

IF THIS HARMAN STOVE IS NOT PROPERLY INSTALLED, A HOUSEFIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW INSTALLATION DIRECTIONS.

CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

CONTACT YOUR LOCAL AUTHORITY (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, BIRE PREVENTION BUREAU, ETC.) TO DETERMINE THE NEED FOR A PERMIT.

CETTE GUIDE D'UTILISATION EST DISPONIBLE EN FRANCAIS. CHEZ VOTRE CONCESSIONNAIRE DE HARMAN STOVE COMPANY.

SAVE THESE INSTRUCTIONS.



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Please read this entire manual before you install and use your new room heater. Failure to follow instructions may result in property damage, bodily injury, or even death.

SAVE THESE INSTRUCTIONS NOT APPROVED FOR MOBILE HOMES.

Harman Stove Company

352 Mountain House Road Halifax, PA 17032 U.S.A.

INTRODUCTION

Thank you for purchasing the Harman Oakwood. We are confident that you will enjoy the warmth and convenience of your Harman Stove for decades to come.

The Harman Oakwood will heat your home while also being multi-funcitonal and visually appealing. When building your Oakwood we used only the best, precision castings that were designed so accurately that gaskets are used (instead of furnace cement) for assembly.

Harman's special FireDome Non-Catalytic Combustion System was created specifically for the Oakwood to promote clean burning and even heat output. What this equates to is unvarying heat throughout your home over a longer period of time without the peaks and valleys of other wood stoves. The FireDome attains Harman's reputation of high efficiency while saving you the expense associated with catalytic stoves. Top loading makes adding wood easier and allows the Harman Oakwood to hold more wood than other stoves of the same size. More wood means longer burn times.

You can view your beautiful fire through the extra large glass door. The glass stays cleaner because of specially coated glass and the exclusive Harman Air Wash System.

The Harman Oakwood has an ash pan with its own ash door that is used to remove ashes while the stove is in operation. This means you can keep a fire all winter if you desire.

The Harman Oakwood offers a cooking grill that can be placed in the top of the stove while in operation. This allows you to grill steaks and burgers etc. all year long even when the weather is not suitable for outside grilling. If you haven't already purchased the cooking grill, you can do so at your Harman Dealer.

Your Harman Oakwood is backed by our Harman Gold Warranty, which means all material and workmanship is covered for 6 years, and mechanical items are covered for 3 years. We are confident that our products are built to our strict Harman standards, so warranty will rarely be an issue.

Do to the fact that the Oakwood is hot while in operation, gloves should be worn while tending to the fire.



- Marchen in mar

SPECIFICATIONS





Weight	440 lbs
Flue Size	6 inch
Log Length Recommended	21" Max
Heating Capacity	2,000 sq. ft.
Average Emissions	2.32 Grams Per Hr.
Emissions on Low	.8 Grams Per Hr.
Outside Air size	3 inch



The Harman Oakwood meets the U.S. Environmental Protection Agency's emission limits for wood heaters sold after July 1, 1990.

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

SPECIFICATIONS



OPERATION

General Considerations

<u>Draft</u>

Before you install and operate your Oakwwod wood stove, please read the entire contents of this manual. Pay particular attention to the explanation of draft and its effect on stove performance in the Installation section. By following the installation and operating guidelines, you will ensure proper draft and gain maximum efficiency and enjoyment from your stove.

Fuel

Your Oakwood burns wood very efficiently. Here are some guidelines concerning log size and moisture content that will help you obtain the best performance.

Select dry seasoned wood. For example, it should be checked or cracked on the ends and not exposed to rain or extremely damp conditions. Hardwoods are favored because they are heavier and contain more heating capacity (BTU's) per load than do softwoods. Wood should be split and stored under cover for "seasoning" - a year is recommended. Your stove is not an incinerator do not burn garbage, painted or treated wood, plastic, or other debris.

Keep the area around the stove free from clutter. Keep all combustibles, including fuel, beyond the coderequired clearance distance (48" or 1215 mm in the U.S., 1525 mm or 60" in Canada). Never store fuel in front of the stove where it could interfere with door operation, safe loading, and ash removal.

Do not burn garbage or flammable fluids such as gasoline, naptha, or engine oil.

CAUTION: Always wear fire retardant gloves when operating the stove.

SAFETY NOTICE

IF THIS HARMAN OAKWOOD STOVE IS NOT PROPERLY INSTALLED, OPERATED AND MAINTAINED, A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW INSTALLATION DIRECTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLA-TION INSPECTION REQUIREMENTS IN YOUR AREA.

