

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



# CITY OF PORTLAND

# BUILDING PERMIT

This is to certify that LAWRENCE H MOTT

Located At 75 ELIZABETH ST. (PEAKS ISLAND)

Job ID: 2011-09-2180-HVAC

CBL: 087 - - Z - 037 - 001 - - - -

has permission to install a factory built chimney and fireplace.

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.

A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

09/14/2011

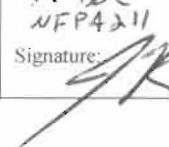
\_\_\_\_\_  
Fire Prevention Officer

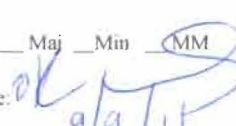

\_\_\_\_\_  
Code Enforcement Officer / Plan Reviewer

**THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY  
PENALTY FOR REMOVING THIS CARD**

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, FAX: (207) 8716

Job No: 2011-09-2180-HVAC	Date Applied: 9/7/2011	CBL: 087 - - Z - 037 - 001 - - - - -	
Location of Construction: 75 ELIZABETH ST P.L.	Owner Name: LAWRENCE H MOTT	Owner Address: 75 ELIZABETH ST PEAKS ISLAND, ME 04108	Phone: 699-2095
Business Name:	Contractor Name: owner	Contractor Address:	Phone:
Lessee/Buyer's Name:	Phone:	Permit Type: HVAC	Zone: IR-2
Past Use: Single Family Dwelling	Proposed Use: Same: Single Family dwelling - to install a metalbestos chimney	Cost of Work: \$2000.00	CEO District:
		Fire Dept: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input checked="" type="checkbox"/> N/A	Inspection: Use Group: R3 Type: SB MUBEC NFP4211
		Signature:	
Proposed Project Description: Metal Bestas Chimney and Stove		Pedestrian Activities District (P.A.D.)	
Permit Taken By: Planning		<b>Zoning Approval</b>	

<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building Permits do not include plumbing, septic or electrical work.</p> <p>3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.</p>	<p><b>Special Zone or Reviews</b></p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetlands</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>___ Maj ___ Min ___ MM</p> <p>Date:  9/9/11</p>	<p><b>Zoning Appeal</b></p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date:</p>	<p><b>Historic Preservation</b></p> <p><input checked="" type="checkbox"/> Not in Dist or Landmark</p> <p><input type="checkbox"/> Does not Require Review</p> <p><input type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: </p>
	<b>CERTIFICATION</b>		

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

## BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: [buildinginspections@portlandmaine.gov](mailto:buildinginspections@portlandmaine.gov)

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a “Stop Work Order” and subsequent release to continue.**

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

1. Close-In: (Electrical, Plumbing, Framing)
2. Final Inspection



2011-09-2180-HVAC

FILL IN AND SIGN WITH INK

J.Y



# APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT



087 2 037

IR-2

To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location / CBL 75 ELIZABETH PEAKS Use of Building RESIDENTIAL Date 9-6-11  
 Name and address of owner of appliance LAWRENCE MOTT  
75 ELIZABETH ST.  
 Installer's name and address LAWRENCE MOTT 75 ELIZABETH PEAKS  
04108 Telephone 800  
207 699 2095

### Location of appliance:

- Basement
- Attic

- Floor
- Roof

STUDIO SPACE /  
SUNNER LIVING ROOM

### Type of Fuel:

- Gas
- Oil

- Solid

Appliance Name: METAL PESTS CHIMNEY

U.L. Approved  Yes  No

VERMONT CASTINGS  
DEFAULT

Will appliance be installed in accordance with the manufacture's installation instructions?  Yes  No

RECEIVED

IF NO Explain: \_\_\_\_\_

SEP - 7 2011

### The Type of License of Installer:

- Master Plumber # \_\_\_\_\_
- Solid Fuel # \_\_\_\_\_
- Oil # \_\_\_\_\_
- Gas # \_\_\_\_\_
- Other OWNER

Dept. of Building Inspection  
City of Portland Maine

### Type of Chimney:

- Masonry Lined

Factory built \_\_\_\_\_

- Metal

Factory Built U.L. Listing # \_\_\_\_\_

SELKIRK - FCK

- Direct Vent

Type \_\_\_\_\_ UL# \_\_\_\_\_

### Type of Fuel Tank

- Oil
- Gas

N/A

Size of Tank \_\_\_\_\_

Number of Tanks \_\_\_\_\_

Distance from Tank to Center of Flame \_\_\_\_\_ feet.

Cost of Work: \$ 1400

Permit Fee: \$ 40

### Approved

Fire: \_\_\_\_\_

Ele.: \_\_\_\_\_

Bldg.: \_\_\_\_\_

### Approved with Conditions

- See attached letter or requirement

Inspector's Signature

Date Approved

Signature of Installer

White - Inspection

Yellow - File

Pink - Applicant's

Gold - Assessor's Copy

WOOD STOVE

# Specifications

## Defiant, Model 1910

Range of heat output..... 10,600 to 44,400 Btu's/hr.\*  
 Maximum heat output..... 55,000 Btu's/hr.\*\*  
 Area heated ..... Up to 2,400 Square feet  
 Fuel Size/type ..... 22 - 24" hardwood  
 Fuel capacity ..... 50 pounds  
 Loading ..... Front or top  
 Chimney Connector:  
     for 8" flue collar ..... 8" (200mm) diameter  
     for 6" flue collar ..... 6" (150mm) diameter  
 Chimney Flue Size:  
     with 8" Chimney Connector . 8" (200mm) minimum  
     with 6" Chimney Connector . 6" (150mm) minimum  
 Flue exit position ..... Top only  
 Primary Air... Manually set, thermostatically maintained  
 Secondary Air ..... Self-regulating  
 Ash handling system ..... Removable ash pan  
 Glass panels ..... High-temperature ceramic  
 Weight ..... 480 lbs. (220kg.)  
 Width (leg to leg) ..... 33" (826mm)  
 Depth (leg to leg)..... 19½" (362mm)  
 Height to top of flue collar ..... 30½" (775mm)

\* This value can vary depending on how the stove is operated, the type and moisture content of the fuel used, as well as the design, construction and climatic location of your home. Figures shown are based on maximum fuel consumption obtained under laboratory conditions and on average efficiencies.

\*\* These values are based on operation in building code-conforming homes under typical winter climate conditions in New England. If your home is of nonstandard construction (e.g. unusually well insulated, not insulated, built underground, etc.) or if you live in a more severe or more temperate climate, these figures may not apply. Since so many variables affect performance consult your Vermont Castings' Authorized Dealer to determine realistic expectations for your home.

U.S. and foreign design and mechanical patents pending.

