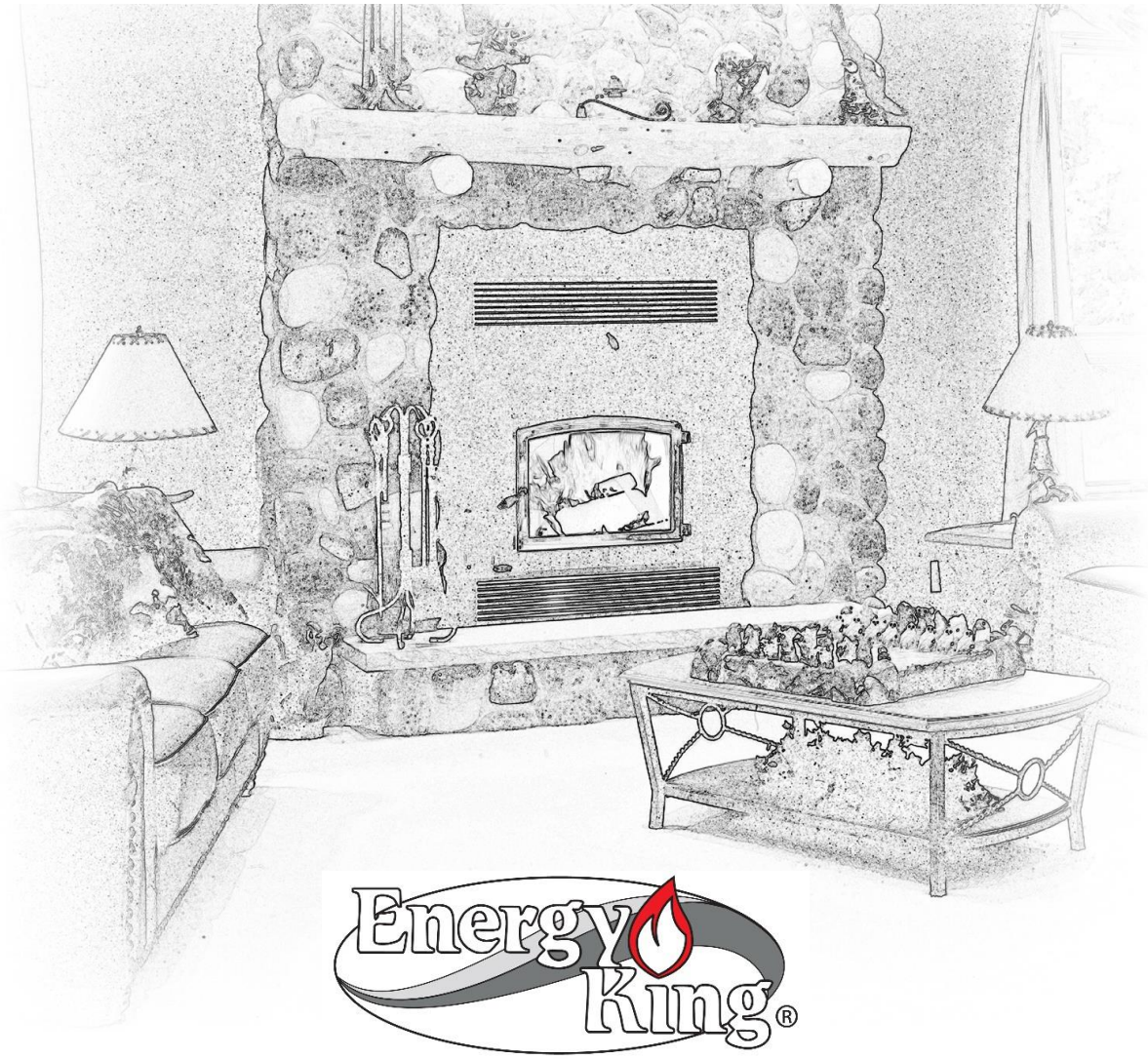
SILHOUETTE 2800 & 2850C

Zero Clearance Wood Fireplace



Silhouette Zero Clearance Fireplace
Models 2800 and 2850C

If your Energy King factory built fireplace is not properly installed, a house fire may result. For your safety, follow the installation directions. Contact local building or fire officials about restrictions and installation inspection requirements in your area. You also need to determine if you are required to obtain a permit from your local governing authority.

The Energy King factory built fireplace must be connected to a listed high temperature (complying with UL 1985) residential type and building heating appliance chimney.

Congratulations on your purchase of an Energy King wood burning appliance. Your fireplace is designed for a lifetime of durable, reliable performance and easy operation.

This manual describes the installation and operation of your Energy King factory built fireplace. Be sure to read your instruction manual and keep it in a safe place for future reference. Before installation, contact your local building or fire officials about restrictions and installation inspection requirements for your area.

The Energy King factory built fireplace is tested to UL127 and UL391 Standards by Intertek Testing Services, Middleton, Wisconsin. Silhouette Model 2850C is tested to EPA Certification for emissions. Silhouette Model 2800 meets the EPA's requirements for Method 28A and is exempt.

Your Energy King factory built fireplace will burn wood only; any other source of fuel is prohibited by the manufacturer, MAY NOT BE SAFE, and will void your warranty.

SAFETY NOTES – IMPORTANT

(For Wood Only)

1. Never use gasoline or similar liquids to start or "freshen" a fire. Keep all such liquids away from your fireplace.

2. Watch your unit closely during operation. If any part starts to glow red or white, it is in an overfire condition (see page 11 of this manual.)

3. Build the fire directly on the firebrick. Do not elevate the fire by using grates or andirons. Burn solid wood only. Do not burn any other source of fuel. Never reload wood when fire is burning high. (See page 12 [Model 2800] or page 16 [Model 2850C] of this manual for refueling.)

4. If processed solid fuel firelogs are used, do not poke or stir logs while they are burning. Use only firelogs that have been evaluated for the application in the fireplace and refer to firelog warnings and caution markings on packaging prior to use.

5. All fuel-burning appliances require proper combustion air to operate and to avoid negative air pressure in your home. Negative air pressure will cause safety and operational problems.

6. Do not let an accumulation of either soot or creosote build up in your chimney or inside the firebox.

7. Check your chimney system carefully before installation. If in doubt about its condition, contact a professional. Have your chimney inspected and cleaned regularly. A High Temperature Listed Chimney is required.

8. Do not connect your solid fuel appliance to a chimney flue already venting another appliance.

9. Dispose of cool ashes with care. Store in a non-combustible or metal container with a lid. Please read and follow all the instructions on page 17 of this manual for proper storage and disposal of ashes.

10. Comply with all minimum clearances to combustibles as they appear in this manual to prevent fire.

11. Comply with chimney manufacturer's required installation and parts.

12. Do not operate your fireplace with damaged firebrick.

13. Only operate your fireplace with the door fully closed.

14. A fire extinguisher should be on hand in case of fire. Be sure all members of your family are familiar with its location and operation. A smoke detector, in good working order, should be installed in the same room as the fireplace. Never leave small children unattended around a fire or hot fireplace.

15. The National Fire Protection Association has information available on factory-built fireplaces meeting UL 127 standards intended for installation with the NFPA standards for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances – NFPA 211. NFPA 90B, Standard for the Installation of Warm Air Heating and Air Conditioning Systems, may also be helpful. The contact information for the NFPA is as follows:

National Fire Protection Association
PO Box 9101
1 Batterymarch Park
Quincy, MA 02269-9101
www.nfpa.org

Components

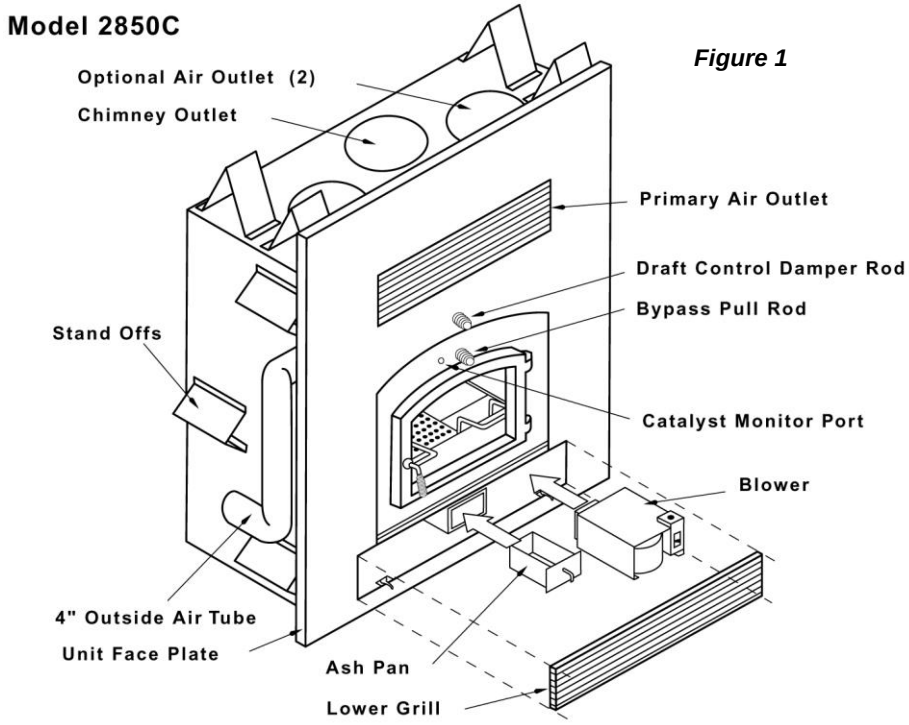


Figure 1

Familiarize yourself with the components of your fireplace before installation and operation. The installation and operation manual has been designed to assist you in installing, operating and maintaining your Energy King fireplace efficiently and safely.

6" Chimney Outlet. The Energy King fireplace must be vented by means of a 6" High Temperature Listed Chimney. In case of chimney offsets or marginal draft, use an 8" High Temperature Listed Chimney.

Primary Air Outlet Grill. Do not cover with brick, stone, or any other material – allows hot air out of the fireplace.

Draft Control Damper Rod. The damper control regulates the intensity of the fire by closing a damper plate in the Fresh Air Intake. Handle in vertical position – the damper is open and in a high burn mode. Handle in horizontal position – the damper is closed and in a low burn mode. You can set the damper to various settings between high and low burn.

Bypass Pull Rod (Model 2850C only). Located above the loading door. The bypass control should be pulled out all the way to allow smoke to bypass the catalytic combustor when first starting a fire and until the unit reaches the 500 degree F. necessary for light off. The catalytic bypass should also be pulled out all the way when loading the stove with fuel.

Catalyst Monitor Port (Model 2850C only). Minimum catalytic light off will not occur until the stove reaches 500 degrees F. The use of a magnetic thermometer, probe thermometer, or various digital readouts available on the market will be of help to you in determining if you have achieved the necessary temperature. The monitor port for the temperature monitor equipment is located above the bypass pull rod.

Blower. The optional three-speed blower has been added to provide you additional heating value. The thermostatically controlled blower has manual and automatic controls (see Figure 6).

Lower Grill. Provides access to blower, draft control, and ash pan. Keep area accessible. This grill also allows cool air to enter the bottom of the air chamber to circulate around the firebox.

Ash Pan. Designed for easy cleanup of fine ash accumulation. Do not operate the fireplace with the ash pan open. Keep it closed except to remove ashes. The ash pan has a gasket for an airtight seal. This gasket should be inspected to ensure that it is in good condition at all times. If this gasket becomes damaged, it must be replaced.

The ash pan is located behind the lower grill. Pull down on the lower grill to expose the ash pan located near the center. Turning the handle to the left will unlatch the ash pan; turning the handle to the right will lock it into place.

Fresh Air Intake – Combustion Air. A 4" flexible tube located on the left side of the fireplace supplies combustion air. DURING INSTALLATION, THIS 4" FLEXIBLE TUBE MUST BE VENTED TO THE OUTSIDE OF THE HOME AT A LEVEL EQUAL TO THE UNIT'S LOWER GRILL. FOR BASEMENT INSTALLATION, THE PROCEDURE OF VENTING AT THE BASE OF THE FIREPLACE MUST BE FOLLOWED BEFORE CONTINUING UP AND OUTSIDE YOUR HOME. COMBUSTION AIR INLET DUCTS MUST NOT TERMINATE IN THE ATTIC.

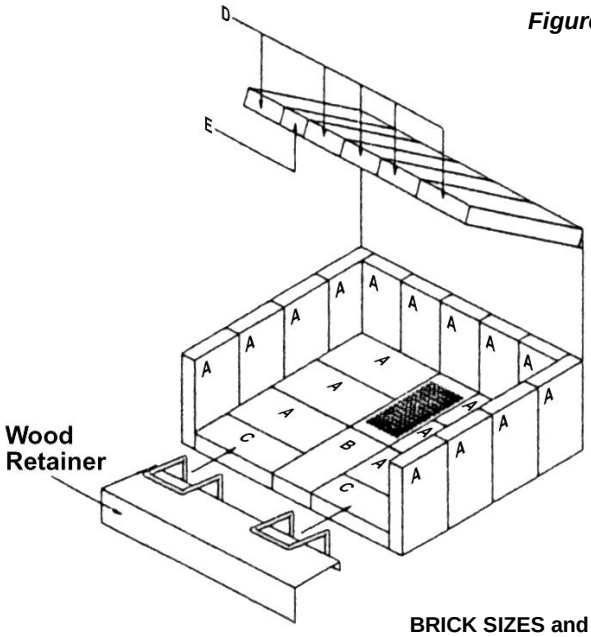
Standoffs. On the sides and back of the fireplace are sheet metal angles to show the safe clearances to combustible material. Top must remain open to the ceiling.

Fireplace Assembly

Firebrick Installation – Model 2800

Figure 2 shows how to install the firebrick for Silhouette Model 2800. The “A” bricks on the sides and back are full bricks – 9" x 4½" x 2". They stand vertically in the firebox and are put in first. The bricks on the floor are put in next starting in the left rear. The 2 narrow “C” bricks – 9" x 2" x 2" – are placed on each side in the front. Next place the cast grate in the center back of the firebox, and the “B” brick – 7" x 4½" x 2" – in the front. Keep all bricks tight to the back of the firebox. Next insert the steel wood retainer in the front of the box, with the long legs going in front of the bricks on the floor. This retainer must be in the fireplace at all times when in operation. Without this, damage will occur. Next, insert the “D” brick – 9" x 4½" x 1¼" – in the brick baffle. The bricks are held in place by a slot in the back of the firebox.

Figure 2



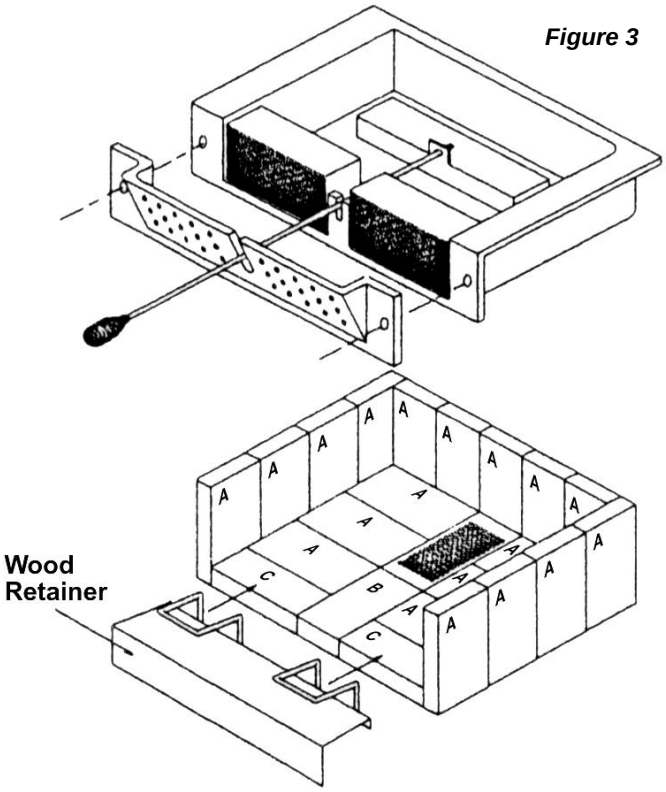
BRICK SIZES and QUANTITY

A = 9 x 4 ½ x 2	19
B = 7 x 4 ½ x 2	1
C = 9 x 2 x 2	2
D = 9 x 4 ½ x 1 ¼	5
E = 9 x 4 x 1 ¼	1

Firebrick Installation – Model 2850C

Figure 3 shows how to install the firebrick for Silhouette Model 2850C. The bricks on the sides and back are full bricks – 9" x 4½" x 2". They stand vertically in the firebox and are put in first. The bricks on the floor are put in next, starting in the front by sliding the first 2 half bricks – 9" x 2" x 2" – under the steel wood retainer. Then place the cast grate over the ash pan opening and place remaining full bricks to cover the floor.

Figure 3

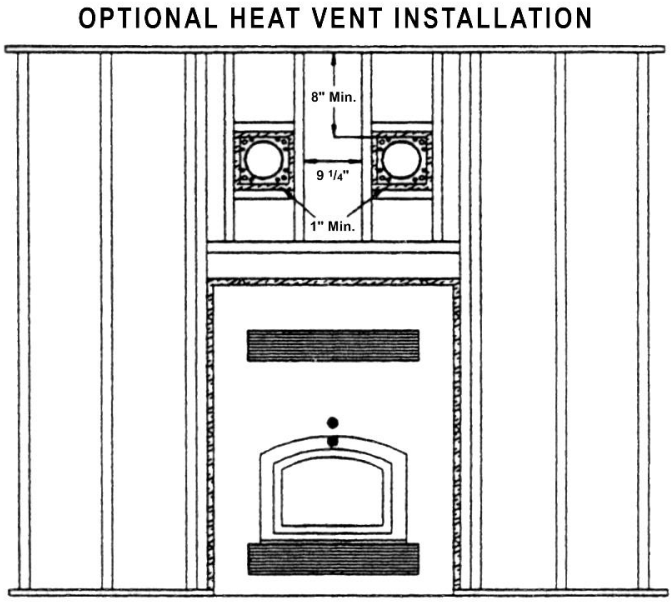


BRICK SIZES and QUANTITY

A = 9 x 4 ½ x 2	19
B = 7 x 4 ½ x 2	1
C = 9 x 2 x 2	2

Optional Outlet Vents

Figure 4



A minimum of 1" must be maintained between stud and air vent. A minimum of 8" must be maintained between ceiling and top of air vent.

Two optional heat outlets located on the top of the fireplace cabinet can be ducted to adjacent rooms using 8" B Vent pipe. Figures 4, 10, 12 and 15 show typical installation. Hot air vent kit (boot) supplied by Energy King is required. Grills must be a minimum of 8" from the ceiling. When framing around boot a minimum of 1" spaces from boot to studding is required. The vents CANNOT be installed lower than the top of the fireplace outlet (see Figure 15).

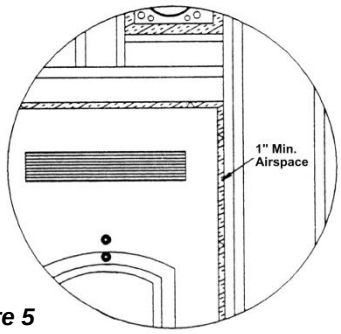
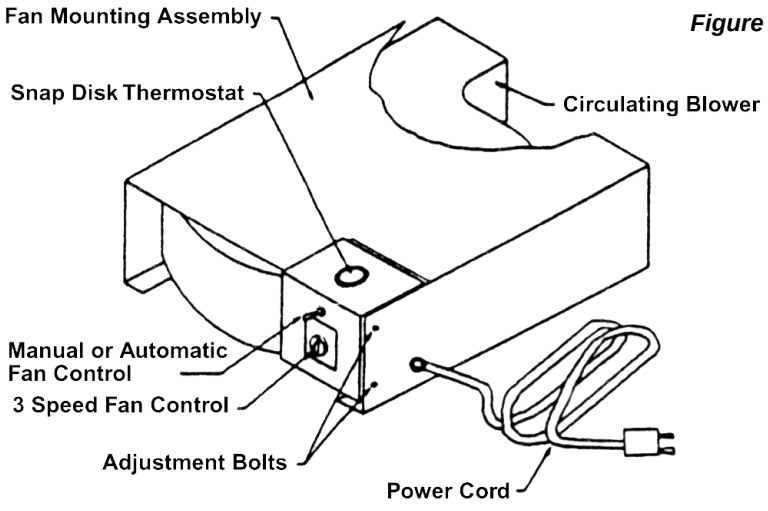


Figure 5

Optional Blower

Your Energy King Fireplace may be equipped with an optional 200CFM Blower. This can be installed by lowering the grill and placing the blower under the firebox on the right side. A tie strap is provided to clamp the blower assembly in place. Make sure the snap disc thermostat is in contact with the angle strap at the bottom of the firebox. The three wires from the fan are then connected to the power line.