The Stove

Doors

Your stove has a large glass-paneled door for loading and fireviewing, a separate smaller door for removing ashes and a top loading door.

Front Door

Before opening, always check for wood, embers, or ash that may be ready to fall out of the door.

To open the glass door, open bypass damper first, then lift the handle and pull out; to close the door, push door closed with handle in the open position, then push handle down to engage the latch.

Ash Door

To open the ash door, lift up the handle and pull out. Close the door by pushing in and pushing the handle all the way down.

Top Load Door

To open the top load door, open the bypass damper and then open the top load door.

All doors must be closed while the stove is in normal operation, and the gaskets routinely examined for wear and replaced when necessary. Good door seals are important for maintaining control of the stove. Never operate with the ash door open. Operating the stove with the ash door open, or with a door inadequately sealed, could create a serious overfiring condition (discussed later in this section).

NEVER OPERATE WITH MORE THAN ONE DOOR OPEN AT A TIME

The glass used in your Oakwood is manufactured to exact standards to withstand the high heat of the fire, but like all glass, it must be treated with common sense and care. Never abuse the glass by slamming the door shut or striking the glass with a heavy object. If the glass is broken or damaged, do not operate the stove until it has been replaced

(See instructions in the Maintenance section.)

Grates

The Harman Oakwood's unique grate system consists of one flat bottom grate, and two front andirons. The bottom grate has slots which allow the ash to fall into the ash pan by passing a poker back and forth across the grate. The andirons keep the fuel from coming into direct contact with the glass, and keep hot coals and embers from spilling out while reloading. Never build a fire directly against the glass.

The grates and andirons must remain in place at all times. Do not tamper with or change the configuration of this grate system.

OPERATION

The Combustion Process

Combustion in the Harman Oakwood is precisely controlled and is divided into two parts.

During a wood fire, primary combustion air enters at the bottom front of the stove and travels up channels at either side of the front door pre-heating it. It then enters the manifold located above the front door where it is released into the primary firebox as a sheet of air flowing between the glass and the wood to support primary combustion in the firebox.

Secondary combustion air enters the stove at the bottom rear of the stove and is delivered into the "Firedome" secondary combustion package, and the rear bricks to provide a critical additional source of oxygen at several locations within the combustion package to support secondary combustion necessary to achieve and sustain clean burning.

During combustion, the burning of wood proceeds through several stages. The initial or evaporation stage is where the moisture in the wood is driven off in the form of steam. A second stage where the volatile gases contained in the wood are released and burned. This represents most of the wood's heating capacity. The final stage is the charcoal stage where the charcoal burns the remaining heat content in the wood fuel. Ash remains after the burning is complete. Within the primary firebox two or more of these stages of combustion are occuring at once.



Two important controls - the damper bypass handle and the air control lever regulate the operation and output of the stove.

To open the top or front loading door, you must open the damper bypass, or smoke will come in the room. In this mode of operation the combustion gases go directly from the main combustion chamber to the flue collar and exit into the chimney.

NOTE: The bypass damper must be open for smokeless loading. Open the bypass damper by turning the handle clockwise while facing handle.



Always wear gloves when operating the stove.

BUILDING A FIRE



<u>Air Control</u>

The air control lever is located directly below the ash lip of the stove. Using this lever you will be able to vary the amount of air delivered to the fire, creating a range of heat outputs. The low heat output setting is to the left, and high is to the far right. Do not, under any circumstances, alter the configuration or operation of the air control lever.

For low burn, slide the air control to the left 2 or 3 notches. For medium burns, use notches 4,5 & 6. Maximum heat is attained with the air control all the way to the right. Do not burn the stoves continuously at the maximum setting. If maximum heat is required day after day, the stove is too small for the area you are trying to heat.

If your wood is not seasoned long enough or is high in moisture, you may have to adjust the primary air 1 or 2 notches higher to sustain a low burn rate with the cleanest possible exhaust.

Building and Maintaining the Fire

Do not use chemicals or fluids to

start the fire.

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 it is in use.

Building a fire

First open the bypass damper then set the air control lever at the maximum heat output setting, all the way to the right.

Build a bed of paper and kindling; place several 1 " - 2" (25 mm - 50 mm) split pieces of dry wood on top, followed by a few 2" - 3" (50 mm - 80 mm) split pieces. Ignite the paper.

