by heatilator™

Heatilator Inc.
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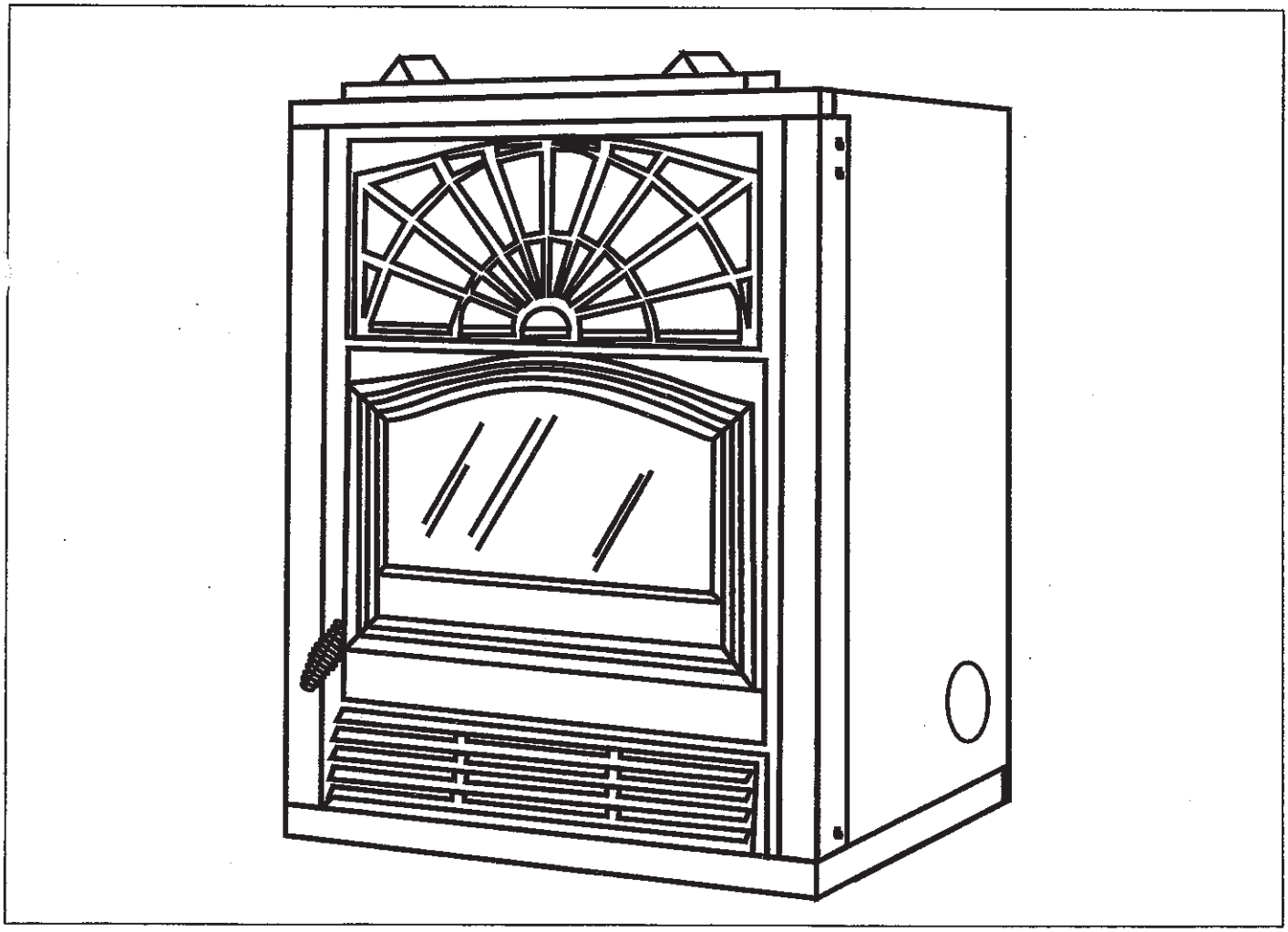
a HON INDUSTRIES company

The Sunburst II
Model 2208
OWNERS MANUAL
AND INSTALLATION INSTRUCTIONS

This manual must be used for installation of The Sunburst II, Model 2208 and retained by the homeowner for operating and maintenance instructions.



Framer: Please refer to page 7 for framing specifications.

PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE.

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Safety Precautions

1. Please read these installation instructions completely before beginning installation process. Failure to follow them could result in serious injury and/or property damage.
2. Always check your local building codes prior to installation. This installation must comply with all local, regional, state and national codes and regulations.
3. Check and follow all manufacturers clearance requirements for the unit and chimney parts.
4. Do not install this unit where gasoline, kerosene, charcoal, lighter fluid, paint thinner or any other flammable liquid is stored.
5. NEVER leave children unattended when there is a fire burning in the unit.
6. The outside surfaces of this unit will become extremely hot during use so always keep children away while it is operating and do no let anyone operate this unless they are familiar with the instructions in this guide.
7. Do not connect this unit to a chimney flue that serves any other appliance.
8. Do not connect to any air distribution system.
9. Use caution when filling your appliance with fuel. Never load fuel when the fire is burning rapidly.
10. Never use any insulation material in the air space called for around the appliance or chimney parts.
11. Always enclose or protect the chimney to prevent damage to chimney parts and injury from personal contact.
12. Have the chimney termination at the proper height above the roof.
13. Regularly inspect the chimney system for signs of blockage, creosote build-up and damage to any parts. Correct any of these problems by cleaning or replacing chimney parts.
14. Do not use a fireplace insert or other products not specified for use with this fireplace.

I. LISTINGS AND CODE APPROVALS

These installation instructions describe the installation and operation of the DOVRE Model 2208. This unit meets the U.S. Environmental Protection Agency's 1990 particulate emission standards. Under specific test conditions this unit has been shown to deliver heat at rates ranging from 11,500 to 36,300 BTU/HR.

The DOVRE Model 2208 is listed by Underwriter's Laboratories Inc. Standards, UL127 (6th edition).

Check with your local building code agency before you begin your installation to ensure compliance with local codes, including the need for permits and follow-up inspections. Be sure local building codes do not supersede UL specifications and always obtain a building permit so that insurance protection benefits cannot be unexpectedly canceled. If any assistance is required during installation please contact your local dealer or contact ARROW/DOVRE Customer Relations Department, 1915 W. Saunders Street, Mt. Pleasant, Iowa 52641.

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WARNING

THE OUTSIDE SURFACES OF THIS UNIT WILL BECOME EXTREMELY HOT DURING USE SO ALWAYS KEEP CHILDREN AWAY WHILE IT IS OPERATING AND DO NOT LET ANYONE OPERATE THIS APPLIANCE UNLESS THEY ARE FAMILIAR WITH THESE OPERATION INSTRUCTIONS.

II. DESCRIPTION OF THE SUNBURST II SYSTEM

This DOVRE 2208 system must consist of the following:

1. Fireplace
2. 8"Chimney
3. Anchor Plate/Starter Section
4. Chimney Termination
5. Outside Air Kit
6. Door and Lower Grille
7. Upper Grille

Optional components include:

1. Trim Kits
2. Screen Kit

Note: Illustrations throughout these instructions reflect typical installations and are for design purposes only. Actual installation may vary slightly due to individual design preferences. However, minimum and maximum clearances must be maintained at all times.

The illustrations and diagrams used throughout these installation instructions are not drawn to scale.

Tools and building supplies normally required for installation.

Tools

Saw	High Temperature
Pliers	Sealant Material
Phillips screwdriver	
Tape measure	
Plumb line	
Level	
Electrical drill and bits	
Square	

FIREPLACE SYSTEM COMPONENTS

The table below shows only those components which may be safely used with this fireplace.