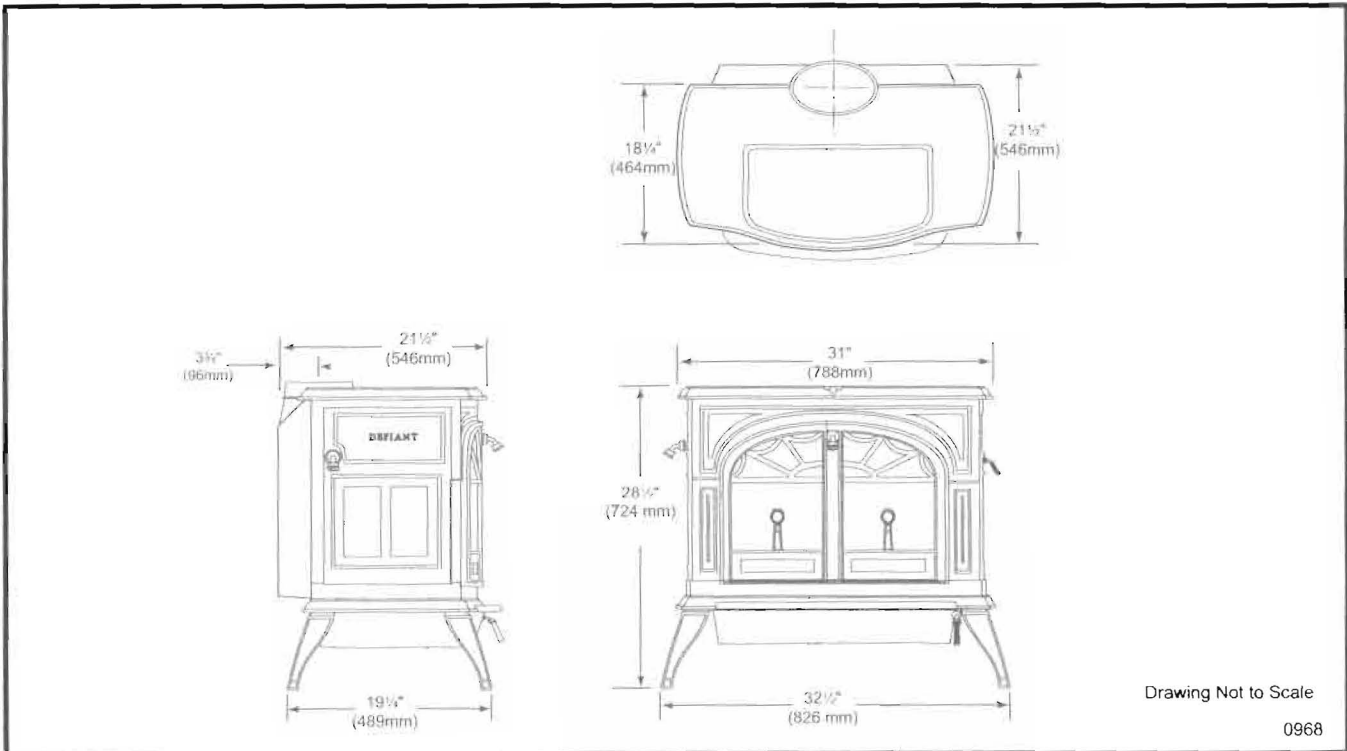


Fig. 1 Defiant dimensions.



## STATE OF MAINE CHIMNEY OR FIREPLACE CONSTRUCTION/INSTALLATION DISCLOSURE

Dear Consumer: State law, specifically 32 M.R.S.A. § 2313-A, requires that chimney or fireplace installers, as of January 1, 1992, provide you with this "Disclosure" prior to the installation or construction of your chimney or fireplace. The purpose of this Disclosure is to inform you that the National Fire Protection Standard #211 (NFPA #211) is the current standard which applies to all new construction of chimneys and fireplaces. Please note that the State of Maine does not require registration or licensure of chimney or fireplace installers. It is important to realize that many fires are caused each year from improperly constructed fireplaces and chimneys. This disclosure form should help you in making an informed decision as to the abilities of the installer and under what requirements the installation must comply.

### INSTALLER INFORMATION

Name of Installer: <i>LAWRENCE MOTT</i>		D/B/A:	
Name of Installer (if incorporated):		D/B/A:	
Legal Address: <i>75 ELIZABETH ST.</i>			
City: <i>PEAKS ISLAND</i>	State: <i>MAINE</i>	Zip Code: <i>04108</i>	
County: <i>CUMBERLAND</i>	Home Telephone: <i>(802) 279-3768</i>		
	Work Telephone: <i>(207) 699-2095</i>		
Years of experience doing fireplace or chimney installations: <i>12</i>			

### CONSUMER INFORMATION

Name of Consumer: <i>LAWRENCE MOTT</i>			
Mailing Address: <i>75 ELIZABETH ST.</i>			
City: <i>PEAKS ISLAND</i>	State: <i>MAINE</i>	Zip Code: <i>04108</i>	
County: <i>CUMBERLAND</i>	Home Telephone: <i>(802) 279-3768</i>		
	Work Telephone: <i>(207) 699-2095</i>		

Installer, please give a brief description of installation being offered: *FACTORY SS. SELKIRK INSULATED CHIMNEY WITH VERMONT CASTINGS DEFIAINT WOOD STOVE*

I hereby attest that the preceding information provided is true to the best of my knowledge. I also understand that if I fail to conform with the standards as outlined in NFPA #211 that I shall be subject to penalties as outlined in Title 32, M.R.S.A., Chapter 33 and the Oil and Solid Fuel Board Rules.

Signature of Installer: *[Signature]* Date: *9/6/11*





# COPY

## MetalBest Chimney Systems (USA Only - See separate instructions for Canada)

Sheet

# GS

## Installation Instructions

### Covering - General Installation Instructions & Owner's Maintenance Guide

**A MAJOR CAUSE OF CHIMNEY-RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF THE UTMOST IMPORTANCE THAT THIS CHIMNEY BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.**

#### METALBEST CHIMNEY SYSTEMS-MODELS, PART NAMES AND NUMBERS

MetalBest Chimney Systems (MCS) consist of the following Models - UT (Ultra Temp), ST (Sure Temp), GT (Galva Temp), SG Plus and SSII.

The complete part number is prefixed with the ID size, in inches, followed by one or two letters identifying the system to which it belongs, followed by the actual part identifier.

All accessory parts for the MetalBest Chimney System (all models) include a letter "T" in the prefix and may be used with all Models unless otherwise indicated.

All Model SSII chimney sections (straight lengths, tees, elbows) also contain the letter "T" in the prefix.

