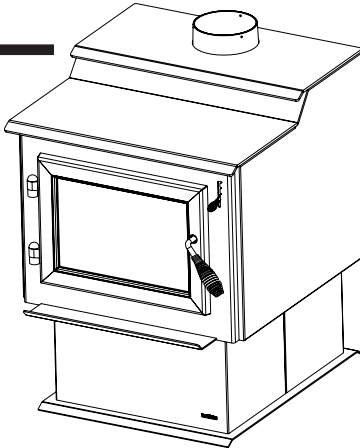


Model:

ECO-ADV-WS22

Wood Burning Stove



WS22



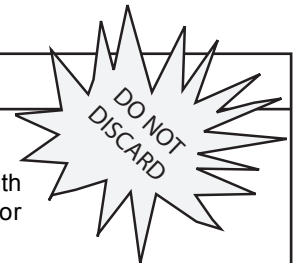
Intertek

NOTICE



DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation.



WARNING



If the information in these instructions is not followed exactly, a fire may result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not overfire - If heater or chimney connector glows, you are overfiring. Overfiring will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

WARNING



Fire Risk.

For use with solid wood fuel only. Other fuels may overfire and generate poisonous gases (i.e. carbon monoxide).

WARNING



HOT SURFACES!

Glass and other surfaces are hot during operation AND cool down.

Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures.

High temperatures may ignite clothing or other flammable materials.

- Keep clothing, furniture, draperies and other flammable materials away.



Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends NFI certified professionals, or technicians supervised by an NFI certified professional.



Read this manual before installing or operating this fireplace.

Please retain this owner's manual for future reference.

Congratulations!

Congratulations on selecting a Heatilator wood burning appliance. The wood burning appliance you have selected is designed to provide the utmost in safety, reliability and efficiency.

As the owner of a new wood burning appliance, you'll want to read and carefully follow all of the instructions contained in this owner's manual. Pay special attention to all cautions and warnings.

This owner's manual should be retained for future reference. We suggest you keep it with your other important documents and product manuals.

Your new wood burning appliance will give you years of durable use and trouble-free enjoyment. Welcome to the Heatilator family of wood burning products!

NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction

SAMPLE OF SERIAL NUMBER / SAFETY LABEL

LOCATION: Back of Appliance

Test Lab and Report Number **Model Name** **Serial Number**

CAUTION: HOT WHILE IN OPERATION DO NOT TOUCH, KEEP CHILDREN AND CLOTHING AWAY. CONTACT MAY CAUSE SKIN BURNS.
ATTENTION: CHAUD LORS DE L'OPÉRATION. NE PAS TOUCHER. GARDEZ LES ENFANTS ET LES VÊTEMENTS LOIN DE L'ESPACE DÉSIGNÉ DE L'APPAREIL. LE CONTACT PEUT CAUSER DES BRÛLURES À LA PEAU. GARDEZ LES ENFANTS ET LES MATÉRIEAUX COMBUSTIBLES LOIN DE L'ESPACE DÉSIGNÉ DE L'APPAREIL. VOIR L'ÉTIQUETTE ET LES INSTRUCTIONS.

LISTED ROOM HEATER, SOLID FUEL TYPE. ALSO FOR USE IN MOBILE HOMES. (UM) 84-64 HUD. "For Use with Solid Wood Fuel Only"
PREVENT HOUSE FIRES
 Install and use only in accordance with manufacturer's installation and operating instructions. Contact local building or fire officials about restrictions and installation inspections in your area. Do not obstruct the space beneath heater.
WARNING - For Mobile Homes: Do not install in a sleeping room. An outside combustion air inlet must be provided and unobstructed while unit is in use. The structural integrity of the mobile home floor, ceiling and walls must be maintained. The stove needs to be properly grounded to the frame of the mobile home. Components required for mobile home installation: Outside Air Kit, Part Number OAK-ACC.
Refer to manufacturer's instructions and local codes for precautions required for passing chimney through a combustible wall or ceiling and maximum offsets.
 Inspect and clean chimney frequently - Under Certain Conditions of Use, Creosote Buildup May Occur Rapidly.
 Do not connect this unit to a chimney serving another appliance.
 Optional Components: Optional Blower, Part BK-ACC.
 Electrical Rating: 115 VAC, 12 Amps, 60 Hz. Route power cord away from unit. Do not route cord under or in front of appliance.
DANGER: Risk of electrical shock. Disconnect power supply before servicing.
 Replace glass only with 5mm ceramic available from your dealer.
 Do not use grate or elevate fire. Build wood fire directly on hearth.
 Do not overfire - If heater or chimney connector glows, you are overfiring.
 Operate only with the fuel loading door closed. Open only to add fuel to the fire.

FLOOR PROTECTION:
 Floor protector must be a 1/4 inch (6.35mm) min. thickness, (K value = 1.92, R value = 0.13) non-combustible material or equivalent, extending beneath heater and to front/rear as indicated on the diagram below. Exception: Non-combustible floor protectors must extend beneath the flue pipe when installed with horizontal venting and extend 2 inches (51mm) beyond each side.

PROTECTION DU PLANCHER:
 Le protecteur de sol doit être d'une épaisseur minimale de 1/4 (6,35 mm) d'épaisseur, (K valeur = 1,92, R valeur = 0,13) matériau non combustible ou équivalent, s'étendant sous l'appareil de chauffage et vers l'avant et l'arrière comme indiqué sur le diagramme ci-dessous. Exception: Les protections incombustibles du plancher doivent s'étendre sous du conduit de cheminée lorsqu'une ventilation horizontale et s'étendre 2 (51 mm) de chaque côté.

VENT SPECIFICATIONS:
SINGLE WALL: Six inch (6 inches) (152mm) diameter, minimum 24 MSG black or blue steel connector pipe, with a listed factory-built UL103HT* Class "A" chimney, suitable for use with solid fuels, or a masonry chimney, and the referenced clearances.
DOUBLE WALL: Six inch (6 inches) (152mm) diameter, listed double wall air insulated connector pipe with listed factory-built UL103HT* Class "A" chimney, or a masonry chimney and the referenced clearances.
MOBILE HOME: Use double wall pipe by Dura-Vent DVL, or Metabestos DS or Security DL double wall connector pipe. Must be equipped with a spark arrestor. Apply double wall clearances below when installing unit.
MINIMUM CLEARANCES TO COMBUSTIBLES In Inches & (Millimeters)
NOTE: All "A", "C" and "F" Dimensions are inside diameter of the flue collar.

SPÉCIFICATIONS DE LA VENTILATION:
MUR SIMPLE: De six (6 inches) (152mm) de diamètre le connecteur de conduit de minimum d'acier noir ou bleu de minimum de 24MSG, avec une cheminée bâtit en usine UL103HT* de Classe "A", adéquate pour usage avec les combustibles solides, ou une cheminée de briques, avec espaces libres référés.
MUR DOUBLE: De six (6 inches) (152mm) de diamètre, le connecteur de conduit d'air isolé pour mur double avec une cheminée bâtit en usine UL103HT* de Classe "A", ou une cheminée de briques, avec espaces libres alloués.
***Au Canada doit conformer à CAN/ULC-S629-M87 la norme pour 650 degré C cheminée bâtit en usine.**
MAISON MOBILE: Utiliser un conduit de mur double par Dura-Vent DVL, Selkirk Metabestos DS ou Security DL. Doit être équipé d'un arrêt d'incendie. Utiliser les espaces libres pour mur double comme mentionné ci-dessus.
ESPACES LIBRES MINIMUM DES MATÉRIEAUX COMBUSTIBLES En Pouces & (millimètres)
NOTE: Toutes les dimensions "A", "C", et "F" sont à partir du diamètre intérieur de l'entrée du conduit.

INSTALLATION: FULL VERTICAL THROUGH ROOF - FULL VERTICAL OFF STOVE TOP
INSTALLATION: HORISONTAL MINIMUM 609mm VERTICAL MINIMUM DU HAUT DU POÊLE

| | A | B | C | D | E | F | G | H |
|-------------------------|------------|------------|------------|----------|----------|------------|-----------|----------|
| SINGLE WALL | 9 (229) | 8.25 (210) | 21 (533) | 11 (279) | 3.5 (89) | 12.5 (318) | 49 (1245) | * |
| DOUBLE WALL | 9 (229) | 7 (178) | 19.5 (495) | 9 (229) | 3 (76) | 12 (305) | 49 (1245) | 10 (254) |
| DOUBLE WALL PIPE | 9.25 (235) | 7.5 (191) | 18 (457) | 8 (203) | 3.5 (89) | 12.5 (318) | 49 (1245) | * |
| SINGLE WALL PIPE | 9.25 (235) | 7.5 (191) | 18 (457) | 8 (203) | 3 (76) | 12 (305) | 49 (1245) | 10 (254) |

INSTALLATION: ALCOVE - Six inch (6 inches) (152mm) diameter listed SINGLE WALL or DOUBLE WALL air insulated connector pipe with UL 103 HT listed factory-built Class "A" chimney, or a masonry chimney. (Mobile Home must be equipped with a spark arrestor.) Maximum depth of Alcove shall be no more than 48 inches (1219mm) with a minimum height of 84 inches (2133mm) from floor to bottom of ceiling, and the referenced clearances.

INSTALLATION: ALCOVE - De six (6 inches) (152mm) de diamètre, le connecteur de conduit d'air isolé pour du mur simple ou mur double avec une cheminée bâtit en usine UL103HT de Classe "A", ou une cheminée de briques. (Les maisons mobiles doivent être équipées d'un arrêt d'incendie.) La profondeur maximum de l'alcove ne doit pas être de plus de 48 inches (1219mm) avec une hauteur minimum de 84 inches (2133mm) la distance entre du plancher et plafond intérieur, et des espaces libres alloués.

SEE PIPE MANUFACTURERS CLEARANCES - NOT TESTED

ALCOVE SIDE VIEW / VUE DE CÔTÉ DE L'ALCOVE **ALCOVE TOP VIEW / VUE DU HAUT DE L'ALCOVE**

90 OFF TOP UP & OUT CEILING CLEARANCE
 ESPACE LIBRE DU DESSUS DE L'APPAREIL AU PLAFOND AVEC 90 DE COURBURE

STOVE TO CEILING CLEARANCE
 ESPACE LIBRE DU POÊLE AU PLAFOND

Manufactured by: **HEARTH-HOME**
 Fabriqué par: 1445 N. Highway, Coville, WA 99114
 www.heatilator.com

Made in U.S.A. of U.S. and imported parts.
 Fabriqué aux États-Unis d'Amérique par des pièces d'origine américaine et pièces importées.

2012 2013 2014 Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

DO NOT REMOVE THIS LABEL / NE PAS ENLEVER L'ÉTIQUETTE

7057-125C

Manufacturer Date

Safety Alert Key:

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided may result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.
- **NOTICE:** Indicates practices which may cause damage to the appliance or to property.

TABLE OF CONTENTS

| | |
|--|-----|
| Congratulations | 2 |
| Sample of Safety/Serial Number Label | 2 |
| Warranty Policy | 4-5 |

Section 1: Listing and Code Approvals

| | |
|--|---|
| A. Appliance Certifications..... | 6 |
| B. Mobile Home Approved..... | 6 |
| C. Glass Specifications..... | 6 |
| D. BTU & Efficiency Specifications | 6 |

User's Guide

Section 2: Operating Instructions

| | |
|--|----|
| A. General Operating Parts | 7 |
| B. Fire Safety..... | 8 |
| C. Overfiring..... | 8 |
| D. Combustible/Non-Combustible Material..... | 8 |
| E. Seasoned Wood..... | 8 |
| F. Chimney Fire..... | 8 |
| G. Burning Process..... | 9 |
| H. Burn Rate Air Control..... | 10 |
| I. Burn Rates and Operating Efficiency | 10 |
| J. Correct Baffle & Blanket Placement..... | 11 |
| K. Building a Fire | 12 |
| L. Wood Fuel..... | 13 |
| M. Blower Operating Instructions | 14 |
| N. Clear Space | 14 |
| O. Opacity (Smoke) | 15 |
| P. Frequently Asked Questions | 15 |
| Q. Quick Start Guide..... | 16 |

Section 3: Maintenance and Service

| | |
|--|----|
| A. Disposal of Ashes | 17 |
| B. Chimney & Chimney Connector Inspection/Cleaning..... | 17 |
| C. Appliance Inspection - Routine | 17 |
| D. Glass Cleaning..... | 18 |
| E. Firebrick Inspection & Replacement | 18 |
| F. Quick Reference Maintenance Guide | 19 |

Section 4: Troubleshooting Guide.....20

Section 5: Service Parts Replacement

| | |
|---|----|
| A. Glass Replacement..... | 21 |
| B. Snap Disc Replacement..... | 21 |
| C. Baffle Removal..... | 22 |
| D. Door Handle Assembly | 23 |
| E. Tube Channel Assembly Replacement..... | 24 |

Installer's Guide

Section 6: Getting Started

| | |
|---|----|
| A. Design, Installation & Location Considerations | 25 |
| B. Draft | 25 |
| C. Negative Pressure..... | 25 |
| D. Locating Your Appliance and Chimney..... | 26 |
| E. Chimney Termination Requirements..... | 26 |
| F. 2-10-3 Rule | 27 |
| G. Tools and Supplies Needed | 28 |
| H. Fire Safety..... | 28 |
| I. Inspect Appliance and Components and Pre-Burn Checklist | 28 |

Section 7: Dimensions and Clearances

| | |
|--|----|
| A. Appliance Dimensions..... | 29 |
| B. Clearances to Combustibles (UL and ULC) | 30 |
| C. Hearth Protection Requirements..... | 31 |
| D. Alternate Floor Protection | 32 |

Section 8: Venting and Chimney Systems

| | |
|-------------------------------------|-------|
| A. Venting Systems | 33 |
| B. Inspections | 33 |
| C. Larger Chimneys..... | 33 |
| D. Chimney Systems | 33 |
| E. Chimney Height/Rise and Run..... | 34 |
| F. Factory-Built Chimney..... | 34 |
| G. Masonry Chimney | 35 |
| H. Masonry Chimney Liner | 36 |
| I. Air Clearances..... | 37 |
| J. Thimble | 37-38 |

Section 9: Appliance Set-up

| | |
|---|----|
| A. Outside Air Installation | 39 |
| B. Mobile Home Installation..... | 40 |
| C. Blower Installation (Optional) | 41 |
| D. Adjusting the Blower Speed Control | 41 |

Section 10: Reference Materials

| | |
|--------------------------------------|-------|
| A. Exploded Drawings | 42 |
| B. Service Parts & Accessories | 43-44 |
| C. Service & Maintenance Log | 45-46 |
| D. Homeowner's Notes..... | 47 |
| E. Contact Information..... | 48 |

HEATILATOR ECO-CHOICE WARRANTY

Hearth & Home Technologies Inc., on behalf of its hearth brands ("HHT"), extends the following warranty for ECO-CHOICE by heatilator wood and pellet hearth appliances that are purchased from an HHT authorized dealer.

WARRANTY COVERAGE:

HHT warrants to the original owner of the HHT appliance at the site of installation, and to any transferee taking ownership of the appliance at the site of installation within two years following the date of original purchase, that the HHT appliance will be free from defects in materials and workmanship at the time of manufacture. After installation, if covered components manufactured by HHT are found to be defective in materials or workmanship during the applicable warranty period, HHT will, at its option, repair or replace the covered components. HHT, at its own discretion, may fully discharge all of its obligations under such warranties by replacing the product itself or refunding the verified purchase price of the product itself. The maximum amount recoverable under this warranty is limited to the purchaser price of the product. This warranty is subject to conditions, exclusions and limitations as described below.

WARRANTY PERIOD:

Warranty coverage begins on the date of installation. In the case of new home construction, warranty coverage begins on the date of first occupancy of the dwelling or six months after the sale of the product by an independent, authorized HHT dealer/distributor, whichever occurs earlier. The warranty shall commence no later than 24 months following the date of product shipment from HHT, regardless of the installation or occupancy date. The warranty period for parts and labor for covered components is produced in the following table.

| Warranty Period | | Heatilator ECO-CHOICE Appliances | | Components Covered |
|-----------------|---------|----------------------------------|----------|--|
| Parts | Labor | Pellet | EPA Wood | |
| 1 year | | X | X | All parts and material except as covered by Conditions, Exclusions, and Limitations listed |
| 3 years | | X | | Firepots and burnpots |
| 3 years | 1 year | X | X | Castings |
| 5 years | 3 years | | X | Manifold tubes |
| 5 years | 3 years | X | X | Firebox and heat exchanger |
| 90 days | | X | X | All replacement parts beyond warranty period |

See conditions, exclusions, and limitations on next page

WARRANTY COVERAGE:

- This warranty only covers HHT appliances that are purchased through an HHT authorized dealer or distributor. A list of HHT authorized dealers is available on the HHT branded websites.
- This warranty is only valid while the HHT appliance remains at the site of original installation.
- Contact your installing dealer for warranty service. If the installing dealer is unable to provide necessary parts, contact the nearest HHT authorized dealer or supplier. Additional service fees may apply if you are seeking warranty service from a dealer other than the dealer from whom you originally purchased the product.
- Check with your dealer in advance for any costs to you when arranging a warranty call. Travel and shipping charges for parts are not covered by this warranty.

WARRANTY EXCLUSIONS:

This warranty does not cover the following:

- Changes in surface finishes as a result of normal use. As a heating appliance, some changes in color of interior and exterior surface finishes may occur. This is not a flaw and is not covered under warranty.
- Damage to printed, plated, or enameled surfaces caused by fingerprints, accidents, misuse, scratches, melted items, or other external sources and residues left on the plated surfaces from the use of abrasive cleaners or polishes.
- Repair or replacement of parts that are subject to normal wear and tear during the warranty period. These parts include: paint, wood, pellet and coal gaskets; firebricks; grates; flame guides; and the discoloration of glass.
- Minor expansion, contraction, or movement of certain parts causing noise. These conditions are normal and complaints related to this noise are not covered by this warranty.
- Damages resulting from: (1) failure to install, operate, or maintain the appliance in accordance with the installation instructions, operating instructions, and listing agent identification label furnished with the appliance; (2) failure to install the appliance in accordance with local building codes; (3) shipping or improper handling; (4) improper operation, abuse, misuse, continued operation with damaged, corroded or failed components, accident, or improperly/incorrectly performed repairs; (5) environmental conditions, inadequate ventilation, negative pressure, or drafting caused by tightly sealed constructions, insufficient make-up air supply, or handling devices such as exhaust fans or forced air furnaces or other such causes; (6) use of fuels other than those specified in the operating instructions; (7) installation or use of components not supplied with the appliance or any other components not expressly authorized and approved by HHT; (8) modification of the appliance not expressly authorized and approved by HHT in writing; and/or (9) interruptions or fluctuations of electrical power supply to the appliance.
- Non-HHT venting components, hearth components or other accessories used in conjunction with the appliance.
- Any part of a pre-existing fireplace system in which an insert or a decorative gas appliance is installed.
- HHT's obligation under this warranty does not extend to the appliances' capability to heat the desired space. Information is provided to assist the consumer and the dealer in selecting the proper appliance for the application. Consideration must be given to appliance location and configuration, environmental conditions, insulation and air tightness of the structure.

This warranty is void if:

- The appliance has been over-fired or operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals. Overfiring can be identified by, but not limited to, warped plates or tubes, rust colored cast iron, bubbling, cracking and discoloration of steel or enamel finishes.
- The appliance is subjected to prolonged periods of dampness or condensation.
- There is any damage to the appliance or other components due to water or weather damage which is the result of, but not limited to improper chimney or venting installation.

WARRANTY EXCLUSIONS:

- The owner's exclusive remedy and HHT's sole obligation under this warranty, under any other warranty, express or implied, or in contract, tort or otherwise, shall be limited to replacement, repair, or refund, as specified above. In no event will HHT be liable for any incidental or consequential damages caused by defects in the appliance. Some states do not allow exclusions or limitation of incidental or consequential damages, so these limitations may not apply to you. This warranty gives you specific rights; you may also have other rights, which vary from state to state. EXCEPT TO THE EXTENT PROVIDED BY LAW, HHT MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY SPECIFIED HEREIN. THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO DURATION OF THE EXPRESSED WARRANTY SPECIFIED ABOVE.