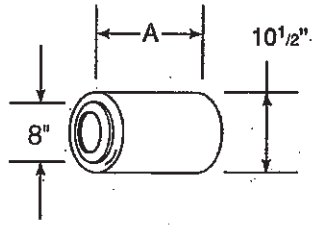
Catalog Number	Description
2208	Wood burning fireplace, with outside air kit and is EPA Phase II Certified. Uses 8" Chimney.
GS4BK	1 piece cast iron, painted black
GS4G	1 piece cast iron, gold finish
GS4PBK	1 piece cast iron, porcelain black
GS4PGR	1 piece cast iron, porcelain green, special order
GS4PBL	1 piece cast iron, porcelain blue, special order
GS4PCR	1 piece cast iron, porcelain creme
GS5BB	2 piece louvered grille, brass - upper and lower
GS5S	2 piece louvered grille, silver - upper and lower
GS6BK	1 piece louvered grille, black anodized - upper
SB2BK	Door, lower grille, painted black
SB2PBK	Door, lower grille, porcelain black
SB2PCR	Door, lower grille, porcelain creme
SB2PGR	Door, lower grille, porcelain green, special order
SB2PBL	Door, lower grille, porcelain blue, special order
DT7G	Door trim, gold
SP22	Screen Kit
DSL1	Chimney Starter Section
SL306	Chimney Section - 6 inch long
SL312	Chimney Section - 12 inch long
SL318	Chimney Section - 18 inch long
SL324	Chimney Section - 24 inch long
SL336	Chimney Section - 36 inch long
SL348	Chimney Section - 48 inch long
SL3	Chimney Stabilizer
SL315	Chimney Offset/Return - 15°
SL330	Chimney Offset/Return - 30°
FS338	Firestop - Straight
FS339	Firestop - 15°
FS340	Firestop - 30°
JB877	Chimney Joint Band
CB876	Chimney Bracket
RF370	Roof Flashing - Flat to 6/12 Pitch
RF371	Roof Flashing - 6/12 to 12/12 Pitch
RT362	Telescoping Chimney Terminal Cap - Round
RT364	Chimney Terminal Cap - Round (Storm collar included)
TS344	8" I.D. SL300 Square Termination
SK44	Square Termination Decorative Skirt
ST8	Square Housing Top for use with RB4, TB4, RB6, TB6
RB4	4' Simulated Red Brick Chimney Panels
TB4	4' Simulated Tan Brick Chimney Panels
RB6	6' Simulated Red Brick Chimney Panels
TB6	6' Simulated Tan Brick Chimney Panels
CT35	Chase Top

The Sunburst II is UL listed for use with the following chimney brands. These chimney are for vertical installation and may have one optional offset/return (2 - 15° or 2 - 30°) elbows maximum. The brands are:

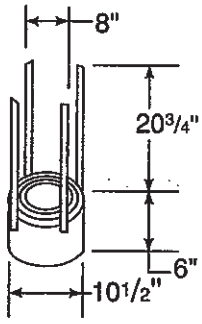
1. Heatilator - SL300 series
2. American Metal Products (AMERI-TEC) - 8 HS model/series
3. Simpson Dura-Vent - 8SDP model/series
4. Metal Fab - 8TG model/series
5. GSW - 8SC model/series
6. Security Chimney - 8ASHT model/series

CHIMNEY SECTIONS

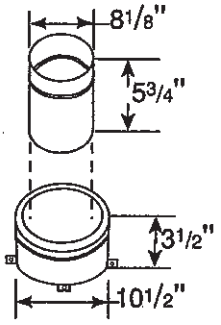
CAT. NO.	A
SL306	6"
SL312	12"
SL318	18"
SL324	24"
SL336	36"
SL348	48"



CHIMNEY STABILIZER



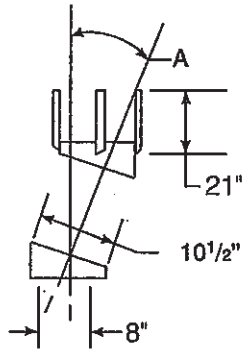
SL3

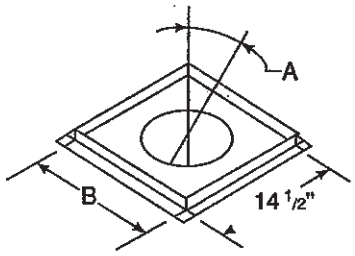


DSL1

OFFSETS/RETURNS

CAT. NO.	A
SL315	15°
SL330	30°

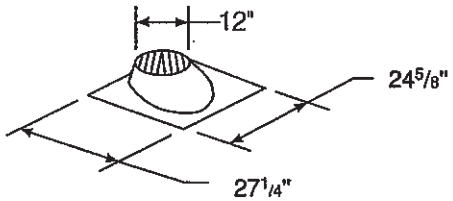




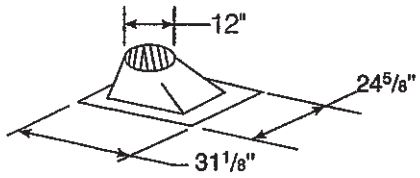
CAT. NO.	A	B
FS338	0°	14 1/2"
FS339	15°	18 3/8"
FS340	30°	22 15/16"

FIRESTOP SPACERS

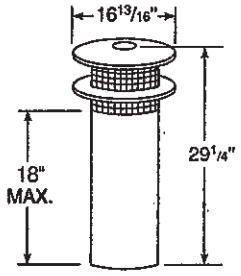
ROOF FLASHINGS



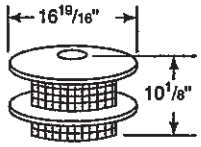
Flat to 6/12 Pitch
RF370



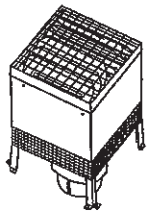
6/12 to 12/12 Pitch
RF371



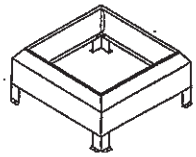
RT362
ROUND TELESCOPING
TERMINAL CAP



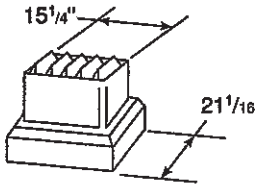
RT364
ROUND
TERMINAL
CAP



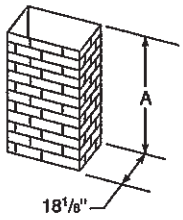
TS344
SQUARE
TERMINAL
CAP



SK44
DECORATIVE
SURROUND
to be used with
DTS344



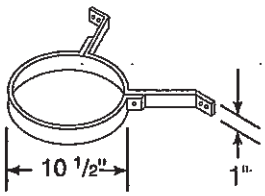
ST8
HOUSING
TOP



CAT. NO.	A
RB4	45 3/4"
TB4	45 3/4"
RB6	69 3/4"
TB6	69 3/4"

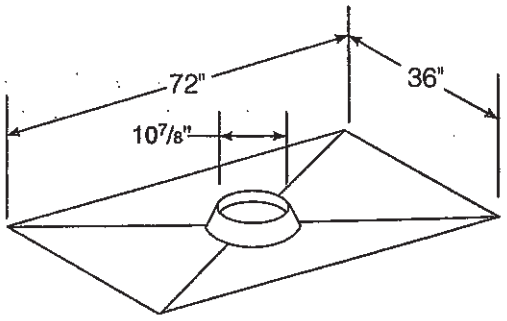
SIMULATED BRICK TERMINATIONS

CHIMNEY BRACKET



CB876

CHASE TOP



CT35

IV. SYSTEM LOCATIONS, SPACE AND CONSTRUCTION REQUIREMENTS

FRAMING DIMENSIONS

The Model 2208 allows zero clearance to combustibles on its bottom. A minimum of one half inch clearance to combustibles is necessary from the two side walls and the back. A minimum of 2 inches must be maintained from the top.

Framing dimensions are 40 1/4" H x 331/2" W x 22 1/2" D.

Actual dimensions are 40" H x 32 1/2' W x 22" D.

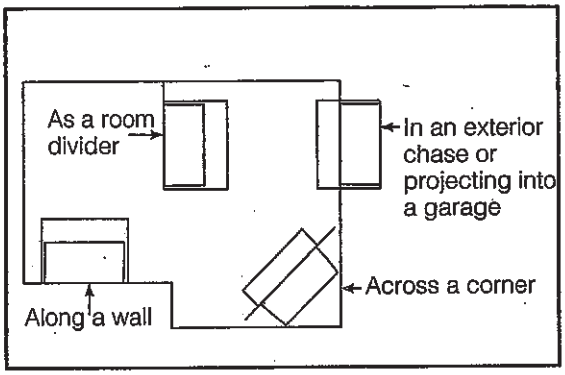


Figure 1
Fireplace Locations

Figure 2 shows a typical framing of the unit, assuming combustible materials are used. All required clearances to combustibles around the fireplace must be adhered to. Any enclosure on top of the fireplace must be above the top standoffs. Chimney Sections at any level require a minimum air space of two inches to the enclosure, including any framing, for the total chimney height.

After completing the framing and after applying the facing material over the framing, a non-combustible sealant, one-half inch wide maximum, must be used to close off any gaps at the top and sides between the fireplace and facing, to prevent cold air leaks.

The following is a description of materials specified in these instructions:

Combustible Material. Material made of or surfaced with wood, compressed paper, plant fibers, plastics, or other material that will ignite and burn, whether flameproof or not, or whether plastered or unplastered.