Figure 6



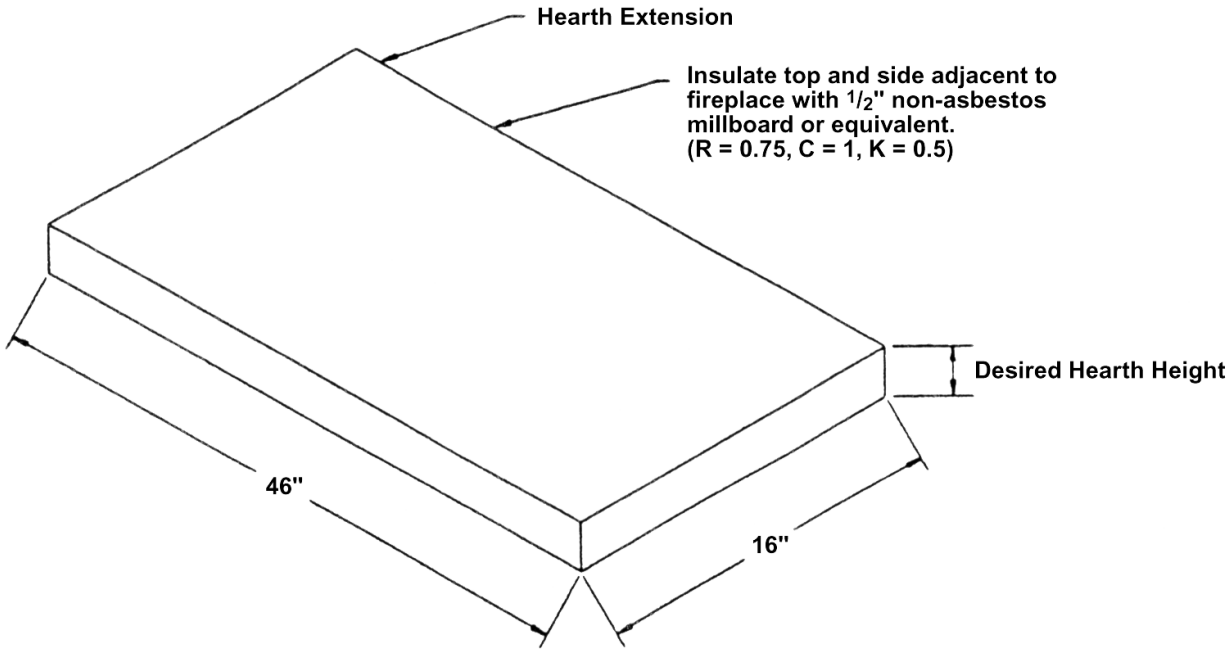
Rating: 120VAC/ 5 AMPS/ 50HZ 1/22 HP Shaded Pole RPM: 1360 - 1200 - 900
Manufacturer ID: Magneter #9471

A 2 x 4 junction box is to be mounted on the right side of the cabinet and supplied with 110 volt AC current. The snap disc thermostat located on the top of the blower assembly must be in contact with the bottom of the firebox. This can be adjusted by loosening the two adjustment bolts on the blower housing. Set snap disc thermostat to touch the bottom of the firebox and tighten the adjustment bolts (see Figure 6).

Hearth Extension

Installing Energy King's factory built fireplace on a combustible floor is approved as long as an area extending 16" in front of, and 8" to each side of the fuel opening is protected. Insulate this area with ½" non-asbestos millboard or equivalent (R Factor = 0.75, C = 1, K = 0.5)

Figure 7



Fireplace Installation

Clearances and Specifications

Minimum Clearances to Combustibles	
Unit Base	0"
Unit Sides	0"
Unit to Backwall	2"
Top Front Framing Member on Edge	0"
Unit to Sidewall	0"
Air Outlet Vent to Mantel	11"
Outlet Air Grill To Mantel	11"
Optional Remote Outlet Grills from Ceiling	8"
Faceplate to Sidewall	2"
Duct Boots to Framing Side	1"
Wallboard to Faceplate Edge Perimeter	0"

Specifications	
Unit Height	56 ¼"
Unit Width	48 ½"
Unit Depth	26 ¼"
Rough Opening	
Width	49"
Height	57"
Depth	27"
Flue Size	6" HT Listed Chimney
Log Length	22"
Firebox Volume	
Model 2800	2.8 Cu. Ft.
Model 2850C	2.2 Cu. Ft.
Glass Viewing Area	14" x 20"
Unit Weight	650 lbs.

Figure 8

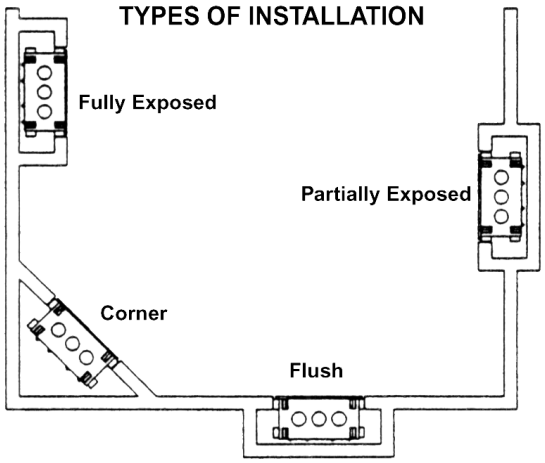
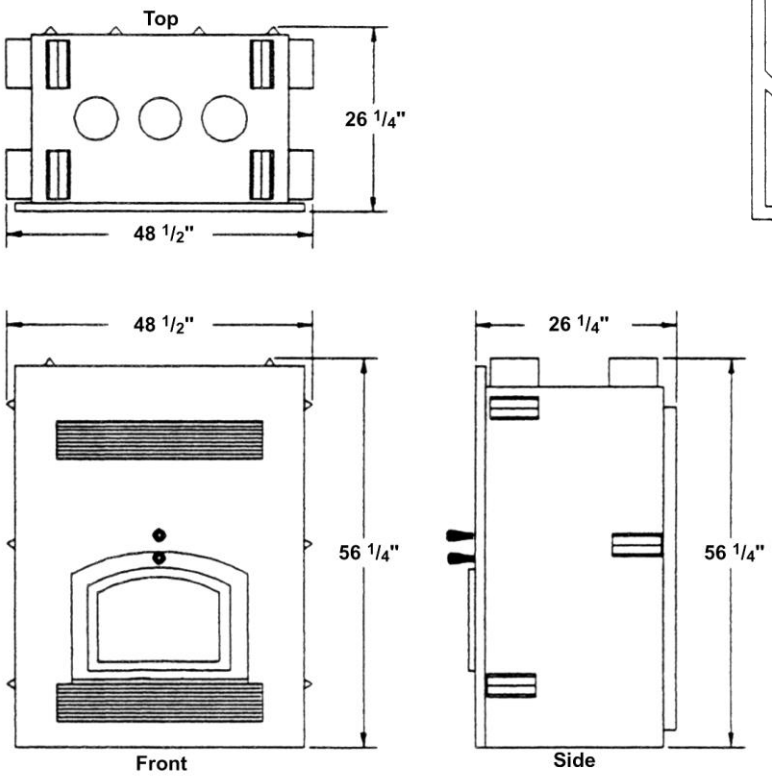


Figure 9



WARNING – DO NOT COVER OR INSULATE REQUIRED AIR SPACES

Installation

Installing an Energy King factory built fireplace is not a do-it-yourself project. Proper framing techniques and chimney installation must be followed. A qualified installer should install the Energy King fireplace and electrical wiring must conform to state and local codes.

The fireplace can be placed on a wood floor. Do not install the fireplace on carpet or vinyl flooring. The unit can be installed in a variety of locations as it shows in Figure 8. The floor structure must be able to hold the weight of the fireplace (650 lbs.) plus framing, finishing materials and chimney weight.

You should consider the position of the floor joists and rafters when locating your fireplace. Proper clearances from doors, windows and electrical panels must be considered.

Clearances for the fireplace to adjacent walls should not be any closer than 12" (see Figure 10).

Air spaces on the fireplace on both the sides and back are 0" clearance to combustibles from the standoffs, and open from the top of the unit to the ceiling. Do not remove standoffs from the units. Studs and sheeting must be kept 0" from these index points. An opening 49" wide and 27" deep and open to the ceiling must be maintained (see Figures 9 and 15).

All fuel burning appliances require proper combustion air to operate and to avoid negative air pressure in your home. Negative air pressure will cause safety and operational problems. Outside air is required for your Energy King factory built fireplace and is supplied by a 4" flexible tube located on the left side of the fireplace. During installation, this 4" flexible tube must be vented to the outside of the home at a level equal to the lower grill. For basement installation the procedure of venting at the base of the fireplace must be followed before continuing up and outside. To prevent reduced airflow, do not crease or over bend the flexible pipe. If your fresh air run is over 16', you should use 6" diameter flex tube. Secure all junctions with clamps or screws. All internal runs should be insulated to eliminate condensation.

Figure 10

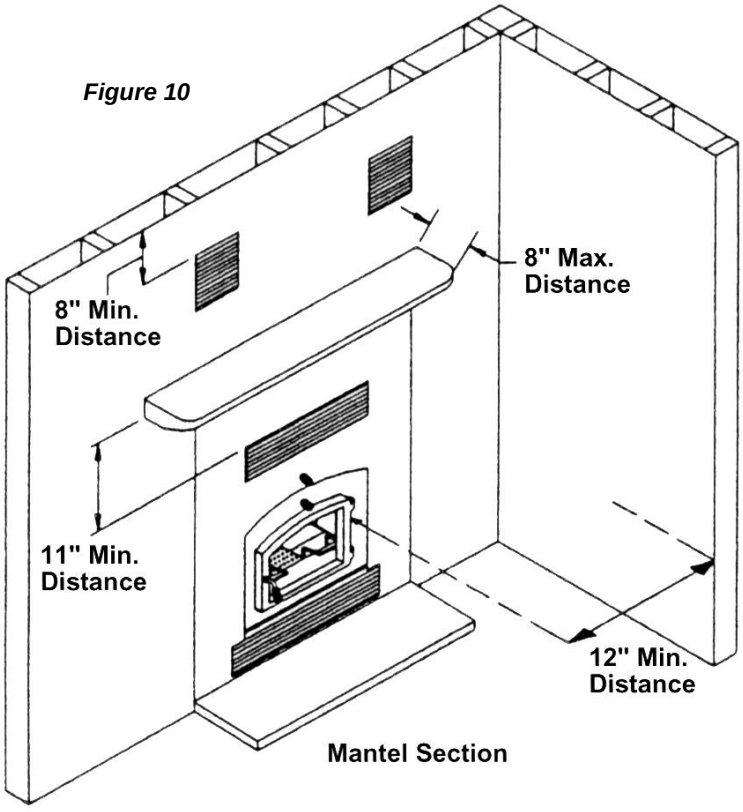
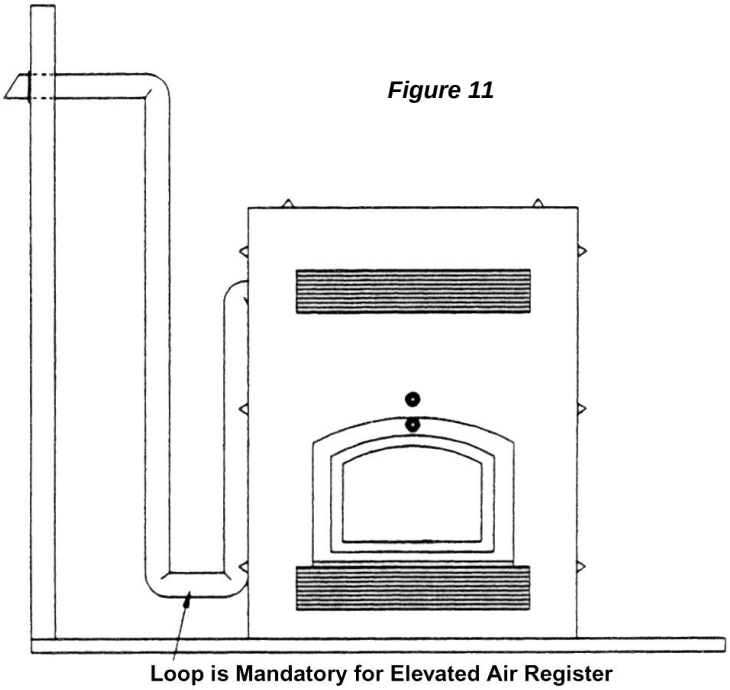


Figure 11

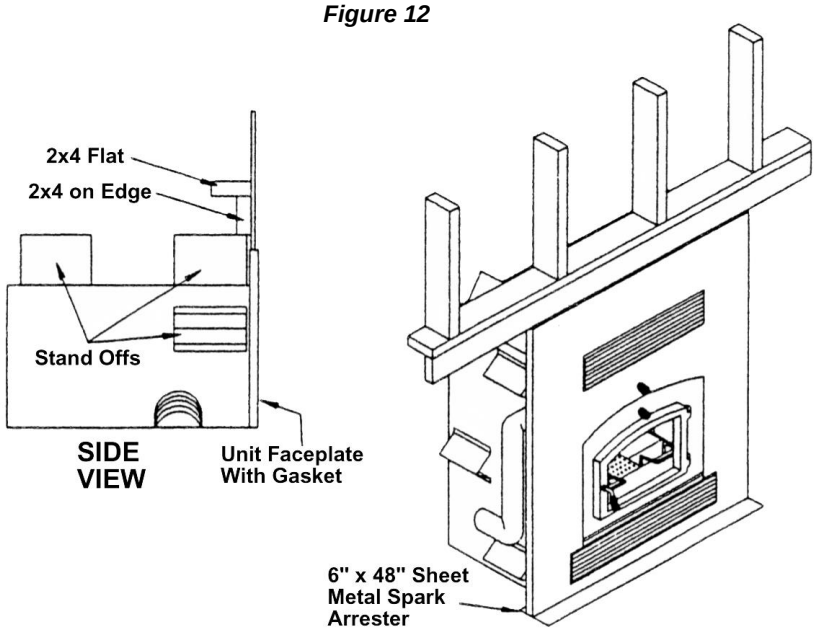


Framing

All construction materials, 2 x 4's, sheeting and insulation may only touch the sheet metal standoffs. The area between the standoffs CANNOT be filled with insulation (see Figures 4, 12 and 15).

A metal strap is placed in front of the fireplace half way under the faceplate (see Figure 12). This will prevent any hot ash from coming in contact with the flooring. Figure 4 and Figure 15 show an installation using the optional heat vents. Note how the studs only touch the standoffs. *The standoffs are used for identifying safe clearances – not for determining a load bearing point.*

Figure 12



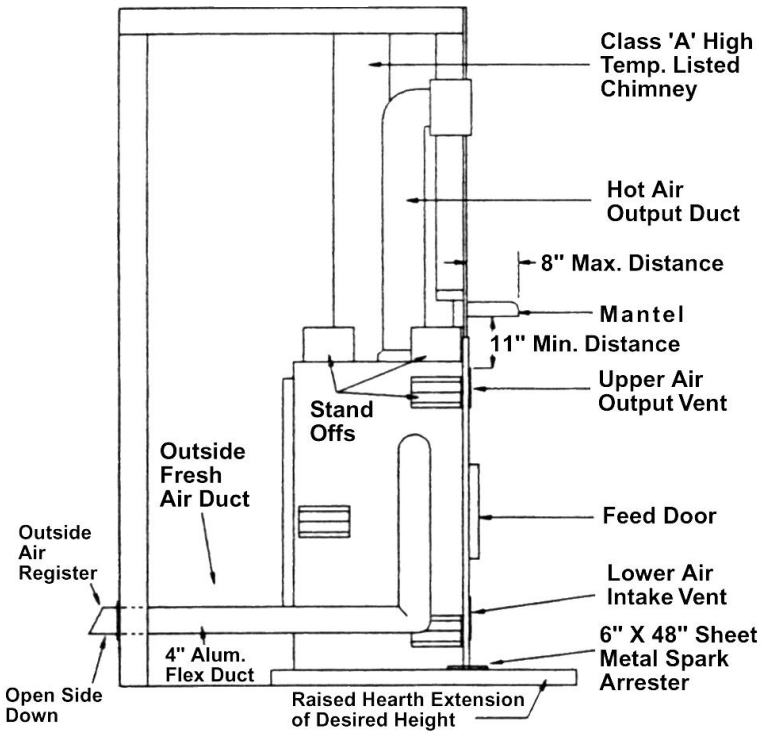
Framing over unit top.

Figure 12 shows proper framing over the top of the unit putting the first 2 x 4 on edge with the second 2 x 4 laying flat. The studs are placed vertically over the header working from the center of the fireplace outward, space first stud 8" from the center. This will give maximum clearances from the 6" HT Chimney. (When using the optional vents, framing is to be done as shown in Figure 4.) The studs on each side of the fireplace may touch the sheet metal standoff brackets. The next studs will be placed a minimum of 12" from the unit faceplate to fasten the durarock or other non-combustible sheeting. When the unit is not face bricked, the only trim that can be used is the optional anodized aluminum available through Energy King.

Mantel

A mantel may be mounted above the fireplace provided a minimum of 11" of clearance above the upper vent is allowed. The mantel may not extend more than 8" from the face of the fireplace.

Figure 13



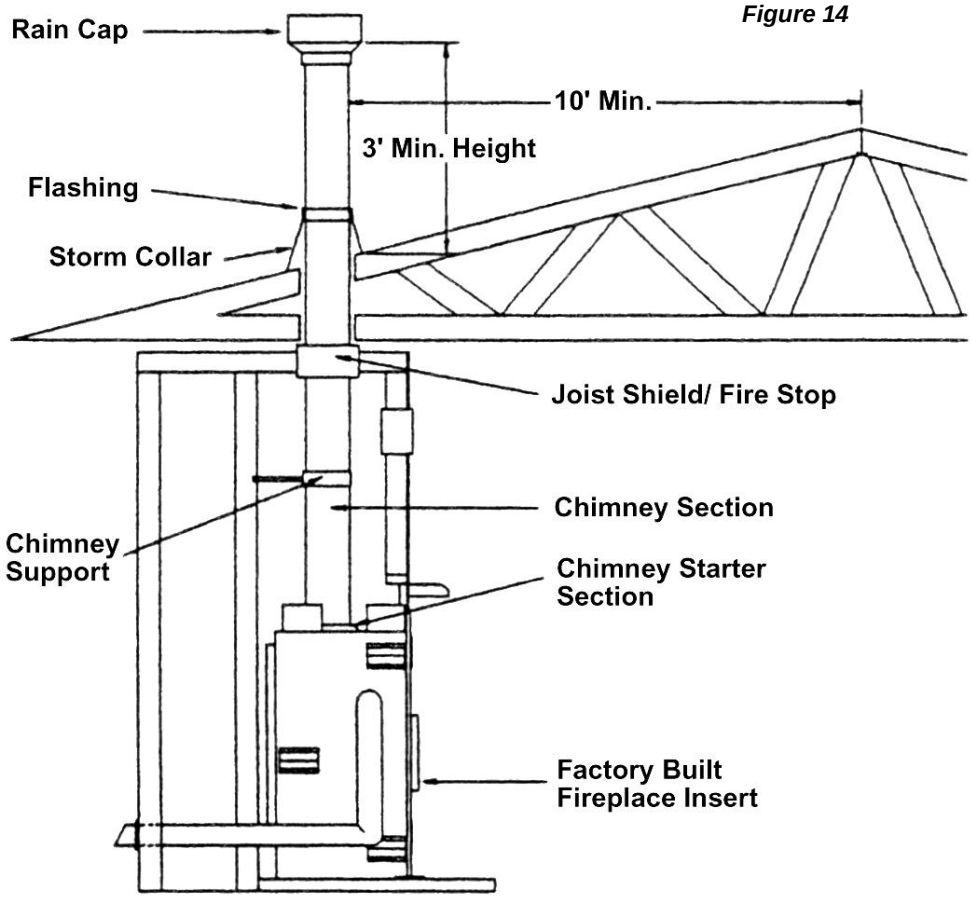
Venting System

Energy King's factory built fireplace is designed to operate on a variety of 6" HT tested chimneys. Figure 14 shows a typical installation. When installing the HT chimney, follow the chimney manufacturer's installation instructions. All chimney sections must be secured. The anchor plate, which is supplied by the chimney manufacturer, must be sealed and fastened to the unit top with 4 screws and sealed with high temperature silicone sealer.