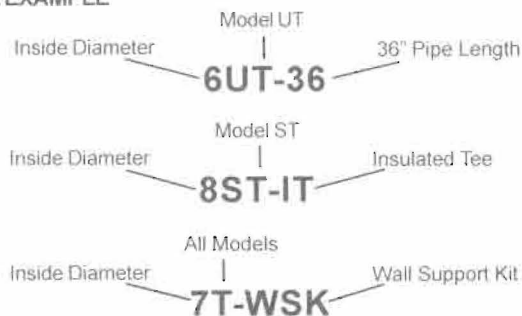
All Model UT, ST and GT chimney sections (straight lengths, tees, elbows) contain the letters "UT", "ST", and "GT", respectively in the prefix.

All Model SG Plus chimney sections (straight lengths, tees, elbows) contain the letters "GP" in the prefix.

Fig. 1, 2, and 3 show the names and locations of commonly used chimney parts. These figures use only the last portion of the part number. The complete part number is prefixed with ID size, followed by chimney model and part number.

**IMPORTANT:** Chimney sizes 5", 6", 7" and 8" are Type HT and carry a "T" in the part number. Larger sizes use an "S" in the part number.

#### FOREXAMPLE



**NOTE:** Use only MetalBest Chimney System Listed components and accessories. Do not use pipe by itself or attempt to fabricate your own support or accessories.

#### CAUTION: IF YOU ARE BURNING COAL

Some types of coal in certain designs of stoves may, in rare instances, cause corrosion of the inner parts of the MetalBest Chimney System. Inspect and clean your chimney frequently to keep it free of coal, ash and soot deposits. Also see "Sizes and Applications" section. If damage to the flue is observed, contact your Selkirk MetalBest dealer or Selkirk MetalBest Customer Service (1-800-992-VENT) with a description of your chimney problem.

The MetalBest Chimney System is not recommended if you are burning ocean driftwood. The salt in this wood may cause product failure.

#### MINIMUM CLEARANCE

Where installed within buildings, the MetalBest Chimney System may be

#### SPECIAL WARNING ON CELLULOSE INSULATION

Cellulose insulation in direct contact with a hot chimney can ignite and smolder, and can set fire to ordinary wood framing materials. The AIR SPACE ONLY precaution applies to all blown-in or loose fill insulations, but is especially applicable to cellulose insulation, which may be made from old newspapers or other cellulose materials. The Attic Insulation Shield or a suitable enclosure with appropriate fire stops must be used to keep all insulation the proper distance away from the chimney.



#### WARNING

Failure to follow these Installation Instructions could cause FIRE, CARBON MONOXIDE POISONING, OR DEATH. If you are unsure of installation requirements, call the Phone Number listed on the instructions or visit [www.selkirkcorp.com](http://www.selkirkcorp.com).

fully enclosed at 2 inches minimum AIR SPACE clearance to combustibles, including framing lumber, drywall, plaster, plywood and other building materials classed as combustible. For support framing, see table on back page.

#### AIR SPACE ONLY

The minimum clearance to MetalBest Chimney System pipe means AIR SPACE ONLY. The 2 inch clearance to pipe, and the spaces around supports must not be filled with any type of insulation. In attics with blown-in or batt insulation, the chimney must either be fully enclosed or an Attic Insulation Shield must be used to create and maintain the proper minimum air-space.

#### SIZES AND APPLICATIONS

The MetalBest Chimney System is made in 5", 6", 7", 8", 10", 12", and 14" sizes. The four smaller sizes conform to the current edition of UL-103 Standard Type HT requirements. All seven sizes comply fully with the requirements of the 9th Edition of UL Standard 103. Chimneys installed in accordance with these instructions will comply with national safety standards such as NFPA 31, 54 and 211. The MetalBest Chimney System may be used for gas, wood and liquid fuel fired stoves, fireplace stoves, central furnaces, floor furnaces, steam and hot water boilers, unit heaters and water heaters. It may also be used for masonry fireplaces.

These MetalBest Chimney Systems are designed for gravity venting only. They are usable on any appliance having a power burner (such as oil furnace) if that appliance operates with neutral or negative draft at its outlet.

Non-residential appliances which may cause positive pressure in the chimney should use a Selkirk Model PS or IPS system.

The MetalBest Chimney Systems, sizes 10", 12", 14", are ideal for venting gas (natural and LP), #2 oil, and open front wood burning appliances.

#### DETAIL INSTRUCTION SHEETS

Details for the installation of all chimney parts must be observed by referring to other instructions as follows:

Finish or Ceiling Supports*, Connectors	S-1
Fire Stops, Attic Insulation Shields*	S-2
Round Top*, Flashing, Spark Arrester	S-3
Roof Support Package*, Anchor Plate*	S-4
Insulated Tee*, Wall Support Kit*	S-5
Insulated Elbow*, Interior Resupport*	S-5
Firestop / Joist Shield*	S-7
Support Box*	S-9

\*If you are installing any of these parts in packages marked\*, you should receive the proper instructions in the package. You may also request a complete set of instructions from your dealer. This sheet of general instructions is furnished with all UL listed chimney supports. It covers important safety precautions in the installation, operation and maintenance of your appliance and chimney. Anyone installing a chimney should review this sheet as well as those furnished with the other parts of the chimney system. Selkirk MetalBest chimney parts LISTED and produced under the Factory Inspection and Follow-Up program of Underwriters' Laboratories, Inc. carry the LISTING MARK illustrated here.





