

BELLFIRES®



Installation Guide

Bellfires®

Close Clearance Models:

BCC-28 Tall

BCC-28

BCC-21 Tall

BCC-21

BCC-19



Warnock Hersey



Version
120700

SLEEPY HOLLOW CHIMNEY SUPPLY, LTD.

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IMPORTANT SAFEGUARDS AND PRECAUTIONS

A properly installed Bellfires® BCC-28 fireplace and its associated components form a safety tested system. This manual serves as a guide for the proper and safe installation of a Bellfires® fireplace. It does not serve as a substitute for the necessary professional judgment and skills of a trained installer. Instead, it should be used in conjunction with standard safety considerations including, but not limited to, applicable state or provincial and local fire codes, the National Fire Protection Association Standard NFPA 211 or Canadian Standard B365, building and inspection codes, and the trained installer's professional judgment and skills to provide the owner with a safe installation. Please save these instructions for any future repairs or use.

Safe and efficient operation of the Bellfires® BCC fireplace and its associated components mandates installation of this unit in accordance with this installation guide. Proper installation requires an installer skilled in standard construction techniques. The installer must read and understand the contents of this manual before starting the installation.

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

Consult the local and state or provincial building and fire safety code officials and investigate the requirements for installing a factory-built fireplace in the homeowner's community. It is the responsibility of the installer to (1) obtain a building permit for installation of a Bellfires® BCC-28 fireplace before construction begins and, (2) assure the installation meets or surpasses all minimum requirements of the homeowner's jurisdiction.

It is highly recommended the homeowner install a smoke detector.

Failure to use components provided or specified by Sleepy Hollow Chimney Supply, Ltd., manufacturers of Bellfires®, in accordance with this installation guide may create a fire hazard. Use of other components or misuse of Bellfires® components voids the Bellfires® warranty.

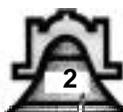


Table of Contents

Important Safeguards and Precautions	2
Introduction	5
BCC Parts	6,7
BCC Spider Damper Parts	8
Safety Guidelines	9
BCC 28 Specifications & Dimensions	10
BCC 28 Steps to Installation	11
Layout	12,13
Bird's Eye View Dimensions	13
BCC 28 Assembly & Chimney Installation	14-27
BCC 28 Hearth Extensions	16,17
BCC 28 HT Chimneys	24
BCC 28 Spider Damper	25,26
BCC 28 Framing	28,29
BCC 28 Finish	30
Build the Best Fire in the World	31
Operation & Maintenance	32
Warranty	33





BCC 19



BCC 21 and BCC 28

Introduction

Early fireplaces were very inefficient, drawing a good deal of the heat up the chimney while admitting an unbearable amount of smoke into the room. In the late 1700's, Benjamin Thompson, Count of Rumford, recognizing that a fireplace heats an area by radiation, began a series of experiments aimed at improving its performance.

He discovered through observations and various constructions that the exaggerated width of the chimney of his time, necessitated by the need for room for a chimney sweep to climb through the throat area into the flue, was a primary cause of inefficiency and smokiness. He attributed the problem not only to the chimney, but the width of the throat and also specific fireplace dimensions and configurations. Using the knowledge gained from his studies, Rumford modified the traditional fireplace design into one that burned cleaner and hotter and, most importantly, did not smoke. His efforts greatly improved the performance of the fireplace.

Later, in the 1900's, a series of scientific experiments were conducted by Professor Peter O. Rosin, Dr. Ing., under the auspices of the British Coal Utilisation Research Association. The results are documented in his report, "The Aerodynamics of Domestic Open Fires". Through the use of laboratory equipment, Dr. Rosin was able to observe air and smoke flow patterns and thus developed the ideal firebox and chimney shape for maximum efficiency. While expanding on Rumford's work, some of Dr. Rosin's findings varied dramatically from Rumford's earlier theories; perhaps the most notable being the smoke shelf theory, shown diagrammatically at the left.

The important point of Dr. Rosin's work is that it was performed in a scientific manner and pointed the way to a much more efficient and functional fireplace. Bell of England took this information and applied it to develop the Bellfire Fireplace, providing the ideal firebox and throat shape to guarantee a smoke-free efficient fireplace capable of producing maximum radiant heat with minimum fuel. It was commonly used to heat the complete home until the second World War. Since then it has been further developed by using more modern aerodynamic concepts and thermal insulation techniques

to improve the design.

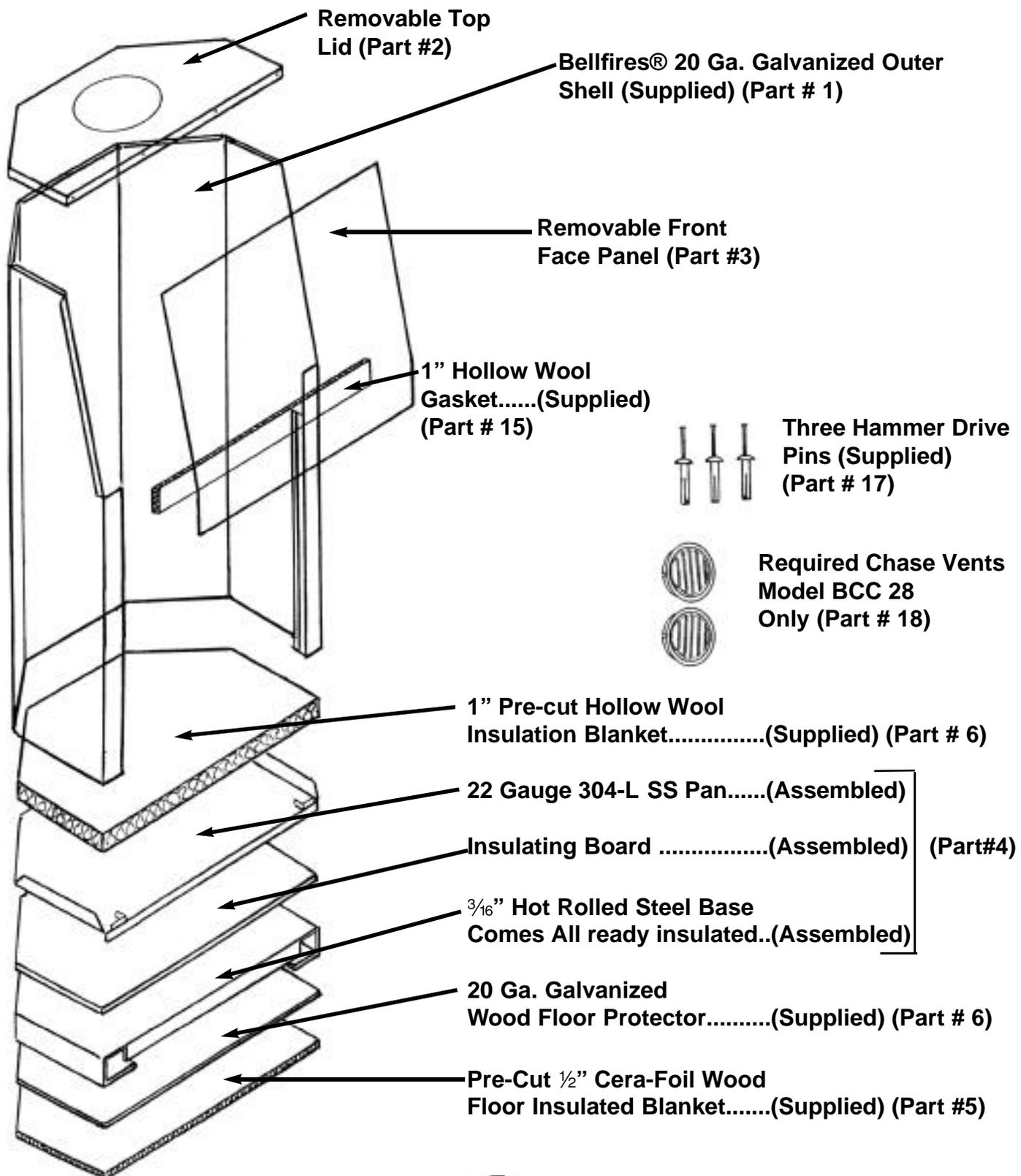
Sleepy Hollow Chimney Supply has optimized the Bellfires® designs, and produced a superior radiant firebox combining advanced casting techniques and high temperature, high alumina ladle cast refractory. We feel confident that our Bellfires® units are the finest heat-producing open fireplaces to be found, whether used to upgrade old metal or masonry fireboxes or in new construction.

The Bellfires® Close Clearance (BCC) Wood Floor Fireplace makes available to homeowners, businesses, and restaurants the possibility of having a super efficient, heating fireplace in locations where a conventional masonry fireplace is not possible. Suitable for new construction or renovation, the BCC requires no foundation or footings. The refractory firebox is designed in a half-pear shape in order to give it the greatest efficiency possible. The Bellfire® BCC refractory firebox, hearth, side flares, and smoke chamber, are enclosed in a heavy 20 gauge steel outer shell (ideal for installation in seismic areas). The BCC 28's pre-cast refractory firebox components are wrapped with ceramic insulation and the area between the firebox and outer steel cabinet is filled with perlite beads at the building site.

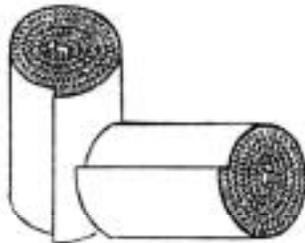
Using a pear shaped firebox design, proprietary thermal insulation technology, and meticulous metal fabrication found nowhere else, the BCC can be installed on a wood floor and positioned within two (2) inches to combustible rear and side walls. BCC-28 Fireplace Models have been tested and found to be in compliance with UL 127-1988 and ULC S610-M93 "Standard for Factory-Built Fireplaces." The Rumford style smoke chamber vents into any eight (8) inch diameter listed Type HT factory-built chimney that meets UL 1482 or ULC S627 standards. A top mounted round damper with a control key at the firebox level helps to prevent cold air from draining into an unused fireplace and help ensure a warm flue for instant draft. Super radiant heat output and thorough combustion provide ample warmth and fuel efficiency that sets new standards for the open hearth. The refractory firebox stores heat and warms the house long after the flames have died out.