1 Listing and Code Approvals

A. Appliance Certification

| | |
|-----------------------|---|
| Model: | ECO-ADV-WS22 Wood Stove |
| Laboratory: | Intertek |
| Report Number: | 3198460 |
| Type: | Listed Room Heater, Solid Fuel Type |
| Standard: | UL1482 and ULC S627-00 and (UM) 84-HUD, Mobile Home Approved. |

NOTICE: This installation must conform with local codes. In the absence of local codes you must comply with the **UL1482, (UM) 84-HUD and NPFA211** in the U.S.A. and the **ULC S627-00 and CAN/CSA-B365 Installation Codes** in Canada.

The ECO-CHOICE by Heatilator wood stove meets the U.S. Environmental Protection Agency's 1990 particulate emission standards.

B. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home with #8 copper ground wire, and use only listed double-wall connector pipe.
- Outside Air Kit, part OAK-ACC must be installed in a mobile home installation.

C. Glass Specifications

This stove is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

D. BTU & Efficiency Specifications

| | |
|--------------------------|---|
| EPA Certified: | 2.7 grams per hour |
| Efficiency: | 82.3% |
| BTU Output: | 11,700 to 27,000 per hour |
| Heating Capacity: | 1,580 to 2,780 sq. feet depending on climate zone |
| Vent Size: | 6 inches |
| Firebox Size: | 2.75 cubic feet |
| Max Wood Length: | 22 inches |
| Fuel: | Cord Wood |
| Shipping Weight: | 410 lbs |

WARNING! Risk of Fire! Hearth & Home Technologies disclaims any responsibility for, and the warranty and agency listing will be voided by the below actions.

DO NOT:

- Install or operate damaged appliance
- Modify appliance
- Install other than as instructed by Hearth & Home Technologies
- Operate the appliance without fully assembling all components
- Overfire
- Install any component not approved by Hearth & Home Technologies
- Install parts or components not Listed or approved

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

Heatilator is a registered trademark of Hearth & Home Technologies.

User Guide

2 Operating Instructions

WARNING



HOT SURFACES!

Glass and other surfaces are hot during operation AND cool down.

Hot glass will cause burns.

- **DO NOT** touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as appliance.
- Alert children and adults to hazards of high temperatures.

High temperatures may ignite clothing or other flammable materials.

- Keep clothing, furniture, draperies and other flammable materials away.

NOTICE: If you expect that children may come into contact with this appliance, we recommend a barrier such as a decorative screen. See your dealer for suggestions.

A. Your Wood Appliance - General Operating Parts

WARNING! DO NOT operate appliance before reading and understanding operating instructions.
Failure to operate appliance according to operating instructions could cause fire or injury.

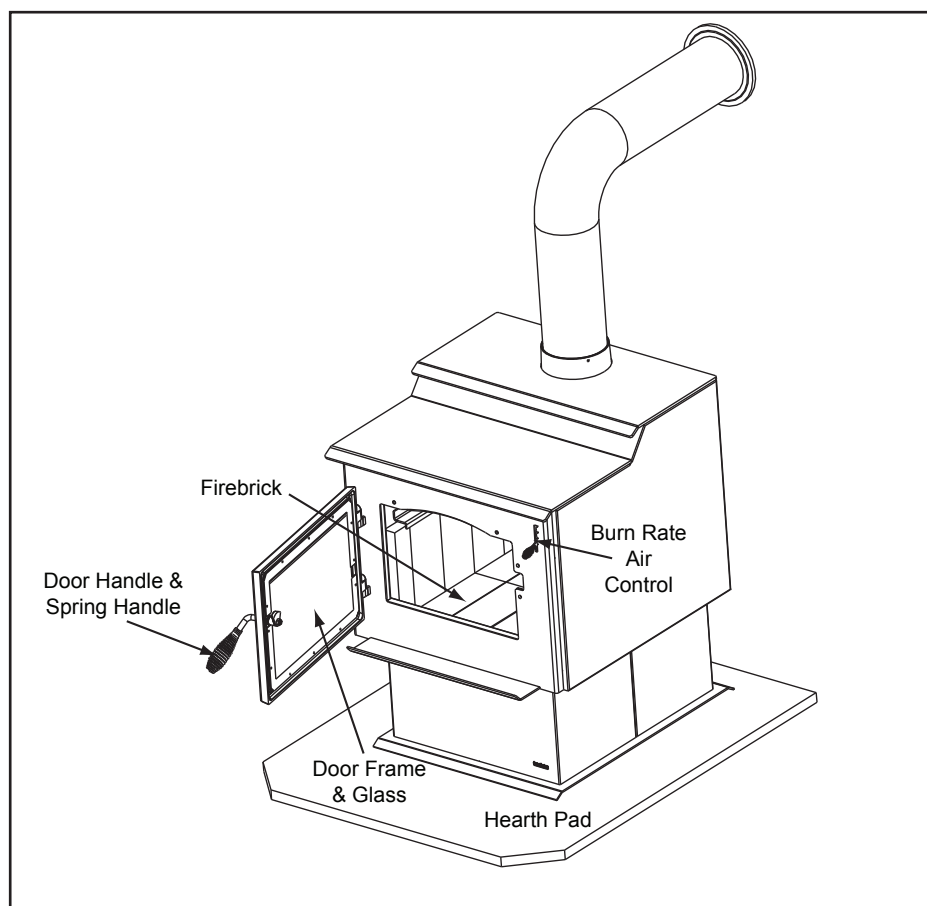


Figure 7.1 General Operating Parts

B. Fire Safety

To provide reasonable fire safety, the following should be given serious consideration:

1. Install at least one smoke detector on each floor of your home to ensure your safety. They should be located away from the heating appliance and close to the sleeping areas. Follow the smoke detector manufacturer's placement and installation instructions, and be sure to maintain regularly.
2. A conveniently located Class A fire extinguisher.
3. A practiced evacuation plan, consisting of at least two escape routes.
4. In the event of a chimney fire:
 - a. Prepare occupants for immediate evacuation
 - b. Notify fire department

C. Overfiring

WARNING! Risk of Fire!

Do not over-fire.

Over-firing may ignite creosote or will damage the stove and chimney.

To prevent over-firing your stove, DO NOT:

- Use flammable liquids
- Overload with wood
- Burn trash or large amounts of scrap lumber
- Permit too much air to the fire

1. Symptoms of Over-Firing

Symptoms of over-firing may include one or more of the following:

- Chimney connector or appliance glowing
- Roaring, rumbling noises
- Loud cracking or banging sounds
- Metal warping
- Chimney fire

2. What To Do if Your Stove is Over-Firing

- Immediately close the door and air controls to reduce air supply to the fire.
- If you suspect a chimney fire, call the fire department and evacuate your house.
- Contact your local chimney professional and have your stove and stove pipe inspected for any damage.
- Do not use your stove until the chimney professional informs you it is safe to do so.

Hearth & Home Technologies **WILL NOT** warranty stoves that exhibit evidence of over-firing. Evidence of over-firing includes, but is not limited to:

- Warped air tube
- Deteriorated refractory brick retainers
- Deteriorated baffle and other interior components

D. Combustible/Non-combustible Materials

• **Combustible Material**

Material made of or surfaced with wood, compressed paper, plant fibers, plastics, or any material capable of igniting and burning, whether flame-proofed or not, plastered or unplastered.

• **Non-combustible Material**

Material which will not ignite and burn. Such materials are those consisting entirely of steel, iron, brick, tile, slate, glass or plasters, or any combination thereof.

• **Non-combustible Sealant Material**

Sealants which will not ignite and burn: Rutland, Inc. Fireplace Mortar #63, Rutland 76R, Nuflex 304, GE RTV106 or GE RTB116 (or equivalent).

E. Seasoned Wood

Burn only dry seasoned wood.

- Store wood under cover, out of the rain and snow.
- Dry and well-seasoned wood will not only minimize the chance of creosote formation, but will give you the most efficient fire.
- Even dry wood contains at least 15% moisture by weight, and should be burned hot enough to keep the chimney hot for as long as it takes to dry the wood out - about one hour.
- It is a waste of energy to burn unseasoned wood of any kind.

Dead wood lying on the forest floor should be considered wet, and requires full seasoning time.

- Standing dead wood can be considered to be about 2/3 seasoned.
- To tell if wood is dry enough to burn, check the ends of the logs.
- If there are cracks radiating in all directions from the center, it is dry.
- If your wood sizzles in the fire, even though the surface is dry, it may not be fully cured.

F. Chimney Fire

WARNING! Risk of Fire! A chimney fire can permanently damage your chimney system and nearby structures.

In the event of a chimney fire, Hearth & Home Technologies Inc. recommends

- Replacement of the chimney, and
- Inspection of the adjacent structure to the provisions of NFPA Level III inspection criteria

G. Burning Process

In recent years there has been an increasing concern about air quality. Much of the blame for poor air quality has been placed on the burning of wood for home heating.

In order to improve the situation, we have developed cleaner-burning wood appliances that surpass the requirements for emissions established by our governing agencies.

These wood appliances must be properly operated in order to ensure that they perform the way they are designed to perform.

NOTICE: *Improper operation can turn any wood appliance into a smoldering environmental hazard.*

1. Kindling or First Stage

It helps to know a little about the actual process of burning in order to understand what goes on inside the appliance. The first stage of burning is called the kindling stage.

In this stage:

- Wood is heated to a temperature high enough to evaporate the moisture present in all wood.
- Wood will reach the boiling point of water (212°F) and will not get any hotter until the water is evaporated.

This process takes heat from the coals and tends to cool the appliance.

Fire requires three things to burn:

- Fuel
- Air
- Heat

If heat is robbed from the appliance during the drying stage, the new load of wood has reduced the chances for a good clean burn.

It is always best to burn dry, seasoned firewood. When the wood isn't dry, you must open the air controls and burn at a high burn setting for a longer time to start it burning.

The heat generated from the fire should be warming your home and establishing the flue draft, not evaporating the moisture out of wet, unseasoned wood, resulting in wasted heat.

2. Second Stage

In the secondary stage wood gives off flammable gases which burn above the fuel with bright flames.

During this stage of burning:

- The flames must be maintained and not allowed to go out to ensure the cleanest possible fire.
- If the flames tend to go out, it is set too low for your burning conditions.

The air control located at the upper right hand corner is used to adjust for burn rates. This is called the Burn Rate Air Control. **Figure 10.1 on page 10.**

3. Final Stage

The final stage of burning is the charcoal stage. This occurs when the flammable gases have been mostly burned and only charcoal remains. This is a naturally clean portion of the burn. The coals burn with hot blue flames.

- It is very important to reload your appliance while enough lively hot coals remain in order to provide the amount of heat needed to dry and rekindle the next load of wood.
- It is best to open the Burn Rate Air Control **before reloading**. This livens up the coalbed and reduces excessive emissions (opacity/smoke). **Figure 10.1 on page 10.**
- Open door slowly so that ash or smoke does not exit appliance through opening.
- Break up any large chunks and distribute the coals so that the new wood is laid on hot coals.

Air quality is important to all of us, and if we choose to use wood to heat our homes we should do so responsibly.

We need to learn to burn in the cleanest way possible allowing us to continue using our wood appliances for many years to come.

H. Burn Rate Air Control

- The air supply enters at the upper front of the firebox, near the top of the glass door.
- This preheated air supplies the necessary fresh oxygen to mix with the unburned gases, helping to create second, third and fourth combustions
- This air is regulated by the Burn Rate Air Control.
- There are four settings High, Medium-High, Medium-Low and Low.
- When the control is raised all the way up it is on the High setting and when pushed all the down it is on the Low setting. **Figure 11.1** on page 11.

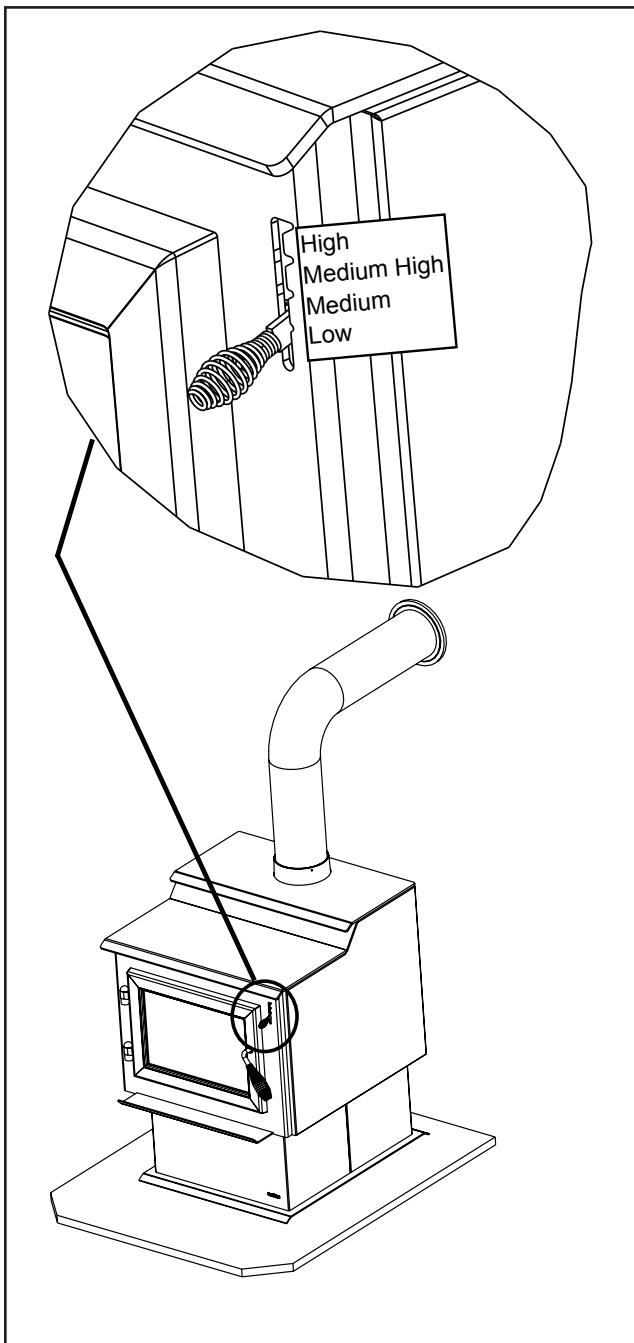


Figure 10.1 - Burn Rate Air Control

I. Burn Rates and Operating Efficiency

For maximum operating efficiency

1. Follow the instructions below for each burn rate for the Burn Rate Air Control. **Figure 10.1.**
2. Burn dry, well-seasoned wood.

Burn Rates

1. Starting a Fire

- Open the Burn Rate Air Control by raising it all the way to the top for the High setting.
- The blower tends to cool the appliance. Leave the blower off until the burn is well established, i.e., 30 minutes.
- After loading the appliance with wood and starting the fire, set the Burn Rate Air Controls to the desired setting by following the burn rate instructions below.

2. High Burn Rate - Maximum Heat* - 30,000+ BTU/hr

- Raise the Burn Rate Air Control all the way up until it stops (top marker) to a fully open position.
- Be sure and monitor the fire closely while in this setting to avoid overfiring your stove.

3. Medium-High Burn Rate* - 15,000 to 30,000 BTU/hr

- Raise the Burn Rate Air Control to the Medium High marker. Blower may remain on.

4. Medium-Low Burn Rate* - 10,000 to 15,000 BTU/hr

- Raise the Burn Rate Air Control to the Medium marker. Leave the blower off until the burn is well established, i.e., 30 minutes.

5. Low Burn Rate* - Below 10,000 BTU/hr

- Leave the Burn Rate Air Control at the bottom marker. Leave the blower off until the burn is well established, i.e., 30 minutes.

***NOTE:** These are approximate settings, and will vary with type of wood or chimney draft. Due to altitude and other environmental circumstances, this operational information is a guideline only.

J. Correct Baffle & Blanket Placement

WARNING! Risk of Fire!

Firebox damage due to improper baffle placement is not covered by warranty. Operate the wood burning appliance with the baffle in the correct position only.

Not doing so could result in:

- Reduced efficiency
- Overheating the chimney
- Overheating the rear of the firebox
- Poor performance

Ensure correct baffle placement and replace baffle components if damaged or missing.

NOTE: These are generic drawings and may not represent your specific model.

CORRECT POSITION

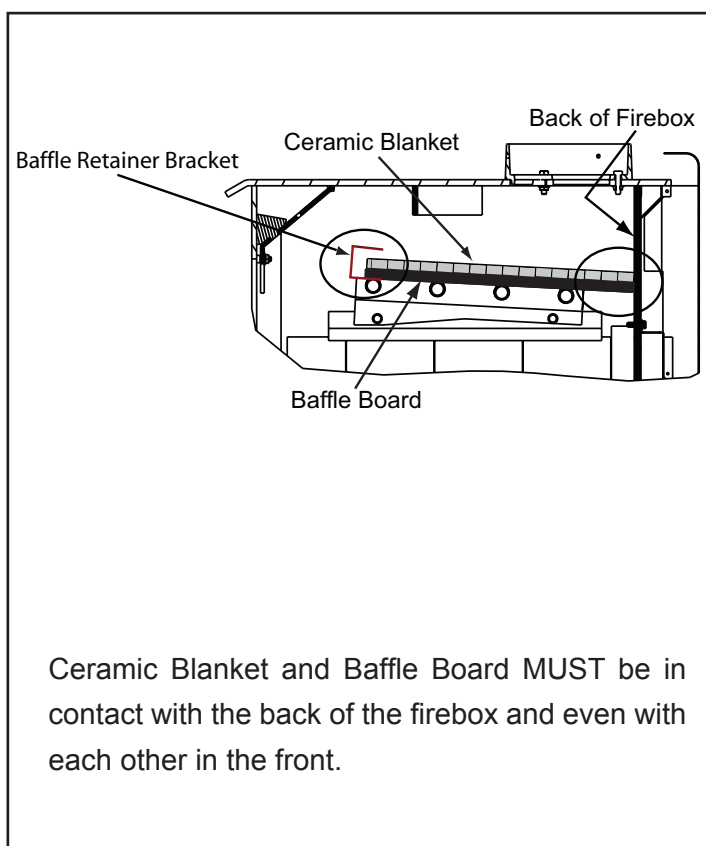
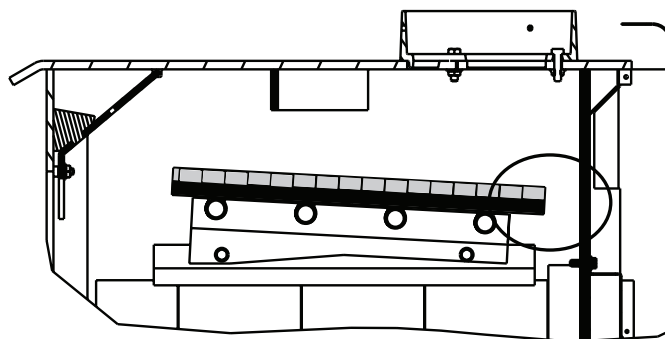
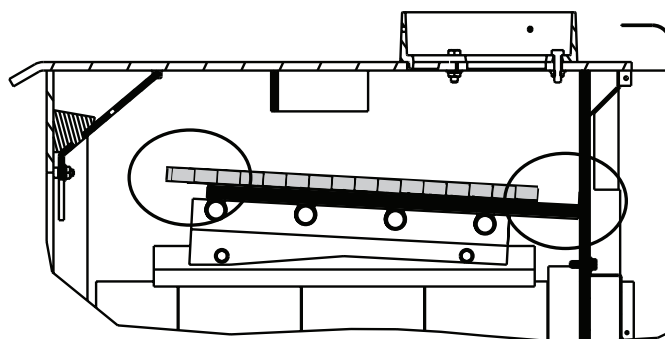


Figure 11.1

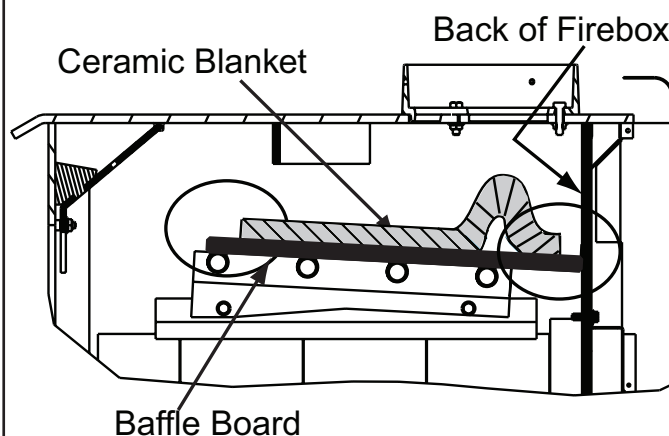
INCORRECT POSITIONS



Ceramic Blanket and Baffle Board are NOT in contact with the back of the firebox.



