Amber's
FIRE SAFETY CAMPAIGN

WOODSTOVE BEST PRACTICES

Nishnawbe Aski Nation
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nan.ca/resources/fire-safety

Amber's
FIRE SAFETY CAMPAIGN

Increasing Fire Safety and Fire Prevention in Nishnawbe Aski Nation

Contents

Introduction

General knowledge and skills are needed to successfully use woodstove heating options safely and according to the manufacturer's instructions. This reference guide will assist you in daily operation and maintenance of your new woodstove. This guide **IS NOT** an instruction manual; it is meant to be used in conjunction with the Osburn 2000 instruction manual.

Understanding how the wood stove is operated and maintained is an important first step to safe and clean operations. Understanding the requirements that will help you keep your wood stove in top operating condition by outlining; the best type of wood to burn, burning techniques, harvesting techniques and storage techniques.

There are several advantages to using wood stoves safely in your home and community including:

- The ability to purchase wood fuel in your community helps to support the local economy.
- The energy efficient nature of wood burning stoves can mean that they are particularly helpful in saving you money.
- Wood burning stoves help to stimulate the local economy, but they can be an economical investment, helping to reduce heating bills for the home.
- Burning wood from local sources means a double economic benefit in the form of savings to the household budget, and energy payments that circulate locally instead of going to distant energy companies.
- High efficiency wood stoves reduce air pollution from the woodstove and help contribute to better air quality in the community.

However, there are disadvantages to using wood burning stoves including:

- The most serious problem is air pollution caused by older stoves, fireplaces and furnaces that cannot burn the wood completely.
- Safety hazards can result from wood burning stoves that are not operated and maintained properly.
- Even the most advanced wood heating technologies produce more air emissions in the form of small particles than the conventional heating fuels like oil and gas.
- Heating with wood means that household members must be involved in managing the fire, the fuel supply and doing regular maintenance jobs like ash removal.

This is why it is important to understand how to use your wood stove properly and efficiently to avoid air pollution within the home.

Who ensures proper installation of wood burning stoves?

Training and professional certification programs for installers and inspectors are available to ensure that stoves are installed and operated safely and efficiently, and wood stove owners get dependable advice and service.

Please check with your local housing or public works manager about properly certified (WETT certified) wood stove installers in your community.

The Benefits of Low Emissions & High Efficiency

Lower smoke emissions are produced due to the special features inside the firebox of an Osburn 2000 wood burning stove, meaning your household will release up to 90% less smoke into the outside environment than if you used an older conventional stove.

But there is more to the emission control technologies than protecting the environment.

- The smoke released from wood when it is heated contains about half of the energy content of the fuel. By burning the wood completely, your stove releases all the heat energy from the wood instead of wasting it as smoke up the chimney.
- The features inside the firebox allow you to reduce the air supply to control heat output, while maintaining clean and efficient flaming combustion, which boosts the efficient delivery of heat to your home.

Purchasing & Preparing Your Firewood

Types of Trees

Visit the Ontario Tree Atlas to learn about tree species in your area.
https://www.ontario.ca/environment-and-energy/tree-atlas/ontario-northwest

Tree Species

Different tree species will burn differently in your wood stove, some will provide longer burn times while others can provide hotter fires.

The main difference in firewood from various tree species is the density of the wood. Hardwoods are denser than softwoods. People who live in the coldest regions of North America usually have only spruce, birch, poplar, and other low-density species to burn. Yet with proper harvesting, processing, and storage techniques they can heat their homes successfully and efficiently. Homeowners with access to both hardwood and softwood fuel sometimes use both types for different purposes.

Hardwoods	Softwoods
• Best for cold winter weather when more heat and longer burn cycles are desirable. • Hardwood trees like oak, maple, ash, and beech are slower growing and longer lived than softer woods like poplar and birch. That makes hardwood trees more valuable.	• Make good fuel for relatively mild weather in spring/fall because they light quickly and produce less heat. • Not as dense as hardwoods so a given volume of wood contains less energy. • Avoids overheating the house, which can be a common problem with wood heating in moderate weather.

The advice that only hardwoods are good to burn is outdated. Old, leaky cast iron stoves wouldn't hold a fire overnight unless they were fed large pieces of hardwood. That is no longer true. You can successfully heat your home by using tree species available in your area and give the forest a break at the same time by using less firewood.

