VANGUARD®

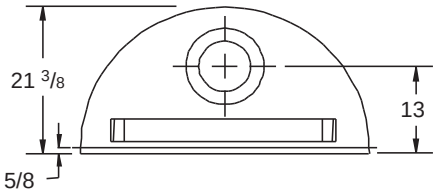
ARISTOCRAT™ MODEL V36EC2

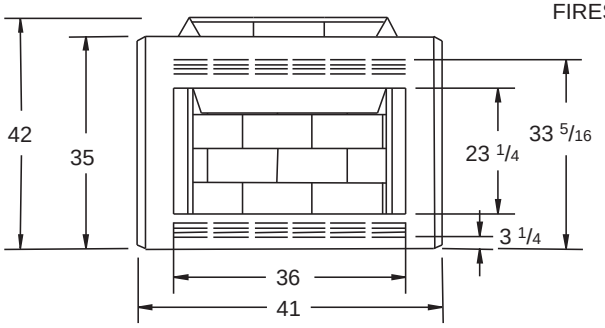
LOUVERED CIRCULATING WOOD-BURNING FIREBOX

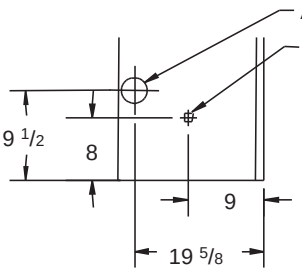
INSTALLATION INSTRUCTIONS

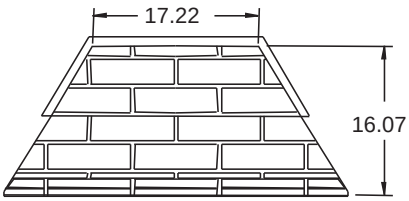
SAVE THIS BOOK

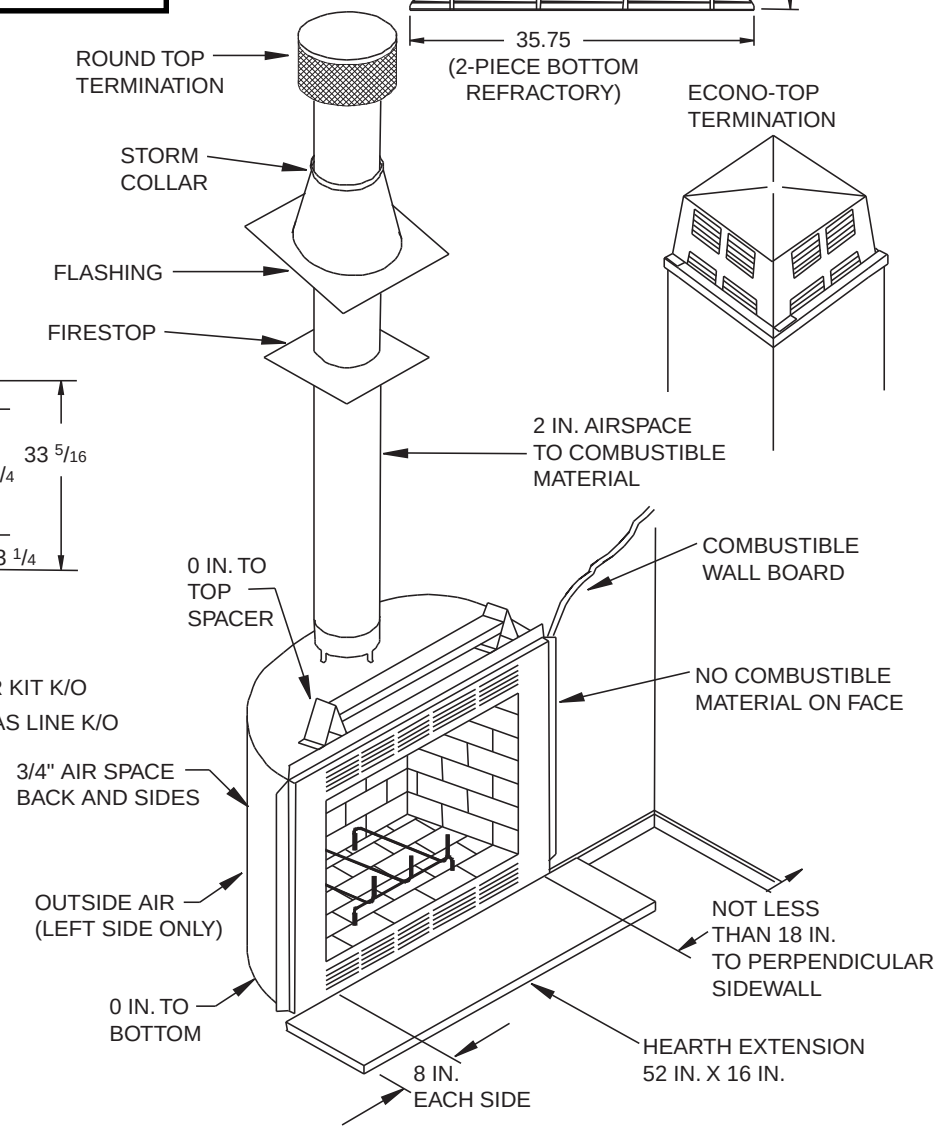
This book is valuable. In addition to instructing you on how to install and maintain your appliance, it also contains information that will enable you to obtain replacement parts or optional accessory items when needed. Keep it with your other important papers.