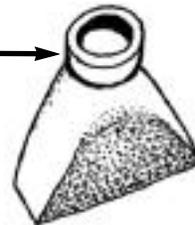
Close Clearance Wood Floor Parts



Pre-sized 3 x 8 lb.
density Hollow Wool
Blanket (Supplied)
(Part # 7)



Masonry Turbo
(supplied) (Part#14)



One can of Spray Glue
(Supplied) (Part # 8)



Rumford Smoke
Dome (supplied)
(Part # 13)

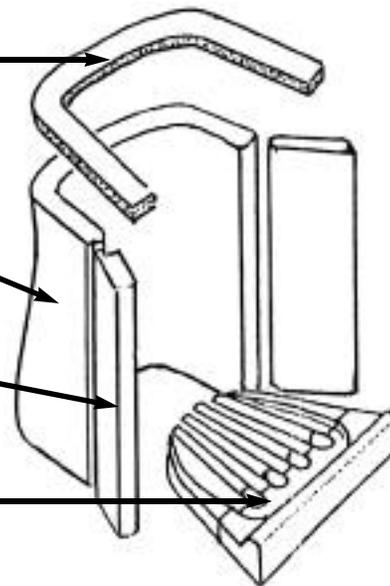


Hollow Wool Gasket
(supplied) (Part # 12)

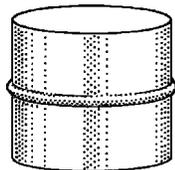
Refractory Firebox
(supplied) (Part # 9)

Two Refractory Flares
(supplied) (Parts # 10a & 10b)

Two Piece Refractory Hearth
(supplied) (Parts # 11a & 11b)



Slip connector
(supplied)
(Part #20)



Bellfires® Hearth Extension Pad
(Optional) (Suggested)
(Part # 19)

One Bag of Perlite for Model BCC 21
(supplied)

Two Bags of Perlite for Model BCC 28
(supplied) (Part # 16)



BCC Spider Damper Parts

**1- Drop In Damper
(Part #21)**



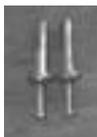
**28' Stainless Steel Cable
(Part #22)**



**1 -Bracket
(Part #23)**



**2 -Hammer Drive Pins
(Part #24)**



**1- Stainless Steel Sash Chain
(Part #25)**



**1 -Stainless Steel Ring (attach to chain)
(Part #26)**



1 -Stainless Steel Clamp (attach to cable)

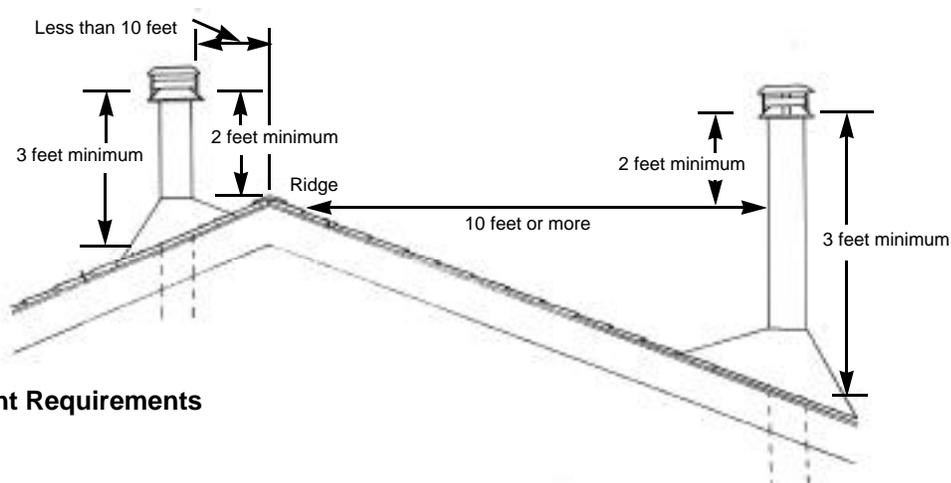
You need....

**Ladder
Hammer Drill
1/4 inch Masonry Drill Bit
Safety glasses
Wire Cutters
Marker
Flat Gasket or Silicone Caulk**



Safety Guidelines

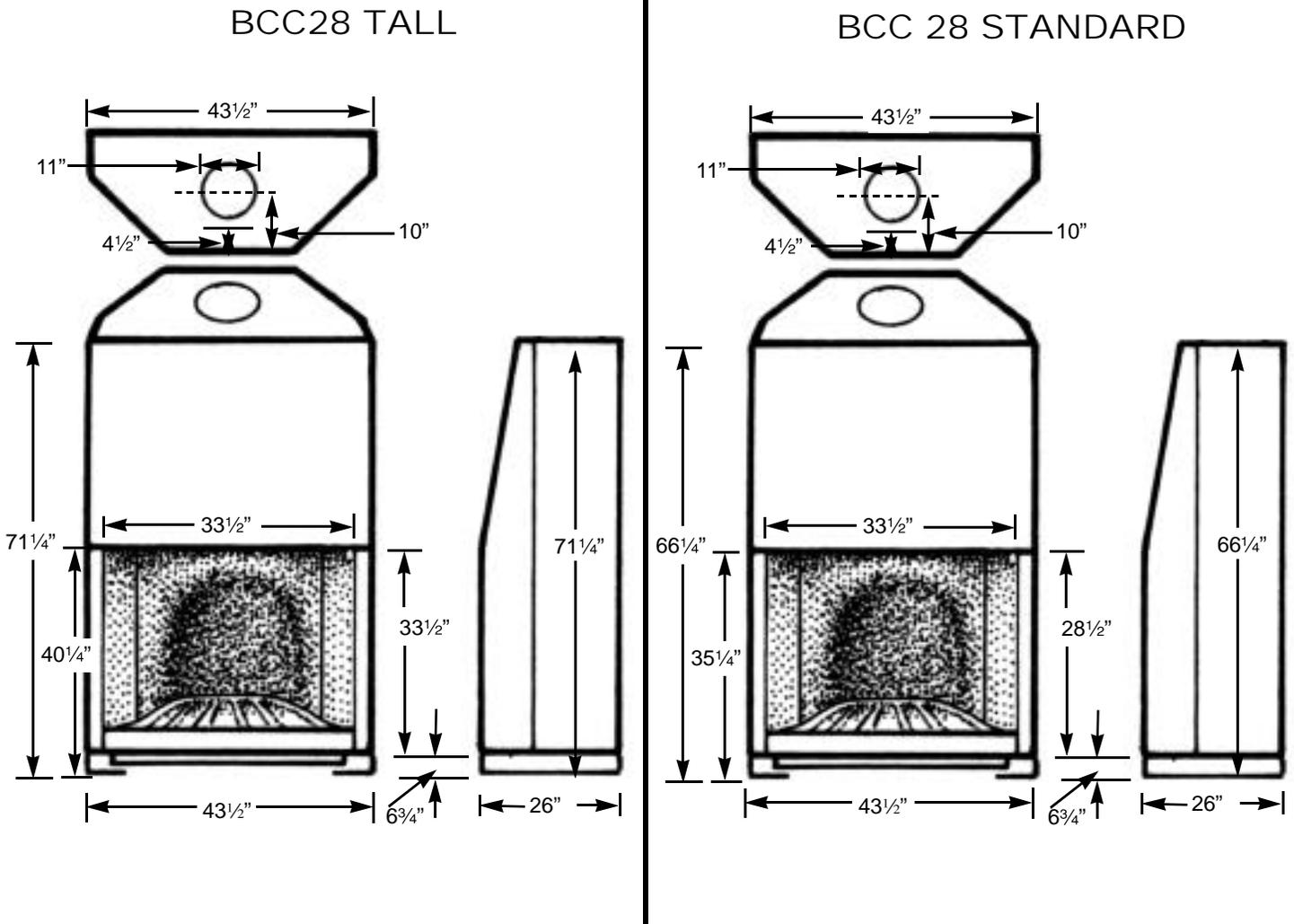
- A. Bellfires® fireplaces are not approved for use in mobile homes.
- B. There must be an air space clearance between the outermost portion of any section of the chimney system and any combustible surface. Although two inches is a typical clearance, adhere to the requirements set forth by the chimney manufacturer. Combustible surfaces include: ceilings, joists, flooring, walls, electrical wiring, insulation and roof structures.
- C. Never fill any required air space with insulation or other material.
- D. The chimney system must be vented to the outside.
- E. The chimney must extend at least three feet (900mm) above the roof and at least two feet (600mm) above any portion of the roof within 10 feet (3m).
- F. Maximum chimney height from the top of the firebox to the top of the chimney should not exceed 40 feet when supported solely by the fireplace, or 90 feet when resupported at or above 40 feet according to the chimney manufacturer's resupport specifications.
- G. Minimum chimney height from the top of the firebox to the top of the chimney must be 10 feet.
- H. The chimney must not be inclined more than 30 degrees from vertical. Greater angles result in hazardous deposits of soot and ash in flue.
- I. A maximum of two offsets (4 elbows total) is allowed in a chimney.
- J. Firestops and joist shields must be used at each floor level through which the chimney rises.
- K. There should not be any forced air furnace registers in the room within ten feet of the fireplace. They can cause negative pressure and create chimney down-drafts.
- L. Never mix parts of one chimney system with those of a different manufacturer. Do not install damaged chimney parts. Remember, more fires are caused by chimneys than by solid-fuel appliances.
- M. Practice good workmanship. Sloppy work could jeopardize the safety of the installation.



Chimney Height Requirements



BCC 28 Specifications & Dimensions



SPECIFICATIONS

NAME: BELLFIRES® Close Clearance

MODELS and WEIGHT:

BCC21 STANDARD	500 lbs.
BCC21 TALL	575 lbs.
BCC28 STANDARD	765 lbs
BCC28 TALL	840 lbs.

FIREBOX MATERIAL:

3000° 70% High alumina castable refractory
3" thick stainless steel fiber reinforced

SMOKE CHAMBER:

Advanced reinforced design
3000° 70% High alumina castable refractory
3" thick stainless steel fiber reinforced

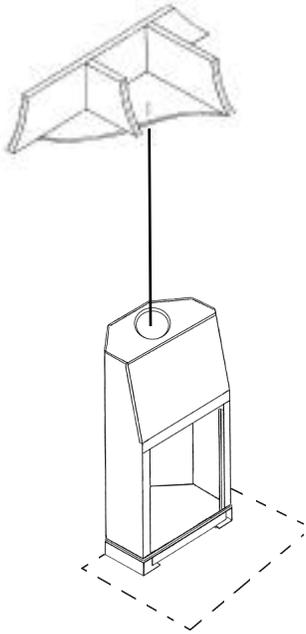
THERMAL INSULATION:

3" x 8 lb. Hollow Wool™
Blanket/Perlite insulation

OUTER SHELL:

20 Gauge galvanized steel
3/16" thick hotrolled steel
Suspension base

Steps to a Bellfires® BCC Installation



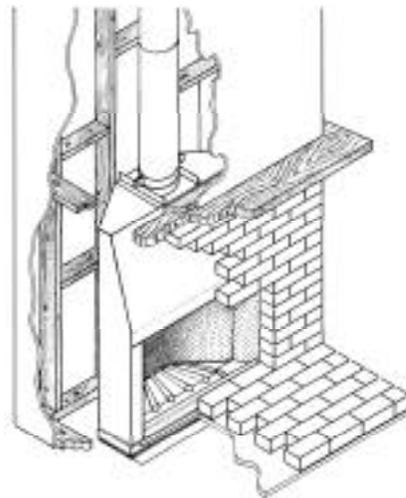
1 LAYOUT



2 ASSEMBLY
& CHIMNEY
INSTALLATION

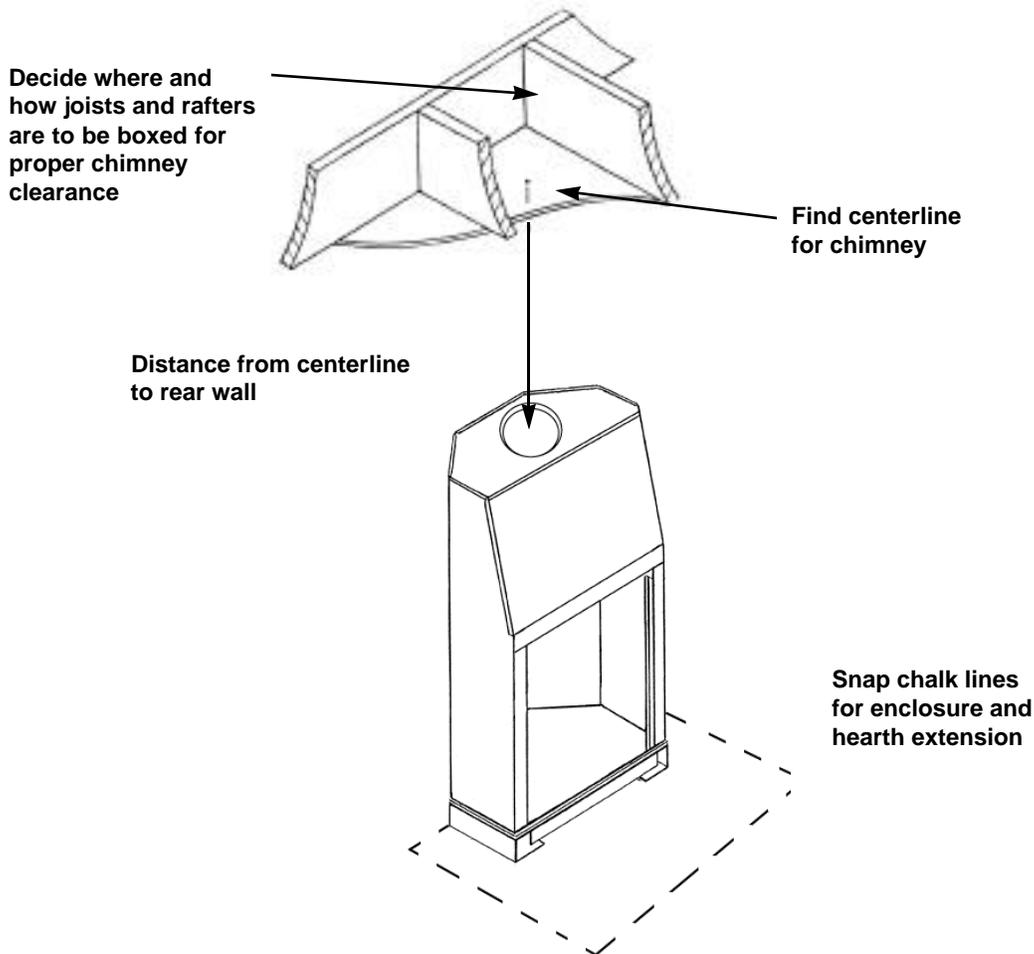


3 FRAME



4 FINISH

LAYOUT



LOCATE THE FIREPLACE

When planning the BCC installation, it is necessary to

- a) Locate the fireplace, and
- b) Plan for framing the enclosure.

When selecting a location for the Bellfires® BCC fireplace in a planned or existing residence it is important to consider:

- 1) positioning of the fireplace with respect to air and traffic flow,
- 2) floor and surrounding walls,
- 3) ceiling joists and roof penetration.

Consider the impact on traffic flow in adjacent rooms and the position of forced air returns or registers near the proposed fireplace before deciding on the final location.

The Bellfires® BCC 28 must be installed on a flat, hard, level surface, such as a wood floor or raised platform.

CAUTION: The BCC must not be installed on carpeting, vinyl, or soft surface materials.

The location must be able to support the sustained weight of the BCC 28 fireplace (765 pounds) plus the chimney system, framing, sheathing, finish, and hearth protection.

Bellfires® may be installed against a combustible wall providing the two (2) inch minimum air is maintained.

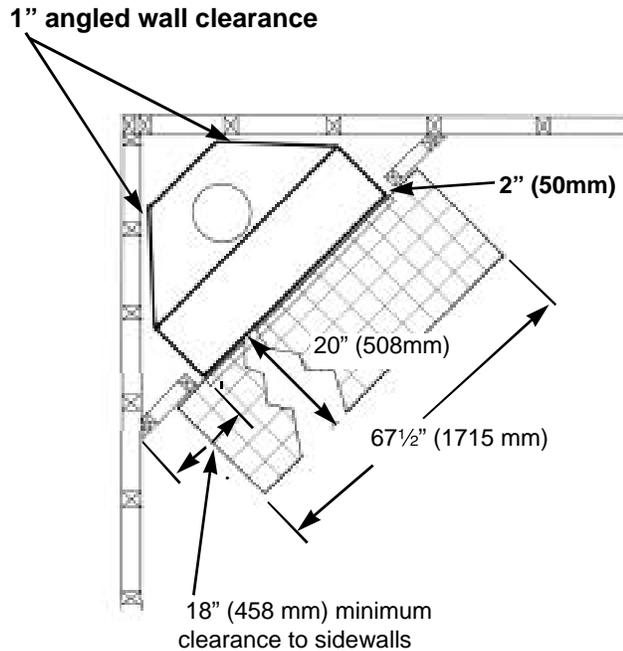
The figure above shows a typical installation view of an interior installation on an existing wall.

By setting the Bellfires® BCC fireplace in the desired location in the room and using a plumb line, the position of a straight chimney above the fireplace can be simulated. Whenever possible, the BCC should be moved to minimize the cutting of ceiling joists and roof rafters or the use of chimney offsets.

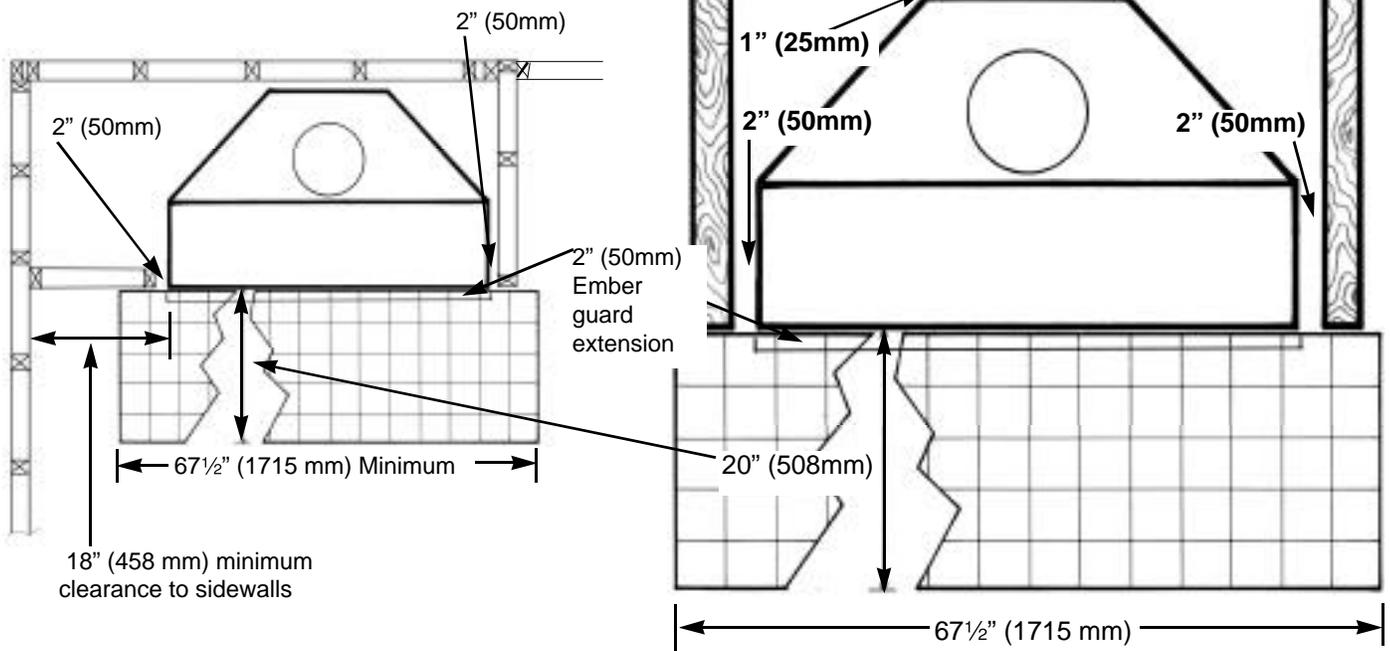
Once the desired location is determined, the floor, wall, and ceiling should be marked for cuts and framing, rechecked, and any reframing at the ceiling and rafters can be done.

Plans for framing the enclosure should be thoroughly checked. This is discussed more completely in the section on framing.