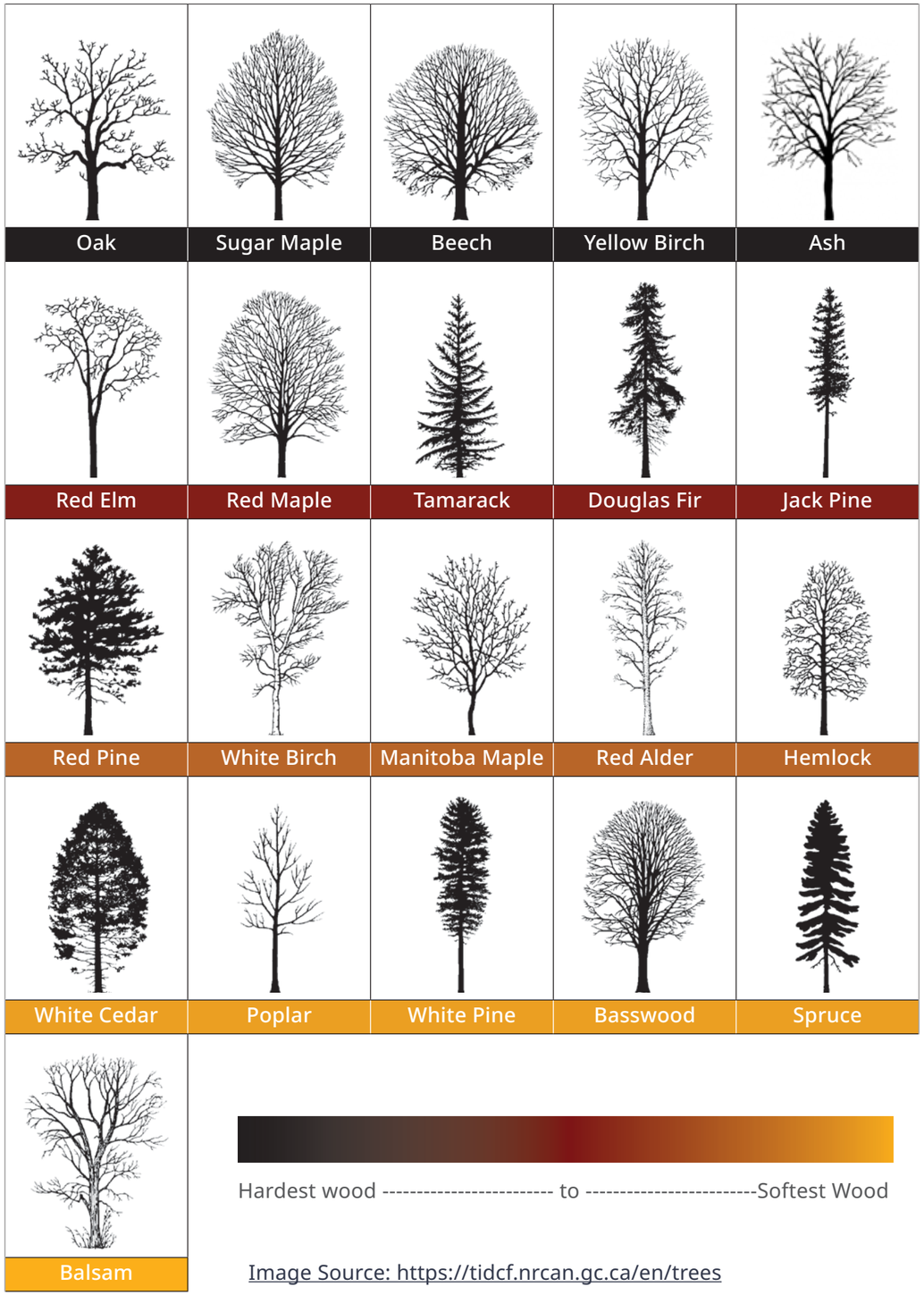


Image Source: https://tidcf.nrcan.gc.ca/en/trees

Dry Wood vs Wet Wood

The quality of the fuel wood you burn can have a big effect on the efficiency and convenience of the system. The main factors that affect the burning characteristics of firewood are:

1. Moisture content,
2. Tree species,
3. And piece size.

This section will discuss the importance of moisture content in your wood fuel and why you should be aware of it. When people have trouble with their wood-burning systems, the problem is most often that their wood is not dry enough.

- When trees are cut, the wood moisture content ranges between 35-50% by weight. If you attempt to burn wood this wet, it will be hard to ignite, slow to burn and will hiss and sizzle in the firebox.
- Wet wood can also lead to faster/greater creosote build-up in your chimney, which causes restricted airflow, improper ventilation, and backdraft. High creosote build-up within the chimney can ignite causing damage to the chimney causing chimney fires and potentially the ignition of materials surrounding the chimneys surface.

This is why it is important to season your wood for the recommended amount of time to ensure that the wood fuel is dry enough to use.

