

# heatilator®

*The first name in fireplaces*

Hearth Technologies-Mt. Pleasant  
1915 W. Saunders Street  
Mt. Pleasant, Iowa 52641  
Division, HON INDUSTRIES  
[www.heatilator.com](http://www.heatilator.com)



**LISTED**



## ST42A

### WOODBURNING FIREPLACE INSTALLATION & OPERATING INSTRUCTIONS



#### **WARNING!**

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information, consult a qualified installer, service agency or the gas supplier.

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**CAUTION:**

Do not expose the fireplace to the elements (i.e. rain, etc.) and keep the fireplace dry at all times. Wet insulation will produce an odor when the fireplace is used.

**SAFETY PRECAUTIONS**

1. Please read these installation instructions completely before beginning installation procedures. Failure to follow them could cause a fireplace malfunction resulting in serious injury and/or property damage.
2. Always check your local building codes prior to installation. The fireplace installation must comply with all local, regional, state and national codes and regulations.
3. An adequate supply of replacement combustion air from outside the house must be available to the fire for the fireplace to operate properly. To achieve this, the use of the optional outside air kit is highly recommended.  
  
In the event the home is unusually tightly sealed, the optional combustion air kit may not provide all the air required to support combustion. Hearth Technologies Inc. is not responsible for any smoking or related problems that may result from the lack of adequate combustion air. It is the responsibility of the builder/contractor to ensure that adequate combustion air has been provided for the fireplace.
4. This fireplace must be installed with the Hearth Technologies Inc. (HTI) SL Series Chimney System.  
  
The chimney system must always terminate outside the building. Be sure to follow all chimney specifications given in these installation instructions.
5. NEVER leave children unattended when there is a fire burning in the fireplace.
6. This woodburning fireplace is built for solid fuel only. NEVER use gasoline, gasoline type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids in this fireplace. Keep any flammable liquids a safe distance from the fireplace.
7. DO NOT use chimney cleaners or flame colorants in your fireplace.
8. The flue damper must be open at all times when the fireplace is in use.
9. While servicing this fireplace, always shut off any electricity or gas to the fireplace. This will prevent possible electric shock or burns. Also, make sure the fireplace is completely cooled before servicing.
10. To ensure a safe fireplace system and to prevent the build up of soot and creosote, inspect and clean the fireplace and chimney prior to use and periodically during the burning season. See page 26 for cleaning instructions.

## DESIGN AND INSTALLATION CONSIDERATIONS

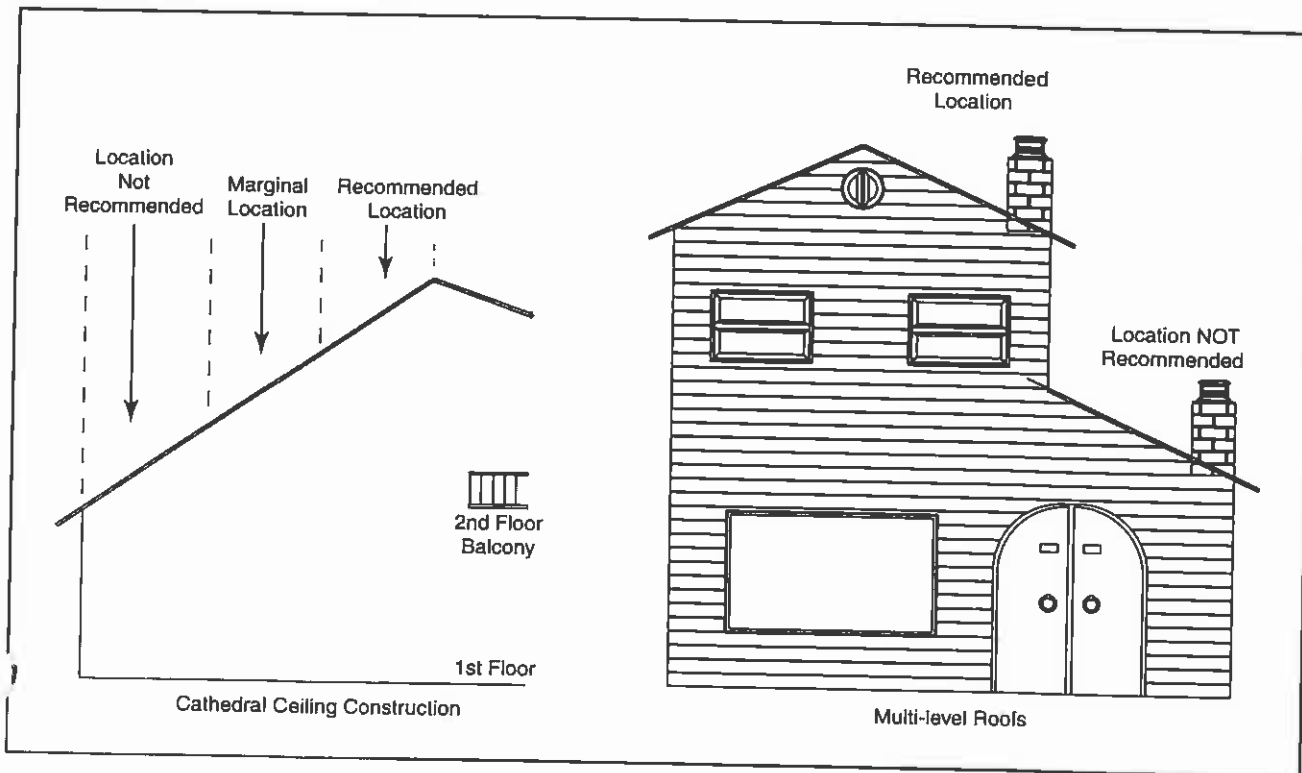
When selecting a location for your woodburning fireplace, it is important to evaluate a number of considerations. Modern construction techniques can create conditions that may not allow your chimney to draft properly. This may result in smoke spillage from your fireplace, as well as cause other combustion appliances to operate incorrectly.