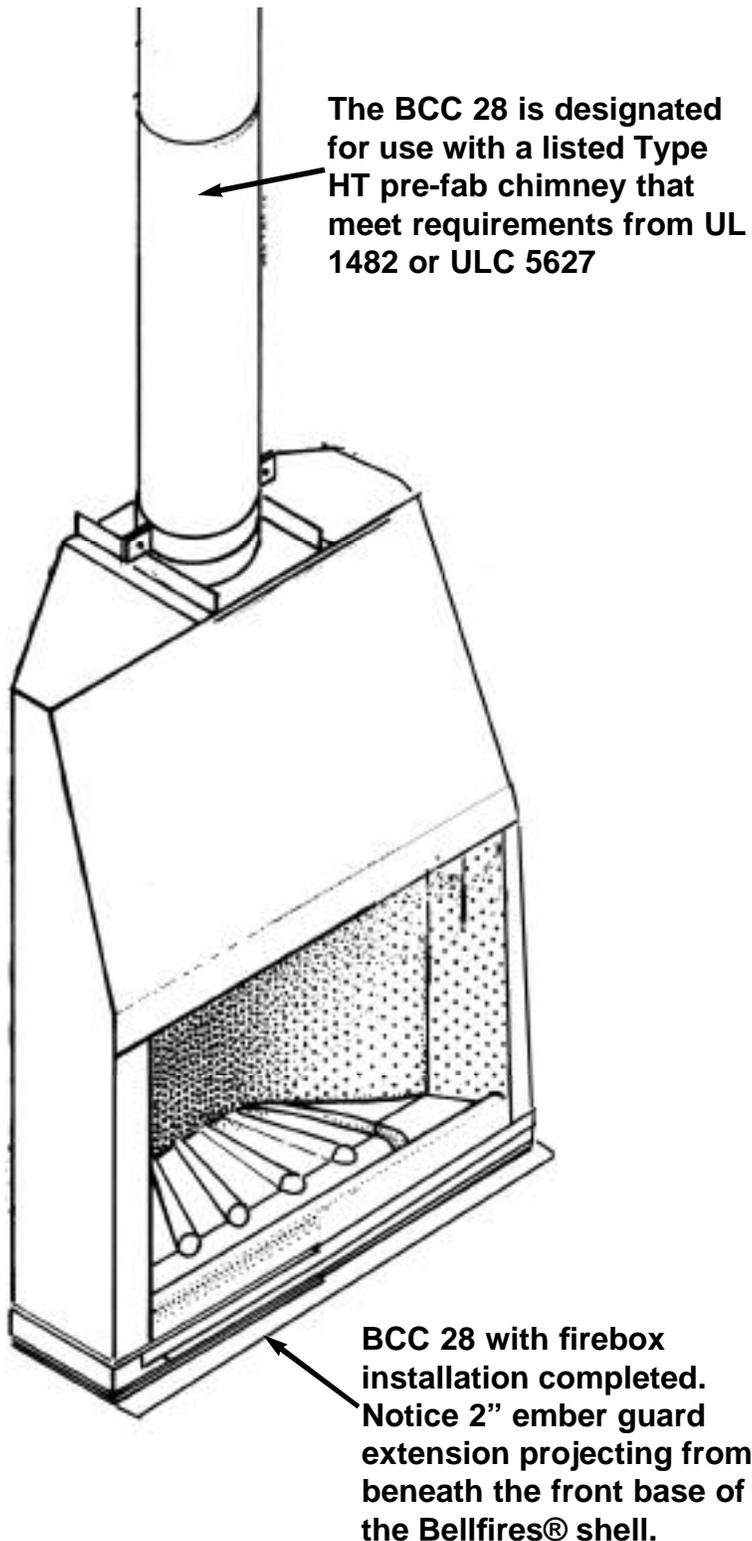
Corner Installation



Sidewall Installation



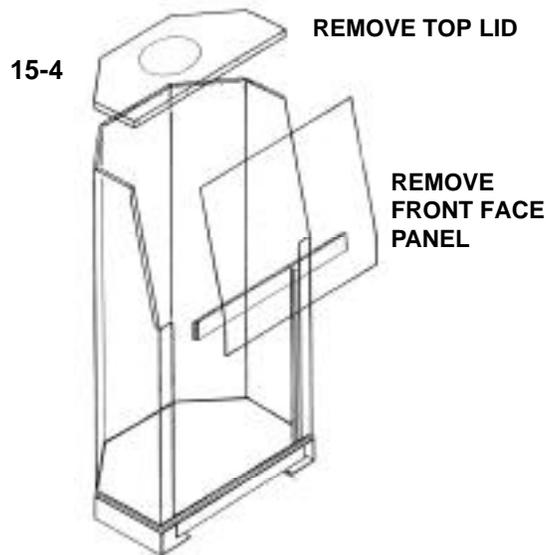
BCC 28 Assembly & Chimney Installation



The Bellfires® BCC is the most advanced factory-built fireplace on the market today. Most factory-built fireplaces are light weight attempts at simulating a traditional masonry fireplace and only use simulated veneer fire brick in the firebox. They mistakenly continue to use a smaller rendition of the “traditional” American fireplace firebox that is notoriously inefficient.

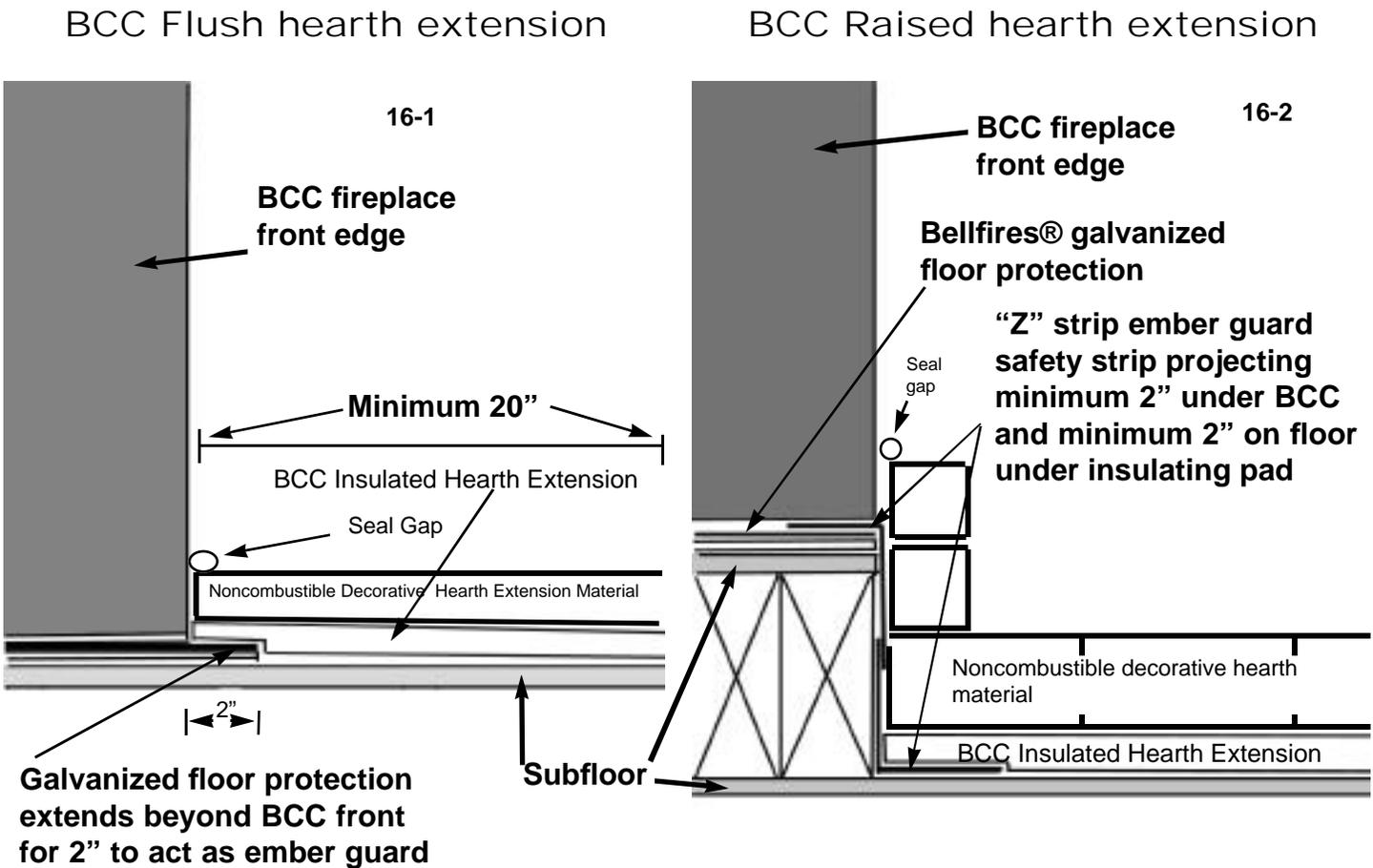
Unlike them, Bellfires® BCCs use the same highly efficient refractory firebox used in all the Bellfires® masonry models, from restoration designs to the new construction models, and houses them in a 20 gauge galvanized sheet metal shell that is the strongest, best built in the industry.

Bellfires® BCC fireplaces are unusual for factory built in many ways. They are shipped with the refractory pieces boxed separately from the metal shell. The BCC is then assembled onsite. Following, on the next few pages, are the assembly instructions.



1. Once it is determined the exact place the fireplace will rest, place the supplied $\frac{1}{2}$ " x 48" (12.5 mm x 122 cm) sheet of Cera-foil ceramic fibre blanket on wood floor, foil face up. (15-1) If the BCC is to be installed on a combustible floor lay the 20 gauge galvanized sheet metal protection (part # 6) on the floor over the ceramic insulation. (15-2) Again, if the BCC is being installed on a combustible floor and the hearth extension area in front of the fireplace is combustible extend excess width of the galvanized metal floor protection forward two (2") inches (50mm), creating an ember guard at front edge of hearth and fireplace facing. (See 16-1 & 16-2 and the discussion on pgs. 16-17.)
2. Position metal fireplace shell(Part 1) in position at intended final location, properly centered over wood floor protection. At this time double check alignment to insulated flue above, observing a two inch clearance to combustibles. (15-3)
3. Remove $\frac{1}{4}$ " hex head screws in the top lid and front face panel of metal shell enclosure.(15-4) Shell should now be open and accessible to install the refractory components. (15-5)

Hearth Extensions



Hearth Extensions

Combustible floors directly in front of the fireplace must be protected from sparks, embers, logs rolling out of the fireplace, and heat by using non-combustible floor protection—a hearth extension. The BCC 28 fireplace requires a minimum protection of 20" in front of the fireplace and 12" inches to each side of the fireplace firebox opening for a total width of 67½". Local codes may require even larger dimensions. Total R value of the non-combustible hearth extension must be a minimum of R 2.2.

Be certain hearth extensions are securely fastened so they cannot be moved or easily dislodged and that they are constructed from durable, non-combustible materials such as brick, tile, slate, etc.

Ember Guards

In many areas ember guards are known as metal seal-

ing strips, or sheet metal bridges. Their function is critical in pre-fab fireplace installations. If a BCC 28 is installed on a combustible floor or a combustible raised hearth, or the hearth extension support is combustible, a metal ember guard strip with a minimum width of 4" and the full length of the BCC opening must be placed under the front of the BCC and extended the same length to the front of the BCC. This is absolutely necessary to seal the crack between the BCC and the hearth extension so that embers, coals, sparks, or ashes cannot come in contact with combustibles in the area below. In raised hearth designs a special "Z" strip design will have to be constructed onsite. The Bellfires® Hearth Extension pad should be laid over the ember guard and cover the whole area of the hearth extension, a minimum of 20" deep and 67½" wide. Over this is placed the noncombustible finish hearth extension material—brick, tile, slate, etc. Finally, a bead of non-combustible material is used to seal the connection of hearth extension with the BCC.

How to determine if alternate floor protection materials are acceptable.

All floor protection materials must be non-combustible (i.e., metals, brick, stone, mineral fiber boards, etc.). Any organic materials (i.e., plastics, wood, paper products, etc.) are combustible and must not be used. The floor protector specified may include some form of thermal designation such as R value (thermal resistance), k-factor (thermal conductivity), or C-factor (thermal conductance).