Ceramic Blanket is NOT in contact with the back of the firebox and NOT even with the Baffle Board in the front.



Ceramic Blanket is bunched up at the back of the firebox and NOT even with the Baffle Board in the front.

Figure 11.2

K. Building A Fire

WARNING! Risk of Fire! Keep combustible materials, gasoline and other flammable vapors and liquids clear of the fireplace.

Do NOT:

- Store flammable materials close to the fireplace, or
- Use gasoline, lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or "freshen up" a fire in this fireplace.

Keep all flammable liquids well away from the fireplace while it is in use. Combustible materials may ignite.

Before lighting your first fire in the appliance:

1. Confirm the baffle and ceramic blanket are correctly positioned. See **page 11** for detailed diagrams. They should be even with the front tube and resting on both tubes. **Figure 12.1.**
2. Remove all labels from glass.

There are many ways to build a fire. The basic principle is to light easily-ignitable tinder or paper, which ignites the fast burning kindling, which in turn ignites the slow-burning firewood. Here is one method that works well:

1. Raise the Burn Rate Air Control to the High Setting.
2. Place several wads of crushed paper on the firebox floor. Heating the flue with slightly crumpled newspaper before adding kindling keeps smoke to a minimum.
3. Lay small dry sticks of kindling on top of the paper.
4. Make sure that no matches or other combustibles are in the immediate area of the appliance. Be sure the room is ventilated and the flue unobstructed.
5. Light the paper in the appliance. NEVER light or rekindle fire with kerosene, gasoline, or charcoal lighter fluid; the results can be fatal.
6. Once the kindling is burning quickly, add several full-length logs 3 to 4 inches (76 to 102mm) in diameter. Be careful not to smother the fire. Stack the pieces of wood 1/2 inch to 1 inch apart; near enough to keep each other hot, but far enough away from each other to allow air flow between them.
7. Once there is an established bed of coals, set the Burn Rate Air Control to the desired setting following the instructions found in the Section: Burn Rates and Operating Efficiency.
8. If you have installed the optional blower, please note that the blower tends to cool the appliance. Leave the blower off until the burn is well established, i.e., 30 minutes.

CAUTION

The baffle boards are FRAGILE. Use extreme caution when loading firewood to prevent:

- Cracking, breaking or damaging the baffle boards

DO NOT operate the stove without baffle boards

9. When ready to reload, It is best to set the Burn Rate Air Control in the High position **before reloading**.
 - This livens up the coalbed and reduces excessive emissions (opacity/smoke).
 - Open door slowly so that ash or smoke does not exit appliance through opening.
 - Large logs burn slowly, holding a fire longer.
 - Small logs burn fast and hot, giving quick heat.
10. As long as there are hot coals, repeating steps 6 through 8 will maintain a continuous fire throughout the season.

NOTICE:

- Build fire on brick firebox floor.
- Do NOT use grates, andirons or other methods to support fuel as it will adversely affect emissions.

CAUTION! Odors and vapors released during initial operation may be irritating to sensitive individuals. Open windows for air circulation.

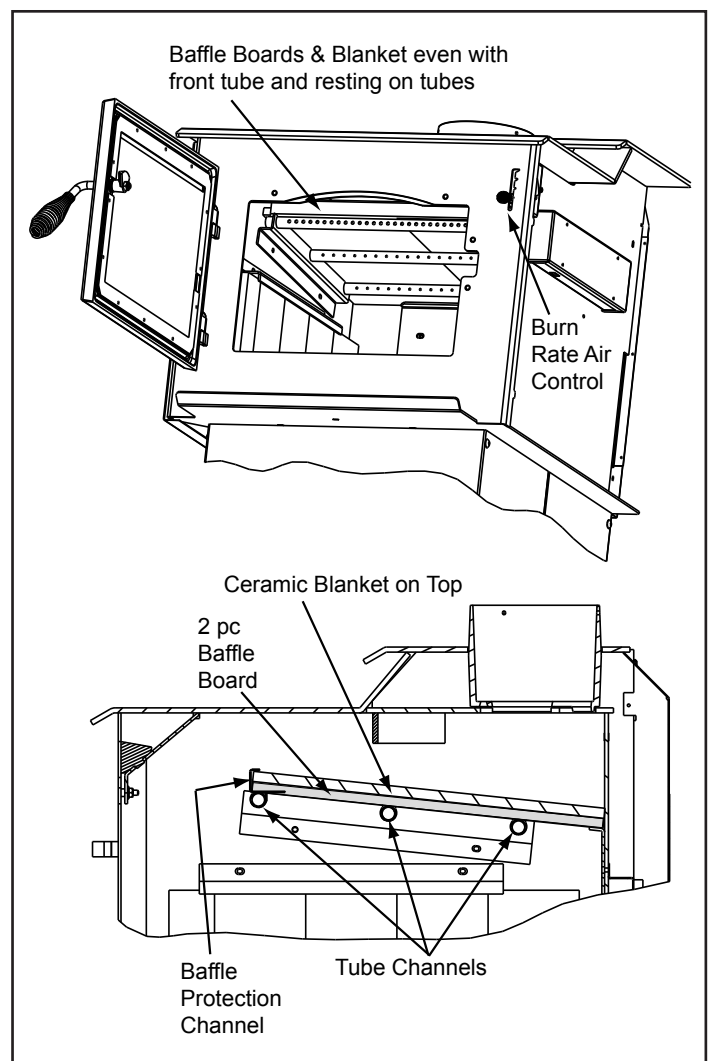



Figure 12.1

L. Wood Fuel



WARNING

Fire Risk.

- DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.
- DO NOT USE CHEMICALS OR FLUIDS TO START A FIRE.
- Do NOT burn treated wood or wood with salt (driftwood).
- May generate carbon monoxide if burn material other than wood.

May result in illness or possible death.

Hardwood vs Softwood

Your appliance performance depends on the quality of the firewood you use.

- Seasoned wood contains about 8,000 BTUs per pound .
- Hard woods are more dense than soft woods.
- Hard woods contain 60% more BTUs than soft woods.
- Hard woods require more time to season, burn slower and are harder to ignite.
- Soft woods require less time to dry, burn faster and are easier to ignite.
- Start the fire with softwood to bring the appliance up to operating temperature and to establish draft.
- Add hardwood for slow, even heat and longer burn time.

| Soft woods | Hard woods |
|-------------------|-------------------|
| • Douglas Fir | • Oak |
| • Pine | • Maple |
| • Spruce | • Apple |
| • Cedar | • Birch |
| | • Poplar |
| | • Aspen |
| | • Alder |

Processed Solid Fuel Fire Logs

- **NOT** permitted for use in this appliance

Moisture

WARNING! Risk of Fire!

- Do NOT burn wet or green wood.
- Wet, unseasoned wood can cause accumulation of creosote.
- Store wood in dry location.
- Stack wood so both ends are exposed to air.

The majority of the problems appliance owners experience are caused by trying to burn wet, unseasoned wood.

- Wet, unseasoned wood requires energy to evaporate the water instead of heating your home, and
- Causes evaporating moisture which cools your chimney, accelerating formation of creosote.

Seasoned Wood

- Cut logs to size
- Split to 6 inches (152 mm) or less in diameter.
- Air dry to a moisture content of around 20%
 - *Soft wood - about nine months to dry
 - *Hard wood - about eighteen months to dry

***NOTE:** Seasoning time may vary depending on drying conditions.

Storing Wood

Steps to ensure properly seasoned wood:

- Stack wood to allow air to circulate freely around and through woodpile.
- Elevate wood pile off ground to allow air circulation underneath.
- Smaller pieces of wood dry faster. Any piece over 6 inches (152 mm) in diameter should be split.
- Wood (whole or split) should be stacked so both ends of each piece are exposed to air. More drying occurs through the cut ends than the sides.
- Store wood under cover to prevent water absorption from rain or snow. Avoid covering the sides and ends completely.

WARNING! Risk of Fire! DO NOT store wood:

- In front of the appliance.
- In space required for loading or ash removal.

M. Blower Operating Instructions

NOTE: If your wood appliance is equipped with an optional blower, you should follow these guidelines:

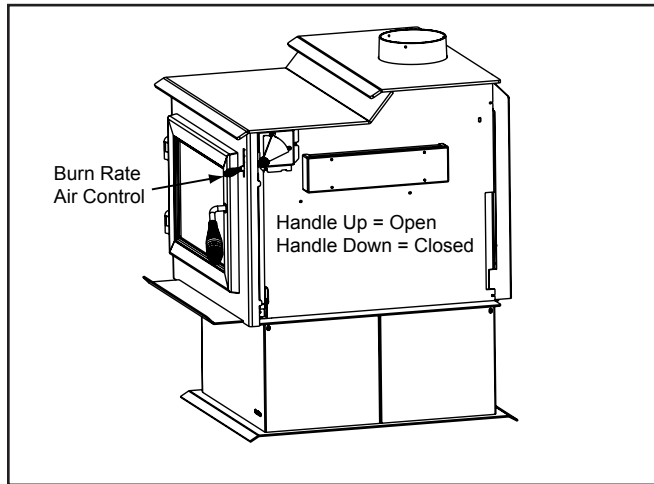


Figure 14.1

1. **Initial (cold) startup:** Raise the Burn Rate Air Control all the way up to the High setting. The blower tends to cool the appliance. Leave the blower off until the burn is well established, i.e., 30 minutes.
2. **High Burn Setting:** Raise the Burn Rate Air Control all the way up to the High setting. The blower may remain on.
3. **Medium or Medium High Burn Setting:** Burn Rate Air Control is closed then opened to 1 inch (pull up). The blower may remain on.
4. **Medium Low Burn Setting:** Burn Rate Air Control is closed then opened to 1/4 inch to 1/2 inch (pull up). Leave the blower off for the first 30 minutes until the burn is well established.
5. **Low Burn Setting:** Burn Rate Air Control is closed (down position). Leave the blower off for the first 30 minutes until the burn is well established.

NOTE: For maximum efficiency and lowest emissions, when operating the blower in either the automatic or manual setting for the low and medium low burn settings leave the blower off until the burn is well established, i.e., 30 minutes,

When reloading the appliance, raise the Burn Rate Air Control all the way to the High setting for 5 to 15 minutes before setting to the desired burn rate.

6. The blower is equipped with a rheostat (speed control). The highest blower speed is obtained by turning the rheostat on, then adjusting back towards "OFF" as far as possible without turning the blower off. For a low blower speed, turn the control knob clockwise as far as possible

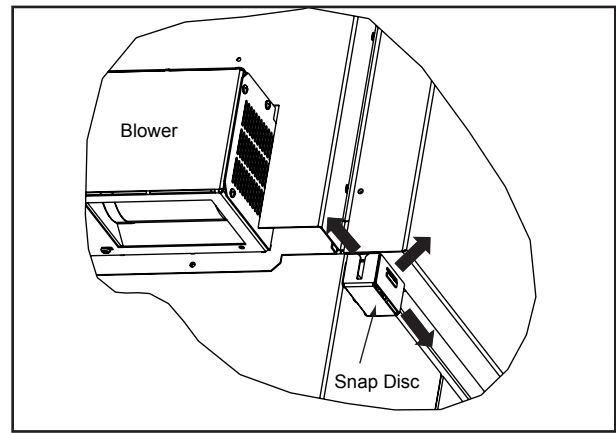


Figure 14.2 - Snap Disc Location

7. Snap Disc Location

If you find the blower coming on and off at undesirable temperatures, relocate the snap disc to another location in the designated zone on the back of the appliance.

Figure 14.2. There is a manual over-ride switch to deactivate the snap disc, if necessary. **See page 40** for location of over-ride switch.

N. Clear Space

- Do NOT place combustible objects within 4 ft (1.2 m) of the front of appliance. See **Figure 14.3**.

WARNING! Do NOT place combustible objects in front of the appliance. High temperatures may ignite clothing, furniture or draperies.

- Mantel - avoid placing candles and other heat-sensitive objects on mantel or hearth. Heat may damage these objects.

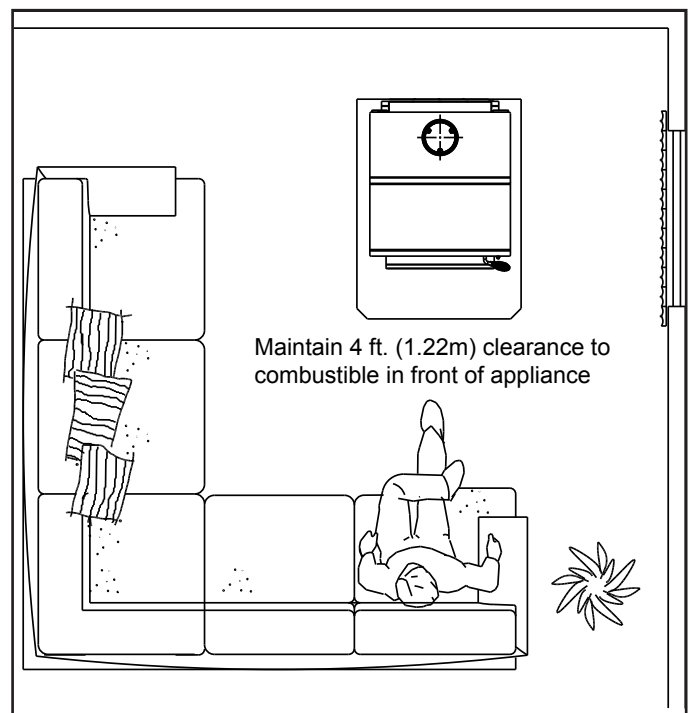


Figure 14.3

O. Opacity (Smoke)

Opacity is the measure of how cleanly your appliance is burning.

Opacity is measured in percent:

- 100% opacity is when an object is totally obscured by the smoke column from a chimney, and
- 0% opacity means that no smoke column can be seen.

As you become familiar with your appliance, you should periodically check the opacity. This will allow you to know how to burn as nearly smoke-free as possible (goal of 0% opacity).

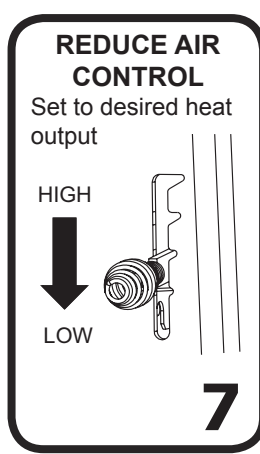
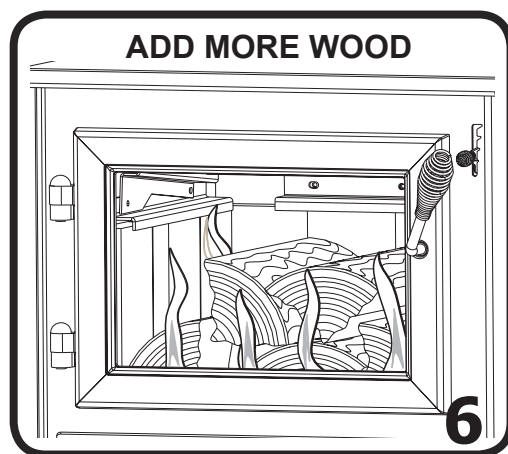
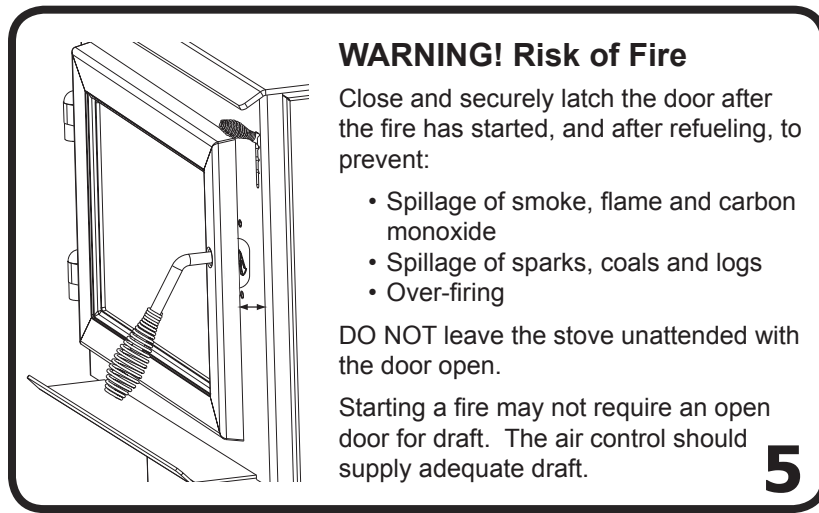
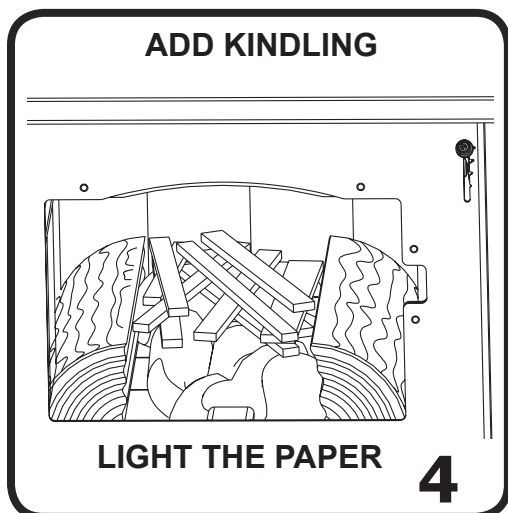
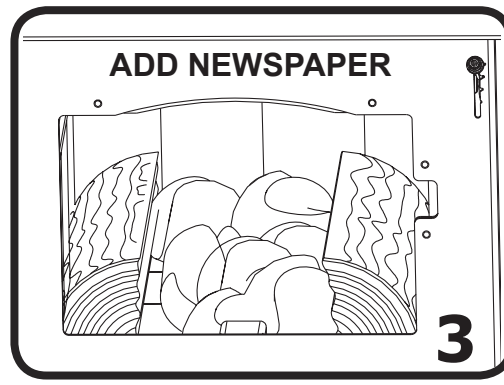
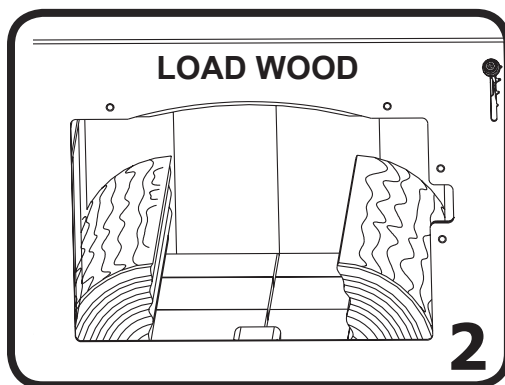
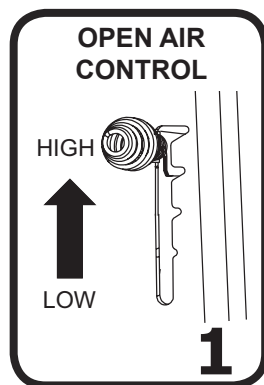
CAUTION! Odors and vapors released during initial operation may be irritating to sensitive individuals.

Open windows for air circulation.

P. Frequently Asked Questions

| ISSUES | SOLUTIONS |
|---------------------|---|
| Odor from appliance | When first operated, this appliance may release an odor for the first several hours. This is caused by the curing of the paint and the burning off of any oils remaining from manufacturing. |
| Metallic noise | Noise is caused by metal expanding and contracting as it heats up and cools down, similar to the sound produced by a furnace or heating duct. This noise does not affect the operation or longevity of the appliance. |
| Whirring sound | If the optional blower has been installed, the blower produces a whirring sound which increases in volume as the speed is increased. |

FIRST FIRE ITEMS NEEDED: 10 Pieces of Newspaper, 10-20 Pieces of Dry Kindling and a Few Pieces of Dry Split Wood.



The stove is ready for normal operation.

3 Maintenance and Service

A. Disposal of Ashes

- **Frequency:** When ash is within 1-3/4 inch (44mm) of firebox lip. Leave 1/4 to 1/2 inch (6-13mm) of ash in the bottom of the firebox.
- **By:** Homeowner

WARNING! Risk of Fire! Ashes could contain hot embers.

