

# HARMAN™

## HOME HEATING

### Owner's Manual Installation and Operation

**Model:  
Super-Magnum  
Coal Stoker Stove**



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

#### 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.

**Do Not Discard**



#### WARNING



**Please read this entire manual before installation and use of this coal-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even 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 any external part starts to glow, you are overfiring. Reduce feed rate. Overfiring will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause a house fire.



#### WARNING



#### HOT SURFACES!

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

#### Hot, 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.

#### CAUTION

Tested and approved for use with anthracite "rice" coal only. Burning any other type of fuel will void your warranty.

#### CAUTION

Check building codes prior to installation.

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

Hearth & Home Technologies welcomes you to our tradition of excellence! By choosing a Harman appliance, you have become part of a long standing family committed to meeting the heating needs of consumers with the most distinctive, powerful and responsible home heating products available.

The Super-Magnum has huge features in an elegant package, giving you 5000 to 100,000+ BTU when you need it, automatically. You need only set your desired room temperature, keep the hopper full, and the ash pan empty. With the Super-Magnum, you will notice even heat throughout your zone and a level of convenience you never thought possible. The Super-Magnum takes advantage of Harman's 30+ years of stove design, technology and manufacturing. This high output stove has Super-Smart controls coupled with minimal maintenance. Output is managed by a microprocessor that senses the room temperature and the fire temperature with two thermistor probes and then determines the best feed rate for your heating demand. The platinum combination is Harman's Patented Verti-Flow™ Feeder system, and ESP Control which have been developed to their highest state. These features work together to allow amazing heat output with little regard for fuel quality.

We wish you and your family many years of enjoyment in the warmth and comfort of your hearth appliance.

Thank you for choosing Harman Home Heating.

**Harman Home Heating**, A division of  
Hearth & Home Technologies, Inc.  
352 Mountain House Road  
Halifax, PA 17032  
www.harmanstoves.com

**When This Room Heater Is Not Properly Installed, a House Fire May Result. To Reduce The Risk Of Fire, Follow The Installation Instructions. Contact Local Building Or Fire Officials About Restrictions And Installation Inspection Requirements In Your Area.**



Report # / Rapport # 135-S-24-6.2  
Tested to / Testé à U.L. 1482,  
UL 391, and ULC S627-00  
Test Date: July 2009

Approved For Use in Mobile/Manufactured Homes- **USA ONLY**  
This appliance is also approved for installation into a shop.

**“PREVENT HOUSE FIRES”**  
Install and use only in accordance with manufacturer's installation and operation instructions and local codes. In absence of local codes, installation must meet minimum requirements of NFPA 211 in USA. Refer to manufacturer's instructions and local codes for precautions required for passing chimney through a combustible wall or ceiling.

**WARNING FOR MANUFACTURED HOMES: (US Only)** Do not install appliance in a sleeping room. An outside air inlet must be provided. The structural integrity of the manufactured home's floor, walls, and ceiling must be maintained.

Refer to manufacturer's instructions and to local codes for precautions required for passing chimney through a combustible wall or ceiling.

Flue connector pipe must be 6" diameter, minimum 24 MSG blue steel. Chimney must be factory built 103HT or masonry construction. **DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

**FOR USE WITH ANTHRACITE "RICE" COAL ONLY** Do not burn wet coal.

**DO NOT Overfire - If Heater or chimney connector glows, you are overfiring.**

Input Rating Maximum: 7.75 lb. Fuel/hr.  
Electrical Rating: 115 VAC, 60 Hz, 3.1 AMPS  
Route power cord away from unit.

**DANGER:** Risk of electrical shock. Disconnect power supply before servicing. For further instruction, refer to owner's manual.

Replace glass only with 5mm ceramic, available from your dealer. Appliance must be installed with the legs attached. Do not obstruct airflow under the appliance.

**DANGER:** Risk of Fire or Explosion - Do not burn garbage, gasoline, drain oil or other flammable liquids.

**WARNING:** Risk of Fire  
Do not operate with flue draft exceeding -0.080 in water column.  
Do not operate with fuel loading or ash removal doors open. Do not store fuel or combustibles within marked clearances. Inspect and clean flues and chimney regularly.

**Super Magnum Coal Stoker Stove**  
**Poêle à charbon Super Magnum**  
**Room Heater- Coal Burning**  
**Appareil de chauffage d'appoint au charbon**

Serial No.  
N° de série **008**



Report no 135-S-24-6.2  
Date d'essai: Juillet 2009  
E.-U. SEULEMENT  
Conforme à UL 1482, UL 391 et ULC S627-00

Homologué pour les maisons mobiles et préfabriquées. Cet appareil est également homologué pour être installé dans un atelier.

**«ÉVITEZ LES INCENDIES DE MAISON»**  
N'installez et n'utilisez cet appareil que selon le mode d'installation et le mode d'emploi du fabricant et les codes locaux. En l'absence de codes locaux, l'installation doit au minimum être conforme aux exigences de la norme NFPA 211 aux E.-U. Voir dans les recommandations du fabricant et dans les codes locaux les précautions quant au passage d'une cheminée à travers un mur ou un plafond combustible.

**MISE EN GARDE POUR LES MAISONS PRÉFABRIQUÉES :** (É.-U. seulement) N'installez pas cet appareil dans une chambre à coucher. Une arrivée d'air de combustion extérieur doit être prévue. L'intégrité structurelle du plancher, des murs et du plafond de la maison préfabriquée doit être maintenue.

Voir dans les recommandations du fabricant et dans les codes locaux les précautions quant au passage d'une cheminée à travers un mur ou un plafond combustible.

Le tuyau de raccord à la cheminée doit être d'un diamètre de 15,25 cm (6 po), au minimum en acier bleu 24 MSG. La cheminée doit être en métal 103HT d'usine ou construite en maçonnerie.

**NE RELIEZ PAS CE POÊLE À UNE CHEMINÉE QUI SERT POUR UN AUTRE APPAREIL.**

**IL NE FAUT UTILISER QUE DE L'ANTHRACITE «RICE»,** pas du charbon mouillé.

Ne chauffez pas TROP. Si l'appareil ou le raccord de cheminée rougit, c'est que le feu est trop puissant.

Consommation maximale : 7,75 lb de carburant/heure  
Courant alternatif de 115 V, 60 Hz, 3,1 ampères  
Éloignez le cordon électrique de l'appareil.

**DANGER:** Risque de décharge électrique. Débranchez la prise avant tout entretien. Pour plus de détails, consultez le mode d'emploi. Ne remplacez le verre que par du verre céramique de 5 mm à obtenir de votre détaillant.

L'appareil doit être installé avec ses pieds fixés. N'obstruez pas le passage d'air sous l'appareil.

**DANGER:** Risque d'incendie ou d'explosion. Ne brûlez pas d'ordures, d'essence, d'huile de vidange ni aucun autre liquide inflammable.

**MISE EN GARDE:** Risque d'incendie.  
N'utilisez pas le poêle avec un conduit de cheminée dépassant -0,080 de colonne d'eau.  
N'utilisez pas le poêle lorsque les portes du foyer et du cendrier sont ouvertes.

Gardez le carburant et les matériaux combustibles en dehors des dégagements prescrits.  
Inspectez et nettoyez fréquemment les conduits et la cheminée.

 **CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN AND CLOTHING AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS. KEEP FURNISHINGS AND OTHER COMBUSTIBLE MATERIALS A CONSIDERABLE DISTANCE AWAY FROM THIS APPLIANCE. ATTENTION: CHAUD LORS DU FONCTIONNEMENT. NE TOUCHEZ PAS L'APPAREIL. GARDEZ LES ENFANTS ET LES VÊTEMENTS ÉLOIGNÉS. TOUT CONTACT PEUT ENTRAÎNER DES BRÛLURES DE LA PEAU. RÉFÉREZ-VOUS À LA PLAQUE SIGNALÉTIQUE ET AU MODE D'EMPLOI. GARDEZ LE MOBILIER ET LES AUTRES MATÉRIEAUX COMBUSTIBLES BIEN À L'ÉCART DE L'APPAREIL.**

**CLEARANCE TO COMBUSTIBLES / DISTANCES MINIMALES DE SECURITE:**

Parallel Installation		Inches	Millimeters
A	Back Wall To Hopper / Entre mur arrière et l'appareil	2	51
B	Side Wall To Unit / Entre mur latéral et l'appareil	24	610
C	Back Wall To Flue Pipe / Entre tuyau et le mur arrière	17	432
D	Side Wall To Flue Pipe / Entre tuyau et le mur latéral	34	864

Corner Installation		Inches	Millimeters
E	Walls to Unit Body / Entre mur adjacent et l'appareil	15	381
F	Walls to Flue Pipe / Entre tuyau et le mur adjacent	24	610

Floor Protection Requirements		Inches	Millimeters
G	Sides / Côtés	8	203
H	Front: from glass/Devant, par rapport au verre	18	457
J	Rear / Arrière	12	305

**Floor protection must be a non-combustible material, and must also be placed under any horizontal sections of chimney connector pipe, extending 2" (51mm) beyond the measurement of the pipe.**

**Pour protéger le plancher, il faut sous le poêle un matériau non combustible, qui doit aussi être placé sous les parties horizontales du tuyau de raccord à la cheminée et s'étendre à 51 mm (2 po) au-delà de la mesure du tuyau.**

Date of Manufacture / Date de fabrication:  
 2009 2010 2011 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC  
 P.N. 3-90-02700      Fabriqué par: Harman Home Heating 352 Mountain House Road, Halifax PA 17032 (É.-U.)      IGN

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# 1 Listing and Code Approvals

## A. Appliance Certification

Model: Super Magnum Coal Stoker  
 Laboratory: OMNI-Test Laboratories, Inc.  
 Report No. 135-S-24-6.2  
 Type: Solid Fuel Room Heater / Coal  
 Burning Type.  
 Standard(s): UL1482, UL391, & ULC S627-00

**This appliance is also approved for installation in a shop.**

## B. Mobile Home Approved

This appliance is approved for Installation in mobile/ manufactured homes in the **US only**. 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, and must never be installed in a room designated for sleeping. The unit must have provisions for an outside air source when installed in a mobile home.

## C. Glass Specifications

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

## D. Electrical Rating

115 VAC, 60 Hz, 3.1 Amps

## E. BTU & Efficiency Specifications

Particulate Emissions Rating:	Not Tested
*BTU Input:	5,000 - 103,000 / hr
Heating Capacity:	2,500 sq. ft. or more
Hopper Capacity:	110 lbs.
Fuel:	Anthracite Rice Coal
Shipping Weight:	543 lbs.

\*BTU input will vary, depending on the type of coal you use in your stove. Coal mined from different veins will typically have different burn characteristics.

## 2 Special Warnings and Notes

Carbon monoxide, referred to as CO, is a colorless, odorless gas that is produced during combustion of coal and other fuels. **CO fumes are toxic and can be fatal.**

The Super-Magnum is a natural draft system which relies on a properly designed chimney to remove CO and other combustion by-products from the stove.

Even though this stove is designed to be as safe as possible, it is important that you **install a CO detector**. This is true for oil, gas, or wood burning products as well.

CO is not specifically heavier or lighter than air. Therefore, it is best to install the detector at table top level rather than on the ceiling like a smoke detector.

CO detectors are very sensitive and may sound an alarm for fumes other than CO or CO from sources other than the stove such as car or lawn mower exhaust.

### **If the alarm sounds**

1. Increase ventilation by opening windows or doors.
2. Make sure the stove doors and hopper lid are closed and latched.
3. Check stove for electrical power and normal operation.
4. Check chimney for possible blockage or down-draft.
5. Check for false alarm.

**NEVER SLEEP IN THE SAME ROOM WITH ANY COAL BURNING STOVE.**

### **Wet Coal**

Freshly delivered coal is watered down to eliminate dust when loading and unloading. Wet rice coal does not flow as well as dry coal. We do not recommend burning wet coal; however, we realize if it's the only coal you have, it is better to burn it than to be cold. If you must burn wet coal, the feed rate will likely need increased. Doing this once or twice a year will not damage your stove as long as it is hot and burning. Damage is caused when the hopper is left with wet coal in it while the stove is cold. This will cause rust and corrosion and it is totally the operator's fault. After the coal dries for three or four days, depending on conditions, it will flow and feed properly.

Never use gasoline, lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use.

### **SPECIAL NOTE:**

**DUE TO ASH BUILDUP, IT IS STRONGLY RECOMMENDED TO HAVE YOUR STOVE PROFESSIONALLY CLEANED AND SERVICED ANNUALLY. THIS INCLUDES ALL PARTS OF THE STOVE, AND THE VENTING SYSTEM.**

### **Prevent Rust & Corrosion:**

**Always empty the hopper when not burning for more than a week. When left standing for long periods with wet coal, the feed system will rust and corrode, causing it to seize. If the stoker is then turned "on", damage to the pusher assembly and feed motor could result. This will be considered neglect and will void the warranty on those parts. Always check to see that moving parts are free before using, if the unit has not been burned for a period of time. This can best be determined by running a "Test" cycle and watching the cam block and pusher arm inside the right rear door.**

**NEVER CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

Installation and repair of this stove should be done by a qualified service person. We recommend that the stove be inspected before use and at least annually by a qualified service person. Periodic cleaning is required throughout the heating season and at the end of each winter for the stove to work efficiently. See cleaning instructions on page 24.

# 3 Getting Started

## A. Design, Installation & Location Considerations

### 1. Appliance Location

Consideration must be given to safety, convenience, traffic flow, and the fact that the appliance will need a chimney and chimney connector. It is a good idea to plan your installation on paper, using exact measurements for clearances and floor protection, before actually beginning the installation.


Maintain specified vent clearance to combustible requirements listed by the vent manufacturers instructions and all clearance to combustibles listed in this manual.

Check with your local building code agency before you begin your installation. Be sure local codes do not supersede UL specifications and always obtain the required permit so that insurance protection benefits cannot be unexpectedly cancelled. If any assistance is required during installation, please contact your dealer.

We recommend that a qualified building inspector and your insurance company representative review your plans before and after the installation.

### 2. Room Sensor Location

The room sensor's location will have some effect on the appliance's operation. When the sensor is located close to the appliance, it may require a higher setting to keep the rest of the house comfortable. If the sensor is located in an adjacent room, or farther away from the stove, you will notice higher temperatures near the appliance.