Allow the fire to burn until a good charcoal bed, 2" - 3" (50 mm - 80 mm) is formed; close the bypass damper by turning the damper bypass handle counterclockwise while facing the handle. (You may need to leave the load door open a crack to get the blaze going properly, but never leave the stove unattended.) Add more wood to create a deeper charcoal base (3" - 4", or 80 mm - 100 mm thick); remember to open the bypass damper when you are loading, This will allow the exhaust gases to pass directly into the flue outlet and reduce smoke spillage during refueling.

Once the charcoal bed is established you may add a full load of dry wood. After adding the fuel, leave the damper open and the air setting at maximum for 1 to 5 minutes; close the damper and allow the air setting to remain on high for an additional 5 to 10 minutes (these times will vary depending on what temperature the stove has reached prior to loading, along with the moisture content of the fuel) then adjust the air lever for the desired heat output.

Reloading: Once you have prepared and maintained a thick charcoal bed, you should be able to reload the stove, allow some burning at the maximum air setting with the damper closed about 5-10 minutes before resetting the air control. This depends on coal bed size, load size and moisture content of fuel.

Removing Ashes: Before reloading, empty the ashpan (remember to close the ash door while emptying the pan). The ashes should be the coolest at this time. Remove ashes from the fire chamber periodically by raking a poker across the bottom grates.

Oakwood Wood Stove 9

Always wear gloves when operating the stove.

BUILDING A FIRE

Never let the ashes build up to over 2" in depth. Excessive ash buildup can prevent proper venting of exhaust gases. Also do not overfill the ashpan. Ash buildup between the ashpan and the bottom grate can cause the bottom grate to overheat and wear out prematurely.

The Oakwood was designed to provide access to the ashpan without the need for opening the main door. Before opening the ash door and removing the ashpan, open the bypass damper. Wearing heavy protective gloves, open the ash door and remove the ashpan by pulling it forward by the handle. Close the ash door and damper bypass before taking the ashes outside for safe disposal.

Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible 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.

Never use the ash disposal container for other trash. Wood ash can be added to your garden or compost.

Overfiring

Avoid overfiring your stove, a potentially hazardous situation which can lead to overheating of combustible materials, damage to the stove, and in extreme cases, cause a fire. Overfiring is caused by: 1. Too much air flowing through the stove too quickly. 2. You may have positioned the primary air control lever too far to the right. 3. Inadvertently left the damper open or 4. Not kept up with routine maintenance, such as checking door gaskets for wear.

Overfiring results in excessive fuel consumption, and may cause parts of the stove or chimney connector to glow red. If you notice signs of overfiring, reduce the air supply to the fire, and review the Maintenance section in this manual.

In the event of a chimney fire, call your local fire department; make sure everyone is safely out of the house. Reduce the air intake of the stove as much as possible using the air control lever; close the bypass damper to further restrict air flow. Do not throw water on the fire; this can cause stove damage and create an even more dangerous situation. Have your chimney professionally cleaned and inspected before resuming burning in your stove.

As you begin to operate your stove at higher temperatures, you will notice a "hot" or unpleasant smell; this is just the paint going through the curing process, and will disappear after a few fires.

CAUTION

The stove is hot while in operation. Keep children, clothing and furniture away. Contact tmay cause skin burns.

WARNING

Never leave the stove unattended if either the ash or load door is open. Overfiring may result.

Required Floor Protection (UL)

The Oakwood must have a floor protector with a k-value of .84 or higher to meet UL safety standards (unless purchased with optional bottom shield).

In all installations, the area under and around the stove must be protected from falling ash and live coals. *The area under a horizontal run of chimney connector must also be protected*. This protector must be of noncombustible material, and positioned as shown in the accompanying illustration. The guidelines for floor protection are as follows:

In the U.S. the floor protector must be completely under the stove, 16" in front of the door opening, 8" to each side and 8" to the back. If there are any horizontal runs of the stove pipe the ash protector must extend 2" on each side of the pipes shadow.

In Canada, the ash protector must extend 18" in front of the door opening, 8" to each side and extend to the wall behind the stove.

Clearances

Clearance is the empty space required between the stove or chimney connector to the nearest combustible surface or object, such as walls,

ceilings, floors, or furniture. Clearance distances may only be reduced by using methods approved by either the CAN/ CSA B365 standard (Canada) or NFPA 211 (U.S.) Contact your building authority for information if you are interested in reducing clearance distances other than those presented here.