The chimney must be a minimum of 12' overall height with a minimum of 3' above the roofline and 2' above any obstructions within 10' (see Figure 14 below). The minimum draft of the fireplace is .06" of water column.

A straight chimney is best. Up to two 30-degree elbows can be used for offsets.

Figure 14



All chimney installations must be installed in accordance with chimney manufacturer's requirements.

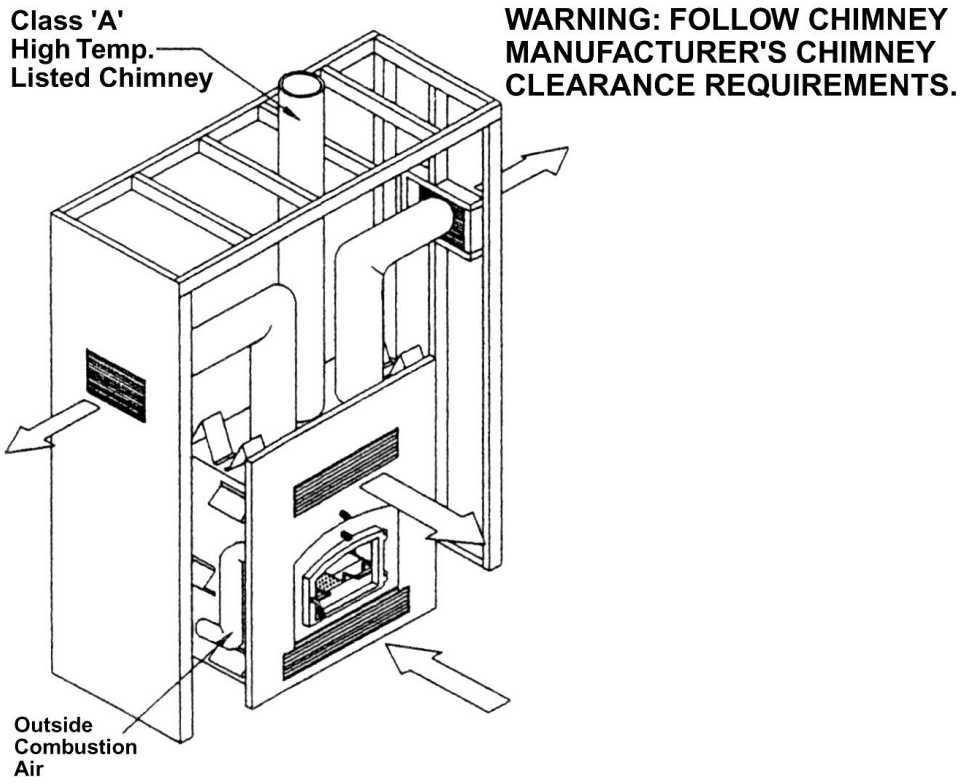
Chimney

Use only listed type HT chimney for this fireplace. Do not vent any other appliances through this chimney system. Follow the chimney manufacturer's instructions for proper installation of the chimney. Be sure the chimney system has an anchor plate available for the fireplace. See Figure 14 above for chimney height requirements. In case of chimney offsets or marginal draft, use an 8" High Temperature Listed Chimney.

Firestop

Be sure all firestops are in the proper location.

Figure 15



Types of Wood

Wood is our nation's primary renewable fuel source. There are two basic types of wood available. Choosing the kind of firewood to burn in your stove depends on what is available to you.

Softwoods, such as pine and fir, are easily ignited and burn rapidly with hot flames. But, since they burn so easily and quickly, you will have to spend more time loading your stove. With softwoods, it will be much more difficult to achieve an overnight burn.

Hardwoods – such as ash, beech, birch, maple and oak – are denser and provide a longer lasting fire.

Season your wood. Allow wood to dry out (reducing water content in wood) for at least one year. Purchase or cut wood, stack under a cover, but allow air circulation for drying wood. Store wood at least three feet away from the fireplace.

If processed solid fuel firelogs are used, do not poke or stir the logs while they are burning. Use only firelogs that have been evaluated for the application in the fireplace and refer to firelog warnings and caution markings on packaging prior to use.

Do not burn wood that has been chemically treated or altered from its natural state.

NEVER OPERATE THE FIREPLACE WITH THE FUEL DOOR OR ASH PAN OPEN.

Warnings

This heater is designed to burn natural wood only. Higher efficiencies and lower emissions generally result when burning air dried, seasoned hardwood, as compared to softwood or green or freshly cut hardwoods.

DO NOT BURN

Treated wood
Colored paper
Garbage
Cardboard
Solvents
Coal
Trash

Burning treated wood, garbage, solvents, colored paper or trash may result in release of toxic fumes and may poison or render ineffective the catalytic combustor.

Burning coal, cardboard, or loose paper can produce soot, or large flakes of char or fly ash that can coat the combustor, causing smoke spillage into the room, and rendering the combustor ineffective.

Backpuffing – Smoke from closed fuel door

If smoke enters the room when the fireplace door is closed, check for the following causes:

1. Proper draft has not had time to establish. Open draft control.
2. Blockage in the fireplace, stovepipe or chimney.
3. Leaks in the chimney.
4. Cold outside chimney.
5. Chimney is too short.
6. Chimney is too close to trees or a nearby high roof.

Overfire

Never operate the unit with fuel door or ash pan open.

Do not overfire. Using flammable liquids, too much wood, or burning trash in the fireplace, may result in overfiring. If the chimney connector or fireplace glows red or even worse, white, the stove is overfired. This condition may ignite creosote in the chimney, possibly causing a house fire.

If you overfire, immediately close the fireplace damper and doors to reduce the air supply to the fire. Call the Fire Department immediately. DO NOT OPERATE THE STOVE AGAIN UNTIL IT IS DETERMINED THAT THE CHIMNEY AND ITS LINING HAVE NOT BEEN DAMAGED AND ARE SAFE.

Initial Fire – Curing the Paint

You will need to cure painted surfaces on your Energy King fireplace. For the first few fires, adjust the damper control to medium fire position after ignition. This will allow the paint to cure in an even manner. You may notice small amounts of paint fumes on initial fires. Only operate the fireplace with the door fully closed.

Starting a Fire – Model 2800

***NEVER START A FIRE WITH A FLAMMABLE LIQUID*.**

Start by placing loosely crumpled paper on the firebox floor and cover with dry kindling. Open the draft control completely, and light the fire. (Draft control is located above the glass door.) After a fire is established, add more dry wood and close the draft control partially to adjust the burn rate.

Adding wood should be done moderately as the fire progresses. To prevent smoke spillage when refueling, turn the draft control (located above the glass door) to the left to open completely. Handle will be in a full vertical position. Wait for a minute, and proceed to reload your fireplace with wood. Close fuel door and turn the draft control handle to the right to achieve a desired burn rate.

Operating Your Silhouette Model 2850C

What is a Catalytic Woodstove?

A catalytic combustor is an element which, when used properly in a woodburning appliance, will “burn” smoke, carbon monoxide and particulate which are not burned by the fire. Think of it as an “after burner” which, because of a “catalyst,” chemically breaks down smoke, carbon monoxide and particulate into substances that are burned at a low temperature.

Using Your Catalytic Woodstove

The most important thing to remember when operating a catalytic combustor equipped stove or insert is to make sure you have achieved catalytic light off before you place the unit into the catalytic operational mode. Light off simply means that you have achieved enough temperature within your unit to start the catalytic combustor operating.

Catalytic burning, like all types of burning, requires three essential elements: fuel, oxygen and temperature. The “smoke” is the fuel. The temperature needed to begin catalytic activity is generally 500 to 700 degrees F. This is a temperature that is easily achieved when you build a fresh fire or when you reload your existing fire.

The use of a magnetic thermometer, a probe thermometer, or various digital readouts available on the market today will be of help to you in determining if you have achieved the necessary temperature. The monitor port for the temperature monitor equipment is located 2" to the left of the bypass pull rod.

Your Energy King stove is equipped with a bypass mechanism, located above the door. The bypass allows you to “bypass” the smoke around the combustor when you do not have the necessary 500 degrees to start catalytic activity or when you are reloading your stove. To aid in catalytic light off, coals should be moved aside at the front of the door opening and a tunnel made under the fuel.

The other important thing to remember when operating a catalytic combustor equipped device (or any wood burning device) is to burn seasoned, dry wood only and not to use your wood burning stove or insert as a “garbage incinerator.” A “catalyst” is an element that causes something to happen under conditions by which they would not normally happen, without being consumed or used up by the reaction. In a wood burning appliance, this simply means that the catalyst is allowing the smoke to be burned at 500 to 700 degrees F. rather than the normal 1,100 to 1,200 degrees F. that it would take to burn all elements.

There are elements in garbage, other than dried, seasoned wood that the catalyst will not react with. Some of these elements are lead, sulfur, etc., and as they come in contact with the catalyst, they stick to it, covering it up, so that the elements in wood smoke such as hydrocarbons, particulate and carbon monoxide cannot contact the catalyst and are not burned. This process is referred to as “poisoning”, and after a period, the catalyst is covered and your catalytic combustor will no longer work. How long this process will take to completely cover all the catalyst depends on what you burn in our stove.

Troubleshooting Your Catalytic Combustor

Problem: Creosote accumulation or dirty smoke from the chimney

Possible causes	Solution(s)
You are not getting light off in the combustor.	Make sure you have achieved 500 degrees F. (necessary for light off) before engaging the combustor.
You are burning wet wood or improper fuels.	Burn only dry, seasoned wood.
Your bypass mechanism is not fully closing, allowing the smoke to go around the combustor rather than through the combustor.	When the stove is not burning, make sure that the bypass mechanism is closing fully and that there are no obstructions Replace your catalytic combustor.

Problem: Plugged combustor

Possible causes	Solution(s)
You did not achieve light off temperature prior to closing your bypass mechanism and engaging your combustor.	Make sure you have at least 500 degrees F. (necessary for light off) before you engage the combustor.
You are burning materials that are coating the catalyst, such as heavy papers, wet wood, garbage, etc.	Burn only dry, seasoned wood. Lightly brush the face of the combustor with a soft bristle brush, such as a paintbrush, to remove the accumulation. Then build a hot fire in your stove, engage the combustor half way, then two-thirds, then fully to burn the accumulation off the combustor.
Your catalytic combustor is no longer functioning and needs to be replaced.	Replace your catalytic combustor.

How do I know my catalytic combustor is working?
Ask yourself the following questions. If your answers are yes, your catalytic combustor is working properly.

1. Am I burning less wood to get the same amount of heat?
2. Does my combustor glow red for a short amount of the time (approximately 1-1/2 hours) during my wood load?
3. Is there substantially less creosote in my chimney?
4. Is the smoke exiting my chimney white in color and usually odorless?
5. Does a visual inspection of the combustor show it to be clean of any fly ash, creosote or soot?

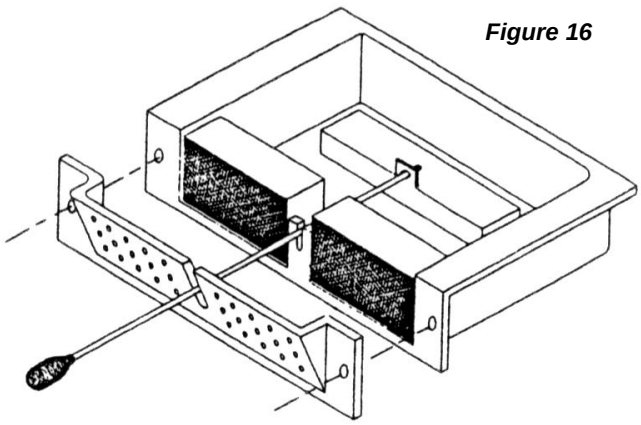
If the answer to any of the above questions is no, the solutions outlined previously may help you to activate your combustor again.

Replacing Your Catalytic Combustor

Visually inspect the catalytic combustor at least three times during the heating season to determine if physical deterioration has occurred. Only replace the combustor if it is damaged or no longer operating and use only Applied Ceramics Combustors. (See Applied Ceramics Warranty for information on replacement.)

The Energy King fireplace has two catalytic combustors. To replace combustors, look up inside the stove and locate the catalytic combustor retainer plate with holes across its surface. Remove the bolts on each side of the plate and remove the plate. Next, remove the catalytic combustors. Position the replacement catalytic combustors snugly and replace the retainer plate, tightly bolting the plate on both sides.

Figure 16



Starting a Fire – Model 2850C

1. Before building a fire, open the bypass, located above the door, to the open position by pulling it all the way out.

2. Open the air control, located above the door, by turning it all the way to the left.

3. Start your fire with paper and kindling on the firebrick refractory hearth. Do not elevate the fire with grates or andirons.

4. Once the fire establishes coals, move the coals aside at the front of the door opening and form a tunnel under the fuel. This will help light off to occur.

5. Add wood to the fire.

6. Continue to burn your fire with the air control fully open for 20 to 45 minutes. This ensures that the stove, catalyst, and fuel are all stabilized to proper operating temperature. Even though it is possible to have gas temperatures reach 600 degrees F. within two or three minutes after a fire is started, if the fire is allowed to die down immediately, it may go out or the combustor may stop working. Once the combustor starts working, heat generated in it by burning the smoke will keep it working.

7. Close the bypass when the fuel load is burning.

8. Close the air control half way for maximum fuel efficiency and burn time.

9. When fueling your Energy King, open the bypass and air control all the way and wait a short time before opening the door. This will eliminate the risk of flame and smoke spillage.

10. Once the stove is fueled, reset the bypass to the closed position, and the air control to medium.

11. During the refueling and rekindling of a cool fire, or a fire that has burned down to the charcoal phase, operate the stove at a medium to high fire rate for about ten minutes to ensure that the catalyst reaches approximately 600 degrees F.

Maintaining Your Silhouette Fireplace
(All Models)

At the end of each heating season, clean the chimney. Vacuum out any ash accumulation. Replace any worn gaskets or broken firebrick.

Disposal of Ashes

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. 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 are thoroughly cool.

Creosote – 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 slow burning fire. Therefore, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire that may damage the chimney or even destroy the house.

The chimney connector and chimney should be inspected at least twice a year during the heating season to determine if a creosote buildup has occurred. If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

Care of Glass

Your Energy King is equipped with a super heat resistant glass, available through your Energy King retailer. The glass can only be broken by impact or misuse. Never slam the door or impact the glass. When loading fuel, be sure logs don't touch the glass.

In case of breakage, glass must be replaced with a high temperature glass such as Robax. Tempered or ordinary glass will not withstand the high temperatures of the Energy King fireplace. Do not operate the unit with cracked or broken glass. Replacement glass should be purchased from your Energy King retailer or [MANUFACTURER NAME]. To remove the broken or damaged glass panel, remove the glass retaining clips and carefully remove the glass panel. Insert the replacement glass and attach the glass retaining clips.

The glass should be cleaned with a non-abrasive glass cleaner. Abrasive cleaners may scratch and cause the glass to crack. Do not clean the glass when it is hot.

Care of Gold

Gold must be cleaned with a window cleaning solution before the initial burn. Fingerprints and other oils will permanently bake into the finish. Do not use an abrasive cleaner.

Care of Blower

CAUTION: MOVING PARTS MAY CAUSE INJURY. DO NOT OPERATE UNIT WITH COVER PLATE REMOVED.

The blower assembly can be easily removed by following these procedures: Disconnect power, remove the clamping bolt located under the blower assembly, and pull out approximately 4". Remove the wire nuts that connect the power cord. (Black, white and green wire.) On the ends of the motor shaft are oil slots – oil using only 3 or 4 drops of oil. EXCESS OIL WILL DAMAGE THE MOTOR. Place unit back into the opening, connect wires (black-to-black, white-to-white, green-to-mechanical ground). Place unit in the rest of the way to the back fan stop. Check to be sure wires are not cut or connections have not become loose. Place clamp bar over bolt and tighten down. Connect power cord. Unit should now be ready to operate.

Gasket Replacement

Door and glass gaskets need to be replaced on an annual basis to ensure that the stove remains airtight. Failure of the door or glass gaskets will allow additional air to enter the stove and drastically decrease the burn time of your fuel.

To check for gasket failure, start a fire in the stove. Once you have a well established fire, damper the stove down. Next take a lit match and direct it along the edge of the door and stove. Do the same along the inside edge of the door and glass. If you notice the flame from the match being drawn to the gap, there is an air leak in the gasket and it needs to be replaced.

Door Gasket. To replace the door gasket, simply remove the door and lay it face down on a clean soft surface, such as a towel. Find the ends of the gasket and pull it off. Take a screwdriver and remove excess gasket glue from the channel. Take new stove gasket cement (available at your local woodstove retailer or hardware store) and lay a medium to heavy bead around the gasket channel. Take the new door gasket (also available at your local woodstove retailer or hardware store) and lay it in the channel. Cut off any excess gasket rope. Reattach door and seal. Leave the door closed until the gasket cement dries.

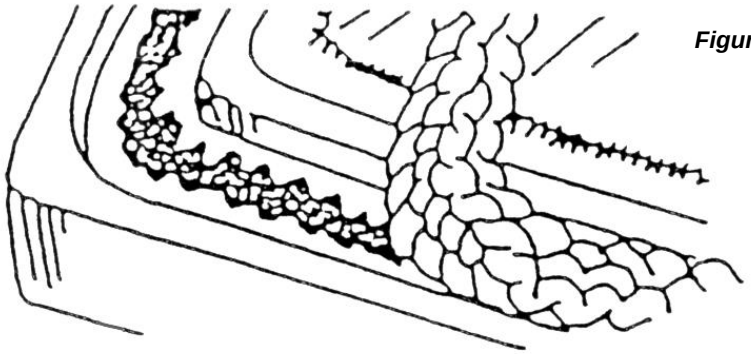


Figure 17

Glass Gasket. To replace the glass gasket, remove the glass retaining clips along the inside of the stove door. Remove the glass. Remove the old gasket by pulling it off. Take the new gasket (available at your local woodstove dealer) and peel off the protective paper. Place the new gasket around the edge of the glass. Trim off any excess gasket. Replace glass and clips.

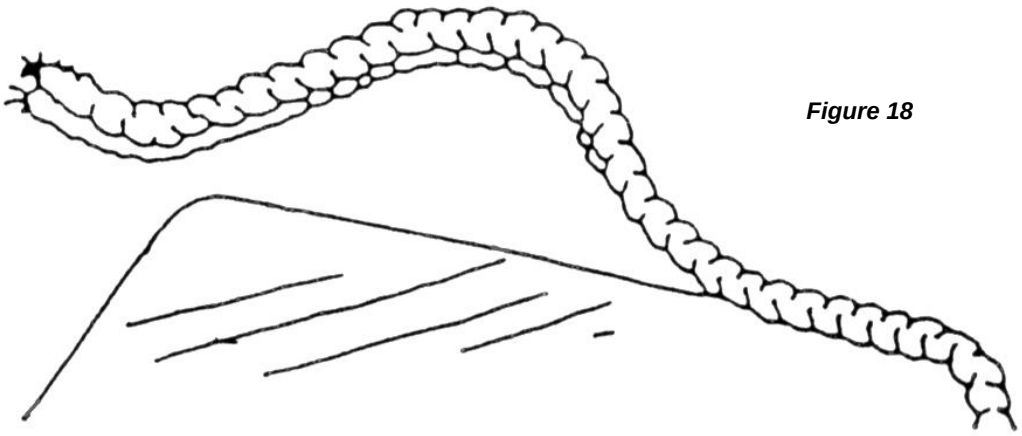


Figure 18

Troubleshooting Guide

Unit does not burn properly

1. Check the wood; it must be dry. If moisture is sizzling out the end, the wood is too wet.

2. Test the draft. It should be .05/.06 (inches of water column).

3. Check to make sure the flue is not obstructed. Also check the baffle area in the unit for excessive ash buildup.

4. Check the airflow in the room. If it is too air-tight, the unit cannot get enough combustion air to burn properly. You may need to bring outside air to the furnace or stove.