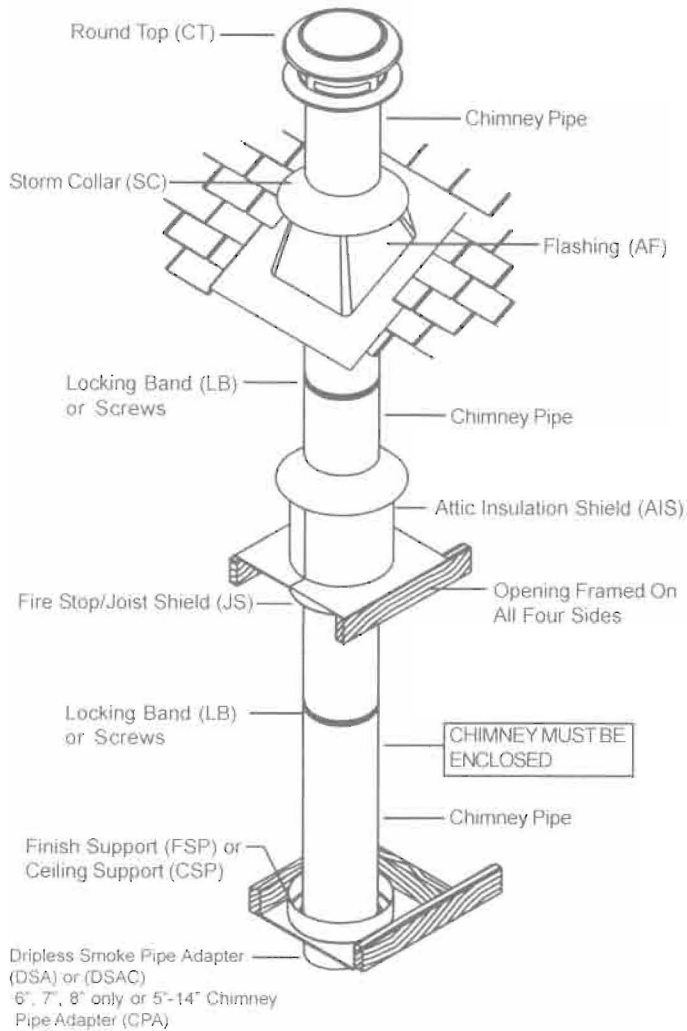


FIG 1 VERTICAL CHIMNEY THROUGH ONE STORY AND ATTIC

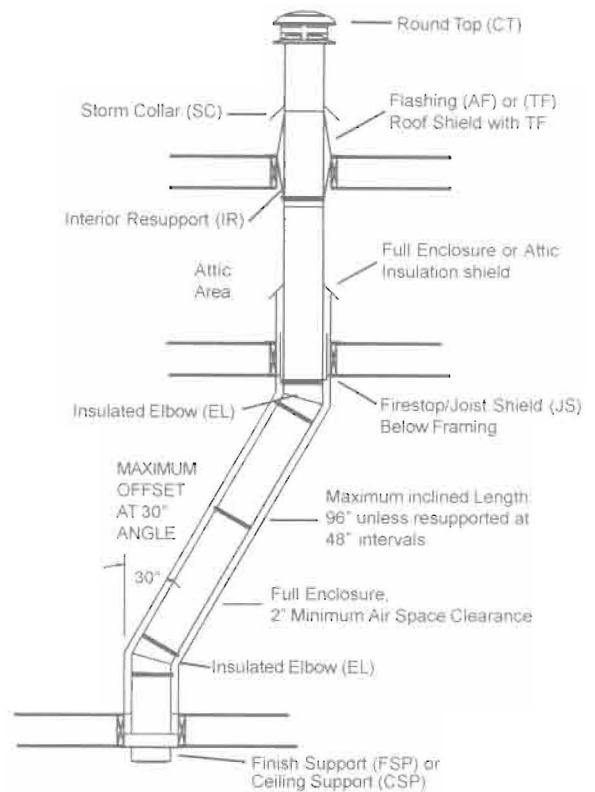


FIG 3 THIRTY DEGREE OFFSET WITH ENCLOSURE AT 2" CLEARANCE (MAXIMUM OF TWO SEPARATE OFFSETS PER SYSTEM)

**WHEN INSTALLING YOUR CHIMNEY AND WOODBURNING STOVE OR FIREPLACE SYSTEM, REMEMBER . . . SAFETY FIRST**

You may well have a basic knowledge of carpentry and the use of hand tools. However it is important that you also review the rules of safety on the following pages. If you have any doubt about your ability to complete your installation in a workmanlike manner, you should arrange for a professional installation.

**RULES FOR SAFETY DURING INSTALLATION**

1. Read all installation sheets. Look for them in the cartons, or ask your dealer for a complete set or download from [www.Selkirkcorp.com](http://www.Selkirkcorp.com). Keep the instructions handy and save them for future reference.
2. Check your local building or fire code for all requirements affecting the fuel-burning appliance and its chimney.
3. Obtain a building permit for both the appliance and the chimney. Contact local building or fire officials about restrictions and installation inspection in your area.
4. Be very careful around electrical wiring and be sure it is secured at least 2 inches away from any part of the chimney. If wiring must be relocated, hire a professional electrician.
5. Be sure that ladders are in good condition and always rest on a level firm surface.
6. Wear cut resistant gloves when handling sheet metal parts with sharp edges.
7. Be sure that electrically powered tools are properly grounded.

**CHIMNEY HEIGHT AND SIZE**

These instructions contain a "Selector Chart" so you can pick the exact combination of length increments. A chimney for one or more gas appliances must conform to size and height recommendations in the "MetalBest Gas Vent and Chimney Sizing Handbook." Heights above the roof as given in the next paragraph are minimum; greater heights may be needed for reasons given.

Before beginning installation of the chimney, be sure that the selected size is adequate for the appliance and the selected height of the Chimney Round Top termination is high enough to conform to building code requirements. Chimneys are required to extend at least 3 feet above the highest point where they pass through the roof of a building, and at least two feet higher than any portion of a building within 10 feet (National Fire Protection Association Standards Nos. 31, 54, and 211.) See Fig. 4.

**NOTE:** As stated in NFPA 211, do not install a connector or chimney that is smaller in diameter than the outlet collar of a solid-fuel burning appliance.

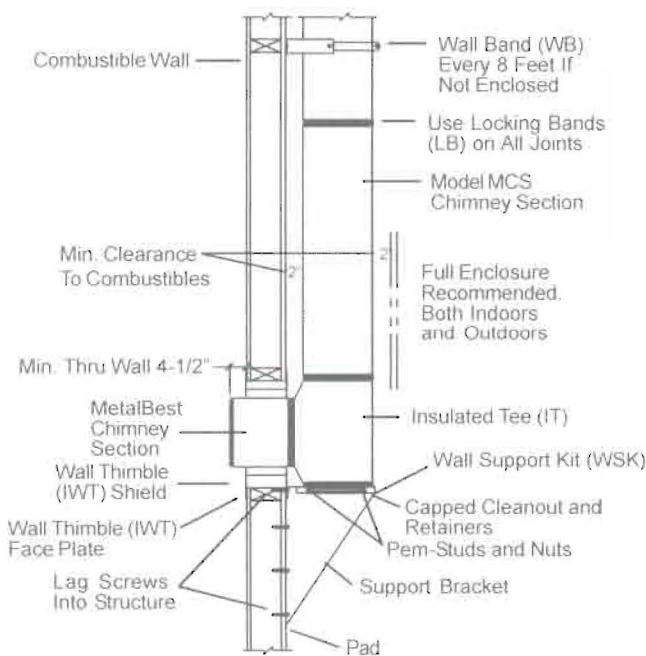
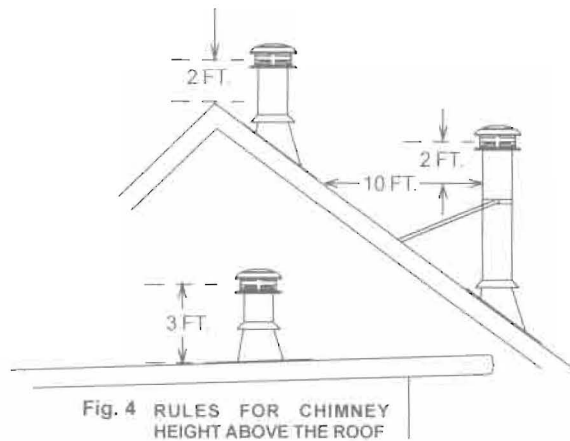


FIG 2 INSULATED TEE THROUGH COMBUSTIBLE WALL



### CHOOSING YOUR HEATING APPLIANCE

There are three important rules for selecting a woodburning stove, fireplace or heater.

