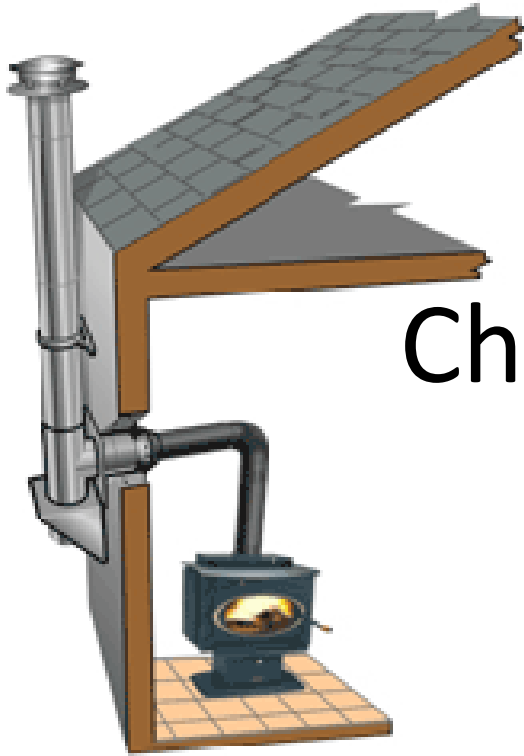


# Chimney Installation



First Nations Northern Housing Conference  
February 14, 2013



# Introduction

- Chimneys are used to vent the products of combustion to the outside.
- The better your chimney system performs the safer and more efficient it will be.



# Introduction

- The majority of chimney related fires and failures are due to incorrect installations and improper maintenance.
- We will discuss the general requirements & considerations regarding the installation & maintenance of factory built insulated metal chimneys.



# Introduction

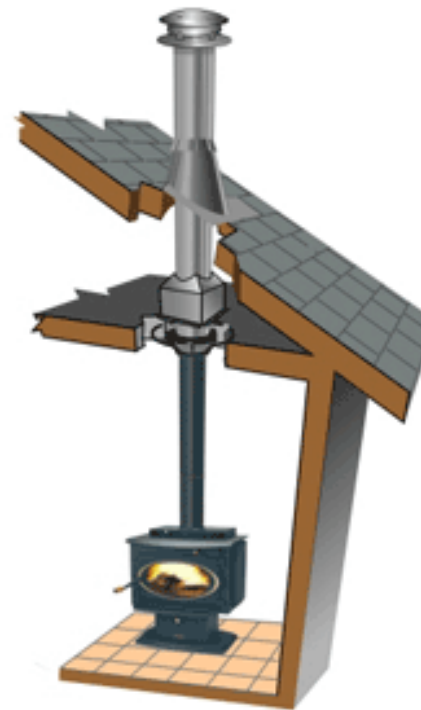
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# Introduction

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- Cathedral Ceiling and



# Introduction

There are three basic types of chimney installations:

- Ceiling Supported
- Cathedral Ceiling and
- Wall Supported



# Introduction

Whenever possible install the chimney through the interior of the house.

Doing this helps keep the chimney warm and protected from the elements, and generally straight, which helps to maintain a strong draft.





# Think Safety!

- The biggest benefit to properly installed chimney system is it reduces the chances of chimney fires.
- Improperly operated & maintained woodstoves will develop creosote build up in the flue & chimney.
- *Creosote* is a sticky "tar-like" substance that sticks to the inside walls of a chimney. Creosote build-up is highly flammable and dramatically increases the likelihood of chimney fires.



# Think Safety!

- Before starting a chimney installation always review the Manufacturer's installation manual.
- Never mix & match chimney components from different Manufacturers or models.



**SUPERVENT<sup>200</sup>**  
&  
**SUPERPRO<sup>200</sup>**

**INSTALLATION INSTRUCTIONS & MAINTENANCE GUIDE**

FACTORY-BUILT 650°C INSULATED CHIMNEY

INTERTEK  
C  US  
Listed

Tested To  
CAN/ULC-S629  
&  
UL103 Type HT

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.

PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING YOUR INSTALLATION. FAILURE TO INSTALL THIS SYSTEM IN ACCORDANCE WITH THESE INSTRUCTIONS WILL VOID THE CONDITIONS OF CERTIFICATION AND THE MANUFACTURER'S WARRANTY. KEEP THESE INSTRUCTIONS IN A SAFE PLACE FOR FUTURE REFERENCE.