5. Check the chimney and stovepipe. They need to be airtight to make the unit draft properly.

6. Check that only one appliance is hooked to the chimney.

7. Check the chimney for a downdraft. A cold chimney will keep flue gases from rising up the chimney. Proper insulation of chimney and/or installing a stainless steel liner sized for the unit may remedy the problem.

8. Check your chimney for downdraft caused by taller surrounding trees or buildings. The chimney may have to be extended or a chimney vent cap installed.

9. Check all gaskets for leaks: Door gaskets, glass gaskets, ash drawer or door gaskets (where applicable).

Unit does not give off enough heat

Is the unit installed correctly?

1. Check to see if the unit has an adequate cold air return or inadequate hot air outlet.

2. Room may be too airtight, inadequate combustion air or return air.

3. Flue draft may be inadequate or too strong - .05/.06 (inches of water column) recommended.

4. Door gaskets may be leaking. In addition, glass gaskets, ash drawers or door gasket should be checked for leakage.

5. Check flue. Make sure it is not obstructed.

6. Check ductwork for leaks – cold and hot air ducts.

Unit is making noise/distribution blower is vibrating

With electrical power disconnected, check the following:

1. Check for loose parts.

2. Is the blower wheel contacting the housing? If so, realign or replace as required.

3. Is foreign material inside the housing?

4. Is there a leak in the ductwork or is there loose ductwork?

5. Does the blower wheel/motor need to be cleaned or serviced?

6. Is the blower wheel set screw loose? If so, secure it properly.

   Maintenance of blower assembly: ***After disconnecting the power source*** –
   a) Remove dirt from blower wheel and housing.
   b) Check tightness of wheel set screw.
   c) Check the wiring to see if it is secure and well insulated.
   d) Lubricate the motor according to the manufacturer's instructions. Remove any excess lubricants.

Blower is not working

1. Check for blown fuse or open circuit breaker.

2. Insufficient air flow
   a) Motor speed is too low (multi-speed units only).
   b) Leaks in ductwork.
   c) Dampers and/or registers closed.
   d) Obstruction in system
   e) Clogged filters.

3. Too much air flow
   a) Filters not in place (where applicable).
   b) Motor speed too fast (multi-speed units only).
   c) Registers or grills not installed.
   d) Insufficient static pressure (SP). Check your static pressure (SP) calculations and correct system accordingly.

4. Motor overloaded – System static pressure too low. Check and correct system.

5. Thermostat is not opening damper (or turning on forced draft fan).
   a) Check wall thermostat.
   b) Check the thermostat wires (possible short or broken wire).
   c) Check wire connections.
   d) Make sure heated area is calling for heat.
   e) Check damper assembly so that all parts move freely.
   f) Damper motor or forced draft fan improperly wired – compare wiring on the unit to the schematic in the manual.

6. Excessive creosote
   a) Make sure the units smoke pipe is vented into its own proper chimney.
   b) Check length of flue pipe and all connections. Offsets in flue pipe will slow flue gases down causing buildup.
   c) Slow fires with excessive amounts of fuel can cause creosote buildup in smoke pipe and chimney.

Use and Maintenance of a Catalyst

1. Do not “Hot Fire” the stove. For many years, retailers and installers have advised customers to build an extra hot fire to burn the creosote deposits in the flue system. This advice may be acceptable for non-cat stoves, but can be death to a catalyst. Why? Because the catalyst is reducing the particulate, or creosote buildup, therefore, the need to Hot Fire is eliminated. Also, see point #2.

2. Direct Flame contact is death to a catalyst. A catalyst burns the byproducts in the smoke. The gases such as CO, HC, and O2 ignite with each other in the presence of the catalyst, (while passing through the honeycomb configuration). This is a chemical reaction. Direct flame inhibits this reaction by changing the chemical makeup of the catalyst. The flame also breaks down the substrate or ceramic. This problem is called flame impingement. Today’s modern stoves are designed so that flame impingement is unlikely. However, a strong, fast draft can pull the flame into the catalyst. Or a “hot fire,” with all the air controls and/or the ash door open, can literally torch the catalyst. Controlling the draft also can reduce fly ash problems.

3. The “Glow” misconception: A catalyst can glow during certain stages of combustion. The determination that a catalyst is not working simply because it does not “glow” is inaccurate. During the low burn cycle, when the catalyst is doing the bulk of its work, it usually does not glow. Also extremely dry wood (oak, ash, etc.) can burn clean enough not to produce a glow in the converter.

4. Light off Temperature: CO conversion in the Applied Ceramics catalyst begins at a very low temperature. Usually a normal startup to produce a coal bed will produce more than sufficient temperatures to begin catalytic combustion.

5. The catalyst is not consumed or “used up”. The nature of a catalytic reaction is defined as follows, by The American Heritage Dictionary, Second College Edition:

   Cat.a.lyst n. 1. Chem. A substance, usually present in small amounts relative to reactants, that modifies and especially increases the rate of a chemical reaction without being consumed in the process.

6. Why does a catalyst stop working? Most catalysts that are returned either are destroyed by flame impingement, broken due to accidents or mishandling, or have nothing wrong with them but fly ash buildup.

   A catalyst can be “saturated” with byproducts of wood burning such as potassium. This is chemical saturation. The prohibitive chemical will fill in the chemical “holes” that the gases normally use for reaction. This process of “saturation” can be slowed by regular maintenance of the catalyst. “Saturation” can take several years. Burning garbage, painted woods, or large amounts of colored paper can poison your unit. Poisoning however is very difficult to do. Burning colored paper causes more of a fly ash problem than a risk of poisoning. NEVER BURN RUBBER OR PLASTIC.

   When a catalyst has ceased to be effective, you will notice increased fuel usage and your chimney sweep will notice increased creosote in your system. Before you replace the unit, review this sheet. If you find that your catalyst should be replaced, follow the instructions for warranty replacement that were provided when your unit was purchased.

   Cleaning the catalyst with plain water can reduce buildup of the catalyst – retarding chemicals. Nothing but a soft brush, low-pressured air or plain water should be used to clean a catalyst. The ceramic unit is fragile in comparison to the rest of the stove – so it should be handled with care. A soak in warm or hot (not boiling water) for 20 minutes is ideal. Then allow the unit to cool at room temperature and rinse under medium pressure under a faucet. Allow the unit to thoroughly dry before reinstalling it or you will damage it. Then reinstall the unit according to the stove maker’s or retrofit manufacturer’s instructions. A cleaning once every year is sufficient for most users. Clean it when you have your flue system cleaned.

Frequently asked questions

Q. "How can I tell if I am operating my woodstove properly?"
R. Check the exhaust coming out of your woodstove chimney. The smoke is your operational barometer. If your fire is burning properly, you should only see the white transparent steam of evaporating water, darker and opaque smoke will only be slightly visible. The darker the color of the exhaust, the less efficiently you are operating the appliance. It may be necessary to adjust the operation of your woodstove to decrease the opacity of the exhaust (that is, the density of the smoke).

Q. "Once I have preheated my chimney, how should I operate the stove?"
R. Although all woodstoves require preheating during startup and reloading, their operation afterwards vary somewhat. Woodstoves that use catalytic combustors require the monitoring of temperatures and air supply to ensure that the catalyst engages at appropriate times in the combustion cycle. Generally, catalytic stoves require lower combustion temperatures in the firebox to burn cleanly. At 500-1000 degrees F., the catalyst ignites, burning the volatile gases and particulate. Noncatalytic stoves attain much higher temperatures in the combustion path before the gases and particulate burn. Always refer to your woodstove manufacturer's operation manual and follow the instructions for your particular make and model.

Q. Do I operate my stove differently in cold vs. warm weather conditions?"
R. Yes, during the warmer seasons of spring and fall, control the total heat output by limiting the amount of fuel (wood) rather than by closing down the air supply. Make shorter, hot fires using more finely split wood. The actual air supply setting will vary according to your stove instructions, but the fuel loadings will be consistently smaller. Let the fire burn out rather than smolder at low air supply settings. When your home requires more heat, restart the fire with kindling as always, but add smaller fuel loads. This allows your stove to operate at maximum efficiency and with minimum emissions. Avoid the temptation of building a big fire and then starving it for air.

Q. "Is it important to have my stove and chimney cleaned?"
R. Smoke rising through your chimney may condense and build up on the cooler inside walls forming a substance known as creosote. This volatile substance can ignite and burn in the chimney. Many chimneys and installations are unable to withstand these dangerous creosote fires; the results can be tragic.

Q. "How often should I have my chimney inspected and cleaned?"
R. A professional, certified chimney sweep should inspect and clean your flue system regularly. Frequent stove use may require monthly chimney inspection and cleaning while even minimal use will require annual servicing.

Woodstove connectors (stovepipes) should be checked as often as every 2-4 weeks. Your chimney sweep can show you the proper methods for these more frequent inspections.

Q. "Does it matter what kind of wood I use?"
R. Your fuel supply should consist of a mixture of hardwoods, like maple or oak, and softwoods, such as fir and pine. When first starting your fire, use softwoods. They ignite easily and burn rapidly with a hot flame. Hardwoods provide a longer lasting fire and are best used after pre-heating the chimney. If hardwoods are unavailable, you can control your fire's burn rate by using larger pieces of wood.

Q. "Is it important to season wood before burning it?"
R. The seasoning, or drying, process allows most of the natural moisture found in wood to evaporate, making it easier to burn. A properly seasoned log will have 20%-30% moisture content.

Wood only dries from the surface inward; unsplit pieces dry very slowly. To properly season wood, split the logs as soon as possible and stack them in a dry spot for 6-18 months. Pile the wood loosely, allowing air to circulate through the split logs. Hardwoods take longer to dry than softwoods. Humidity and temperature levels also will impact drying time.

Q. “What’s the best way to load wood into my stove?”
R. Avoid placing pieces of wood in parallel directions, where they may stack too closely. Vary the position of the wood in the firebox to maximize the exposed surface area of each piece of wood. Only use wood properly sized for your stove’s fire chamber. Complete wood combustion requires wood (fuel), temperature (heat), and oxygen (air) to burn completely and cleanly.

Q. “Is there anything I shouldn’t burn?”
R. Never burn garbage, plastic, foil, or any kind of chemically treated or painted wood. They all produce noxious fumes that are dangerous and highly polluting. Additionally, if you have a catalytic stove, the residue from burning plastics may clog the catalytic combustor.

Q. “When installing a woodstove, what’s the first thing I should consider?”
R. The woodstove and chimney work as a system. It is important that the stove’s chimney system be sized properly, according to the manufacturer’s instructions. Whether venting into a masonry or metal system, make sure the diameter of the chimney matches closely, but never smaller than, the size of the stove’s flue outlet. Doing anything else adversely impacts emissions and safety.

Q. “Can I install my own stove, or should I have the installation done professionally?”
R. Preferably, a certified professional should install your stove. More than likely, this technician is familiar with your model and has installed many others like it. This experience can save you time, money and frustration in the long run. Plus, it gives you the confidence that your stove is installed properly and safely.

For owners who choose to install their own woodstoves, follow the manufacturer’s instructions explicitly. **NEVER** proceed without professional advice if you have a question.

Astra 32

Owner's Manual

Model Number: 32SFC

This product is proudly developed and manufactured in North America by **SUPREME FIREPLACES INC.**

3594 Jarry East, Montreal, QC H1Z 2G4
T: 877-593-4722, F: 514-593-4424
www.supremem.com

Revised: October 2018

IMPORTANT: Keep the owner's manual for future use.

CONTENTS

1 SAFETY

SUPREME FIREPLACES INC. congratulates you on purchasing an Astra 32 wood burning fireplace. This manual describes the installation and operation of the Astra 32 non-catalytic wood heater. This heater meets the 2020 U.S. Environmental Protection Agency's crib wood emission limits for wood heaters sold after May 15, 2015. Under specific test conditions this heater has been shown to deliver heat at rates ranging from 12,430 to 29,274 Btu/hr. In addition, this fireplace complies with the ULC-S610 and UL-127 standards.

SAFETY NOTICE: Carefully read this manual before installation and operation of this fireplace. A house fire may result if not properly installed. To reduce the risk of a fire, follow the installation instructions. Failure to follow instructions presented in this manual can lead to property damage, bodily injury or even death. Alterations or modifications made on the unit or the installation is strictly forbidden as it may predispose the user to hazardous risks. Contact your local building or fire officials for restrictions and installation inspection requirements in your area and the need to obtain a permit.

WARNING: This unit is hot during operation; keep children, pets, flammable liquids, or combustible materials at a safe distance. Ensure that all clearances to combustible materials are respected. Contact with the unit during operation may cause severe harm. Install a safety screen to keep children and pets away.

CAUTION:

- Do not connect this unit to a chimney flue serving another appliance.
- Do not connect to any air distribution duct or system.
- Never use chemicals to ignite the fire.
- Never burn waste or flammable fluids (such as gasoline, naphtha, or engine oil).
- Only burn dry natural cordwood.
- Never leave the unit unattended with the door open or unlatched.
- Only refuel this unit when the wood is reduced to embers.
- Always keep the door closed during operation.
- Do not operate this unit with a fireplace grate.
- Do not install an unvented gas log set into the firebox.
- Do not install this unit in a mobile home.
- Do not clean or service the unit while it is hot.
- Allow proper air flow by keeping the louvers/openings clear of any obtrusions.

Note: Failure to respect the above cautions may cause damages to the unit, damages to personal property, bodily harm and will void the warranty. "This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual."

NATIONAL FIREPLACE INSTITUTE NFI CERTIFIED www.nficertified.org

We recommend that our woodburning hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Woodburning Specialists or who are certified in Canada by Wood Energy Technical Training (WETT).

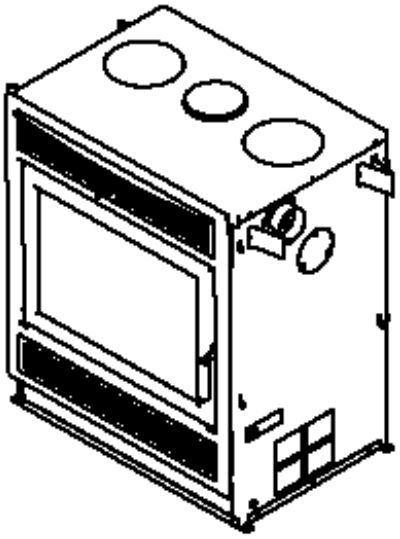
Wood Energy Technical Training www.wettinc.ca

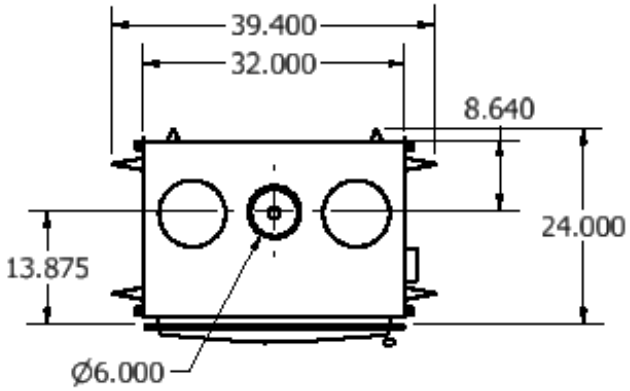
WARRANTY REGISTRATION

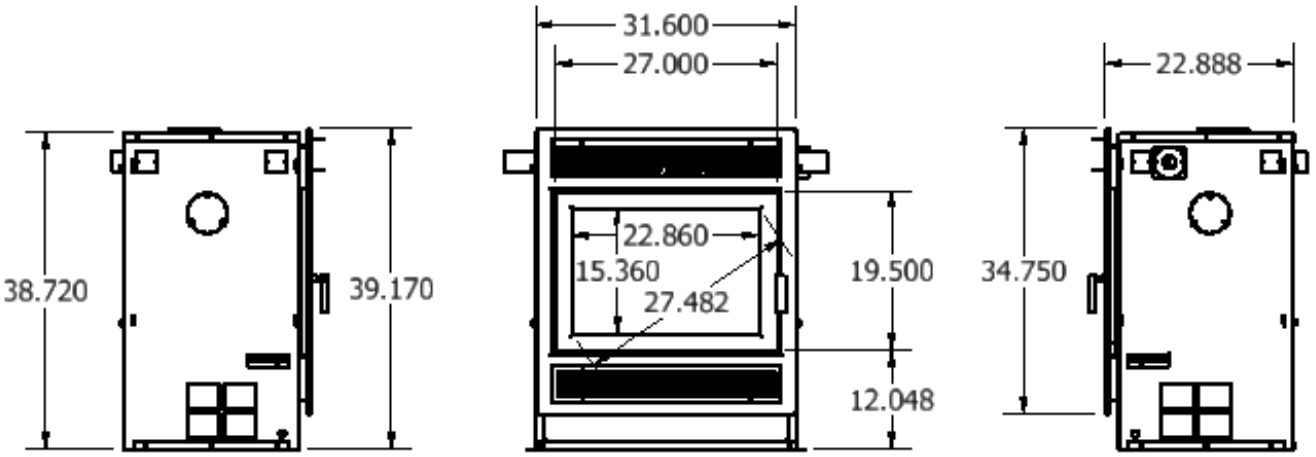
Please register your SUPREME product online at http://www.supremem.com/registration.php to ensure full warranty coverage. Proof of purchase is required for all warranty claims.

2 GENERAL INFORMATION

2.1 Overall Dimensions







2.2 Specifications

Appliance Type:	Adjustable Burn Rate Wood Heater – Non-Catalytic
Fuel Type:	Dry Cordwood
Maximum Log Length:	24 in (6.09 cm)
Burn Time[1]:	6 to 12 hrs
Firebox Volume:	3.2 ft^3 (0.091 m^3)
Heating Area:	1,000 to 2,000 ft^2 (93 to 185 m^2)
Average Particulate Emissions Rate[2]:	1.47 g/hr
Average CO Emissions Rate[3]:	1.97 g/min
EPA Protocol:	Method 28R, ASTM2780-10, and ASTM2515-11
Efficiency (Crib Wood):	HHV[4]: 67.3% | LHV[5]: 71.9%
Heat Output (Crib Wood):	12,430 to 29,274 BTU/hr (3,643 to 8,579 W)
Optimum Efficiency:	75%
Optimum Heat Output:	100,000 BTU (29.3 kWh)
Efficiency Protocol:	CSA B415.1-10

2.3 Combustion Air Control

The Combustion Air Control is a patented mechanism (Patent No: US 7,325,541 B2) that regulates the air flow into the firebox based on the temperature of the unit. It is located on the top of the firebox, at the front center of the unit. The combustion air control of the Astra 32 has two components: the Activator and the Burn Rate Selector. The left combustion control lever is the Activator. When starting a fire or adding a new load of wood, the Activator must be pushed in to allow a primary source of air to enter the firebox. The Activator will retract automatically with heat. The right combustion control lever is the Burn Rate Selector. The Burn Rate Selector can slide sideways to achieve different burn rates. When the Burn Rate Selector is positioned to the left, a maximum burn rate is achieved and when it is positioned to the right, a minimum burn rate is set. For optimum efficiency, it is recommended to operate the unit with the Burn Rate Selector set at the low to medium/low position.

WARNING: Never manipulate the Combustion Air Control with bare hands as it gets hot when the Astra 32 is in operation. Use the Cold Hand Key (see Section 2.4) to adjust the Combustion Air Control.

[1] Depending on combustion air control setting (see Section 5.3 for further details).
[2] Officially tested and certified by an independent laboratory.
[3] Note that rate is smaller for low to medium/low burn rates.
[4] Higher Heating Value.
[5] Lower Heating Value.

2.4 Cold Hand Key

The Cold Hand Key is an accessory that comes standard with the Astra 32 fireplace. The Cold Hand Key is a tool used to manipulate the Combustion Air Control Levers when it is hot.

2.5 Chimney Sweeping Cap

The chimney sweeping cap found at the baffle of the Astra 32 allows easy access for chimney sweeping without having to remove any components of the firebox.

WARNING: The chimney sweeping cap should be blocking the access to the chimney at all times during combustion. A chimney sweeping cap that is not blocking the baffle hole during combustion is a safety hazard, will overheat the fireplace and void the warranty.

2.6 Door

The Astra 32 wood burning fireplace comes with a Pyroceramic glass panel door. Pyroceramic is the highest grade available for fireplaces and stoves and can withstand temperatures up to 1300^{o}F. To remove the door, open the door, lift it and pull it towards the bottom until the rod exits from the hinge holes.