Parallel versus Corner Installations

A parallel installation is one in which the back and sides of the stove are parallel to the walls behind and to the side of the stove. A corner installation is one in which the back of the stove is positioned diagonally across a corner of the room. Each installation requires its own set of clearances.

For parallel installations, the required clearance distances from the stove are:

1) to the side wall, 26" (661 mm);

2) to the back wall, 28" (712 mm).

3) From the chimney connector to the wall, 33"(839 mm)

4) Hortizontal pipe to the ceiling, 15"(381 mm).

NOTE: For a vertical chimney connector in a parallel installation the distance of the connector to the side wall must be 32"(813 mm), due to the required side clearance of the stove itself. Fireplace installations must meet these same clearance requirements; specifically follow these guidelines for mantel and trim clearances.

For corner installations, the clearance distances from the stove are 24"(609 mm) from each corner of the stove measured straight back to the nearest combustible material, and 32" (813 mm) from the chimney connector to the walls.

From the front of the stove, clearance to combustible materials such as furniture, curtains, fuel, etc., is: 48"(1220 mm) in the U.S. and 60"(1524 mm) in Canada.



12 Harman Oakwood See NFPA 211 for more installation clearance reductions when using USM wall protection, etc.



See NFPA 211 for more installation clearance reductions when using USM wall protection, etc. Harman Oakwood 13



INSTALLATION/CLEARANCES

Fireplace Insert Installation - Rear Flue - 6"Single Wall Pipe



NOTICE: Not for use in factory built fireplaces with hearth weight limitations.

The Oakwood should not be installed into factory built fireplace unless the hearth area is designed to take the maximum weight of the stove. The Oakwood, loaded with wood weighs approximately 500 pounds. If the fireplace floor can hold the 500 lb. Oakwood, the stove should only be placed into the fireplace opening to the point that operation of the damper bypass control and the top load door operation is not compromised or unsafe. (See above illustration.)



Chimney Connectors and Chimneys

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 airtightness 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 exhaust gases i 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, the Oakwood will produce enough hot gases to keep the chimney warm so that adequate draft is maintained throughout the burn cycle.

Chimney Connectors

In general, following these guidelines will ensure compliance with all national and provincial codes; prior to beginning your installation, check with your local building code official to check on additional local regulations which may influence the design and placement of your venting system.

The Harman Oakwood may be installed with (.6 mm) 24 gauge chimney connector pipe. Size of the connector should correspond to the size of the flue collar opening. Do not use makeshift compromises. 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 connec-

tor 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. Screws may be a maximum of 3 inches apart. A 1-1/4" (30 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 (3 m). All horizontal runs of connector must have a minimum upward slope of 1/4" (6 mm) per foot (20 mm per meter).

Chimney connector should correspond to the size of the flue collar opening. Do not use makeshift compromises. No part of the chimney connector may pass through an attic or roof cemented in place with refractory cement. For details on the other three options, refer to the most recent edition of the NFPA 211 code.

Wall Pass-throughs

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

Canada. Three methods are approved by the Canadian Standards Association. The diagram shows one method requiring an 18"(450 mm) air space between the connector and the wall. It allows use of one or two covers as described in the diagram. The two other methods are described in detail in the current issue of CAN/CSA B365, the national standard.

United States In the U.S., the national code is NFPA 211. While many localities adopt this standard, be sure to check with local authorities before beginning your installation.

The NFPA (National Fire Protection Association) 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"(300 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.

Noncombustible cover, one side only. If two covers are used, each must be mounted on noncombustible spacers at least 7/8" (21 mm) away from the wall.



The Chimney

Hole with a minimum clear-

ance of 18" (450 mm) be-

The Oakwood must be installed into a chimney approved for use with solid-fuel appliances. In the U.S., the Oakwood 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, the Oakwood 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.

The minimum recommended height for any chimney is 16 ft (4.8 m) above flue collar height. For nonmobile 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" (200 mm 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 point at which they exit from the roof, provided that no part of any structure is within the top of the chimney, then the chimney must extend 2 ft (6 m) above the highest point with the 10 ft (3 m) radius top height. If there is not ten feet of clearance from the top of the chimney, then the chimney must extend 2 ft (6m) above the highest point with the 10 ft (3m) radius.



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.



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.

Do not connect to any air distribution duct or system

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.