**FIRST** Look for a label or nameplate attached to the appliance which bears the mark or name of a well-known safety testing organization\* or laboratory.

**SECOND** Don't buy an appliance which is bigger than necessary.

**THIRD** Look or ask for complete **installation, operating and maintenance** instructions for the appliance. If you can't get these, buy one that gives you all these **very important details**.

\*Such as Underwriters' Laboratories, Inc. or Intertek Testing Services.

### APPLIANCE SAFETY

Be sure to follow all details of the instructions for your solid fuel burning appliance. You should give preference to the purchase of an appliance which either has a label or includes detailed instructions showing all required clearances to floor and walls. If necessary, these clearances may be reduced by use of a tested and "Listed" (by UL, for example) protection system, or by one of the methods described in NFPA Standard 211.

For the chimney **connector**, the **appliance instructions take precedence** over the 18 inch clearance shown in these instructions (or in building codes). The 18 inch minimum clearance dimension applies only if there is no other information for the connector.

When protecting walls or ceilings from the heat of a connector, be sure to leave at least a 1 inch ventilated air space between the protection material and combustible construction. It is ineffective and possibly dangerous to apply ordinary brick, or any similar dense material directly to a wood framed wall for the purpose of reducing safe clearances.

### EACH SOLID FUEL APPLIANCE SHOULD HAVE ITS OWN CHIMNEY

\* Stoves of air-tight or controlled combustion design may be difficult to operate if some other appliance is connected to the same chimney.

\* Open front, freestanding or built-in fireplaces may need all the draft produced by a minimum height of chimney. Interconnecting them or their chimney with another appliance may be prohibited by their instructions and may cause smoking problems.

\* Never connect a gas-burning appliance into a chimney for any woodburning stove, heater or fireplace. This is extremely dangerous because a chimney blocked with creosote (or anything else) may cause the connected gas appliance to produce poisonous carbon monoxide.

\* For these and other reasons, don't ever inter-connect your solid fuel appliance with anything else, not even another solid fuel appliance. There are simply too many things that can go wrong if you do.

### GENERAL INSTALLATION INSTRUCTIONS

A correct easily-maintained chimney installation has five important parts:

1. Proper support, both vertical and lateral, with access for inspection and maintenance.
2. Adequate clearance to combustible materials for single wall connector or smoke pipe.
3. AIR SPACE clearance of 2 inches for insulated chimney parts.
4. All vertical intermediate ceiling or floor penetrations completely framed and firestopped with specified chimney parts.
5. All connector and chimney joints completely secured against unlocking with three screws or with locking bands. See diagram for screw location.

### PROPER SUPPORT

Vertical chimneys may be supported in these ways.

1. Ceiling Support with all chimney stacked above. See sheet S-1.
2. Roof Support, with one or more lengths suspended below and with total height limits depending on factors such as roof pitch and height. See sheet S-4.

3. Appliance Support, with the MetalBest Chimney System starting at the appliance outlet. This is permissible if this method is shown in the appliance instructions, or with masonry fireplaces.

4. Wall Support with Insulated Tee. See Sheet S-5.

5. Support Box. See Sheet S-9.

6. Proper lateral support is also necessary and may be provided by wall bands, firestops, roof braces and/or all the supports listed above. Maximum spacing between components providing lateral support is 8 ft (See sheets S-2, S-3, and S-5).

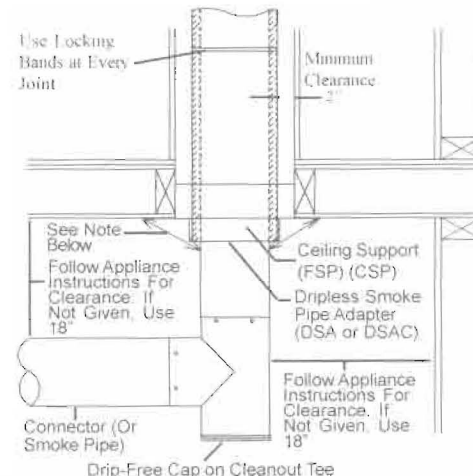
Because of thermal expansion problems, only one of these support methods should be used for a vertical installation. For example: **Do Not** use both a ceiling support and a roof support for the same chimney.

### OBSERVE CLEARANCE TO COMBUSTIBLE MATERIAL AND SLOPE FOR CONNECTOR OR SMOKE PIPE

The connector or smoke pipe is the sheet metal pipe between the appliance and the chimney. Different types of fuels and appliances have different connector clearances to combustible walls and ceilings. These clearances will be shown in the appliance instructions.

Whatever clearances and connector arrangements are shown in the appliance instructions, must be followed rather than the arbitrary 18 inch dimension. This is important if tests have shown that more than 18 inches clearance is necessary, or if the location of the stove or heater necessitates more clearance. See Fig. 5.

Combustible materials include such things as framing lumber, plywood, drywall (sheet rock, plaster board, lath and plaster, gypsum board) and also furniture and curtains. Building insulation of any kind, including batts, foams, boards and especially loose fill cellulose fiber, must also be kept away from the chimney in the same manner as combustible materials.



NOTE: The purpose of the diagonal arrows is to show that the 18 inch clearance DOES NOT APPLY to the vertical connector entering a Finish Support. This support is actually tested with a bare vertical connector and must pass the UL tests with very hot gases entering the bare single wall pipe.