**SELKIRK**

Selkirk Corporation  
5030 Corporate Exchange Blvd.  
Grand Rapids, MI 49512  
Toll Free: 1.800.433.6341

www.selkirkcorp.com  
info@selkirkcorp.com

Selkirk Canada Corporation  
P.O. Box 526, Depot 1  
Hamilton, ON L8L 7X6  
Toll Free: 1.888.SELKIRK (735-5475)

10/09 RM19933-3



# Think Safety!

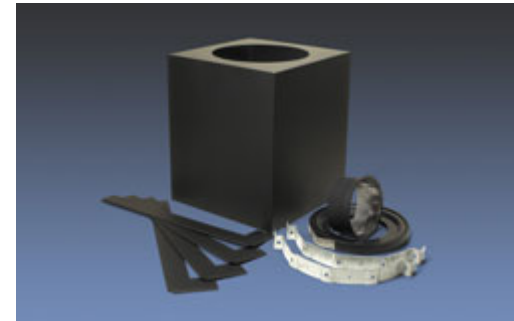
Woodstove, flue & chimney installations are governed by:

- The Manufacturer's Installation Instructions and
- CSA B365 Installation Code for Solid Fuel Burning Appliances and Equipment



# Basic Woodstove Chimney & Venting System Components

- Support Kit (Ceiling, Wall or Cathedral)



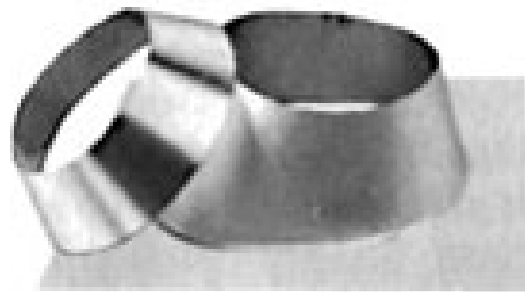
# Basic Woodstove Chimney & Venting System Components

- Support Kit
- Chimney Lengths



# Basic Woodstove Chimney & Venting System Components

- Support Kit
- Chimney Lengths
- Roof Flashing & Storm Collar



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- Elbow/Offset Kit (if required)



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- Additional Shields (if required)





# Basic Woodstove Chimney & Venting System Components

- Support Kit
- Chimney Lengths
- Roof Flashing & Storm Collar
- Elbow/Offset Kit (if required)
- Additional Shields (if required)
- Flue Pipe



# Starting the Installation

- The diameter of the chimney and flue pipe should be the same as the flue collar on the woodstove.



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- The diameter of the chimney and flue pipe should be the same as the flue collar on the woodstove.
- Most new wood stoves have 6" diameter flue outlets.
- Chimneys are generally sized according to their inside diameter.



# Choose the Support Kit

- Determine the type of support kit you require, *i.e.* flat ceiling, cathedral ceiling or a through wall chimney support kit.
- Remember that all chimney systems work best if they are as straight as possible, to prevent the restriction of flue gas flow.
- When possible always install the chimney on the interior of the house.
- It is usually a straight installation and protects most of the chimney from the elements.



# Choose the Support Kit

Follow the clearances to combustibles listed in the Manufacturer's installation instructions.

Failure to provide the proper clearances can result in fires.



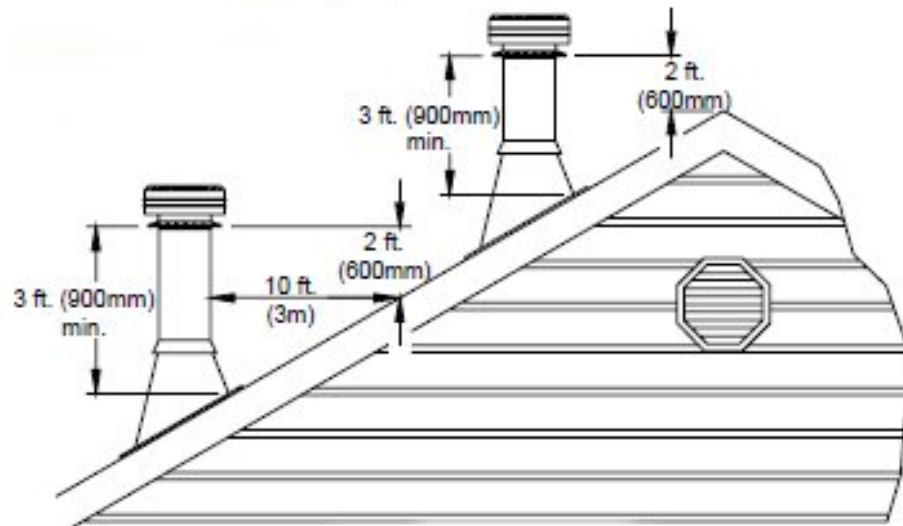
# Determine the Chimney Lengths You Need