 <b>CAUTION</b>
<ul style="list-style-type: none"> <li>• Do NOT connect this unit to a chimney flue servicing another appliance.</li> <li>• Do NOT connect to any forced air distribution duct or system.</li> </ul>

## B. Fire Safety

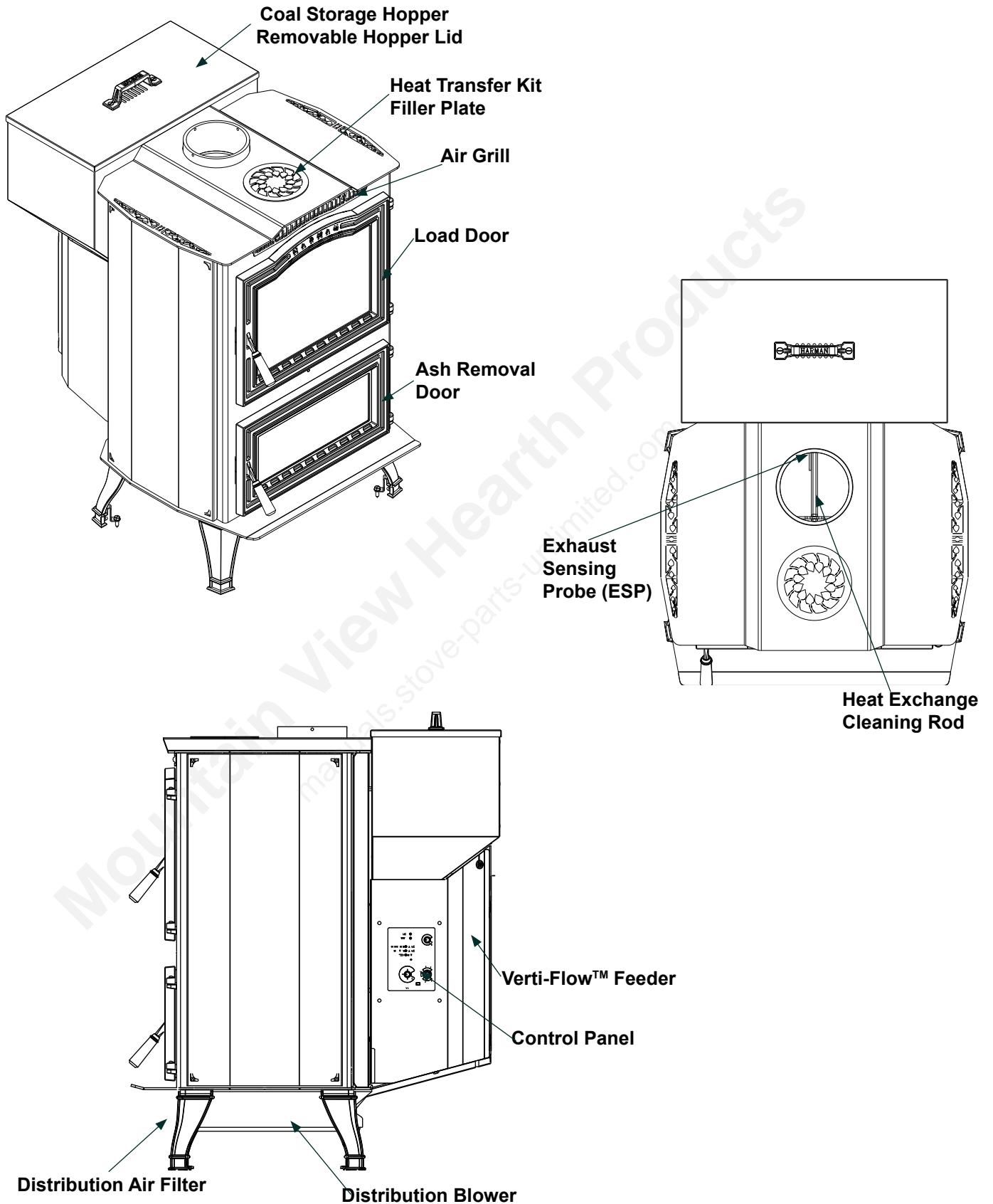
Maintain the designated clearances to combustibles. Insulation must not touch the chimney. You must maintain the designated air space around the chimney. This space around a chimney is necessary to allow natural heat removal from the area. Insulation in this space will cause a heat buildup, which may ignite wood framing. **NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction.**

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. Detectors should be located away from the heating appliance and close to 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.
3. A practiced evacuation plan, consisting of at least two escape routes.
4. A plan to deal with a hopper fire as follows:
  - a. Evacuate the house immediately.
  - b. Notify Fire Department.



 <b>WARNING</b>
<div style="display: flex; align-items: center;">  <div> <p>Fire Hazard</p> <ul style="list-style-type: none"> <li>• Do not operate appliance before reading and understanding the operating instructions.</li> <li>• Failure to operate properly may cause a house fire.</li> </ul> </div> </div>


### C. Component Locations



## D. Pre- Use Check List

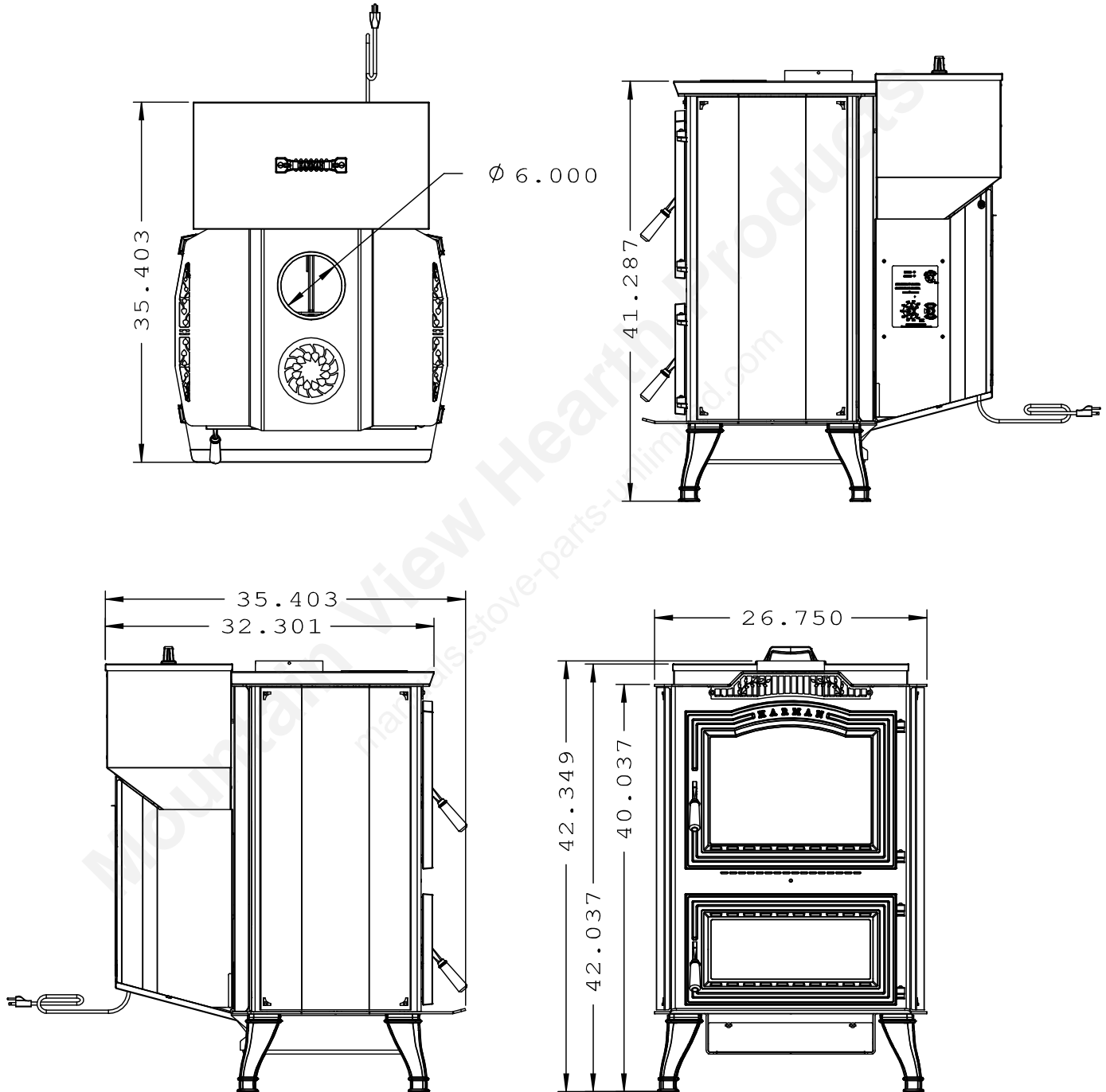
1.	Place the appliance in a location near the final installation and follow the procedures below:
2.	Open the appliance and remove all articles packed inside. Inspect all items for shipping damage. Notify dealer of any missing or damaged goods.
3.	All safety warnings have been read and followed precisely.
4.	This Owner's Manual has been read in it's entirety.
5.	Floor protection requirements have been read and followed.
6.	The flue connector has been installed in accordance with the instructions herein.
7.	The proper clearances from the appliance and chimney connector to combustibles have been met.
8.	The masonry chimney has been cleaned and inspected by a professional, or the factory built metal chimney is installed according to the manufacturers instructions.
9.	The chimney meets the minimum height requirements.
10.	All labels and hang tags have been removed from the glass.
11.	All plated surfaces have been wiped clean, if applicable.
12.	The room sensor and any additional cable has been installed properly.
13.	A properly grounded electrical receptacle is available within reach of the unit's power cord.

	<b>WARNING</b>
	<p>Inspect appliance and components for damage. Damaged parts may impair safe operation.</p> <ul style="list-style-type: none"> <li>• Do NOT install damaged components.</li> <li>• Do NOT install incomplete components.</li> <li>• Do NOT install substitute components.</li> </ul> <p>Report damaged parts to dealer.</p>

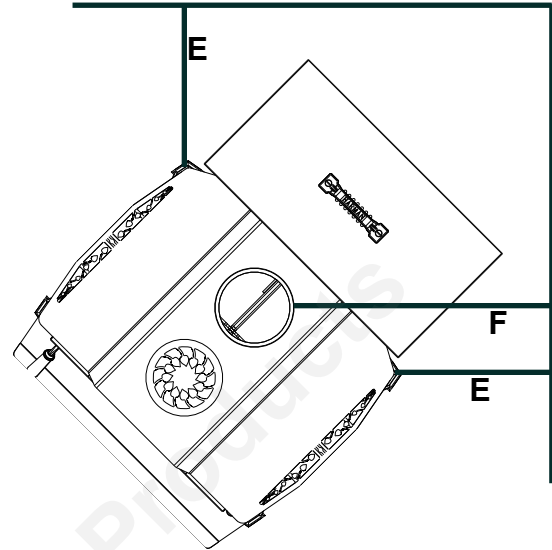
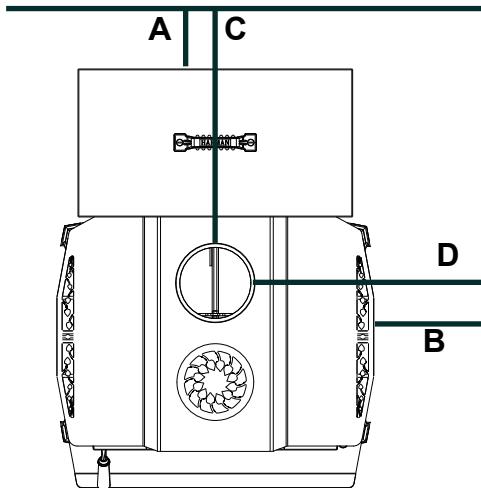
	<b>WARNING</b>
	<p><b>Fire Risk.</b></p> <p>Hearth &amp; Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:</p> <ul style="list-style-type: none"> <li>• Installation and use of any damaged appliance.</li> <li>• Modification of the appliance.</li> <li>• Installation other than as instructed by Hearth &amp; Home Technologies.</li> <li>• Operating appliance without fully assembling all components.</li> <li>• Operating appliance without legs attached.</li> <li>• Do NOT Overfire.</li> </ul> <p><b>Or any such action that may cause a fire hazard.</b></p>

# 4 Dimensions & Clearances

## A. Appliance Dimensions



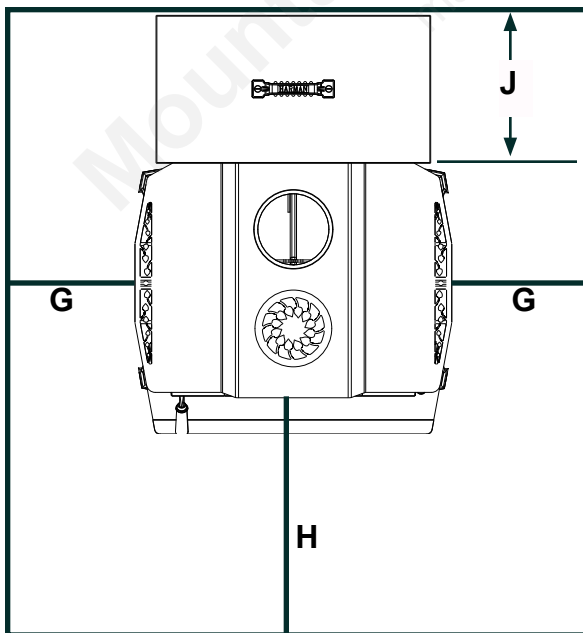
**B. Clearances To Combustibles**



Parallel Installation		Inches	Millimeters
<b>A</b>	Back Wall To Unit Hopper	2	51
<b>B</b>	Side Wall To Unit	24	610
<b>C</b>	Back Wall To Flue Connector	17	432
<b>D</b>	Side Wall To Flue Connector	34	864

Corner Installation		Inches	Millimeters
<b>E</b>	Walls to Unit Body	15	381
<b>F</b>	Walls to Flue Connector	24	610

**C. Floor Protection Requirements**



Floor protection must be of a non-combustible material. It must be located under the appliance and extend beyond the appliance according to the measurements below. Floor protection must also extend under any horizontal sections of chimney connector and 2" (50.8mm) beyond each side of the connector.

**DANGER:** The appliance legs may not be removed for installation.

Minimum Size floor protection is 49½" Deep By 42¾" Wide.

Floor Protection Requirements		Inches	Millimeters
<b>G</b>	Sides	8	203
<b>H</b>	Front- measured from glass	18	457
<b>J</b>	Rear	12	305

# 5 Chimneys and Venting

## A. Draft

Draft is widely misunderstood. It is important that you, the stove operator, realize that draft is a variable *effect*, not a given quantity. Stoves and chimneys do not *have* draft, yet draft is the key to your stove's performance.

Draft is a force, produced by an operating stove and the chimney to which it is attached. It is created by hot gases rising up the chimney, creating a pressure difference between the inside of your home and the outside air. It continually moves fresh combustion air into the stove, and hot exhaust gases out of the stove; without this constant flow, the fire will go out.

Other factors, such as barometric pressure, winds, the tightness of the home, the total inside chimney volume, chimney height and the presence of venting devices such as exhaust fans also play a role in maintaining an adequate draft. Low barometric pressures, super insulated homes, and exhaust fans can reduce draft; winds can play havoc with draft; and too large or too small a chimney volume can cause reduced draft due to the excessive cooling or not enough room to vent the exhaust gases. Introducing outside air directly to the stove may help remedy a low draft problem. Some signs of inadequate draft are smoking, odor, difficulty in maintaining the fire, and low heat output. Overdraft can be caused by a very tall chimney even if it is the recommended size, and can cause overfiring of your stove. Signs of an overdraft include rapid fuel consumption, inability to slow the fire, and parts of the stove or chimney connector glowing red. It is important that you follow the chimney guidelines in this manual, including size, type, and height to avoid draft problems.