2.7 Certification Label

The certification label contains important information regarding the installation and operation of the Astra 32 fireplace. In addition, the serial number of the unit is permanently embossed onto the top right corner. The certification label is located below the bottom right corner of the door and is accessible by swiveling the plate.

2.8 Removable Ash Lip

The Ash Lip is a removable accessory that comes standard with the Astra 32 fireplace. It is installed on the door holder (under the two small angled tags below the door) and prevents ashes from falling onto the front of the hearth. The Ash Lip can be installed with the door open or closed. It is safe to operate the unit without the Ash Lip.

NOTE: The door of the Astra 32 must remain closed at all times during operation.

2.9 SUPREME Radiation Clearance Shield

The SUPREME Radiation Clearance Shield is a standard component for the Astra 32 fireplace. Prior to installing the chimney manufacturer's radiation shield, the SUPREME Radiation Clearance Shield is fastened below the chimney opening within the chase, with the flanges along the component providing a ½" offset.

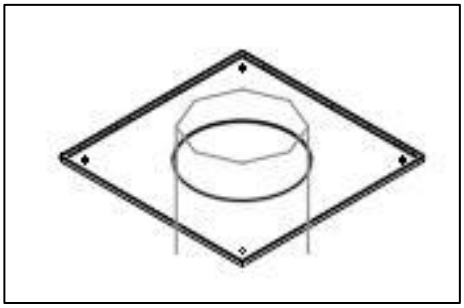


Figure 2-1: SUPREME Radiation Clearance Shield

2.10 Blower Kit

An AC tangential blower (electrical rating: 115V, 60Hz, and 56W) with a variable speed control is installed into the Astra 32 wood burning fireplace to maximize efficiency. Refer to Section 3.8 for installation instructions.

WARNING: Make certain that the fireplace in not in operation and the blower is unplugged (breaker off) before accessing the electrical wiring of the blower kit.

CAUTION: Only a blower provided by SUPREME FIREPLACES INC. can be installed into the fireplace. Substituting the blower kit may result in overheating and will void the warranty.

2.11 Optional Hot Air Kit

The Optional Hot Air Kit allows heat to be drawn from the unit by a thermostatically controlled blower (electrical rating: 115 V and 60 Hz) and dispersed to different areas of the house. This option is recommended when the fireplace is installed in an area below the maximum heating space. A total of three kits can be installed onto one unit with a maximum distance of 25 feet. Note that a 5 inch insulated duct is required for the installation (item ordered separately). Refer to Section 4.1 for installation instructions.

WARNING: Make certain that the fireplace in not in operation and that hot air blower is not powered (breaker off) before accessing the electrical wiring of the hot air kit.

CAUTION: Only a hot air kit provided by SUPREME FIREPLACES INC. can be installed onto the fireplace. Substituting the hot air kit may result in overheating and will void the warranty.

2.12 Optional Fresh Air Kit

The Optional Fresh Air Kit allows for exterior air (outdoors) to be drawn into the fireplace during operation of the unit. Note that a 4 inch insulated duct is required for the installation (item ordered separately). Refer to Section 4.2 for installation instructions. Contact your local building official regarding mandatory fresh air kit installations within your area.

CAUTION: Only a fresh air kit provided by SUPREME FIREPLACES INC. can be installed onto the fireplace. Substituting the fresh air kit may result in overheating and will void the warranty.

3 INSTALLATION INSTRUCTIONS

Before installing the unit, consult an authority having jurisdiction (such as your municipal building department, your fire department, your fire prevention department...) for any local codes and whether a permit is required. In the absence of local codes, refer to the CSA B365 Installation Code for Solid Burning Appliances and Equipment (Canada) or the ANSI NFPA 211 Standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances (USA). **CAUTION: Modifications/alterations to the unit/installation without written authorization from SUPREME FIREPLACES INC. are strictly forbidden and will void the warranty.** Refer to Section 1 for further safety information. Carefully read the instructions below before installing your Astra 32.

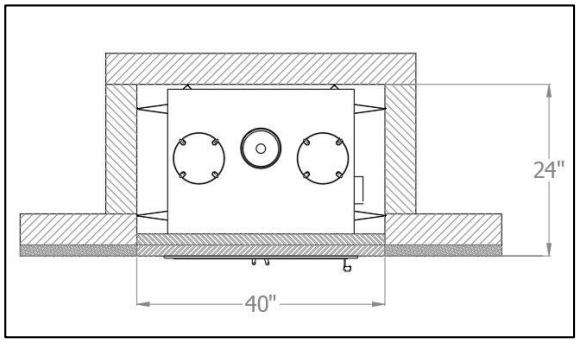


Figure 3-1: Straight Wall Installation

3.1 Location

Determine the location of the Astra 32 by taking into consideration the following criteria:

- The size of the room with respect to the heat output of the fireplace.
- The proximity of windows, doors, and traffic flow.
- The necessary amount of space in front of the unit for the hearth extension and mantel.
- The clearances to combustible materials.
- The passage of the chimney.

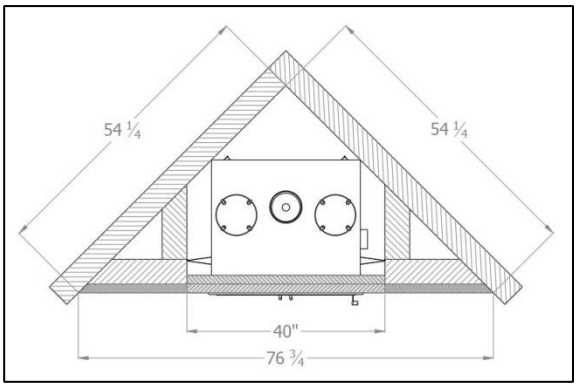


Figure 3-2: Corner Installation

If possible, select a location for the fireplace that will minimize the number of offsets in the chimney course. Offsets will reduce the draft, complicate the chimney sweeper's work, and increase installation costs. Technical drawings outlining the chimney route should be prepared prior to the installation. NOTE: The cutting of joists and rafters for floor, ceiling, and roof chimney penetrations will affect the load bearing capacities of the dwelling structure. To determine whether additional support is required, consult your local building codes. Improper cutting of chimney openings in the attic and roof will affect the bearing and thermal insulating capacity, as well as the weather tightness of the dwelling. Avoid incorrect workmanship by consulting a professional engineer or a certified installer.

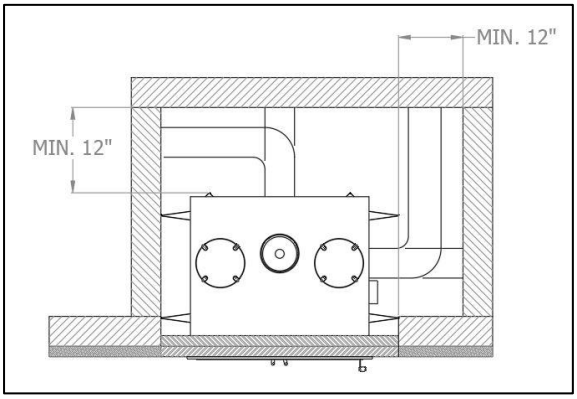


Figure 3-3: Clearance Required for Hot Air Distribution System and/or Fresh Air Kit

Through examination of the floor construction, ensure that the fireplace and chimney system is resting on a surface capable of withstanding its weight. Consult your building codes to see whether additional structural supports are required (applicable for rare and isolated cases).

Avoid having the chimney outlet near any obstructions (such as trees and roof offsets) as the draft of the chimney may be affected by wind turbulence. Ideally position the outlet of the chimney at the highest area of the roof.

NOTE: It is strongly recommended to install a carbon monoxide (CO) and smoke detector near the location of the unit.

3.2 Chimney Installation

The Astra 32 is approved with a 6” chimney that is listed under the UL 103 / ULC S629 standards (refer to Table). **WARNING: Mixing chimney components from different brands is a safety hazard and will void the warranty on the unit.** When connecting the unit to an existing chimney, thoroughly inspect the condition of the chimney and that the installation conforms to the requirements of the chimney manufacturer and the building codes. **Note that to avoid any unnecessary risk, it is often recommended to replace the chimney system.** Always respect the clearances to combustibles from the chimney manufacturers; 2” is usually required for prefabricated chimneys.

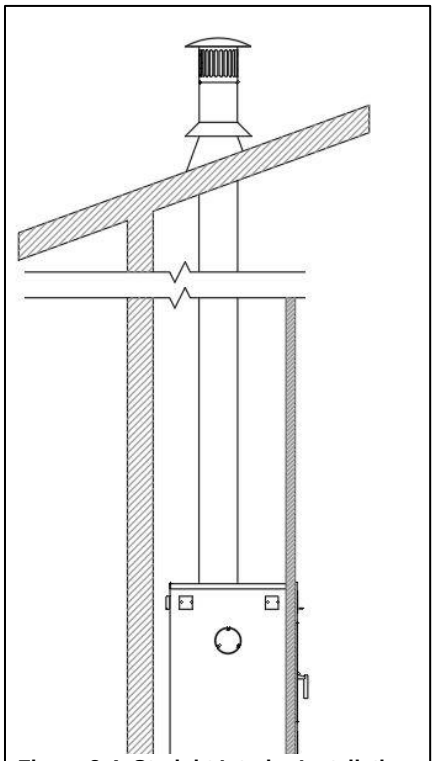


Figure 3-4: Straight Interior Installation

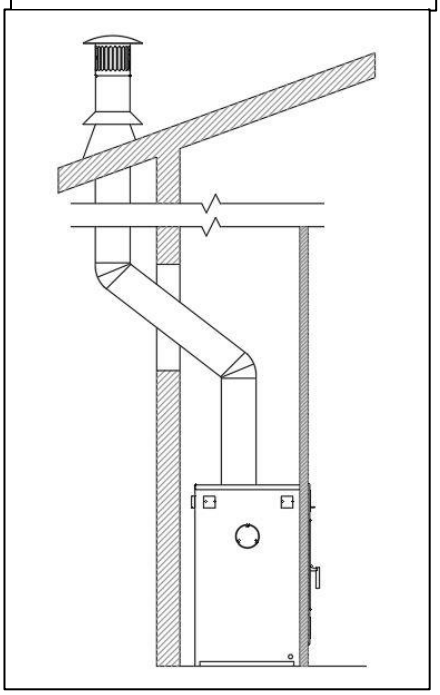


Figure 3-5: Exterior Installation

3.2.1 General Rules and Guidelines

1. Carefully read the instructions from the chimney manufacturer prior to installation (manuals can be obtained from the chimney manufacturer’s website or from the vendor). Unless specified, follow the chimney manufacturer’s instructions for proper installation.
2. For optimal performance of the unit, it is recommended to install the chimney system in an interior setting. To prevent drafting issues and creosote buildups, avoid exterior installations of the chimney system in regions that experience extreme cold conditions.
3. The minimum and the maximum height of the chimney from the base of the unit are 15’ and 35’ respectively.
4. Only chimneys approved under the UL 103 / ULC S629 standards can be installed onto the unit (refer to Table in Section 3.2.2).
5. A 6” anchor plate is required to connect the fireplace to the chimney system. The anchor plate can be secured onto the unit with 4 self-tapping screws.
6. The chimney installed onto the unit cannot be connected to another appliance.
7. Enclose any portion of the chimney that extends to accessible spaces.
8. The clearance of the chimney to any combustible material cannot be less than 2”; the 2” clearance cannot be filled with insulation or any non-combustible material.
9. At least one support is to be incorporated in any chimney installation.
10. A firestop is required in the joists/frames where the chimney goes through (ceilings, floors, walls, and attic).
11. A roof radiation shield and a vented flashing is required in the installation of the Astra 32.
12. To prevent drafting issues, avoid deviations wherever possible.
13. The chimney shall extend at least 3’ above its point of contact with the roof and at least 2’ higher than wall, roof, or adjacent building within a 10’ radius.
14. A secure brace is to be installed if the chimney extends a minimum of 5’ above the contact point with the roof.
15. A rain cap must be installed on top of the chimney to avoid internal damage and/or corrosion.
16. Consult the chimney manufacturer for clearances to combustibles when installing a combustible chimney enclosure above the roof.

3.2.2 Listed UL 103 / ULC S629 Approved Chimney Models (Reference Table)

Note that only chimney models certified under the UL 103 / ULC S629 standards can be installed on the Astra 32. The table below serves as a reference for approved chimney models.

Manufacturer	**Models**
American Metal	• HS, AC Triple Wall, 6" inner diameter • HSS, AC Triple Wall, 6" inner diameter
FMI (US only)	• AC, AC Triple Wall, 6" inner diameter
ICC	• Excel 2100, 1" Solid Pack, 6" inner diameter
Metal Fab	• Temp Guard, 1" Solid Pack, 6" inner diameter
Olympia Chimney	• Ventis, 1" Solid Pack, 6" inner diameter
Security Chimney	• ASHT+, 1" Solid Pack, 6" inner diameter • S-2100+, 2" Solid Pack, 6" inner diameter
Selkirk	• Super Pro (SPR), 1" Solid Pack, 6" inner diameter • Super Pro 2100 (ALT), 2" Solid Pack, 6" inner diameter • Hart & Cooley (TLC), 1" Solid Pack, 6" inner diameter • Sure-Temp (ST), 1" Solid Pack, 6" inner diameter • Super Vent (JSC), 1" Solid Pack, 6" inner diameter • Super Vent 2100 (JM), 2" Solid Pack, 6" inner diameter • Ultra-Temp (UT), 1" Solid Pack, 6" inner diameter • UltimateOne, 1" Solid Pack, 6" inner diameter • CF Sentinel (CF), 2" Solid Pack, 6" inner diameter
Simpson Dura-Vent	• Dura Tech, 1" Solid Pack, 6" inner diameter • Dura Plus HTC, 2" Solid Pack, 6" inner diameter • Dura Plus, AC Triple Wall, 6" inner diameter

3.2.3 Chimney Installation Instructions

1. Cut and frame square openings in the floors, ceilings, and roof where the chimney will pass through while taking into consideration the minimum clearance to combustibles.
2. For an installation with the chimney running through the ceiling, install the SUPREME Radiation Clearance Shield below the chimney opening prior to installing the radiation shield (refer to Figure 2-1, 3-6, & 3-8).
3. In the ceiling/floor openings, install a chimney manufacturer's firestop from below. Install the chimney manufacturer's attic radiation shield from above in the chimney opening to the attic. Install the chimney manufacturer's roof radiation shield in the opening of the roof – adjust the shield so that it extruding approximately 1" above the roof surface. Ensure to install the appropriate firestop for ceilings and walls.
4. Install the chimney manufacturer's anchor plate onto the unit.
5. Install the chimney lengths according the manufacturer's instructions and ensure proper fastening/locking of the joints.
6. Install the roof support once the desired height has been reached.
7. Position the vented roof flashing. Note that for sloping roofs, position the upper portion of the vented flashing under the shingles and position the lower portion of the vented flashing above the shingles. Seal the joint between the roof and the vented flashing with roofing cement or silicone. Secure the vented flashing to the roof with roofing nails.
8. Install the storm collar over the vented flashing by tightening the supplied bolt or through the flange mechanism (depends on chimney brand). Seal the joint between the storm collar and the chimney using a silicone caulking. **WARNING: Do not seal, caulk, or obstruct the ventilation openings.**
9. Install the chimney rain cap.

Refer to Figure 3.4 and Figure 3.5 for typical chimney installations.

3.2.4 Offset Installation

An offset installation (Figure 3.6) consists of the use of elbows to deviate from unavoidable obstacles or to extend the chimney outside. The following list is a few general rules to take note when installing offsets:

- A maximum of 2 offsets (2 elbows per offset) is permitted per installation.
- The maximum deviation is 45º in Canada and 30º in the US.
- Secure the elbows and the chimney components according the instructions from the chimney manufacturer.
- A support strap, a wall support, or a roof support must be installed above each offset to allow adequate support to the vertical chimney lengths.
- **Never install an elbow in an opening of a floor, wall, ceiling, or roof.** In addition, only vertical chimney sections can be installed within ceiling/floor openings.
- Install a support for the first 15' of chimney.

The following are instructions for offset installations:

1. Rotate the elbow in the required direction and secure it to the adjacent chimney section according to the chimney manufacturer's instructions.
2. Follow to the chimney manufacturer's instructions to install the chimney length(s) necessary for the offset.
3. Once the desired offset length has been achieved, install the second elbow to redirect the venting to the vertical position.
4. Cut an opening in the floor/ceiling to allow the chimney to pass through.
5. Install the appropriate firestop.

CAUTION: For offset installations, always install a ventilated flashing and a roof firestop unless otherwise specified by the chimney manufacturer.

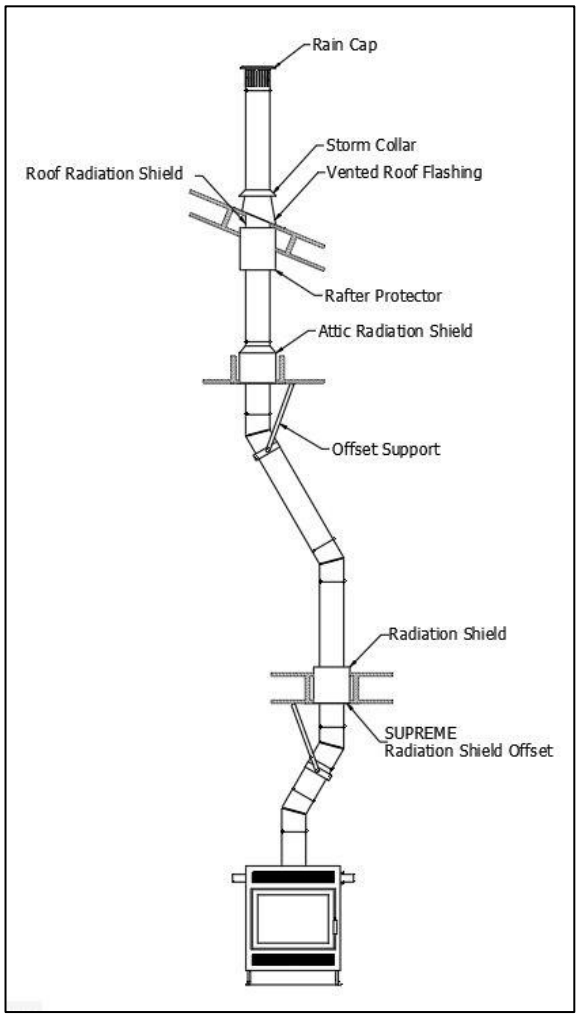


Figure 3-6: Offset Installation

3.2.5 Angled Wall Radiation Shield

For chimney installations requiring to pass through a combustible wall at a 30º (Canada) or 45º (Canada and US) angle, an angled firestop or an angled wall radiation shield from the chimney manufacturer must be installed within the wall opening. Install the angled firestop and angled wall radiation shield according to the manufacturer's instructions. It is recommended to use an insulated angled wall radiation shield in areas that experience cold climates.

3.2.6 Connecting to a Masonry Chimney

The Astra 32 fireplace can be connected to a masonry chimney that complies with current national and municipal building codes. A 6" chimney liner that complies with ULC S635 M2000 (Canada) or UL 1777 (US) standards must be installed within the existing masonry chimney. Note that the 6CON connector (manufactured by SUPREME FIREPLACES INC.) must be installed to connect the prefabricated chimney to the liner (6CON sold separately).

Note that prior to installation, an inspection from an authority having jurisdiction is required to determine whether the masonry chimney:

- Is constructed in accordance with national and municipal building codes.
- Is in good condition. Note that repairs must be performed on any cracked or missing bricks.
- Is thoroughly cleaned of any soot or creosote.
- Is not connected to another appliance such as a furnace, hot water heater, or another fireplace.
- Has a flue of adequate size for proper installation of the venting.
- Respects minimum clearances to combustibles.

It is recommended to position the fireplace as close as possible to the masonry chimney to ensure proper venting. The prefabricated chimney must penetrate at least 3" within the masonry chimney before connecting the liner. Elbows can be used within the masonry chimney, with a maximum deviation of 30^{o} in US and 45^{o} in the Canada.

