

Comfort Glow®

42" WOODBURNING FIREBOX
Model C42EC2 Circulating (Louvered)

INSTALLATION INSTRUCTIONS

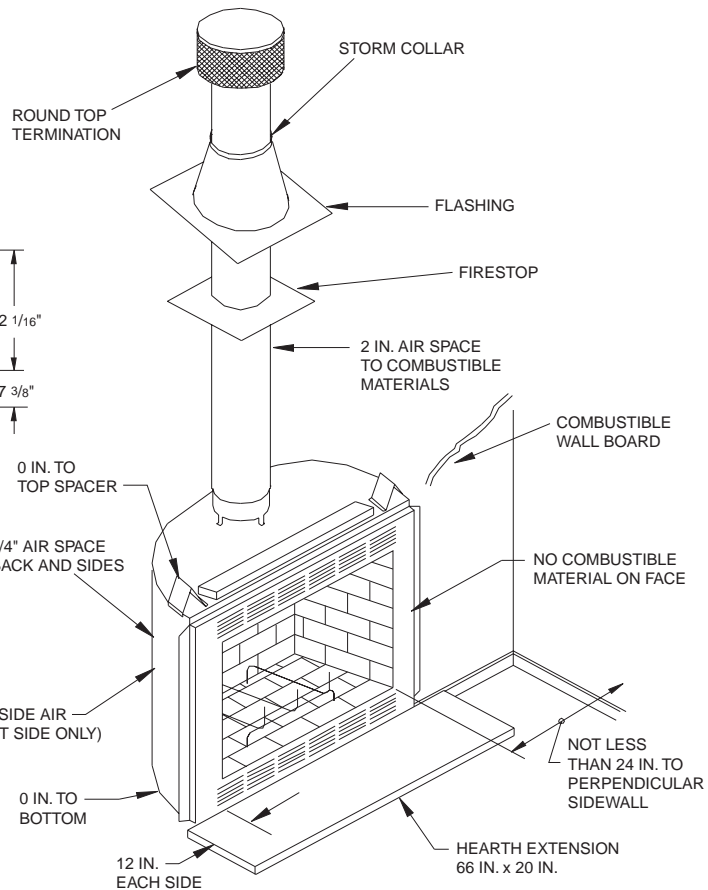
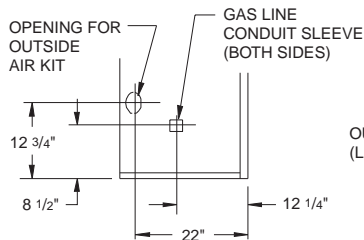
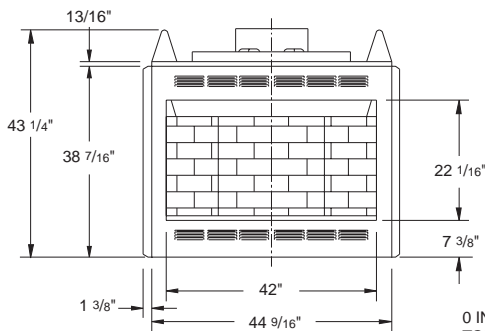
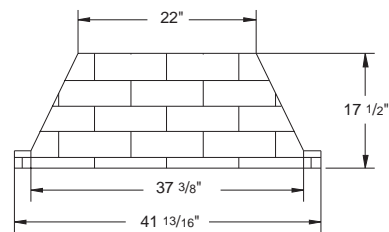
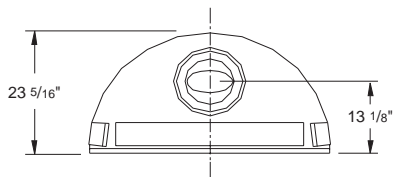
SAVE THIS BOOK

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.

Model _____

Serial No. _____

Date Purchased _____



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

55951
 Rev. B
 09/99

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 fireplace.

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 fireplace is intended for use with wood, decorative gas appliance, and vent-free gas logs which burn propane/LP 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 Comfort Glow components and fireboxes are safe when installed according to this Installation Manual. Unless you use Comfort Glow components which have been designed and tested for the firebox system, you may cause a fire hazard.

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, blower fans, air inlet system and damper control.
- b) Use of any component part not manufactured or approved by DESA International, in writing, in combination with a DESA International firebox system.

Refer to your Homeowners guide for warranty information.

This wood burning fireplace complies with UL127 as a Factory-Built Fireplace and is listed and tested by *Underwriters Laboratory, Inc.*

This model is not for use in mobile homes.

WARNING: Do not install a fireplace 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 particular requirements concerned with the installation of all factory built fireboxes. Although grounding may not be required by code it is recommended by the manufacturer.

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 CLEARANCES TO COMBUSTIBLES

Framing and enclosures may safely make direct contact with the spacers on the top of the firebox. The firebox may sit directly on combustible flooring (see Step 4, below). The firebox opening must not be less than 24 inches from 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 is required around back and sides of firebox.

Keep all combustible furnishings a considerable distance from the firebox.

WARNING: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this firebox. Keep all such liquids well away from the firebox.

WARNING: Do not pack required air spaces with insulation or other material.