Tightly sealed construction is important for energy efficiency. Unfortunately, a great deal of effort has been directed to tightening up sidewall construction, while considerably less attention has been paid to tightening upper portions of the warm air envelope (Insulated ceilings). This has increased the "Stack Effect", a condition that increases the negative pressure generated by the structure. This negative pressure will directly affect the drafting performance of a fireplace chimney. To minimize the negative pressure generated by stack effect, make certain that all ductwork installed in the attic spaces is sealed airtight. Minimize the number of recessed light fixtures installed in the insulated ceiling, and use sealed recessed light fixtures. Finally, make certain the whole house fans and attic access panels are tightly sealed. These are important design considerations that must be observed during the design and construction stage of the home.

If you desire to put a fireplace in your basement, we recommend that you consider a direct vent gas fireplace. Basements always have a significant negative air pressure that causes the fireplace system to be more susceptible to smoke spillage and cold flue backdrafting. Since direct vent gas fireplaces are sealed, they are not affected by the negative pressure that exists in basements.

Finally, woodburning fireplaces perform best when their chimney (roof termination) is located on the upper half of the roof, especially when cathedral ceilings are present. Chimneys that are located on the lower half of the roof realize what is known as "lazy flue" and will not draft as well as a chimney that is located in the upper portion of the roof. The reason for this is that the stack effect generated by the overall height of the living spaces inside the house will exceed the draft generated by the chimney system. If you desire to place a woodburning fireplace in a location where the termination cap would be located on the lower half of a roof, such as on an outside wall at the base of a cathedral ceiling, we recommend that you consider using a direct vent gas fireplace. This will assure the homeowner a fireplace that operates correctly.

These properties do not affect just your woodburning factory-built fireplace. They can cause any woodburning appliance as well as any conventionally vented (B-vent) gas appliance to operate improperly. Careful planning at this stage of your project will ensure satisfaction with the operation of your fireplace once it is completed.



## A. LISTINGS AND CODE APPROVALS

This fireplace system has been tested and listed in accordance with UL 127 standards, and has been listed by Underwriters Laboratories Inc. for installation and operation in the United States as described in this manual.

This fireplace has been tested and listed for use with the optional components listed on page 5. These optional components may be purchased separately and installed at a later date. However, installation of an outside air kit will require significant reconstruction, and should be installed at the time of the initial fireplace installation.

Check with your local building code agency prior to installing this fireplace to ensure compliance with local codes, including the need for permits and follow-up inspections. If you need assistance during installation, please contact your local dealer or the Heatilator Technical Services Department, Hearth Technologies Inc., 1915 W. Saunders St., Mt. Pleasant, Iowa 52641 (1-800-843-2848).

Heatilator® is a registered trademark of Hearth Technologies Inc., Division, HON INDUSTRIES.

### WARNING!

This fireplace and its components are designed to be installed and operated as a system. Any alteration to or substitution for items in this system, unless allowed by these installation instructions, will void the Underwriters Laboratories listing and may void the product warranty. It may also create a hazardous installation. Read through these instructions thoroughly before starting your installation and follow them carefully throughout your project.

## B. DESCRIPTION OF THE FIREPLACE SYSTEM

1. The Heatilator fireplace system consists of the following:
  - a. Fireplace/Integral Grate
  - b. Refractory
  - c. Chimney Termination Cap
  - d. Chimney System
  - e. Hearth Extension
2. Optional Components Include:
  - a. Glass Doors
  - b. Outside Combustion Air System