Venting to a Masonry Fireplace Chimney

In some situations, a code compliant chimney originally used for a masonry fireplace may be used to install your Oakwood. 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 — 18" (360 mm) to sides and 18" (450 mm) to ceiling. 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.

Installing to a Prefabricated Chimney

When venting your Oakwood 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 hightemperature standards, UL 103 or ULC-629.

Warning: Do not install in sleeping room.

The Harman Oakwood was tested with fuel door open and closed. Keep door closed for normal operating conditions.

If you operate with doors open, open the bypass and put a screen over the opening.

Do not burn any fuel other than wood, such as charcoal, which can cause increased carbon monoxide production or overfiring. 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, turn up the air control lever setting, and thoroughly ventilate your dwelling. During future burns, be careful not to overload the stove with fuel, so you will not be tempted to constantly operate at a low air control setting.

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. Caution: Always wear fire-resistant gloves to operate the stove. The air control is hot while in operation.



Chimney Breach Fireplace Conversion with Non-Combustible Wall



* Floor Protection in Accordance with Solid Fuel Appliance Listing

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Oakwood to Flue Fireplace Conversion (Minimum NFPA 211 Liner Connection)

Flue Liner with			t i strange i service s
Required Air Space	e		Airtight
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Stainless Steel Chimney			
Connector Must Extend to Flue Liner			
Minimum 8" Masonry			
Thickness in Front of			
Smoke Chamber			
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*Floor Protection in Accordance with Solid Fuel Appliance Listing



*Floor Protection in Accordance with Solid Fuel Appliance Listing

Chimney Breach Fireplace Conversion with Combustible Wall



* Floor Protection in Accordance with Solid Fuel Appliance Listing ** Check with your local building codes for clearance. MAINTENANCE

Like all fine equipment, your Oakwood requires some routine maintenance and inspection. Follow the guidelines in this section to guarantee safe, efficient operation.

The Stove

Surface

The stove's exterior surface should be dusted periodically with a soft cloth. For more thorough cleaning, wait until the stove is cool before using a damp cloth to clean any blemishes.

Controls

To avoid a rust build-up on the inner surfaces of the controls, work the controls back and forth several times, during the summer, or any prolonged period when you are not using your stove.

The Fire Chamber

The inside of the fire chamber should be examined for damage to the refractory lining material, grates, and casting. If any bricks have been damaged, replace them with Harman Stove Company replacement parts.

Glass - Replacement

If the stove's glass is cracked or broken, you must replace it before operating your stove. Remove

pieces carefully. Replace glass only with Harman Stove Company replacement glass panels; do not use substitutes.

To replace the glass panel(s), you will need to remove the door. To do this, open the door, lift it straight up and place it on a soft surface, or door stand that is an optional feature with the Oakwood.

Carefully remove damaged glass, gasket material, and hold down clips (set aside).

Referring to the diagram, note how the various components of the door system fit together. Lay the load door face down on the soft surface, and install the self adheasive 1/4"" gasket material around the front face of the glass. Note: this glass has a special IR coating on one <u>side</u>. This coating must be to the **outside** of the stove. The coated side has a label on it.

Set the glass panel and gasket gently onto the door. Install the hold down clips and tighten with bolts as shown. Reinstall door on stove.

Glass - Cleaning

Sometime it will be necessary to clean accumulated ash from the glass surface; allowing this ash to remain on the glass for long periods can result in "etching" due to the acidity of the ash. The creosote which accumulates on the glass should burn off during your hot fires.

> Never clean the glass while it is hot, and do *not* use abrasive substances. Wash the surface with cool water, and rinse thoroughly. You may wish to use a non-abrasive cleaner specifically designed for use on stove glass. In any case, dry thoroughly before relighting your stove.



Gaskets

Gaskets are used at strategic positions when building the Harman Oakwood for controlling the path that incoming and outgoing air and gases take through the stove. You must check these gaskets from time to time, and replace them when necessary. The gaskets are made of fiberglass of different sizes (obtainable from Harman Stove Company) and some are fixed in place with a high temperature stove gasket cement. To change a gasket, first remove the worn fiberglass and clean the area with a wire brush. Also clean any other surfaces that come into contact with the gasket. Place a small bead of cement in the area under the gasket if required, then press new gasket material into the channel; do not overlap the ends. Seat the gasket firmly by applying pressure when possible; for example, after changing the door gasket, close the door. Allow the cement to dry before using your stove.