Procedure:

- 1) Convert specification to R-value:
 - i. R-value given—no conversion needed.
 - ii. K-factor is given with a required thickness (T) in inches: $R = 1/k \times T$
 - iii. C-factor is given: $R = 1/C$
- 2) Determine the R-value of the proposed alternate floor protector.
 - i. Use the formula in step (1) to convert values not expressed as “R”.
 - ii. For multiple layers, add R-values of each layer to determine overall R-value.
- 3) If the overall R-value of the system is greater than the R-value of the specified floor protector, the alternate is acceptable.

EXAMPLE:

The specified floor protector should be $\frac{3}{4}$ " thick material with a k factor of 0.84. The proposed alternate is **4" brick with a C-factor of 1.25 over 8" mineral board with a k-factor of .29.**

Step (a): Use formula above to convert specification to R-value.

$$R = 1/k \times T = 1/ .84 \times .75 = .893$$

Step (b): Calculate R of proposed system.

$$4" \text{ brick of } C = 1.25, \text{ therefore } R_{\text{brick}} = 1/C = 1/1.25 = .80$$

$$8" \text{ mineral board of } k = .29, \text{ therefore } R_{\text{min. Bd.}} = 1/.29 \times .125 = .431$$

$$\text{Total } R = R_{\text{brick}} + R_{\text{mineral board}} = .8 + .431 = 1.231$$

Step (c): Compare proposed system R of 1.231 to specified R of .893. Since proposed system R is greater than required, the system is acceptable.

Definitions:

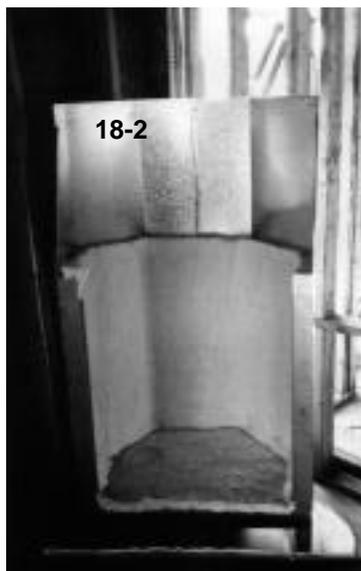
$$\text{Thermal conductance} = C = \frac{\text{Btu}}{(\text{hr})(\text{ft}^2)(^{\circ}\text{F})} = \frac{W}{(\text{m}^2)(^{\circ}\text{K})}$$

$$\text{Thermal conductivity} = k = \frac{(\text{Btu})(\text{in})}{(\text{hr})(\text{ft}^2)(^{\circ}\text{F})} = \frac{W}{(\text{m})(^{\circ}\text{K})} = \frac{\text{Btu}}{(\text{hr})(\text{ft})(^{\circ}\text{F})}$$

$$\text{Thermal resistance} = R = \frac{(\text{ft}^2)(\text{hr})(^{\circ}\text{F})}{\text{Btu}} = \frac{(\text{m}^2)(^{\circ}\text{K})}{W}$$

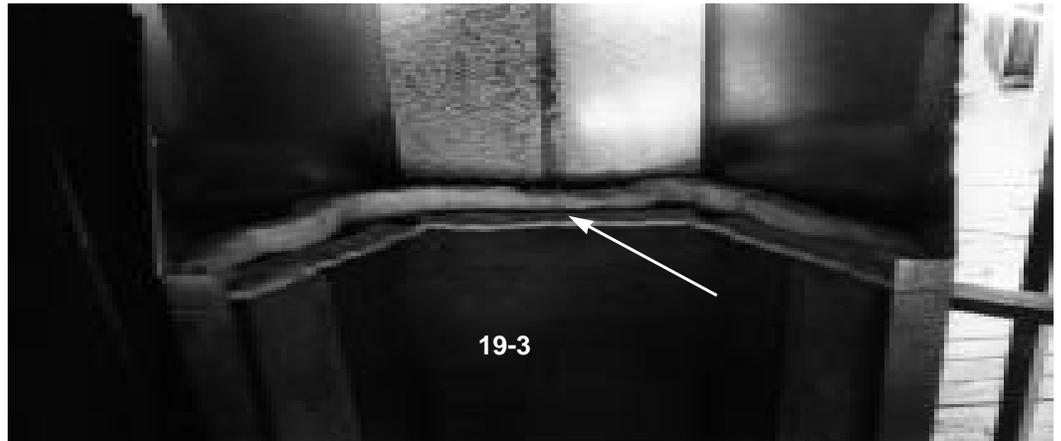
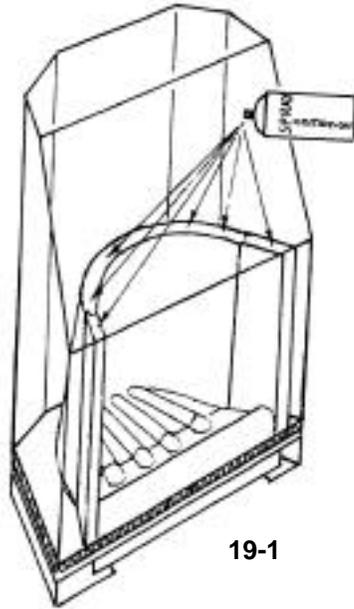
Typical materials that might be substituted for hearth extensions	
Material	k in. $\frac{(\text{Btu})(\text{in})}{(\text{hr})(\text{ft}^2)(^{\circ}\text{F})}$
Insulboard 300™	.458
Insulboard 230™	.43
Insulboard 180™	.34
Common brick	5.00
Cement mortar	5.00
Marble	11.00
Limestone	6.5
Ceramic Tile	12.5





Lay 1" (25mm) precut Hollow Wool Insulation Blanket (Part # 6) on 22ga. 304-L SS floor pan of shell. (Part # 4) Be sure that supplied insulating blanket fits tight against floor of enclosure. (18-1) Position supplied precut 3" thick Hollow Wool Thermal Insulating Blanket (Part #7) around rear of shell. (18-2) Using provided spray glue (Part #8) spray front of pre-cut Hollow Blanket (Part # 7). Center Bellfires® refractory firebox (Part # 8) into shell enclosure. (18-3) Place side flare panels (Parts 9a & 9b) in place on either side of firebox, striving for a tight flare joint. Snug up Hollow Wool tightly against rear of refractory firebox and flares. Insulating blankets must fit snugly against fireback to allow for perlite insulating fill.

Place hearth components (Parts #11a & 11b) into enclosure. Keep front edge of hearth stretcher flush with front edge of fireplace base. This will set correct firebox position. (18-4)



Spray adhesive glue on top of firebox and flare edges. (19-1) Place insulation gasket (Part #12) on top of firebox edge and flares. (19-2 & 19-3)



Place Masonry Rumford Dome (Part # 13) on top of firebox-gasketing, resting on the firebox and flares.

Use spray adhesive to cement gasket material on top of Rumford Dome. (20-2, 20-3)

Using provided spray glue, position supplied Hollow Wool Thermal Insulating Blanket (Part # 7) around rear of Masonry Rumford Dome. (20-4)



Important Installation Reminder —

To insure that flame and smoke paths are as smooth as possible, be sure to align the rear firebox wall, the Rumford Dome, and the Masonry Turbo at and on the rear inside wall, not the rear outside walls.



21-1

Place Masonry Turbo (Part # 14) on top of dome. (21-1)

Using provided spray glue, position supplied Hollow Wool Thermal Insulating Blanket around rear of Masonry Turbo. (21-2)



21-2

Bring both ends of Hollow Wool blanket together and use short strips of Cera-Foil Metal Seam tape to hold ends together. Insulating blankets must fit snugly to allow for perlite insulating fill. (21-3)



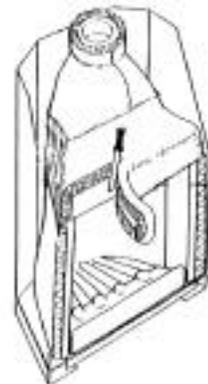
21-3

Trim any overhanging edges. (21-4)

Spray 1" Hollow Gasket (Part #15) and apply to top of fire-box dome opening. (21-5)

21-4

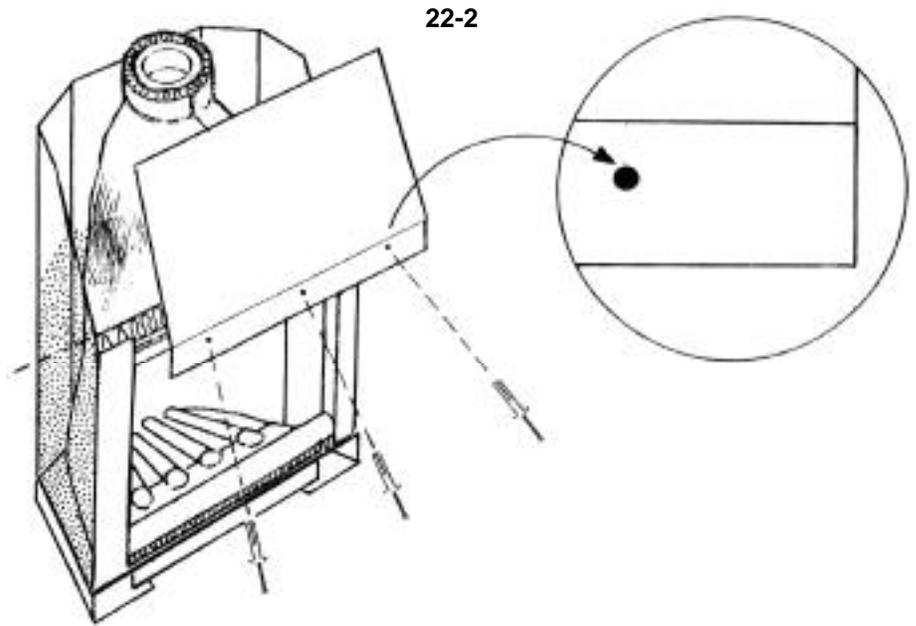
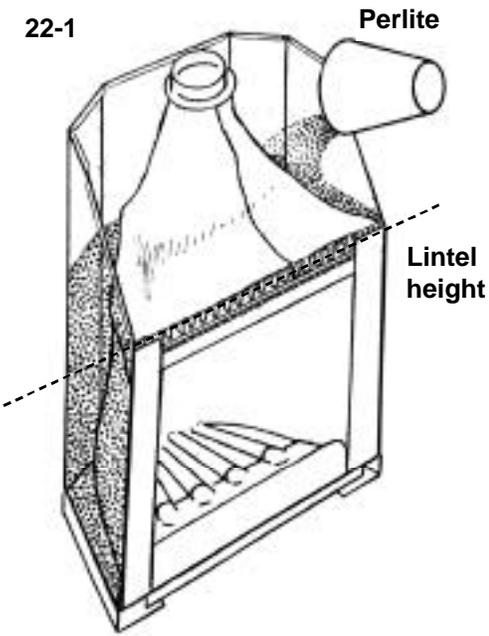
Trim front as shown or fold down