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

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

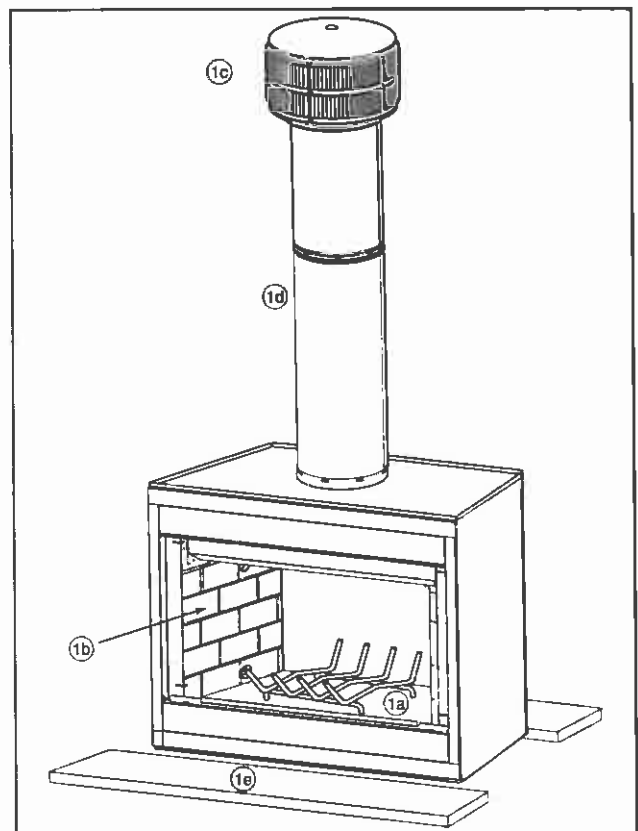
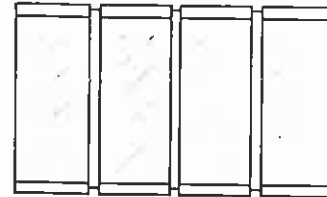


Figure 1 - Typical Fireplace System

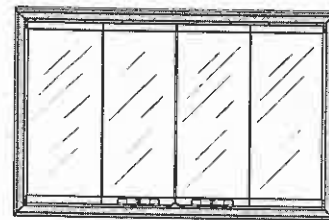
**C. SYSTEM COMPONENTS**

**1. Fireplace Components**

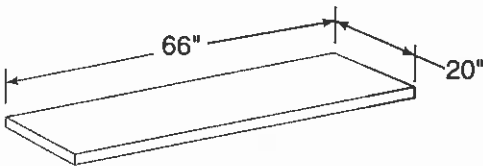
Catalog #	Description:
ST42A	Fireplace with Integral Grate, Outside Air Kit and Hearth Protection Strips
DM1242	Glass Doors - Bi-fold, Clear-View - Black
DM1242B	Glass Doors - Bi-fold, Clear-View - Polished Brass
DM1242S	Glass Doors - Bi-fold, Clear-View - Stainless Steel
DP1242	Glass Doors - Tinted - Black
DP1242B	Glass Doors - Tinted - Polished Brass
DP1242S	Glass Doors - Tinted - Stainless Steel
HX4	Hearth Extension
AK17	Outside Air Kit (included with Fireplace)
GR21	Integral Grate (included with Fireplace)



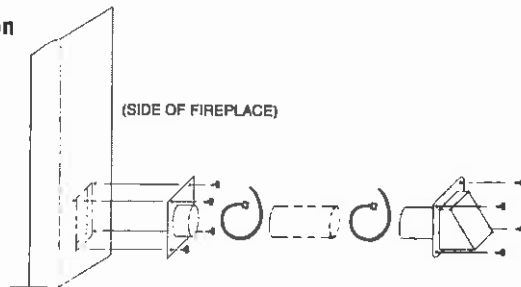
**Bi-Fold Glass Doors**  
DM1242  
DM1242B  
DM1242S



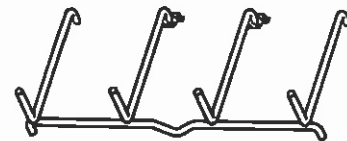
**Perception Glass Doors**  
DP1242  
DP1242B  
DP1242S