When installed and operated according to this manual, this unit will produce enough hot gases to keep the chimney warm so that adequate draft is maintained throughout the burn cycle.

## B. Chimney Connectors

A barometric damper is recommended for chimneys over 15 feet high, and may be necessary to prevent over-drafting. Install it in the connector, approximately 12 inches above the flue exit. The barometric damper should be set so that the flue draft will maintain  $-.06$  to  $-.08$  inches of water column.

The appliance may be installed with (.6 mm) 24 gauge chimney connector pipe. The size of the connector should be 6 inch to match the size of the flue collar opening. **Do not use makeshift components.**

No part of the chimney connector may pass through an attic or roof space, closet or other concealed space, or through a floor or ceiling. Whenever possible, avoid passing the connector through a combustible wall; if you must, use an approved wall pass-through, described later in this section.

Assemble the connector beginning at the flue collar, with the crimped ends pointing towards the stove (to keep debris and creosote flakes inside the system). Each joint, including the one to the stove's flue collar and the one to the chimney itself should be secured with at least three sheet metal screws, a maximum of 3 inches apart. A 1-1/4" (32 mm) overlap is required at each joint, including the flue collar attachment. No more than two 90 degree elbows should be used, and the total length of connector should not exceed 10 feet (3m) All horizontal runs of connector must have a minimum upward slope of 1/4" per foot (20 mm per meter).

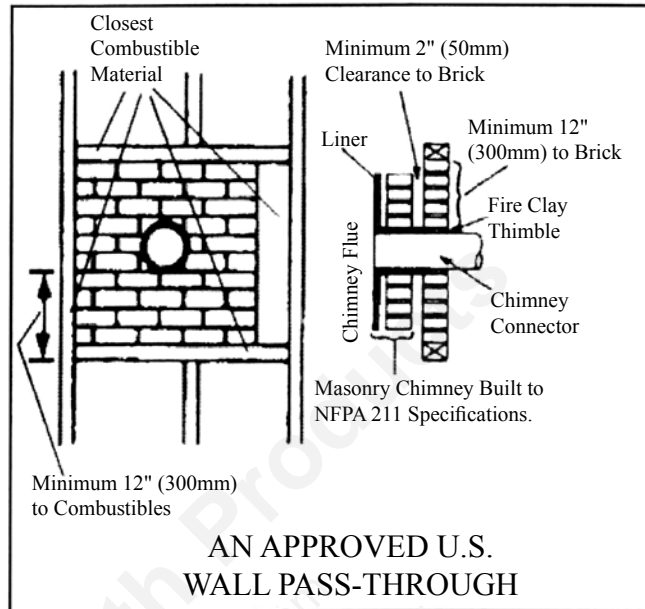
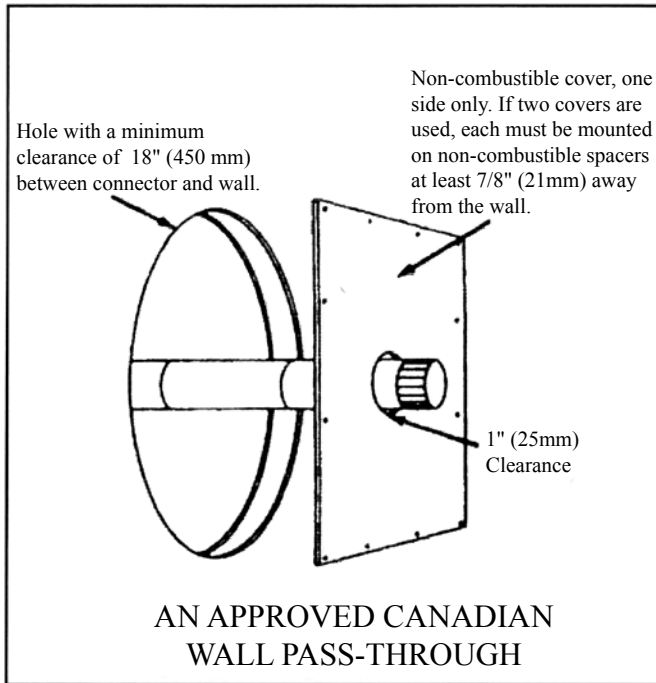
## C. Wall Pass-thrus

It may be necessary to pass the chimney connector through a combustible wall to reach the chimney. Depending on your local building codes, and provincial or national codes, there are several choices for accomplishing this safely. Before beginning your installation, contact local officials, and the chimney manufacturer for specific requirements.

*Canada:* Three methods are approved by the CSA. The diagram shows one method requiring an 18"(460 mm) air space between the connector and the wall. It allows use of one or two covers as described in the diagram. The other two methods are described in detail in the current issue of CAN/CSA B365, the national standard.

*United States:* The national code is NFPA 211. Be sure to check with local authorities before beginning your installation.

The NFPA (National Fire Protection Agency) permits four methods for passing through a combustible wall. A commonly used method to pass through a wall directly to a masonry chimney is to clear a minimum 12"(305 mm) around the entire chimney connector, and fill it with brick masonry which is at least 3.5"(90 mm) thick. A fireclay liner, minimum 3/8" (9 mm) wall thickness must run through the brick wall to the chimney liner (but not beyond the inner surface of the liner). It must be cemented in place with refractory cement. This method is illustrated. For details on the other three options, refer to the most recent edition of the NFPA 211 code.



**D. The Chimney**

This unit must be installed into a chimney approved for use with solid-fuel appliances. In the U.S., it must be connected to (1) a prefabricated chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliances, UL 103, or (2) a code-approved masonry chimney with a flue liner.

In Canada, this unit is listed for use with prefabricated chimneys tested and listed to the high temperature (650 degrees C) chimney standard, ULC S-629, or with a code approved masonry chimney.

For mobile homes, (US only) it must only be installed with prefabricated chimney systems, including the installation components, tested to use in mobile homes; the diameter should match the diameter of the flue collar opening

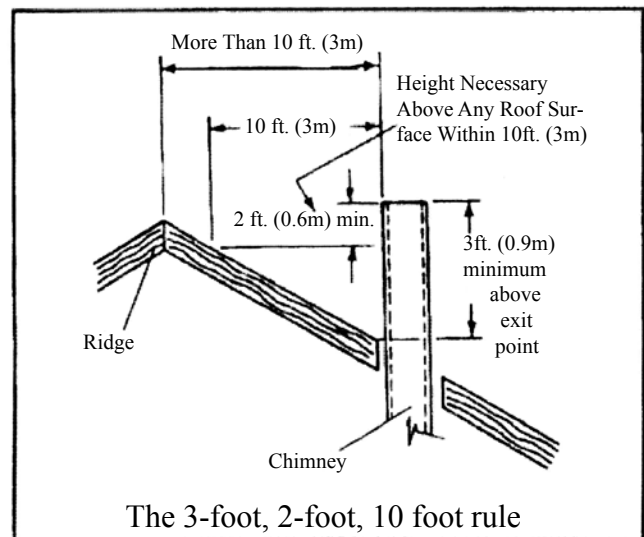
The minimum recommended height for any chimney is 16 ft. (4.8 m) above flue collar height. For non-mobile home installations, a round flue (either masonry or approved prefabricated), of either 6" (150 mm), 7" (180 mm) or 8" (200 mm) may be used. For square or rectangular masonry chimneys, nominal sizes of 8" x 8" or 8" x 12" (200mm x 200 mm, 200 mm x 300 mm) may be used.

Codes require that solid-fuel chimneys extend 3 ft. (0.9 m) above the highest point at which they exit from the roof. Then, the chimney must extend 2 ft. (6 m) above the highest point within a 10 ft (3 m) radius. Thus, the 3 foot, 2 foot, 10 foot rule:

- 3ft.** - Above roof exit point
- 2ft.** - Higher than anything within-
- 10ft.** of the chimney.

**Do not connect this unit to a chimney flue servicing another appliance.**

**NOTE:** The restriction of not venting more than one appliance to the same flue applies to the U.S. specifically. While it is not recommended that you use the same chimney for more than one appliance, in *Canada* certain exceptions may be made. Be sure to contact your building code inspection official to see if this option is allowed in your area, and to find out the specific requirements for such an installation.



### 1. Existing Masonry Chimneys

If you plan on using a pre-existing masonry chimney, have it thoroughly inspected and cleaned. Any faults which make the chimney unsafe and unusable must be repaired prior to use. These can include improper height, structural defects, blockages, inadequate clearance to combustibles, unsealed openings into other rooms of the house, signs of creosote or smoke leakage, a loose or absent clean-out door, or absence of a liner.

### 2. Venting to a Masonry Chimney

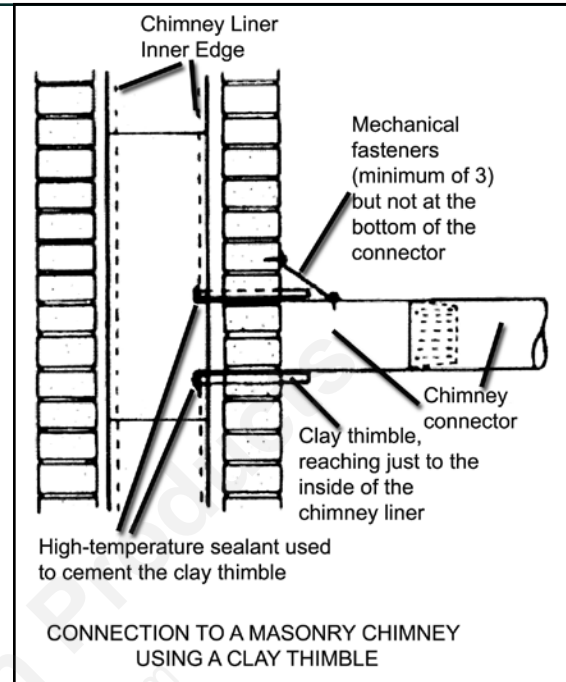
When connecting to a masonry chimney, several provisions are standard. First, whether the chimney connector is vented to the chimney through a thimble or a breech pipe, neither must pass beyond the inner surface of the chimney liner, and both must be firmly cemented in place with refractory cement. (A thimble is a masonry pipe which is inserted through the chimney wall, and is frequently the preferred method; a breech pipe is a piece of steel pipe used the same way.) In Canada, a breech pipe has ridges or protrusions to lock it firmly into the refractory cement. In either case, the chimney connector vents to the chimney through the thimble or breech pipe.

Using a thimble, the connector slides completely inside the masonry to the inner edge of the flue liner, and may be easily removed for chimney and connector inspection. A breech pipe must extend at least 2" (50 mm) into the room, so the connector can be attached with sheetmetal screws.

### 3. Venting to a Masonry Fireplace Chimney

In some situations, a code compliant chimney originally used for a masonry fireplace may be used. In addition to the requirements found in the previous paragraphs, it is important to be aware that all clearances must be met, including those from the chimney connector to combustibles. Do not forget to include floor protection in your plans. (See Clearances and Floor Protection in this section.) Since many fireplaces have exposed wooden mantels and trim, pay special attention to the clearances necessary to these materials.

If your fireplace chimney is behind a combustible wall, you must use an approved wall pass-through system to gain access to the masonry chimney. The chimney connector must enter the chimney at a place where it is lined, and the fireplace must be made inoperable. For example, you might remove the damper, replacing it with a secure, airtight, noncombustible seal (removable for inspection); this also satisfies the requirement that no room air must be allowed to enter the chimney.



Do not burn any fuel other than coal. Never use highly volatile substances in your stove, such as gasoline, which could cause an explosion.

When solid fuels are burned completely, they produce water and carbon dioxide. However, in long slow burns, a substantial amount of carbon monoxide may be produced. If allowed to build up, carbon monoxide (which is odorless) can prove fatally poisonous. Proper ventilation and draft will prevent this from happening. If you smell smoke, thoroughly ventilate your dwelling, and contact your dealer for service. Re-test the draft and properly set the barometric damper.

Other causes of poor ventilation or draft are icing, exhaust fans, a blocked outside air inlet, and room air starvation. If your stove is sluggish and you get occasional odor, check these possibilities and increase the air flow in your home.

### 4. Installing to a Prefabricated Chimney

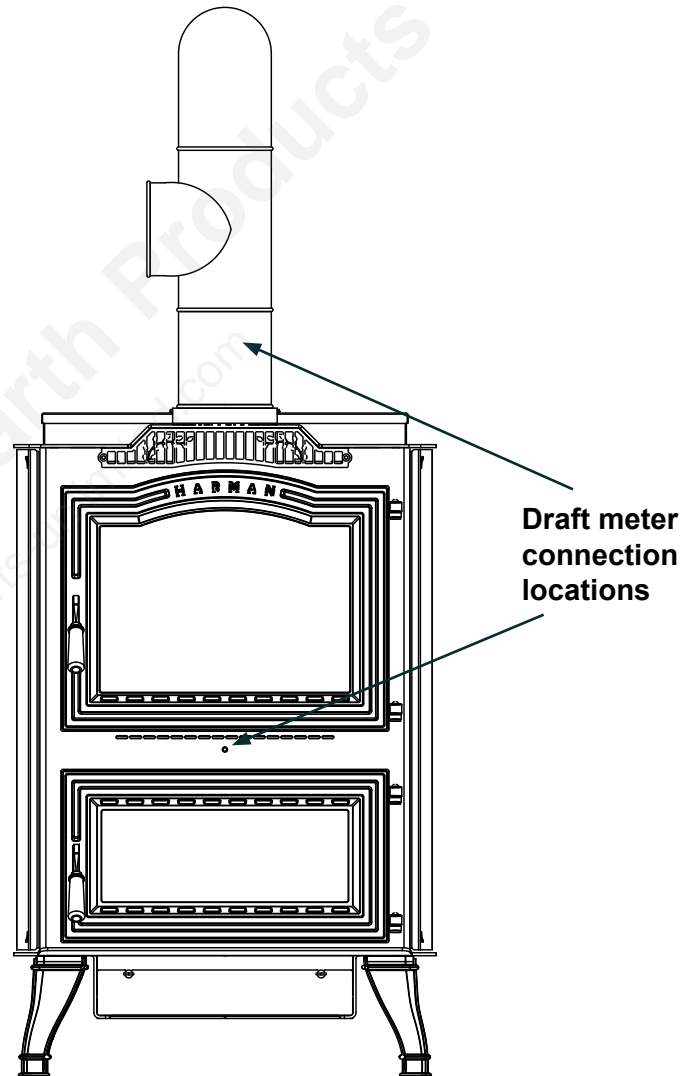
When venting using a prefabricated chimney, be sure to contact local building code authorities, and to follow the manufacturer's instructions *exactly*. Use only the manufacturer's parts; do not use makeshift installation techniques. All prefabricated chimneys must be tested to either the U.S. or Canadian high-temperature standards, UL 103 or ULC S629.

## E. Draft Test Procedure

Because of the dangers associated with coal gases and the potential for carbon monoxide release, It is important to balance the airflow into the stove with the draft in the flue. The combustion blower has a restrictor plate attached to it, which must be adjusted upon completion of the installation. The barometric damper, if installed, must also be set to prevent over-drafting in the appliance. Follow these steps to ensure safe and efficient operation of your Super Magnum coal stoker stove.