Non-combustible Material. Material which will not ignite and burn, such materials consisting entirely of steel, iron, brick, tile, concrete, slate, asbestos, glass or plasters, or combination thereof.

Non-combustible Sealant Material. General Electric RTV103 (Black) or equivalent. Rutland, Inc. Fireplace Mortar #63 or equivalent.

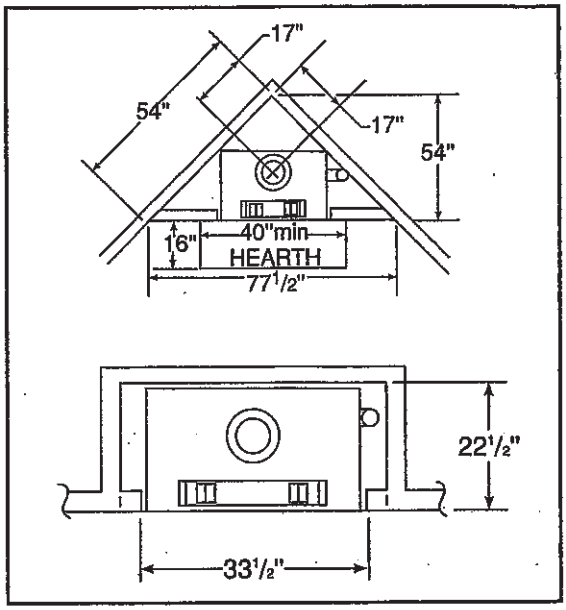


Figure 2
Typical Installations

SURROUND CONSTRUCTION

Only non-combustible materials or DOVRE trim kits may come in contact with the surface on the front of the Model 2208. These Materials include: brick, stone, ceramic tile, metal, and non-combustible support board such as durock, wonder-board, or cement board. Fire rated drywall and plywood are not approved for contact with the unit facing.

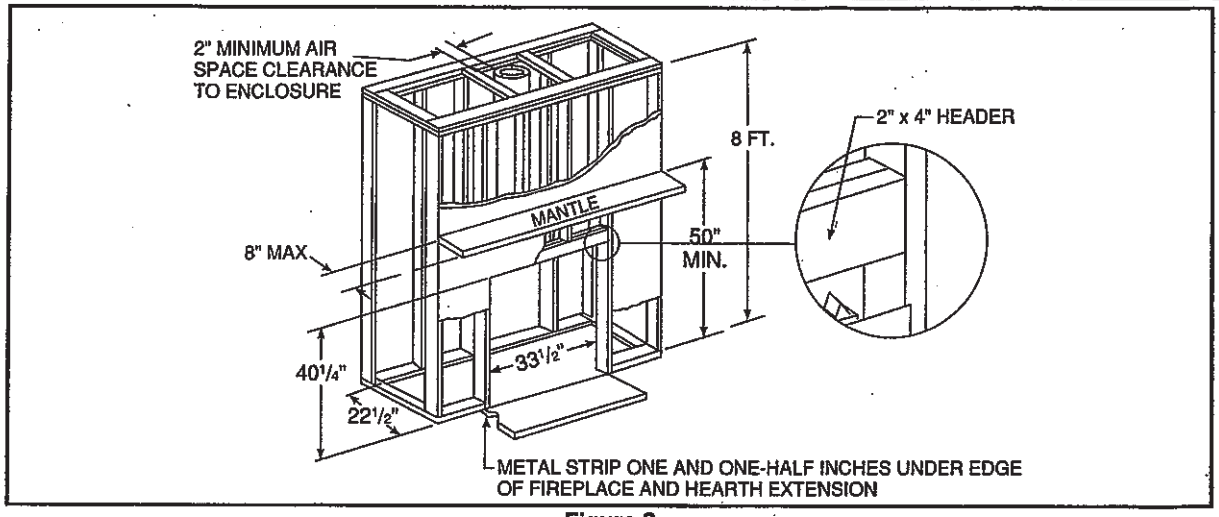


Figure 3
Framing

Hearth Extensions

It is necessary to install a floor protector directly under the hearth extension to protect combustible flooring materials from thermal radiation. This floor protector must be a layer of **non-combustible** millboard or other material having a thermal conductivity of K= 0.84 BTU IN/FT^2 HR F or less, or a UL listed floor protector such as MICORE or WONDERBOARD. See Figure 4.

NOTE: In calculating equivalent thickness of alternate materials, the following formula should be used. One layer of ¼" thick millboard has a R factor of .45 (BTU in/hr (ft^2) (°F)). If common brick were being used as an alternate material with a K factor of 5.0 at 75° F, the thickness required would be as follows: Required Thickness = K of brick / K of millboard x (thickness of millboard) or (5.45) x (1 IN) = 11.1IN of brick minimum.

Be sure to place the safety strip provided with the unit beneath the front edge of the unit, 1 1/2". Seal the crack between the unit and the hearth extension with a non-combustible material.
The hearth extension must extend 8" on either side of the unit and be at least 16" deep.

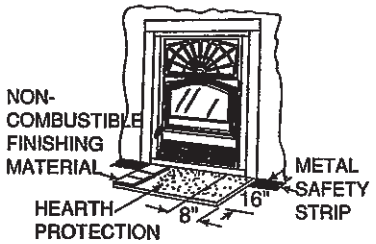
Mantel

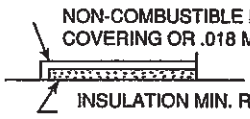
The minimum clearance between the warm air outlet and a combustible mantel is 12". The maximum depth of the mantel is 8". See figure 3.

NOTE: The Air Deflector must be installed immediately above the warm air outlet.

Sidewalls

Adjacent combustible side walls must be located a minimum of 12" from the fireplace opening. See Figure 5.





EXAMPLES OF INSULATION

	REQUIRED THICKNESS	K VALUE
USG MICORE 300	1"	.45

(THERMAL CONDUCTIVITY) "K" = BTU in./hr. ft²°F

TO SUBSTITUTE ALTERNATE INSULATION MATERIAL YOU NEED TO KNOW THE "K" FACTOR FOR THAT MATERIAL. TO CALCULATE THE REQUIRED THICKNESS FOR THE ALTERNATE MATERIAL USE THE FOLLOWING FORMULA:

$$\frac{\text{K ALT.}}{.45} \times 1 = \text{THICKNESS OF ALTERNATE MAT. (INCHES)}$$

K OF BRICK = 5

$$\frac{5}{.45} \times 1 = 11.1 \text{ IN. OF BRICK}$$

Figure 4
Hearth Extensions

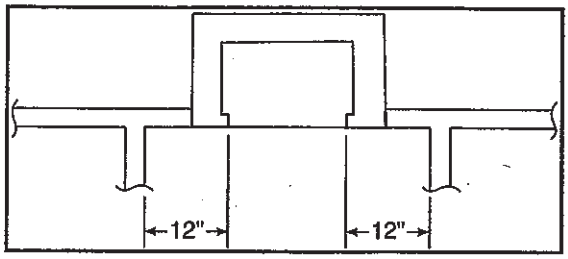


Figure 5
Sidewalls

Chimney Requirements

When planning the fireplace location, the chimney construction and necessary clearances must be considered. The fireplace system and chimney components have been tested to provide the following flexibility in construction:

Minimum straight height	14ft
Minimum height with offset/return	16ft
Maximum height	30ft
Max. length between an offset/return	8ft
Max. distance between Chimney Stabilizer	25ft
Max. unsupported length between offset/return	6ft
Max. straight unsupported chimney heights	12ft

Offset Installations

To clear any overhead obstructions, the chimney may be offset using a 15° or 30° Offset/Return. See Diagram under Table 1. See Table 1 to enable selection of the appropriate chimney components when using offsets and returns.

1. Determine amount of offset required to extend the chimney through a wall or around an obstacle. See Diagram, dimension "A".
2. Refer to Table 1 and find the "A" dimension closest to but not less than the amount of offset required in your installation.
3. Find the "B" dimension in Table 1 and determine if it is compatible with your installation.
4. Read across the chart and find the Catalog Number and number of Chimney Sections required.
5. Refer to Section V, Step-By-Step Installation of the Fireplace System.
6. All joist areas must have a Firestop.

WARNING
DO NOT COMBINE OFFSETS TO CREATE AN OFFSET GREATER THAN 30° FROM VERTICAL. THIS MAY CREATE A FIRE HAZARD SINCE THE NATURAL DRAFT MAY BE RESTRICTED.