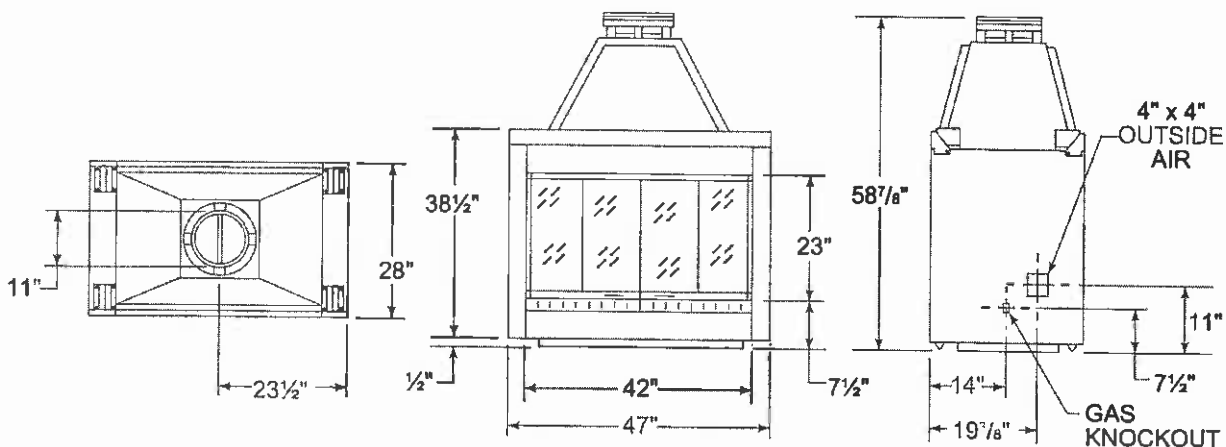
**HX4 - Hearth Extension**



**AK17 - Outside Air Kit**



**GR21 Integral Grate**



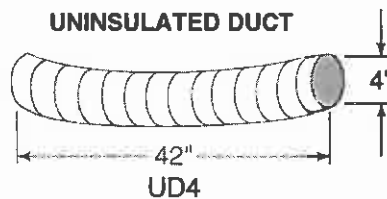
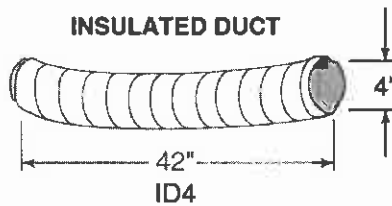
**Fireplace Dimensions**

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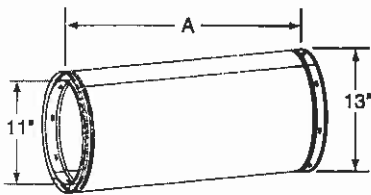
**2. Chimney Components**

The following pictures show only those chimney components which may be safely used with this fireplace.

Catalog #	Description:
CAK5A	Chimney Air Kit
ID4	Insulated Duct/Outside Air
UD4	Uninsulated Duct/Outside Air
SL1106	Chimney Section - 6" long
SL1112	Chimney Section - 12" long
SL1118	Chimney Section - 18" long
SL1136	Chimney Section - 36" long
SL1148	Chimney Section - 48" long
SL11	Chimney Stabilizer
SL1130	Chimney Offset/Return - 30°
FS538	Firestop - Straight
FS540	Firestop - 30°
AS10	SL1100 Straight Attic Insulation Shield, 24"
JB577	Chimney Joint Band
CB576	Chimney Bracket
RF570	Roof Flashing - Flat to 6/12 Pitch
RF571	Roof Flashing - 6/12 to 12/12 Pitch
TR11	Round Termination Cap
TR11T	Round Telescoping Termination Cap
ST1175	Square Termination Cap
CT56	Chase Top
LDS33	Decorative Shroud - 3' x 3'
LDS46	Decorative Shroud - 4' x 6'



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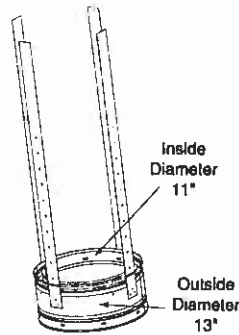


**Chimney Sections**

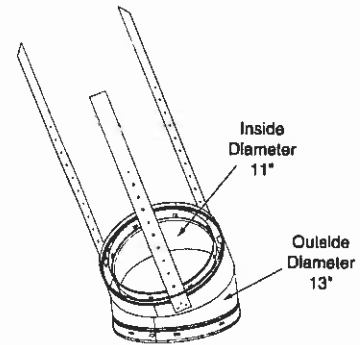
Catalog #	A	B
SL1106	6"	4 $\frac{1}{4}$ "
SL1112	12"	10 $\frac{1}{4}$ "
SL1118	18"	16 $\frac{1}{4}$ "
SL1136	36"	34 $\frac{1}{4}$ "
SL1148	48"	46 $\frac{1}{4}$ "

A = Actual length

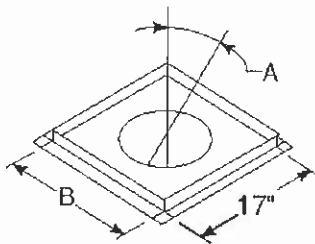
B = Effective length (length of chimney part after it has been snapped to another)



**SL11 - Chimney Stabilizer**

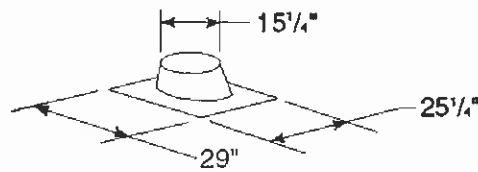


**SL1130 - Offsets/Returns**

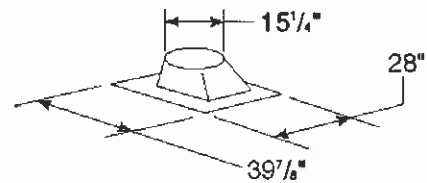


**Firestop Spacer**

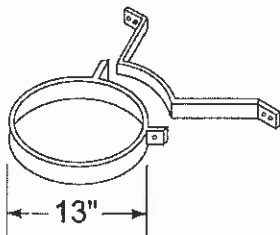
Catalog #	A	B
FS538	0°	17"
FS540	30°	26"