**You will need to start a fire in the appliance to establish a draft in the chimney flue. Refer back to these instructions after reading the entire manual.**

- Drill a hole into the flue connector pipe, for the purpose of attaching a draft meter. This hole should be between the barometric damper and the stove's flue collar, and in an inconspicuous location, as it will be closed off after the test with a bolt.
- Attach the draft meter to the hole in the connector. A great chimney will have draft without a fire or heat source. Set the barometric damper to maintain  $-.06$  to  $-.08$  (inches of water column).
- Remove the draft meter from the connector pipe and seal the hole by threading in a screw or bolt. You may also want to apply a small dab of high-temperature silicone to the threads prior to installing.
- Next, remove the set-screw plug bolt from the front of the Super Magnum body. This plug is located in the center, just below the top load door. Attach the draft meter hose to the stove.
- Turn the feed adjuster knob to "Test". This will run the combustion blower at its highest possible voltage or speed.
- Close the restrictor over the opening to the combustion blower until the draft reading in the firebox fits the  $-.03$  to  $-.04$  range. This will ensure that the combustion blower will never push more air into the firebox than the draft in the flue is capable of removing.
- Disconnect the draft meter from the stove and re-install the set screw plug bolt.



	<b>WARNING</b>
	<b>Do not operate if the draft in the flue exceeds <math>-.08</math> in water column.</b>

# 6 Mobile Home

## A. Mobile Home Installation

### Mobile home approval - U.S. only.

1. An outside air inlet must be provided for combustion air, and must remain clear of leaves, debris, ice, and/or snow. The outside air path must be unrestricted while the appliance is in operation.
2. The combustion air intake system must be of metal construction. It must permit zero-clearance to combustible materials, and contain a rodent screen.
3. The appliance must be secured to the mobile home structure by bolting it to the floor. There are brackets included, you'll need to secure with the proper length lag bolts.
4. The appliance must be grounded to the metal framing of the mobile home
5. All clearances to combustibles and floor protection requirements must be followed.
6. Follow the vent manufacturer's instructions when installing in a mobile home.
7. Installation shall be in accordance with the Manufactured Home and Safety Standard (HUD) CFR 3280, Part 24
8. The appliance must never be installed in a room designated for sleeping.



### WARNING

Installation must comply with Manufactured Home and Safety Standard (HUD), CFR 3280, Part 24.



### WARNING

Never install in a room intended for sleeping.

### CAUTION

#### Maintain structural integrity of mobile home:

- Floor, wall, ceiling and/or roof.

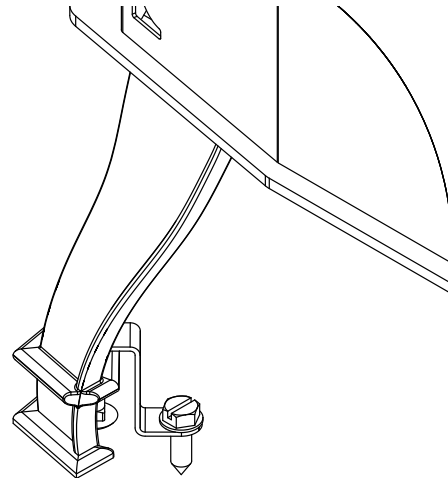
Do **NOT** cut through:

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

### CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity.
- Enclosed space such as an attic or garage



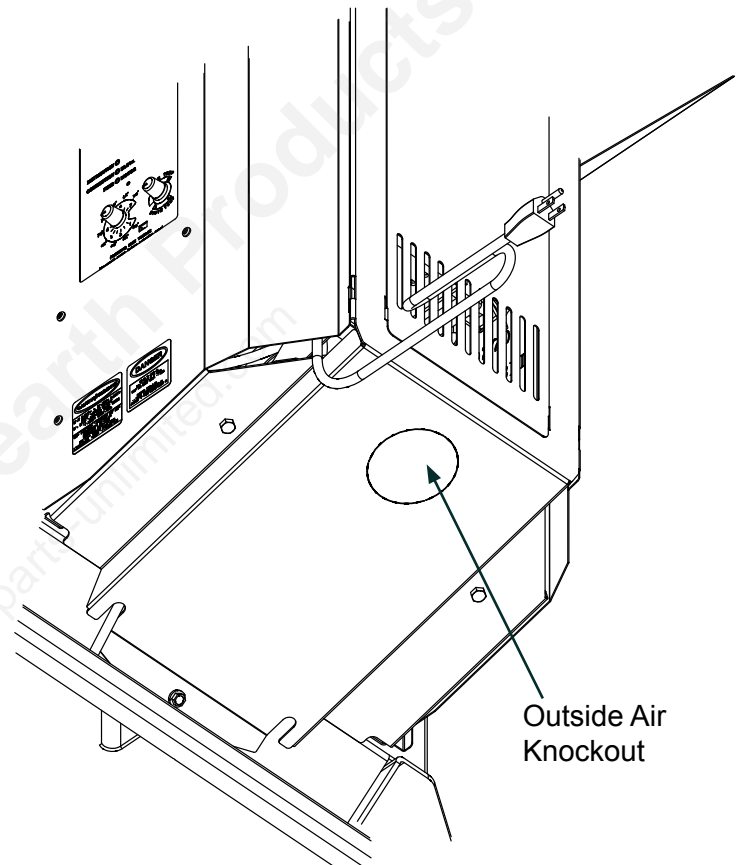
This diagram shows the bracket that was used to bolt the stove to the pallet. Use at least two of these brackets for securing the appliance through the floor in a mobile home installation. The bracket will slip over the top of the leveling adjuster. The installer will need to determine and obtain the properly sized lag bolts.

# 7 Appliance Set-Up

## A. Outside Air Attachment

Parts and Supplies Needed: 1 piece of metal flexible pipe, 3" X needed length. 1 Rodent Screen, Plus, you'll want to obtain a trim ring for finishing around the pipe on the inside wall.

1. Remove the knockout from the bottom shield. There are three small areas that are not previously cut. You can cut these tabs using a hacksaw or by drilling them. A small rounded file will be helpful in removing any sharp burrs from the cut.
2. Determine an appropriate hole location, through the wall. Be sure there are no studs or other supporting members. Also ensure there are no electrical wires or plumbing contained within the wall.
3. Make the hole through the exterior wall using a hole saw or reciprocating saw. You'll want the hole to be just slightly larger than the metal flex pipe.
4. Attach the rodent screen to one end of the flex pipe, and insert it through the wall until the back of the screen cover is against the outside surface.
5. Hold the flex pipe in place to make an accurate determination of the length needed. Cut the flex pipe to length.
6. Slide the trim ring onto the flex for the inside wall portion.
7. Slide the other end of the metal intake flex pipe through the bottom shield and secure it to the shield with a minimum of two screws. The flex pipe does not make a positive connection to the appliance, it will supply outside air as a proximity source.
8. Secure the trim ring in place for finishing the inside wall area.
9. Seal around the rodent screen on the exterior wall, using silicone caulking.



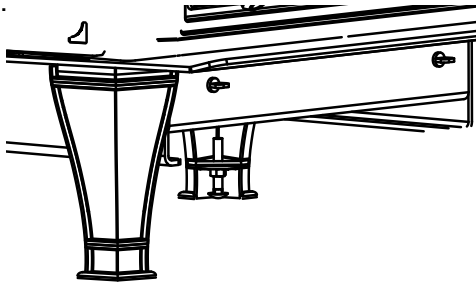
### CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity.
- Enclosed space such as an attic or garage

## B. Leveling the Appliance

To adjust the leveling bolts, you must first loosen the locking nut. Turn the leveling bolt to the desired position, and re tighten the locking nut against the cast iron leg.

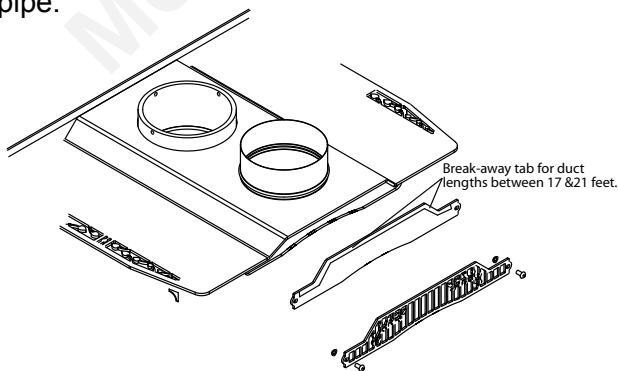


## C. Optional Heat Transfer Kit

The duct piping must be of metal construction in accordance with NFPA 90B, 2-1.1, and 2-1.3.

1. Lift and remove the round cover from the top of the Super Magnum.
2. Install the 6" duct pipe starting collar into the round opening. Reaching down through the starting collar, bend the tabs upward to secure the collar to the stove.
3. Attach your 6" duct, coming from a heat register located a **minimum of 17 ft.** away, to the starting collar. Secure the duct to the starting collar with a minimum of three screws.
4. Maintain a minimum of 1" clearance to combustible materials with the entire length of duct.
5. If maximum heat transfer to the duct is desired, replace the air grill, from the front of the stove, with the cover plate from the kit. (See Page 18)

**FOR YOUR SAFETY-** At 17 to 21 feet of duct length, the 1/2 inch tab **MUST** be removed from the top of the plate. At 21 feet or more, the cover plate can remain solid, allowing all of the heated air to flow through the duct pipe.



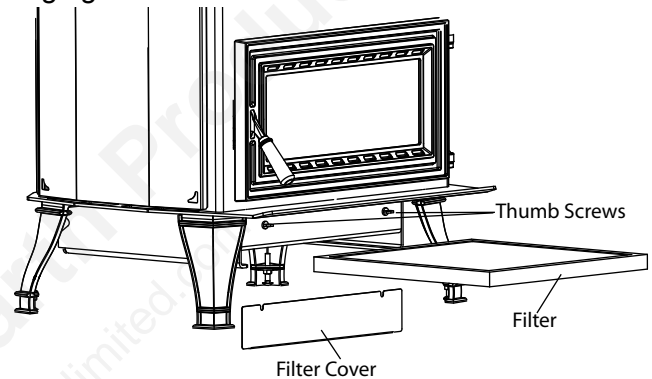
**Do not connect this appliance to the supply duct of an existing furnace. This option is intended for use with a single heat register.**

## D. Air Filter

To ensure cleanliness of the air circulated through the heat exchange, the Super Magnum is equipped with a replaceable filter. The filter is located under the stove. To remove the filter, loosen the two thumb screws and remove the cover. Slide the filter out the open slots in the front of the channel.

Check the filter for damage, change if necessary.

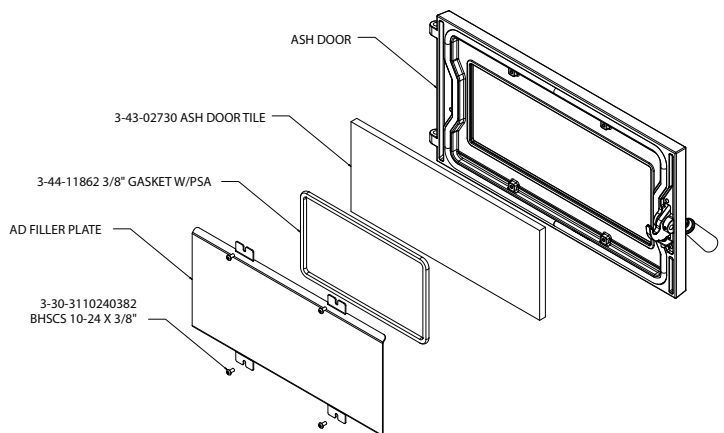
Replacement filters can be obtained through your Harman dealer, or from most hardware, or building supply centers. Be sure to turn the blower off prior to changing



## E. Optional Decorative Tile Kit

To install the optional ash door tile, you'll first need to unassemble the ash door.

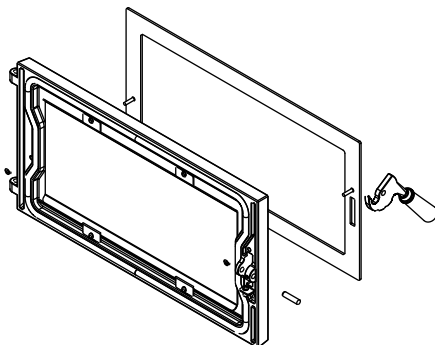
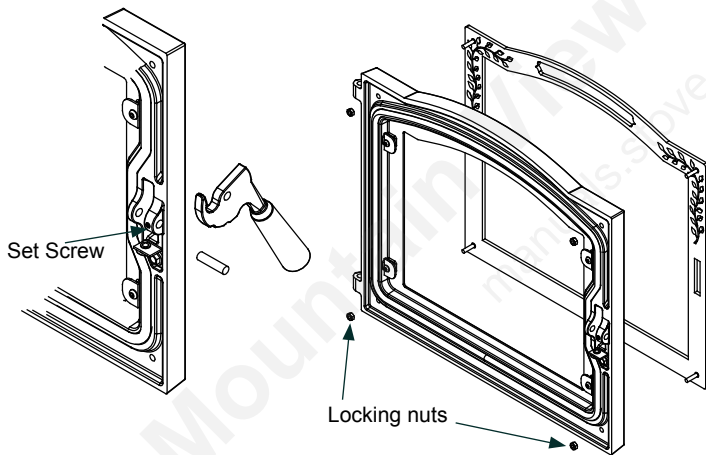
1. Lay the ash door, face down, on a flat workspace.
2. Remove the four screws which hold the filler plate into the door.
3. Lay the filler plate and screws aside, and lay the tile into place on the door assuring that the tile is centered on the gasket.
4. Apply the self adhesive gasket onto the back side of the tile.
5. With the filler plate flipped over from its original position, it now becomes the backer for the tile. Attach using the four screws.



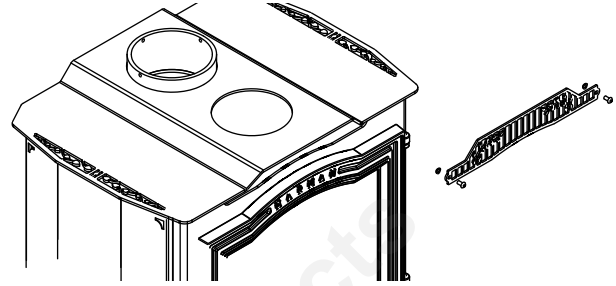
## F. Optional Door Trim Kit

The door trim kit includes a brushed stainless frame for each door, and an air grill. To install the optional door trim, you'll first need to remove the latch mechanism from the door. The process is the same for each door.

1. Using a hex key wrench, loosen the set screw at the latch. Remove the latch pin and latch handle.
2. Remove the door from stove. Lay the door face down on a soft material.
3. Locate the four drill dimples on the inside corners of the door. Using bit supplied (1/4"), drill a hole through each corner. (two locations on ash door)
4. Insert the door trim studs through the holes. Using a nut driver, secure with the supplied nuts. These nuts are placed on the stud with the indented triangle side facing up. Before tightening the nuts, check that the frame is properly nested into the offset of the door. Do not over-tighten nuts. The frame may distort or the stud can break loose from the frame if over-tightened.
5. Place door back on the stove. Attach the latch by reversing Step 1.