- Factory built metal insulated chimneys come in a variety of different lengths, typically 36", 24", 18", 12" and 9" lengths are available.
- Account for overlap that occurs when joining chimney sections.
- Manufacturer will specify the maximum length of chimney permitted.



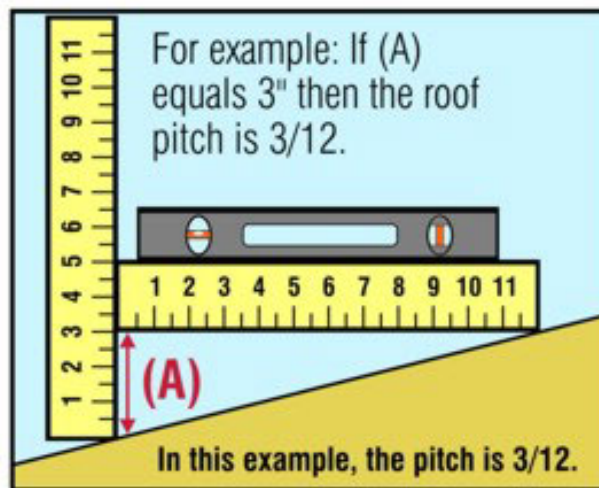
# Determine the Chimney Lengths You Need

- All chimneys must terminate at least 36" above the highest point where they penetrate the roof & at least 24" above any structure/point within 10' of the chimney.



# Choose the Roof Flashing

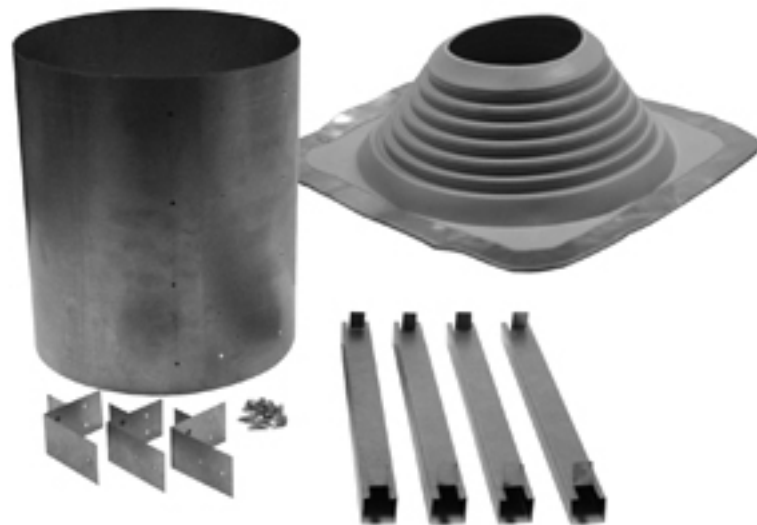
- Most chimney Manufacturers will have different roof flashings depending on the pitch of the roof
- If you are unsure of the roof pitch it can be measured like this





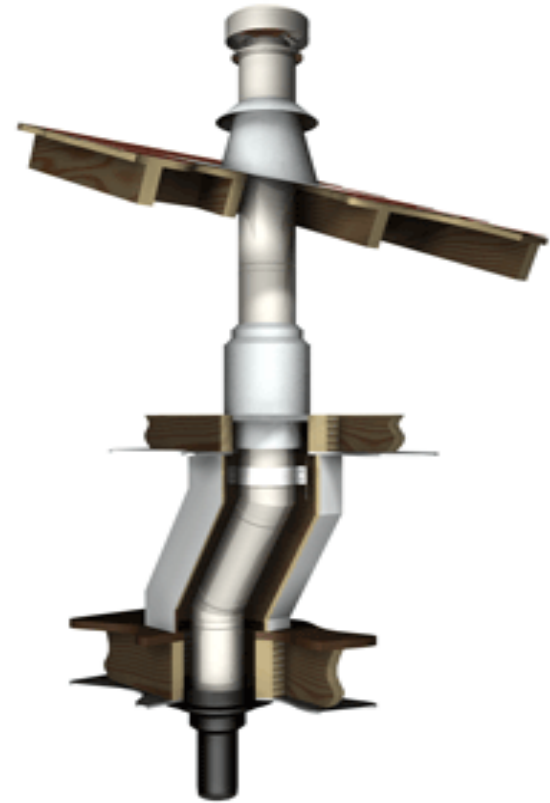
# Choose the Roof Flashing

- If the chimney is installed through a corrugated metal roof, be sure to use the Manufacturer's correct flashing kit