FIG. 5 CONNECTOR CLEARANCES

Passing a bare smoke pipe or connector of a wood burning appliance through a combustible stud wall is not recommended, as the entire inside of the wall must be cut away to get 18 inch clearance (usually at least a 40 inch circle). Wherever possible, locate the MetalBest Chimney to avoid penetrating a wall with a single wall connector. Besides following the appliance instructions for connectors, other rules for solid fuel appliance connectors are:

1. Never enclose vertical single wall pipe, even at 18 inches clearance.
2. Never run it through ceilings or floors, or windows.
3. Don't use single wall pipe outdoors.
4. Always secure all single wall pipe joints with at least 3 screws
5. Obtain proper attachment parts for the appliance end and for the entry to the chimney. See the MetalBest Chimney System catalog for the proper size Dripless Smoke Pipe Adapter (DSA) or (DSAC), or Chimney Pipe Adapter (CPA)
6. Locate and support the connector to avoid accidental contact or damage
7. Caps or plugs for tees should be secured against falling out and designed so they can't leak creosote or rain.
8. Heavy weight single wall pipe lasts longer. Use 24 gauge if possible.
9. Porcelain enamel is the best high temperature protective finish but requires careful handling and may be difficult to assemble securely except in a vertical position and could produce noxious odors if overheated
10. Galvanized steel pipe is no better than plain black or painted steel



because the galvanized zinc coating is ineffective once it has been overheated.

11. Operating the stove, heater or fireplace when the connector is red hot is very dangerous. This indicates overfiring or a chimney fire. Stop firing, close the dampers, let things cool off, and keep watching for problems on nearby walls and furnishings.

12. The slope of the horizontal portion of a connector of 1/4 inch per foot is sometimes a building code requirement. This slope will have little effect on safety or appliance operation. If the connector is vertical, it should be installed with the crimped end down. If it can be sloped between the stove and chimney, use 45 degree one piece leakproof elbows (such as the corrugated type), and try to maintain sufficient slope so that any condensate liquid runs back toward the appliance. To keep liquids from coming out connector joints, the small (or crimped) end should always be down - or toward the stove or fireplace.

#### CLEARANCES FOR METALBEST CHIMNEY SYSTEM INSULATED PIPE

All insulated MetalBest Chimney Systems' gas-carrying chimney parts are marked with important safety information confirming minimum airspace clearance to combustibles. This minimum airspace clearance to combustibles is important in order to keep combustible materials from overheating and creating a fire hazard. Never fill required airspace with insulation or even non-combustible material, since such actions could cause overheating. If you are uncertain about a particular installation, contact Selkirk at the number referenced at the end of these instructions.

Such parts as Fire Stops and ceiling supports are intended to be attached directly to the framing or to ceiling, or floors. These auxiliaries, which are in contact with wood or other combustibles, are designed and tested to assure that they do not overheat at points of contact.

The instruction sheets for individual parts and the table on the back page give proper framing dimensions, which in turn define the proper clearance. Wherever these instructions illustrate the use of a required spacer or fire stop, the purpose of the part is to maintain and assure the proper clearance.

Remember that the most important clearance requirement is that it must be **AIR SPACE**.

**ENCLOSURE:** Interior or exterior residential chimneys should be enclosed where they extend through closets, storage areas, or habitable spaces where the surface of the chimney could be contacted by persons or combustible materials. The space between the enclosure and chimney should be at least the required 2" minimum airspace clearance to combustibles. (SEE SHEET S-2 FOR PROPER USE OF FIRESTOPS IN AN ENCLOSURE). Enclosures may be built of ordinary drywall or plywood at the required minimum of 2 INCHES AIR SPACE CLEARANCE. While properly installed firestops or supports help maintain the necessary clearances to combustibles at ceilings or joist areas, there are no special parts to maintain clearance to inside surfaces of walls or enclosures, therefore, the builder and the chimney installer should take all necessary precautions to assure that this 2 inch minimum clearance or more is maintained.

In unoccupied attics, it is very important to be sure that blown-in or other insulation does not come in contact with the chimney. A full enclosure built in the attic should extend to the roof, however, it need only be finished well enough to keep insulation and stored furnishings away from the chimney. If a full enclosure is not built, an Attic Insulation Shield (AIS) **MUST** be used. See Fig. 6.

A chimney enclosure is also highly recommended for any outdoor, exterior-mounted chimney located outside of the building wall. This enclosure can be helpful in reducing internal condensation, creosote build-up and metal deterioration. Also the enclosure, by protecting the chimney from cold outdoor temperatures, may improve draft and appliance operation.

At the upper end of this outdoor enclosure, the chimney should be flashed with the flashing/storm collar termination shown in Sheet S-3.

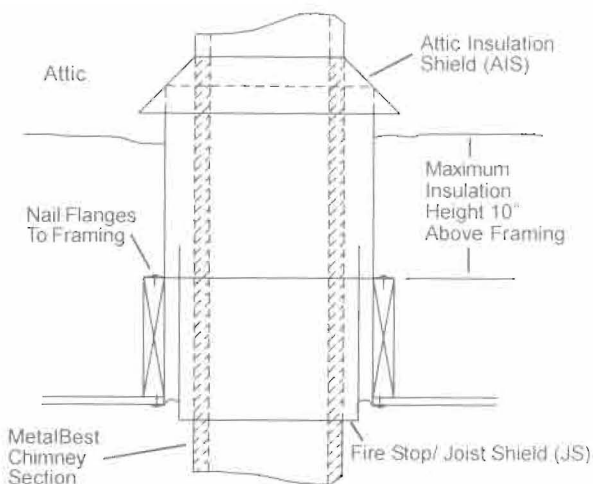


FIG. 6 FIRE STOP/ JOIST SHIELD (JS) USED WITH ATTIC INSULATION SHIELD

If the enclosure is exterior, without penetration of the building enclosure, wall bands should be used to provide the necessary lateral stability.

Regardless of the benefits of the exterior enclosure, better chimney and appliance operation will be obtained if the chimney is located entirely inside the heated part of the building (except of course for the part above the roof).

Enclosures of ordinary wood framing with gypsum drywall or plywood walls may be built only in one and two-family dwellings. For other types of buildings, multiple occupancies or high rise construction, additional fire resistance is required for enclosures as follows.

*A factory-built chimney that extends through any zone above that on which the connected appliance is located is to be provided with an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes.*

Even with a fire resistance rated enclosure, the use of Fire Stops at every floor level is recommended to stabilize the chimney and to retard possible fire spread external to the chimney.

#### FIRESTOPPING (See Also Sheet S-2)

A fire stop is any part of the building structure which prevents the spread of a fire or circulation of air. Where a MetalBest Chimney System is enclosed and framed at 2" clearance, a Firestop/Joist Shield (JS) or Fire Stop/Wall Spacer (WS) is the proper firestop to use at every floor. Part "JS" may be used with all MetalBest Chimney System models. Part "WS" may be used only with Model SSI1.

If the enclosure or space around the chimney is larger than usual, or irregular in shape, attach galvanized metal plates 28 gauge or heavier all around the edges of the Fire Stop/Joist Shield (JS) or Firestop/Wall Spacer (WS) as necessary. These should be wide enough so that when installed, the gap is closed to vertical air circulation around the chimney and the pipe is securely spaced and centered.