- Place ashes in a metal container with a tight-fitting lid.
- The closed container should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal.
- If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled

B. Chimney and Chimney Connector Inspection/Cleaning

- **Frequency:** Every 2 months during heating season or as recommended by a certified chimney sweep; more frequently if chimney exceeds or is under 14-16 ft (4.3-4.8m). (measured from bottom of appliance).
- **By:** Certified Chimney Sweep

WARNING! Risk of Fire! Ignited creosote is extremely HOT. Prevent creosote buildup.

- Remove all ash from the firebox and extinguish all hot embers before disposal.
- Allow the appliance to cool completely.
- Disconnect flue pipe or remove baffle and ceramic blanket from appliance before cleaning chimney. Otherwise residue can pile up on top of the baffle and ceramic blanket. (See Baffle Removal on **page 22**).
- Close the door tightly.
- The creosote or soot should be removed with a brush specifically designed for the type of chimney in use.
- Clean out fallen ashes from the firebox.
- It is also recommended that before each heating season the entire system be professionally inspected, cleaned and repaired if necessary.

WARNING! Risk of Fire!

Do not use chimney cleaners or flame colorants in your appliance. It will corrode your pipe.

Creosote - Formation and Need for Removal

- When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote.
- The 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.
- The chimney and chimney connector shall be inspected every two months during the heating season to determine when a creosote buildup has occurred.
- When creosote has accumulated it shall be removed to reduce the risk of a chimney fire.

C. Appliance Inspection - Routine

- **Frequency:** Every 2 months at the same time the chimney and chimney connector are inspected.
- **By:** Homeowner

Check for:

- Cracks in glass
- Door handle - smooth cam operation
- Baffle and ceramic blanket correct placement
- Baffle for cracks
- Firebrick for cracks, broken or crumbly
- Door gasket. (Dollar bill test). Place a dollar bill between the stove and the door and then shut the door. If you can pull the dollar bill out, remove one spacing washer from the door handle behind the latch cam and try the test again. If you can still pull the dollar bill out, replace the door gasket.
- Glass frame for loose screws

D. Glass Cleaning

- **Frequency:** As desired
- **By:** Homeowner
- Clean glass with a non-abrasive glass cleaner. Abrasive cleaners may scratch and cause glass to crack.
- If the deposits on the glass are not very heavy, normal glass cleaners work well. Heavier deposits may be removed by using a damp cloth dipped in wood ashes or by using a commercially available oven cleaner.
- After using an oven cleaner, it is advisable to remove any residue with a glass cleaner or soap and water. Oven cleaner left on during the next firing can permanently stain the glass and damage the finish on plated metal surfaces.
- A portion of the combustion air entering the firebox is deflected down over the inside of the door glass.
- This air flow “washes” the glass, helping to keep smoke from adhering to its surface.
- When operated at a low burn rate, less air will be flowing over the glass and the smoky, relatively cool condition of a low fire will cause the glass to become coated.
- Operating the appliance with the Burn Rate Air Control in the High setting for 15-20 minutes should remove the built up coating.

CAUTION! Handle glass assembly with care. Glass is breakable.

- *Avoid striking, scratching or slamming glass*
- *Avoid abrasive cleaners*
- *Do not clean glass while it is hot*

E. Firebrick Inspection

- **Frequency:** After each ash removal
- **By:** Homeowner

Replace the firebrick if they become, cracked, broken, crumbly and/or if there is a 1/4 inch (6.35mm) gap between the bricks.

The firebox is lined with high quality firebrick, which has exceptional insulating properties. There is no need to use a grate; simply build a fire on the firebox floor. Do not operate appliance without firebrick.

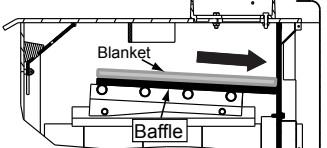
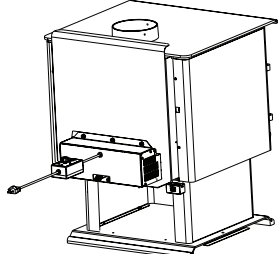
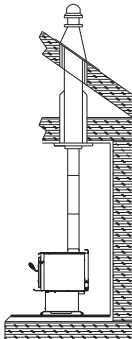
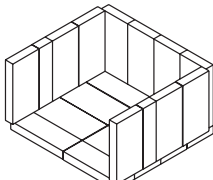
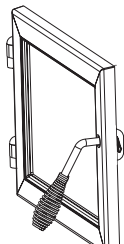
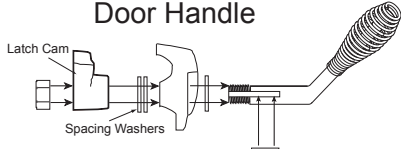
1. After the coals have completely cooled, remove all old brick and ash from unit and vacuum firebox.
2. Remove new brick set from box and lay out to diagram shown on service parts list.
3. Lay bottom bricks in unit.
4. Install rear bricks on the top of the bottom bricks. Slide top of bricks under clip on back of firebox wall and push bottom of brick back.
5. Install side bricks. Slide top of brick under clips on side of firebox and push the bottom of the brick until it is flush with the side of the unit.

Use Part 832-0550 when ordering individual brick. Provide brick dimension or copy this page, mark the desired brick and take it to your authorized dealer.

F. Quick Reference Maintenance Guide

CAUTION! Allow the appliance to completely cool down before performing any cleaning or maintenance.

Start the first inspection after the first 2 months of use, or if performance changes, and adjust your schedule accordingly. Maintenance is required for safe operation and must be performed to maintain your warranty.

|  <p>Baffle & Blanket</p> | Frequency | Task |
|--|--|---|
|  <p>Optional Blower</p> | MONTHLY or After Every Cord of Wood | Baffle and blanket placement is critical to heat output, efficiency and overall life of the unit. Make sure the baffle is pushed all of the way to the back of the firebox and the blanket is laying flat. Inspect baffle for cracks. |
|  <p>Chimney System</p> | YEARLY or After Every 4 Cords of Wood | Vacuum the blower impellers. |
|  <p>Firebrick & Ash Removal</p> | EVERY 2 MONTHS or After Every 4 Cords of Wood | The chimney and chimney cap must be inspected for soot and creosote ever two months during the burn season or more frequency if chimney exceeds or is under 14-16 ft (4.3m-4.8m) measured from bottom of appliance. This will prevent pipe blockage, poor draft, and chimney fires. Always burn dry wood to help prevent cap blockage and creosote build-up. |
|  <p>Door & Glass Assemblies</p> | WEEKLY or After Every 25 Loads of Wood | Ashes must be cool and then you can dispose of the ashes in a non-combustible container. Firebrick is designed to protect your firebox. After ashes are removed, inspect the firebrick and replace firebricks that are crumbling, cracked or broken. |
|  <p>Door Handle</p> | WEEKLY or After Every 25 Loads of Wood | Keep door and glass gasket in good shape to maintain good burn times on a low burn setting. To test: place a dollar bill between the stove and door and then shut the door. If you can pull the dollar out, remove one washer from door handle behind latch cam and try again. If you can still pull it out, replace the door gasket. Check the glass frame for loose screws to prevent air leakage. Check glass for cracks. |
| | | Check the door latch for proper adjustment. This is very important especially after the door rope has formed to the stove face. Check door handle for smooth cam operation. |

4 Troubleshooting Guide

With proper installation, operation, and maintenance your woodstove will provide years of trouble-free service. If you do experience a problem, this troubleshooting guide will assist you or a qualified service person in the diagnosis of a problem and the corrective action to be taken.

| Start Fire Problems | Possible Cause | Solution |
|---|--|---|
| Can not get fire started Excessive smoke or spillage Burns too slowly Not enough heat output | Not enough kindling/paper or no kindling/paper | Use dry kindling, more paper. Arrange kindling & wood for air movement. |
| | Not enough air for fire to ignite | Check for restricted termination cap |
| | | Check for blockage of outside air kit (if installed). |
| | | Check for flue blockage. |
| | | Pre-warm flue before starting fire (refer to Building a Fire Section). |
| | | Check for adequate vent height (refer to Chimney Height Section). |
| | | Open window below the appliance towards the wind. |
| | Wood condition is too wet, too large | Use dry, seasoned wood (refer to Seasoned Wood Section). |
| | Bed of coals not established before adding wood | Start with paper & kindling to establish bed of coals (refer to Building a Fire Section). |
| Fire burns too fast | Flue blockage such as birds' nests or leaves in termination cap | Have chimney inspected for creosote and cleaned by a certified chimney sweep. |
| | Down draft or negative pressure Competition with exhaust devices | Do not use exhaust fans during start-up (refer to Negative Pressure Section). |
| | | Open window below the appliance towards the wind. |
| | Extremely dry or soft wood | Mix in hardwood. |
| | | Mix in less seasoned wood after fire is established (refer to Wood Fuel Section). |
| | | Check for correct vent height; too much vertical height creates overdrafting. |
| | Overdrafting | Check location of vent termination (refer to Chimney Termination Requirement Section). |

5 Service Parts Replacement

A. Glass Replacement

1. Ensure that the fire is out and the appliance is cool to the touch.
2. Protect a table or counter top with padding or towels. Protect your hands and wear gloves to prevent injury.
3. Remove the door with the broken glass by lifting the door up and off of the hinges.
4. Lay door face down on a table or counter making sure the handle hangs over the edge so the door lays flat, on a soft surface.
5. Remove the screws from each glass retainer and remove the glass. (If screws are difficult to remove, soak with penetrating oil first).
6. Center the glass with edges evenly overlapping the opening in the door, (i.e. same space top and bottom, left and right sides).
7. Replace the glass retainers. Be careful not to cross thread the screws.
8. Tighten each retainer just a few turns until each is secured. Check again for centering of glass in door frame. Continue to tighten each retainer alternately, a few turns at a time, until the glass is secure. **DO NOT OVERTIGHTEN** - can cause glass to break.
9. Replace the door on the appliance.

WARNING! Risk of Fire or Injury!

Use only glass that is specified in the manual, DO NOT replace with any other material. Glass breakage will occur.

CAUTION!

Handle glass with care.

- Inspect the gasket to ensure it is undamaged.
- Do NOT strike, slam or scratch glass.
- Do NOT operate appliance with glass & door assembly removed.
- Do NOT operate with glass cracked, broken or scratched.

This appliance is equipped with ceramic super heat-resistant glass, which can only be broken by impact or misuse.

B. Snap Disc Replacement

1. Disconnect power supply. Locate the snap disc bracket assembly at the bottom left rear corner of the appliance. **Figure 21.1.**
2. A magnet holds the bracket to the appliance. Pull the bracket down away from the appliance to expose the snap disc.
3. Pull the snap disc and spade connectors up and out of bracket as shown in **Figure 21.2.**
4. Using a Phillips head screw driver, remove the 2 screws from the snap disc and then remove the snap disc from the spade connectors. Replace with new snap disc and re-connect to spade connectors.
5. Push the snap disc and spade connectors back inside bracket and re-attach the bracket to the appliance.

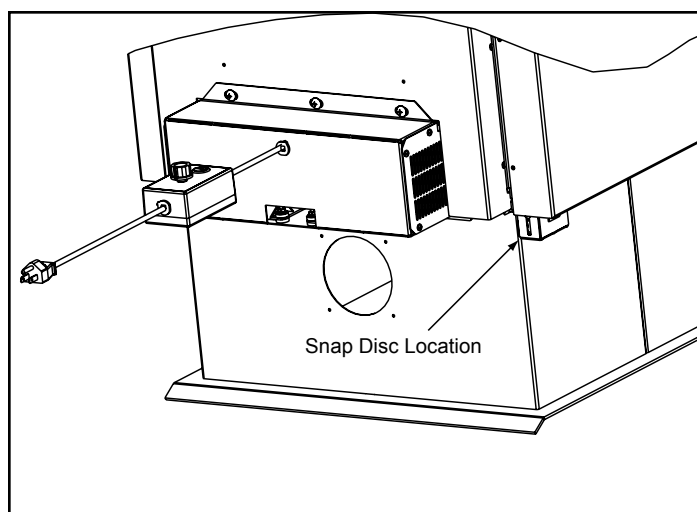


Figure 21.1

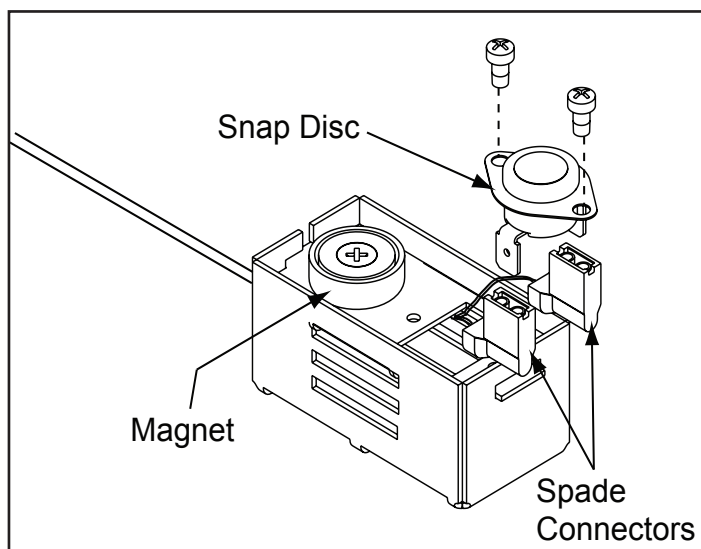


Figure 21.2

C. Baffle Removal

1. Remove all ash from the firebox, and extinguish all hot embers before disposal into a metal container.
2. Remove the baffle protection channel by rotating it down from the front tube. **Figure 22.2.**
3. The baffle board has 2 pieces. With the ceramic blanket still in place, slide one baffle piece over the top of other one and pull out top piece through the door opening and then remove bottom baffle piece. **Figure 22.1.**
4. Remove the ceramic blanket.
5. Re-install the ceramic blanket and smooth out the blanket.
6. Slide the baffle pieces one piece at a time underneath the blanket. Be sure the baffle boards are even with the front manifold tube and is resting on all tubes. **Figure 22.1 and 22.2.**
7. Re-install the baffle protection channel by rotating it up and around the front tube so the bottom flange of the channel rests behind the manifold tube. The baffle boards and blanket are tucked inside the rear of the baffle protection channel.

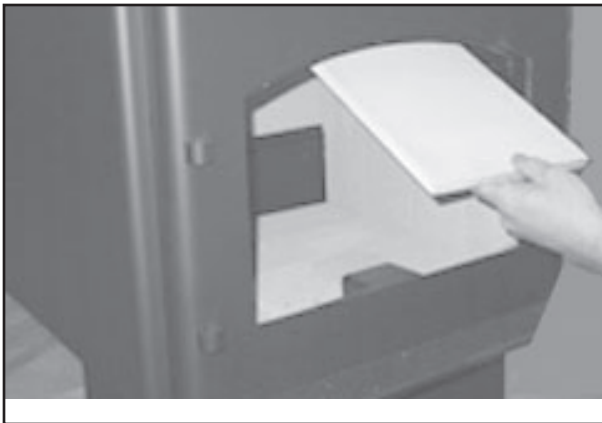


Figure 22.1 - Baffle

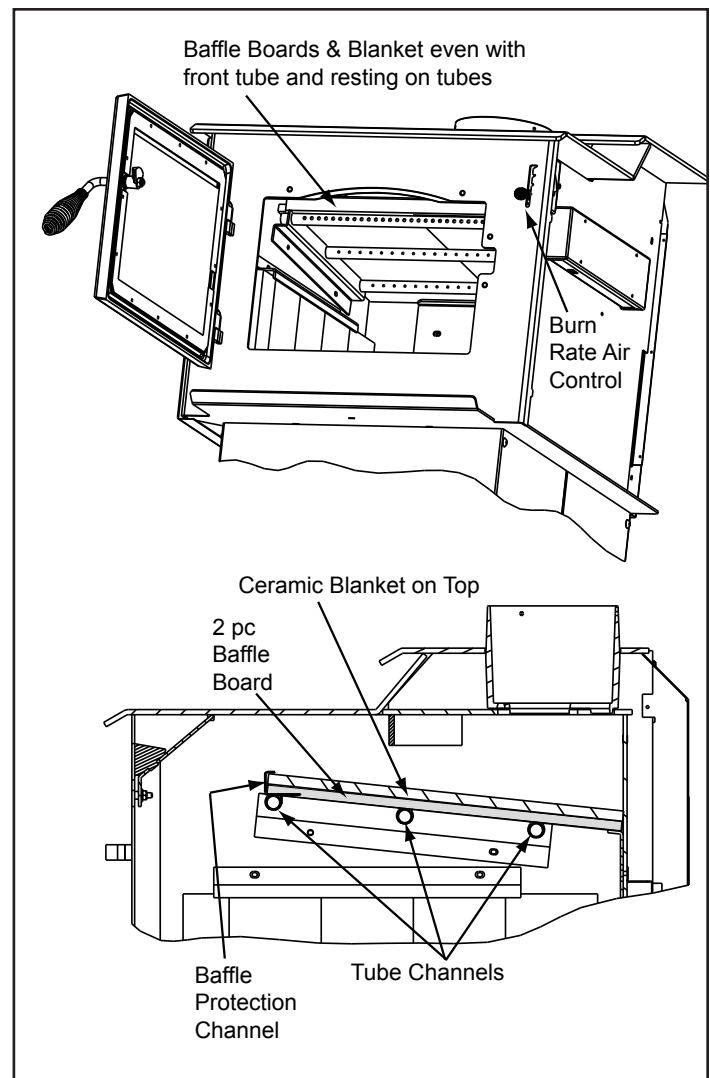


Figure 22.2

D. Door Handle Assembly

1. Install washer on door handle shaft.
2. Slide door handle through door.
3. Install second washer(s) as shown in **Figure 23.1**.
4. Install key in groove.
5. Align groove in latch cam with key; slide latch cam over shaft
6. Install locknut but do not overtighten, the handle needs to move smoothly.
7. Install spring handle turning in a counter-clockwise motion to desired location on door handle rod.

CAUTION! Do not overtighten lock nut. The door handle needs to move smoothly.

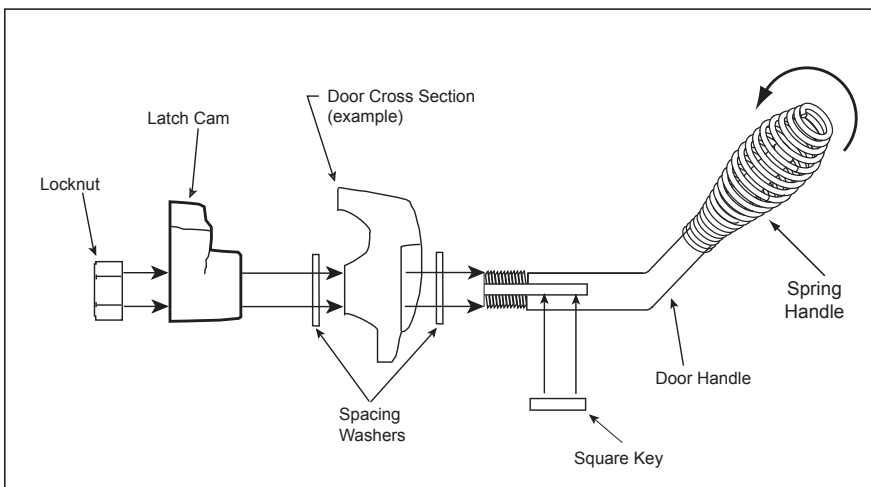


Figure 23.1

E. Tube Channel Assembly Replacement

Removing Tube Channel Assembly

1. Remove the baffle protection channel, ceramic blanket and the 2 baffle boards. See instructions on **page 22**.
2. Remove the right side shield by removing 3 screws in the back using a Phillips head screw driver.
3. Remove 4 screws from channel access cover and remove cover.
4. Locate 2 channel bolts behind the channel access cover and remove using a 7/16 socket wrench. Slide out tube channel assembly.

NOTE: Soak the bolts with penetrating oil for at least 15 minutes before trying to remove them.

Replacing Tube Channel Assembly

1. Slide the tube channel assembly into side of firebox and insert each tube into the corresponding hole in the tube channel rack starting with the back hole first.
2. Make sure tube channel assembly is flush against the side of the stove and secure with channel nuts.
3. Re-install channel cover and side shield.
4. Re-install ceramic blanket, baffle pieces and baffle protection channel. See instructions of **page 22**.