HEIGHT: The minimum height of the chimney, measured from the base of the firebox to the flue gas outlet, is 16 feet for a straight chimney or with one elbow set. For systems with 2 elbow sets, the minimum height is 30 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.

GENERAL

Read the Warranty and Operating guidelines supplied with this firebox. Following these simple guidelines will ensure years of trouble free and safe usage of your firebox. If the Warranty and Operating instructions are not in your firebox, write to the address listed on the front cover.

INSTALLING THE FIREBOX

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

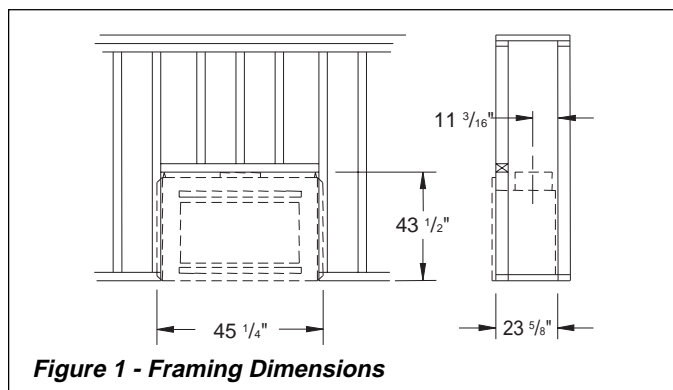
STEP 2: Set the firebox directly in front of this opening and slide the unit back until the mounting flanges touch the side framing.

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 steel ember protector (provided) must be installed between the firebox and the hearth extension as illustrated in Figures 12 and 13.

STEP 5: Secure the firebox to the framing through the flanges located on the sides on the firebox with nails, or screws.

Note: The 3/4" clearance is not required at the nailing flange. (see Figure 10)



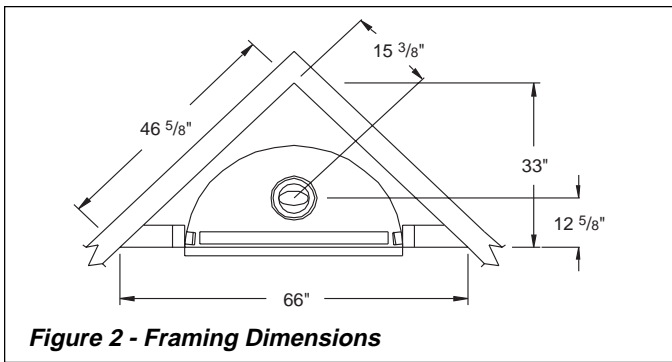


Figure 2 - Framing Dimensions

ASSEMBLING AND INSTALLING YOUR DOUBLE-WALL CHIMNEY SYSTEM

Each double wall chimney section consists of an outer pipe, flue pipe and one wire spacer. The pipe sections are not unitized 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 lanced side up. The outer pipe section can then be installed over the flue pipe section with the hemmed end up. (see Figure 3A).

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

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

12 3/8 GALVANIZED OUTER PIPE

LINEAL GAIN		
PART NO.	DESCRIPTION	GAIN (IN)
C42EC2	FIREBOX	42
C12-8DM	PIPE SECTION	10 5/8
C18-8DM	PIPE SECTION	16 5/8
C36-8DM	PIPE SECTION	34 5/8
C48-8DM	PIPE SECTION	46 5/8
CRTL-8DM	ROUND TERMINATION	6

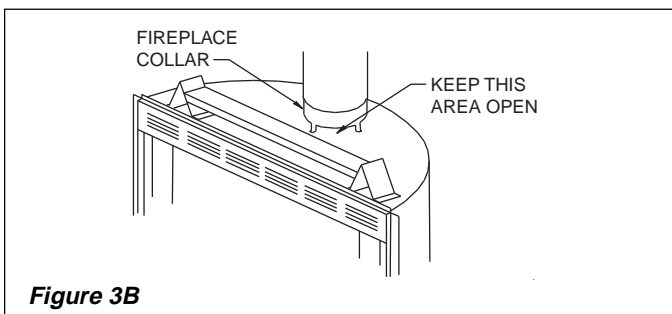
8 IN. STAINLESS INNER PIPE

HEMMED END

Figure 3A

Continue to assemble chimney sections as outlined above, making sure that both inner and outer pipe sections are locked together. Before 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.

WARNING: The opening in the collar around the chimney at the top of the fireplace must not be obstructed. Never use blown insulation to fill the chimney enclosure (see Figure 3B).

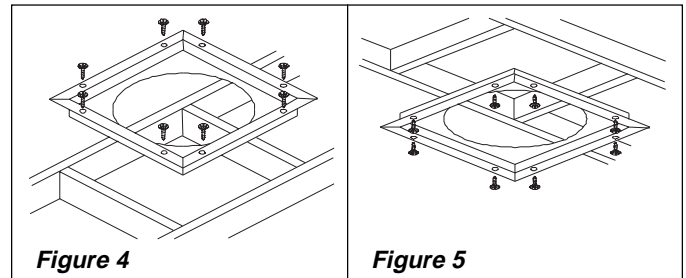


FIRESTOP SPACERS

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, and provide complete separation from one floor space to another floor or attic space as required by most codes. When penetrating a floor or ceiling at an angle, firestop in pack should be used.