WHAT **NOT** TO BURN

- ✕ Treated Wood
- ✕ Trash
- ✕ Driftwood
- ✕ Artificial Logs

Selecting Trees to Harvest

Before cutting or harvesting any firewood always make sure everyone involved is wearing the proper protective equipment (PPE).

Those participating in wood harvesting should be wearing:

1. Safety glasses or goggles,
2. Face shields,
3. Hearing protection,
4. Head protection and gloves,
5. Wear long pants and proper closed toed shoes.

When deciding which trees to harvest consider this suggested model of removal:

1. Remove high-risk trees.
2. Make room for the best/healthier trees to grow (crop trees).
3. Remove trees with poor form/quality.
4. Favor species that fit your objectives.
   (i.e hardwoods, softwoods, mature trees, etc)
5. Remove trees to create adequate spacing for your crop trees.

After each step, evaluate your tree stand to ensure your practices are not harmful.

Crop Trees

In some practices, certain trees are selected as crop trees which are considered to be of the best quality. Crops trees are those that are usually straight, have few limbs on the lower stem and have a large healthy crown. These trees will remain standing and growing for the long-term, it is good to mark these trees with tape or paint. Cut away the appropriate unmarked trees, leaving some for seedling protection and cutting up others for firewood.

Using directional felling will allow the cutter to determine the direction a given tree will fall. This is a safe and efficient way to cut down trees by avoiding damage to your crop trees. This practice is best used when learned from an individual with experience.

If you have access to hardwood, it is best to burn trees such as; yellow birch, red maple, oak, and ash. Hardwoods are used for firewood due to their longer burn times and higher heat outputs with less physical labour required.

Avoid harvesting or burning wood that has a high moisture content such as wood that has just been cut. The higher moisture content makes ignition and sustained combustion difficult to maintain. This is why it is important to season your firewood.

Seasoning Your Firewood

As stated in previous sections, firewood that is not dry enough to burn is the root cause of most arguments against wood stoves. Continually burning green or unseasoned wood produces more creosote and causes a lack of heat and a dirty glass door.

Here are some things to consider in estimating drying time:

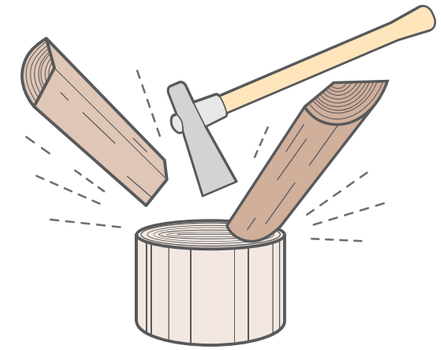
- Firewood takes a long time to dry;
- Firewood bought from a dealer is rarely dry enough to burn, so it is advisable to buy the wood in spring and dry it yourself;
- Drying happens faster in dry weather than in damp climates;
- Drying happens faster in warm summer weather than in winter weather;
- Small pieces dry more quickly than large pieces;
- Split pieces dry more quickly than unsplit rounds;
- Softwoods take less time to dry than hardwoods;
- Softwoods like pine, spruce, and poplar/aspen can be dry enough to burn after being stacked in the open for only the summer months;
- Hardwoods like oak, maple and ash can take one, or even two years to dry fully, especially if the pieces are big;
- Firewood dries more quickly when stacked in the open where it is exposed to sun and wind; it takes much longer to dry when stacked in a wood shed;
- Firewood that is ready to burn has a moisture content between15% and 20% by weight and will allow your stove to produce its highest possible efficiency.

Firewood dries slowly and may take a full year or more to season. Very little drying happens before the wood is cut to length, split and stacked.

- Wood should be stacked in an open area so the pieces can be warmed by the sun and summer breezes can carry away the moisture.
- Hardwoods like oak and maple dry more slowly than softer woods like spruce and poplar.
- Large chunks of wood dry more slowly than wood that is split small. Therefore, while finely split soft woods may season adequately in just the summer months, large pieces of hard woods may take up to two years to dry.
- Properly seasoned wood has a moisture content of less than 20%.