NOTE: Service Space

In order to replace the tube channel assembly a clearance of 19 inches (483mm) is required on the right side of stove in order to remove the tubes with the stove in place.

If space is not available, the stove will have to be disconnected from the chimney to proceed with the tube replacement.

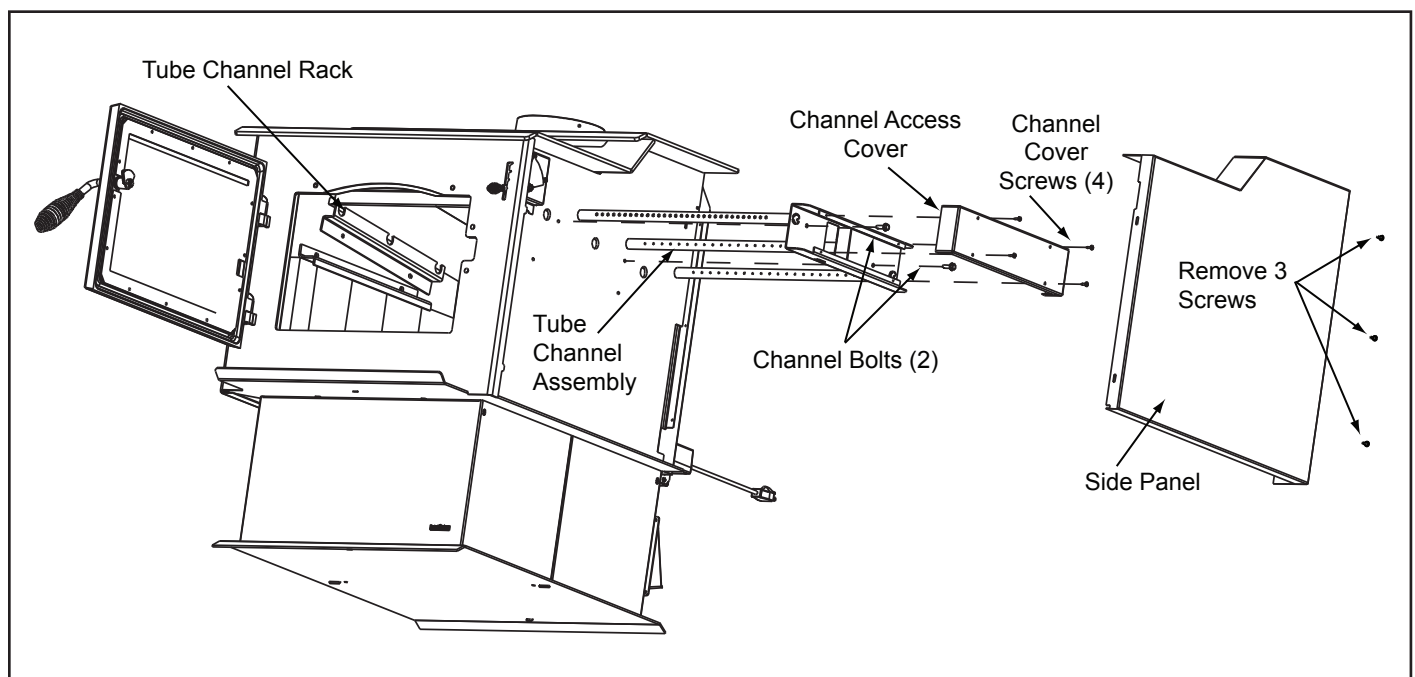


Figure 24.1

Installer's Guide

6 Getting Started

A. Design and Installation Considerations

NOTICE: Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

Before installing, determine the following:

- Type of chimney connector to be used
 - Single wall, vertical or horizontal
 - Double wall, vertical or horizontal
- Consult **page 30** for clearances to combustibles
- Power outlet located close by for optional blower

B. Draft

Draft is the pressure difference needed to vent appliances successfully. When a appliance is drafting successfully, all combustion byproducts are exiting the home through the chimney.

Considerations for successful draft include:

- Preventing negative pressure
- Location of appliance and chimney

To be sure that your appliance burns properly:

- During a low burn, the chimney draft (static pressure) should be approximately -.04 inch water column (W.C.)
- During a high burn the chimney draft should be approximately -.10 inch (W.C.)
- Measure the W.C at 6 inches (152mm) above the top of the appliance after one hour of operation at each burn setting.

NOTICE: *Hearth & Home Technologies assumes no responsibility for the improper performance of the appliance system caused by:*

- Inadequate draft due to environmental conditions
- Downdrafts
- Tight sealing construction of the structure
- Mechanical exhausting devices

C. Negative Pressure

WARNING! Risk of Asphyxiation! Negative pressure can cause spillage of combustion fumes and soot. Fire must draft properly for safe operation.

Negative pressure results from the imbalance of air available for the fireplace to operate properly. It can be strongest in lower levels of the house.

Causes include:

- Exhaust fans (kitchen, bath, etc.)
- Range hoods
- Combustion air requirements for furnaces, water heaters and other combustion appliances
- Clothes dryers
- Location of return-air vents to furnace or air conditioning
- Imbalances of the HVAC air handling system
- Upper level air leaks such as:
 - Recessed lighting
 - Attic hatch
 - Duct leaks

To minimize the effects of negative air pressure:

- Install the outside air kit with the intake facing prevailing winds during the heating season
- Ensure adequate outdoor air for all combustion appliances and exhaust equipment
- Ensure furnace and air conditioning return vents are not located in the immediate vicinity of the fireplace
- Avoid installing the fireplace near doors, walkways or small isolated spaces
- Recessed lighting should be a "sealed can" design
- Attic hatches weather stripped or sealed
- Attic mounted duct work and air handler joints and seams taped or sealed
- Basement installations should be avoided

D. Locating Your Stove & Chimney

Location of the appliance and chimney will affect performance. As shown in **Figure 26.1** the chimney should:

- Install through the warm space enclosed by the building envelope. This helps to produce more draft, especially during lighting and die down of the fire.
- Penetrate the highest part of the roof. This minimizes the affects of wind turbulence and down drafts.

- Consider the appliance location in order to avoid floor and ceiling attic joists and rafters.
- Locate termination cap away from trees, adjacent structures, uneven roof lines and other obstructions.

Your local dealer is the expert in your geographic area and can usually make suggestions or discover solutions that will easily correct any flue problems you may encountered.

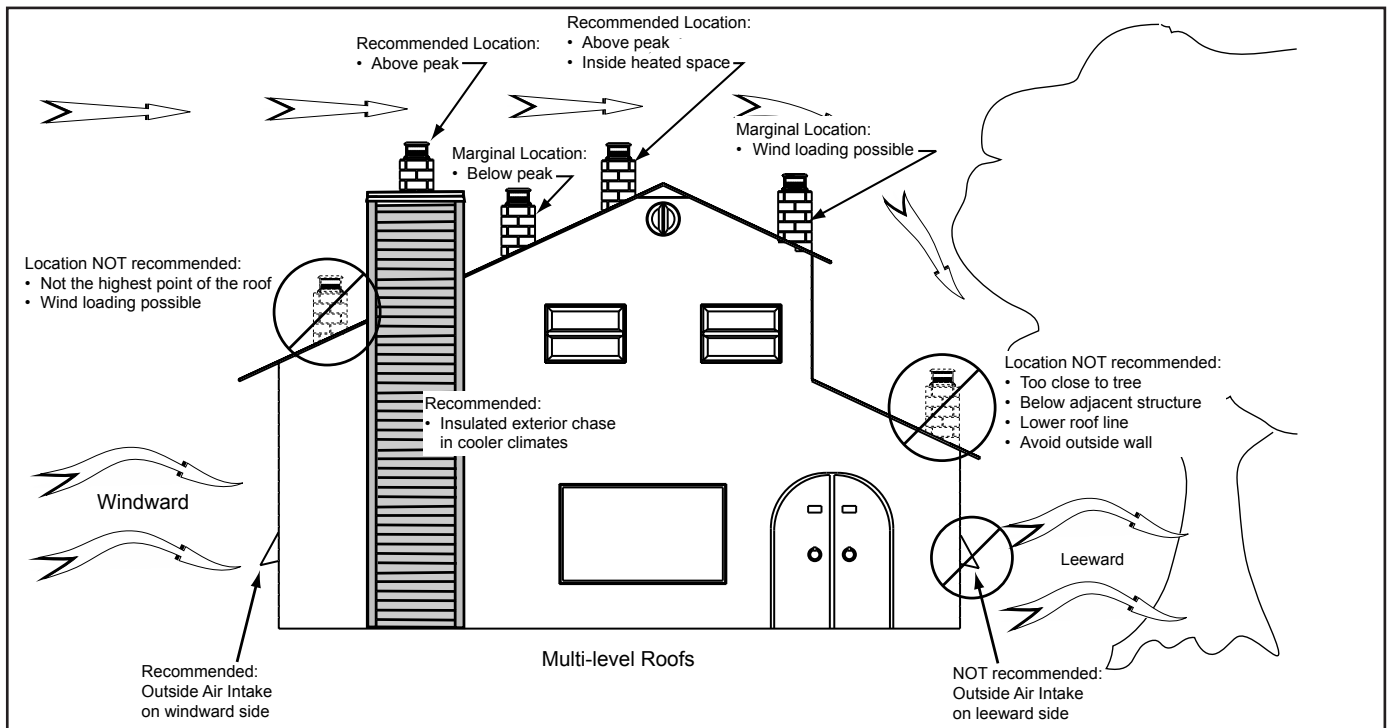


Figure 26.1

E. Chimney Termination Requirements

Follow manufacturer's instructions for clearance, securing flashing and terminating the chimney.

- Must have an approved and Listed cap
- Must not be located where it will become plugged by snow or other material
- Must terminate at least 3 feet (91cm) above the roof **and** at least 2 feet (61cm) above any portion of the roof within 10 feet (305cm).
- Must be located away from trees or other structures

NOTICE: Locating the appliance in a basement or in a location of considerable air movement can cause intermittent smoke spillage from appliance. Do not locate appliance near

- Frequently open doors
- Central heat outlets or returns

NOTICE:

- Chimney performance may vary.
- Trees, buildings, roof lines and wind conditions affect performance.
- Chimney height may need adjustment if smoking or overdraft occurs.

F. 2-10-3 Rule

These are safety requirements and are not meant to assure proper flue draft.

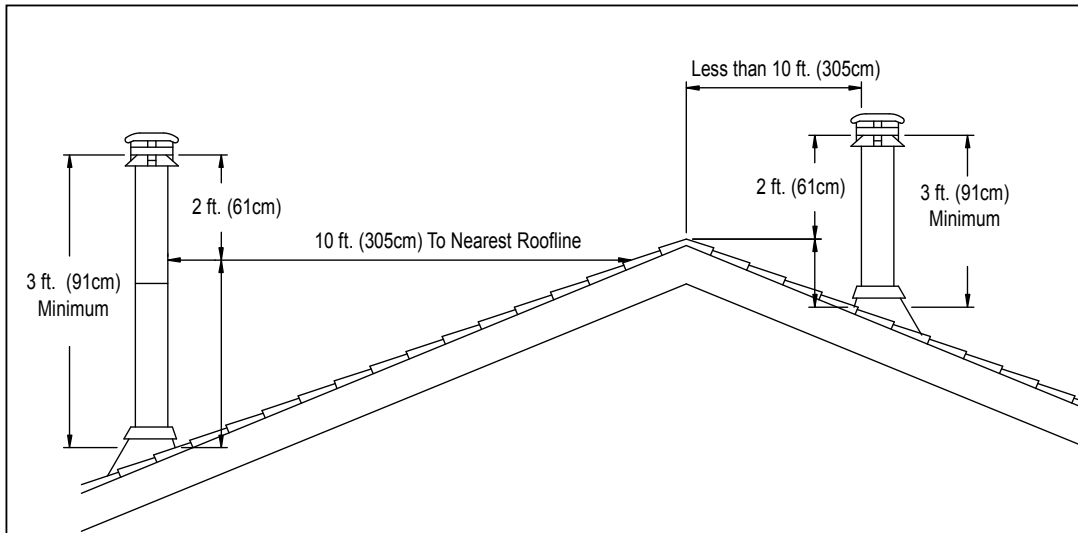


Figure 27.1

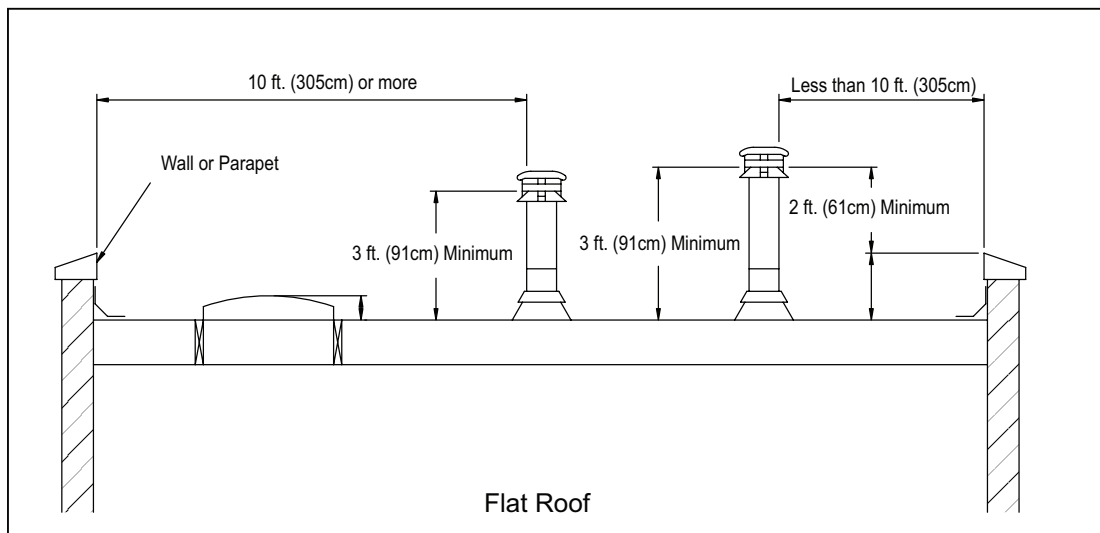


Figure 27.2

G. Tools And Supplies Needed

Before beginning the installation be sure the following tools and building supplies are available:

| | |
|---|-----------------------------|
| Reciprocating saw | Framing material |
| Pliers | High temp caulking material |
| Hammer | Gloves |
| Phillips screwdriver | Framing square |
| Flat blade screwdriver | Electric drill and bits |
| Plumb line | Safety glasses |
| Level | Tape measure |
| 1/2-3/4 in. length, #6 or #8 self-drilling screws | Misc. screws and nails |

H. Fire Safety

To provide reasonable fire safety, the following should be given serious consideration:

1. Install at least one smoke detector on each floor of your home to ensure your safety. They should be located away from the heating appliance and close to the sleeping areas. Follow the smoke detector manufacturer's placement and installation instructions, and be sure to maintain regularly.
2. A conveniently located Class A fire extinguisher to contend with small fires resulting from burning embers.

I. Inspect Appliance and Components

- Remove appliance and components from packaging and inspect for damage.
- Doors are shipped in separate packages.
- Report to your dealer any parts damaged in shipment.
- **Read all the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**

WARNING! Risk of Fire!

Inspect appliance and components for damage.

Damaged parts may impair safe operation.

- Do NOT install damaged components.
- Do NOT install incomplete components.
- Do NOT install substitute components.

Report damaged parts to dealer.

Pre-Burn Check List

| | | |
|-----|---|--|
| 1. | ✓ | Place the appliance in a location near the final installation area and follow the procedures below: |
| 2. | | Open the appliance and remove all the parts and articles packed inside the Component Pack. Inspect all the parts and glass for shipping damage. Contact your dealer if any irregularities are noticed. |
| 3. | | All safety warnings have been read and followed. |
| 4. | | This Owner's Manual has been read. |
| 5. | | Floor protection requirements have been met. |
| 6. | | Venting is properly installed per venting manufacturing instructions. |
| 7. | | The proper clearances from the appliance and chimney to combustible materials have been met. |
| 8. | | The masonry chimney is inspected by a professional and is clean, or the factory built metal chimney is installed according to the manufacturer's instructions and clearances. |
| 9. | | The chimney meets the required minimum height. |
| 10. | | All labels have been removed from the glass door. |
| 11. | | Plated surfaces have been wiped clean, if applicable. |
| 12. | | A power outlet is available nearby if installing optional blower assembly. |

7 Dimensions and Clearances

A. Appliance Dimensions

NOTE: Flue Collar size is 6 inch (152mm) diameter (ID)

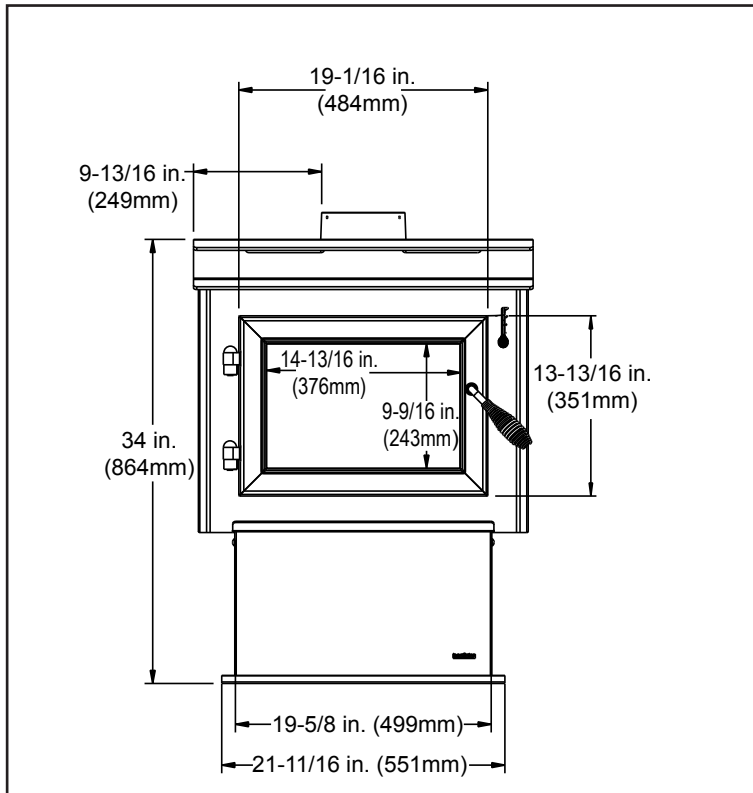


Figure 29.1 - Front View

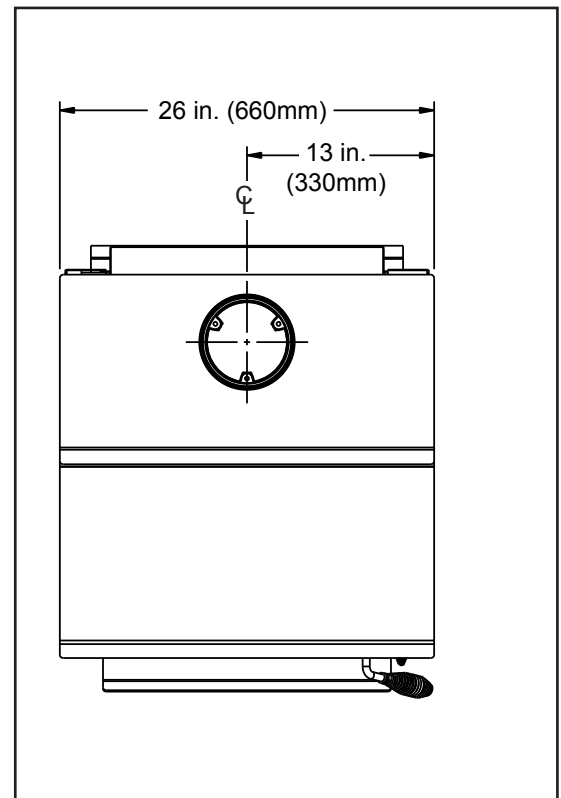


Figure 29.2 -Top View

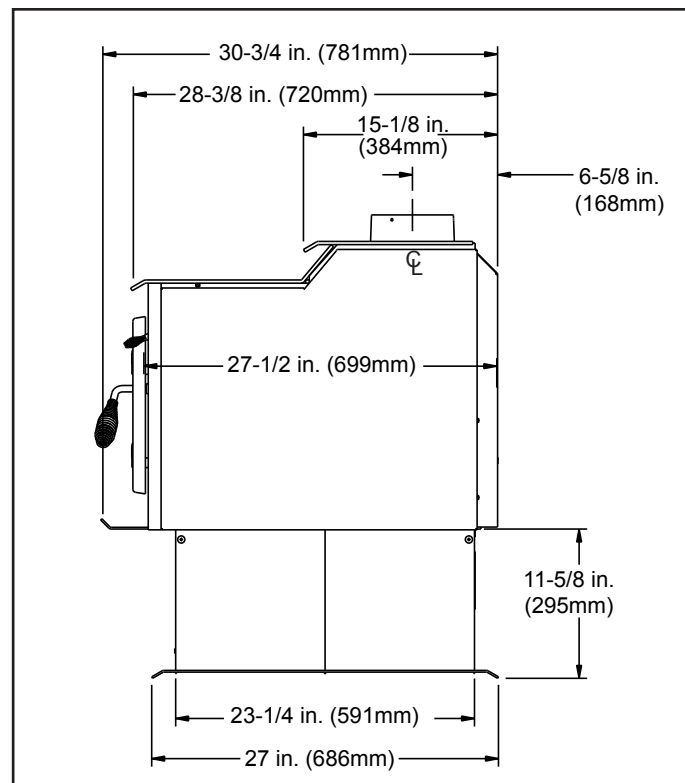
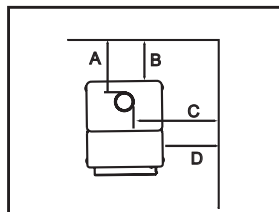