V. Chimney System

The Sunburst II, Model 2208 is UL listed for use with the following brands of chimney. These chimneys are for vertical installation and may have one optional offset (2 - 15° or 2 - 30° elbows maximum). They are:

1. HEATILATOR SL300 SERIES
2. AMERICAN METAL PRODUCTS (AMERITEC) MODEL 8HS
3. SIMPSON - DURAVENT MODEL 8SDP (DURA-PLUS)
4. METAL FAB, INC., MODEL 8TG
5. GSW - MODEL 8SC
6. SECURITY CHIMNEYS - MODEL 8ASHT

To ensure a proper connection between these chimney systems and the model 2208, this unit is designed to accept the "anchor plate" chimney part for all of the approved chimneys. Follow the chimney manufacturer's installation instructions with your chimney parts.

The 2208 fireplace is intended for single and multiple story residential building installations where the overall height of the fireplace and chimney is not less than 14ft. with no elbows used or 16ft. with two elbows used. The maximum height of the assembly shall not exceed 30 ft. The fireplace may be installed directly upon combustible building construction with 1/2" air space clearance on the sides and back and 2" clearance to the top of the fireplace area. The chimney is intended to be installed with 2" air space clearance to combustible construction.

Once you have chosen the location for your installation, try to position it so that it can be installed with a minimum relocation of cutting of joists, load bearing partitions or structural members. Check for and avoid electrical wire and conduits or other utility wires or plumbing in the path of the chimney. If you find it necessary to install an offset to relocate the chimney because your unit location is directly below such an obstruction, be sure to use only a chimney brand with approved offsets as shown above, and follow the chimney manufacturer's installation instructions.

A chimney anchor plate/starter section is required to connect the chimney to the outlet of the unit. Anchor plate/starter section numbers are:

1. HEATILATOR - DSL1
2. AMERICAN METAL PRODUCTS (AMERITEC) - 8HS-AP
3. SIMPSON - DURAVENT - 9002
4. METAL FAB, INC. - 8TGAP
5. GSW - JSC8AP
6. SECURITY CHIMNEYS - 8SP

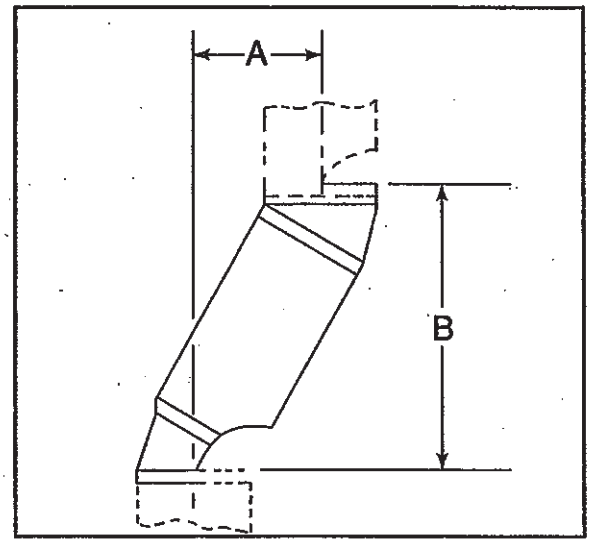
The Model 2208 will support the weight of a chimney up to 335 lb (162KG). This represents a chimney height of 21 FT (6.5M) for most chimneys. Chimney heights in excess of these figures require additional support.

TABLE 1

Offset Chart* **(Dimensions in inches)**

15°		30°							
A	B	A	B	SL306	SL312	SL318	SL324	SL336	SL348
1⅝	13⅜	3⅞	14⁷⁄₁₆	–	–	–	–	–	–
2⅞	17¾	6¼	18⁹⁄₁₆	1	–	–	–	–	–
–	–	8⅝	22¹⁄₁₆	2	–	–	–	–	–
4⁷⁄₁₆	23⁹⁄₁₆	9¼	23¾	–	1	–	–	–	–
–	–	11⅝	27⅞	1	1	–	–	–	–
6	29⅜	12¼	28¹⁵⁄₁₆	–	–	1	–	–	–
7⅜	34	14⅝	33⅛	–	2	–	–	–	–
–	–	15¼	34⅛	–	–	–	1	–	–
–	–	17⅝	38¼	1	–	–	1	–	–
–	–	20⅝	43⅞	–	–	2	–	–	–
10⅝	46¾	21¼	44⅝	–	–	–	–	1	–
11⅞	51⅜	23⅝	48¹⁄₁₆	1	–	–	–	1	–
–	–	26⅝	53¹³⁄₁₆	–	–	–	2	–	–
13¾	58⅜	27¼	55¾	–	–	–	–	–	1
15	62¹⁵⁄₁₆	29⅝	59⅛	1	–	–	–	–	1
16½	68¾	32⅝	64¼	–	1	–	–	–	1
18⅛	74⅝	35⅝	69⅞	–	–	1	–	–	1
–	–	38⅝	74⅝	–	–	–	1	–	1
–	–	41	78¾	1	–	–	1	–	1
22¾	91⅞	44⅝	85⅛	–	–	–	–	1	1
24	96½	47	89⅛	1	–	–	–	1	1
25⅞	103½	50⅝	95⅞	–	–	–	–	–	2

*Proper assembly of air cooled chimney parts result in an overlap at chimney joints of 1¼". Effective length is built into this chart.



Offset/Return Chart

CHIMNEY HEIGHT

Major building codes specify a minimum chimney height above the roof top. These specifications are summarized in what is known as the "Ten Foot Rule". This rule states:

If the horizontal distance from the side of the chimney to the peak of the roof is 10 feet or less, the top of the chimney must be a t least 2 feet above the peak of the roof, but never less than 3 feet in overall height above the highest point where it passes through the roof.

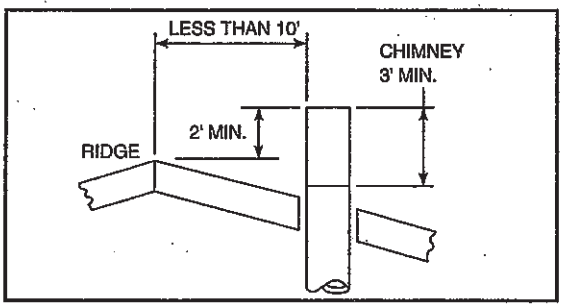


Figure 6
Chimney Height

If the horizontal distance from the side of the chimney to the peak of the roof is more than 10 feet, a chimney height reference point is established on the surface of the roof a distance of 10 feet from the side of the chimney in a horizontal plane. The top of the chimney must be at least 2 feet above this reference point, but never less than 3 feet in height above the highest point where it passes through the roof. These chimney heights are necessary in the interest of safety and do not ensure smoke-free operation. Trees, buildings, adjoining roof lines, adverse wind conditions, etc., may create a need for a taller chimney should smoking occur.

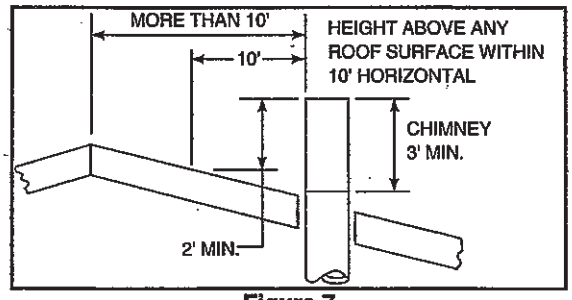


Figure 7
Chimney Height

The Model 2208 chimney system may not exceed 30 feet above the base of the unit. The minimum height of the chimney system is 14 feet above the floor. The chimney must have an 8' inside diameter for proper performance and fit.

If the chimney system contains an offset, the minimum height is 16 feet above the floor. The model 2208 chimney may only use one offset with either 15 degree or 30 degree elbows.

The amount of draft in the chimney may also be dependent on local geography, nearby obstructions or other factors.

WARNING
DO NOT INSTALL OUTSIDE AIR DUCTS SUCH THAT THE AIR MAY BE DRAWN FROM ATTIC SPACES, BASEMENTS, OR ABOVE THE ROOFING WHERE OTHER HEATING APPLIANCES OR FANS AND CHIMNEYS, EXHAUST OR UTILIZE AIR.

Outside Air

Outside air is required. Figure 8 shows only two of the many possible locations.