# Determine Your Offset

- Not always required and should be avoided if at all possible
- Chimney installation manual will specify offset requirements & limitations.

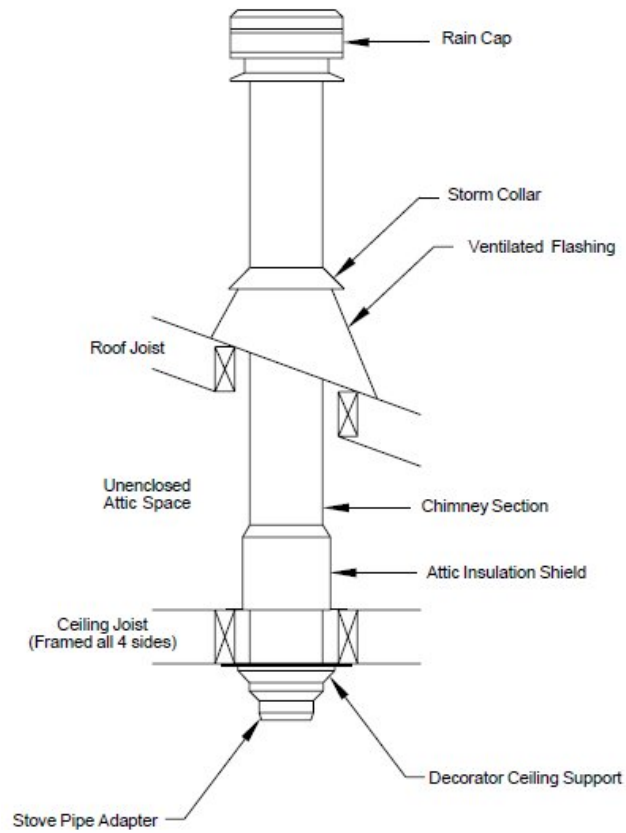


# Additional Shields

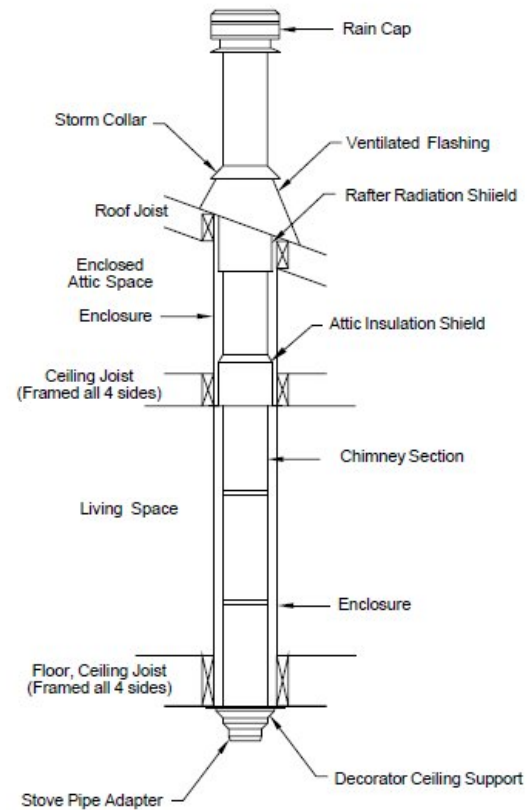
- Be sure to use the proper shields every time the chimney passes through a floor, ceiling or other assembly.
- Frame the opening(s) for the shields as per the Manufacturers' installation instructions.