DESA INTERNATIONAL,
2701 INDUSTRIAL DRIVE
P.O. BOX 90004
BOWLING GREEN, KY
42102-9004

Model _____

Serial No. _____

Date Purchased _____

55504
Rev. B
08/99

FOR YOUR SAFETY

- **Do not store or use gasoline or any other flammable vapors or liquids in the vicinity of this or any other appliance.**
- **Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.**
- **Do not place clothing or other flammable materials on or near the appliance.**
- **NEVER leave children unattended when a fire is burning in the firebox.**

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY, PROPERTY DAMAGE, OR LOSS OF LIFE. REFER TO THIS MANUAL. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER OR LOCAL DISTRIBUTOR.

WARNING: THIS FIREBOX IS INTENDED FOR USE WITH WOOD, OR IF A VENT-FREE OR DECORATIVE GAS APPLIANCE IS INSTALLED, BURN PROPANE OR NATURAL GAS ONLY.

CHECK LOCAL CODES PRIOR TO INSTALLATION

INSTALLATION INSTRUCTIONS

INTRODUCTION

Before beginning the installation of your firebox, read these instructions through completely.

These Vanguard components and firebox are safe when installed according to this Installation Manual. Unless you use Vanguard components, which have been designed and tested for the firebox systems, you may cause a fire hazard.

This wood burning fireplace complies with **UL 127** as a FACTORY BUILT FIREPLACE and is listed and tested by **Underwriters Laboratory Inc.**

This model is not for use in mobile homes.

The DESA International warranty will be voided by, and DESA International disclaims any responsibility for the following actions.

a) Modification of the firebox, components, doors, air inlet system and the damper control.

b) Use of any component part not manufactured or approved by DESA International in combination with DESA International firebox systems.

WARNING: DO NOT USE A FIREBOX INSERT IN THIS FIREBOX UNLESS THE MANUFACTURER'S INSTRUCTIONS WITH THE INSERT SPECIFICALLY STATE THIS FIREBOX HAS BEEN TESTED FOR USE WITH THE INSERT.

PROPER INSTALLATION is the most important step in ensuring safe and continuous operation of this firebox. Consult the local building codes as to the particular requirements concerned with the installation of all factory-built fireboxes. Although grounding may not be required by code the manufacturer recommends it.

This firebox is not intended to be used as a substitute for a furnace to heat an entire home. Use for supplementary heating only.

MINIMUM CLEARANCE TO COMBUSTIBLE MATERIAL

Framing and enclosures may safely make direct contact with the spacer on the top of the firebox. The firebox may sit directly on combustible flooring (see step 4). The firebox opening must not be less than 14 inches from a combustible perpendicular sidewall. A 2-inch minimum air space clearance between combustible materials and the chimney must be absolutely maintained. A 16 1/2 inch inside chase dimension is recommended as a minimum size. A 3/4 inch air space required around back and sides of firebox.

WARNING: DO NOT PACK REQUIRED AIR SPACES WITH INSULATION OR OTHER MATERIALS.

HEIGHT

The minimum height of the chimney, measured from the base of the firebox to the flue gas outlet, is 14 feet for straight flues or a flue with one elbow set. For systems with 2 elbow sets, the minimum height is 22 feet. The maximum height of any system is 60 feet. This measurement includes the firebox, chimney sections and the effective height of the termination assembly.

INSTALLING THE FIREBOX

STEP 1: Frame the opening for the firebox using the dimensions shown in Figure 1, Figure 2, or Figure 3, page 3.

STEP 2: Set the firebox directly in front of this opening and slide the unit back until the mounting flanges touch the side framing.

STEP 3: Check the level of the firebox and shim with sheet metal if necessary.

STEP 4: When the firebox is installed upon a combustible floor a galvanized sheet ember protector (provided) must be installed between the firebox and the hearth extension as illustrated.

STEP 5: Secure the firebox to the framing through the nailing flanges located on the sides on the firebox with 8-penny nails or sheet rock screws.