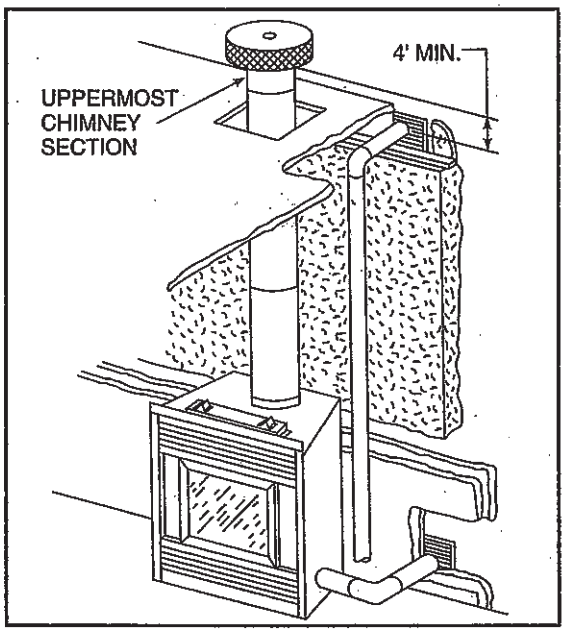


Figure 8
Outside Air Locations

The inlet tube assembly and connector tube at the unit are supplied with the unit. Piping is not supplied. Keep the run as short and straight as possible for best performance.

CONSTRUCTING A CHASE

The chase may be constructed for the unit and chimney or for the chimney only. A chase is an enclosure built around the system. It is most commonly constructed on an outside wall as shown below.

Three examples of chase applications are described below.

1. Fireplace and chimney enclosed in chase - exterior.
2. Chimney offset through exterior wall and enclosed in chase.
3. Chase constructed on roof.

MATERIALS FOR CHASE

The chase is constructed much the same as the walls in your home. A variety of materials may be used including brick, stone, veneer brick, or standard siding materials.

In constructing the chase, several factors must be considered.

1. Maintain a 1/2" minimum air space around the firebox.
2. Maintain a 2" air space around the chimney
3. The Chase top must be constructed of a non-combustible material.
4. The walls of the chase should be insulated to prevent heat loss from the home around and through the fireplace.
5. A Firestop Space should be install in a insulated false ceiling at the 8' level above the firebox assembly. this helps to prevent heat loss through the chase.

V. STEP-BY-STEP INSTALLATION OF THE MODEL 2208 SYSTEM

WARNING

BEFORE STARTING, DO THE FOLLOWING:

1. **WEAR GLOVES AND SAFETY GLASSES FOR PROTECTION.**
2. **KEEP HAND TOOLS IN GOOD CONDITION. SHARPEN CUTTING EDGES AND MAKE SURE TOOL HANDLES ARE SECURE.**
3. **ALWAYS MAINTAIN THE MINIMUM AIR SPACE REQUIRED TO THE ENCLOSURE TO PREVENT FIRE.**

STEP 1

Position the unit in the desired location and frame.

STEP 2

Slide the metal strip two inches under the front edge of the unit. See Figures 3 & 4. When the metal strip is not provided as a single piece, then the individual pieces must overlap each other by one inch.

STEP 3

Level the 2208 side-to-side and front-to-back. Shim with non-combustible materials as necessary.

WARNING

CAREFULLY FOLLOW THE INSTRUCTIONS FOR ASSEMBLY OF THE CHIMNEY AND OTHER PARTS NEEDED TO INSTALL THIS SYSTEM. FAILURE TO DO SO MAY RESULT IN A FIRE, ESPECIALLY IF COMBUSTIBLES ARE TOO CLOSE TO THE UNIT OR CHIMNEY AND AIR SPACES ARE BLOCKED PREVENTING THE FREE MOVEMENT OF COOLING AIR.

STEP 4

Line up the holes on the DSL1 (starter section) outer brackets with the holes in the top plate on the unit. Use the screws provided in the fastener pack of the starter section to secure. Insert the Inner flue extension into the collar of the unit and seal with furnace cement.

STEP 5

Assemble the first section of chimney to the top of the unit. It may be either a straight Pipe Section or an Offset. If an Offset is used, it must be turned to its final position and locked in place with size 10 sheet metal screws provided with the Offset. Drill the 1/8" holes in the starter collar using the predrilled offset holes as a template. See Figure 9.

STEP 6

Mark and cut out an opening in the ceiling for the particular Firestop Spacer being utilized. Frame the opening with the same size lumber used in the ceiling joists. See Chapter 25 of the Uniform Building Code for general construction requirements when "Framing Around Openings".

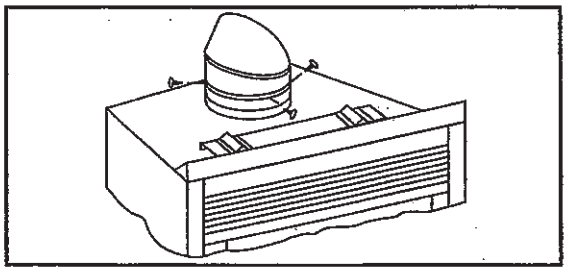


Figure 9
Starter Section w/Offset

STEP 7

Install the Firestop Spacer. Secure the four sides of the Firestop to the joists using a minimum of three (3) fasteners per side. These Firestop Spacers are designed to provide the minimum two inch air space around the chimney. In all situations, the Firestop is to be secured to the ceiling joists from the bottom or fireplace side. When the space above the ceiling is an attic space, the top pan that comes with the Firestop must also be used. Secure the top pan from the attic side to ensure against loose or later blow-in-type insulation from falling into the required two inch air space around the chimney. See Figure 10. Firestop Spacers must be used at all ceiling levels where the chimney penetrates a living space.

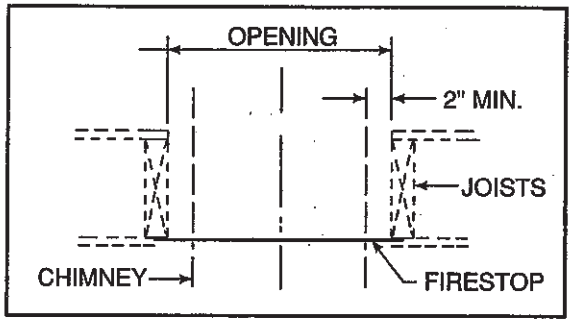


Figure 10
Firestop Spacer

STEP 8

Continue assembling Chimney Sections up through the Firestop Spacer as needed. Check height and unsupported chimney limitation described earlier. The maximum straight unsupported height is 12 feet above the firebox and 25 feet between Chimney Stabilizers.

STEP 9

When Offsets/Returns are joined to straight Pipe Sections, they must be locked in position with the size 10 sheet metal screws provided, using the predrilled holes. Offsets/Returns and Chimney Stabilizers have straps for securing these parts to joists or rafters. Chimney Brackets may be used to stabilize the chimney. See Figures 11 and 12.

NOTE: Nails must always be driven so the nail head is in shear (shank is perpendicular to the chimney load). This will prevent the nail from pulling loose.

NOTE: Be sure to provide intermediate support for the pipe during construction and check to be sure inadvertent loading has not dislodged the Pipe Sections from the unit or at any chimney joint.

STEP 10

Locate the point where the chimney will exit the roof by plumbing down to the center of the chimney. Drive a nail through the roof to mark the center. See Figure 13.