21-5



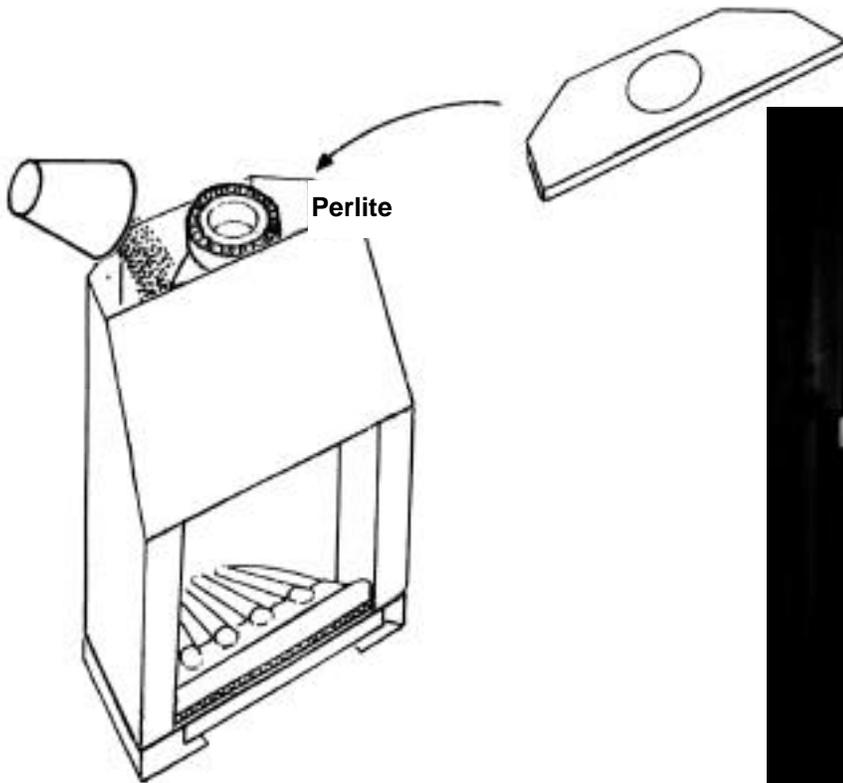
Spray and glue 1" Hollow Wool gasket



Pour in perlite beads insulation until it reaches lintel height. (22-1)

Reinstall front face panel, drill canopy edge with carbide bit (supplied), and install hammer pins (Part # 17) as indicated. (22-2 & 22-3)

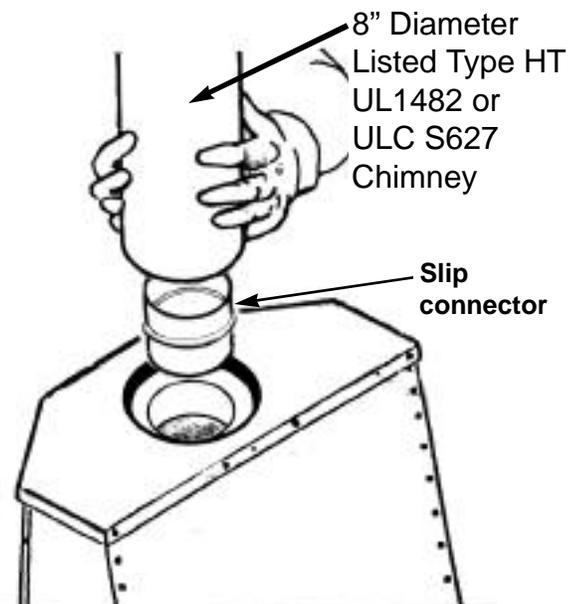
Make sure the Cera-Foil fibre blanket is tight against the refractory components and then pour Perlite infill behind the blanket to fill the airspace between the blanket and metal sides of the BCC. Stop frequently to stir and pack the Perlite, making sure there are no air spaces left without Perlite fill.



Pour in perlite beads insulation to absolute top of unit. Tap or vibrate shell enclosure to settle perlite. Retap as necessary, ensuring there are no voids. (23-1)

Continue filling and packing until the top of shell is covered. Replace the BCC top lid enclosure and reinstall sheet metal screws to hold it in place. (23-2)

Place stainless steel slip connector (Part #20) into 8" (204mm) refractory Turbo opening. Place first section of HT listed chimney section into slip connector. (23-3) Fill any loose space around HT chimney with extra left over Hollow Wool ceramic fiber insulation.



Install a Listed HT UL1482 or ULC S627 Chimney



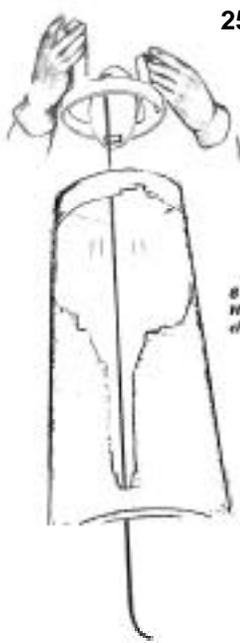
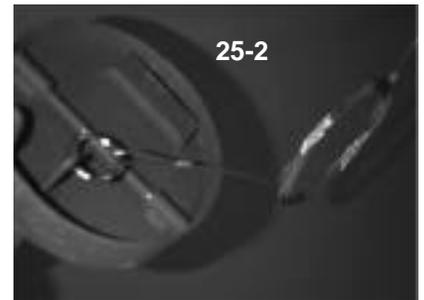
Depending on the existing framing limitations of the house either a straight or offset chimney will be installed. Bellfires® BCC fireplaces can be installed with any 8" Diameter Listed Type HT UL1482 or ULC S627 Chimney. Review the chimney manufacturer's installation instructions for details and minimum requirements. Be sure to follow all instructions for the framing of openings in ceilings and floors, to provide firestopping in joist areas, and to install all proper firestop-spacer assemblies.

WARNING:

**WHEN INSTALLING THIS FIREPLACE WITH A CHASE ABOVE THE ROOF
REFER TO THE CHIMNEY MANUFACTURER'S INSTRUCTIONS FOR CHASE CONSTRUCTION.**

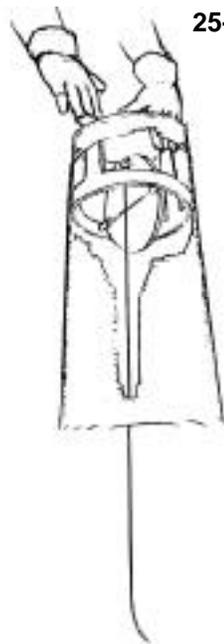
Maximum chimney height from the top of the Bellfires® BCC fireplace to the top of the chimney should not exceed 40 feet when supported solely by the fireplace, or 90 feet when resupported at or above 40 feet according to the chimney manufacturer's resupport specifications.

It is the installer's responsibility to provide the owner with a safe, fully operational venting system that meets state or provincial and local codes. The majority of solid-fuel related fires are caused by chimney fires.

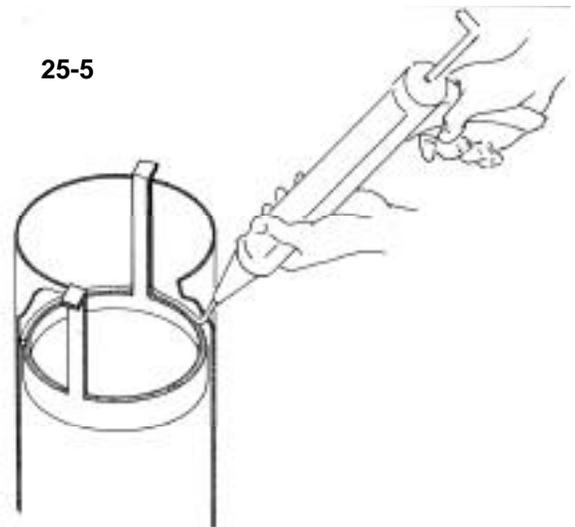


25-3

8 inch diameter
HT insulated
chimney



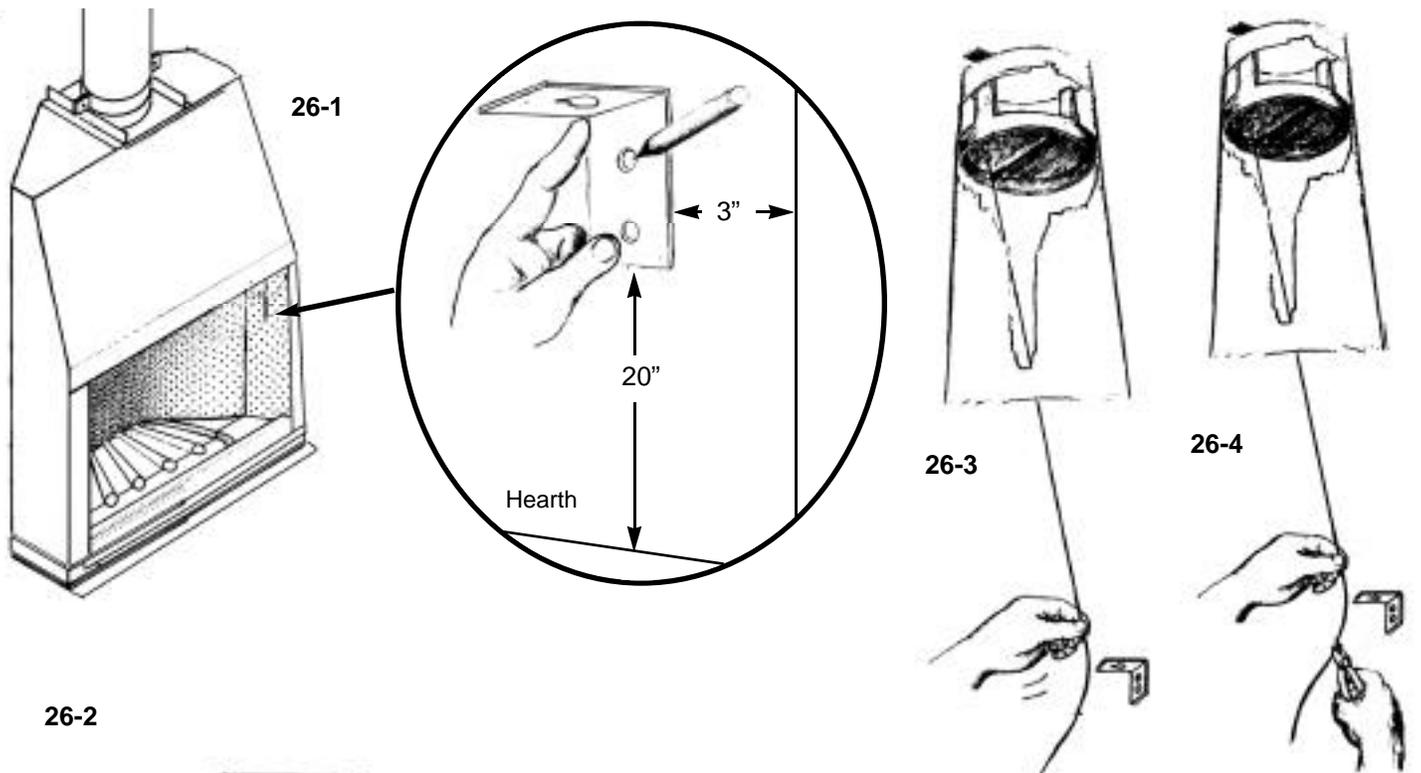
25-4



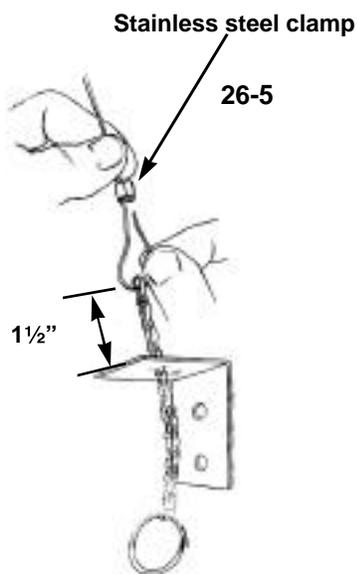
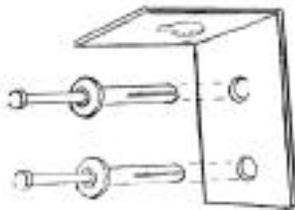
25-5