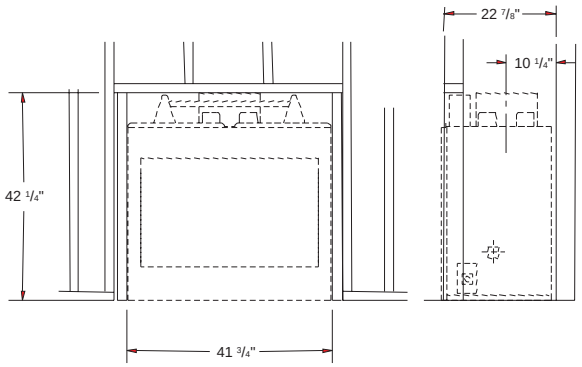


Figure 1 **FRAMING DIMENSIONS**

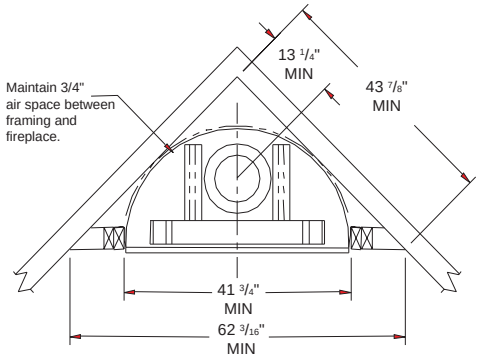


Figure 2 **FRAMING DIMENSIONS**

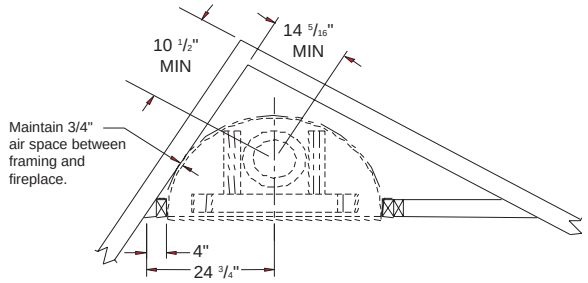


Figure 3 FRAMING DIMENSIONS AT 30°

ASSEMBLING AND INSTALLING YOUR DOUBLEWALL CHIMNEY SYSTEM

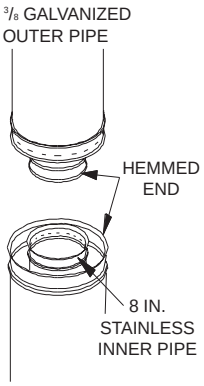
Each double wall chimney section consists of an outer pipe, flue pipe and one wire spacer. The pipe sections are not galvanized and must be assembled independently as the chimney is installed. When starting the chimney directly on the firebox, the flue pipe section must be installed first, with the flared end with lances up. The outer pipe section can then be installed over the flue pipe section with the hemmed end up (see Figure 4).

Press down on each pipe section until the lances on the lower end securely engage the knurl on the firebox collar. The wire spacer will assure the proper spacing between the inner and outer pipe sections.

WARNING: THE OPENINGS IN THE COLLAR AROUND THE BASE OF THE CHIMNEY AT THE TOP OF THE FIREBOX MUST NOT BE OBSTRUCTED, NEVER USE BLOWN INSULATION TO FILL THE CHIMNEY ENCLOSURE (SEE FIGURE 5).

Continue to assemble chimney sections as outlined above, making sure both inner and outer pipe sections are locked together. When installing double wall "snap lock" chimney together, it is important to assure the joint between the chimney sections are locked. Check by pulling chimney upward after locking. The chimney will not come apart if properly locked. It is not necessary to add screws to keep the chimney together.

LINEAL GAIN: THE ACTUAL MEASURABLE LENGTH OF A PART AFTER TWO OR MORE PARTS ARE CONNECTED.



LINEAL GAIN		
PART NO.	DESCRIPTION	GAIN (IN)
V36EC2	FIREBOX	42
V12-8DM	PIPE SECTION	10 5/8
V18-8DM	PIPE SECTION	16 5/8
V24-8DM	PIPE SECTION	23 5/8
V36-8DM	PIPE SECTION	34 5/8
V48-8DM	PIPE SECTION	46 5/8
VRTL-8DM VRTTL-8DM VADS-8DM	ROUND TERMINATION	6
VETL-8DM VETO-8DM VETLO-8DM VET-8DM	CHASE TERMINATION	1 to 12

Figure 4

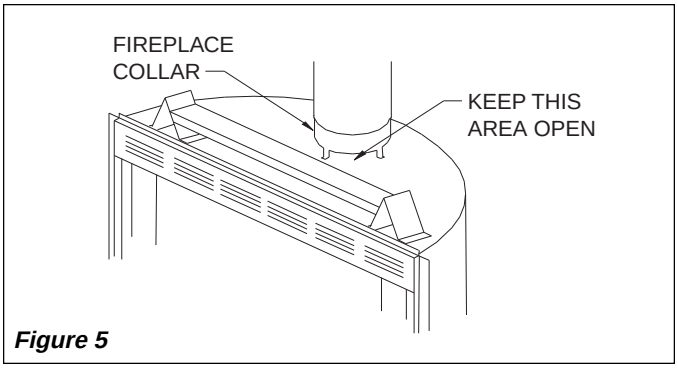


Figure 5

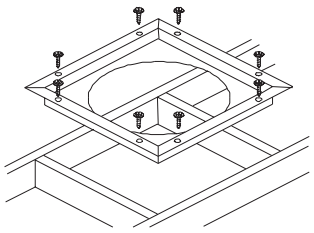


Figure 6

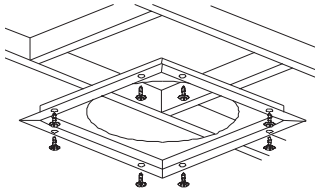


Figure 7

FIRESTOP SPACERS - VFS-8DM

Firestop spacers are required at each point where the chimney penetrates a floor or ceiling joist space. Their purpose is two fold; they establish and maintain the required clearance between the chimney and combustible materials.

They also provide complete separation from one floor space to another floor or attic space as required by most codes.

When the double wall pipe passes though a framed opening into an attic space, the firestop must be placed into the attic floor as in Figure 6. When the pipe passes through a framed opening into a living space above, the firestop must be placed onto the ceiling from below as in Figure 7.

SUPPORT SECTIONS

The chimney support section is a 12-inch length double wall pipe with 4 straps. A chimney support is required every 30 feet above the firebox after a straight chimney run, or above a return elbow after a straight chimney run (see Figure 8). This support is designed to relieve the extra weight load on the firebox and elbows when high chimneys are installed.