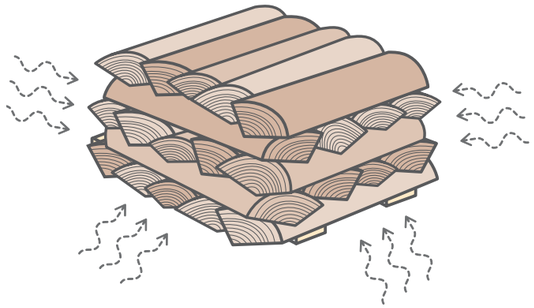
HOW TO SEASON YOUR WOOD

1 SPLIT THE WOOD SO THAT IT WILL FIT IN YOUR STOVE AND DRY FASTER (NO MORE THAN 6 INCH WEDGES)



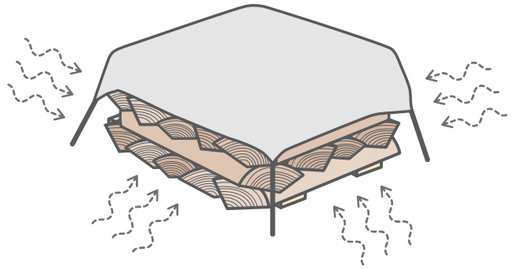
2 STACK THE WOOD IN A WAY THAT ALLOWS AIR TO CIRCULATE

- Keep the wood off of the ground and a distance away from buildings

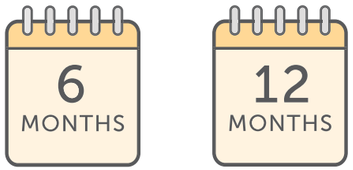


3 COVER THE WOOD TO PROTECT THE WOOD FROM RAIN OR SNOW

- Ensure that the cover does not rest directly on the wood
- Keep the sides open to allow for air circulation



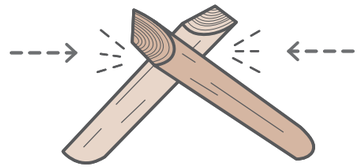
4 ALLOW THE WOOD TO DRY FOR THE PROPER AMOUNT OF TIME



FOR SOFTWOODS
E.G.: PINE, SPRUCE

FOR HARDWOODS
E.G.: POPLAR, BIRCH

5 YOU WILL KNOW THAT YOUR WOOD IS DRY WHEN IT FEELS LIGHTER AND SOUNDS HOLLOW WHEN STRUCK AGAINST ANOTHER PIECE OF WOOD



There are several ways to tell if firewood is dry enough to burn:

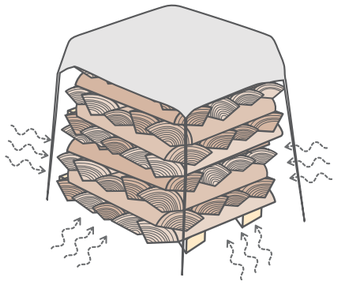
1. There are cracks or checks in the end grain.
2. The wood darkens with aging from white or cream colour to yellow or grey.
3. Bang two pieces together; dry wood sounds hollow, wet wood sounds dull.
4. Split a piece and if the fresh surface feels damp and cool, the wood is wet. If it feels dry and warm, it is seasoned.
5. Burn some and if it hisses, it is too wet.

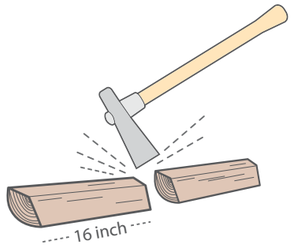
If you are still unsure of the moisture content of your wood fuel you can test the wood using a moisture meter. Home and building inspectors rely on moisture meters to identify potential problems and damage to structures from moisture buildup. Although this is a rather advanced form of testing the material, it can benefit those who are unsure of their skills to identify moisture content.

Burning Wood Efficiently

What is Good Firewood?

Good firewood has been cut to the correct length for the stove, split to a range of sizes and stacked in the open until its moisture content is reduced to 15 to 20 per cent. As shown above, wood needs to be stacked accordingly and dried **until the moisture content is 15-20%**





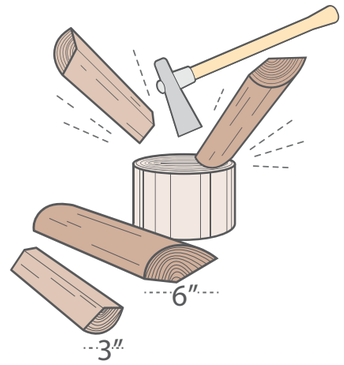
Log Length

Logs should be cut at least 1" (25 mm) shorter than the firebox so they fit in easily. Pieces that are even slightly too long make loading the stove very difficult. **The most common standard length of firewood is 16" (1.4 ft or 400 mm).** The pieces should be a consistent length to make stacking, drying and loading into the firebox easier.

Piece Size

Firewood dries more quickly when it is split. Large unsplit rounds can take years to dry enough to burn. Even when dried, unsplit logs are difficult to ignite because they do not have the sharp edges where the flames first catch. Logs as small as 3" (75 mm) diameter should be split to encourage drying.