To install the air grill, remove the existing painted grill. Then, using the same two screws and spring washers, install the brushed stainless grill.



## G. Room Sensor Installation

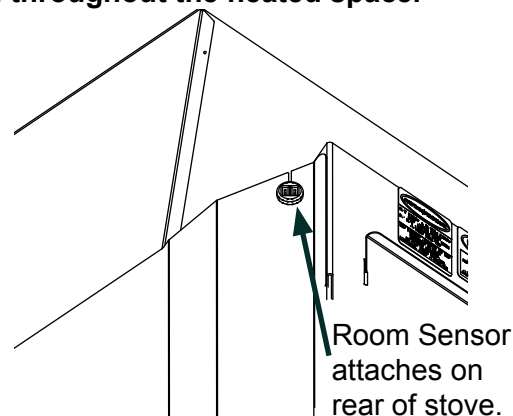
Although not required, it is recommended that the room sensor be connected in every installation. Using a minimum size 18 gauge wire, you may splice in an additional length, to extend the room sensor. The following are typical locations for the room sensor;

- On an interior wall next to or in place of a typical wall thermostat.
- On the leg of a coffee table or end table in your favorite sitting location.
- Dangled behind the stove, hidden from view, acting as a return air sensor.

**Note: When installing the room sensor, limit the distance from the stove to 25 feet or less.**

Once the location has been decided, run the wiring to the rear of the stove. Crimp the two female terminals onto the ends of the wires and plug them in to the port provided on the right rear portion of the stove. These connections are not polarity specific.

**Note: If the room sensor is located too close to the appliance, or in a direct path of the distribution air, You may need to elevate the temperature setting to maintain a comfortable temperature level throughout the heated space.**



# 8 Operating Instructions

## A. Fuel Specifications

The Super Magnum is designed for use with Anthracite "Rice" coal Only. Anthracite is a hard coal which is mined mostly in the Eastern United States. The post-mining process involves breaking the large lumps of anthracite into smaller, usable sized pieces. In the breaking process, the coal is sifted and sorted by different sized screens. Rice size is basically defined as the coal that has a maximum size of 3/8" and a minimum size of 3/16".

Most coal suppliers wash the coal and/or wet it for delivery, to keep the dust minimized. However, the coal must be dry when loading it in the stove. Therefore, it is highly recommended that you purchase your coal well ahead of the heating season, to allow it time to dry. Coal, whether in bags or in bulk, should be stored in a dry area.

**CAUTION: Approved for use with coal only. The use of any other fuel, except for the purpose of igniting the coal, will void the product warranty and may cause damage to the appliance and/or your home.**

### NOTICE

Freshly delivered coal is watered down to eliminate dust when loading and unloading. Wet rice coal does not flow as well as damp or dry coal. We do not recommend burning wet coal, however, we realize if it's the only coal you have it is better to burn it than to be cold. If you must burn wet coal, the feed rate may need increased in order to get the same size fire. Doing this once or twice a year will not damage your stove as long as it is hot and burning. The damage is caused when the hopper has wet coal in while the stove is not in use. This will cause rust and corrosion which is not covered by your warranty.

### WARNING

**"NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR "FRESHEN UP " A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IN USE".**

## B. General Operating Information

The Super Magnum's ESP control will maintain an output level to fit your temperature demands. There are two modes of operation; "Stove Temp" mode, where the control will maintain a specified constant temperature, regardless of the surrounding environment temperature conditions, Or "Room Temp" mode, where the control will adjust the rate of burn to meet a specified room temperature setting. Regardless of the mode selected, operation is controlled by both, exhaust temperature- being reported by the ESP (Exhaust Sensing Probe), and the microprocessor circuit board.

We'll discuss these control devices and their functions now.

### WARNING

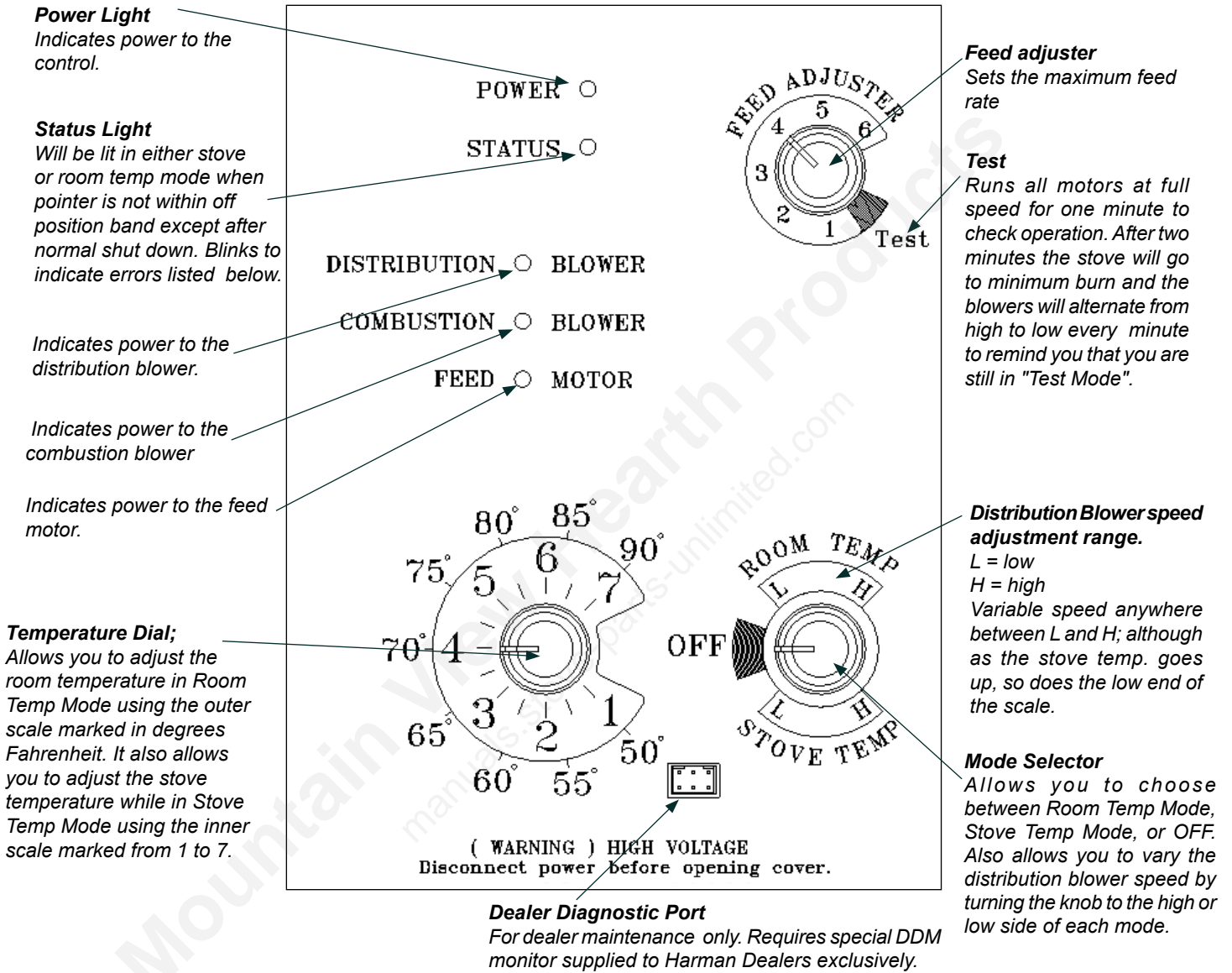
**ROUTE POWER CORD AWAY FROM THE APPLIANCE. DO NOT RUN THE CORD UNDER OR IN FRONT OF THE APPLIANCE.**

### 1. ESP (Exhaust Sensing Probe)

The ESP is a tiny thermistor located in the exhaust stream. The probe changes it's thermal resistance based on minute changes in temperature, which is monitored by the circuit board and used to determine the need for changes in the burn rate to meet the temperature demand.

**2. Circuit Board**

As stated previously, the circuit board is a microprocessor, which means it has the ability to "think" and adjust itself based on both reported temperatures and demand temperature. The circuit board also has the ability to self-diagnose when things are not happening as they should be.



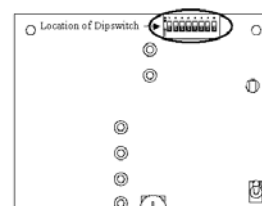
**Status Light Error Messages**

**3-Blinks:** Indicates that the ESP has gone out of range too many times. Could be an indicator of build up of ash, etc. in the flue pipe or heat exchange. Perform a Manual Reset.

**4-Blinks:** Indicates that the room sensor circuit is not complete. May mean a poor connection or short in the sensor wire. (Will only occur in "Room Temp" mode.)

**Manual Reset:** Turn the mode selector to "OFF", and disconnect power for a second. Restore power and return to original setting.

**Circuit Board Dipswitches:** On the face of the circuit board, there is a block of 8 switches. These "ON-OFF" switches are used to set the times and temperatures for the different models of stove. For this model, switches numbered 5, 7 and 8 should be on, with the rest of them off. **NEVER ADJUST THESE SWITCHES YOURSELF, AS SERIOUS ISSUES COULD DEVELOP.**



Also know that if there is a need to replace an ESP probe, a switch change may also be needed. It is strongly recommended to have a trained service representative make any repairs to the appliance.

#### a. Feed Rate Adjustment

The Circuit board runs on a one minute timer cycle. Each minute, the board is thinking ahead to what it needs to do for the next minute to maintain or achieve the demanded temperature. What you are setting on the feed adjuster dial is the maximum amount of feed time, per minute, that you'll allow. The circuit board will make its own determination of how long to run the feeder, UP TO the maximum as set on the dial. For instance, a number 4 setting on the feed adjuster will allow a maximum of 40 seconds per minute of feed. If the room temperature is satisfied, with only feeding 20 seconds, then that is all the circuit board will run the feeder. In most tested scenarios, the number 4 setting is adequate, however, fuel quality may dictate a higher or lower setting. If you see un-burned or burning coal being pushed off of the grate during a high demand period, the feed rate is set too high. Ideally, you'll want to see about an inch of ashes in front of the burning coal during a peak demand period. Setting the feed rate too low may not allow the demand temperature to be met. Keeping the setting at #4 or above will work with most batches of coal. Allow a minimum of one hour between adjustments.

**Note: Since the circuit board is feeding as needed, only adjust the feed rate while maximum demand is occurring. (Stove Temp Mode, with a temp dial setting of #7 will create maximum demand.)**

#### b. Mode Selection

Room-Temp mode is the ideal mode of operation if you wish to maintain a comfortable temperature in the room. As the outdoor temperature fluctuates, the Super Magnum will adjust the feed rate to maintain the desired temperature setting in the room. For best results, be sure the room sensor is located outside of any drafty areas and not positioned on the floor or near an exterior wall.

Stove-Temp mode is more of a manual method of operation. The stove will run at a constant heat output, regardless of outside air temperature. Note that on the coldest days, your indoor heated space will be cooler than on the warmer days. The only real benefit to this mode of operation is that you'll be able to know exactly how long a hopper full of coal will last, because the consumption is going to stay relatively the same.

#### c. Temperature Dial

The temperature dial is a dual purpose dial. In Room-Temp mode, you select the room temperature you want the stove to maintain at the room sensor probe. This is marked in fahrenheit scale from 50 to 90 degrees. In Stove-Temp mode, you select a temperature setting based on the #1 - 7 with 1 being a minimum burn and 7 being a maximum burn rate.

#### d. Blower Speed Adjustment

The mode selector is also marked with a L to H scale, in each mode. This is a variable speed control for the distribution blower. **L** is the low setting, and **H** is the high setting. It is important to note that the blower will not come on until the ESP reaches a high enough temperature to ensure that cold air is not being blown out into the room. Also, the speed of the blower, when set on lower speeds, will automatically increase as the temperature of the stove increases.

**Keep Hopper Lid, Ash Pan, and Fire viewing doors closed while in operation. Maintain all door seals and gaskets in good condition. Replace gaskets when necessary using parts obtained through your Harman dealer.**

**Burning with one or more of the unit doors open will lead to overfiring which could damage the appliance, chimney, or connector, or could cause a house fire.**

## C. Before Your First Fire


- Be sure the appliance is installed properly and that all safety requirements have been met. Pay particular attention to the clearances to combustibles, floor protection and the venting instructions.
- Test your smoke detector(s) and CO detector(s) to the specifications of the manufacturer.
- Double check that the ash pan and internal firebox are empty.
- Be sure to read this entire manual.

## D. Starting Your First Fire

1. With the mode selector in the "OFF" position, and the Feed Adjuster **NOT** on "Test", plug the power cord into a properly grounded receptacle.
2. Fill the hopper with DRY coal.
3. Place some coal on the burn grate, filling the valley in the back.
4. Turn the mode selector dial to the desired mode. **If Room Temp is selected, be sure to turn the temperature dial above the current room temperature.**
5. Fill the rest of the grates with a mixture of wood pellets, rice coal, and starting gel.
6. Light the starting gel with a match, and close the door.
7. Only after the ESP temperature increases, will the feeder start operating to increase the fire size.

NEVER APPLY STARTING GEL TO THE STARTING MIXTURE WITHOUT THE COMBUSTION BLOWER OPERATING.

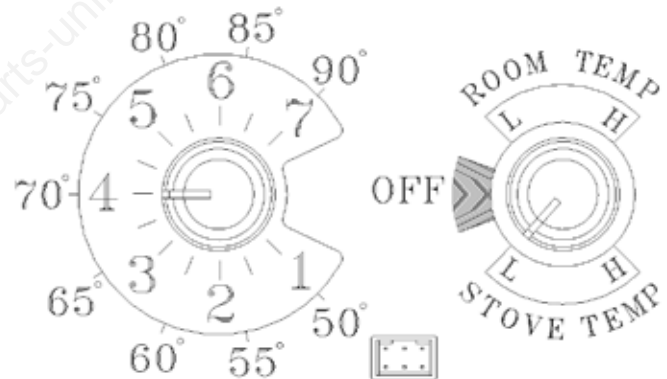
**WARNING**



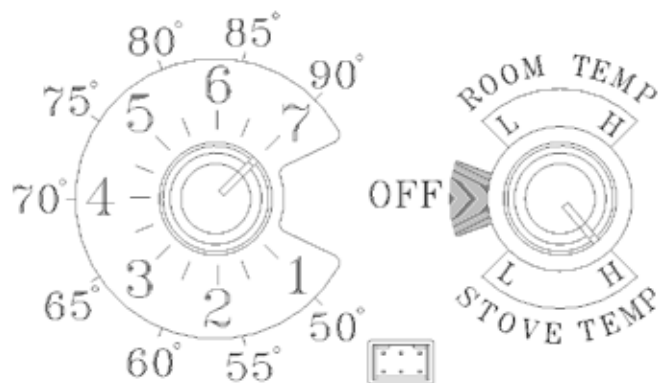
**"NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR "FRESHEN UP" A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IN USE".**

## E. Fire Characteristics

After lighting the fire, it will go through a few different stages of appearance. First, because of the wood pellets mixed in, you'll see mostly tall yellow flames. As the wood pellets burn away, and some coal begins to ignite, your yellow flames will shorten and mix with blue flames. After the wood pellets are gone and the coal is the only thing burning, you'll see mostly blue flames, which can be invisible in a brightly lit area. As the fire settles in, you'll have about a two inch band of hot burning coals running across the grates. With a maximum temperature demand, the ideal feed rate setting will put this band approximately 1-2 inches back from the end of the grates. Allow at least an hour of burn time between adjustments to the feed rate.