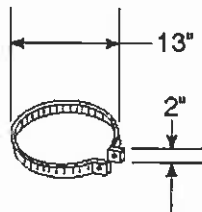
**RF570 - Roof Flashing  
Flat to 6/12 Pitch**



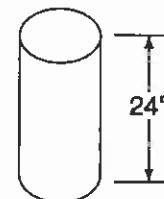
**RF571 - Roof Flashing  
6/12 to 12/12 Pitch**



**CB576  
Chimney Bracket**



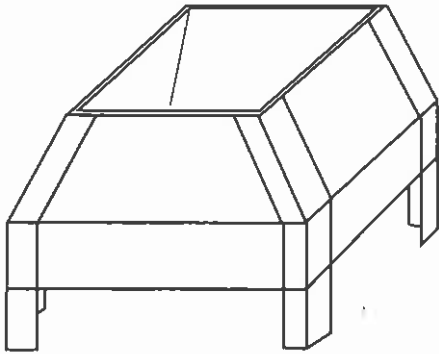
**JB577  
Joint Band**



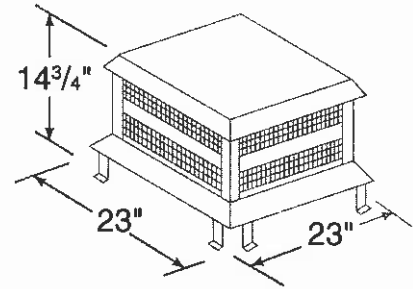
**AS10  
Straight Attic  
Insulation Shield**

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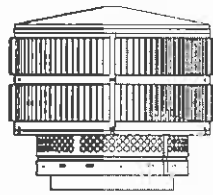
The first name in fireplaces



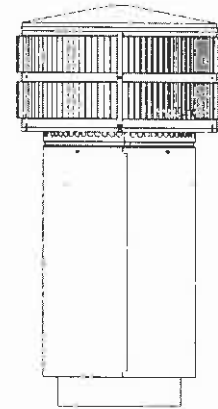
**LDS33 (3' x 3')**  
**LDS46 (4' x 6')**  
**Decorative Shroud**



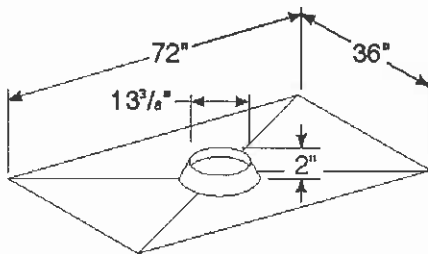
**ST1175**  
**Square**  
**Termination Cap**



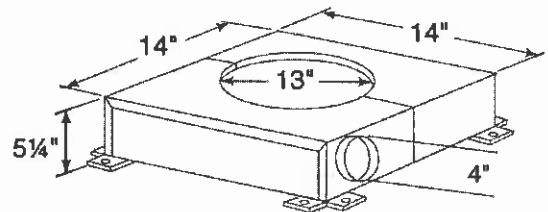
**TR11**  
**Round**  
**Termination Cap**



**TR11T**  
**Round Telescoping**  
**Termination Cap**



**CT56**  
**Chase Top**



**CAK5A**  
**Chimney Air Kit**



## D. PRE-INSTALLATION PREPARATION

### 1. Fireplace Locations and Space Requirements

It is important to note that certain see-through fireplace installations are more susceptible to smoke spillage than others. Rooms of greatly unequal air volumes that are separated by a see-through fireplace, rooms with cathedral ceilings and rooms connected by long passageways will create conditions where unequal air pressures will cause a see-through fireplace to vent improperly. Glass doors may have to be operated in the closed position to minimize smoke spillage. The fireplace may be located as shown in Figure 2, depending on your fireplace. This fireplace may be used as a room divider or installed along a wall.

Figure 2 shows the minimum distance to combustible surfaces for side walls and for walls facing the fireplace openings, as well as minimum hearth extension dimensions.

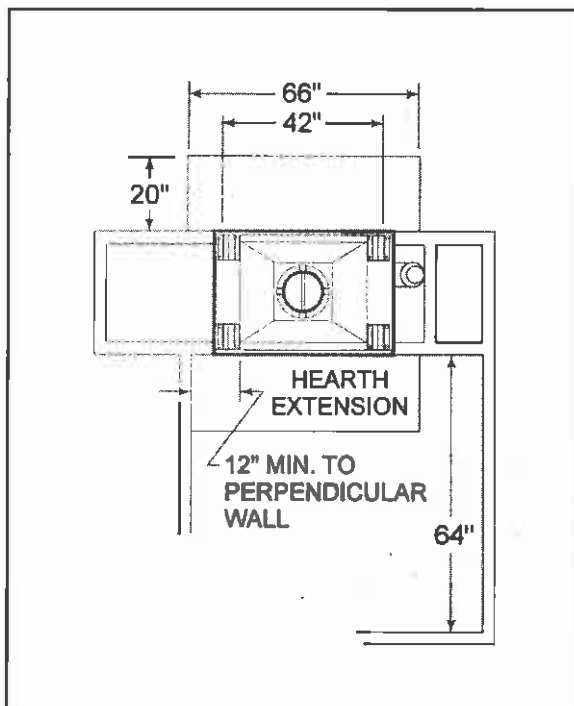


Figure 2 - Fireplace Locations

#### CLEARANCES!

A minimum  $\frac{1}{2}$ " air clearance must be maintained at the sides of the fireplace assembly.