Installation and operation manual will tell you the specific sizes required for your wood stove. Your stove's installation and operations manual outlines that wood should be split to a range of sizes, from about 3" to 6" (75 mm to 150 mm) in cross section. Having a range of sizes makes starting and rekindling fires much easier. Often, the firewood purchased from commercial suppliers is not split fine enough for convenient stoking. It is sometimes advisable to re-split the wood before stacking to dry.



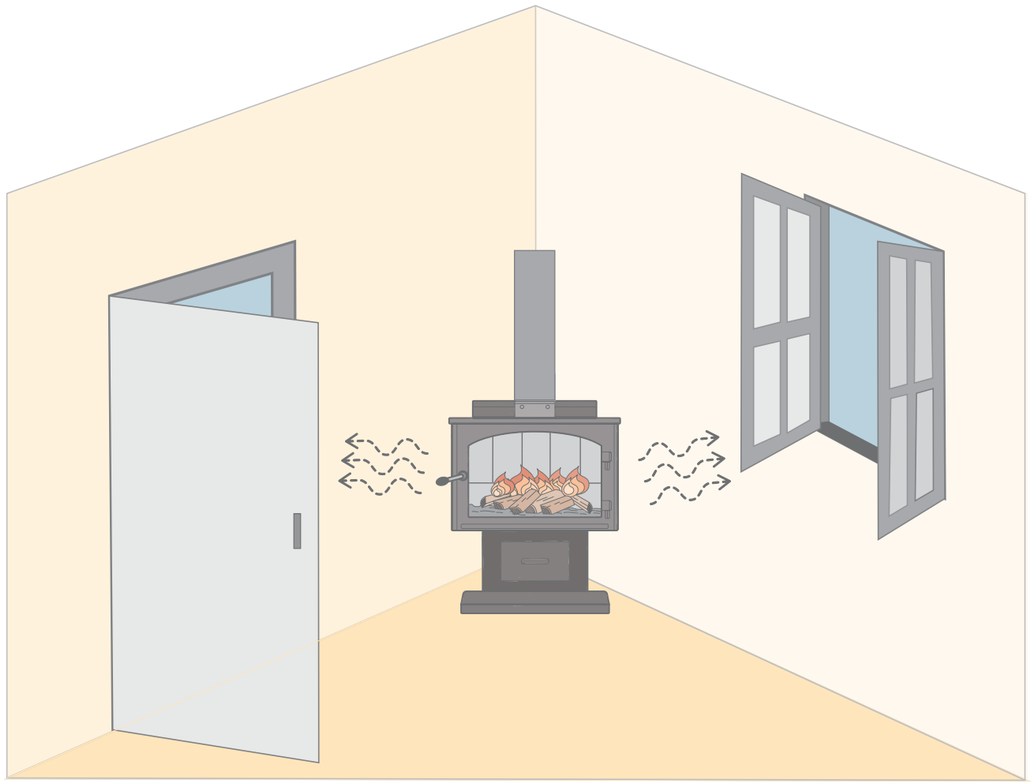
Maintaining the Heating System - Daily Operation and Maintenance

Your First Fires

Two things will happen as you burn your first few fires

- The paint cures and
- The internal components of the stove are conditioned.

As the paint cures, some of the chemicals vaporize. The vapors are not poisonous, but they do smell bad. Fresh paint fumes can also cause smoke alarms to go off. When you first light your stove, be prepared by opening doors or windows to ventilate the house. As you burn hotter fires, more of the painted surfaces reach the curing temperature of the paint. The smell of curing paint does not disappear until you have burned one or two very hot fires.



Lighting Fires

Whatever method of fire starting you use; your goal should be to get a hot fire burning quickly. A fire that starts fast produces less smoke and deposits less creosote in the chimney. There are two popular and effective ways to start wood fires:

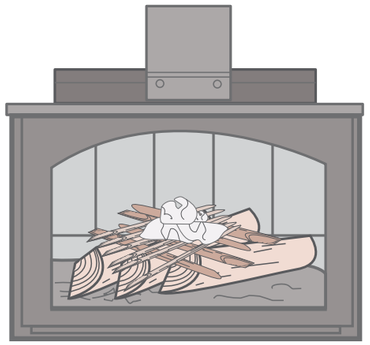
1. Conventional Fire Starting

The conventional way to build a wood fire is as follows:

1. Bunch up 5 to 10 sheets of plain newspaper and place them in the firebox.
2. Place 10 or so pieces of fine kindling on the newspaper.
3. Place some larger kindling pieces on the fine kindling.
4. Open the air control fully and light the newspaper.
5. Once the fire has ignited, close the door, and leave the air control fully open.
6. After the kindling fire has mostly burned, you can add standard firewood pieces until you have a fire of the right size for the conditions.