Gasket are located:

- On the doors to provide airtight closure.
- Between the damper and the damper frame.
- On sides between top and bottom plates.
- Inner front to air wash.
- Rear cover
- Rear housing

Damper Ramp Adjustment

After the stove has been in operation for awhile, the damper gasket may compress and allow the damper handle to move from the open to the closed position without the added ramp tension needed to keep the damper held in the closed position.

To adjust the ramp, the stove MUST be allowed to go out and cool down.

• After the stove has cooled off, remove the stove pipe from the stove collar and close the damper.

• Using a flashlight, look into the collar. About midpoint of the damper plate on the backside you will see the adjustment bolt for the ramp tension.

• You will need (2) 7/16 " wrenches. Use one to hold the bolt still while using the other to loosen the nut.

• Turn the bolt inward (clockwise facing the head) approximately 1/4 turn and retighten the locknut.

• Now open and close the damper to check for proper tension on the damper lever while moving into the closed direction.

• If the tension is incorrect, readjust the bolt.

The Chimney System

Creosote

When wood is burned slowly, it produces tar and other organic vapors, as well as soot, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue (associated with a slow burning fire). As a result, creosote accumulates on the flue lining. When ignited, this creosote can result in an extremely hot fire.

The FireDome on the Oakwood cuts creosote to almost nothing when properly burned with dry seasoned wood.

The chimney should be inspected at least once every two months during the heating season to see if any creosote build-up has occurred. Checking your chimney and chimney connector more frequently, especially while you are getting used to your stove, is recommended. To inspect this system, let the stove cool. Using a flashlight and mirror, check the interior of the chimney connector, and the chimney itself. If a significant layer of creosote or soot as accumulated (1/8"" or 3 mm) it should be removed to reduce the risk of a chimney fire.

To clean deposits from the surface of the connector, use a stiff wire brush after dismantling the connector assembly. To clean the chimney, use a specially designed brush sized to fit your particular flue opening, or call an established chimney cleaning service.

At the end of the heating season, perform a thorough examination of your chimney system, and have it repaired if necessary.

OPTIONS

Cooking Grill

The Oakwood offers a unique stainless steel cooking grill that can easily be taken in and out of the stove for easy cleaning.

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Note: Please use heat resistant gloves when opening top loading door to access cooking grill. Metal handle may be hot and cause physical harm if not handled with heat-resistant gloves.

Rotisserie

The Oakwood Rotisserie was designed to fit over the top load door opening and allows for rotisserie cooking. It also has a larger grilling surface with a lid. The Rotisserie is constructed of all stainless steel to allow for easy cleanup.

The rotisserie should be taken off of the Oakwood when it is not in use.

Warming Shelves

Cast Iron Warming Shelves are available to accent your Oakwood and are attached by steel braces.

Rear Heat Shield

The rear heat shield will allow you to install your Oakwood closer to the wall.

Bottom Heat Shields

The bottom heat shields allow the Oakwood to be installed on a combustible floor with a non-insulating floor protector. Note: A floor protector is always needed.

Door Stand

The door stand makes it easy to clean and store your Oakwood front door.

Cozy Screen

Your Harman Oakwood can be burned like a fireplace with the optional Cozy Screen. The Cozy Screen can be used with either the door in place or with the cast iron door removed from the stove (and placed in the optional door stand). When using the Cozy Screen, the damper bypass must stay in the open position or smoke spillage will occur. The Cozy Screen has a smoke deflector on it that is recommended to be used in all applications and must be used on all rear vent models. Note: Depending on how well the draft is in your installation, the smoke deflector may not be needed on the top vent models .

The Cozy Screen can be used from the start of a fire or can be used with an existing one. When starting a fire with the Cozy Screen, smoke spillage may occur until it develops a draft strong enough to pull all smoke back into the flue.

Outside Air (optional)

The Oakwood is designed to accommodate the use of outside air introduced directly to the stove. The opening is located at the back of the stove. An outside air connector plate attaches over this opening, using 2 button head bolts(already on stove).

Check with your local building inspector to find out requirements determining if outside air is needed when installing the Oakwood in your area. Some signs to watch for that indicate a possible need for outside air: poor performance of other heaters or of the Oakwood, including smoke roll-out and odor; the disappearance of the same symptoms when a window is opened near the stove; and condensation on windows in the winter. Modern homes with tight windows and doors, vapor barriers, and particularly with exhaust systems are the most likely to require outside air.