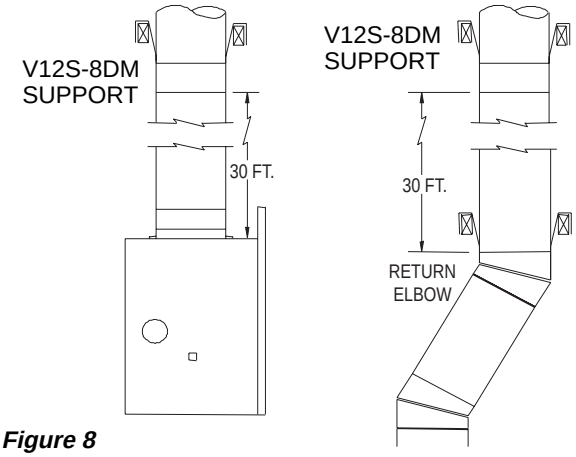


Figure 8

INSTRUCTIONS WHEN OFFSET OF CHIMNEY IS NEEDED

TO INSTALL ELBOWS

1. To achieve desired offset, you may install combinations of 12", 18", 36", and 48", lengths of double wall pipe (see *Rise and Offsets* chart and Figure 9 & 11).
2. Chimney weight above offset rests on return elbow. Straps must be securely nailed to rafters or joists (see Figure 10 details A & B).
3. Maximum length of pipe supports (Return elbow or V12S-8DM) is 6 feet of angled run. Maximum of two (2) 6 feet of angled run sections per chimney system.

PENETRATING THE ROOF

To maintain a 2-inch clearance to the pipe on a roof with a pitch a rectangular opening must be cut.

STEP 1: Determine the center point through which the pipe will penetrate the roof.

STEP 2: Determine the pitch of the roof. Pitch is the distance the roof drops over a given span, usually 12 inches. A 6/12 pitch means that the roof drops 6 inches for each 12 inches measured horizontally.

STEP 3: From the center point determined in STEP 1, measure an opening 17 1/4 inches wide (8 5/8 inches to each side of the center point). For a roof pitch between 0/12 (Flat) and 6/12 measure an opening 21 inches long (10 1/2 inches above and below the center point).

6/12 to 12/12 pitches: Measure 26 inches (13 above and below).

12/12 to 18/12 pitches: Measure 32 1/2 inches (16 1/4 above and below).

18/12 to 24/12 pitches: Measure 40 inches (20 above and below).

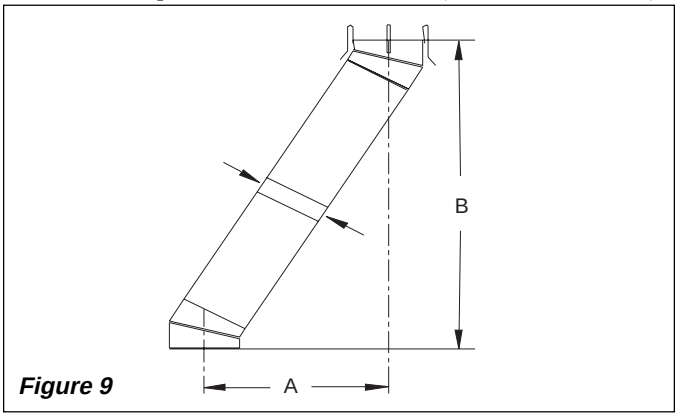


Figure 9

RISE AND OFFSETS

A	B	48	36	18	12	A	B	48	36	18	12	12S
4 3/8	16 3/8					41 1/4	80 1/4		1	1	1	1
9 3/4	25 1/2				1	45	86 3/4		2			1
12 3/4	30 3/4			1		46 3/4	89 1/2	1		1	1	1
15	34 3/4				2	51	97	1	1			1
18	40			1	1	53 1/4	101		2	1		1
21 1/4	46 1/4		1			56 1/4	106 1/4	2				1
23 3/4	49 1/4			1	2	59 1/4	111 1/2	1	1	1		1
27 3/4	56 3/4	1				61 3/4	115 1/2	2			1	1
30	60 3/4		1	1		64 3/4	120 3/4	2		1		1
33	66	1			1	68 1/4	127	1	2			1
36	71	1		1		70	130	2		1	1	1
38 1/4	75		2			74 1/4	137 1/2	1	2		1	1
						76 3/4	141 1/2	1	2	1		1
						79 3/4	146 3/4		4			1