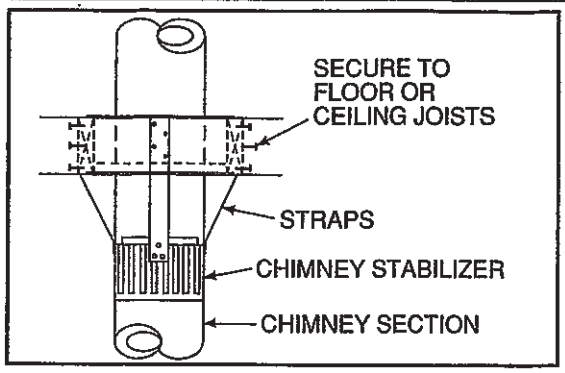


Figure 11
Chimney with Stabilizer

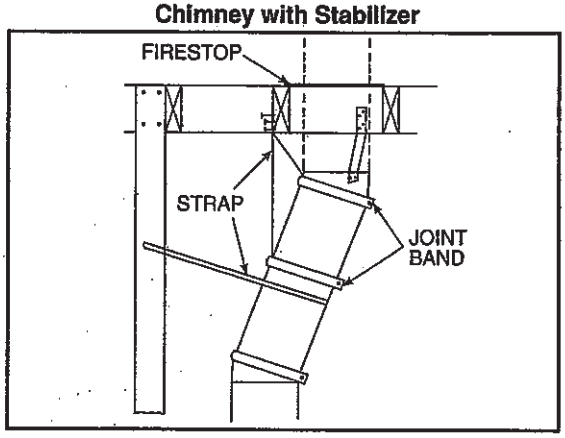


Figure 12
Offset/Return Installation

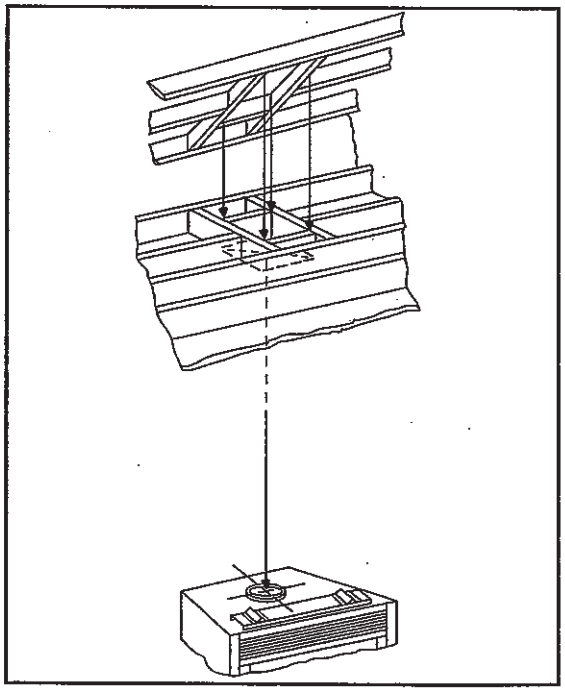


Figure 13
Ceiling and Attic Construction

STEP 11

Measure to either side of the nail and mark the 14 1/2" x 14 1/2" opening required. The 14 1/2" square is measured on the horizontal; actual length may be larger depending on the pitch of the roof. Cut out and frame the opening. See Chapter 25 of the Uniform Building Code for Roof Framing details.

STEP 12

Continue to add chimney sections through the roof opening, maintaining at least a 2" air space.

STEP 13

Install the Roof Flashing appropriate to the roof pitch and install the Terminal Cap following manufacturers instructions.

WARNING
DETAILED INSTRUCTIONS FOR INSTALLATION OF THE ROOF FLASHING, STORM COLLAR AND TERMINAL CAP ARE FOUND PACKAGED WITH THESE PARTS. TO AVOID DANGER OF FIRE, ALL INSTRUCTIONS MUST BE STRICTLY FOLLOWED, INCLUDING THE PROVISION OF AIR SPACE CLEARANCE BETWEEN CHIMNEY SYSTEM AND COMBUSTIBLE ENCLOSURE. TO PROTECT AGAINST EFFECTS OF METAL CORROSION OF THE ABOVE PARTS, FIRST WASH THEM WITH A SOLVENT OR VINEGAR, RINSE WITH WATER, AND THEN PAINT WITH A RUST RESISTANT PAINT.

STEP 14

Complete the fireplace enclosure, allowing space for outside air ducts. Care must be taken with any electrical wiring to avoid exposure to high temperatures or mechanical damage to wire insulation. A minimum clearance of 1/2" must be maintained between the fireplace sides and the combustible enclosure.

STEP 15

Outside air is required for proper operation of this unit.

Mark and cut a 6" diameter hole in the building or chase wall for the inlet tube assembly. Secure the tube assembly in position.

NOTE: The Inlet Tube Assembly should be of sufficient height to prevent snow or other materials from blocking it.

Install the connector tube onto the unit by bending the tabs outward and sliding the tube into the outside air hole on the unit side. Align the screw holes of the tube with the holes on the outershell of the unit and screw in place with the screws provided in the fastener pack.

Assemble the 6" diameter ducting (not included) between the Inlet Tube Assembly and the Connector Tube.

STEP 16

Position the Hearth Extension over the metal protective strip which should project two inches in front of the unit bottom. See Figure 4. Seal the crack between the Hearth Extension and fireplace with a non-combustible sealant.

STEP 17

Install the Air Deflector. The Deflector is installed directly onto the unit on the underside of the upper air outlet opening. See Figure 15.

Slide the deflector in until it touches the fireplace front. Mount the deflector directly to the fireplace with three sheet metal screws provided through the three pre-drilled holes found on the air deflector.

STEP 18

Apply the finish materials of your choice. Do not install combustible materials over the face of the unit or unit openings.

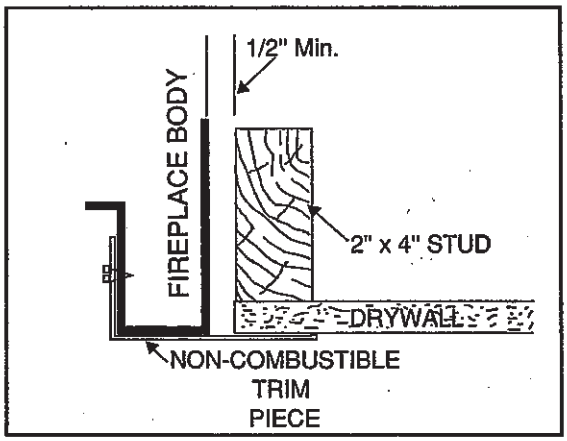


Figure 14
Finishing Material

STEP 19

Install the Door Assembly. See Figures 16 & 17.

The Model 2208 door is reversible and may be hinged on either the right or left hand side. Determine whether the door is to be left or right opening.

Place washer (2)(from the door assembly fastener pack) onto each of the unit hinge lugs (the side that was determined to be the hinge side).

Install the door on the face of the unit by holding the door in the open position and resting it on the hinge lugs on the face of the unit. After lining up the door and unit hinge lugs, drop the hinge pins into the holes.

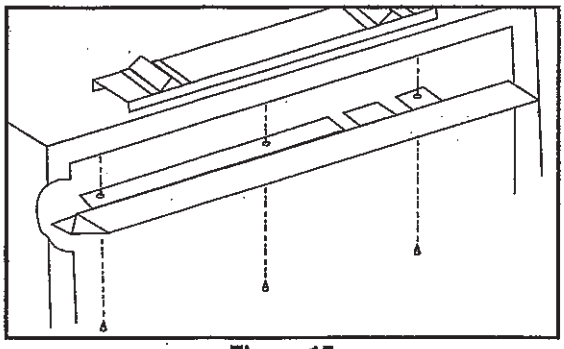


Figure 15
Air Deflector Installation

Install the handle onto the door by first, pressing the bushing into the door handle (the large hole). Take the countersunk allen head bolt and place the starlock washer on the bolt. Put the bolt /starlock washer through the handle/bushing. Place the flat washer onto the bolt and align the bolt assembly up with the threaded hole, in the door. Screw the countersunk allen head bolt into the door and tighten using the supplied allen wrench.

Attach the Spring Handle on the Door Handle by turning it counter clockwise. Note: The Spring Handle will turn hard, it is a **tight** fit.

See pages 18 and 19 for adjusting door.

STEP 20

Prior to building your first fire in your fireplace, please read the "Operating Instructions" section that follows.

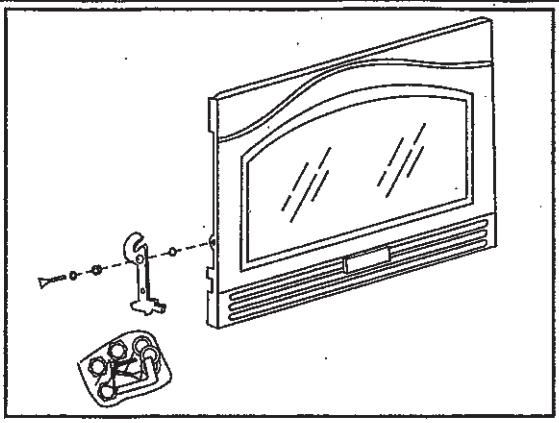


Figure 16
Door Handle Installation

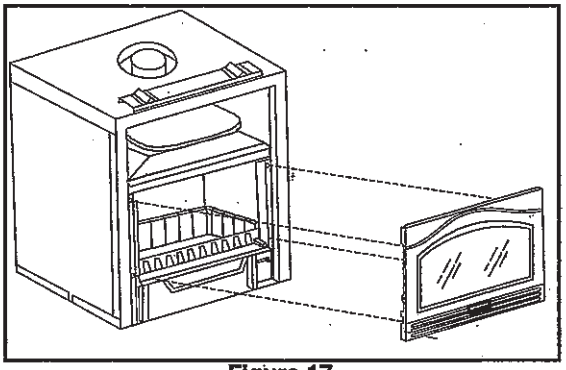


Figure 17
Door Installation

OPERATING INSTRUCTIONS

WARNING

DO NOT ATTEMPT TO OPERATE THIS FIREPLACE WITHOUT READING AND UNDERSTANDING THESE OPERATING INSTRUCTIONS THOROUGHLY. FAILURE TO OPERATE THIS APPLIANCE PROPERLY MAY CAUSE A SERIOUS HOUSE FIRE.