# Typical Installations



Single Story Installation



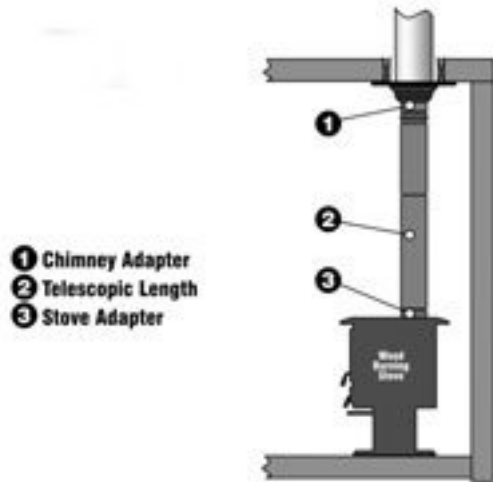
Two Story Installation  
(Enclosed Attic)



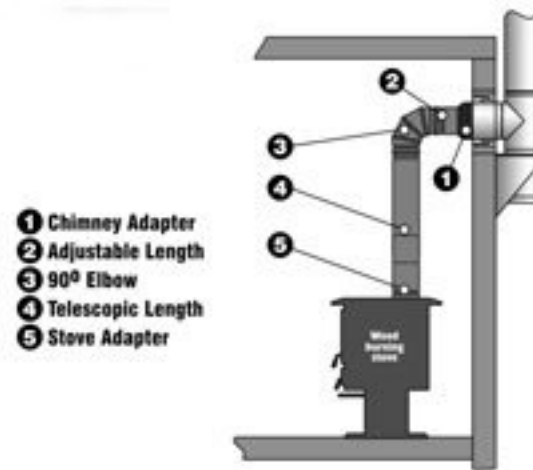
# Flue Pipes

There are two basic types of flue pipe installations, Vertical and Horizontal Flues.

## VERTICAL INSTALLATION



## HORIZONTAL INSTALLATION



# Flue Pipes

- If single wall black iron flue pipes are used their maximum length is 10' and cannot have more than 180° worth of fittings.
- If double wall flue pipes are used their maximum length and number of fittings is as per the Manufacturer's installation instructions.



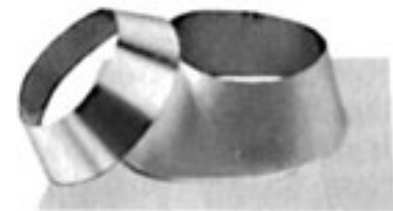
# Above The Roof

- All chimneys must terminate at least 36” above the highest point where the penetrate the roof & at least 24” above any structure/point within 10’ of the chimney
- Depending on the height above the roof chimney supports may be required
- If chimney supports are required the are to be installed as per the Manufacturer’s installation instructions.
- Install the Roof Flashing w/Storm Collar. A Storm Collar is usually included with roof flashings.



# Above The Roof

- Slide the roof flashing over the chimney. The top edge (nearest the peak of the roof) of the flashing base is installed under the shingles.
- Nail the base of the roof flashing to the roof deck and caulk with sealant.





# Above The Roof

- Wrap the Storm Collar around the chimney just above the roof flashing.
- Use high temp silicone sealant to water proof the gap between the roof flashing, the storm collar and the chimney.
- Secure the storm collar in place as per Manufacturer's Installation Instructions.
- Add any additional silicone required for a water proof seal.



# Above The Roof

- Always install a Rain Cap on the chimney.
- Chimneys perform better with a rain cap than without.



# Operation & Maintenance

The need for chimney maintenance depends on the type of appliance and how it is operated.



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The need for chimney maintenance depends on the type of appliance and how it is operated.

How and what is burned in a woodstove affects creosote formation.

Good operating techniques will reduce creosote build up & in turn the chances of chimney fires



# Operation

Always burn:

- Hot, bright fires and fire each load hot and



# Operation

Always burn:

- Hot, bright fires and fire each load hot and
- Properly dried & seasoned firewood, *i.e.* wood with a moisture content of 18 – 22%



# Operation

Always burn:

- Hot, bright fires and fire each load hot and
- Properly dried & seasoned firewood, *i.e.* wood with a moisture content of 18 – 22%

To minimize creosote production and build-up in the system.





# Operation

Never burn:

- Slow, dull, smouldering fires,



# Operation

Never burn:

- Slow, dull, smouldering fires,
- Green and/or un-seasoned firewood, *i.e.* wood with a moisture content greater than 22%,



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- Garbage, plastic, styrofoam, *etc...* and



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- Pressure treated and/or painted/stained wood



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- Green & un-seasoned firewood, *i.e.* wood with a moisture content greater than 22%,
- Garbage, plastic, styrofoam, *etc...* or
- Pressure treated, drift and/or painted/stained wood

Burning any or all of these will contribute greatly to creosote build up in the system.