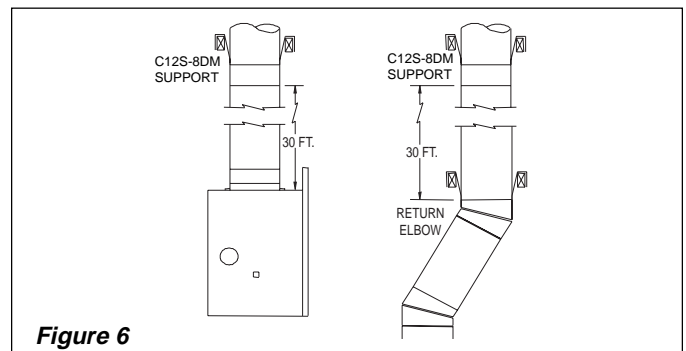
When the double wall pipe passes through a framed opening into an attic space, the firestop must be placed into the attic floor as in Figure 4.

When the pipe passes through a framed opening into a living space above, the firestop must be placed on to the ceiling from below as in Figure 5.



SUPPORT SECTIONS

The chimney support section is a 4 strap 12" length of pipe. A chimney support is required at the 30 foot level above the fireplace after a straight on the fireplace and elbows when high chimneys are installed.

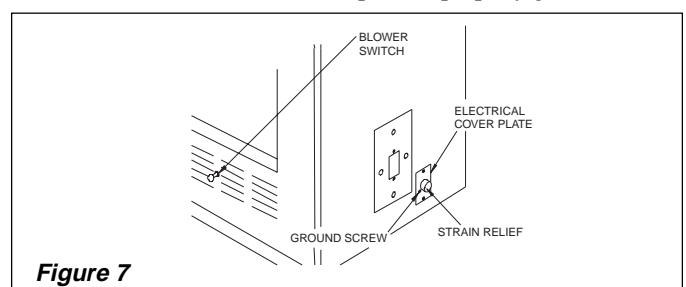


BLOWER ASSEMBLY (CBK3)

A blower assembly is available for use with this fireplace as an option. It is designed to be installed on DESA International factory pre-wired fireplaces only. The blower assembly model CBK3 can be installed prior to or after installation of the fireplace. Use of blowers or fans other than manufactured by DESA International voids the warranty. The optional blower is operated by a switch located on the lower face. Flipping the switch turns the blowers on or off.

Note: Fireplace must be wired to the house electrical system in order for blowers to operate. See instructions provided with blower assembly.

Electrical connections are made through the cover on the side of the fireplace illustrated in Figure 7. Use 14 AWG min. copper wire for all connections. Be certain the fireplace is properly grounded.



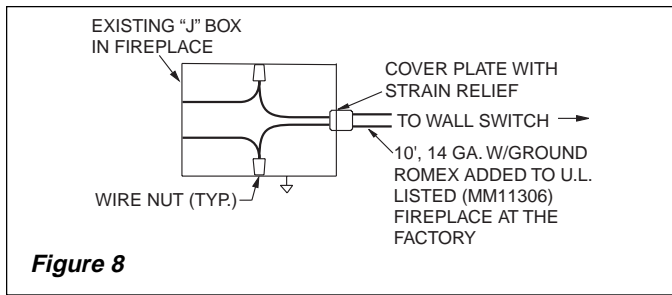


Figure 8

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).

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

STEP 5: Add the next sections of pipe until the end penetrates the roof line. Check to see that proper clearances are maintained. Extend chimney by adding sections of double wall pipe until pipe is 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 roof.

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 8).

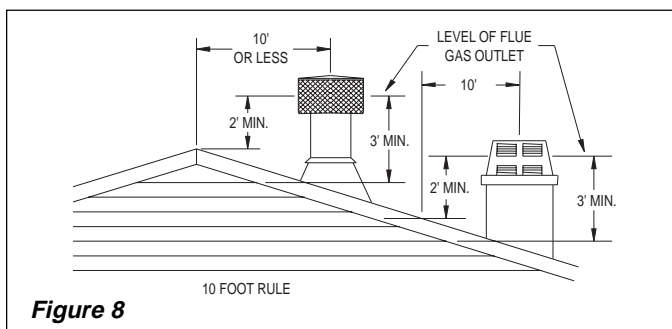


Figure 8

TERMINATIONS

The fireplace 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.

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

FOR ROUND TOP TERMINATION ON ROOF

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 roofing over the top and sides of the flashing and secure them to the roof through the flashing with roof nails. Place roofing under the lower edge and secure to the roof.

Cover all nail heads with mastic or roof cement.

STEP 2: Install the storm collar on double wall chimney, push collar down to flashing and seal (see Figure 9).

STEP 3: Place the CRTL-8DM on to the pipe end as illustrated and secure with the screws provided.

IMPORTANT: If an exposed portion of chimney is greater than 5 feet above the roof line, use support wires to keep chimney secure. The support wires may be attached to the outer pipe of the chimney with screws, provided the screws are no longer than 3/4".