NOTICE: Save and give these Operating Instructions and the Installation Instructions to subsequent owners. The information provided is intended to notify and warn them about making unsafe future modifications such as the addition of shelves or the use of unauthorized parts and repairs.

CAUTION

Edges are sharp. Hand protection is recommended.

The DOVRE Model 2208 Fireplace is an efficient woodburning appliance designed to burn natural, seasoned wood. Do not burn, artificial logs or driftwood.

WOOD FUEL

Hardwood vs. Softwood

Your fireplace performance depends a great deal on the quality of firewood you use. Contrary to popular belief, one species of wood varies very little to the other in terms of energy content. All seasoned wood, regardless of species, contains about 8,000 BTU's per pound. The important factor is that hardwoods have a greater density than softwoods. Therefore, a piece of hardwood will contain about 60% more BTU's than an equal size piece of softwood. Since firewood is commonly sold by the cord (128 cu.ft.), a volume measurement, a cord of seasoned oak (hardwood) would contain about 60% more potential energy than a cord of seasoned pine (softwood).

There are many definitions of hardwood and softwood. Although not true in every case, one of the most reliable is to classify them as coniferous or deciduous.

Softwoods are considered coniferous. These are trees with needle-like leaves that stay green all year and carry their seeds exposed in a cone. Examples of softwood trees are Douglas fir, pine, spruce and cedar.

Softwoods, being more porous, require less time to dry, burn faster and are easier to ignite than hardwoods.

Deciduous trees are broadleaf trees that lose their leaves in the fall. Their seeds are usually found within a protective pod or enclosure. Hardwoods fall into this category. Some examples of deciduous trees are oak, maple apple, and birch. However, it should be noted that there are some deciduous trees that are definitely not considered hardwoods such as poplar, aspen and alder. Hardwoods require more time to season, burn slower and are usually harder to ignite than softwoods.

Obviously, you will use the type of wood that is most readily available in your area. However, if at all possible the best arrangement is to have a mix of softwood and hardwood. This way you can use the softwood for starting the fire giving off quick heat to bring the appliance up to operating temperature. Then add the hardwood for slow, even heat and longer burn time.

MOISTURE CONTENT

Regardless of which species of wood you burn, the single most important factor that effects the way your stove operates is the amount of moisture in the wood. The majority of the problems fireplace and fireplace insert owners experience are caused by trying to burn wet, unseasoned wood.

Freshly cut wood can be as much water as it is wood, having a moisture content of around 50%. Imagine a wooden t weighs about 8 pounds. Fill it with a gallon of water, put it in the firebox and try to burn it. This sounds ridiculous but that is exactly what you are doing if you burn unseasoned wood.

The following guideline will ensure properly seasoned wood:

1. Stack the wood to allow air to circulate freely around and through the woodpile.

2. Elevate the woodpile off the ground to allow air circulation underneath.

3. The smaller the pieces, the faster the drying process. Any piece over six inches in diameter should be split.

4. Cover the top of the woodpile for protection from rain and snow. Avoid covering the sides and ends completely. Doing so may trap moisture from the ground and impede air circulation.

The problems with burning wet, unseasoned wood are twofold. First, you will receive less heat output from wet wood because it requires energy in the form of heat to evaporate the water trapped inside. This is wasted energy that should be used for heating your home. Secondly, this moisture evaporates in the form of steam which has a cooling effect in your firebox and chimney system. When combined with tar and other organic vapors from burning wood it will form creosote which condenses in the relatively cool firebox and chimney, See page 18 of this manual for more information regarding creosote formation and need for removal.

WARNING

BURNING WET UNSEASONED WOOD CAN CAUSE EXCESSIVE CREOSOTE ACCUMULATION. WHEN IGNITED IT CAN CAUSE A CHIMNEY FIRE THAT MAY RESULT IN A SERIOUS HOUSE FIRE.

FLUE DRAFT

Like all modern woodburning fireplaces, the 2208 requires the proper amount of flue draft to assure safe and efficient operation. Flue draft is measured as negative pressure in the chimney. The amount of negative pressure determines how strong the draft is. The draft is important because it draws the combustion air into the firebox and pulls the smoke out of the chimney.

There are three basic criteria essential in establishing and maintaining flue draft:

1. Availability of combustion air.
2. Heat generated from the fire.
3. Diameter and height of the flue system.

These three factors work together as a system to create the flue draft. Increasing or decreasing any one of them will effect the other two and thus change the amount of draft in the entire system. See Figure 18.

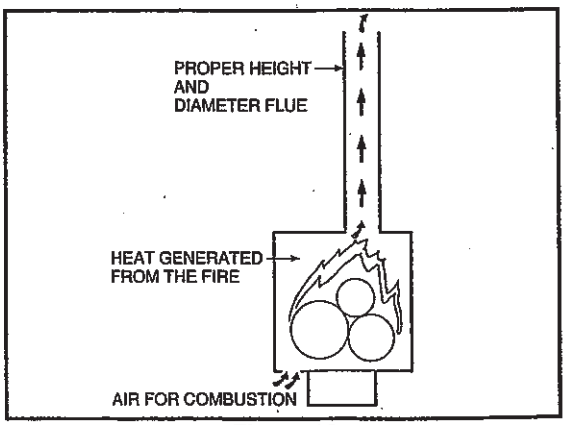


Figure 18
Flue Draft

1. **Availability of combustion air.** A source of air (oxygen) is required in order for combustion to take place. The air enters the firebox through an opening in the fireplace body. The important thing is to realize that whatever air is consumed by the fire must be replaced. If you are using room air, the air is replaced through cracks around windows, under doors, etc. However, most newly constructed houses or existing homes fitted with tightly sealed door and windows are relatively air tight. In this case, an outside air source must be made available to feed combustion air from outside the home into the fireplace.

2. **Heat generated from the fire.** Most of the heat produced form the fire is transferred into the heat exchanger of the fireplace, then into the room. However, part of this heat escapes up the chimney taking smoke and other combustion gases with it. Most modern woodburning fireplaces, including the 2208, extract heat so efficiently that the amount that goes up the flue can be minimal. This one reason why it is important to burn well seasoned wood. The heat generated from the fire should be warming your home and establishing the flue draft. It should not be wasted by evaporating moisture out of wet, unseasoned wood.

3. **Diameter and height of flue system.** The chimney height requirements are listed on page 9 and should be installed in accordance with the installation instructions on page 11. A specific volume of air, determined by the diameter and height of the chimney connector and chimney, is contained within the flue system. As heat from the fire enters the flue, it warms this air causing it to rise. The air moving up the flue draws smoke and more heated air from the fire with it, thus establishing draft. The amount of draft depends on the temperature of the heated air and the volume of air that is contained in the flue system

BREAK-IN PERIOD. Build you first few fires small to allow the high temperature paint on your fireplace to cure. During this period excessive temperatures may damage the paint. All adequate ventilation to dissipate to smoke and odor that may come from the paint during curing.

CAUTION:
NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP" A FIRE IN THIS FIREPLACE. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE FIREPLACE WHILE IT IS IN USE TO AVOID THE RISK OF FIRE.

STARTING THE FIRE.

1. Place several crumpled newspaper pages (at least 6) on the firebox floor.

2. Cover the paper with several pieces of kindling. The kindling should be less than 1" in diameter, well seasoned, dry split firewood.

3. Light the newspaper in several places, starting at the back of the firebox and working towards the front.

4. Close the door to prevent smoke spillage BUT DO NOT LATCH. This allows extra air into the firebox for start-up while pre-heating the glass to help keep it cleaner.

5. Maintain the fire by adding kindling periodically until a uniform fire bed has been established (approximately 5 -10 minutes).

6. After establishing a fire bed, add a few small pieces of firewood, two to three inches in diameter, to the fire. Place the wood in such a manner to allow combustion air and flames between them.

NOTE: If the chimney flue is cold due to low outside temperatures, several pieces of crumpled paper on TOP of the fuel can help to establish a draft in the flue. Light this paper when lighting the kindling in step 5.

WARNING
DO NOT LEAVE FIRE UNATTENDED WHEN THE DOOR IS UNLATCHED. CARELESSLY PLACED FIREWOOD COULD FALL OUT OF THE FIREBOX CREATING A FIRE HAZARD.