The installation of the prefabricated chimney and the liner must comply with the manufacturer's instructions. The following are instructions in installing the venting of the Astra 32 running through a masonry chimney:

1. Install the anchor plate onto the unit.
2. Position the fireplace to the recommended location.
3. Install the initial prefabricated chimney lengths and elbows.
4. Mark the area where the prefabricated chimney will penetrate the masonry chimney.
5. Remove the fireplace to allow for sufficient space to work.
6. Make a hole to the required size to allow for the prefabricated chimney to be inserted freely in the masonry chimney. Note that the appropriate firestops need to be installed if running the prefabricated chimney through a combustible wall.
7. Install the remaining prefabricated chimney components center with the masonry chimney.
8. Align the flange holder of the 6CON connector with the studs facing upwards to the center of the prefabricated chimney section (elbow or tee) and secure it with three self-tapping screws.
9. Reposition the fireplace to its initial position.
10. Overlap by 1" the lower end of the liner in the expanded portion of the 6CON connector and secure the joint with 3 #8 stainless steel self-tapping screws.
11. From the roof, slide the liner down the masonry chimney until it reaches the upper end of the prefabricated chimney.
12. Install the upper portion of the 6CON liner connector to the flange holder by aligning the threaded studs to the holes and complete the connection by tightening the wing nuts.
13. Seal any openings around the prefabricated chimney and the 6CON connector with refractory cement resistant to high temperatures.

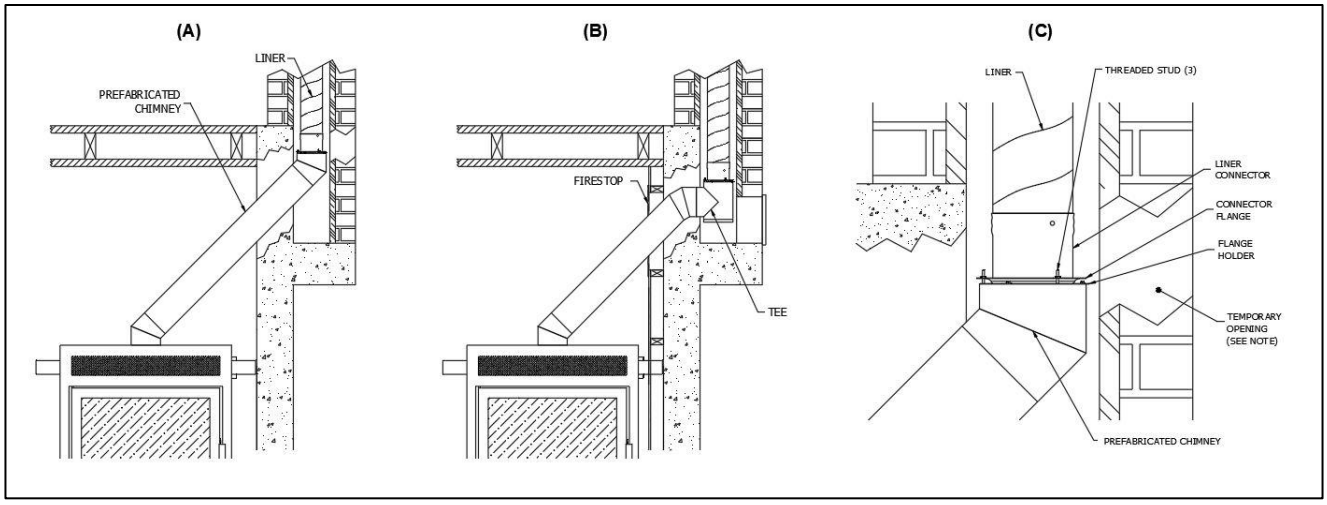


Figure 3-7: (A) Connection into a masonry chimney through an elbow/liner; (B) connection into a masonry chimney through a tee/liner; (C) detailed drawing of masonry chimney connection.

3.3 Façade Installation

The Astra 32 can be installed with either the traditional façade or the contemporary façade.

3.3.1 Traditional Façade

The traditional façade comprises louvers below (intake) and above (outtake) the door. All components and fasteners are included in the façade kit.

1. Remove the door of the unit and place it on a soft surface, such as a carpet or cardboard, to avoid any scratches or damages.
2. Align the bottom bracket to the intake opening and fasten it in place.
3. Align the upper bracket to the outtake opening and fasten it in place.
4. Place the façade within the door holder and secure it in place with 4 black screws (one on each corner). Make sure that the handles of the Primary Air Control pass through the slots of the façade.
5. Place back the door.

3.3.2 Contemporary Façade - Dual Louver Gravity Ducts

The contemporary façade comprises no louvers; however, an intake into the chase and outtake through gravity ducts is required for this façade configuration. The instructions below describe the installation of the contemporary façade, the intake openings, and the dual side gravity ducts/outtakes. Note that in order to connect the gravity ducts, the sides of the chase need to be constructed and the front of the chase needs to remain open (Refer to Figure 3-10).

1. Remove the door of the unit and place it on a soft surface, such as a carpet or cardboard, to avoid any scratches or damages.
2. Align the bottom bracket and fasten it in place.
3. Align the upper bracket and fasten it in place.
4. Place the façade within the door holder and secure it in place with 4 black screws (one on each corner). Make sure that the handles of the Primary Air Control pass through the slots of the façade.
5. Place back the door.
6. Remove the two 8” knockouts (2) at the top of the unit using a flat head screwdriver.
7. Using the knockout as a template, cut the exposed insulation. Make sure to remove any pieces of insulation that has fallen into the unit.
8. Install the 8” flange adaptors through the newly cut knockouts and fasten them to the top of the unit. Make sure to bend the tabs of the adaptors before installation.
9. Determine the two locations of the air intakes on the chase and cut a rectangular opening 15.5” (W) X 4.5” (H). Note that a distance of 5” is required from the floor.
10. Determine the two locations of the air outtakes on the chase and cut a rectangular opening 15.5” (W) X 4.5” (H). Note that a minimum distance of 5” is required from the ceiling and a minimum distance of 4.5” is required from the adjacent wall.
11. From the exterior of the chase, place the duct/louver adaptor into the air outtake hole and secure it onto the wall with screws. Repeat for the other outtake.
12. Within the chase, place the grooved end of the adjustable 45^{o} elbow into the flange of the duct/louver adaptor and secure it using an aluminum tape. Repeat for the other outtake.
13. Measure the distance between the flange on top of the unit and the flange of the duct/louver adaptor and cut the 8” semi-rigid insulated duct (SUPREME part number UCAC8) to the necessary length. Repeat for the other outtake.
14. Complete the connection by sliding the ducts over the flanges and tighten the joints with the worm gear clamps.
15. From the exterior of the chase, fasten the grills over the intake and outtake openings with the provided screws.

3.3.3 Contemporary Façade – Single Linear Front Louver

The contemporary façade comprises no louvers; however, an intake into the chase and outtake through gravity ducts is required for this façade configuration. The instructions below describe the installation of the contemporary façade, the intake openings, and the single linear front gravity ducts/outtakes. Note that in order to connect the linear louver, the front of the chase needs to be constructed prior to installing the side walls of the chase (Refer to Figure 3-12).

1. Remove the door of the unit and place it on a soft surface, such as a carpet or cardboard, to avoid any scratches or damages.
2. Align the bottom bracket and fasten it in place.
3. Align the upper bracket and fasten it in place.
4. Place the façade within the door holder and secure it in place with 4 black screws (one on each corner). Make sure that the handles of the Primary Air Control pass through the slots of the façade.
5. Place back the door.
6. Remove the two 8” knockouts (2) at the top of the unit using a flat head screwdriver.
7. Using the knockout as a template, cut the exposed insulation. Make sure to remove any pieces of insulation that has fallen into the unit.
8. Install the 8” flange adaptors through the newly cut knockouts and fasten them to the top of the unit. Make sure to bend the tabs of the adaptors before installation.
9. Determine the location of the air outtake (linear grill) on the chase and cut a rectangular opening 30.75” (W) X 4.5” (H). Note that the opening is to be centered with the unit and a distance of 5.5” is required from the ceiling.
10. Determine the two locations of the air intakes on the chase and cut a rectangular opening 15.5” (W) X 4.5” (H). Note that a minimum distance of 5” is required from the floor.
11. From the exterior of the chase, place the linear single louver adaptor into the air outtake hole and secure it onto the wall with screws.
12. Measure the lengths of 8” pipe required to connect the unit to the single louver linear grill and adjust to the necessary lengths. Remember to take into consideration the 90^{o} elbows provided in the SUPREME Linear Grill Kit when determining the length of pipe.
13. Complete the connection by sliding the pipe over the flanges/elbows/grill adapter approximately 1” and fastening the joints together using the provided screws. Use high temperature aluminum tape over the joints for proper sealing.
14. From the exterior of the chase, fasten the grills over the intake and outtake openings with the provided screws.

3.4 Framing

The Astra 32 can be placed directly onto or against normal, combustible construction materials such as lumber, plywood, millboard, particleboard, drywall and decorative wood paneling. The fireplace should NOT be placed directly against or be in contact with an insulation material. A portion of the framing on the face of the chase must be constructed with nominal 2" x 3" or 2" x 4" metal studs and the remainder can be constructed with nominal 2" x 3" or 2" x 4" lumber. Refer to Figure 3-8 for framing design. The framing must be nailed or screwed onto the floor and to the ceiling.

CAUTION: Do not construct the framing with combustible material in front of the chimney; respect the framing design outlined in Figure 3-8.

WARNING: Do not nail or screw framing components onto the fireplace.

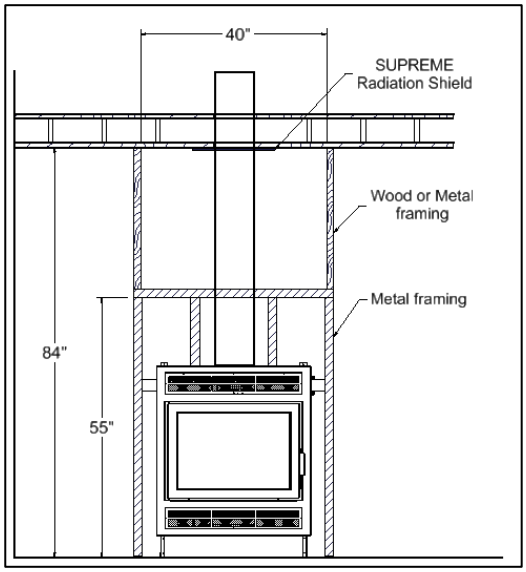


Figure 3-8: Framing Design

3.5 Hearth Extension

The hearth extension of the Astra 32 must comprise of a non-combustible material, such as steel, cement or mortar, bricks, or ceramic tiles. Note that unidentified materials may be combustible; verify product specifications prior to installation. The hearth extension must extend a minimum of 18” from the front of the door, 8” from side of the outer frame of the door, and extended all the way to the front of the door (see Figure 3-9 for dimensions).

CAUTION: Make sure to remove any carpet or fabric under the hearth extension.

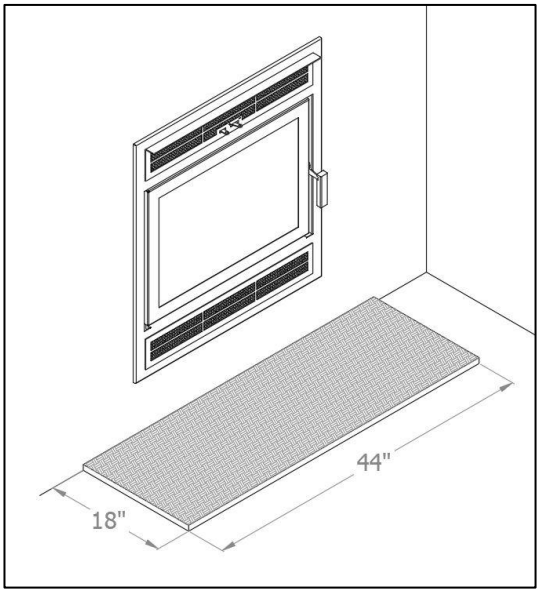


Figure 3-9: Hearth Extension

3.6 Chase Installation

A portion of the front of the chase must be constructed out non-combustible material. Refer to Figure 3-10, 3-11, & 3-12 for dimensions. Note the chase must be properly fastened onto the framing structure.

WARNING: Do not nail or screw the chase onto the fireplace.

For the contemporary façade option, two intake and two outtake openings must be constructed onto the chase. Refer to Figure 3-10 & 3-12 for minimum clearances.

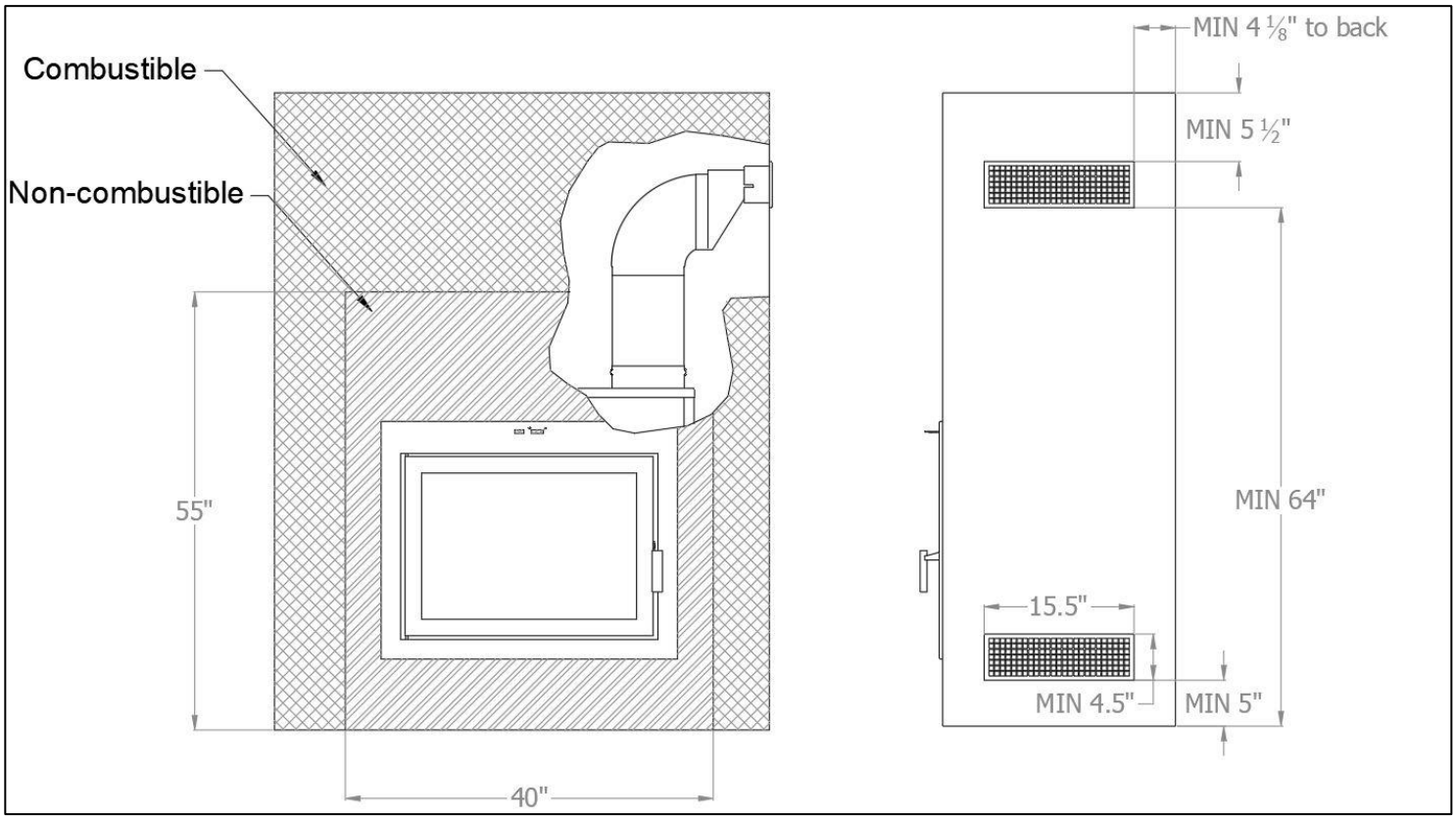


Figure 3-10: Front and Side Chase for Clean Face Dual Louver Configuration

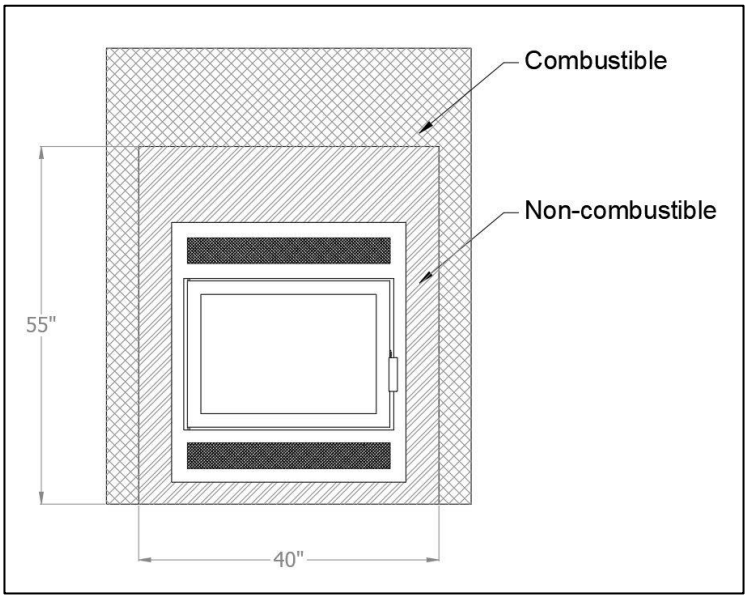


Figure 3-11: Front Chase for Traditional Façade Option

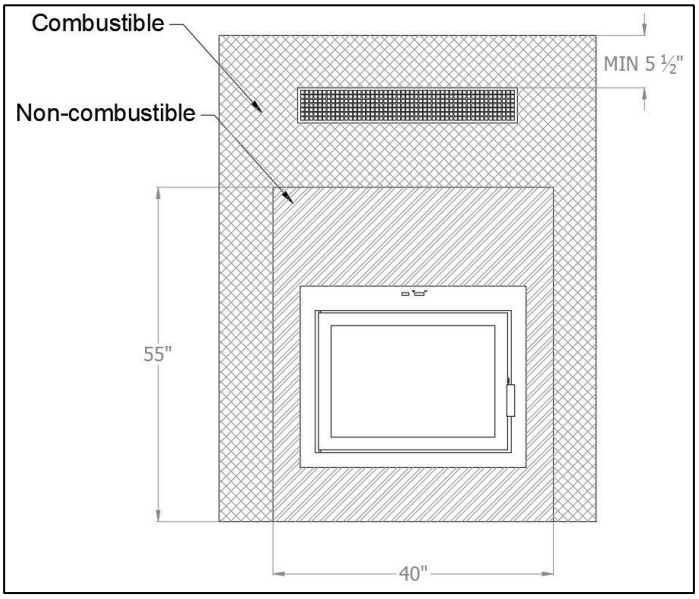


Figure 3-12: Front Chase for Contemporary Linear Louver Configuration

3.7 Clearances to Combustibles

The clearances below must be respected to ensure safe operation of the unit under normal and extreme conditions. Failure to follow the information below is a safety hazard and may result in property damage.

Table 3-1: Overall Clearances

Combustible	Clearance	Reference
Side Wall	16” (41 mm)	Outer edge of fuel door
Side Trim	4” (10 mm)	Outer edge of fuel door
Ceiling	84” (214 mm)	Base of unit

Table 3-2: Mantel Clearances

Maximum Mantle Depth	Distance from the Base of the Astra 32 to the Bottom of the Mantle
3” (7.6 mm)	51.5” (130.8 mm)
5” (12.7 mm)	53.5” (135.9 mm)
7” (17.8 mm)	55.5” (141 mm)

The depth of the mantle is measured from the face of the fireplace door. When the non-combustible wall is recessed, the depth of the mantle can be increased by the amount of the recess (see Figure 3-13). Note that a combustible mantel cannot be installed below the minimum clearance of 51.5” (from the bottom of the mantle to the base of the unit).