NOTE: **ANY OFFSET GREATER THAN 6 FEET YOU MUST USE A V12S-8DM.**

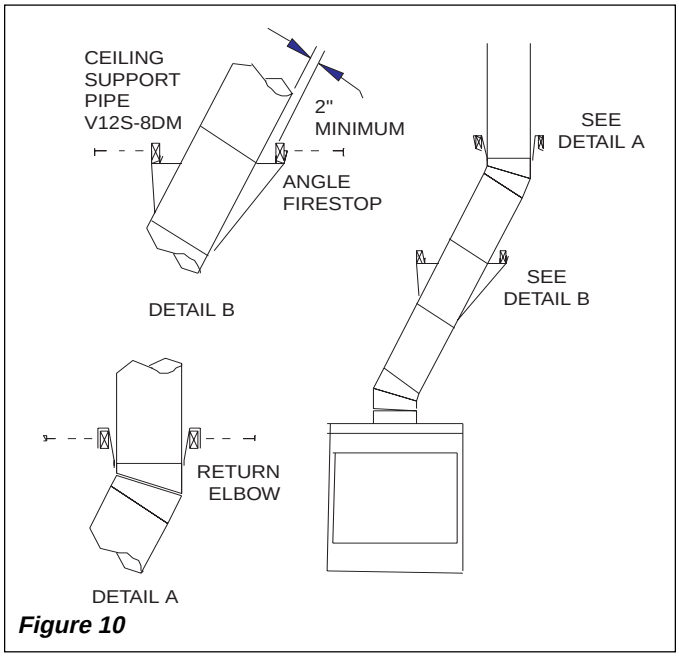


Figure 10

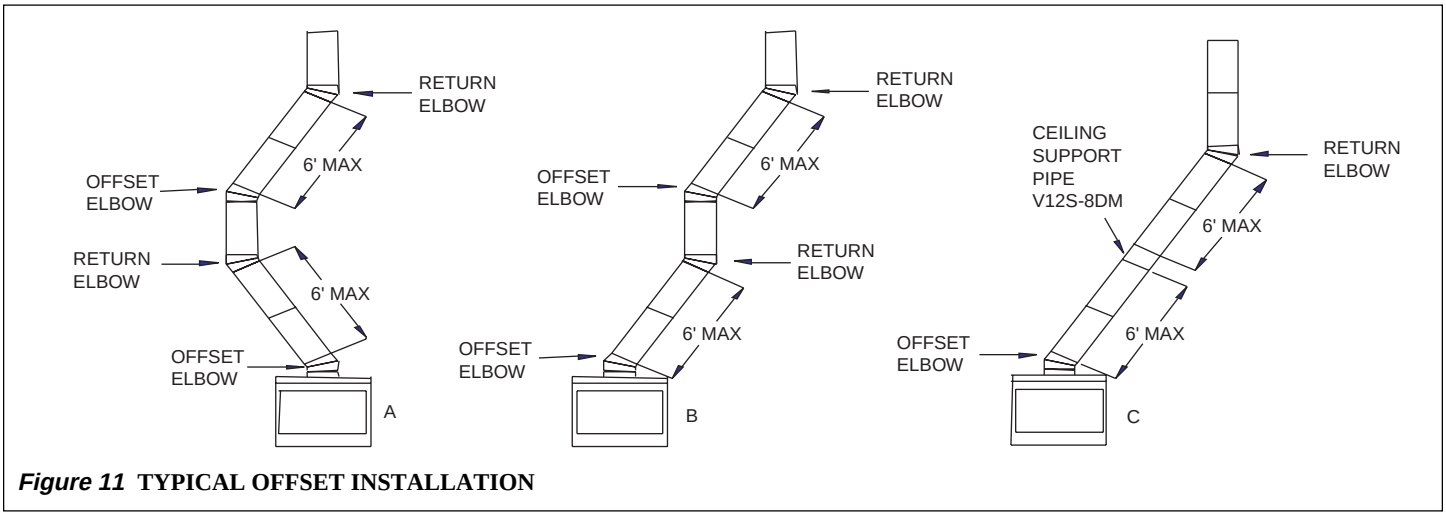


Figure 11 **TYPICAL OFFSET INSTALLATION**

STEP 4: Remove the shingles around the opening measured and cut out this section.

STEP 5: Add the next sections of the pipe until the end penetrates the roofline. Check to see that proper clearances are maintained. Extend chimney by adding sections of double wall pipe until pipe has reached a minimum of 30 inches above highest point of roof cutout. Termination and chimney must extend a minimum of 36 inches above highest point where it passes through the roof. (See 10' Rule, Figure 12).

TERMINATIONS

The firebox and chimney system must be vented to the out-of-doors and must be terminated with the listed round top or chase terminations. If a chase termination is desired, refer to the instructions supplied with the termination.

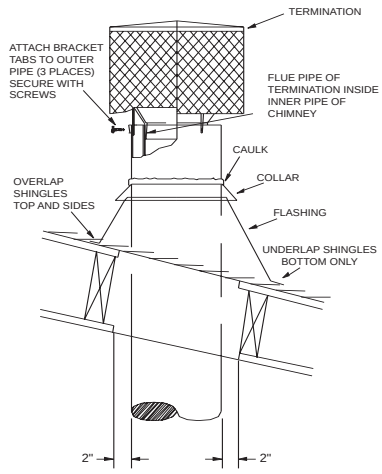


Figure 13

FOR ROUND TOP TERMINATION

STEP 1: Slide the flashing over the pipe (No firestop is needed at the roof level). Tack the flashing down at the top two corners with roofing nails. Lay tile over the top and sides of the flashing and secure them to the roof through the flashing with the roof nails. Lay tiles under the lower edge and secure these to the roof. Mastic all nail heads.

STEP 2: Install storm collar (VSC1-20-8DM, VSC2-20-8DM) on double wall chimney, apply waterproof caulking around flashing top and push storm collar down securely on sealer and flashing (see Figure 13).

STEP 3: Place the VRTL-8DM TERMINATION into the pipe end as illustrated in Figure 13 and secure with screws provided.

10 FOOT RULE

All chimney terminations must extend a minimum of 3 feet in height above the highest point where it passes through the roof and must be at least 2 feet above the peak of the roof if within a horizontal distance of 10 feet from the peak (see Figure 12).

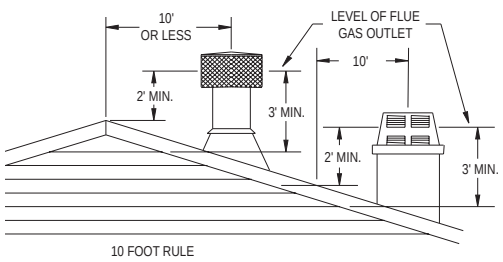


Figure 12

IMPORTANT: If an exposed portion of chimney is greater than 5 feet above the roof line, use support wires to keep chimney secured. The support wires may be attached to the outer pipe of the chimney with screws, provided the screws are not long enough to penetrate the inner flue pipe.

CAUTION: Do not seal ventilation openings on the rooftop flashing. Follow the installation instructions provided with the termination being used.

A gas line may be installed for the purpose of installing a gas appliance available through your local distributor. Use only 1/2" black iron pipe and appropriate fittings. When installing a gas line, a shut-off valve designed for installation outside the firebox is recommended.