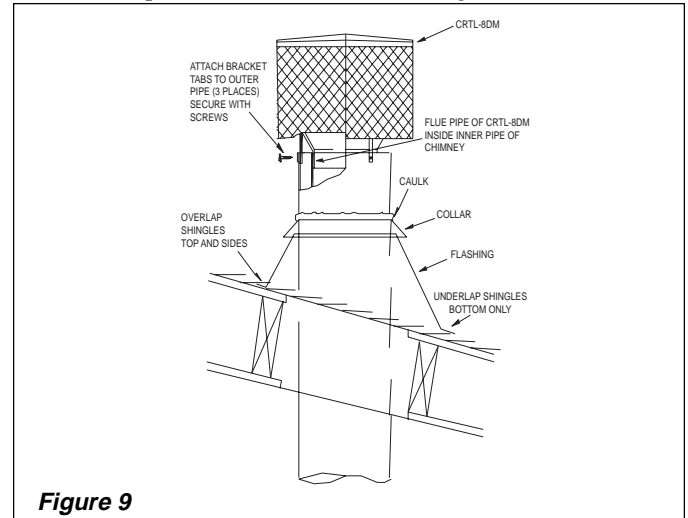


Figure 9

FIREPLACE ENCLOSURE: COLD CLIMATE INSTALLATIONS

Before finishing the enclosure around the fireplace, inspect all joints around the fireplace. Any gaps between the nailing flanges and the framing should be sealed with noncombustible insulation or caulking (see Figure 10). Inspect the fireplace joints for possible gaps caused by shipping or mishandling during installation. These should be sealed with noncombustible materials. If the fireplace is mounted on a raised platform insulate below the platform to prevent the entry of cold air through the fireplace bottom by means of conduction. The above steps are important especially if the fireplace is installed in cold weather climate. The opening around the base of the chimney must remain open and free to circulate outside air for keeping the chimney cool as designed (see Figure 3B, page 3). The fireplace must be set on a continuous platform to prevent cold air from conducting through the metal bottom. The platform bottom may be constructed of any wood product or other materials such as cement.

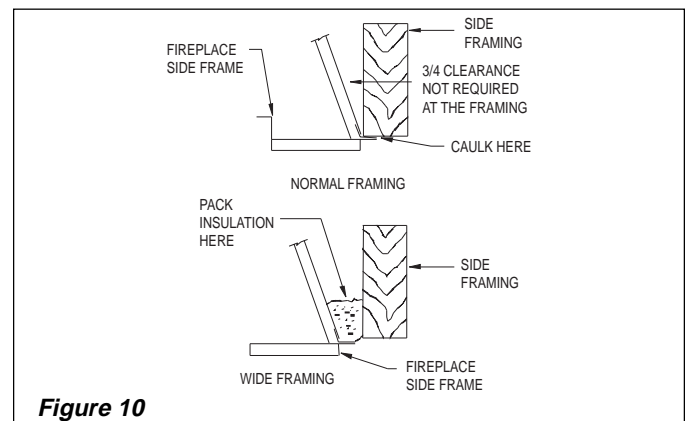


Figure 10

GAS LINE

A gas line may be installed for the purpose of installing a decorative 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.

To install, remove the gas line plug located in the side firebrick approximately 2" above the bottom. The plug must be tapped out from the finished side towards the unfinished side (see Figure 11A).

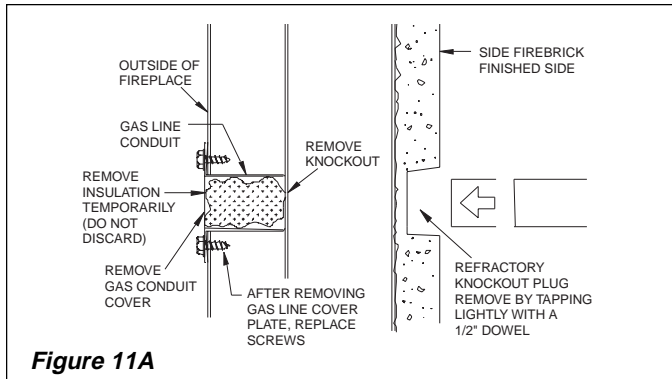


Figure 11A

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 11B).

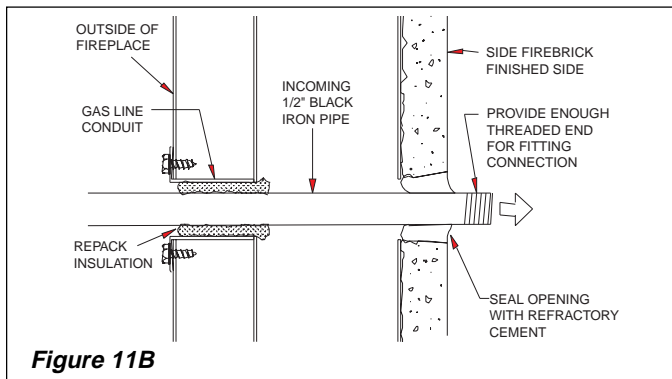


Figure 11B

TEST FOR GAS LEAKS

WARNING: All gas piping and connections must be tested for leaks after the installation is completed. Be sure gas valve is turned on. Apply soap suds 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 leaks. Never operate any appliance with leaky connections.