Figure 29.3 - Side View

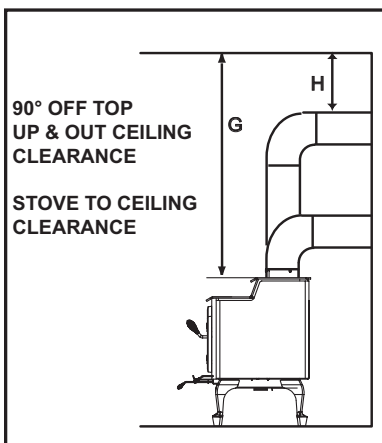
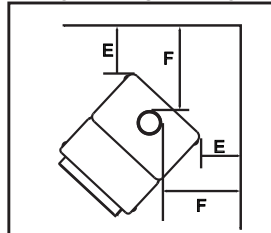
B. Clearances to Combustibles (UL and ULC)

NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction

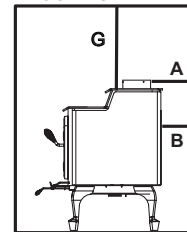
BACKWALL / SIDEWALL



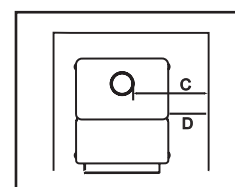
CORNER INSTALLATION



ALCOVE SIDE VIEW



ALCOVE TOP VIEW

**MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS: Inches & (Millimeters)**

NOTE: All "A", "C" and "F" dimensions are to inside diameter of flue collar.

| | A | B | C | D | E | F | G | H |
|---|------------|------------|------------|----------|----------|------------|-----------|----------|
| INSTALLATION: Full Vertical OR Horizontal with 2 foot (609mm) minimum vertical Off Stove Top | | | | | | | | |
| SINGLE WALL PIPE | 10 (254) | 8.25 (210) | 21 (533) | 11 (279) | 3.5 (89) | 12.5 (318) | 49 (1245) | * |
| DOUBLE WALL PIPE | 9 (229) | 7 (178) | 19.5 (495) | 9 (229) | 3 (76) | 12 (305) | 49 (1245) | 10 (254) |
| INSTALLATION: 90° ELBOW OFF TOP OF STOVE THROUGH BACKWALL | | | | | | | | |
| SINGLE WALL PIPE | 9.25 (235) | 7.5 (191) | 18 (457) | 8 (203) | 3.5 (89) | 12.5 (318) | 49 (1245) | * |
| DOUBLE WALL PIPE | 9.25 (235) | 7.5 (191) | 18 (457) | 8 (203) | 3 (76) | 12 (305) | 49 (1245) | 10 (254) |
| INSTALLATION: ALCOVE Six inch (6") (152mm) diameter listed Single Wall or Double Wall air insulated connector pipe with UL103 HT** Listed factory-built Class "A" chimney, or a masonry chimney. (Mobile Home must be equipped with a spark arrestor). Maximum depth of Alcove shall be no more than 48 inches (1219mm) with a minimum height of 84 inches (2133mm) from floor to bottom of ceiling and the referenced clearances. **In Canada must comply with Standard CAN/ULC-S629-M87 for the 650°C Factory-built chimney. | | | | | | | | |
| * SEE PIPE MANUFACTURERS CLEARANCES - NOT TESTED | | | | | | | | |

WARNING! Risk of Fire!

- Comply with all minimum clearance to combustibles as specified.
- Failure to comply may cause house fire.

NOTE: Service Space

In order to replace the tube channel assembly a clearance of 19 inches (483mm) is required on the right side of stove in order to remove the tubes with the stove in place.

If space is not available, the stove will have to be disconnected from the chimney to proceed with the tube replacement.

C. Hearth Protection Requirements

FLOOR PROTECTION:

- Must be non-combustible material.
- Extend beneath heater and to the front, sides and rear as indicated.
- The floor must be non-combustible or otherwise adequately protected from radiant heat given off by the unit and from sparks and falling embers.
- A layer of thin brick or ceramic tile over a combustible floor is NOT sufficient.

In US installations, it is necessary to install a floor protector of a minimum of 1/4 inch (6.35mm), k value = .13 and R value = 1.95 of noncombustible material a minimum of 16 inches (406mm) in front of glass and 8 inches (203mm) to both sides of the fuel loading door. Open the door and measure 8 inches (203mm) from the side edge of the opening in the face of the appliance. ***See exception.**

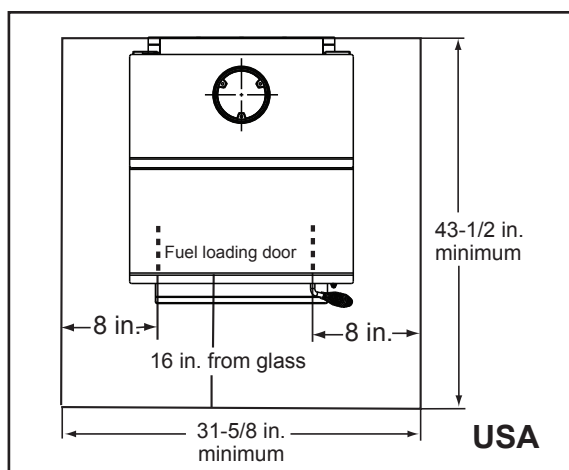


Figure 31.1

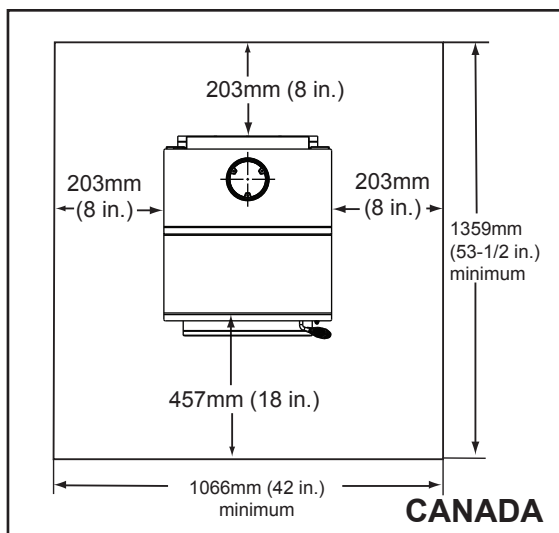


Figure 31.3

In Canada, similar floor protection must be provided 18 inches (457mm) in front and 8 inches (203mm) from the sides and rear of the appliance. ***See exception.**

***EXCEPTION:** Non-combustible floor protections must extend beneath the flue pipe when installed with horizontal venting and extend 2 inches (51mm) beyond each side. **See Figure 31.4.**

WARNING! Risk of Fire!

- *Hearth pads must be installed exactly as specified.*
- *High temperatures or hot embers may ignite concealed combustibles.*

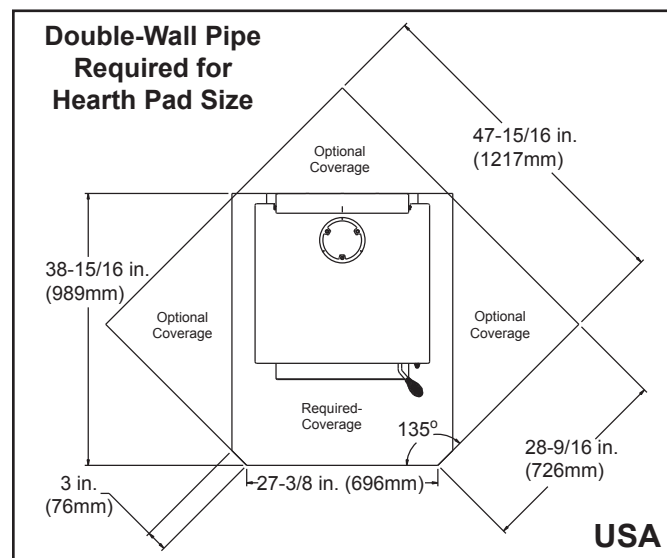


Figure 31.2

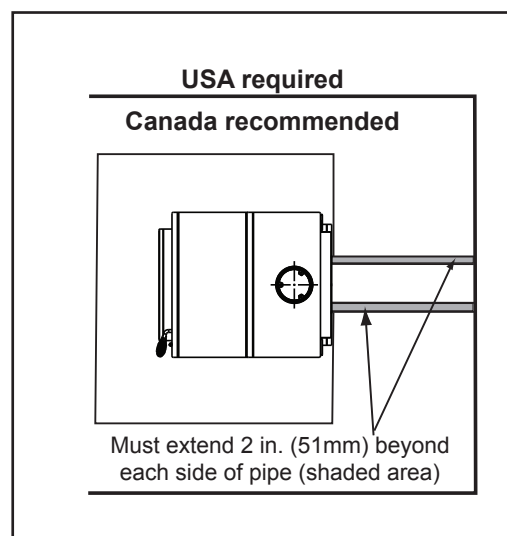


Figure 31.4

- NOTICE:**
- Illustrations and photos reflect typical installations and are FOR DESIGN PURPOSES ONLY.
 - Illustrations/diagrams are not drawn to scale.
 - Actual installation may vary due to individual design preference
 - Hearth & Home Technologies reserves the right to alter its products.

D. Calculating Alternate Floor Protection Material**Thermal Conductivity: k value**

The k value indicates the amount of heat (in BTU's) that will flow in 1 hour through 1 square foot of a uniform material 1 inch thick for each degree (F) of temperature difference from one side of the material to the other. The LOWER the k factor means less heat is being conducted through the non-combustible material to the combustible material beneath it. The k value of a material must be equal or smaller then the required k value to be acceptable.

$$\frac{(\text{BTU})(\text{inch})}{(\text{foot}^2)(\text{hour})(^{\circ}\text{F})}$$

Thermal Resistance: R value

The R value is a measure of a material's resistance to heat transfer. R value is convenient when more than one material is used since you can add the R values together, whereas you can not do this for k value. The HIGHER the R factor means less heat is being conducted through the non-combustible material to the combustible material beneath it. The R value of a material must be equal or larger then the required R value to be acceptable.

Converting k to R:

Divide 1 by k and multiply the results times the thickness in inches of the material.

$$R = 1/k \times \text{inches of thickness}$$

Converting R to k:

Divide the inches of thickness by R.

$$k = \text{inches of thickness}/R$$

Calculations:

Example: Floor protection requires k value of .84, 3/4 inch thick.

Alternative material has a k value of .6 and is 3/4 inch thick.

Divide .6 by .75 = k value of .80. This k value is smaller than .84 and therefore is acceptable.

8 Venting and Chimney Systems

A. Venting Systems

Chimney Connector:

It is also known as flue pipe or stove pipe. It must be 6 inches (152mm) minimum diameter stainless steel connector pipe.

Chimney:

The chimney can be new or existing, masonry or prefabricated and must meet the following minimum requirements as specified below.

Thimble:

A thimble is a manufactured or site-constructed device installed in combustible walls through which the chimney connector passes to the chimney.

- It is intended to keep the walls from igniting.
- Site constructed thimbles must meet NFPA 211 Standards.
- Factory-built must be suitable for use with selected chimney and meet UL103 Type HT Standards.
- Follow instructions provided by the manufacturer for manufactured thimbles for masonry chimney and factory-built chimneys.

WARNING! Risk of Fire!

Follow venting manufacturer's clearances and instructions when installing venting system.

B. Inspections

Existing chimneys should be inspected and cleaned by a qualified professional prior to installation. The chimney must not have cracks, loose mortar or other signs of deterioration and blockage. Hearth & Home recommends a NFI or CSIA certified professional or a technician, under the direction of a certified professional, conduct a Level II inspection per NFPA 211.

C. Larger Chimneys

It is recommended that chimneys with larger diameters than 6 inches (152mm) be relined. An oversized flue can affect draft and impair performance and will allow increased build-up of creosote.

NOTICE: Check with your local building authorities and/or consult the National Fire Protection Association (NFPA 211).

D. Chimney Systems

- The chimney connector joins the stove to the chimney.
- It must be a 6 inch (152mm) minimum diameter 24 gauge mild steel black.
- Or an approved air-insulated double wall venting pipe.

Single wall connector or stove pipe

- Must be at least 24 gauge mild steel.
- Sections must be attached to the appliance and to each other with the crimped (male) end pointing toward the stove.
- All joints, including the connection at the flue collar, should be secured with 3 sheet metal screws or rivets as per pipe manufacturer's instructions..
- Follow the minimum clearances to combustibles

Factory-built chimney connector (vented)

- A Listed connector (vented) must be used when installing this unit in a mobile home.
- The Listed connectors must conform to each other to ensure a proper fit and seal.

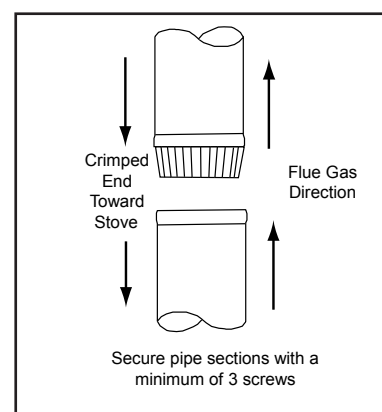


Figure 33.1 Chimney Connector

WARNING! Risk of Fire!

Follow chimney connector manufacturer's instructions for proper installation.

ONLY use connector:

- Within the room, between appliance and ceiling or wall.
- Connector shall NOT pass through:
- Attic or roof space
 - Closet or similar concealed space
 - Floor or ceiling

Maintain minimum clearances to combustibles

NOTICE: Where passage through the wall, or partition of combustible construction is desired in Canada, the installation shall conform to CAN/CSA-B365.

E. Chimney Height / Rise and Run

- This product was designed for and tested on a 6 inch (152mm) chimney, 14 to 16 feet (427-487cm) high, (includes appliance height) measured from the base of the appliance.
- The further your stack height or diameter varies from this configuration, the possibility of performance problems exists.
- Chimney height may need to be increased by 2 - 3% per each 1000 feet (304.8m) above sea level.
- It is not recommended to use offsets or elbows at altitudes above 4000 feet (1219.2m) above sea level or when there are other factors that affect flue draft.

F. Factory-Built Chimney

The chimney can be new or existing, and must meet the following minimum requirements.

- Must be a minimum 6 inch (152mm) diameter (ID) high temperature chimney listed to UL 103 HT (2100°F) or ULC S629M.
- Must use components required by the manufacturer for installation.
- Must maintain clearances required by the manufacturer for installation.
- Refer to manufacturers instructions for installation.

NOTICE: In Canada when using a factory-built chimney it must be safety listed, **Type UL103 HT (2100°F) [1149°C] CLASS "A"** or conforming to **CAN/ULC-S629M, STANDARD FOR 650°C FACTORY-BUILT CHIMNEYS.**

WARNING! Risk of Fire!

Inspection of Chimney:

- Chimney must be in good condition and meets the minimum standard of NFPA 211.
- Factory-built chimney must be 6 inches (152mm) UL103 HT.

WARNING! Risk of Asphyxiation!

- **DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE OR TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.**

This may allow flue gases to enter the house.