2. Top-Down Method of Fire Lighting

The top-down method does not collapse and smother itself as it burns, so it is not necessary to build up the fire gradually because the firebox is loaded before the fire is lit. This method can provide up to two hours of heating or more without needing more wood. The top-down method works properly only if the wood is very dry.



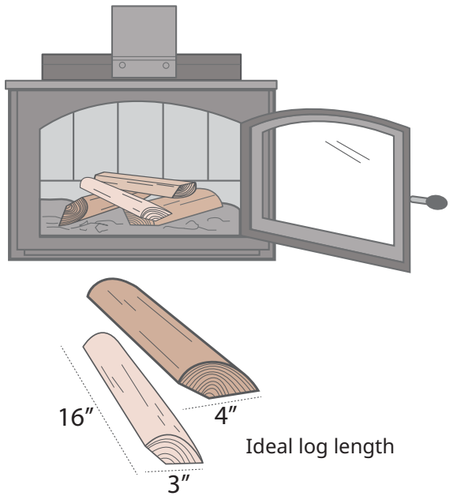
1. Start by placing three or four full-sized split pieces of dry firewood in the firebox.
2. Place 4 or 5 more finely split pieces of firewood on the base logs at right angles (log cabin style).
3. Now place about 10 pieces of finely split kindling on the second layer at right angles.
4. On top put about 5 sheets of newspaper. (You can just bunch them up and stuff them in between the kindling and the underside of the baffle)
5. Light the newspaper and watch as the fire burns from top to bottom.

Building Different Fires for Different Needs

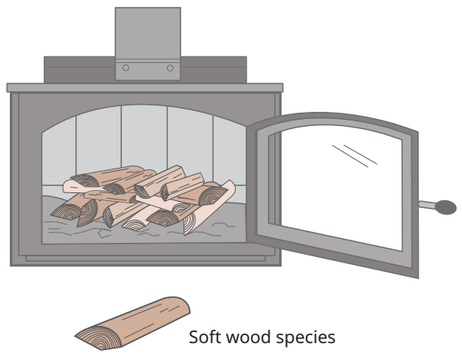
Using the air control is not the only way to match the stove's heat output to the heat demand. Your house will need far less heat in October than in January to be kept at a comfortable temperature. If you fill the firebox too much in the fall, it can overheat the space or suffocate the flames causing the fire to be smoky and inefficient. Here are some suggestions for building fires to match different heat demand.

Small Fires to Take the Chill Off the House

To build a small fire that will produce a low heat output, **use small pieces of firewood, and load them crisscross in the firebox.** The pieces should be only 3" to 4" in diameter. After raking the coals, you can lay two pieces parallel to each other corner to corner in the firebox and lay two more across them in the other direction. Open the air control fully and only reduce the air after the wood is fully flaming. This kind of fire is good for mild weather when you are around to tend the stove and should provide enough heat for four hours or more. Small fires like this are a good time to use softer wood species so there will be less chance of overheating the house.



Ideal log length

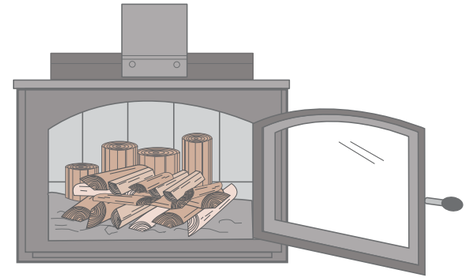

Soft wood species

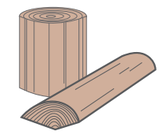
Long Lasting Low Output Fires

Sometimes you will want to build a fire to last up to eight hours, but do not need intense heat. In this case use soft wood species and **place the logs compactly in the firebox so the pieces are packed tightly together**. You will need to fire the stove hot for long enough to fully char the log surfaces before you can turn the air down. Make sure the fire is flaming brightly before leaving the fire to burn.

High Output Fires for Cold Weather

When the heat demand is high during cold weather, you will need a fire that burns steadily and brightly. This is the time to use larger pieces of hardwood fuel if you have it. **Put the biggest pieces at the back of the firebox and place the rest of the pieces compactly.** A densely built fire like this will produce the longest burn your stove is capable of. You will need to be cautious when building fires like this because if the air is turned down too much, the fire could smoulder. Make sure the wood is flaming brightly before leaving the fire to burn.




Large hardwood pieces.
Oak, Maple, Ash.

Maximum Burn Cycle Times

The burn cycle time is the period between loading wood on a coal bed and the consumption of that wood back to a coal bed of the same size. The flaming phase of the fire lasts for roughly the first half of the burn cycle and the second half is the coal bed phase during which there is little or no flame. The length of burn you can expect from your stove, including both the flaming and coal bed phases, will be affected by a number of things, such as:

- Firebox size,
- The amount of wood loaded,
- The species of wood you burn,
- The wood moisture content,
- The size of the space to be heated,
- The climate zone you live in, and
- The time.