Chimney sections at any level require a 2" minimum air space clearance between the framing and chimney section.

These are rough framing dimensions only.

#### WARNING!

Do not draw outside air from garage spaces. Exhaust products of gasoline engines are hazardous.

Do not install outside air ducts such that the air may be drawn from attic spaces, basements or above the roofing where other heating appliances or fans and chimneys exhaust or utilize air. These precautions will reduce the possibility of fireplace smoking or air flow reversal.

#### WARNING!

To prevent contact with sagging or loose insulation, the fireplace must not be installed against vapor barriers or exposed insulation. Localized overheating could occur and a fire could result.

## 2. Framing the Fireplace

The ST42A fireplace will fit a framed opening of 48" wide x 39<sup>1</sup>/<sub>8</sub>" tall. The finished cavity depth must be no less than 27".

Figure 3 shows a typical framing (using 2 x 4 lumber) of the fireplace, assuming combustible materials are used. All required clearances to combustibles around the fireplace must be adhered to. Any framing across the top of the fireplace must be above the level of the top standoffs. Chimney sections at any level require a 2" minimum air space clearance between the framing and chimney section.

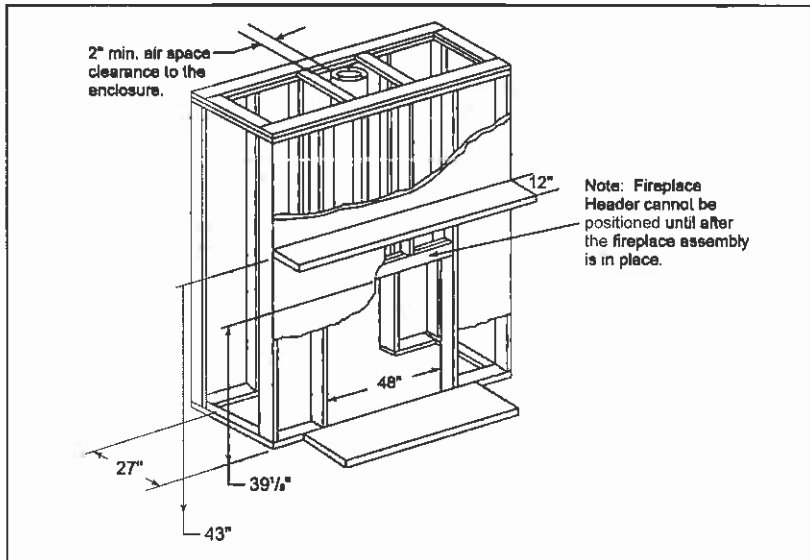


Figure 3 - Framing the Fireplace

### CLEARANCES!

A minimum 1/2" air clearance must be maintained at the sides of the fireplace assembly.

Chimney sections at any level require a 2" minimum air space clearance between the framing and chimney section.

### WARNING!

Do not apply combustible finishing materials over any part of the black face of this fireplace or a structure fire may result. The black metal fireplace front may only be covered with noncombustible materials such as ceramic tile, brick, or stone. Do not cover or block any cooling air slots. Do not cover any portion of the openings to the fireplace that would prevent the installation of an authorized glass door.

## 3. Sidewalls/Surrounds

Adjacent combustible side walls must be located a minimum of 12" from the fireplace opening. See Figure 4. If you are using a decorative surround constructed of combustible material, it must be located within the shaded area defined in Figure 4. Short stub walls are also acceptable if they are contained within the shaded area.