The gas pipe is intended for connection to an unvented gas log set or to a decorative gas appliance.

If you will install an unvented gas log set, ONLY UNVENTED GAS LOG SETS WHICH HAVE BEEN FOUND TO COMPLY WITH THE STANDARD FOR UNVENTED ROOM HEATERS, ANS/IAS/AGA Z21.11.2, ARE TO BE INSTALLED IN THIS FIREPLACE.

NOTE: An appropriate Vanguard hood must be installed when using an unvented gas log set.

WARNING: DO NOT OPERATE AN UNVENTED GAS LOG SET IN THIS FIREPLACE WITH THE CHIMNEY REMOVED.

If you will install a decorative gas appliance, the decorative gas appliance must comply with the **Standard for Decorative Gas Appliances for Installation in solid Fuel burning Fireplaces, ANS Z21.60-1996** and shall also be installed in accordance with the **National Fuel Gas code, ANS Z223.1-1996.**

WARNING: WHEN USING A DECORATIVE APPLIANCE, THE DAMPER MUST BE REMOVED OR PERMANENTLY LOCKED IN THE FULLY OPEN POSITION.

To install the gas line, remove the gas line plug located in the side firebrick approx. 2 inches above the bottom. The plug must be tapped out from the finished side towards the unfinished side (see Figure 14). Insert the gas line parallel to the face. Fill any gap between the gas line and the hole in the firebrick with refractory cement or commercial furnace cement (see Figure 15).

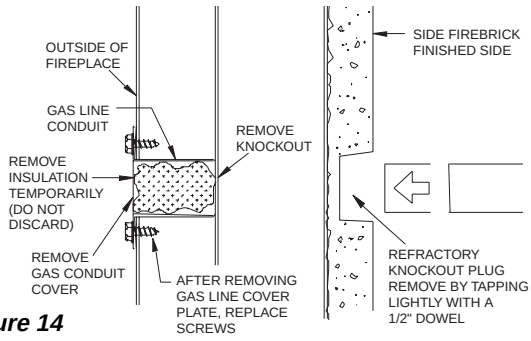


Figure 14

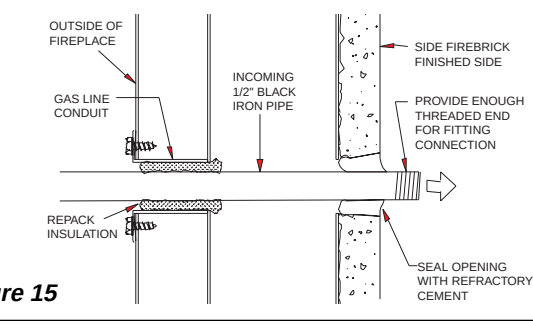


Figure 15

WARNING: All gas piping and connections must be tested for leaks after the installation is completed. Be sure gas valve is turned on. Apply soapsuds solution to all connections and joints. If bubbles appear, leaks must be detected and corrected. DO NOT use a match or open flame of any kind to test for leaks. Never operate any appliance with leaky connections.

WARNING: WHEN USING A DECORATIVE APPLIANCE THE DAMPER MUST BE REMOVE OR PERMANENTLY LOCKED IN THE OPEN POSITION.

HEARTH EXTENSION

A hearth extension projecting a minimum of 16 inches in front of and a minimum of 8 inches beyond each side of the firebox opening is required to protect combustible floor construction in front of the firebox. Use a layer of noncombustible inorganic material having a thermal conductivity of K=0.84 BTU IN/FT. SQ. HR F (or less) at 1" thick. For example, if the material selected has a K Factor of 0.25, such as glass fiber, then the following formula would apply 0.25/ 0.84 x 1"=. 30 thick. This must be covered by any noncombustible material such as tile, slate, brick, concrete, metal, glass, marble, stone, etc. Fasten the hearth extension to the floor to prevent shifting and seal the gap between the firebox frame and hearth extension with a noncombustible material (see Figure 16).

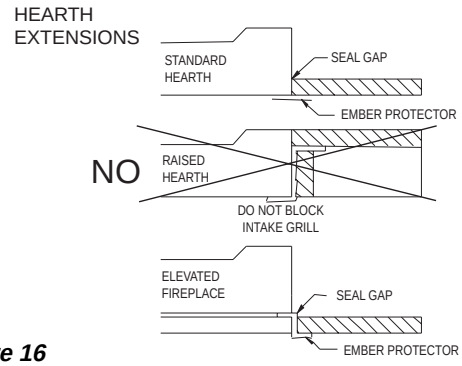


Figure 16

WARNING: HEARTH EXTENSION IS TO BE INSTALLED ONLY AS ILLUSTRATED.

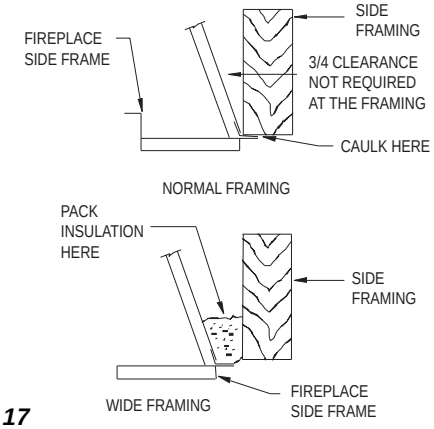


Figure 17

FIREBOX ENCLOSURE - COLD WEATHER CLIMATE

Before finishing the enclosure around the firebox, inspect all joints around the firebox. Any gaps between the nailing flanges and the framing should be sealed with noncombustible insulation or caulking. Inspect the firebox joint for possible gaps caused by shipping or mishandling during installation. These should be sealed with noncombustible materials. If the firebox is mounted on a raised platform, insulate below the platform to prevent the entry of cold air through the firebox bottom by means of conduction. The above steps are important, especially if the firebox is installed in cold weather climate, (see Figure 17).