After the listed HT chimney has been installed, but before the chimney cap is placed, the BCC top mounted Spider Damper must be installed. The Spider Damper is placed in the top section of the listed HT chimney.

The Spider Drop-in Damper (25-1) (Part #21) installs typically like other top mounted dampers. The bottom hook-up is also typical. Attach the ring on the 28' stainless cable (Part #22) to the underside ring of the Spider Damper. (25-2) The installer must go to the roof and place the Spider Drop-in Damper inside the top section of the type HT chimney until handles of damper don't go any further down. (25-3, 25-4) Unroll cable, dropping it all the way down the flue until cable reaches the firebox. The important installation step to be observed is as follows: check for tightness in between flue walls and outside damper. Any air clearance should be sealed with flat gasket or silicone caulk. (25-5) Check damper plate to be sure it moves freely. Because blade is counterweight, damper should always be in the opening position.



26-2



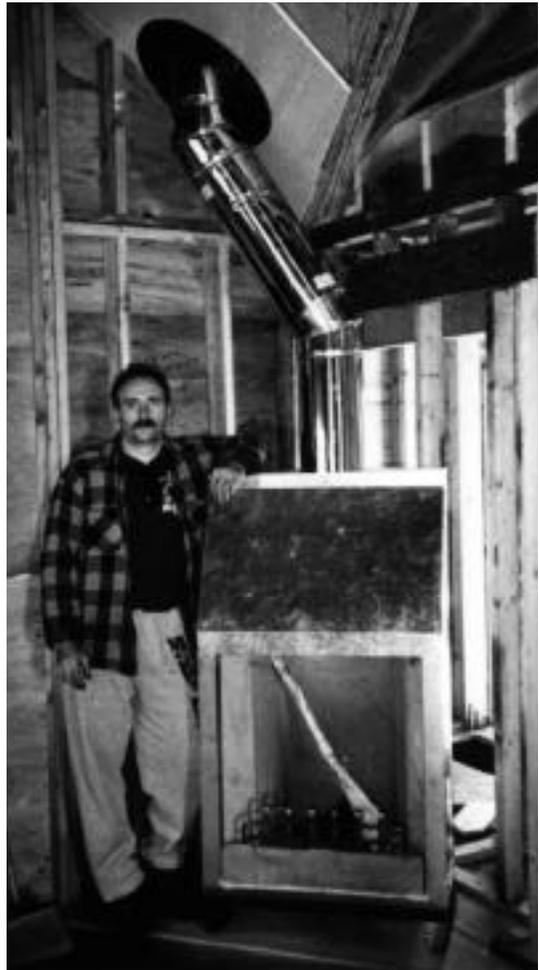
Now, go back inside to the BCC firebox. Take the "L" bracket (Part #23) and place it at wall of firebox (26-1) about 20" from hearth and no less than 3" from outside opening. With a marker, mark the two openings of the "L" bracket onto the side of the firebox. (26-1) Be sure to wear your safety glasses. Using a masonry drill bit, drill two 1/4" inch holes into firebox on the marks you made. Attach "L" bracket with hammer driver. (Part #24) (26-2). Close damper by pulling cable until slight tension is felt. (26-3).

Cut stainless steel wire about 1 1/2 inch lower than the horizontal bar of bracket. (26-4).

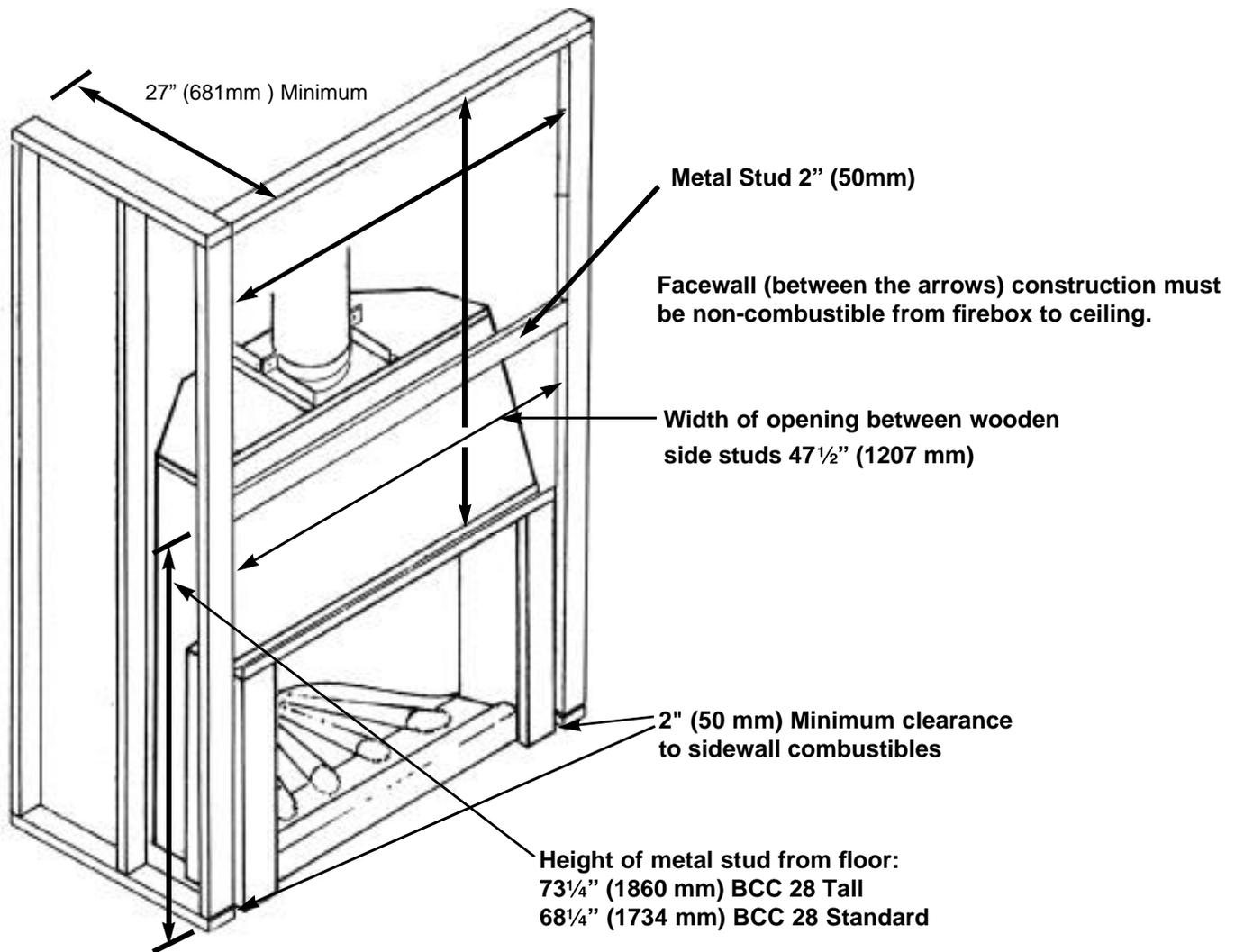
Take opposite end to ring of stainless steel chain and slide it through bracket from bottom to top. Slide end of cable through first link of sash chain (Part # 25) (26-5) and through clamp (Part #26). Attach to cable by squeezing with pliers. At this time damper should remain closed. Position clamp and be sure that first link of chain is 1 1/2 inches over the horizontal of bracket. After the attach clamp is secure against cable your Spider Drop-in Damper is ready to be used.



Finish chimney installation by attaching the proper chimney cap and chimney roof braces. The Bellfires® BCC Tall and Standard are now ready to be framed.



Frame the BCC



CLEARANCE AND SAFETY REQUIREMENTS:

Clearances to combustibles:

Backwall and Angled Walls: 1 inch (25 mm)

Sidewalls: 2 inches (50 mm)

Mantel: 18 inches (458 mm) from opening

Exposed sidewall: 18 inches (458 mm) from opening

Non-Combustible Hearth Extension: 20 inches (508 mm) in front of the unit and 12 inches (305 mm) to each side insulated with R 2.2 insulation board (c=.45) or equivalent. (Available from Sleepy Hollow)

Safety requirements:

1. The facewall above the opening must be non-combustible construction to ceiling height.

2. The header above the opening must be non-combustible.

3. The gap between the refractory smoke dome and the metal shrouding at the opening top must be closed using ceramic insulation and Super Cement or otherwise closed using a metal shield.

4. The chase must be ventilated with 36" sq. opening(s) at bottom and top. The opening(s) may be on the front wall, sidewalls, or backwall. (2 supplied with Model BCC 28 only).

