CRAFTSBURY-8390  
TESTED TO: UL 1482, ULC S627

Intertek Testing  
Services NA, inc.

Manufactured by:

Industrias Hergom S.A.  
Apdo. de Correos, 208 de Santander  
Santander, Spain 39080

SERIAL #   
or 317 Stafford Ave.  
Morrisville VT 05661  
USA

W/N 04928

## WARNINGS

Do not use grate or elevate fire. Build wood fire directly on hearth.

Do not overfire. If the heater or chimney connector glows, you are overfiring. (See Manual)

Do not operate with doors open.

Do not obstruct space under heater

TYPE OF FUEL:  
Solid Wood Only

## "PREVENT HOUSE FIRES"

Install and use only in accordance with manufactures installation instructions and your local building codes.

CAUTION: Special methods are required when passing chimney through a wall or ceiling, refer to local building codes. Do not connect this unit to a chimney flue serving another appliance

NOTE: Replace glass only with 4mm CERAMIC IR or NEOCERAM IR glass.

VENT REQUIREMENTS: 6 inch diameter, single wall, minimum 24 MSG black or 25 MSG blue steel connector with listed factory-built Type HT chimney or masonry chimney.



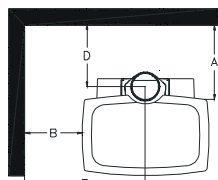
Caution: Hot while in operation, Do not touch. Keep children, clothing, and furniture away. Contact may cause skin burns. See nameplate and Owner's manual.

WARNING: (MOBILE HOME) An outside air inlet must be provided for combustion and be unrestricted while unit is in use.

Inspect and Clean Chimney Frequently-Under Certain Conditions of Use, Creosote Buildup May Occur Rapidly.

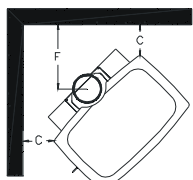
OPTIONAL COMPONENTS:  
Blower Kit Kit # 90-57000  
Outside Air Kit Kit # 90-53210  
Rear Heatshield Kit # 93-68900  
Viewing Screen Kit # 93-69900

## Minimum Clearance to Combustible Materials\*

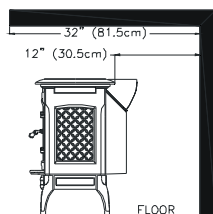


PARALLEL

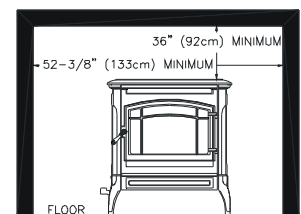
A - 24" (61cm) C - 17" (44cm) E - 24.5" (62cm)  
B - 14" (36cm) D - 21" (53cm) F - 22.5" (57cm)



CORNER



SIDE VIEW



FRONT VIEW

Noncombustible floor protection must extend 8" beyond all sides and at least 16 inches (46cm CAN) beyond the front of the stove. For horizontal chimney connector installations, the floor protection must be installed beneath the connector and 2" beyond each side.

\* Refer to the Installation Manual for additional clearance information, Installation Instructions, and Operating Instructions.

U.S. ENVIRONMENTAL PROTECTION AGENCY  
Certified to comply with July 1, 1990 particulate emissions standards

Date of Manufacture

2006 2007 2008 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

DO NOT REMOVE OR COVER THIS LABEL

MADE IN USA

3300-622

## **WARRANTY REGISTRATION**

The Original Purchaser may send a completed and signed Warranty Registration Form, which is enclosed in the Woodstove Manual & Warranty 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 A CONDITION OF WARRANTY COVERAGE OR HEARTHSTONE'S PERFORMANCE.**