An outside air duct less than 5' (1525 mm) long may be 3" [80mm] in diameter, and be made of masonry tile, 26 gauge (0.019)galvanized steel, or other approved noncombustible material; it should have a 1" (25 mm) clearance to combustibles. Systems longer than 5' (1525 mm), or containing more than two elbows, should have a 4" (100 mm) diameter duct to provide an adequate flow of combustion air. The air duct must terminate outside the dwelling and be screened to keep debris, birds or animals out.

DO NOT INSTALL IN A SLEEPING ROOM





28 Oakwood Wood Stove

OAKWOOD PARTS

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DESCRIPTION	PART #	DESCRIPTION	PART #
I. Flue Collar Cover	3-00-249109	44. Latch Plate	2-00-249143
2. Flue Collar	3-00-249108	45. 1/4 x 1-1/2 Dowel Pin	3-31-025150
3. Top Hinge Plate (2)	2-00-249147	46. 1/2 x 3/4 Sleeve	3-50-05230
4. Top Load Handle	2-00-249148	47. Glass Clip (4)	2-00-249140
5. Top Load Door	3-00-249115	48. Airslide Weldment	1-10-249131
Top Load Door - Machined	3-50-249115	49. Adjuster Pipe (2)	2-00-249158
б. Тор	3-00-249105	50. Air Adjuster Weldment	1-10-249130
7. Damper Adjuster	2-00-249142	51. Ash Lip Bolt (2)	3-30-1252006
3. Damper Pull	2-00-249154	52. Ash Lip Washer (2)	3-30-0200251
D. Damper	3-00-249107	53. Ash Door w/Gasket	1-10-249113
10. Damper Frame w/Gasket	1-10-249106	54. Shoulder Screw 5/16 x 3/8"	3-30-1252003
1. Brick Clip (2)	2-00-249153	55. Ash Door Guide	2-00-249134
2. Brick Clip Bolt (2)	3-30-1311805014	56. Ash Door Latch	2-00-249149
13. SAE FW 5/16 (4) for Sides	3-30-02003113	57. Ash Door Knob	4-40-08746
14. Right Side	3-00-249102	58. Leg Leveler Bolt (4)	3-30-4311820
15. Brick Insulation (2)	3-40-00250	59. Cast Leg (4)	3-00-249100
16. Side Brick (2)	3-40-00102	60. Leg Bolt (4)	3-30-1371610
7. Rear Brick Retainer (2)	2-00-249135	61. Bottom Heat Shield Option	1-00-02491
18. Right Brick	3-40-00104	62. Shield	2-00-249157
19. Logo Brick	3-40-00101	63. Steel Ash Box Weldment	1-10-249144
20. Rear Housing Bolts (6)	3-30-1311815013	64. Ash Pan Bolt (4)	3-30-1252030
21. Right Inside Plate	3-00-249118	65. Ash Pan Assembly	1-10-249151
22. Damper Shaft Retainer	2-00-249145	66. Part of 63	
23. Damper Linkage Bolt	3-30-1252005013	67. Cast Bottom	3-00-249104
24. Damper Linkage Weldment	1-10-249146	68. Cast Ash Lip	3-00-249121
25. Combustion Package	3-40-00249	69. Ash Door Hinge	2-00-249150
26. Interram Gasket (2)	3-44-2500202	70. Shoe Brick	3-40-00100
27. FHSCS 1/4-20 x 2-1/2	3-30-725202502	71. Left Inside Plate	3-00-249117
28. Air Manifold	3-00-249114	72. Left Brick	3-40-00103
29. Inner Front	3-00-249111	73. Left Side	3-00-249103
30. Door Glass		74. Grate	2-00-249155
31. with 1/4" PSA (5')	1-10-21130	75. Rear Housing Cover Bolts (8)	3-30-3125200
32. Hinge Plate Weldment	1-10-249136	. (1)	3-30-3125200
33. Front Door w/Gasket	1-10-249112	76. Rear Housing Cover	3-00-249116
34. Front Door Handle Bolt	3-30-3125200502	77. Damper Handle	3-50-00500-4
35. Retainer Plate	2-00-249138	78. Rear Housing	3-00-249110
36. Front Door Cast Handle	3-00-249119		
37. Wooden Handle	3-40-00123		
38. Wooden Handle Bolt	3-30-3025202252		
39. Ball Spring Plunger	3-31-73765		
40. 5/16 X 1-3/4 Dowel Pin	3-30-247154		
41. Andiron (2)	3-00-249101		
42. Andiron Plate (2)	2-00-249133		
43. Latch Plate Bolt (2)	3-30-725200252		

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APPENDIX A: HEARTH PROTECTOR REQUIREMENTS

How much floor protection do I need?