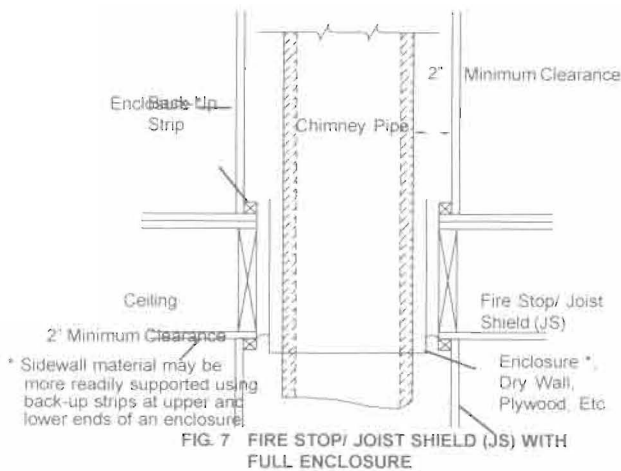
For firestopping to be fully effective, all ceiling and floor penetrations should be fully framed and closed on all four vertical sides. This framing helps delay horizontal spread of fire and controls unnecessary horizontal air leakage through intermediate floors.

#### CHIMNEY JOINT SECURITY

All MetalBest chimney joints must be reinforced with either of 2 choices:

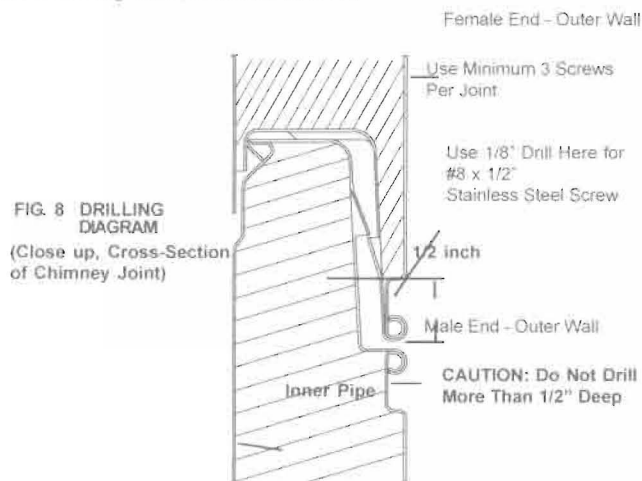
1. Locking Bands (LB). These are furnished with pipe and elbows.
- or
2. Stainless steel sheet metal screws (3 minimum) per joint, these are an optional extra.

The stainless steel sheet metal screws, size #8 x 1/2" must be evenly spaced around the joint and 1/2 inch above the joint separation. Before installing either the screws or the Locking Band, the joint should be



securely twist locked together. The diagram, Fig. 8, illustrates these points.

Screws or locking bands are needed to prevent accidental disengagement during chimney cleaning, and to reinforce the chimney whenever it is outdoors, along walls, or above the roof.



**Warning:** The chimney pipe and its fittings must be assembled with metal-to-metal joints as furnished. Do not use tape or any sealing compound (such as tar, mastic, putty or silicone) at the outer joints. Sealers in the joints may cause the insulation to accumulate moisture and will cause corrosion or freezing failures.

**CAUTION: DO NOT USE METALBEST CHIMNEY SYSTEM PIPE WITH DAMAGED ENDS**

Both the inner and outer pipe must join properly to avoid leakage and accidental disengagement. Slight eccentricity of the inner pipe will not affect operation provided that the joint goes together completely. Minor dents or irregularity of the outer pipe will not have any perceptible effect on temperature safety.

**CHIMNEY OPERATION AND MAINTENANCE**

The need for chimney maintenance depends on the kind of appliance and how it is operated. Gas and oil-burning appliances may need very little, but wood and coal-burning appliances may need a great deal of chimney maintenance. Open front fireplaces without doors usually dilute their smoke with large amounts of air. Thus the buildup of chimney deposits is generally very low. "Air tight" or controlled draft wood stoves and heaters produce dense smoke if they are loaded for long duration or overnight fires, and can rapidly produce heavy, thick creosote deposits. It is possible, by having a short duration daily hot fire, to burn off these deposits or prevent them from building up to dangerous levels. This takes skillful operation and an appreciation of how to get the correct temperature.

**CREOSOTE AND SOOT 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.

With coal which can burn with a smoky fire, this smoke also condenses in the chimney to form soot.

The chimney should be inspected at least once every 2 weeks during the heating season to determine if a creosote or soot buildup has occurred.

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

Creosote causes many problems. Some are visible while others are not. It can make trouble if:

1. It runs down the outside of the pipe to damage the finish on the metal.
2. It drips out of joints, damaging floors or furnishings.
3. It plugs up the chimney to cause poor combustion, smoking, soiling walls and indoor air pollution.
4. It catches fire in the chimney to cause possible chimney damage and damage to your home.

If you see deposits more than 1/16 inch thick, clean all of the chimney parts mechanically. This means using brushes, scraping or equivalent. Don't start a chimney fire! With only slight deposits, try a hot fire to see if the black deposits change to light ash or fall down the chimney. You can hear the sound of falling deposits when temperature conditions are right. Afterwards reinspect the chimney and the inside of the appliance for deposits. Do not use chemical cleaners, they may corrode the inside of the chimney. They may or may not prevent or remove creosote. When they are used together with a hot fire, it is probably the fire that is doing the work.

Depending on the rate of buildup, as you learn what is going on in the chimney, you can adjust your cleaning schedule.

If you have any doubts about your ability to clean the chimney, or if the deposits are very heavy and hard to remove, call a professional chimney sweep. Do not try to burn them off.

It doesn't matter how careful you are with loading, fuel wood selection or draft control, you should observe the above precautions with any wood stove or chimney installation.

**CHIMNEY FIRES AND WHAT TO DO ABOUT THEM**

Your MetalBest Chimney System is not intended or designed for use as a combustion or fire chamber. It is very easy to over fire your woodburning appliance with kindling, scrap lumber, brush or any fast burning fuel. This can produce flames and high temperatures all the way up the chimney, and may cause chimney damage.

If you see your appliance or the smoke pipe glowing red, you are risking chimney damage, or a fire. The creosote may be burning inside the chimney. If you see flames coming out the top, you are either overfiring or there is a chimney fire.