*The setting above will produce continuous medium heat output with the distribution blower at low speed.*



*The setting above will produce continuous maximum heat output with the distribution blower at full speed.*

With Proper installation, operation, and maintenance, your appliance will provide years of trouble-free service. If you do experience a problem, this troubleshooting guide will assist a qualified person in the diagnosis of a problem and the corrective action to be taken. This troubleshooting guide is intended for use by qualified service technicians only.

# 9 Troubleshooting

Symptom	Possible Cause	Corrective Action
Plug in appliance - No response.	No current to outlet. Defective power cord / connection. Defective fuse on circuit board. Circuit board defective.	Check circuit breaker at service panel. Re-connect or replace power cord. Replace 6 amp fuse on board. Replace circuit board.
Fire out, no fuel on grates.	Out of fuel. Wet coal bridged in hopper. Foreign object obstruction - Hopper. Foreign object obstruction - Feeder. Feed system malfunction.	Check hopper. Fill with fuel. Do not load wet coal in hopper. Empty the hopper, searching for object. With hopper empty examine feed throat. Verify operation of motor, pusher arm, and pusher block.
Fire out, grates full of fuel.	Combustion blower restrictor closed. Combustion blower positioning. Ash build-up under grates. Failed starting process. ESP failure - temp on DDM reads abnormally high when stove is cold.	Re-set restrictor using draft meter. Be sure that the blower is in its mount. Remove grates and clean air chamber. Follow start up procedure. Replace ESP.
Unburned or partially burned coal in ash pan.	Black rocks in coal. Feed rate too high.	Try different coal. Set feed adjuster to lower setting.
Coal pushing out the sides of the grate frame.	Clinkers in ashes restricting flow of fuel over the burn grates.	Re-set restrictor using draft meter. Too much air flow will cause the ashes to fuse together. Wet coal will not flow properly.
Excessive fines in fines tray.	Dirty coal supply. Feed restriction causing grinding.  Fines scraper adjustment.	Try different coal. Remove coal from hopper and check for a foreign object or large piece of coal. Re-adjust scraper (See Page 29).
Turned to "OFF" won't shut down.	Not enough time allowed.  Dirty or failed ESP.  Mode selector not truly in the "OFF" position.	Shut-down sequence: Minimum feed until ESP cools. Combustion blower should be off unless fire is at maximum temp. Remove and clean probe. Attach DDM to monitor temperature and shut-down parameters. The status light will turn off when the knob is in the "OFF" position. (unless there is a 3 blink error code.)
Distribution Blower not operating.	Room Temperature demand met. Insuccesful ignition.	Upon meeting the room temperature setpoint, the blower will stop. Also, the distribution blower will not run until the ESP senses a high enough temperature to ensure that the discharged air is warm.

# 10 Service & Maintenance

## A. Shut-down Procedure

The best way to shut down the appliance is to simply let it run out of fuel, and shut down naturally as the temperature cools. This method is highly recommended for the end of season shut-down.

To shut-down otherwise, turn the mode selector to "OFF" verify by ensuring that the Status light goes out. The shut-down protocol of the circuit board will safely allow the fire to go out.

### Soot- Formation and Need For Removal-

When coal is burned, the products of combustion combine with moisture to form a soot residue which accumulates on the flue lining. When ignited, this soot makes an extremely hot fire. The chimney and chimney connector should be inspected at least once every two months during the heating season to determine if a soot buildup has occurred. If soot has accumulated, it should be removed to reduce the risk of a chimney fire.

**If you experience a chimney fire;** Remove all burning fuel from the grate by scraping it into the ash pan. Move the ash pan safely outside the home and place it on the ground, well away from any combustibles. Turn the control to "Off" and notify the fire department. Do not operate the appliance until the chimney and connector have been inspected and approved by a chimney professional.

## B. Quick Reference Maintenance Chart

Cleaning or Inspection	Frequency		Daily	Weekly	Monthly	Yearly
Area beneath fire grates	After each ton burned	OR			X	
Ash removal	Whenever filling the unit hopper	OR	X			
Combustion blower	More frequently depending on surroundings	OR				X
Distribution air filter	Replace as needed	OR			X	
Distribution blower	More frequently depending on surroundings	OR				X
Door latch inspection	Prior to heating season	OR			X	
Fines tray	Depending on fuel quality	OR		X		
Firebox / thorough cleaning	End of heating season	OR				X
Glass	When view of fire becomes obstructed	OR		X		
Heat exchanger / Chain scraper	Whenever filling the unit hopper	OR	X			
Hopper	Whenever adding fuel	OR				X
Venting system	More frequently depending on fuel quality and quantity	OR				X

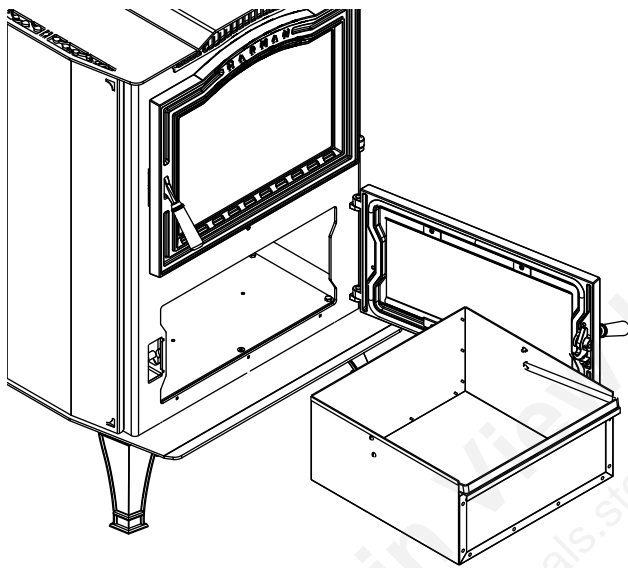
## C. General Maintenance Procedures

### 1. Ash Removal

- **Frequency:** Daily
- **By:** User

#### **Wear Leather Gloves To Prevent Skin Burns!**

Open the ash removal door by lifting upward on the latch handle, then swing the door open. Pull the ash pan out of the firebox, using the lip on the front of the pan. Once the ash pan is removed from the stove, you can flip the carry handle up for convenience.



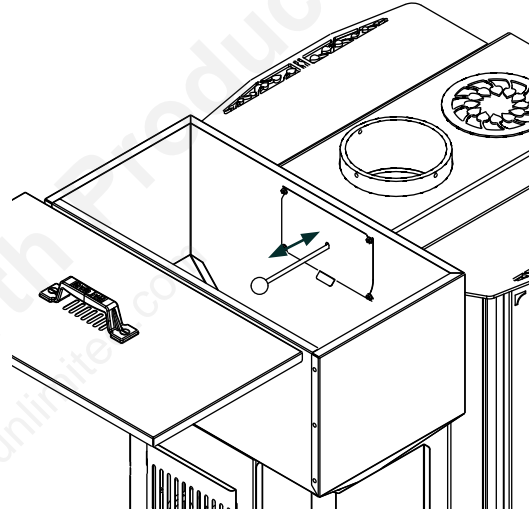
**Ashes must be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled. Do not use the ash container for other debris or yard waste.**

### 2. Heat Exchanger Chain Scraper

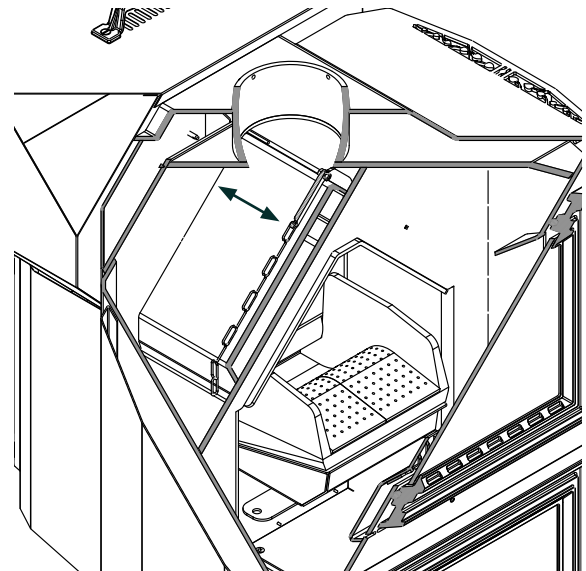
- **Frequency:** Daily
- **By:** User

#### **Wear Gloves To Perform**

Whenever adding coal to the hopper, take the opportunity to clean the heat exchanger surfaces. After all, the cleaner the surface, the better the heat transfer capability.



Remove the hopper lid and set aside. Grasp the cleaning scraper knob and pull it toward the back of the hopper. Push the knob back in, toward the front of the hopper, and repeat a few times. This motion drags a chain across each of the heat exchange surfaces, and will knock any loose ashes down into the ash pan.

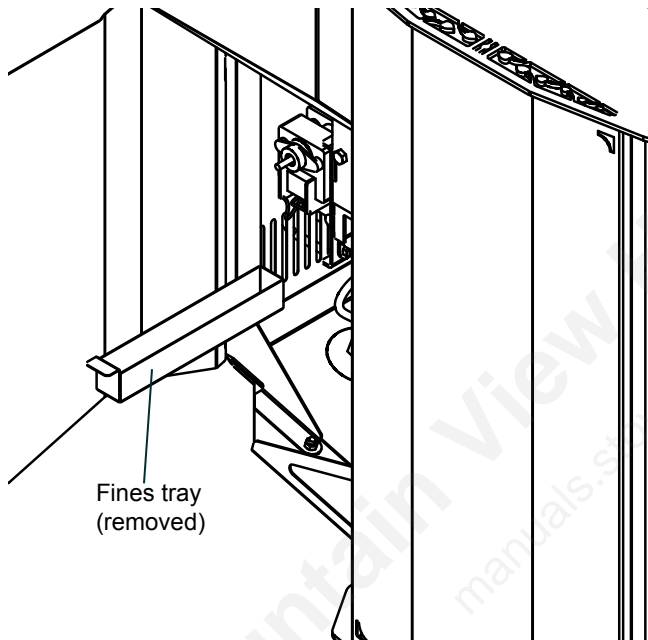


**3. Fines Tray Emptying**

- **Frequency:** Weekly
- **By:** User

**Wear Gloves To Perform**

Fines are small dust-like particles which fall from the feed system during operation. Depending on the fuel being used, this tray may need emptied more frequently. Open the left rear access door and remove the fines tray by sliding it out. If the tray over-flowed, vacuum the fines tray area prior to re-inserting the tray. These fines can be disposed of with your household garbage.



**4. Door Glass**

- **Frequency:** As needed / Weekly
- **By:** User

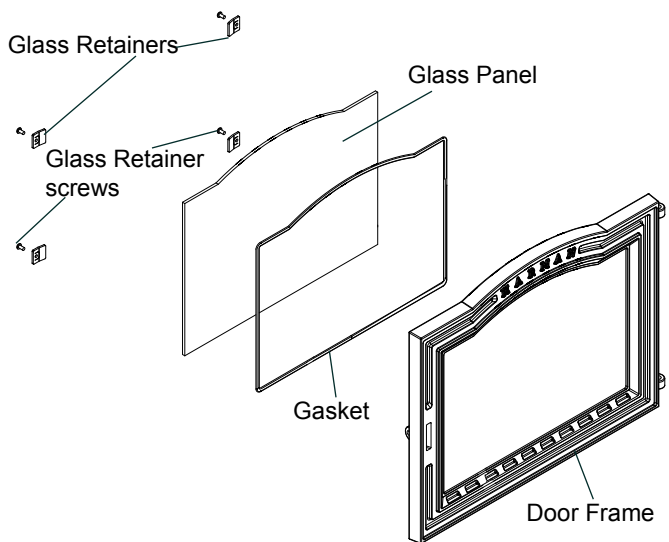
Whenever the view of the fire is obstructed, or weekly, clean the glass using a soft cloth dampened with standard household glass cleaner.

**Never spray glass cleaner directly onto hot glass. Apply the cleaner to the cloth then wipe the glass.**

**Fly-ash allowed to accumulate on the glass may lead to permanent fogging or "crazing" of the glass.**

Inspect the glass and sealing gasket. Replace gasket as needed. Do not operate the stove with a broken glass. Replacement glass, which is ceramic glass, should be obtained through your Harman dealer.

To replace a broken glass; first be sure to carefully remove the broken glass and any remaining shards or pieces. With the door laying on a flat surface, lay the gasketed glass panel onto the door and be sure it is properly fitted into the channel. Lay the glass retainer clips in place near each corner, and secure them using the 3/8" screws. Be sure to tighten each screw equally so you don't create a pressure point on the glass.



**Warning: Do not abuse glass by striking or slamming the door closed. This type of breakage is not covered by the product warranty.**

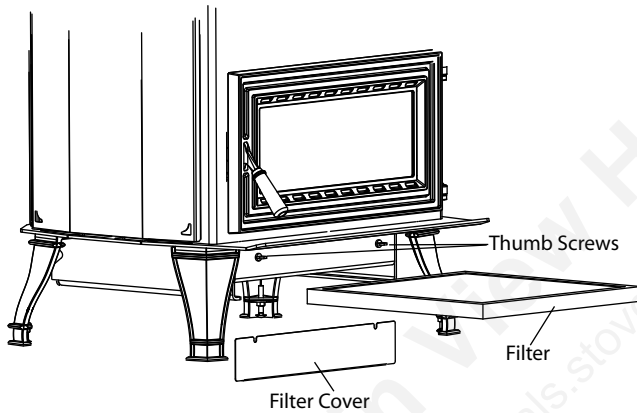
**5. Air Filter**

- **Frequency:** Monthly
- **By:** User

Filter replacement is recommended every month. Follow the steps below to remove the filter.

**Turn the mode selector to "OFF" to stop the blower from operating.**

- Locate and loosen the two thumb screws that hold the filter retainer in place.
- Slide the filter retainer downward and remove it.
- With the retainer plate removed, slide the filter straight out through the front of the stove. Filter size is 16 X 16 X 1 inches.



**6. Hopper**

- **Frequency:** As necessary / Yearly
- **By:** User

Whenever the hopper is low or empty, take the time to inspect the hopper throat area for any larger pieces of coal or foreign objects. This is also a good time to vacuum any coal residue or dust from the hopper.

Remember to empty and clean the hopper at the end of the burn season or whenever the stove is not going to be operated for a few days. This will help to prevent rust formation in the hopper and feed system.