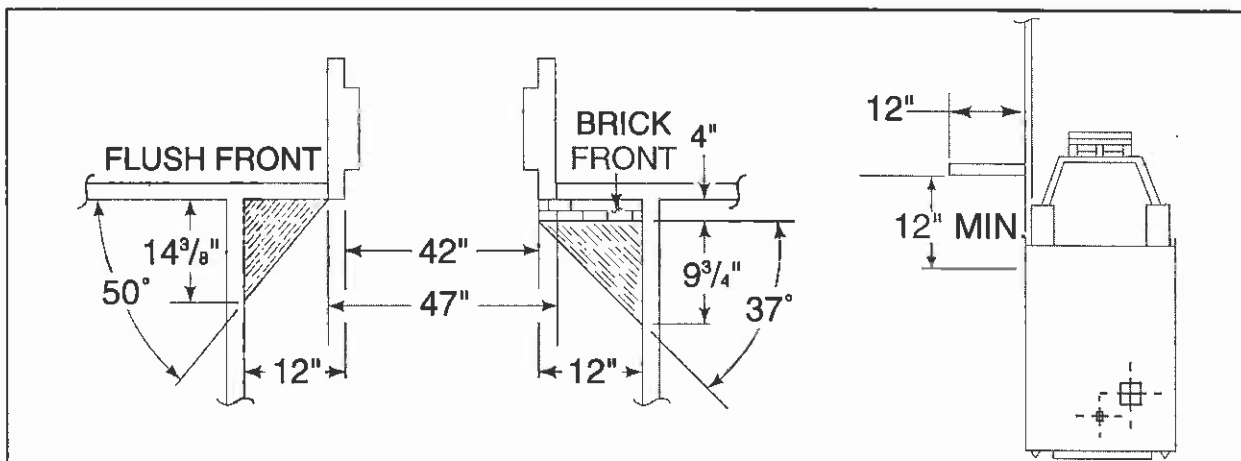


Figure 4 - Sidewalls and Surrounds

## E. CHIMNEY REQUIREMENTS

When planning your fireplace location, the chimney construction and necessary clearances must be considered. The fireplace system and chimney components have been tested to provide flexibility in construction. The following figures are the minimum distances from the base of the fireplace.

- |   |        |
|---|--------|
| 1. Minimum overall straight height                                  | 14 ft. |
| 2. Minimum height with offset/return                                | 16' 2" |
| 3. Maximum height   | 90 ft. |
| 4. Maximum chimney length between an offset and return              | 10 ft. |
| 5. Maximum distance between chimney stabilizers                     | 35 ft. |
| 6. Double offset/return minimum height                              | 22 ft. |
| 7. Maximum unsupported chimney length between the offset and return | 6 ft.  |
| 8. Maximum straight unsupported chimney height above the fireplace  | 35 ft. |

### 1. Using Offsets and Returns

- a. To bypass any overhead obstructions, the chimney may be offset using a 30° offset/return (SL1130). Perform the following steps to determine the correct chimney component combination for your particular installation.
- b. An offset and return may be attached together or a chimney section(s) may be used between an offset and return.
  - 1) Measure how far the chimney needs to be shifted to enable it to avoid the overhead obstacle. See Figure 5, dimension "A" to determine chimney sections required to achieve the needed shift.
  - 2) After determining the offset dimension, refer to Table 1 and find the "A" dimension closest to but not less than the distance of shift needed for your installation.
  - 3) The "B" dimension that coincides with the "A" dimension represents the required vertical clearance that is needed to complete the offset and return.
  - 4) Read across the chart and find the number of chimney sections required and the model number of those particular chimney parts.
  - 5) Whenever the chimney penetrates a floor/ceiling, a firestop spacer must be installed.
  - 6) The effective height of the fireplace assembly is measured from the base of the fireplace to the top of the starter collar.

Offset/Returns Table 1 30° Offset Chart

A	B	SL1106	SL1112	SL1118	SL1136	SL1148
3 <sup>7</sup> / <sub>8</sub> "	14 <sup>1</sup> / <sub>2</sub> "	-	-	-	-	-
6 <sup>1</sup> / <sub>4</sub> "	18 <sup>5</sup> / <sub>8</sub> "	1	-	-	-	-
9 <sup>1</sup> / <sub>4</sub> "	23 <sup>3</sup> / <sub>4</sub> "	-	1	-	-	-
12 <sup>1</sup> / <sub>4</sub> "	29"	-	-	1	-	-
14 <sup>5</sup> / <sub>8</sub> "	33"	-	2	-	-	-
17 <sup>5</sup> / <sub>8</sub> "	38 <sup>1</sup> / <sub>2</sub> "	-	1	1	-	-
21 <sup>1</sup> / <sub>2</sub> "	44 <sup>5</sup> / <sub>8</sub> "	-	-	-	1	-
23 <sup>5</sup> / <sub>8</sub> "	48 <sup>3</sup> / <sub>4</sub> "	1	-	-	1	-
27 <sup>1</sup> / <sub>4</sub> "	55 <sup>1</sup> / <sub>2</sub> "	-	-	-	-	1
29 <sup>5</sup> / <sub>8</sub> "	59"	1	-	-	-	1
32 <sup>5</sup> / <sub>8</sub> "	64 <sup>1</sup> / <sub>2</sub> "	-	1	-	-	1
35 <sup>5</sup> / <sub>8</sub> "	69 <sup>1</sup> / <sub>2</sub> "	-	-	1	-	1
38"	73 <sup>5</sup> / <sub>8</sub> "	-	2	-	-	1
41"	78 <sup>3</sup> / <sub>4</sub> "	-	1	1	-	1
44 <sup>5</sup> / <sub>8</sub> "	85"	-	-	-	1	1
47"	89 <sup>1</sup> / <sub>8</sub> "	1	-	-	1	1
50 <sup>5</sup> / <sub>8</sub> "	95 <sup>1</sup> / <sub>2</sub> "	-	-	-	-	2

**WARNING!**  
Do not combine offsets to create an offset greater than 30° from vertical. This may create a fire hazard since the natural draft may be restricted.