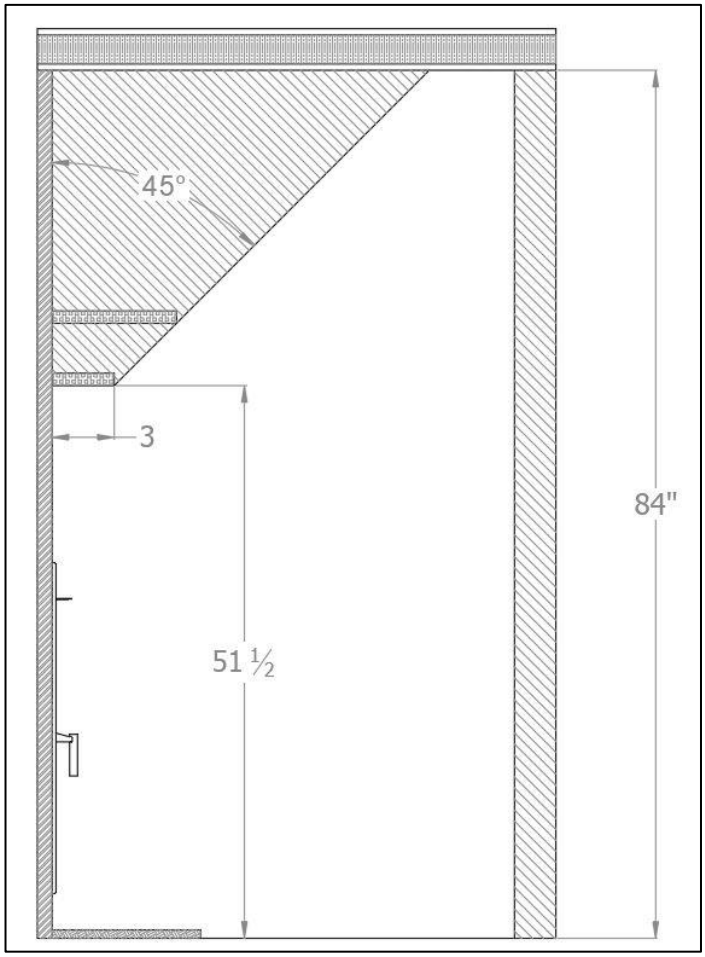


Figure 3-13: Mantel Clearance

3.8 Blower Kit

The Astra 32 comes with a high performance 130 CFM blower kit, which has an electrical rating of 115 V, 60 Hz, and 56 W. A variable speed control (rheostat) and a heat sensor (therm-o-disc) are included with the kit. **WARNING: Do not install a substitute blower.** The electrical connection of the fans is to be performed by a certified electrician. Note that it is recommended that the wiring of the fans be done before the installation of the façade kit. The fan and the electric box are located respectively at the back/bottom and at the front/bottom of the unit (Figure 3-14).

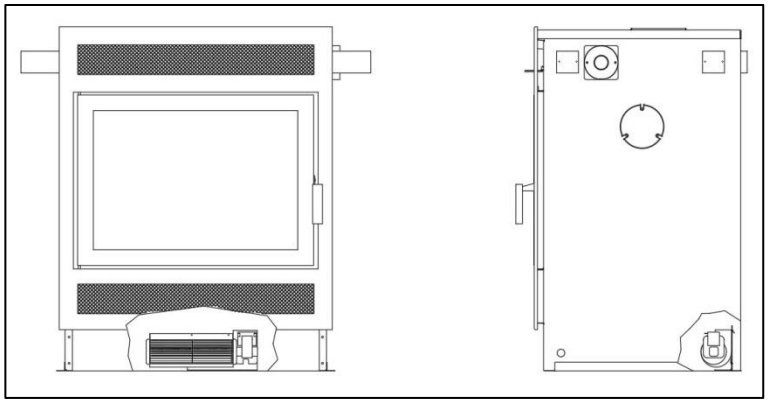


Figure 3-14: Location of Blower

For maintenance or replacement purposes, the fan and the electrical box are accessible from within the bottom of the firebox (Figure 3-15). 1) Remove the floor plate. 2) Disassemble and remove the stainless steel cover on the bottom of the firebox by unscrewing it. Take caution to the therm-o-disc and wiring assembled onto the stainless steel bracket.

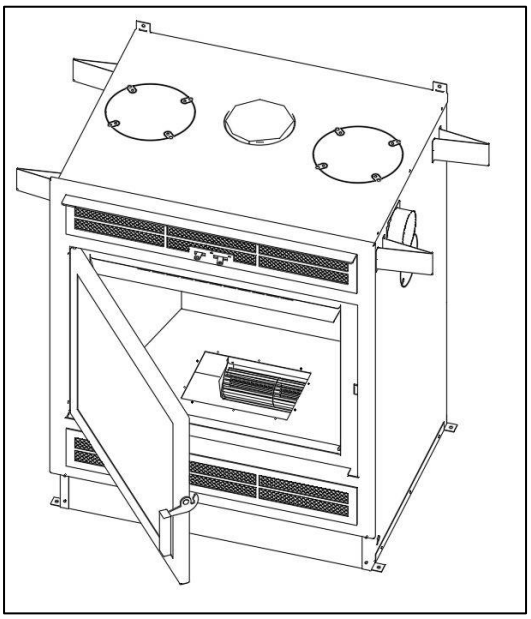


Figure 3-15: Access to Blower

The following are instructions on installing the blower kit into the Astra 32 (refer to Figure 3-16 for the electrical diagram):

1. Using two screws, install the therm-o-disc onto the L bracket located under the firebox.
2. Connect the black wire of the power supply to the therm-o-disc.
3. Connect the therm-o-disc to the black wire of the rheostat (install/mount the rheostat at a convenient location).
4. Connect the white wire of the rheostat to the blower.
5. Connect the blower to the white wire (neutral) of the power supply.
6. Ground the connection with the green wire in the electric box.

Once the electrical connections are completed, the fans will turn on and turn off automatically during the operation of the unit. As the temperature of the fireplace increases and the therm-o-disc reaches 95°F, the fans will turn on. Note that the average time it takes for the fans to activate is between 30 to 45 minutes after starting a fire. The fans will turn off once the fireplace has cooled down and the therm-o-disc is 85°F. The speed of the fans can be adjusted with the variable speed control (rheostat) mounted on the wall. It is safe to operate the Astra 32 in the event of a power failure (fans not powered).

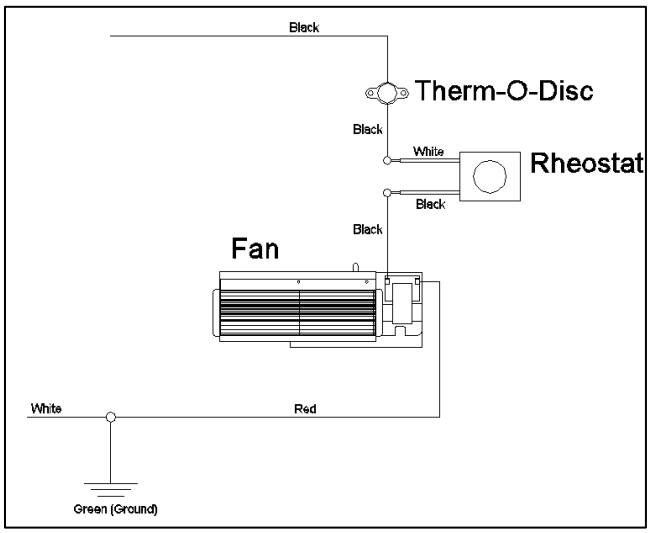


Figure 3-16: Electrical Diagram

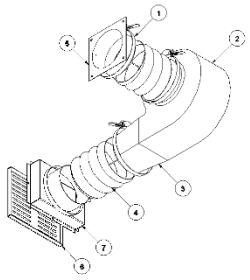
4 OPTIONS

4.1 Hot Air Kit

The hot air system is an optional kit intended to bring hot air from the fireplace to a remote area using a 250 CFM blower. The system is designed to distribute heat with ducting lengths up to 25'. Note that only an insulated flexible duct capable of withstanding a maximum temperature of 210°F can be installed with this kit. Note that a minimum distance of 12" is required between the side of the unit connecting to the fresh air kit and the framing to allow significant space (refer to Figure 3-3).

WARNINGS

- Do not install within the casing of the fireplace.
- Respect the minimum distances to combustible materials when the hot air duct passes through the chase of the fireplace. Properly secure the duct to avoid accidental displacement.
- Install the blower a minimum distance of 3 feet away from the fireplace.
- Do not use a speed control for the blower.



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	CLP	Clamp
2	1	701710	Blower
3	1	BLC	Blower-Duct Connector
4	2	UCAC5	Hot Air Duct *
5	1	FDC	Fireplace-Duct Connector
6	1	HAG	Hot Air Grill
7	1	WDC	Wall-Duct Connector

* Item not included

Figure 4-1: Hot Air Kit Parts List

Installation:

1. Remove the 5'' knockout on the exterior casing of the fireplace using a flat head screwdriver.
2. Install the fireplace duct connector (FDC - #5) on the opening using four screws.
3. In the room where the heat will be distributed, cut an opening of 6" X 7.5".
4. Find a suitable location to install the blower (701710 - #2).
5. Install the wall-duct connector (WDC - #7).
6. Install the air duct (UCAC5 - #4)* and secure it with a clamp (CLP - #1).
7. Install the wall grill (HAG - #6).
8. Make the electrical connections (Figures 4-2 and 4-3). Note that the power supply to the blower is 115V.

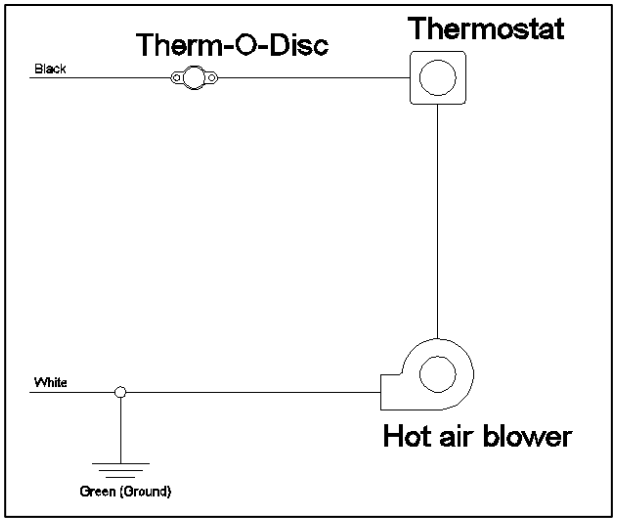


Figure 4-3: Electrical Diagram for Hot Air Kit

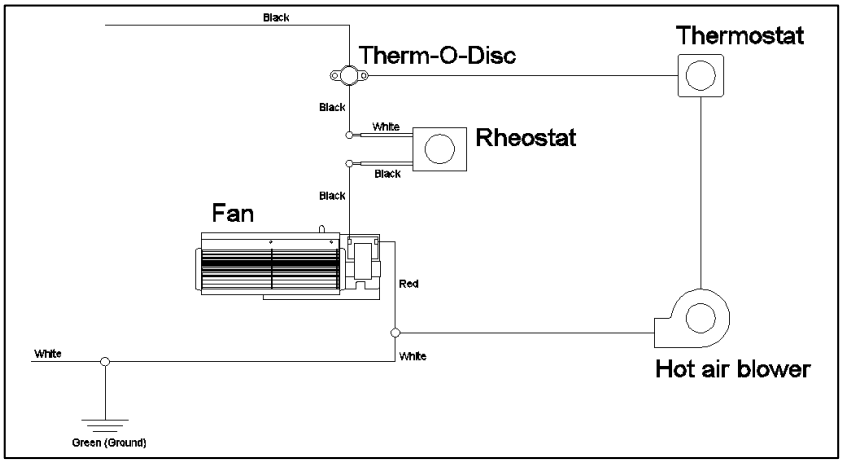


Figure 4-2: Electrical Diagram for Parallel Connection of Hot Air Kit and Blower Kit

4.2 Fresh Air Kit

Sufficient air exchange is necessary for the fireplace to operate properly and to maintain a good combustion. In an airtight household, the fireplace may not function as designed due to a lack of air; it is therefore recommended to install the fresh air kit in such cases. The fresh air system is an optional kit intended to bring combustion air into the fireplace from an exterior source. Note that a minimum distance of 12" is required between the side of the unit connecting to the fresh air kit and the framing to allow significant space (refer to Figure 3-3).

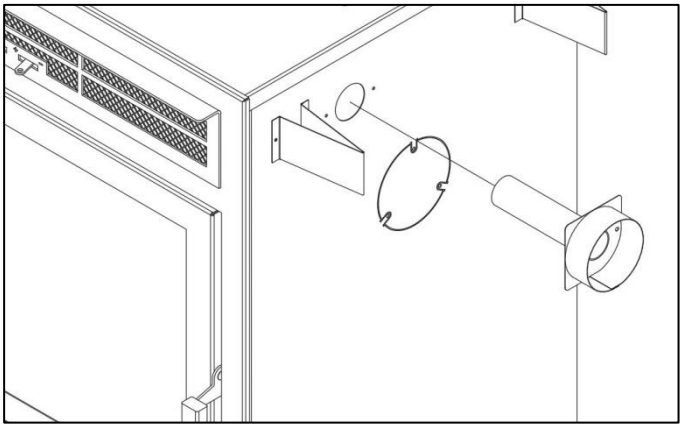


Figure 4-4: ADP4 Installation in Fireplace

Note that the Astra 32 is designed to use a minimum amount of air during operation. Using an air exchanger or simply opening a nearby window/door during the ignition of the unit will achieve a similar result as the fresh air kit. When the fireplace is idle, there is no air escaping from the house through chimney. **Consult a local authority having jurisdiction (such as the fire department, the municipal building department, the fire prevention bureau…) to determine if it is mandatory to install a fresh air kit in your area.**

General Notes:

The outside air kit should be installed according to the following guidelines:

- The air duct must be insulated, wrapped with a vapor barrier, and have an inner diameter of 4".
- The length of the air duct should be as short as possible.
- Fresh air must come from the outside and not from another room or the attic.
- The outside register must be away from automobile exhaust fumes, gas meters, or other vents.
- Avoid installing the air register where it will likely be covered by snow or exposed to strong winds.
- The air register can be installed above or below the level of the fireplace.
- Use the SUPREME FIREPLACES INC. Fresh Air Adaptor (ADP4)
- Use the SUPREME FIREPLACES INC. Fresh Air Kit (UPEA4) or any other fresh air kit with the same specifications and intended for fireplace use.

Installation:

1. Cut 4 ½" diameter hole on the exterior wall of an ideal location.
2. Install the air register on the exterior wall.
3. Insert the fresh air adaptor (ADP4) into the fireplace from the exterior casing. Make sure that the adaptor is properly inserted into the combustion air box on top of the firebox.
4. Secure the fresh air adaptor to the side of the fireplace using two screws.
5. Install the air duct and secure it with worm gear clamps.

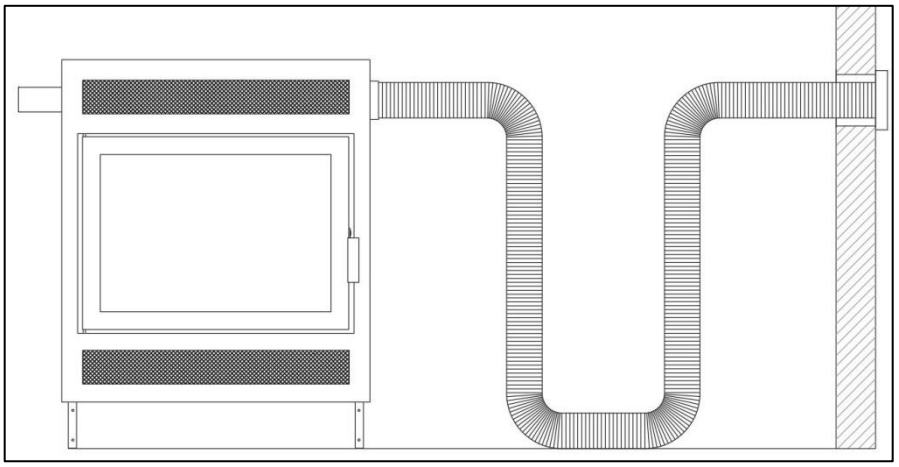


Figure 4-5: Installation of Fresh Air Kit

5 OPERATION INSTRUCTIONS

5.1 Fuel

The Astra 32 is designed to burn natural wood only. Higher efficiencies and lower emissions generally result when burning air dried seasoned hardwoods (moisture content below 20%), as compared to softwoods or to green or freshly cut hardwoods. The following are a few signs indicating that firewood is sufficiently dry for use: (a) cracks on the ends and surface of the logs, (b) lighter in weight, and (c) color (yellow/grey). It is recommended to use a moisture meter with pin sensors for determining accurately the moisture content of firewood (read manufacturer's instruction manual before operating). The optimum log length is 18-22 inches, preferably split in halves or quarters and left to dry under a cover or away from external elements for a minimum of one year prior to use. Use good quality dry cordwood only. DO NOT burn garbage, lawn clipping, yard waste, materials containing rubber (including tires), materials containing plastic, waste petroleum products, paints, paint thinners, asphalt products, materials containing asbestos, construction debris, demolition debris, railroad ties, pressure-treated wood, manure, animal remains, coal, salt water driftwood or other previously salt water saturated materials, unseasoned wood, paper products, cardboard, plywood, particle boards, or other foreign materials in this product. The prohibition against burning these materials does not prohibit the use of fire starters made from paper, cardboard, saw dust, wax and similar substances for the purpose of starting a fire in an affected wood heater. Burning these materials may result in release of toxic fumes or render the heater ineffective and cause smoke. Do not over fire the Astra 32 fireplace. Over firing will damage the fireplace, is hazardous and will void the warranty. NOTE: Gas logs cannot be installed in the Astra 32 fireplace.

WARNING: 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.

Ecological or compressed logs containing chemical additives are not tested and approved to be used with the Astra 32. Using them will overheat and damage the fireplace and void the warranty. Ecological or compressed logs that are 100% wood and contain no other additives can be safely used in the Astra 32. Never use more than two of these logs at a time. Using more is not only dangerous, but will damage the fireplace and void the warranty. Follow the ecological log manufacturer's safety guidelines and recommendations and be sure that they are intended for use in fireplaces. Reload only once the previous load of wood has been consumed and only embers remain.

WARNING: Do not keep the door open while the fireplace is in operation.

5.2 First Fires

For the first 3 fires, burn a maximum of 3 logs at the medium to low burn rate (refer to Section 4.3) to allow for proper conditioning of the unit. Due to oil residues and the curing of the paint of the fireplace, it is normal to smell an odor for the first fires of the Astra 32. Open a window or a door near the fireplace to ventilate the house during the first fires. Oil residues may cause light smoking.

5.3 Operating the Combustion Air Control

The burn rate and the heat output are related to the amount of air entering into the firebox. The combustion air control of the Astra 32 has two components: the Activator and the Burn Rate Selector (see Section 2.2). When starting the fire or when adding a new charge of wood, the fireplace needs additional air in order to establish a good fire. When the wood starts to burn properly, the amount of air can be reduced depending on the heating requirements.

The left combustion control lever is the Activator. When starting a fire or adding a new load of wood, the Activator must be pushed in to allow maximum air to enter the firebox. The right combustion control lever is the Burn Rate Selector. The Burn Rate Selector can slide sideways to achieve different burn rates. When the Burn Rate Selector is positioned to the left, a maximum burn rate is achieved and when it is positioned to the right, a minimum burn rate is set. Keeping the Burn Rate Selector to the right will burn the wood slower. Keeping the Burn Rate Selector to the left will provide a stronger fire and keep the glass of the fireplace cleaner for longer. Adjust the burn rate according to your heating requiremments and the quality of your wood. The combustion air control will automatically and gradually close the primary air source to the selected burn rate setting (right lever) with the presence of heat to maximize the burn time.

NOTE: The Burn Rate Selector can remain at the same setting at all times if the burn rate is satisfactory. However, the Activator must be pushed in when starting a fire or when adding a new load of wood.

WARNING: The combustion air openings should never be obstructed.

WARNING: Never manipulate the Combustion Air Control with bare hands as it gets hot when the Astra 32 is in operation. Use the Cold Hand Key (see Section 2.4) to adjust the Combustion Air Control.

WARNING: This wood heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with operating instructions in this manual.