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 VENTED 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 Comfort Glow 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.

HEARTH EXTENSION

A hearth extension projecting a minimum of 20" in front of and a minimum of 12" beyond each side of the fireplace opening is required to protect combustible floor construction in front of the fireplace. Use a layer of noncombustible, inorganic material having a thermal conductivity of $K=0.64 \text{ BTU IN/FT. HR. F}$ (or less) at 1" thick. Example of determining hearth extension equivalent. If the material selected has a K factor of 0.25, such as glass fiber, then the following formula would apply: $0.25/0.64 \times 1" = .39"$ thick. This must be covered by a 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 fireplace frame and hearth extension with a noncombustible material (see Figure 12).

WARNING: Hearth extension is to be installed only as illustrated.

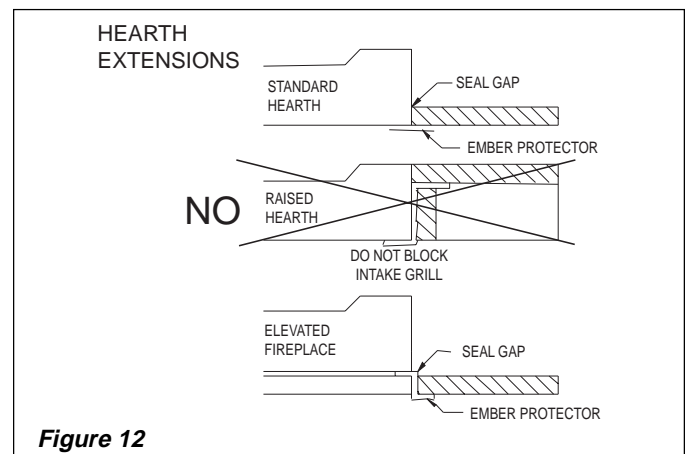


Figure 12

DAMPER OPERATION

The damper handle to open and close the damper blade is located inside the firebox at the center towards the back wall. Pushing the handle back into the keyway slot will free the damper blade to automatically open. To close, reach in and push the handle back into the keyhole slot then pull down and forward to lock it in place (see Figure 13).

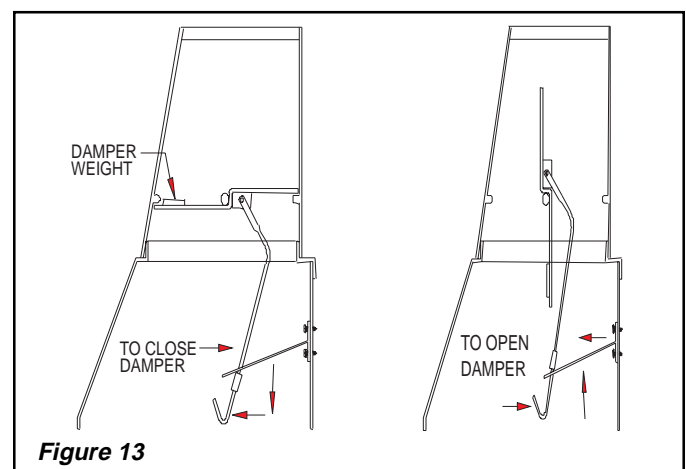


Figure 13

COMBUSTIBLE AIR KIT

An Air kit is available for use as an optional accessory. The outside air vent can be installed through an outside wall or a ventilated crawl space. Attach flex tube (CLASS 1) to air vent and air inlet tube. Seal with duct tape (see Figure 14). For air inlet tube installation (see Figure 15).

WARNING: Air inlet ducts are not to terminate in attic space or a garage.

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 fireplace is within 3 feet below the termination flue gas outlet.

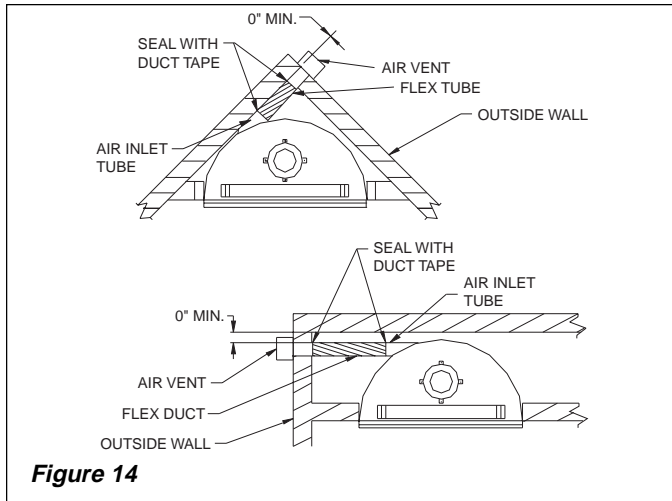


Figure 14

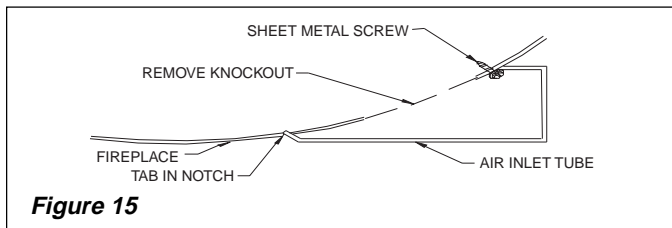


Figure 15

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 16).