7. When the kindling is consumed and the firewood is burning briskly (about 5 to 10 minutes) add a minimum of three average sized pieces of split firewood. Close the door and latch it securely.

CAUTION
DO NOT SLAM FIREPLACE DOOR OR OTHERWISE IMPACT THE GLASS. WHEN CLOSING DOOR, MAKE SURE THAT LOGS OR OTHER OBJECTS DO NOT PROTRUDE TO IMPACT AGAINST THE GLASS.

WARNING
ALWAYS OPERATE THIS APPLIANCE WITH THE DOOR CLOSED AND LATCHED EXCEPT DURING START-UP AND RE-FUELING.

RE-FUELING. When adding fresh wood to an existing fire:

1. Unlatch the door, wait a few seconds, then open the door slowly.

CAUTION

ALWAYS OPEN THE DOOR SLOWLY WHILE THE FIRE IS BURNING TO AVOID SMOKE AND FLAME SPILLAGE. IT IS BEST TO UNLATCH THE DOOR, WAIT A FEW SECONDS, THEN OPEN THE DOOR SLOWLY.

If the fire has been allowed to die down between refueling it may be necessary to use smaller pieces of wood to rekindle it.

WARNING

CONTINUED OVERFIRING CAN PERMANENTLY DAMAGE YOUR FIREPLACE SYSTEM. AN EXAMPLE OF OVERFIRING IS:

1. QUANTITIES OF SCRAP LUMBER, PINE BRANCHES OR CARDBOARD BOXES WHICH EXCEED THE VOLUME OF THE "NORMAL LOG FIRE". THESE MATERIALS PRODUCE MANY SPARKS AND MUST NOT BE USED.

¬ASH DISPOSAL. Ashes should 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. The ashes should be retained in the closed container until all cinders have thoroughly cooled.

WARNING

ASHES SHOULD NEVER BE PLACED IN WOODEN OR PLASTIC CONTAINERS, OR IN PAPER OR PLASTIC BAGS, REGARDLESS OF HOW LONG THE FIRE HAS BEEN OUT. COALS HAVE BEEN FOUND TO STAY HOT FOR SEVERAL DAYS WHEN EMBEDDED IN ASHES.

CREOSOTE & SOOT - Formation and need for removal. When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a newly started fire or from a slowly burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire which may damage the chimney or even destroy the house.

The chimney connector and chimney should be inspected at least twice monthly during the heating season to determine if creosote or soot build-up has occurred. If so, it should be removed to reduce the risk of a chimney fire.

To help prevent creosote build-up, always burn dry, well seasoned firewood. When refueling after an extended low burn rate, allow the appliance to burn with the combustion air intake fully open for 10 to 20 minutes to burn off creosote deposits that accumulate during the low burn.

The creosote and soot should be removed with a brush specifically designed for the type of chimney in use. A chimney sweep can perform this service, It is also recommended that before each heating season the entire system be professionally inspected, and cleaned and repaired if necessary.

WARNING

FAILURE TO INSPECT AND CLEAN YOUR CHIMNEY SYSTEM REGULARLY CAN RESULT IN A SERIOUS FIRE WHICH MAY DAMAGE THE CHIMNEY OR CAUSE A HOUSE FIRE.

DOOR GASKET. Check the door gasket periodically for proper seal. Wear or damage to the gasket material can cause air leakage into the firebox resulting in overfiring and loss of efficiency. DGR1 Replacement Kit.

DOOR ADJUSTMENTS. The Model 2208 Door is reversible and may be hinged on either the right or left hand side. To change the hinge position, open and lift the door upward off the hinges. Switch the handle assembly and hinge pins. Reverse the above procedure to re-install the door. See Figure 19.

The door may be adjusted to achieve a tight seal and proper horizontal alignment. See Figure 19.

To loosen or tighten the door assembly at the top/bottom of the door, loosen the very top and/or very bottom hex head bolt on the Hinge bar and slide the Hinge bar forward or back. After adjusting, resecure the bolts.

To adjust the door horizontally loosen (slightly) the hex head bolts at the very top and bottom on the hinge bar and tighten or loosen the hex head set screws to level the door. Resecure the hex head bolts after adjustment.

To adjust the latch, loosen the hex head bolts at the very top and bottom on the hinge bar and slide the hinge bar towards the back of the fireplace.

NOTE: THE ABOVE ADJUSTMENTS HAVE AN EFFECT ON EACH OTHER. TAKE EXTRA TIME IN ACHIEVING PROPER ADJUSTMENT.

WARNING
DO NOT OPERATE THIS FIREPLACE IF THE DOOR GASKET IS MISSING OR DAMAGED. DANGEROUS OVERFIRING CAN OCCUR WHICH CAN DAMAGE THE APPLIANCE OR IGNITE CREOSOTE IN THE CHIMNEY, POSSIBLY CAUSING A HOUSE FIRE.

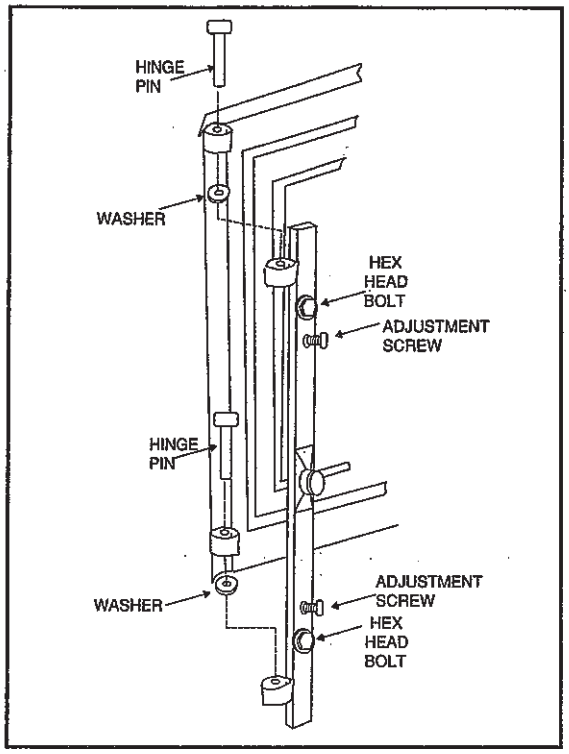


Figure 19
Door Adjustments

DOOR GLASS. Inspect the glass regularly for cracks or breaks. If you detect a crack or break, extinguish the fire immediately and contact your DOVRE dealer for replacement. Replacement glass must be ceramic. Order GK12 Replacement Kit.

WARNING
DO NOT OPERATE THE FIREPLACE IF THE DOOR GLASS IS BROKEN OR MISSING. DANGEROUS OVERFIRING CAN OCCUR WHICH CAN DAMAGE THE APPLIANCE OR IGNITE CREOSOTE IN THE CHIMNEY, POSSIBLY CAUSING A HOUSE FIRE.

A portion of the combustion air entering the firebox is deflected down over the inside of the door glass. This air flow "washes" the glass helping to keep smoke from adhering to its surface.

When operated at a low burn rate less air will be flowing over the glass and the smokey, relatively cool condition of a low fire will cause the glass to become coated. If the deposits on the glass are not very heavy, normal glass cleaners work well. Heavier deposits may be removed by using a damp cloth dipped in wood ashes or by using a commercially available oven cleaner. After using an oven cleaner, it is advisable to remove any residue with a glass cleaner or soap and water. Oven cleaner left on during the next firing can permanently stain the glass and damage the finish on plated metal surfaces.

CAUTION: Take care when using oven cleaners as they may be caustic. Always follow label instruction and warnings.

Do not clean the glass with materials that may scratch or otherwise damage the glass. Scratches on the glass can develop into cracks or breaks. Never attempt to clean the glass while a fire is in the unit.

The best way to keep the glass clean is to operate the fireplace efficiently by using dry, well seasoned wood and burning moderate to hot fires.

SAFETY - A FINAL WORD. Fireplaces as well as other woodburning appliances have been used safely for many years. Our own experience is that most problems are caused by improper installation, fueling and operating. All dimensions specified are minimum and increasing distances to combustibles decreases risk. Such common practices as surrounding the fireplace with loose fill insulation, and especially leaving the fire unattended, will increase the risk of fire. Additionally, an annual inspection of all fireplace systems should be performed as, like any appliance, minor repairs may be required to maintain the system in top operating condition.

Attention

APPLIANCE INSTALLER

Please return these Operating & Installation Instructions to the Appliance for Consumer Use

heatilator®

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