**7. Firebox**

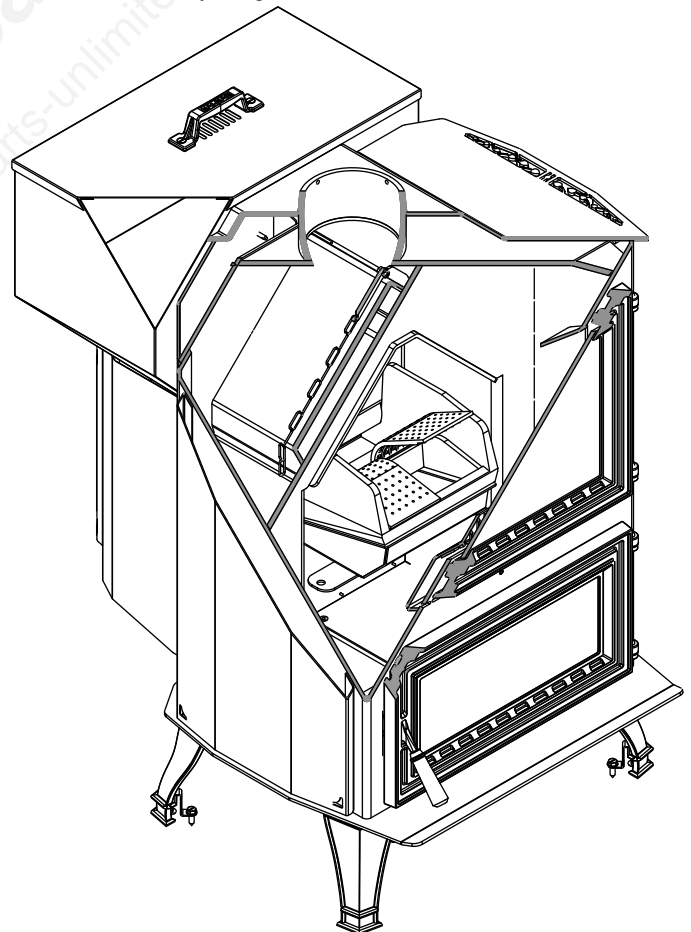
- **Frequency:** As necessary / Yearly
- **By:** User

Cleaning the firebox and internal heat exchange surfaces is recommended to maintain thermal efficiency. Depending on the quality and quantity of coal being used, you may want to perform this cleaning monthly.

Be sure to clean these areas thoroughly at the end of the heating season.

Brush and vacuum all internal surfaces. Lift the grates and thoroughly clean the air flow area under the grates. (See drawing below).

This cross sectional cut-away illustration shows an internal view of the heat exchange, plus you can also see how the grates are removed by lifting them out of the frame.



**8. Chimney Connector**

- **Frequency:** As necessary / Yearly
- **By:** Qualified Service Technician / User

At the end of the burn season, brush and clean all sections of chimney connector pipe. Some owners remove the chimney connector for the off season. Any coal ashes left in the connector pipe will actually draw moisture which promotes rust. This is why it is very important to clean all ashes at the end of the heating season.

**9. Chimney**

- **Frequency:** As necessary / Yearly
- **By:** Qualified Service Technician / Chimney Sweep

The entire chimney should be professionally cleaned at least once yearly. It is best to have this done at the end of the heating season to be sure all ash is removed. You'll also want to inspect the condition of the chimney prior to using the appliance, to be sure there are no bird nests or the like.

**D. Motors and Components**

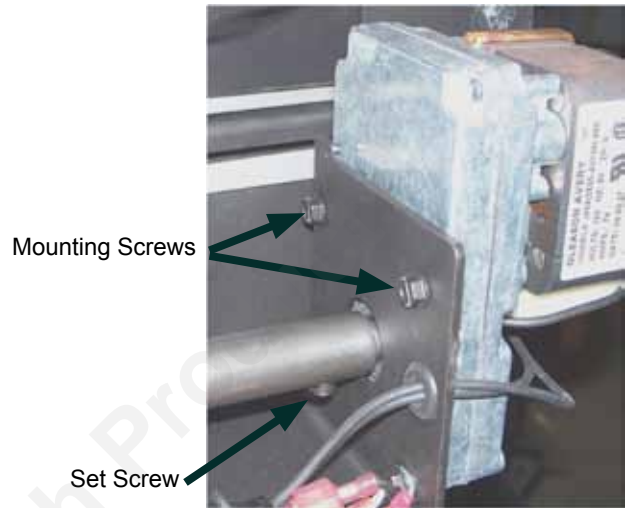
**1. Feed Motor**

Requires no lubrication. Keep the motor windings free of dust. Can be wiped clean or vacuumed.

- To remove feed motor;
- Remove rear access panel and open left rear door.
  - Remove feed shaft shield by pushing with thumb where shown, and lift up while pulling out.



- Locate the Allen-head set screw on the feed motor shaft and loosen it.
- Remove the 4 motor mounting screws and pull the motor out through the left, rear door.



**2. Combustion Blower**

Requires no lubrication. Keep the motor windings and intake screen free of dust and pet hair. Can be wiped clean or vacuumed.

- To remove combustion blower;
- Open left rear door.
  - Remove wire-tie from blower power cord.
  - Slide the blower mounting flange out of the bracket toward the left side.

NOTICE: When re-installing blower, be sure it is slid completely into the mounting bracket. There is a stop on the right side of the bracket to ensure proper positioning.



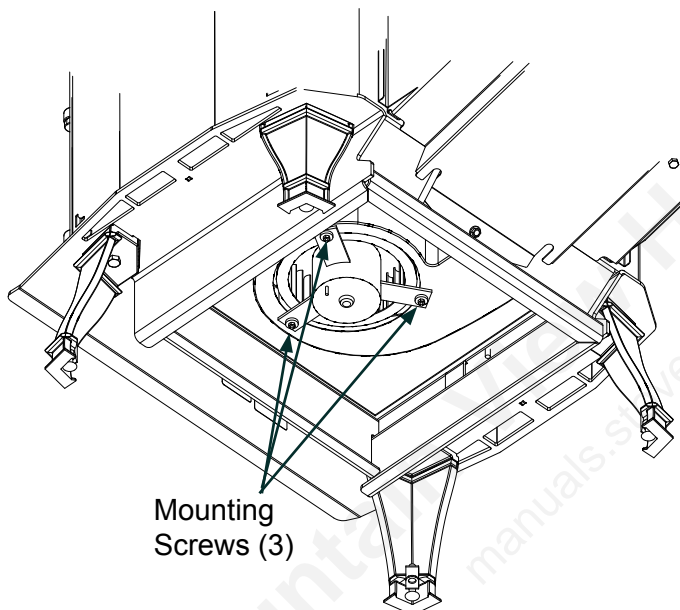
Blower Mounting Bracket

### 3. Distribution Blower

Requires no lubrication.  
Change filter monthly to prevent build up of pet hair, etc.

To remove distribution blower;

- Remove filter retainer and filter.
- Disconnect the three wires from the blower power cord.
- Loosen 3 mounting screws which hold the motor into its housing.
- Lower the motor and squirrel cage fan out of the blower housing.

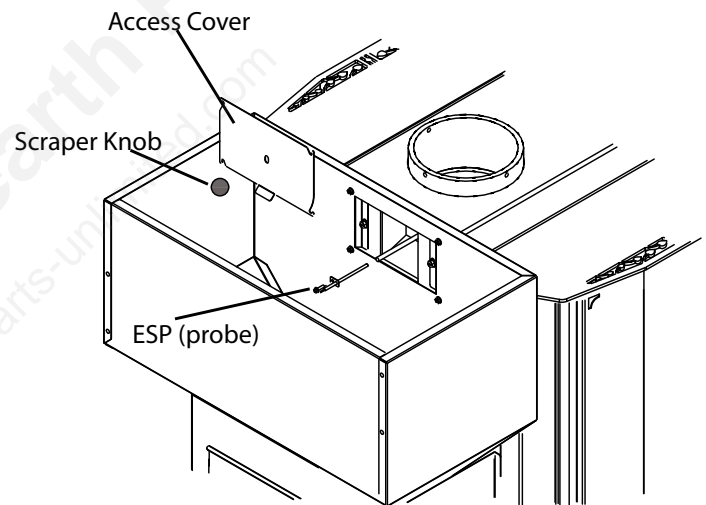


### 4. ESP- (Exhaust Sensing Probe)

Remove and wipe clean with a soft cloth and glass cleaner or alcohol.

To remove the probe, you'll need to access the panel in the fuel hopper.

- Remove the knob from the heat exchange scraper handle. The knob is threaded onto the shaft.
- Remove the access panel by loosening the screws.
- With a 1/4" socket or driver, remove the screw that attaches the probe.
- Pull the probe out of it's mounting hole.

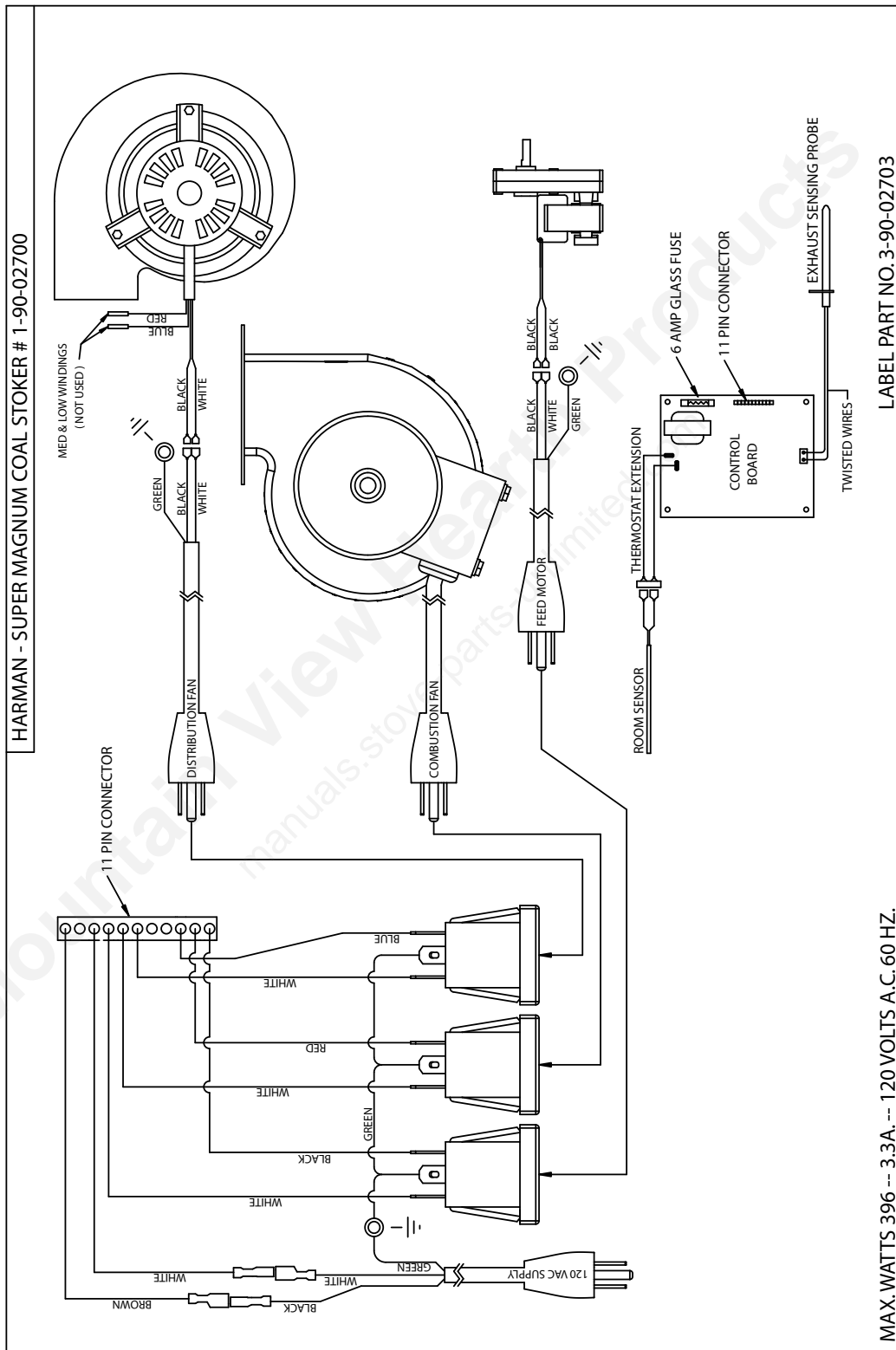


### 5. Fines Scraper- in feeder

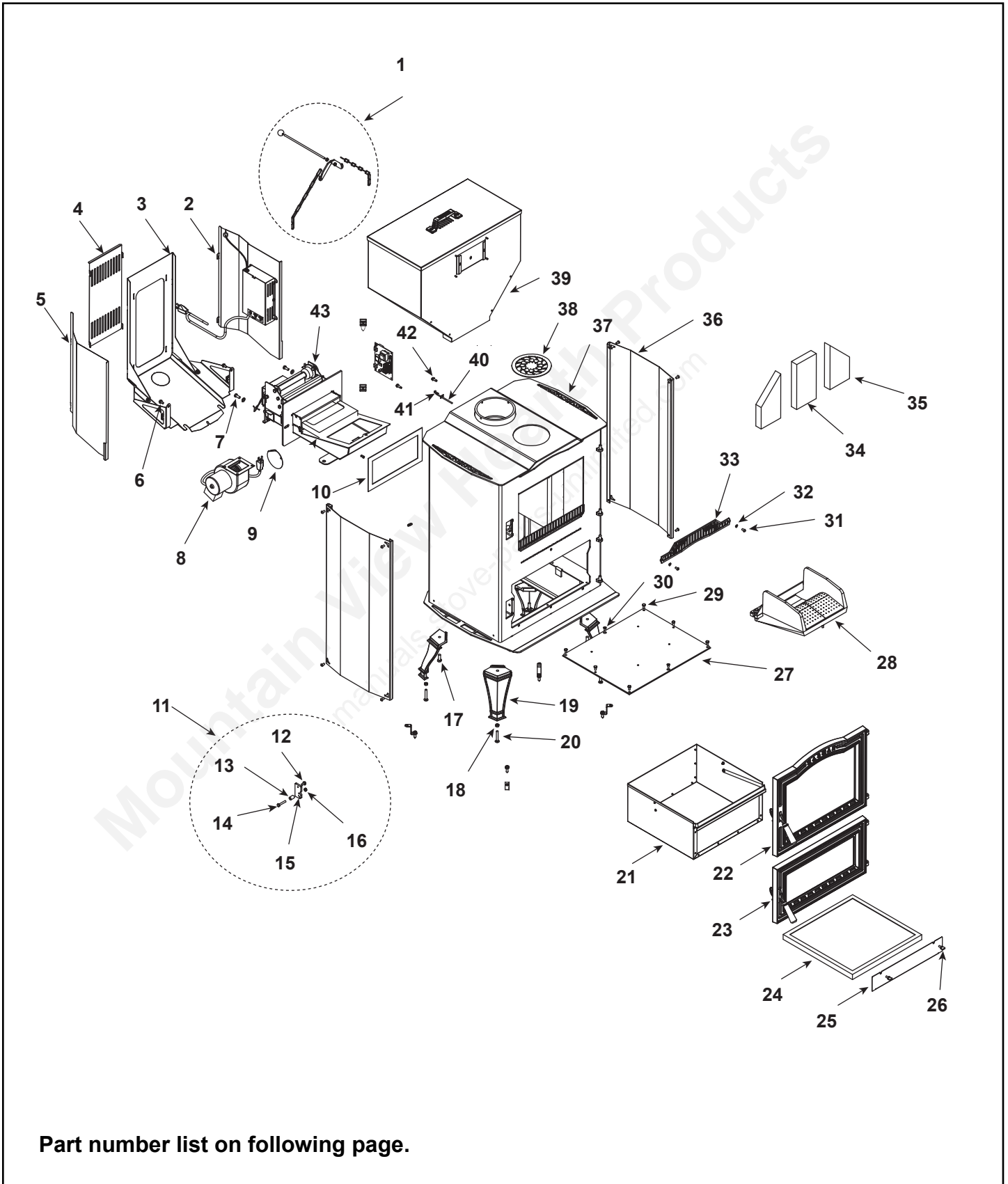
In the base of the hopper, there is a scraper plate that keeps the coal fines flowing toward the fire. This scraper plate is designed to be adjustable. To adjust, loosen the two bolts with a 7/16" wrench, allow the scraper plate to rest downward against the top of the pusher block, and re-tighten the two bolts.