If the fire in your heater has gotten out of control, or if you suspect a chimney fire for any reason, follow these steps:

1. Immediately close all dampers and/or air entrance openings to your appliance. This includes doors on Franklin type stoves. Block off fireplace openings.
2. Alert your family to the possible danger.
3. Inspect your appliance and chimney surroundings for possible fire. If in doubt, alert your fire department.
4. Do not continue to use your appliance until it and your chimney have been thoroughly inspected. Overheating can cause metal parts to expand, buckle and crack. If you are not certain, have a qualified heating person disassemble all parts so they can be inspected and replaced.
5. Do not use salt or water on the fire in your appliance. Salt is corrosive and water will cause a dangerous steam explosion. You might be able to control the fire by using ashes, sand or baking soda, since baking soda is an ingredient used for dry chemical fire extinguishers.
6. After a chimney fire, when it is safe to do so, check internal locations such as the attic and under the roof and keep watching for two or three hours. There may be delayed smoldering and subsequent ignition, even if the fire inside the chimney has been controlled.



**FRAMING DIMENSIONS FOR METALBEST CHIMNEY SYSTEMS  
TO MAINTAIN 2 INCH AIR SPACE CLEARANCE**

CHIMNEY SIZE: (Inside Diam.)	5" TYPE HT	6" TYPE HT	7" TYPE HT	8" TYPE HT	10"	12"	14"
CEILING OR FINISH SUPPORT *	11-1/4"X11-1/4"	12-1/4"X12-1/4"	13-1/4"X13-1/4"	14-1/4"X14-1/4"	16-1/4"X16-1/4"	18-1/4"X18-1/4"	20-1/4"X20-1/4"
CEILING PENETRATIONS *	11" X 11"	12" X 12"	13" X 13"	14" X 14"	16" X 16"	18" X 18"	20" X 20"
FLOOR OPENINGS *	..	..	..	..	..	..	..
ROOF OPENINGS *	..	..	..	..	..	..	..
WALL OPENINGS *	..	..	..	..	..	..	..

\* All framing dimensions may be up to 1/2" more, but not less than the above values. Check support dimensions before using.

**MAXIMUM HEIGHT (OR LENGTH) OF CHIMNEY FOR SUPPORTS**

SUPPORT TYPE	PART NO.	SIZE	
		5", 6", 7", 8" FEET OF CHIMNEY	10", 12", 14" FEET OF CHIMNEY
ANCHOR PLATE	AP	85	85
FINISH OR CEILING SUPPORT	FSP, CSP	50	50
INSULATED TEE	IT	50	40
WALL SUPPORT KIT	WSK	See Sheet S-5	40
ROOF SUPPORT (A)	RSP	30	30
INTERIOR RESUPPORT	IR	18	18
SUPPORT BOX	SB	20	—

NOTE: (A) 20 feet of chimney may be suspended below a roof support with all joints securely threaded, using locking bands or screws

**CHIMNEY PIPE LENGTH SELECTOR CHART**

Ft. In.	Total Inches	Pipe Length						
		6 Installed Height	9	12	18	24	36	48
— 4 3/4	4 3/4	NUMBER OF CHIMNEY PIPE SECTIONS						
— 7 3/4	7 3/4	1						
— 10 3/4	10 3/4	1						
1 1/2	12 1/2	1	1					
1 4 3/4	16 3/4	1						
1 6 1/2	18 1/2	1	1					
1 10 3/4	22 3/4	1						
1 11 1/4	23 1/4	1	1	1				
2 10 3/4	34 3/4	1						
2 11 1/4	35 1/4	1	1	1				
3 3 1/2	39 1/2	1						1
3 6 1/2	42 1/2	1						1
3 9 1/2	45 1/2						1	1
3 10 3/4	46 3/4	1						
4 2 1/4	50 1/4						1	1
4 3 1/2	51 1/2						1	1
4 3 1/2	51 1/2	1						1
4 6 1/2	54 1/2						1	1
4 9 1/2	57 1/2						1	1
5 3 1/2	63 1/2						1	1
5 9 1/2	69 1/2						1	1
5 9 1/2	69 1/2						2	
6 9 1/2	81 1/2						1	1
7 2 1/4	86 1/4						1	2
7 8 1/4	92 1/4						1	2
7 8 1/4	92 1/4						1	2
7 9 1/2	93 1/2						2	
8 8 1/4	104 1/4						1	2

Ft. In.	Total Inches	Pipe Length						
		6 Installed Height	9	12	18	24	36	48
9 2 1/4	110 1/4						1	2
9 8 1/4	116 1/4						1	2
10 8 1/4	128 1/4						1	2
9 7	115						1	3
10 1	121						1	3
10 7	127						1	3
11 8 1/4	140 1/4	3						
12 7	151						1	3
13 1	157						1	3
13 7	163						1	3
14 7	175						1	3
11 7	139						4	
12 11 3/4	155 3/4						1	4
13 5 3/4	161 3/4						1	4
15 7	187	4						
16 11 3/4	203 3/4						1	4
17 5 3/4	209 3/4						1	4
18 5 3/4	221 3/4						1	4
14 5 3/4	173 3/4	5						
16 4 1/2	196 1/2						1	5
19 5 3/4	233 3/4	5						
21 4 1/2	256 1/2						1	5
22 4 1/2	268 1/2						1	5
17 4 1/2	208 1/2	6						
19 3 1/4	231 1/4						1	6
23 4 1/2	280 1/2	6						
25 3 1/4	303 1/4						1	6
26 3 1/4	315 1/4						1	6



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# PORTLAND MAINE

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Director of Planning and Urban Development  
Penny St. Louis

Job ID: 2011-09-2180-HVAC

Located At: 75 ELIZABETH

CBL: 087 - - Z - 037 - 001 - - - -

## Conditions of Approval:

### **Building**

1. Separate permits are required for any electrical, plumbing, sprinkler, fire alarm, HVAC systems, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.
2. Chimney clearances and fireblocking shall comply with Section R1003.18 & R1003.19.
3. Chimney installation and venting requirements shall comply with Chapter 10 and 18 of the IRC, 2009 (MUBEC).
4. **R1004.1 General.** Factory-built fireplaces shall be *listed* and *labeled* and shall be installed in accordance with the conditions of the *listing*. Factory-built fireplaces shall be tested in accordance with UL 127.
5. **R1005.1 Listing.** Factory-built chimneys shall be *listed* and *labeled* and shall be installed and terminated in accordance with the manufacturer's installation instructions.
6. A photoelectric Carbon Monoxide (CO) detector shall be installed in each area within or giving access to bedrooms. That detection must be powered by the electrical service (plug-in or hardwired) in the building and battery. A field inspection will verify your current Carbon Monoxide Detector arraignment and the City's minimal code requirements.
7. Hardwired photoelectric interconnected battery backup smoke detectors shall be installed in all bedrooms, protecting the bedrooms, and on every level. A field inspection will verify your current Smoke Detector arraignment and the City's minimal code requirements.