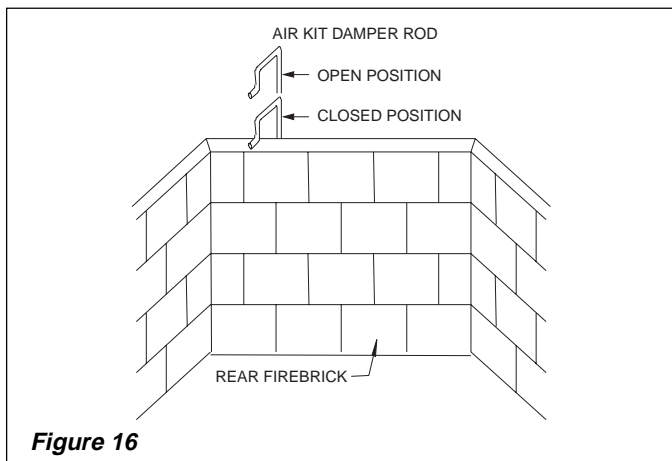


Figure 16

MANTEL

A mantel may be installed if desired. See Figures 17A or 17B for minimum heights above and beyond opening of the fireplace face.

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

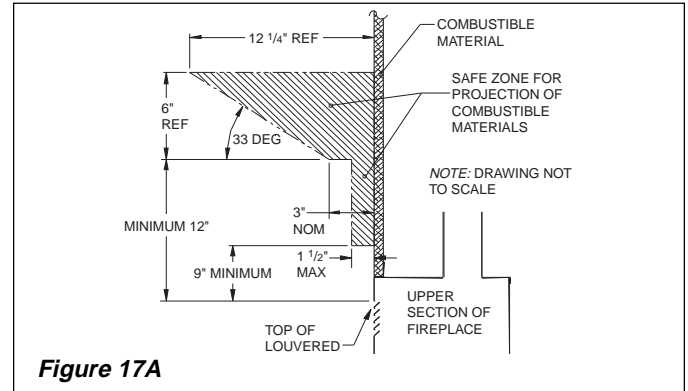


Figure 17A

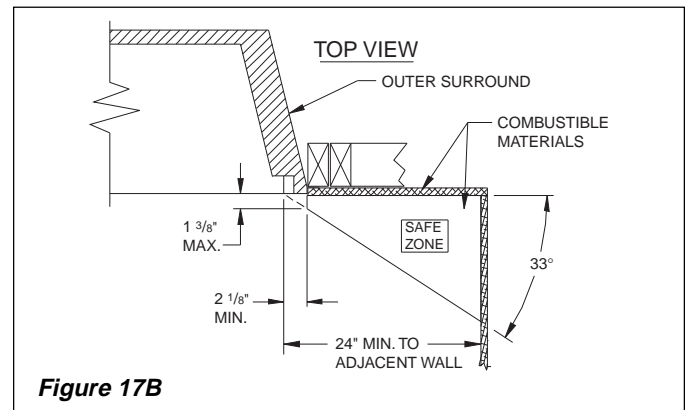


Figure 17B

FINISHING YOUR FIREPLACE

Wall board (Gypsum board, sheet rock, drywall, etc.) may make direct contact with sides and top of the fireplace face. It is important that combustible materials do not overlap the face itself.

Brick, glass, tile or other noncombustible materials may overlap the front face, provided they do not obstruct essential openings like louvered slots or any other openings. When overlapping with noncombustible facing material, use only noncombustible mortar or adhesive.

CAUTION: Do not cover up the face louvers top and bottom.

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 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.

WARNING: Risk of fire; Replace grate only with DESA International Model 42E GR grate only.

FUEL: Use seasoned hardwood or if a vent-free or decorative gas appliance is installed, burn Propane or Natural Gas only.