# 11 Reference Materials



1-90-02700-1



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.



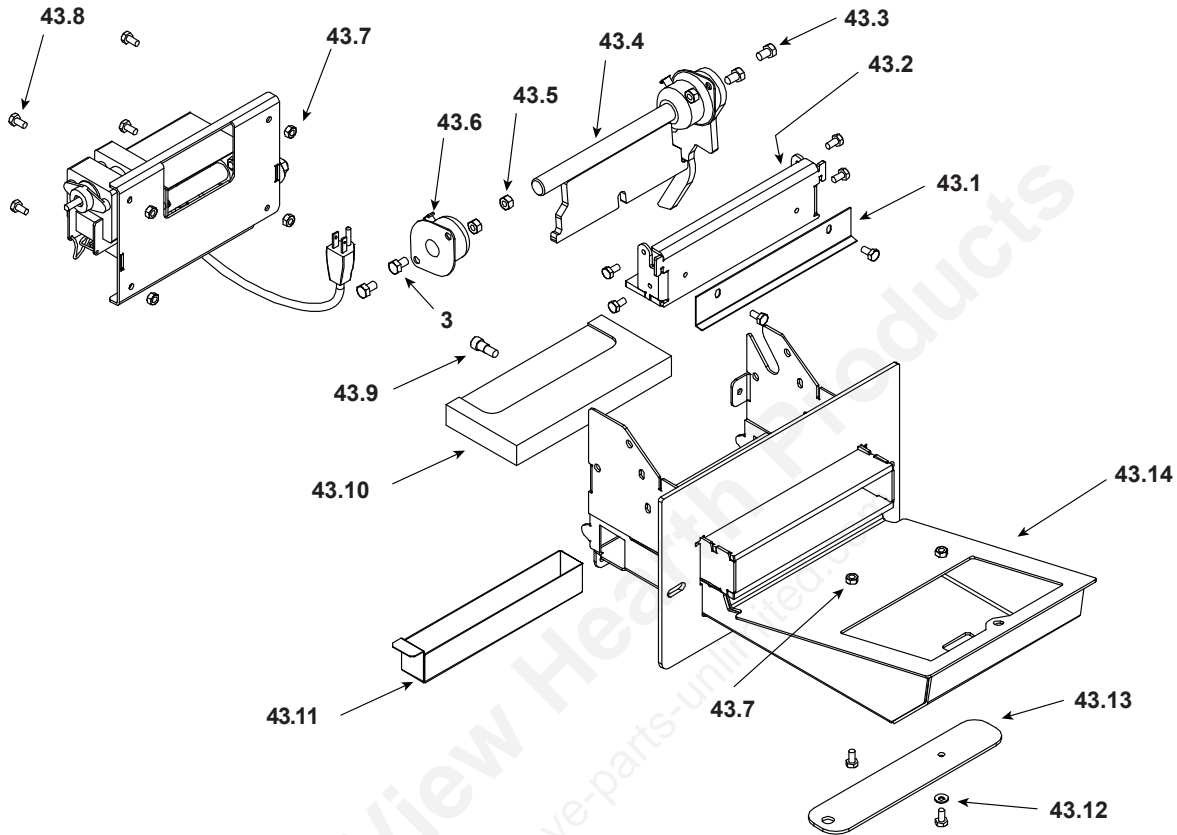
**Stocked  
at Depot**

ITEM	Description	COMMENTS	PART NUMBER	
1	Scraper Kit		1-00-02770	
2	Rear Cover Right Assembly W/O Board		1-10-02742A	
	Circuit Board		1-00-06142	Y
3	Hopper Shield Support Assembly		1-10-02724A	
4	Rear Cover		2-00-02745B	
5	Rear Cover Left		2-00-02728B	
6	1/4-20 x 1/2" Grade 8.2 Zinc SAE Flange Bolt	Pkg of 50	3-30-2001-50	Y
7	5/16-18 x 3/4" Grade 5 Zinc Plated Hex Cap Screw	Pkg of 100	3-30-1125-100	Y
8	75CFM Blower 22" Cord / Combustion		3-21-07522	Y
9	Blower Restrictor Plate	Pkg of 2	2-00-01023-2	
10	Gasket Single-ply Feeder-Body		1-00-88100	Y
11	Handle Kit	Qty. 2 req.	1-00-27713	Y
12	1/4-20 x 1/2" Grade 8.2 Zinc SAE Flange Bolt	Pkg of 50	3-30-2001-50	Y
13	Steel Sleeve Bushing 1/2" OD x 3/4" Handle Kit		3-50-05230	
14	1/4-20 x 1 1/2 Grade 8 Yellow Zinc Hex Head Cap Screw	Pkg of 25	3-30-1119-25	Y
15	Adjuster Plate		2-00-06713D	
16	1/4-20 Grade C Zinc Plated Top Lock Nut	Pkg of 50	3-30-8021-50	Y
17	3/8-16 x 1" Grade 5 Zinc Plated Hex Cap Screw	Pkg of 50	3-30-1134-50	Y
18	5/16"-18 Grade 5 Zinc Plated Finished Hex Nut	Pkg of 100	3-30-8005-100	Y
19	Oakwood Legs	Qty. 4 req.	4-00-249100P	Y
20	5/16-18 x 2" Zinc Plated Carriage Bolt	Pkg of 25	3-30-4001-25	Y
21	Ash Pan Assembly		1-10-02736A	Y
22	Door Assembly		1-10-02748A	Y
	Glass		3-40-02749	Y
	Glass Gasket		1-00-2312	Y
	Door Gasket		1-00-00888	Y
23	Ash Door Assembly		1-10-02763A	Y
	Door Latch		1-00-249119	Y
24	Filter 16" x 16" x 1"		3-40-16161	
25	Filter Cover		2-00-02762B	
26	1/4-20 Wing Screw with Collar	Pkg of 10	3-31-782108-10	Y
27	Blower Assembly		1-10-02718A	
	Blower Distribution		3-21-47120	Y
28	Grate Holder Assembly W/O Inserts		1-10-01000	Y
	Grate Inserts	Qty 2 req.	4-00-00046D	Y
29	1/4-20 x 1/2" Grade 5 Zinc Plated Hex Cap Screw Packaged	Pkg of 50	3-30-1108-50	Y
30	1/4"-20 x 1/2" Alloy Steel Black Oxide Flat Head Cap Screw	Pkg of 100	3-30-7001-100	Y

Additional service parts on following page.



## #43 Feeder Assembly



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.

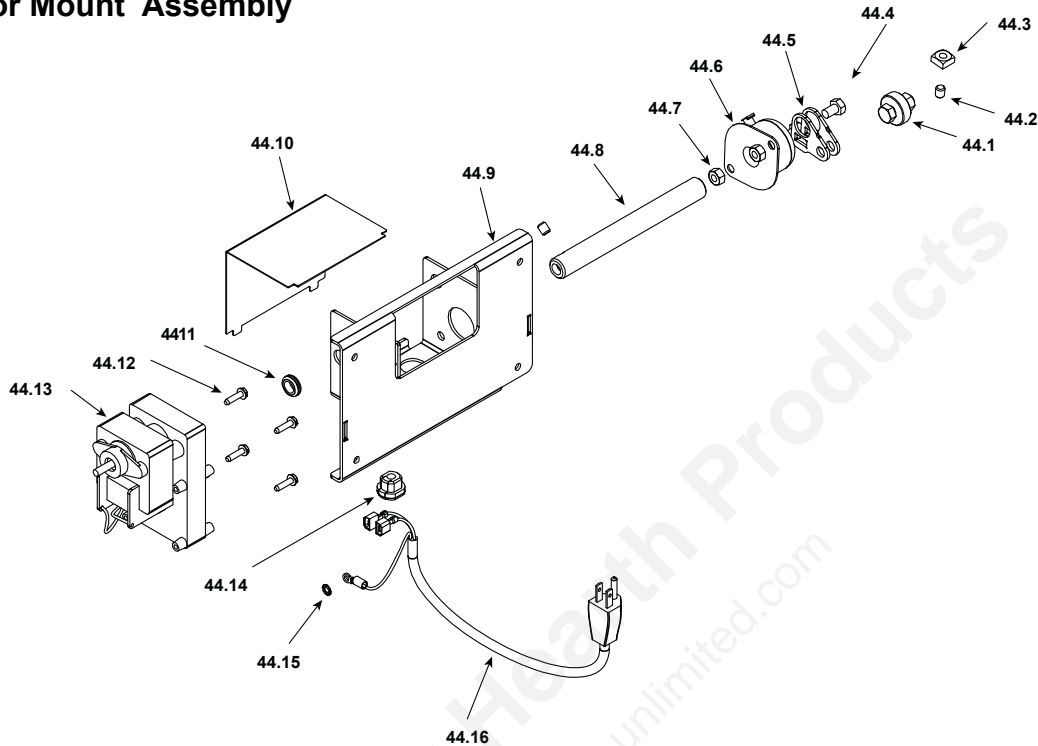


**Stocked  
at Depot**

ITEM	Description	COMMENTS	PART NUMBER	
43	Feeder Assembly		1-10-02700A	Y
43.1	Pusher Block Scraper		2-00-02772B	Y
43.2	Pusher Block Slide Weldment		1-10-02749W	Y
43.3	5/16-18 x 1/2" Grade 5 Zinc Plated Hex Cap Screw	Pkg of 50	3-30-1122-50	Y
43.4	Pusher Arm Weldment		1-10-02708W	Y
43.5	5/16"-18 Grade 5 Zinc Plated Finished Hex Nut	Pkg of 100	3-30-8005-100	Y
43.6	Pillow Block		3-31-324122	Y
43.7	1/4"-20 Zinc Plated Finished Hex Nut	Pkg of 100	3-30-8004-100	Y
43.8	HCS 1/4-20 X 1/2"	Pkg of 50	3-30-1108-50	Y
43.9	SH Shoulder Screw 5/16-18 X 3/8" X 3/8"		3-30-131180759	
43.10	Pusher Block		3-50-02777	Y
43.11	Fines Tray		2-00-02746B	Y
43.12	Washer - 1/4" Contact Spring	Pkg of 10	3-30-0300252-10	
43.13	Feeder Cleanout Slide		2-00-00048P	Y
43.14	Feeder Weldment		1-10-02701W	Y

Additional Service Parts on following page

### #44 Motor Mount Assembly



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	
44	Motor Mount Assembly		1-10-02760A	Y
44.1	Cam Bearing		3-31-3014	
44.2	5/16"-18 x 3/8" Alloy Steel Black Oxide Knurled Point SSS	Pkg of 25	3-30-2004-25	Y
44.3	5/16-18 Zinc Plated Square Nut	Pkg of 50	3-30-8025-50	Y
44.4	5/16-18 x 1/2" Grade 5 Zinc Plated Hex Cap Screw	Pkg of 50	3-30-1122-50	Y
44.5	Laser Cam Assembly		1-10-02764A	Y
44.6	Pillow Block		3-31-324122	Y
44.7	5/16"-18 Grade 5 Zinc Plated Finished Hex Nut	Pkg of 100	3-30-8005-100	Y
44.8	Extension Shaft		2-00-02706	Y
44.9	Back Cover		2-00-02705B	
44.10	Wire Cover		2-00-02773B	
44.11	Grommet 7/16" ID X 3/4" OD		3-31-960021	
44.12	HWH TCS 10-24X3/4 BLACK OX TYPE F	Pkg of 50	3-30-1102-50	Y
44.13	Pellet Feeder Gearmotor-4RPM		3-20-60906	Y
44.14	Cord Clamp		3-20-12402	
44.15	#10 External Toothlock Washer	Pkg of 100	3-30-0001-100	Y
44.16	22" Power Cord Feed Motor		3-20-29523	Y
	Male Disconnect (Power Cord)	Pkg of 25	1-00-00957	Y
	Ring Terminal (Power Cord Green)	Pkg of 25	1-00-01003	Y

**Hearth & Home Technologies Inc.**  
**LIMITED LIFETIME WARRANTY**

Hearth & Home Technologies Inc., on behalf of its hearth brands ("HHT"), extends the following warranty for HHT gas, wood, pellet, coal and electric 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 purchase 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 original purchase. 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.

The term "Limited Lifetime" in the table below is defined as: 20 years from the beginning date of warranty coverage for gas appliances, and 10 years from the beginning date of warranty coverage for wood, pellet, and coal appliances. These time periods reflect the minimum expected useful lives of the designated components under normal operating conditions.

Warranty Period		HHT Manufactured Appliances and Venting							Components Covered
Parts	Labor	Gas	Wood	Pellet	EPA Wood	Coal	Electric	Venting	
1 Year		X	X	X	X	X	X	X	All parts and material except as covered by Conditions, Exclusions, and Limitations listed
2 years				X	X	X			Igniters, electronic components, and glass
		X	X	X	X	X			Factory-installed blowers
			X						Molded refractory panels
3 years				X					Firepots and burnpots
5 years	1 year			X	X				Castings and baffles
7 years	3 years		X	X	X				Manifold tubes, HHT chimney and termination
10 years	1 year	X							Burners, logs and refractory
Limited Lifetime	3 years	X	X	X	X	X			Firebox and heat exchanger
90 Days		X	X	X	X	X	X	X	All replacement parts beyond warranty period

See conditions, exclusions, and limitations on next page.

## **WARRANTY CONDITIONS:**

- 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, light bulbs, batteries 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 appliance's 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. Over-firing 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.

## **LIMITATIONS OF LIABILITY:**

- 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.





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**HOME HEATING**

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