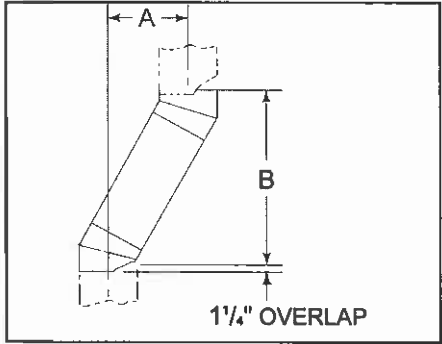


Figure 5 - Chimney Offset/Return

**Example:** Your "A" dimension from Figure 5 is 14<sup>1</sup>/<sub>2</sub>". Using Table 1 the dimension closest to, but not less than 14<sup>1</sup>/<sub>2</sub>" is 14<sup>5</sup>/<sub>8</sub>" using a 30° offset/return. It is then determined from the table that you would need 33" (Dimension "B") between the offset and return. The chimney components that best fit your application are two SL1112s.

Proper assembly of air cooled chimney parts results in an overlap at chimney joints of 1/4". Effective length is built into this table.

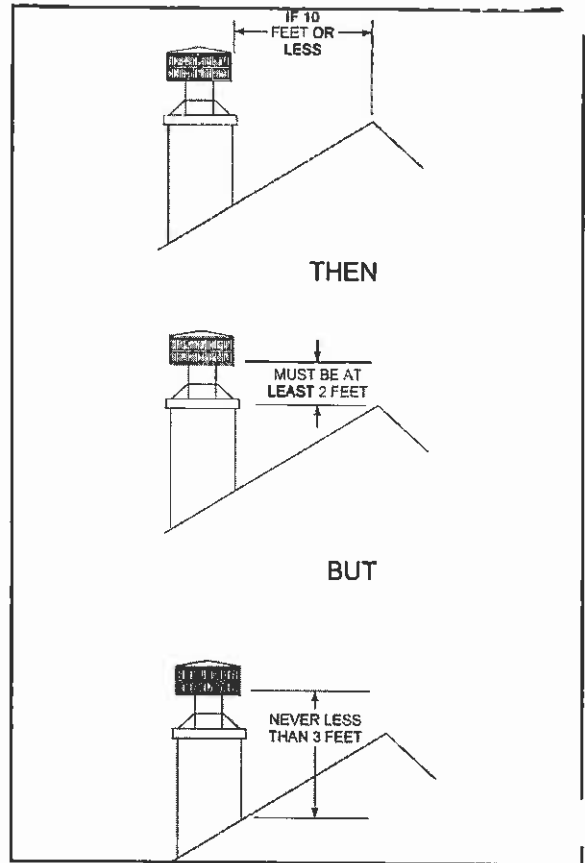
**2. Chimney Height Requirements (above roof line)**

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

"If the horizontal distance from the side of the chimney to the peak of the roof is ten feet or less, the top of the chimney must be at least two feet above the peak of the roof, but never less than three feet in overall height above the highest point where it passes through the roof.

"If the horizontal distance from the side of the chimney to the peak of the roof is more than ten feet, a chimney height reference point is established on the surface of the roof a distance of ten feet from the side of the chimney in a horizontal plane. The top of the chimney must be at least two feet above this reference point, but never less than three feet in height above the highest point where it passes through the roof." See Figure 6.

- b. These chimney heights are necessary in the interest of safety but do not ensure smoke-free operation. Trees, buildings, adjoining roof lines, adverse wind conditions, etc. may create a need for a taller chimney should smoking occur.



**Figure 6 - Chimney Height**

**3. Number of Sections Required**

To determine the chimney components needed to complete your particular installation, follow the steps below:

- a. Determine the total vertical height of the fireplace installation. This dimension is measured from the base of the fireplace assembly to the point where the smoke exits the termination cap.
- b. Subtract the effective height of the fireplace assembly from the overall height of the fireplace installation (measured from the base of the fireplace to the bottom of the termination cap).
- c. Refer to Table 2 to determine what components must be selected to complete the fireplace installation.
- d. Determine the number of firestop spacers, stabilizers, roof flashing, etc. required to complete the fireplace installation.

**Table 2**

<b>HEIGHT OF CHIMNEY COMPONENTS</b>	
<b>Chimney Stabilizer</b>	
SL11	4 <sup>3</sup> / <sub>4</sub> "
<b>Firestop Spacers</b>	
FS538	0
FS540	0
<b>Offsets/Returns</b>	
SL1130	14 <sup>1</sup> / <sub>2</sub> "
<b>Roof Flashing</b>	
RF570	0
RF571	0
<b>Chimney Sections*</b>	
SL1106	4 <sup>3</sup> / <sub>4</sub> "
SL1112	10 <sup>3</sup> / <sub>4</sub> "
SL1118	16 <sup>3</sup> / <sub>4</sub> "
SL1136	34 <sup>3</sup> / <sub>4</sub> "
SL1148	46 <sup>3</sup> / <sub>4</sub> "

\*Dimensions reflect effective height.