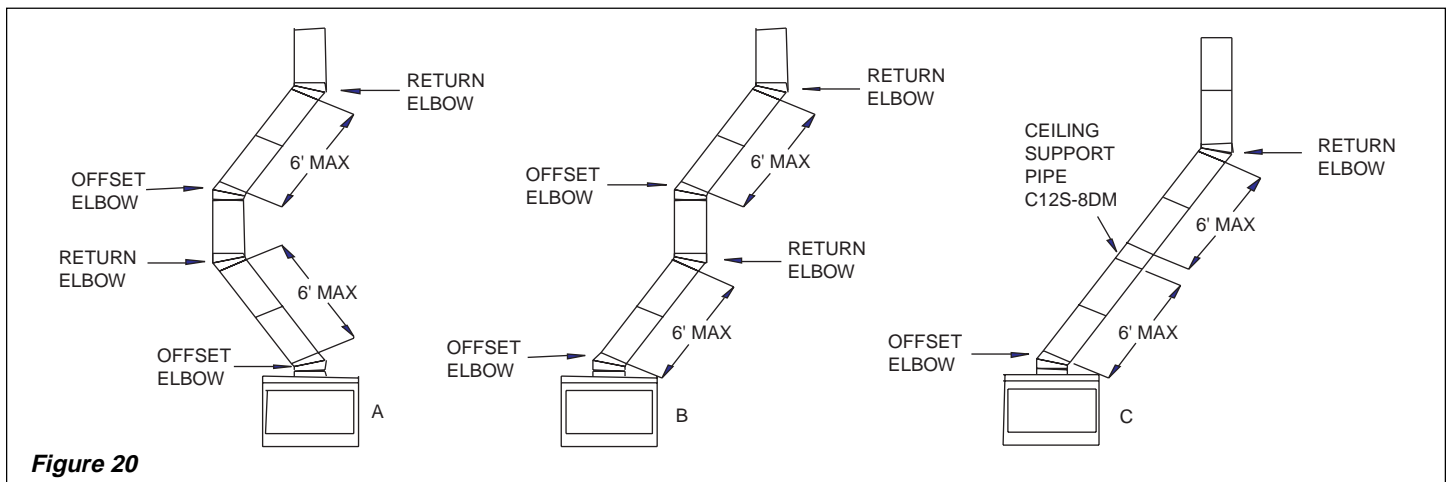
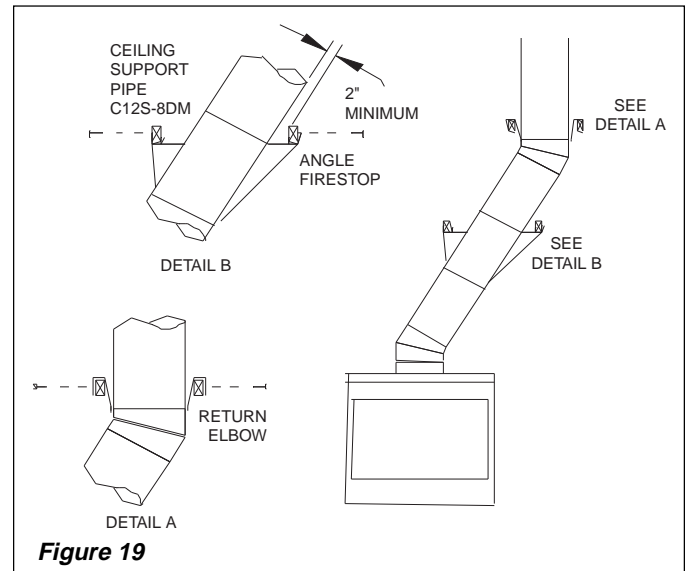
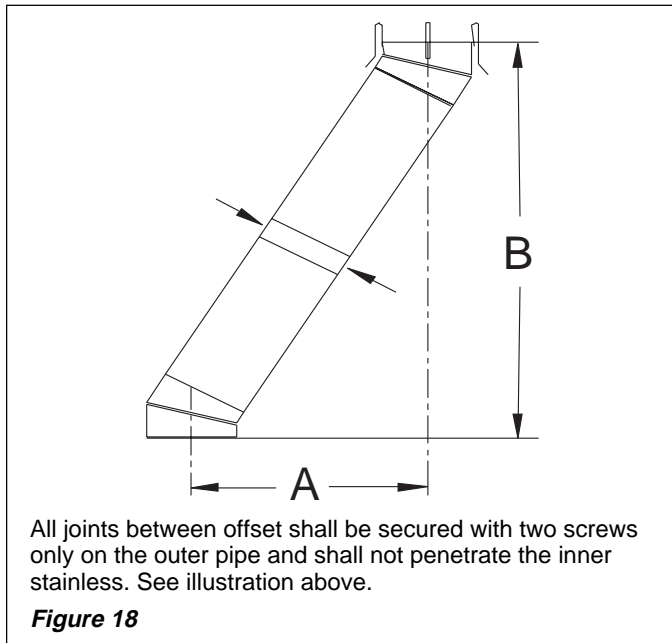
INSTRUCTIONS WHEN OFFSET OF CHIMNEY IS NEEDED

To Install Elbows




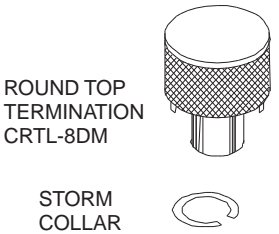
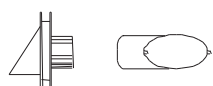
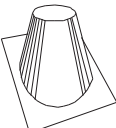

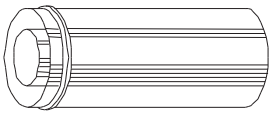
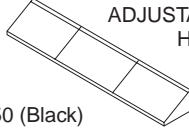
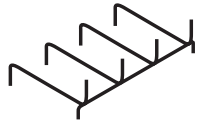
1. To achieve desired offset, you may install combinations of 12", 18", 36", and 48" lengths of double wall pipe (see *Offsets and Rise* chart and Figures 18 and 20).
2. Chimney weight above offset rests on return elbow. Straps must be securely nailed to rafters or joists (see Figure 19, Details A and B).
3. Maximum length of pipe between supports (return elbow or C12S-8DM) is 6' of angled run. Maximum of two (2) 6' angled run sections per chimney system (see Figure 20).