5.4 Starting a Fire

The Astra 32 has patented technologies and innovative features that make starting a fire quick and easy. Before starting a fire, assure that all the safety precautions mentioned in the owner's manual are being respected. The following instructions describe starting a fire in Astra 32 fireplace using a "top-down" approach, which results in a cleaner, more efficient, and longer burn:

a) Place two logs in the firebox. The logs should sit directly on the hearth from left to right or east to west (parallel with the door). Do not use a fireplace grate.
b) Place a third and fourth log above the two logs of step a) front to back or north to south.
c) Depending on the size of the logs, a fifth log can be placed above the logs of step a) and step b). For optimal performance of the unit, leave a minimum 1" space between the logs and the baffle.
d) Push the left combustion control lever (the Activator) inwards.
e) Slide the right combustion control lever (the Burn Rate Selector) to the desired burn rate. Positioning the Burn Rate Selector towards the left is for maximum burn rate and towards the right is for minimum burn rate.
f) Place and ignite a firestarter within the between the logs in step b) or below the log in step c). Make sure that the firestarter is visible from the opening (facing the front)..
g) Once the firestarter is well lit, close the door. Do not leave the door open for more than 2 minutes.

CAUTION: The wood should be placed away from the door to avoid damage to the glass.

WARNINGS: Over firing the unit may result in overheating and can damage the fireplace and/or result in fire hazards. The maximum firewood load must not exceed 4 medium sized logs (approximately 30 pounds). This fireplace has been designed to burn with the door closed. When the fireplace is being used, the door should remain closed at all times. Failing to do so is a safety hazard, will damage the fireplace and void the warranty.

WARNING: Do not use fire accelerants to rekindle the fire if the first attempt to start the fire failed. Do not open the door. Simply reactivate the Activator by pushing it inwards.

NOTE: Sufficient air exchange is necessary for the fireplace to operate properly. Air is required in order to maintain the combustion of the fireplace. If the house is airtight, the fireplace may not function properly. If the fireplace is deprived of air, it will be necessary to provide a source of fresh air into the dwelling. This may be

done by using an air exchanger unit or simply by opening a window or a door near the fireplace partially for a few minutes. Make sure that other equipment such as the kitchen exhaust fans or oil central heating systems does not affect the fireplace functionality. Large return ducts of central heating systems located in the same room as the fireplace may affect the proper functioning of the unit and may cause smoking.

5.5 Adding a New Load of Wood

WARNING: Open the door to reload only when the wood has been reduced to embers, otherwise there is a risk of smoke infiltration into the house.

When the wood has been reduced to embers and there's no visible flame, you may add a new load.

a) Crack the Astra 32 door open and wait a few moments before opening the door completely.
b) Use your fireplace tools to gather the remaining embers at the center of the firebox.
c) Activate the Activator by pushing it in.
d) Once the embers begin to glow red, add the new load of wood in the firebox.
e) Keep the door of the Astra 32 slightly unlatched until you see a flame in the firebox. Never leave the Astra 32 door unlatched without constant supervision.
f) Completely latch the Astra 32 door.

Assure that a flame is maintained. Avoid wood smoldering on top of embers as this will result in a dirty glass, excessive emissions, chimney creosote buildup and poor heat output. If wood is smoldering, ensure the Activator has been activated and unlatch the door slightly with supervision until a flame has been maintained.

5.6 Blower Operation

The blower kit for the Astra 32 consists of a blower mounted at the back/bottom of the unit and a heat sensory therm-o-disc; the blower will start and stop automatically in the presence and absence of heat respectively. A variable speed control allows the adjustment of the speed of the blower. Do not install a substitute kit as this may result in overheating and risk of fire. Refer to Section 3.8 for the installation instructions of the blower kit.

When the fireplace gets hot and the therm-o-disc reaches 95°F, the blower will turn on. The average time it takes for the blower to activate is 30 to 45 minutes after starting a fire as explained in this manual (Section 5.4). The fans will turn off once the insert has cooled down and the therm-o-disc reaches 85°F. The speed of the blower can be adjusted with the variable speed control.

6 TROUBLESHOOTING

6.1 Backdraft / Smoking

Draft is the force created by a difference in pressure, which moves air from the appliance up through the chimney. It is important to operate the Astra 32 with proper draft to ensure optimal performance of the unit. Draft is depended on the length of the chimney, local geography, nearby obstructions and other factors. Proper draft results in an upwards flow through chimney, which prevents smoke infiltrating into the house during operation of the unit. As the temperature of the unit and chimney rises during combustion, the draft consequently increases due to a higher difference in pressure.

In contrast, backdraft is air flow from the chimney into the house, which results in smoke infiltration from the appliance and/or the chimney joints during operation. The unit is experiencing backdraft if air is flowing out from the exhaust of the baffle system (within the firebox). Backdraft is most commonly caused by fans around the house (such as in the kitchen and bathrooms) simultaneously in operation, insufficient length of the chimney (less than 15 feet), or a blocked chimney. Refer to the following suggestions to eliminate backdraft:

- Close any fans operating around the house (specifically for the duration of ignition).
- Clean the chimney of any obtrusions (when the unit is cold).
- Open one window or one door near the Astra 32.
- Heat the chimney by burning newspaper near the exhaust of the baffle system.

6.2 Over Firing

The appearance of a red glow on the exterior of the firebox (top and sides) and/or on the flue is a sign of over firing. Excess air entering the firebox, over fueling, or an abnormal strong draft causes the unit to reach drastic temperatures from an uncontrollable combustion. Over firing is a safety hazard and may result in permanent damage to the unit. In the occurrence of over firing:

a) Make sure the Astra 32 door is properly closed.
b) Manually close the Combustion Air Control by pulling the Activator (left lever).
c) If possible, turn on the blower to the maximum speed. The red glow on the exterior of the firebox and/or the flue should gradually disappear.

WARNING: Do not touch hot surfaces with bare hands. Always wear heat protecting gloves and use fireplace tools.

Guideline to avoid over firing:

- Always keep the door closed during operation.
- Inspect regularly the door gasket/glass and replace accordingly.
- Always operate the unit with the chimney sweeping cap in position, blocking the hole in the baffle.
- Never load more than 30 lbs of wood at a time.
- Ensure that there is no excess draft.

WARNING: Failure to follow the above guideline will void the warranty. Over firing is a safety hazard, can cause irreversible damages to the Astra 32 and will void the warranty.

7 MAINTENANCE

7.1 Disposal of Ashes

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. If the ashes are disposed of by burial on soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have been thoroughly cooled. **CAUTION: Always wear heat resistant gloves when removing the ashes from the firebox.**

a) Let the firebox cool to ambient temperature before removing the ashes. It is recommended to remove the ashes once the bed has exceeded a height of 4 inches.
b) Slowly open the door to prevent ashes from coming into the room.
c) Place an ash bucket (metal container) near the fireplace, onto the non-combustible hearth.
d) Using a shovel and brush, remove the bulk of the ashes from the firebox into the ash bucket. Note that it is not necessary to keep a thin bed of ashes for the next fire.
e) Store the ash bucket (with the tight-fitting lid) on a non-combustible surface, away from any combustible materials, pending final disposal.

7.2 Chimney Maintenance

Creosote – 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 vapor condenses in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire. The chimney connector and chimney burning wood or coal should be inspected at least once every two months during the heating season to determine if creosote buildup has occurred. **Never use chemical cleaners for your chimney.**

WARNING: In the case of a chimney fire: 1) close the door of the fireplace; 2) set the burn rate of the Combustion Air Control to minimum (Section 5.3); 3)call the local fire department (if assistance is needed); 4) use a dry chemical fire extinguisher (baking soda or sand) to control the fire.

CAUTION: Never use water to extinguish a fire as it may result to dangerous steam explosions. Do not use the unit until the chimney is inspected and repaired (if needed) by a qualified technician.

NOTE: Do not clean the chimney when the unit is in operation/hot. Follow the instructions below for sweeping the chimney of an Astra 32 fireplace:

a) Open the door of the unit.
b) From within the firebox, displace the chimney sweeping cap located in the baffle by lifting and moving it to the side.
c) Close the door of the unit.
d) Using an appropriate sized chimney sweeping brush, clean the chimney from any creosote buildup and other residues.
e) Remove all the fallen/loose creosote/residues from the firebox and baffle system (a shop vacuum cleaner can be used for a thorough cleaning).
f) Place back the chimney sweeping cap.

CAUTION: Operating the unit without the chimney sweeping cap in position will result in over firing and void the warranty.

7.3 Cleaning of Glass

It is recommended to clean the glass door with a soft cloth, damped with a non-abrasive solution, such as soap and water.

CAUTION: Cleaning the glass with an abrasive solution will result in surface scratches, reducing glass transparency and resistance to impacts.

The glass of the door may be cleaned with commercial products intended for fireplaces and stoves. After cleaning the glass, remove any remaining solutions with a wet cloth to avoid chemical reactions at elevated temperatures (“cloudiness’’ on the surface of the glass).

CAUTION: Do not apply commercial cleaners onto any painted surfaces as discoloration/peeling may occur.

NOTE: Never clean the glass when the unit is in operation or hot.

7.4 Replacing Cast Iron Panel

Three cast iron panels are assembled along the combustion chamber side walls (left, right, and back) allowing for a longer and a constant heat output. It is recommended to perform a weekly check on the condition of the panels to ensure proper operation of the unit. The cast iron panels need to be replaced when it is gravely chipped and/or cracked. Failure to replace the cast iron panel under the mentioned conditions will alter the performance of the unit. Refer to the following instructions for replacing a cast iron panel:

a) Order the replacement kit for the Astra 32 cast iron panel.
b) Remove the door from the firebox and place it face down on a soft surface. NOTE: Rotate the handle to permit proper placing.
c) Remove the bottom plate (hearth) by lifting it out of the firebox.
d) Slide the back wall cast iron panel by tilting the bottom and swivelling them out of the top retainer.
e) Replace the damaged cast iron panel if it was removed in step d) and position the panels back in place by swiveling them behind the top retainer.
f) In the case of a damaged panel on the firebox side walls, replace the damaged panel and reposition the back wall panels by swiveling them behind the top retainer.
g) Insert the bottom plate (hearth) and door to its original position.

WARNING: Do not operate the unit with any of the cast iron panels missing.

7.5 Replacement of Door Gasket

SUPREME FIREPLACES INC. assembles heat resistant graphite coated gaskets on the doors of all products, allowing for a proper seal of the unit at extreme temperatures (up to 1000^{o}F). It is recommended to perform a weekly visual check on the condition of the ¾” gasket to ensure proper operation of the unit. The ¾” gasket of your door needs to be replaced when 1) the fibers of the gasket are coming loose and 2) the gasket is disintegrating. Failure to replace a gasket under the mentioned conditions can cause irreversible damage to the unit due to over firing. Refer to the following instructions for replacing the ¾” gasket:

a) Order the replacement kit for the Astra 32 ¾” door gasket.
b) Remove the door from the firebox and place it face down on a soft surface. NOTE: Rotate the handle to permit proper placing.
c) Cover all painted surfaces of the door to avoid damages.
d) Using a wedging tool or flat head screwdriver, gently remove the old ¾” gasket (along with the old silicone) from the door framing.
e) Apply a bead of high temperature silicone along the groove of the metal brackets.

f) Place the new ¾" gasket around the door framing and cut any excess gasket with scissors. NOTE: It is recommended to tape the extremity of the gasket for a cleaner result.

Give significant amount of time to allow the silicone to cure before reinstalling the door onto the firebox. A slight resistance is expected when closing the door with the new ¾" gasket; the door will close normally after the gasket has taken proper shape.

7.6 Replacement of Glass

SUPREME FIREPLACES INC. uses a high quality 5mm thick Pyroceram III / Keralite ceramic glass that can withstand temperatures up to 1300ºF. It is recommended to perform a weekly visual check for any damages or cracks on the glass.

WARNING: Avoid striking the glass and slamming the door shut. Never operate the unit with a broken or damage glass.

CAUTION: Wear protective gloves when handling broken glass. Refer to the following instructions for replacing the glass:

a) Order the replacement kit for the Astra 32 glass.
b) Remove, clean, and dispose any broken glass from the door and the surroundings.
c) Remove the door from the firebox and place it face down on a soft surface. NOTE: Rotate the handle to permit proper placing.
d) Using a wedging tool or flat head screwdriver, gently remove the ¾" gasket (along with the silicone) from the door framing.
e) Using a wrench, remove the 8 nuts fastened around the door framing.
f) Remove the first row of metal brackets (2 small and 2 big) and thin gasket.
g) Remove the damage glass and clean thoroughly the door framing from loose glass fragments.
h) Place the new glass onto the second row of thin gasket, centered with the door framing.
i) Place back the first row of metal brackets (2 small and 2 big) and thin gasket.
j) Using a wrench, fasten the 8 nuts around the door framing (do not over-tighten).
k) Apply a bead of high temperature silicone along the groove of the metal brackets.
l) Place the ¾" gasket back into position.

Table 7-1: Parts List of Door Assembly

Item	Code	Description	Qty
1	DR2100-*	Door frame assembly	1
2	DR_25.75	Horizontal metallic bracket	4
2	DR_18.125	Vertical metallic bracket	4
3	PYRO_24.25X17	Pyroceram glass	1
4	GSK_19_7.5	Thin gasket	2
5	GSK_25_7.5	Thick gasket	1
6	SFC0031	Door latch - Astra	1
7	WP_SFC	Wood pull handle – Astra	1

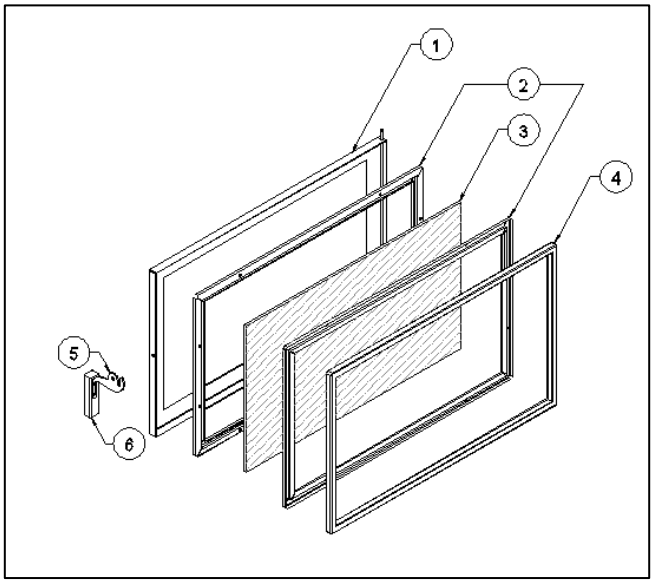


Figure 7-2: Door Assembly Exploded View

Give significant amount of time to allow the silicone to cure before reinstalling the door onto the firebox.

7.7 Door Latch Lubrication

Lightly lubricate the hook of door latch (CM0031) on a yearly basis to prevent abrasive wear.

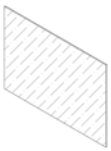
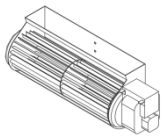
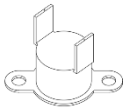
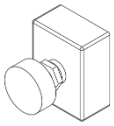
7.8 Paint

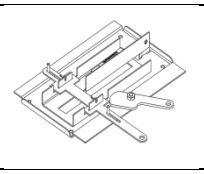
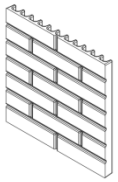
Paint touch-ups can be performed on the unit using a high temperature paint (in aerosol spray can format) by Stove Bright®. Refer to your invoice to determine the precise color of your unit. Contact your local hearth shop for further information on purchasing this paint.

NOTE: Apply the paint in a well ventilated area. If applying paint to the door, properly cover/mask the glass of the door using painters tape and cardboard. Wait for paint to dry before operating the unit. Refer to the instructions on the label of the aerosol spray can for proper paint application. **WARNING: Never apply paint to the unit during operation or when it is hot.**

7.9 Replacement Parts

Refer to the codes from the table below for any replacement parts:

Code	Description	Illustration
POI	Wood pull handle (specify color)	
PYRO_24.25_17	Pyroceram III / Keralite 5mm thick glass 24.25" X 17"	
GSK_19_7.5	Graphite coated square gasket, 0.1875" thick, 7.5' length	
GSK_25_7.5	Graphite coated square gasket, 0.25" thick, 7.5' length	
55416.32130	AC tangential blower Electrical rating: 115VAC, 60Hz, 56W Certification: VDE, CSA, UL, CE	
60T22	Thermo-disk Electrical rating: 120VAC, 15A Certification: UL/CSA	
B6518	Speed Control Electrical rating: 2.5 Amps, 115VAC – 50/60Hz Certification: UL, ULC	

PA5000	Combustion Air Control (specify color)	
CM0020	Cold Hand Key	
CPSP0301	Removable Ashlip (specify color)	
32SFC1175	Cast Iron Panel 15.75” X 15.75” X 1.25”	

8 WARRANTY

SUPREME FIREPLACES INC. warrants that the factory-built fireplaces, fireplace inserts, and stoves will be free from defects in material and workmanship, under normal use and service, for a period of **twenty-five (25) years** from the date of purchase.

This warranty is only intended for the original retail purchaser, given that the product was purchased from SUPREME FIREPLACES INC. or one of its authorized dealers. This warranty is conditional upon correct installation and intended use of the products and does not cover damages caused by misuse. This warranty shall be void if the fireplace and stove is not installed by an authorized qualified technician in accordance with the installation instructions in the manual provided with this product. The installation must meet local and national building codes.

WARRANTY LIMITATIONS:

Abuse and improper use of the unit may cause irreversible damage and will void the warranty.

I. During the first two years of the Limited Warranty, SUPREME FIREPLACES INC. will provide replacement parts at no charge and will also pay for reasonable labor costs, except for the parts listed in the EXCLUSIONS portion of this warranty.
II. During the third through the fifth year of the limited warranty, SUPREME FIREPLACES INC. will provide replacement parts (if available) at no charge, except for the parts mentioned in the EXCLUSIONS portion of this warranty. Supreme Fireplaces Inc. shall not be responsible for any labor costs.
III. From the sixth through the twenty-fifth year of the limited lifetime warranty, SUPREME FIREPLACES INC. will provide replacement parts (if available) at 50% of the retail price, except for the parts listed in the EXCLUSIONS portion of this warranty. SUPREME FIREPLACES INC. shall not be responsible for any labor costs.

Transportation, packaging, and other related costs or expenses arising from the replacement or repair of defective parts will not be covered by this warranty, nor will SUPREME FIREPLACES INC. assume responsibility for them.

EXCLUSIONS:

SUPREME FIREPLACES INC. shall not be responsible for any labor costs for the replacement or repair of any electrical components, painted/plated parts, secondary air burning system, and the combustion air control.

The following parts are guaranteed for 1 year: blowers, painted/plated parts, secondary air burning system, and door gasket.

Cast iron panels are guaranteed for 10 years.

The following parts are guaranteed for 90 days: ceramic glass (**thermal breakage ONLY**).

This warranty applies to normal residential use only. Damages caused by acts nature or natural disasters, accidents, over firing, misuse, abuse, negligence, improper installation, alterations or substitutions of components of the fireplace insert, abrasives, chemical cleaners, and negligence are not covered by this warranty. Burning anything other than natural wood will damage your fireplace and void the warranty.

SUPREME FIREPLACES INC. will not be responsible for environmental conditions such as inadequate vents or ventilation, excessive venting configurations or negative air pressures which may or may not be caused by mechanical systems such as exhaust fans, furnaces, clothes dryers, etc.

The manufacturer at its discretion may decide to repair or replace any part or unit after inspection and investigation of the defect. The manufacturer may, at its discretion, fully discharge all obligations with respect to this warranty by refunding the wholesale price of the defective part(s).

The manufacturer shall in no event be responsible for any consequential damages of any nature, which are in excess of the original purchase price of the product. Any complete fireplace, or part thereof, that is replaced or serviced under this warranty will be warranted for a period not exceeding the remaining term of the original warranty.

This **Limited Lifetime Warranty** is effective on all appliances sold and supersedes any and all warranties currently in existence.

Please register your SUPREME product online at http://www.supremem.com/registration.php to ensure full warranty coverage. Prior to contacting SUPREME FIREPLACES INC., have the following information available for warranty claim processing:

- **Customer information (name, telephone number, and address)**
- **Proof of purchase**
- **Model name and serial number (see Section 2.7)**
- **Detailed description of defected component**
- **Digital pictures (if necessary)**

In the case of a return for repair or replacement, it is the responsibility of the customer to adequately package the component/unit to prevent further damage during transport. Items sent to the SUPREME FIREPLACES INC. without an open warranty claim will be returned to the sender.

Warranty claims should be addressed to:

SUPREME FIREPLACES INC.
3594 Jarry East, Montreal, QC
H1Z 2G4, Canada
T: 877-593-4722, F: 514-593-4424
Website: www.supremem.com
E-mail: info@supremem.com