Chimney Sweeping

Why Chimney Cleaning Is Necessary

- Wood smoke can condense inside the chimney liner and chimney, forming a combustible deposit called creosote.
- If creosote is allowed to build up in the venting system it can catch fire when a hot fire is burning in the stove.
- Smoldering, smoky fires can quickly cause a thick layer of creosote to form.

HAVE A CLEARLY UNDERSTOOD PLAN ON HOW TO HANDLE A CHIMNEY FIRE.

Cleaning The Chimney

The chimney should be checked regularly for creosote build-up. Chimney cleaning can be a difficult and dangerous job.

The most common equipment used are fibreglass rods with threaded fittings and stiff plastic brushes. The brush is forced up and down inside the chimney flue to scrub off the creosote. Inspection and cleaning of the chimney can be facilitated by removing the baffle.

The ignition of creosote in chimneys can cause damage to the chimney and, if the chimney fails, may cause ignition of combustibles materials surrounding the chimneys surface. Creosote must be removed regularly from the ventilation system to reduce the risk of chimney fires.

Removing Ashes

When you follow the suggestions for raking of the coal bed before loading, you will find that ashes build up at the front of the firebox. These ashes can be removed easily before coal bed raking in preparation for loading. Most modern wood-burning appliances work best when a small amount of ash is removed often rather than letting it build up for several days.

When should I remove the ashes from a Woodstove?

Ash should be removed from the firebox **every two or three days** of full-time heating.

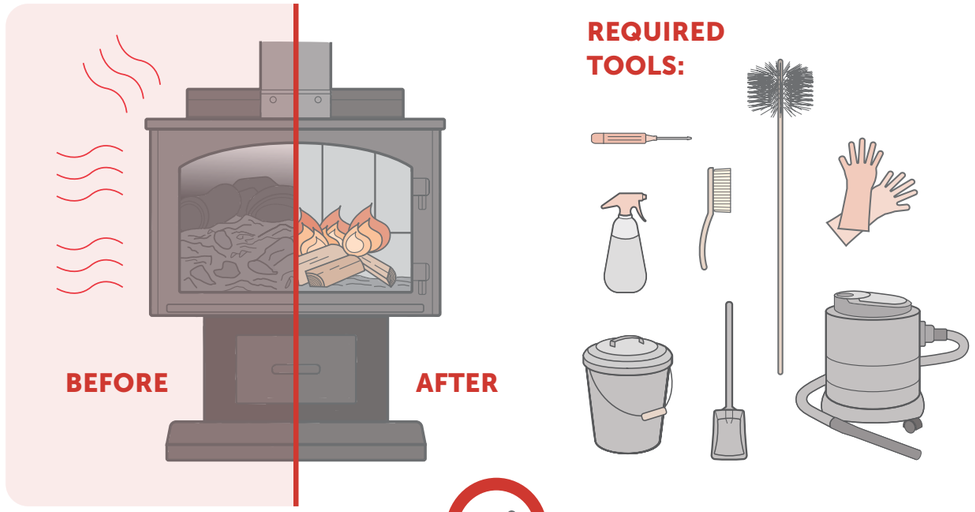
- Do not let the ash build up in the firebox because it will interfere with proper fire management.
- The best time to remove ash is after an overnight fire when the stove is relatively cool, but there is still some chimney draft to draw the ash dust into the stove and prevent it from coming into the room.

Ashes almost **always contain live embers** that can stay hot for days and which release carbon monoxide gas. Ashes should be placed in their own metal container with a lid that is stored outside on a surface like concrete.

Never store ashes indoors, in a non-metallic container or on a wooden surface like a deck.

DO NOT LEAVE THE STOVE UNATTENDED WHEN THE DOOR IS SLIGHTLY OPENED. ALWAYS CLOSE AND LATCH THE DOOR AFTER THE FIRE IGNITES.