NOTE: ANY OFFSET GREATER THAN 6 FEET MUST USE A C12S-8DM, ALSO FOR STRAIGHT RUN OVER 30 FT. LEVEL.

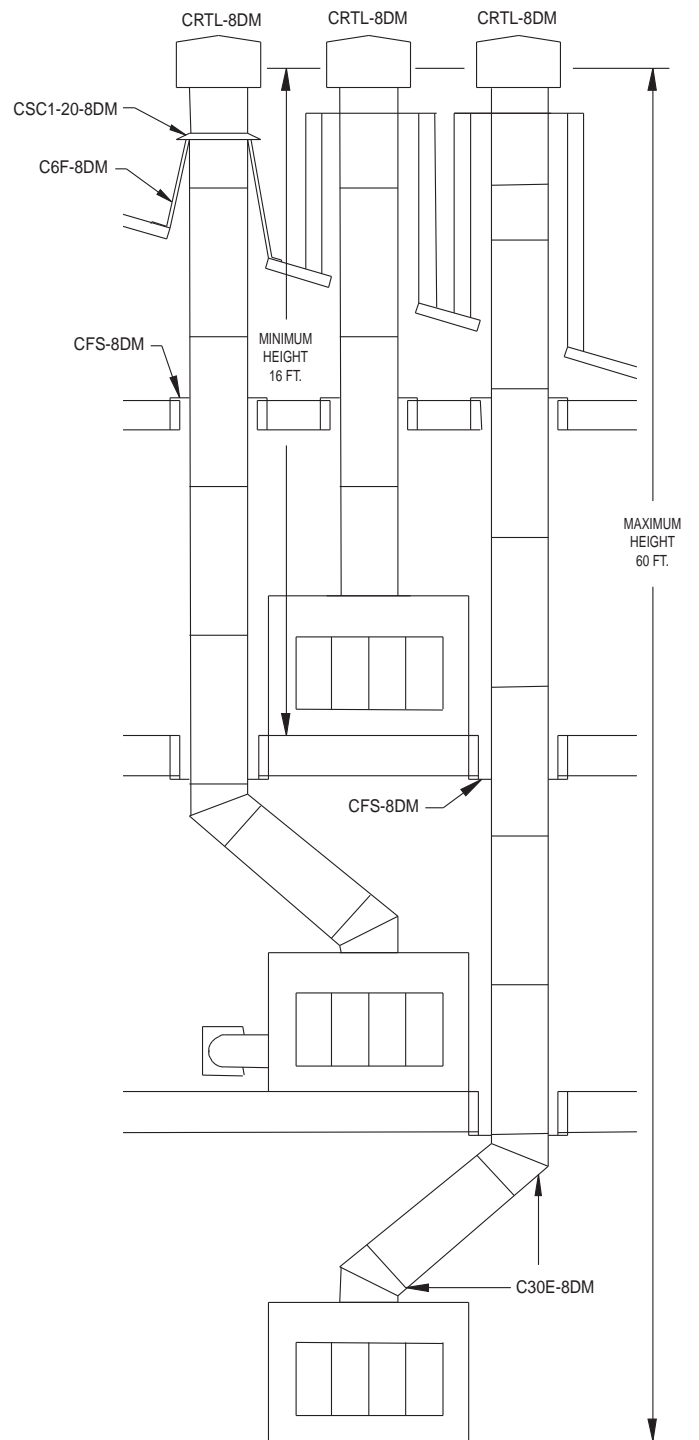
OFFSETS AND RISE												
A	B	48	36	18	12	A	B	48	36	18	12	12S
4 3/8	16 3/8					41 1/4	80 1/4		1	1	1	1
9 3/4	25 1/2				1	45	86 3/4		2			1
12 3/4	30 3/4			1		46 3/4	89 1/2	1		1	1	1
15	34 3/4				2	51	97	1	1			1
18	40			1	1	53 1/4	101		2	1		1
21 1/4	46 1/4	1				56 1/4	106 1/4	2				1
23 3/4	49 1/4			1	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



REPLACEMENT PARTS

 <p>TOGGLE SWITCH</p> <p>DELUXE BLOWER KIT CBK3</p>	 <p>CHIMNEY PACK</p> <p>FIRESTOP CFS-8DM</p>
 <p>GLASS DOOR KIT CDG42E</p>	 <p>ROUND TOP TERMINATION CRTL-8DM</p> <p>STORM COLLAR CSC1-20-8DM</p>
 <p>OUTSIDE AIR KIT CAK4E</p>	 <p>FLASHING</p> <p>ROOF PITCH C6F-8DM - 0 to 6/12</p>
 <p>DOUBLE WALL 30° ELBOW SET C30E-8DM</p>	 <p>DOUBLE WALL CHIMNEY</p> <p>C12-8DM</p>
 <p>ADJUSTABLE HOOD</p> <p>GA6050 (Black) GA6052 (Polished Brass) GA6053 (Antique Brass)</p>	 <p>GRATE 42E GR (Provided)</p>

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