The Harman Oakwood has been tested to require a k-value of .84 which is equal to typical .75" mill board. Check with mill board manufacturer for exact density.

It is required that you have a hearth pad under your Oakwood that will protect your flooring from heat and burning. To determine the thickness of your hearth material you will need to take into consideration the thermal conductivity, or (k) value of your stove. K value can be calculated by knowing the amoung of BTU's (British Thermal Units) that will flow in one hour through one square foot of a layer one inch thick of a uniform material per Farenheit degree difference between opposite surfaces of the layer.

> (BTU) (inch) (foot²)(hour)(°F)

Example: A piece of 2 inch thick hearth material specified for use by a manufacturer has a k value of .84. If the temperature on the side exposed to the radiant front of the fireplace is 100° F higher than the side exposed to the floor, each square foot of the heart protector will transfer 42 BTUs through to the combustible materials beneath it during each hour of operation.

Using the above formula, the calculation for the heat transfer would be done as follows:

 $\frac{.84 \text{ BTU - inch}}{\text{sq. ft. - hr - }^{\circ}\text{F}} \times \frac{\text{hr. x 1 sq. ft. x 100}^{\circ}\text{F}}{2 \text{ inches}} = 42 \text{ BTU}$

It follows from this example that if 1 inch of a certain material transfers 84 BTU/hr under these conditions, then 2 inches will transfer 1/2 that amount (i.e. 42 BTU/hr), 3 inches will transfer 1/3 that amount, and so on.

NOTE: The hearth extension protection materials that are specified by most manufacturers are much better insulators than most common masonry materials. Common masonry must often be many times thicker than special materials recommended.

What thickness do I need if I am using a different material other than those specified by the manufacturer?

If a manufacturer's specifications call for a material having a minimum thickness of 1 inch with a certain k value, any material substituted for that specified material must have the same thickness and have the same or lower k value, or if the k value of the selected alternate material in higher, a greater thickness of that material must be used. In some cases, if the k value is lower, thinner materials may be used. The following formula gives the means of determining thickness of alternate materials.

 $\frac{k \text{ of the alt. material}}{k \text{ of the specified material}} x \text{ thickness of specified material} = \text{thickness of alt. material}$

Example: The manufacturer specifies a certain material a minimum of 1 inch thick that is appropriate for use as a hearth extension with their fireplace system. The k value for that material is .84. You decide to use common brick for hearth extension protection instead of that specified material. How thick must the common brick hearth extension be to be equivalent with that which the manufacturer specifies? Common brick has a k value of 5.

Using the given formula to determine the equivalent thickness of common brick for the hearth extension, you will divide 5 by .84, which gives a thickness of 5.95 inches of common brick. This means that it would take about six inches of brick to provide the same thermal protection as one inch of the specified material.

Example 2: In example 1, the specified k value for a minimum of 1 inch thick hearth extension material is .84. Suppose you hae a non-combustible material that comes in 3/8 inch sheets. Its k value is .55. What is the minimum thickness of this material needed to be equivalent or better than that specified by the manufacturer?

Using the given formula .55 x 1 = .65 inches (thickness for equivalent .84protection)

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Harman Stove Company warrants its ervice, for a period of 6 years from the ervice, for a period of 3 years from the If defective in material or workmansh or replace the product as described b he warranty above constitutes the en

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VARRANTY IS LIMITED TO D TOVE COMPANY'S OPTION AN CONNECTED THEREWITH. NTY EXCLUSIONS: Failure due, bu prosion and venting problems are not d s, fuses, knobs, glass, ceramic brick eries or battery back-up and related normal wear items including but normalized to; flame guides, grates,

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MUST BE INSTALLED AND USED ACCORDING TURER.

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What respect to Prarman Stove Company, COMPANY MAKES NO OTHER WARRANTY, EXPRESSEN NTY OF MERCHANTABILITY OR WARRANTY OF FITNESS authorized to give any warranty on

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A CONTRACTOR OF THE MANUFACTURER FOR THE VARIOUS ACCESSORY EES, NOT HARMAN STOVE **IESE ACCESSORY DEVICES** TIONS OF THE MANUFAC-

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