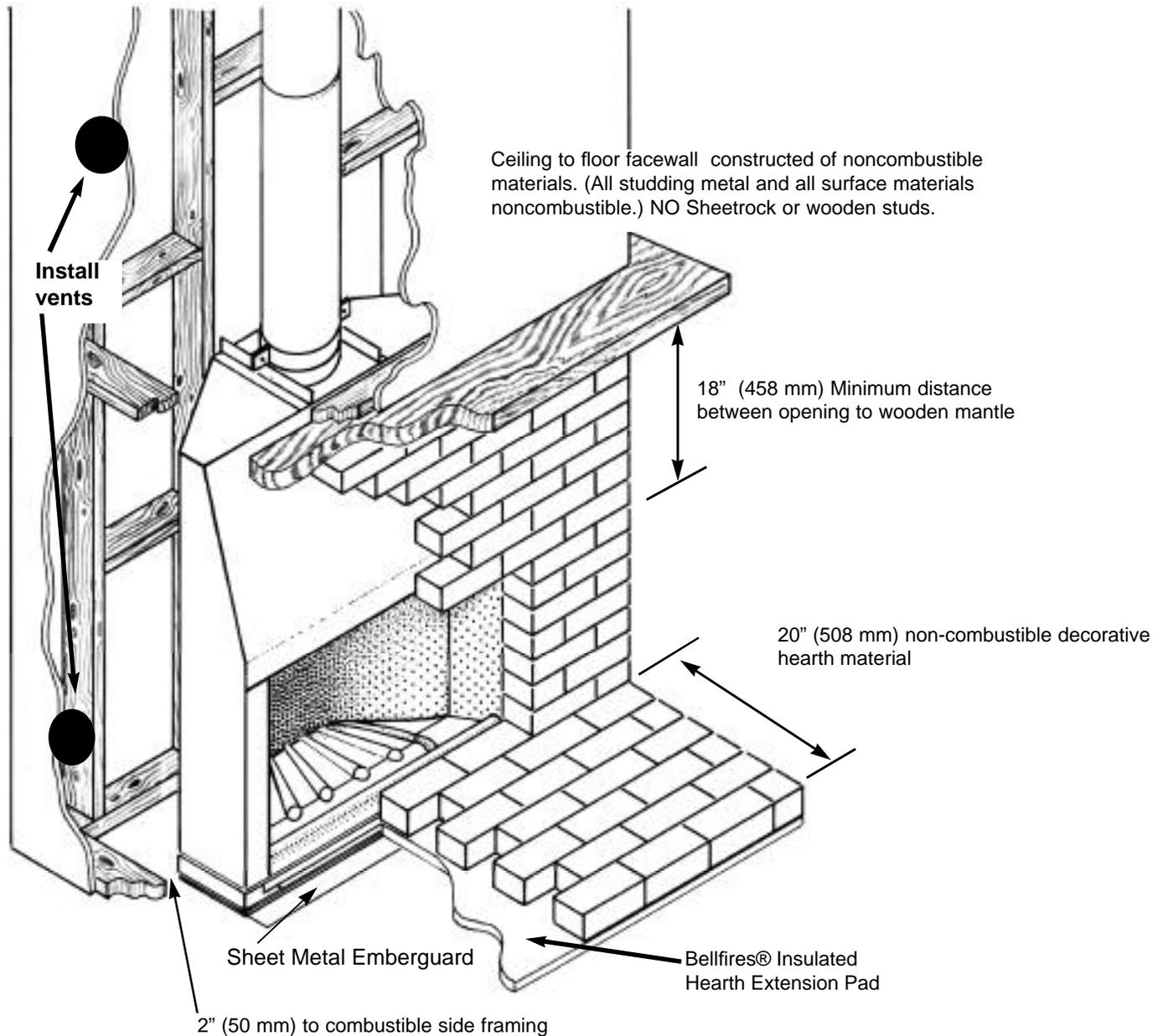
Glass door installation:

Install only glass door units which are listed by a testing laboratory.





Finish the BCC



The BCC 28 is different from most factory-built fireplaces in that the front facewall construction must be entirely non-combustible. Options include traditional brick or stone facewalls, providing the proper supports and framing to carry such loads is built. Other possibilities include framing the facewall with metal studding and using expanded diamond mesh and plaster to achieve the look of finished sheet rock walls. Refer to the manufacturer's installation guidelines for the metal studding you choose.

It is extremely important that the chase surrounding the BCC be ventilated. Minimum required opening size is 36" (914 mm) square at top and bottom. The openings may be on the front wall, side walls, or back wall. Two vents are supplied with the BCC 28.

Build the World's Best Fire

Handy Items to Have

A Fireplace Screen
 A Kindling Ax (Be careful)
 Stove Gloves
 An Ash Rake

Think of your fuel load as three component parts:
 The Base Course (can be unsplit if proper diameter)
 The Middle Course (split)
 The Top Courses (split finer)

THIS TYPE OF FIRE IS NOT RECOMMENDED FOR THE FIRST EIGHT TO TEN FIRES. BELLFIRES® MUST BE GRADUALLY BROKEN IN AND CURED WITH SMALL FIRES FOR THE FIRST EIGHT TO TEN FIRES.

DO NOT OVERFIRE YOUR BCC!!

A fireplace grate is not necessary with the BCC 28. A grate increases your critical burn rate allowing logs to burn faster than normal. Logs burn best in contact with hot firebrick in a bed of wood ashes.

Helpful Hints & Precautions before you start:

Make sure your fireplace and flue have been inspected for fire worthiness and are cleaned if found dirty (full of flammable cresosote), by a reputable Chimney Sweep. Make sure the damper is open. The damper is controlled from the keyed stainless cable and ring installed to either side of the firebox sidewall. Pull down and unhook to release the tension of the stainless steel cable. Pull down and rehook the cable to close the damper. There are no other settings than completely open or completely closed. If your fireplace and flue are located on an outside wall or, when the damper is open, you feel a flow of frigid air rushing down into the room, pre-heat the flue with a sheet of lit newspaper. Hold the lit newspaper high into the damper area, wearing a pair of stove gloves for protection. This will reverse the cold air plug present in the flue, creating a strong updraft with no smoke into your room. As soon as the newspaper is burned up, light your newspaper on top of your fuel load.

Approximately 3-4 hours later when you have a nice bed of hardwood coals, use a fireplace rake to push the coals against the rear wall of the firebox. Next, lay your new logs, minimum of four, on top of the hot coals, lay the bottom two horizontally. The top two, a little shorter in length, place front to back approximately 3 inches apart creating a throat.

The greatest volume of smoke and particulate pollution from a wood fire occurs during a cold start up.

Wood fires lit from the bottom, in a conventional manner, promote a dirty burn and waste a large amount of potential heat in the form of unburned gases.

A clean and efficient method for kindling a fire is a top burn. This almost forgotten ancient European technique places the largest wood at the bottom in a criss cross crib fashion. As each tier is laid, the criss crossing becomes smaller. Kindling and a small amount of paper are placed on top and lit.

When the top burn fire is lit, the flames are always above the fuel load. The smoke and flammable gas from each tier of wood will always travel up through the flame and burn, thereby reducing particulate pollution and unburned fuel.

A top kindling fire also produces large and less compacted glowing coals, providing excellent long-lasting radiant heat.

A top burn fire laid with seasoned hardwood to a height of eighteen to twenty-four inches will burn approximately four hours without adding additional wood. The fire will be mesmerizing as each tier slowly ignites and burns its way down.

TOP BURN RECIPE

Always start with dry, well-seasoned, split firewood and kindling. (Ideally seasoned firewood will have a 20% moisture content. The wood will show radial cracks at the ends and sound like bowling pins when beaten together.)

Bottom layer:

Three good sized pieces of split hardwood five to six inches thick, laid front to back.

Second layer:

Three slightly smaller pieces of split firewood three to five inches thick, laid side to side.

Third layer:

Four to five smaller pieces of split firewood two to three inches thick, laid front to back. Keep alternating and decreasing in size with split hardwood until they are about one inch thick.

Now alternate two rows with split softwood (pine, spruce, etc.) until pencil thick. Place a small piece of newspaper on top and light.



BCC Operating Instructions & Fireplace & Chimney Maintenance

*Keep These Instructions
for Future Use*

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.

Use solid wood or processed solid fuel firelogs only.

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

Beware of burning certain materials in your fireplace. These items include plastic, poison ivy, and chemically treated woods such as pressure-treated lumber, discarded telephone poles, or railroad ties. These not only create air pollution, they can induce extreme illness or irritation for some individuals. Do not burn driftwood that has been in the ocean or in salt water as the salt will corrode the chimney. Do not abuse the fireplace by overfiring by burning paper, cardboard, or construction materials such as pressed wood, plywood, or lumber. Some fuels, such as charcoal, natural gas, etc., give off carbon monoxide when they burn. As this is a toxic gas you should insure that the fireplace does not spill flue gas into the house.

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 noncombustible floor or on the ground well away from all combustible materials pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled. Ashes should never be placed in a container with combustible materials.

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 vapors condense 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 should be inspected at least twice a year during the season to determine if creosote buildup has occurred.

If creosote has accumulated it should be removed to reduce the risk of a chimney fire.

Check the specific chimney manufacturer's instructions on removal of the chimney cap for chimney cleaning.

When the fireplace is first placed in use inspect the chimney frequently and clean the chimney anytime an accumulation of 1/8" thick or more is observed on the flue walls. The frequency of these inspections can be increased or reduced appropriately after a pattern of accumulation has been established. Please note however that changes in the outside environmental conditions such as temperature and humidity, or changes in the operation of the fireplace can lead to rapid buildup of soot and/or creosote.

To clean the chimney obtain the services of a qualified and reputable chimney sweep or remove the accumulation with brushes on wooden, poly, or fiberglass poles. Do not use metal pipes, chains, wires, etc., to clean the chimney because such items can scratch the surface of the stainless steel flue which can shorten the life of the flue and provide a rough surface for soot particles to attach to.

In addition to checking and cleaning the chimney on a regular basis, be sure to inspect the chimney before starting a fire at the beginning of each heating season. Make sure the chimney is clear from any accumulation of soot, creosote, or any other debris and that all chimney joints are intact.





CONDITIONS OF WARRANTY
LIFETIME WARRANTY

Bellfires® Manufacturing Company extends the following warranty on the BCC 28, subject to the conditions of guarantee thereon. The fireplace is warranted for the lifetime of the original owner from the date of installation. If examination by the Bellfires® representative proves to our satisfaction that any part or portion of the fireplace is defective in material or workmanship, under normal use and service, such part or portion shall be replaced or repaired at no cost to you.

(A) Warranty may not be altered or extended by any of our dealers or agents, and except as provided herein, there are no other warranties. (B) Warranty does not cover damage resulting from misuse, abuse or accident. (C) Warranty shall be void if your unit is not operated in accordance with the operation instructions provided at time of purchase and outlined below, or if the unit has been removed from the place in which it was originally installed. (D) Hairline cracking on the surface of refractory components, a normal condition of use for refractory products, and/or cracking are expressly excluded from this warranty.

Important Instructions For Curing Refractory Fireplaces: (1) If the firebox has gotten wet, it must be dried slowly with a hair dryer or heat lamp before any fire is started. (2) The first eight fires must be built very small and well forward on the hearth so as not to contact the firebox. This will allow the unit to cure slowly by removing excess moisture in the refractory cavity behind the firebox, caused by the environment during storage or transportation, and mortar and materials used for installation. Proper curing eliminates the possibility of fracturing the firebox.

Dealer/Installer _____

Address _____

Dealer Signature _____ Date _____