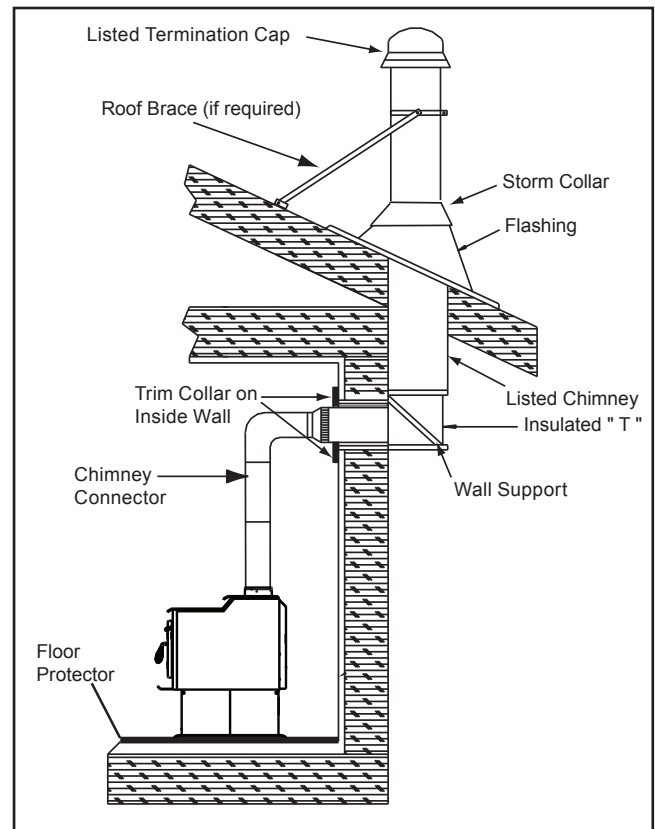


Figure 34.1 - Factory-Built Exterior Chimney

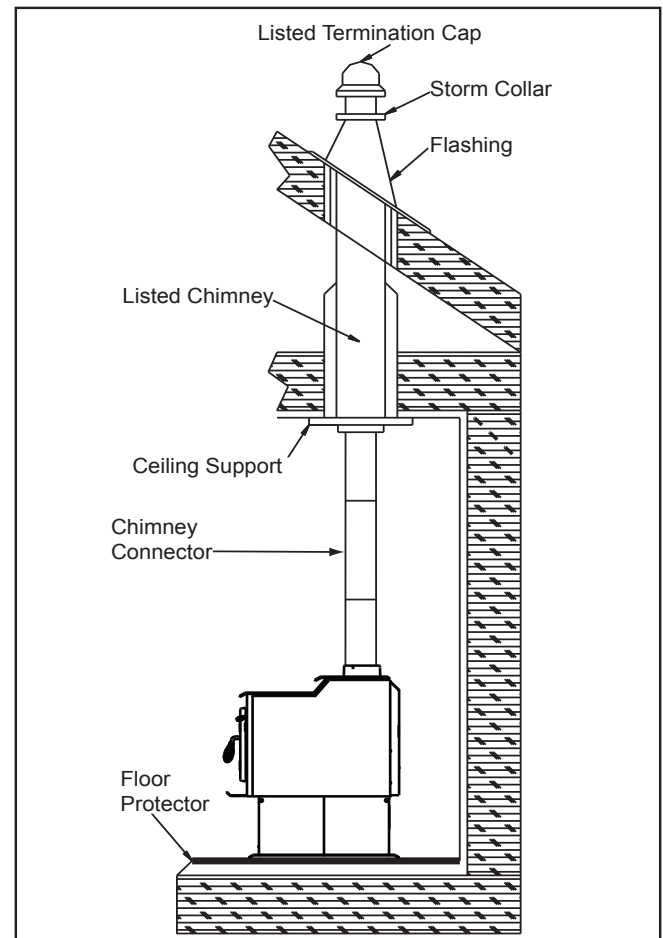


Figure 34.2 - Factory-Built Interior Chimney

G. Masonry Chimney:

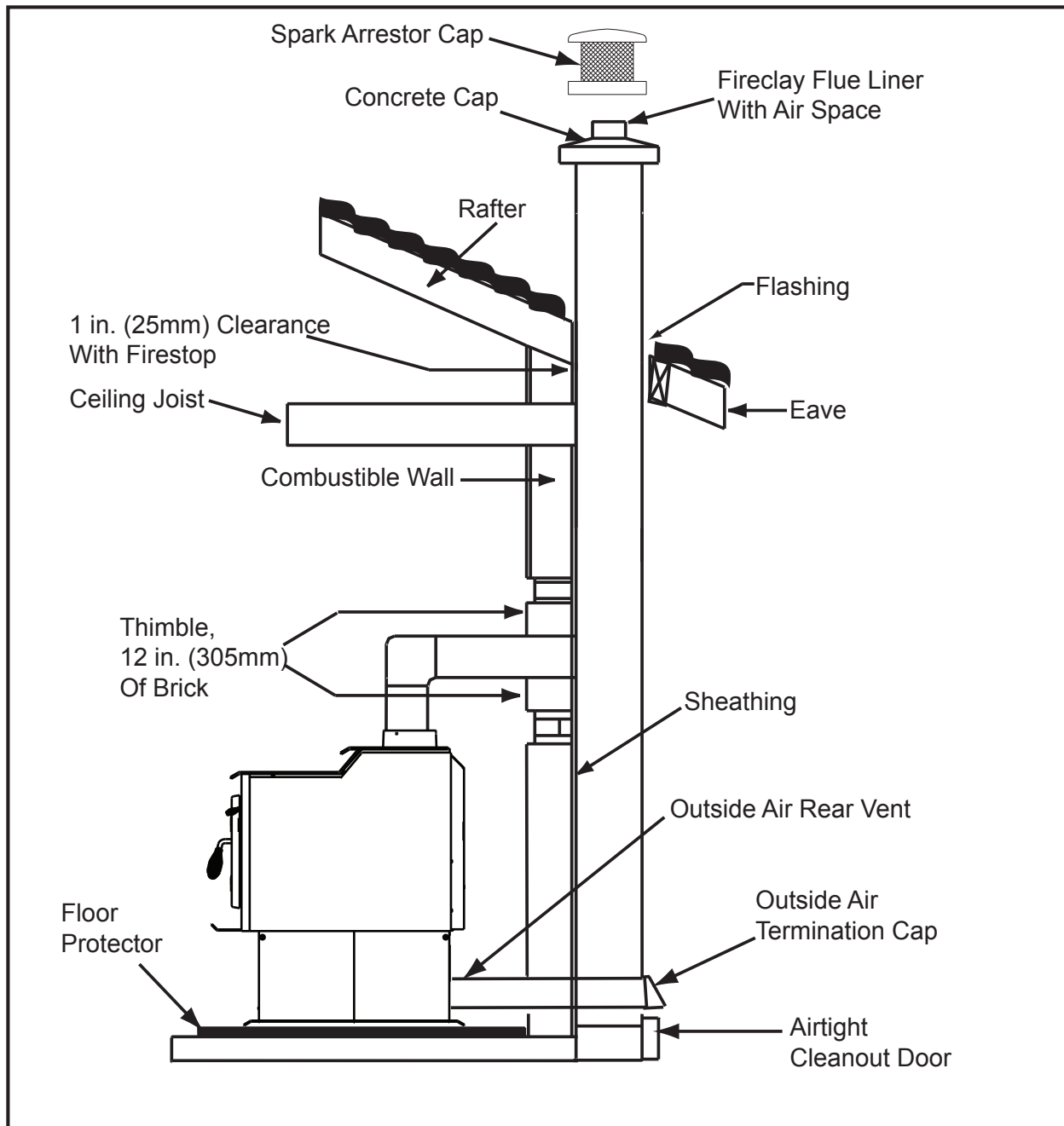


Figure 35.1 Masonry Chimney

WARNING! Risk of Fire!

Inspection of Chimney:

- Chimney must be in good condition and meets the minimum standard of NFPA 211.

WARNING! Risk of Asphyxiation!

- DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE OR TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

This may allow flue gases to enter the house.

H. Masonry Chimney Liner

For optimal performance, masonry chimneys used to vent this appliance should be:

1. Lined with a 6 inch (152mm) stainless steel liner.
 - Installations into a clay flue without a stainless steel liner may reduce draw which affects performance, cause the glass to darken and produce excessive creosote.
2. It is recommended that a chimney with a larger diameter than 6 inches (152mm) be relined.
 - The oversized flue can cause poor performance and contribute to the accumulation of creosote.
3. Have the chimney cleaned before the stove is installed and operated.

The following bullets list the more critical requirements for a properly constructed chimney:

- The masonry wall of the chimney, if brick or modular block, must be a minimum of 4 inches (102mm) nominal thickness.
- A chimney of rubble stone must be at least 12 inches (305mm) thick.
- The chimney must have a fire clay flue liner (or equivalent) with a minimum thickness of 5/8 inch (16mm) and must be installed with refractory mortar.
- An equivalent liner must be a listed chimney liner system or other approved material.
- Since an oversized flue contributes to the accumulation of creosote, the size of the flue should be checked to determine that it is not too large for the appliance.
- The chimney should also be checked to ensure it meets the minimum standard of the National Fire Protection Association (NFPA) Standard 211.
- A chimney support package must be used when a connection is made through the ceiling to a factory built chimney.
- An approved thimble and chimney support package are **absolutely necessary** to provide safe clearances to combustible wall and ceiling material.

NOTICE: In Canada, the installation shall conform to CAN/CSA-B365.

NOTICE: Check with your local building authorities and/or consult the National Fire Protection Association (NFPA 211).

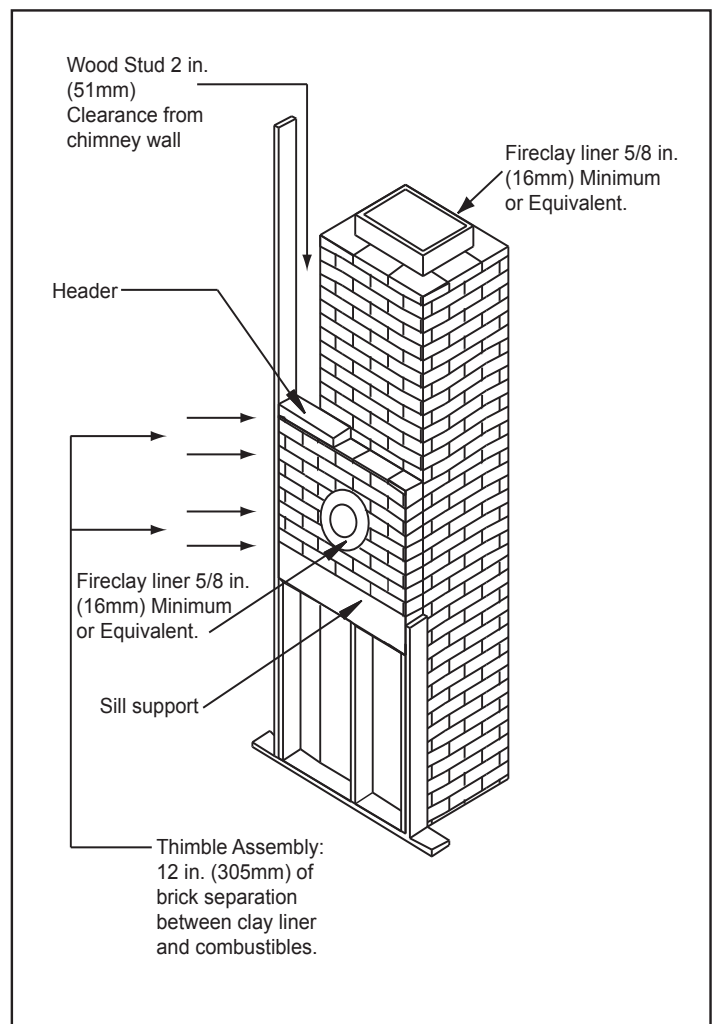


Figure 36.1

I. Air Clearances

- Masonry chimney clearance must meet NFPA 211 minimum requirement of 2 inches (51mm) to sheet metal supports and combustibles.
- Minimum of 1 inch (25mm) clearance around the chimney connector.
- Top of wall opening is a minimum of 13-1/2 inches (343mm) from ceiling or 4-1/2 inches (114mm) below minimum clearance specified by chimney connector manufacturer. NFPA 211 minimum vertical clearance of 18 inches (457mm) from chimney connector and ceiling or minimum recommended by chimney connector manufacturer. **Figure 37.1.**

J. Thimble

Site constructed for masonry chimney installation:

Components

- A minimum length of 12 inches [305mm] (longer for thicker walls) of solid insulated factory-built chimney length constructed to UL 103 Type HT 6 inch (152mm) inside diameter. Chimney needs to extend a minimum of 2 inches (51mm) from the interior wall and a minimum of 1 inch (25mm) from the exterior wall.
- Wall spacer, trim collar and wall band to fit solid pack chimney selected.
- Minimum 8 inch (203mm) diameter clay liner section (if not already present in chimney) and refractory mortar.

Instructions:

1. Open inside wall at proper height for the chimney connector to enter the masonry chimney. **Figure 37.1.**
2. Entry hole to masonry chimney must be lined with an 8 inch (203mm) minimum diameter clay liner, or equivalent, secured with refractory mortar.
3. Construct a 17 inch x 17 inch (432mm x 432mm) outside dimension frame from 2 x 2 framing lumber to fit into wall opening. Inside opening of frame should be no less than 14 inch x 14 inch (356mm x 356mm). **Figure 37.1.**
4. Attach the wall spacer to the chimney side of the frame.
5. Nail the frame into the wall opening. The spacer should be on the chimney side.
6. Insert the section of the solid insulated chimney into the outer wall of the masonry chimney.
7. Tightly secure the length of the solid insulated chimney with the wall band to the masonry chimney.
8. Insert a section of chimney connector into the chimney. Make sure it does not protrude past the edge of the clay chimney liner inside the chimney.
9. Seal the end of the chimney connector to the clay liner with refractory mortar.
10. Install trim collar around the sold pack chimney section.

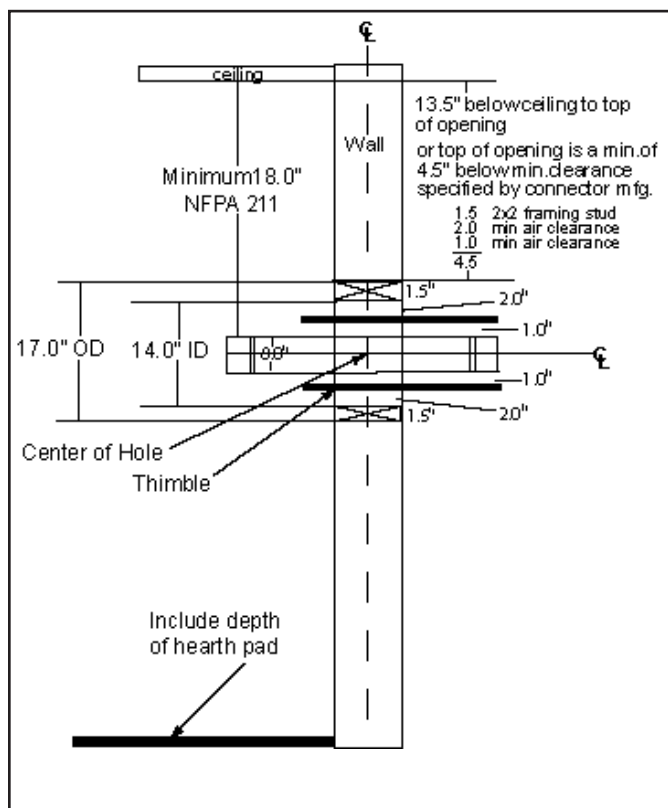


Figure 37.1 - Thimble Construction

Solid Pack Chimney with Metal Supports as a Thimble

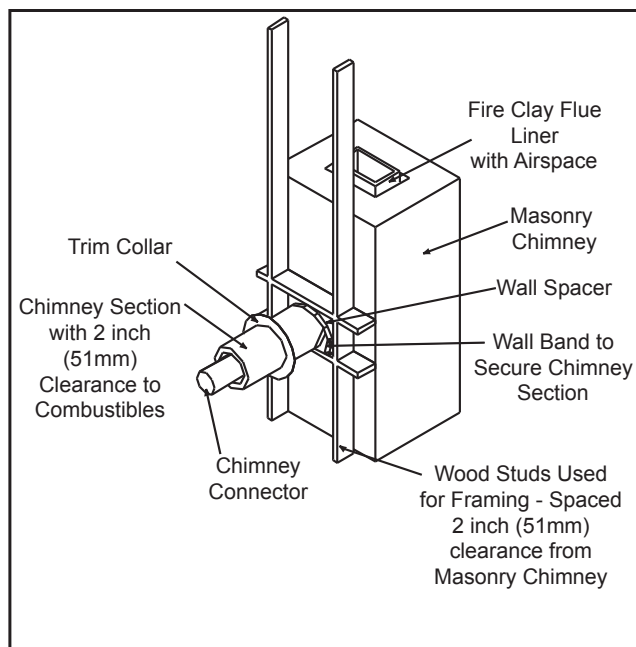


Figure 37.2

Solid Pack Chimney with Metal Supports as a Thimble (Cont'd)

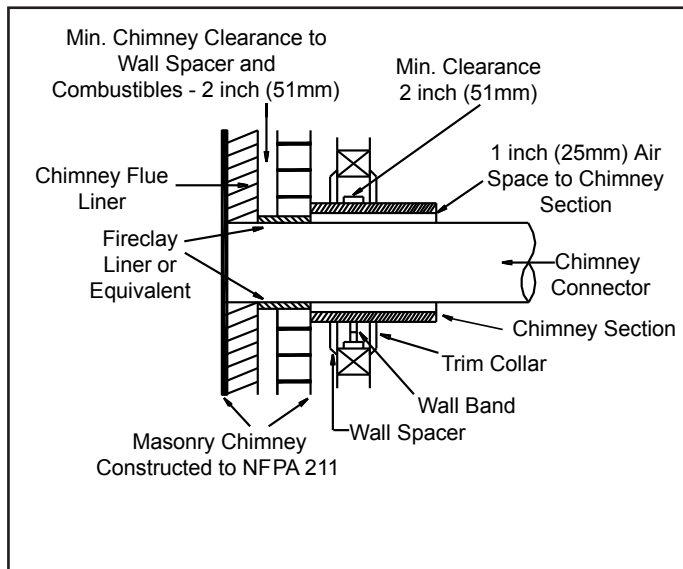


Figure 38.1

WARNING! Risk of Fire!

Do NOT pack insulation or other combustibles between spacers.

- *ALWAYS maintain specified clearance around venting and spacers and install spacers as specified.*

Failure to keep insulation or other material away from vent pipe may cause a fire.

9 Appliance Set-up

A. Outside Air Kit Installation

A source of air (oxygen) is necessary in order for combustion to take place. Whatever combustion air is consumed by the fire must be replaced.

Air is replaced via air leakage around windows and under doors. In homes that have tightly sealed doors and windows, an outside air source is highly recommended. An optional Outside Air Kit is available.

Included in kit: Termination cap, (2) wire ties, flex adapter, and fasteners

Items Needed for Installation (not supplied)

- 4 inch flex aluminum pipe, or if using alternate material, then it shall be made from durable, non-combustible, heat resistant material up to 350°F (177°C). Cut the pipe to the required length for your installation.
- Phillips head screw driver
- Silicone sealant
- Non-combustible pedestal sealing material if installing with the Alternate Floor configuration.
- Drills and saws necessary for cutting holes through the wall or flooring in your home

Instructions

1. **Rear:** Remove the access cover on the back of the pedestal and discard. **Figure 39.2.**
2. Using a #2 Phillips screw driver attach the flex adapter to the appliance using 4 screws. Secure with wire tie. **Figure 39.1.**
3. **Floor:** For standard floor installation remove the circular “knock-out” in the base of the pedestal.
4. **Floor & Rear Installation:** Cut a 4 inch (102mm) hole in outside wall or floor to accommodate outside air piping. Use 4 inch (102mm) aluminum metal flex or rigid piping to directly connect outside air to appliance intake. Use the supplied termination cap with a rodent screen. Seal between the wall (or floor) and the pipe with silicone to prevent moisture penetration.

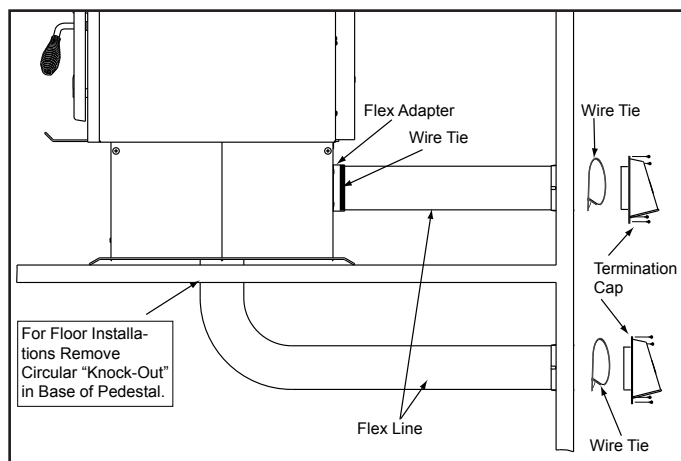


Figure 39.1 - Floor & Rear Installation

5. **Floor Installation Alternative:** In some instances you may not be able to install the flex pipe as show in **Figure 39.1.**

If that is the case, follow the instructions for a rear installation install the flex pipe to the rear of the pedestal and remove the circular “Knock-Out” in the base of the pedestal. You must seal off the pedestal with non-combustible material (not supplied). The goal is to seal the pedestal so no room air can leak into the pedestal and to seal for cold air infiltration. **Figure 39.2.**

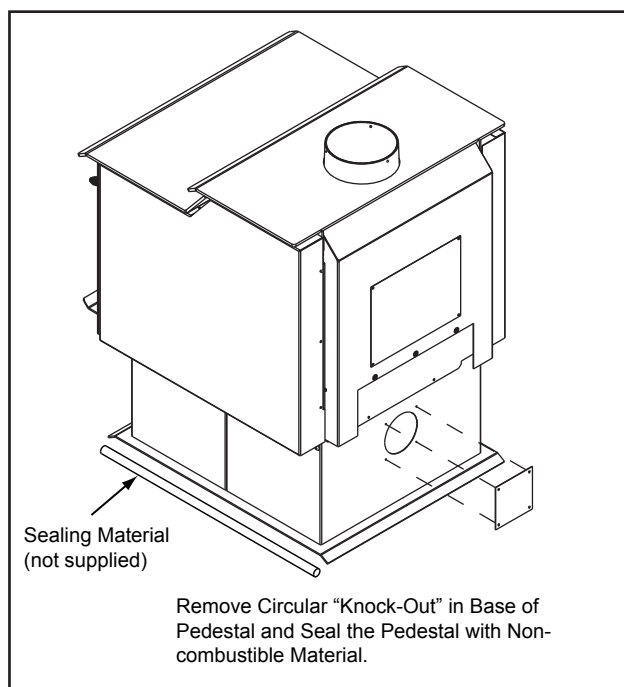


Figure 39.2 - Alternate Floor Installation

WARNING! Risk of Fire and Asphyxiation!

Do not draw outside combustion air from:

- Wall, floor, ceiling cavity or enclosed space such as an attic or garage. Also do not draw outside air from close proximity to exhaust vents or chimneys. Fumes or odor may result if you do.

Outside air inlet must be located to prevent blockage from leaves, snow, ice or other debris. Blockage may cause combustion air starvation. Smoke spillage may set off alarms or irritate sensitive individuals.

The length of the outside air supply duct shall NOT exceed the length of the vertical height of the exhaust flue.

- The fire will not burn properly and there will be smoke spillage when the door is opened due to air starvation.

B. Mobile Home Installation

You must use an authorized Outside Air Kit Part OAK-ACC for installation in a mobile home.