COMBUSTIBLE AIR KIT (MODEL VAK-4E)

An air kit is available for use with model 36EC2 firebox as an optional accessory. The outside air vent can be installed through an outside wall or a ventilated crawl space. A plaster ground is providing for use on unfinished walls prior to applying finish surface. Attach flex tube to air vent and air inlet tube. Seal with duct tape (see Figure 18).

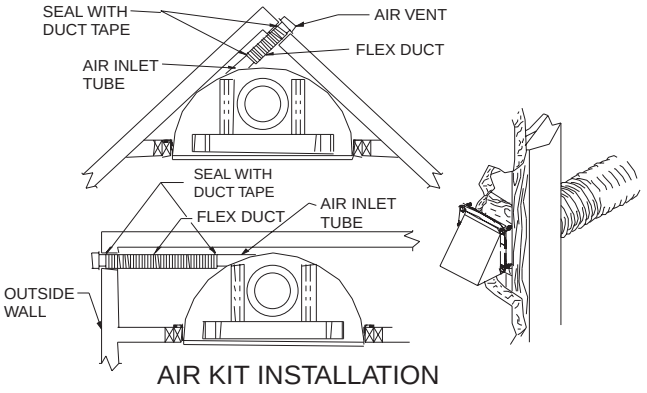


Figure 18

CAUTION: AIR INLET DUCTS ARE NOT TO TERMINATE IN ATTIC SPACE.

Avoid installing outside air eyebrow in areas where inlet opening may be blocked by snow, bushes or other obstacles. Maximum height of air inlet above platform of firebox is within 3 feet below the termination exhaust height.

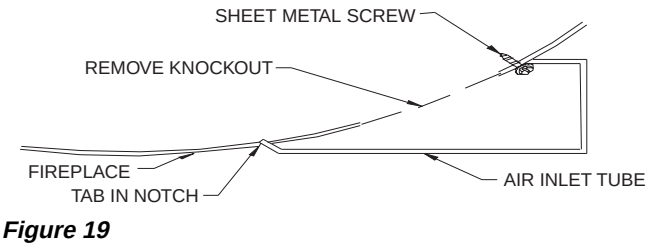


Figure 19

BLOWER ASSEMBLY - VCBK3

A blower assembly is available for use with this firebox as an optional accessory. It is designed to be installed on Vanguard factory pre-wired firebox only. The optional blower assembly model VCBK3 can be installed prior to, or after installation of the firebox. Use of blowers or fans other than those manufactured by DESA International voids the warranty. A switch located on the lower face operates the optional blower. Flipping the switch turns the blower on or off.

NOTE: Firebox must be wired to the house electrical system in order for the blowers to operate. This blower system does not require a wall switch. Refer to the VCBK3 blower assembly installation instructions for details.

Electrical connections are made through the cover on the right side of the firebox as illustrated in Figure 21. Use 14 AWG copper wire for all connections. Be certain the firebox is properly grounded to the green wire.

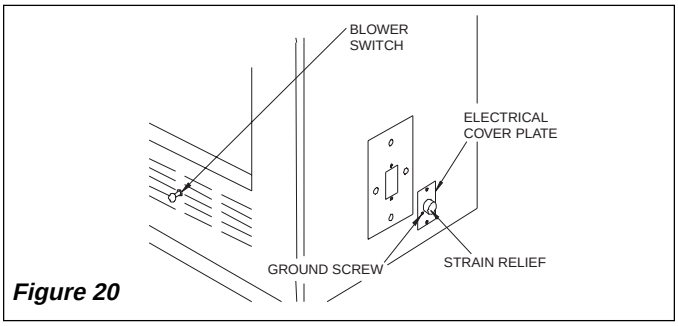


Figure 20

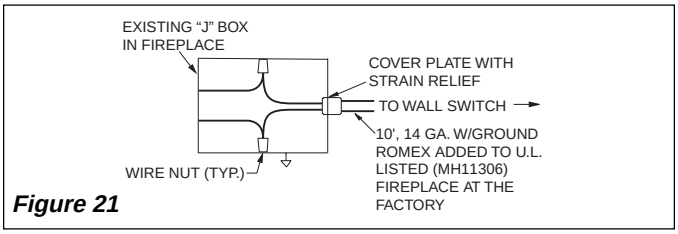


Figure 21

FINISHING YOUR FIREBOX

Combustible materials may make direct contact with the sides and the top of the firebox face. It is important that combustible materials do not overlap the face itself. Brick, tile or other noncombustible materials may be applied to the face provided that any gap between the material around the firebox opening is caulked to prevent the seepage of combustible products.

CAUTION: DO NOT COVER UP THE TOP OR BOTTOM FACE LOUVERS.

MANTEL

A mantel may be installed if desired (see Figure 22) for minimum heights above and beyond opening of firebox face.

Woodwork, such as wood trim and mantels, and other combustible material, shall not be placed within 6 inches of a firebox opening. Combustible material above and projecting more than 1 1/2 inches from a firebox opening shall not be placed less than 12 inches from the top of the firebox opening. NFPA Standard 211 sections 7-3.3.3.