# Operation

Never:



# Operation

Never:

- Over fire the woodstove,



# Operation

Never:

- Over fire the woodstove,
- Remove the fire bricks from the stove and





# Operation

Never:

- Over fire the woodstove,
- Remove the fire bricks from the stove and
- Burn or use gasoline, oil, *etc...* in a woodstove.



# Creosote

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Creosote is:

- The product of slowly or cooly burned wood,



# Creosote

Creosote is:

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- Formed when the tars and other organic compounds given off by burning wood combine with expelled moisture and



# Creosote

Creosote is:

- The product of slowly or coolly burned wood,
- Formed when the tars and other organic compounds given off by burning wood combine with expelled moisture and
- Is extremely flammable.



# Creosote

Creosote vapours condense in the relatively 'cool' chimney of an improperly fired system and start to build up inside the chimney & flue.



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Creosote vapours condense in the relatively 'cool' chimney of an improperly fired system and start to build up inside the chimney & flue.

If temperatures in the chimney or flue get high enough the creosote will ignite and cause a chimney fire with extremely high temperatures.



# Inspection

The chimney, flue & woodstove installation should be inspected after installation & prior to its first use by a WETT Certified Inspector.





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The chimney, flue & woodstove installation should be inspected after installation & prior to its first use by a WETT Certified Inspector.

During its first few months of use the chimney & flue should be inspected every two weeks to determine the rate of creosote build up.



# Inspection

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- Inspected at least every other month during the heating season and



# Inspection

The chimney & flue should be:

- Inspected at least every other month during the heating season and
- Cleaned as often as required, but at least once per year.



# Inspection

Creosote and other products of poor/incomplete combustion form acids when mixed with water.



# Inspection

Creosote and other products of poor/incomplete combustion form acids when mixed with water.

This can lead to non-heating season corrosion of your chimney if it's not properly cleaned at the end of the heating season.



# Maintenance

Chimney maintenance & sweeping should only be carried out by properly trained and equipped people.



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To avoid creosote build-up, a chimney should be inspected at least once per year and cleaned as often as required.





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To avoid creosote build-up, a chimney should be inspected at least once per year and cleaned as often as required.

*WETT* (Wood Energy Technical Training) Certified Professionals are a good resource for professional inspections, sweeping or installations.



# Maintenance

Chimney maintenance & sweeping should only be carried out by properly trained and equipped people.

Contact [www.wettinc.ca](http://www.wettinc.ca) to find out more about WETT certification courses & technicians in your area.



# Maintenance

To clean the chimney:



# Maintenance

To clean the chimney:

- Allow the chimney to cool,



# Maintenance

To clean the chimney:

- Allow the chimney to cool,
- Carefully remove the chimney cap,



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To clean the chimney:

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- Take this opportunity to inspect the chimney & flue,



# Maintenance

To clean the chimney:

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- Carefully remove the chimney cap,
- Take this opportunity to inspect the chimney & flue and
- Carefully & thoroughly clean with a properly sized brush of the correct material



# Maintenance

Chemical & “gimmick” chimney cleaners do not replace the need for proper mechanical/brush chimney cleaning.





# Chimney Fires

If you have or suspect you have a chimney fire:



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If you have or suspect you have a chimney fire:

- Call the fire department,



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If you have or suspect you have a chimney fire:

- Call the fire department,
- Immediately close all woodstove dampers,



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If you have or suspect you have a chimney fire:

- Call the fire department,
- Immediately close all woodstove dampers,
- Alert your family,



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If you have or suspect you have a chimney fire:

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- Check the stove & chimney and surrounding areas for fire.



# Chimney Fires

If you have or suspect you have a chimney fire:

- Call the fire department,
- Immediately close all woodstove dampers,
- Alert your family,
- Check the stove & chimney and surrounding areas for fire,
- Do not use the woodstove or chimney until it is inspected by a qualified Technician,



# Chimney Fires

If you have or suspect you have a chimney fire:

- Do not use salt or water to douse the fire; sand, cold ashes and baking soda can be used and



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If you have or suspect you have a chimney fire:

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- When safe to do so inspect internal/hidden areas, *e.g.* attic, for fire and/or damage





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- When safe to do so inspect internal/hidden areas, e.g. attic, for fire and/or damage

**Do not return to your home until the Fire Department says it is safe to do so!**



# Comments, Questions, Concerns?



Thank you