1. An outside air inlet must be provided for combustion. See **page 39** for installation information.
2. Appliance must be secured to the mobile home structure at two attachment points by bolting the pedestal through hearth pad and into floor.
3. Appliance must be grounded with #8 solid copper grounding wire or equivalent and terminated at each end with N.E.C. approved grounding device.
4. Appliance must be installed with an approved UL103 HT ventilated chimney connector, UL103 HT chimney, and terminal cap with spark arrester. Never use a single wall connector (stove pipe) in a mobile home installation. Use only double-wall connector pipe, Dura-Vent DVL, Selkirk metalbestos DS or Security DL double-wall connector pipe or any Listed double-wall connector pipe.
5. In Canada, this appliance must be connected to a 6 inch (152mm) factory-built chimney conforming to CAN/ULC-629M, STANDARD FOR FACTORY BUILT CHIMNEYS.
6. Follow the chimney and chimney connector manufacturer's instructions when installing the flue system for use in a mobile home.
7. Maintain clearance to combustibles.
8. Floor protection requirements must be followed precisely.
9. Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.

NOTE:

- Offsets from the vertical, not exceeding 45°, are allowed per Section 905(a) of the Uniform Mechanical Code (UMC).
- Offsets greater than 45° are considered horizontal and are also allowed, providing the horizontal run does not exceed 75% of the vertical height of the vent.
- Construction, clearance and termination must be in compliance with the UMC Table 9C. This installation must also comply with NFPA 211.

NOTE: Top sections of chimney must be removable to allow maximum clearance of 13.5 feet (411cm) from ground level for transportation purposes.

10. Burn wood only. Other types of fuels may generate poisonous gases (e.g., carbon monoxide).
11. If unit burns poorly while an exhaust blower is on in home, (i.e., range hood), increase combustion air.
12. Installation shall be in accordance with the Manufacturers Home & Safety Standard (HUD) CFR 3280, Part 24.

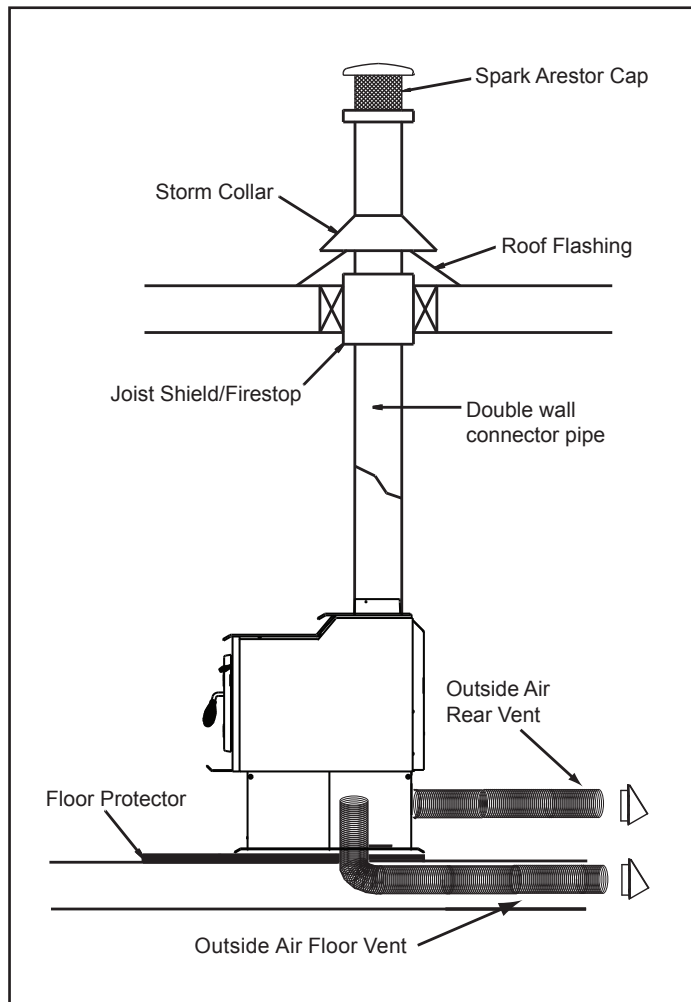


Figure 40.1

CAUTION!

- THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED

Do NOT cut through:

- Floor joist, wall, studs or ceiling trusses or any supporting material that would affect the structural integrity.

WARNING! Risk of Asphyxiation!

NEVER INSTALL IN A SLEEPING ROOM AS IT WILL CONSUME THE OXYGEN IN THE ROOM.

C. Blower Installation (Optional)

1. Align holes in mounting flange of blower with bolt holes in appliance. Blower should be positioned at bottom of rear outer skin as shown in **Figure 41.1**.
2. Insert and tighten bolts supplied with the kit, securing blower onto outer wall of appliance.
- 3 Place the bracket containing the snap disc and magnet under the bottom left rear corner as shown in **Figure 41.1**.

See pages 14 and 21 for detailed operating instructions for the blower and snap disc.

D. Adjusting the Blower Speed Control

The blower speed control for this unit is adjusted at the factory, and normally does not require further adjustment.

NOTE: When the speed control is turned clockwise, it will click on to high speed. Continue to turn the speed control clockwise to decrease the speed. At full clockwise, the blower should blow gently, but should not stop.

CAUTION! Risk of Shock!

- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

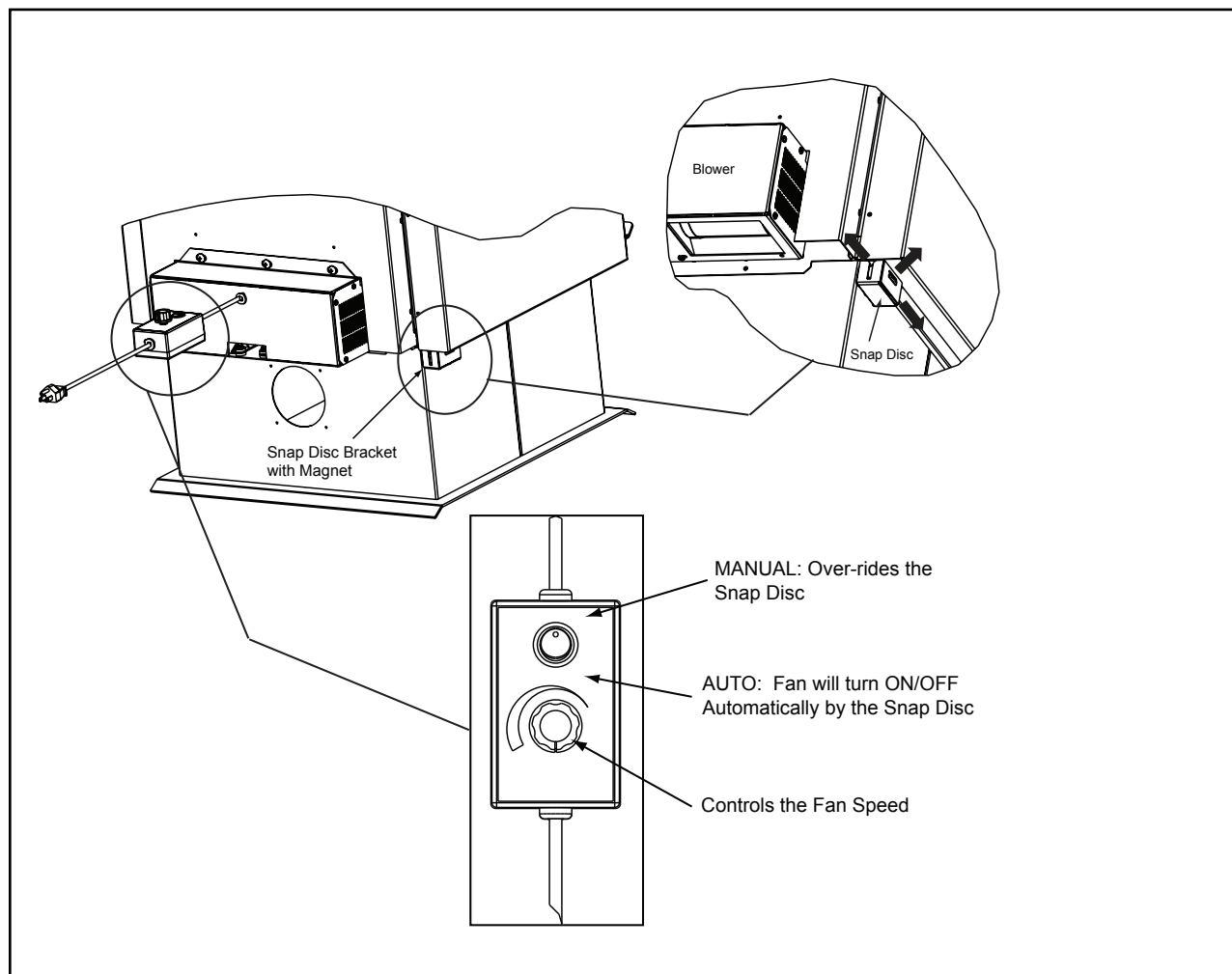
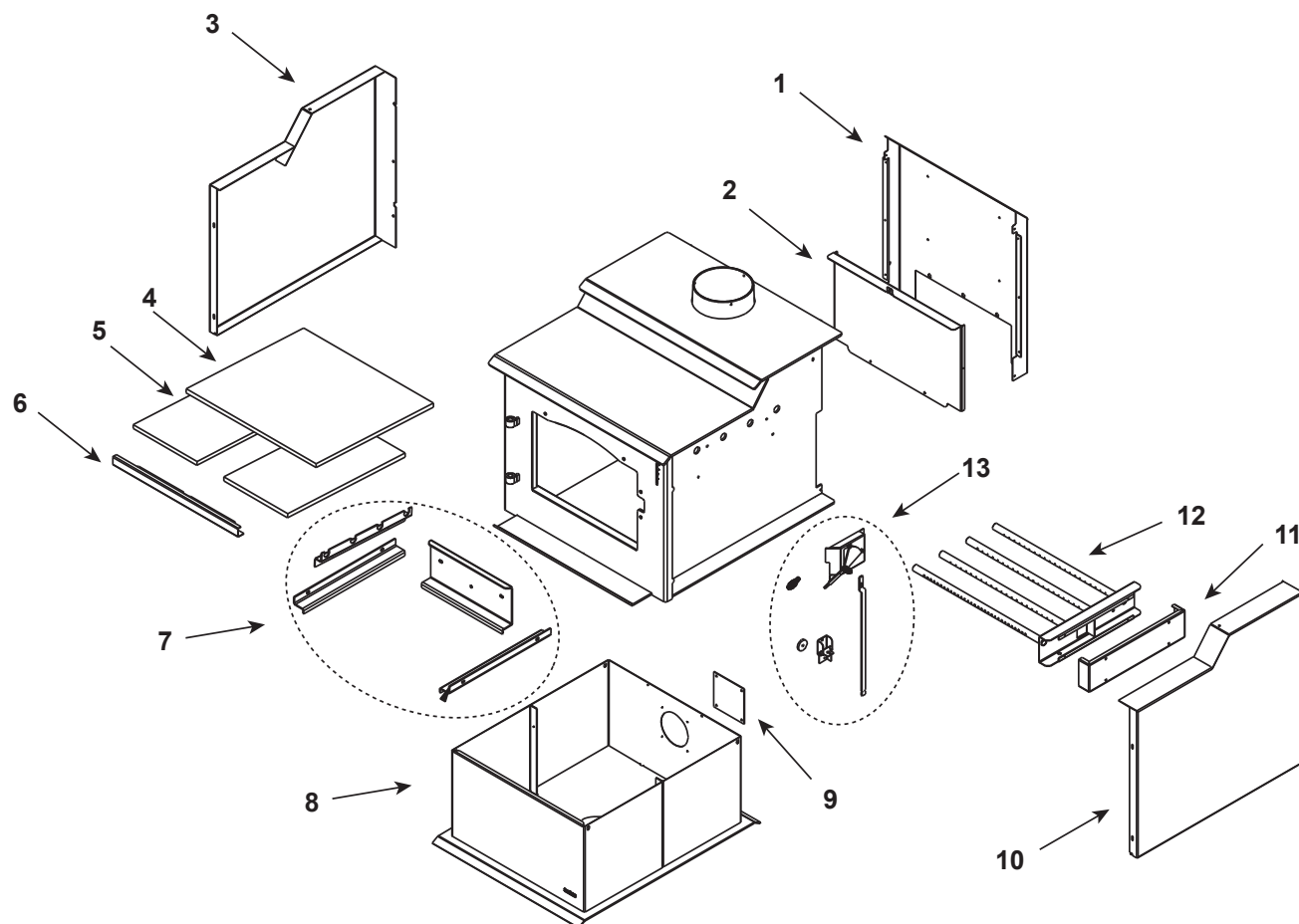


Figure 41.1

10

Reference Materials

A. Exploded View



Part number list on following page.

B. Service Parts & Accessories

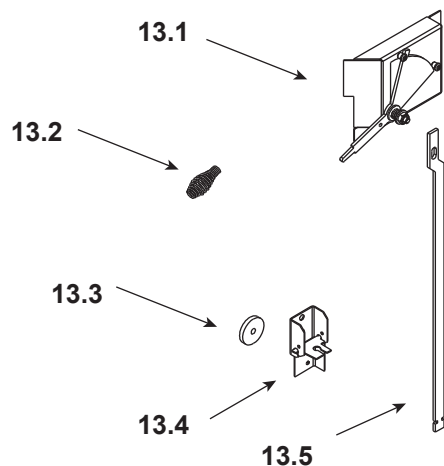
IMPORTANT: THIS IS DATED INFORMATION. When requesting service or replacement parts for your appliance please provide model number and serial number. All parts listed in this manual may be ordered from an authorized dealer.



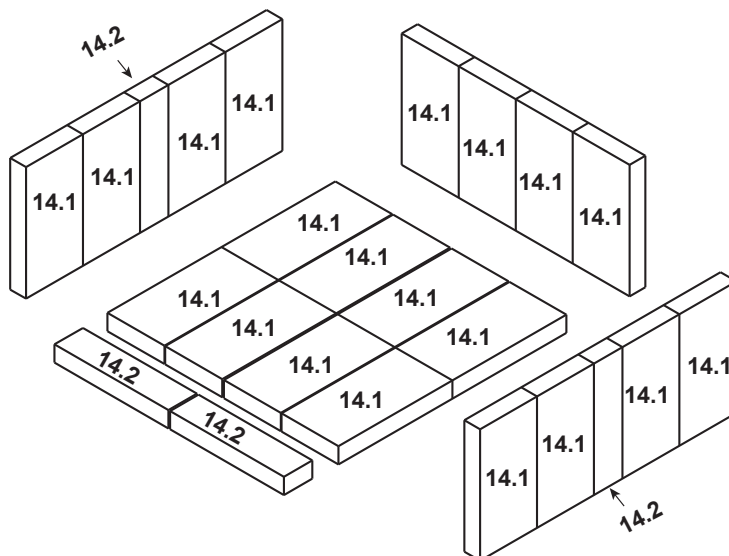
**Stocked
at Depot**

| ITEM | DESCRIPTION | COMMENTS | PART NUMBER | |
|------|------------------------------|----------|-------------|---|
| 1 | Convection Air Channel | | SRV7057-112 | |
| 2 | Combustion Air Channel | | SRV7056-116 | |
| 3 | Side Panel-Left | | SRV7057-010 | |
| 4 | Ceramic Blanket (1/2" Thick) | | 832-3390 | Y |
| 5 | Baffle Board | Pkg of 2 | SRV7057-116 | Y |
| 6 | Baffle Protection Channel | | SRV7056-147 | |
| 7 | Retainers- Tube Support | | SRV7057-118 | |
| 8 | Pedestal Assembly | | SRV7057-005 | |
| 9 | OA Cover Plate | | SRV7044-217 | |
| 10 | Side Panel-Right | | SRV7057-008 | |
| 11 | Tube Channel Cover | | SRV7057-122 | |
| 12 | Tube Channel Assembly | | SRV7057-007 | Y |

#13 Inlet Assembly



#14 Brick Assembly



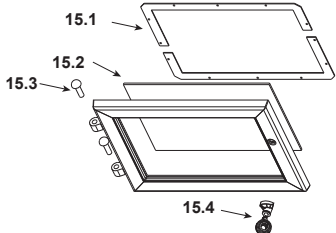
| | | | | |
|------|----------------------------|------------|-------------|---|
| 13 | Burn Rate Control | | | |
| 13.1 | Burn Rate Control Assembly | | SRV7057-011 | Y |
| 13.2 | Spring Handle, 1/4" Black | | SRV7000-614 | Y |
| 13.3 | Door Gasket | | 7033-282 | Y |
| 13.4 | Inlet Door Assembly | | SRV7056-009 | |
| 13.5 | Inlet Lever | | SRV7057-113 | |
| 14 | Brick Assembly | | SRV7057-003 | |
| 14.1 | Brick 1 (9 X 4.35 X 1.25) | Qty 20 Req | | |
| 14.2 | Brick 2 (9 X 2.25 X 1.25) | Qty 4 req. | | |
| | Brick, Single Uncut | | 832-0550 | |
| | Brick, 6 Pack Uncut | | 832-3040 | |

Additional Service Parts on following page.

IMPORTANT: THIS IS DATED INFORMATION. When requesting service or replacement parts for your appliance please provide model number and serial number. All parts listed in this manual may be ordered from an authorized dealer.



Stocked
at Depot

| ITEM | DESCRIPTION | COMMENTS | PART NUMBER | |
|--|---|-------------|---------------|---|
| #15 Door Assembly  | | | | |
| 15 | Door Assembly | | SRV7056-011 | |
| 15.1 | Glass Frame | Pkg of 2 | SRV7044-191 | |
| 15.2 | Glass Assembly | | SRV7044-027 | Y |
| 15.3 | Hinge Pins | Pkg of 2 | 7000-606/2 | |
| 15.4 | Door Hardware | | SRV7056-012 | |
| | Gasket, Door rope | 7 FT Length | 832-1680 | Y |
| Accessories | | | | |
| | Blower Assembly | | BK-ACC | |
| | Blower Control Box W/Switch | | SRV7000-194 | Y |
| | Blower Replacement | | 812-4900 | Y |
| | Component Pack | | 7033-051 | |
| | Magnet Round | | SRV7000-140 | Y |
| | Snap Disc Bracket Assembly | | SRV7033-036 | |
| | Snap Disc, #1, Convection Blower | | SRV230-0470 | Y |
| | Wire Harness | | 7033-262 | |
| | Component Pack, Stove Contains: Screws, Handle, Spring Handle (1/4" Black), Warranty Card, OA Cover Plate, Manual, Efficiency Label, EPA Label, and Startup and Maintenance Guide | | SRV7057-006 | |
| | Outside Air Kit | | OAK-ACC | |
| | Outside Air Collar Assembly | | 7033-039 | |
| | Outside Air shield | | 33271 | Y |
| Fastener Packs | | | | |
| | AVK Rivnut Repair Kit 1/4 -20 & 3/8-16 Rivnut Tools | | RIVNUT-REPAIR | Y |
| | Bolt, Hex Head | Pkg of 10 | 25221A/10 | Y |
| | Guide Pin Sleeve | Pkg of 25 | 31120/25 | Y |
| | Nut SER FL SMALL 1/4-20 | Pkg of 24 | 226-0130/24 | Y |
| | Nut, 2-WY SIDE-LOCK JAM 3 | Pkg of 24 | 226-0100/24 | Y |
| | Nut, Lock 1/4-20 | Pkg of 25 | 226-0090/25 | Y |
| | Screw HWH MS 1/4-20 X3/4 NS | Pkg of 25 | 220-0080/25 | Y |
| | Screw PH PHL TC 8-32X1/2 | Pkg of 25 | 220-0030/25 | Y |
| | SMS #8 X 1/2 S-GRIP BO | Pkg of 40 | 12460/40 | Y |
| | Washer, 1/4 SAE | Pkg of 24 | 28758/24 | Y |
| | Washer, SAE | Pkg of 25 | 227-0080/25 | Y |

C. Service And Maintenance Log

[illegible]

Description of Service

D. Homeowner's Notes

E. Contact Information



CONTACT INFORMATION:

Hearth & Home Technologies
1445 North Highway
Colville, WA 99114
Division of HNI INDUSTRIES

Please contact your Heatilator dealer with any questions or concerns.

For the number of your nearest Heatilator dealer, please visit www.heatilatorecochoice.com.

NOTICE



DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation.



We recommend that you record the following pertinent information for your ECO-CHOICE WS22 Wood Stove

Date purchased/installed: _____

Serial Number: _____ Location on appliance: _____

Dealership purchased from: _____ Dealer phone: _____

Notes: _____

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.