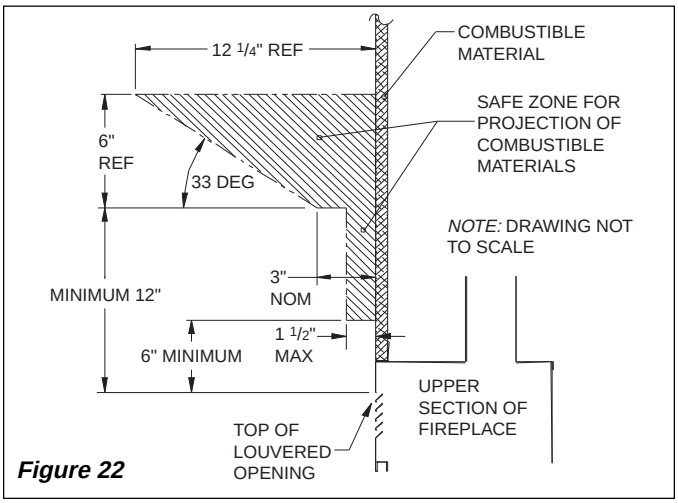


Figure 22

DAMPER OPERATION

The flue gas damper is located inside the firebox similar to a conventional masonry fireplace. Look within the top of the firebox and locate the damper handle extending from the damper (see Figure 23) for operating the damper. This can be easily accomplished with a firebox poker.

FIRE: Use seasoned hardwood or when using vent-free or decorative gas appliance use natural or propane/LP gas.

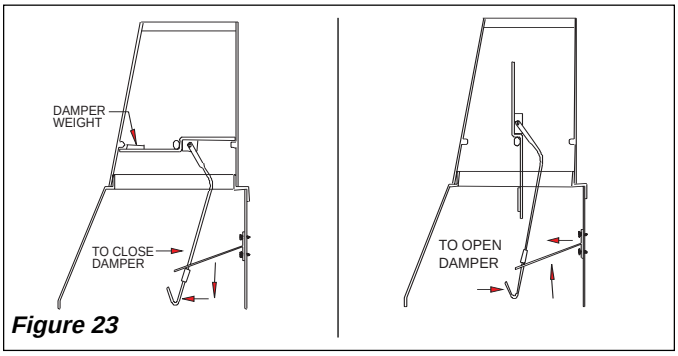


Figure 23

AIR KIT OPERATION

The damper rod for the air kit is located inside the face opening, above the upper left top of the rear firebrick. Push the rod up to open the air intake, and down to close it (see Figure 24).

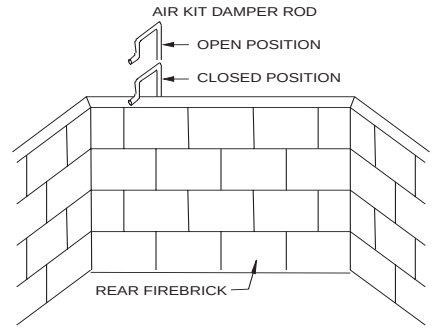
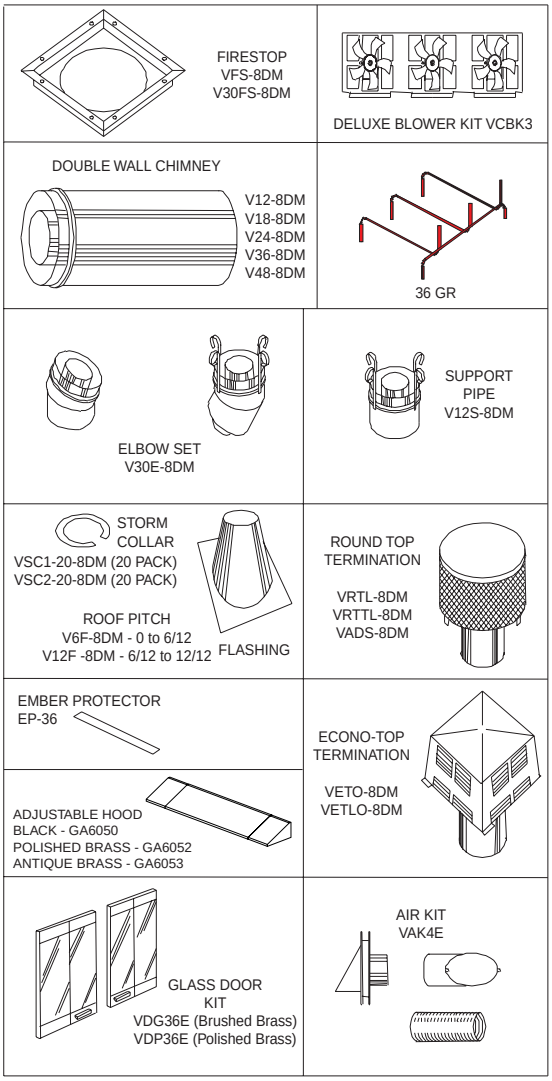


Figure 23

REPLACEMENT AND ACCESSORY PARTS

Purchase replacement parts or accessories from your local dealer. If they can not supply these accessories, call DESA International's Parts Department at 1-800-972-7879 for referral information. You can also write to the address listed on the front cover of this manual. When calling DESA International, have ready

- model number of your firebox
- the replacement part number



NOTE: USE OF ANY OTHER GLASS DOOR ASSEMBLY NOT TESTED WITH THIS FIREPLACE MAY CONSTITUTE A FIRE HAZARD AND WILL VOID THE DESA INTERNATIONAL WARRANTY.

COMPONENT PARTS