HOW TO
CLEAN YOUR WOODSTOVE



STEPS TO CLEAN YOUR WOODSTOVE

1 MAKE SURE THE STOVE IS COMPLETELY COOL

- This will ensure that you do not burn yourself during the cleaning process

2 CLEAN OUT THE FIRE BOX

- Using the ash bucket and shovel from your fire set, scoop out as much of the ash as you can
- You should be able to see the fire brick inside the stove when finished
- Inspect the inside of the stove to see if anything requires repair and if so have this fixed immediately

3 EMPTY YOUR INDOOR CHIMNEY

- Disassemble the chimney and remove any debris inside. Debris left in the chimney can become a fire hazard
- Mark the chimney lines and screw holes to make reassembly easier
- Use a wire brush to completely clean the chimney

4 CLEAN OUT THE ASH BOX

- Empty the ash box into a pail using your shovel
- Dispose as desired

5 CLEAN THE ASHTRAY

- Using the brush from the fire set, brush ashes from the tray into a pail

**** PLEASE ENSURE THAT YOUR WOOD STOVE IS SERVICED OR INSPECTED BY A WETT CERTIFIED PROFESSIONAL AT LEAST ONCE PER YEAR (OR AFTER SEASONAL RE-INSTALLATION).***

nan.ca/resources/fire-safety

General Safety Information

Fuel Safety

Do not store fuel within heater minimum installation clearances. According to the Osburn 2000 instruction manual, you should not store anything including fuel within four feet (48") of your wood stove.

NEVER USE

GASOLINE, LANTERN FUEL (NAPHTHA), FUEL OIL, MOTOR OIL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS OR AEROSOLS TO START A FIRE IN THIS STOVE. KEEP ALL SUCH LIQUIDS OR AEROSOLS WELL AWAY FROM THE STOVE WHILE IT IS IN USE.

Preventing House Fires

- Install and use only in accordance with the Osburn 2000 manufacturer's installation and operation instructions.
- Contact local building or fire officials about restrictions and installation inspections for your area.
- Use listed 152mm/6-inch diameter single or double wall connectors with prefabricated chimneys approved UL 103 HT (US) and ULC 5629 (CAN) suitable for passing a chimney through a combustible wall or ceiling.
- **DO NOT** pass connector through wall or ceiling.
- **DO NOT** connect this unit to a chimney servicing another appliance.
- Use only dry seasoned wood. **DO NOT** use other fuels.
- Open door or remove screen to feed the stove only.
- **DO NOT** obstruct the space underneath the stove.
- **DO NOT** use grate or elevate fire. Build fire directly on hearth.
- **DO NOT** overfire. If stove or chimney glows, you are overfiring.

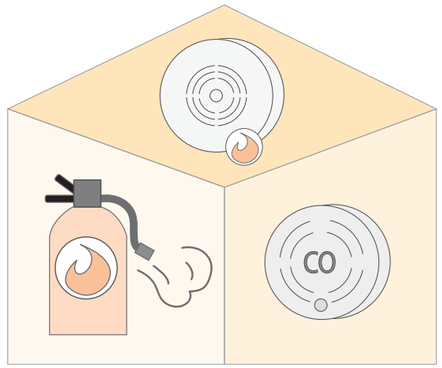
- Inspect and clean chimney frequently. Under certain conditions of use, creosote buildup may occur.
- Replace glass with manufacturer provided replacement **only**.
- Install unit on a non-combustible material extending 450 mm (18”) beyond any side having a loading door and 200 mm (8”) beyond the other sides and rear.
- The Osburn 2000 is suitable for mobile-home installation. Floor protection may vary from pedestal to legs version refer to owner’s manual.
- Combustion air openings **SHALL NOT** be obstructed.
- This wood stove needs periodic inspection and repair for proper operation. Consult owner’s manual for further information. It is against recommendations to operate this wood heater in a manner inconsistent with the operating instructions in the owner’s manual.

Operational Safety

Wood stove needs periodic inspection and repair for proper operation. It is against recommendations to operate this wood stove in a manner inconsistent with operating instructions in this manual.

This appliance should always be maintained and operated in accordance with the Osburn 2000 owners manual instructions. Below are some main points listed to help you safely operate your stove;

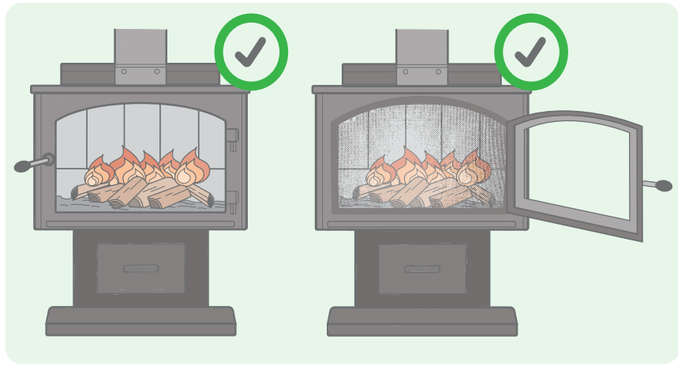
- Do not elevate the fire by using a grate.
- A smoke detector, a carbon monoxide detector and a fire extinguisher should be installed in the house. The location of the fire extinguisher should be known by all family members.

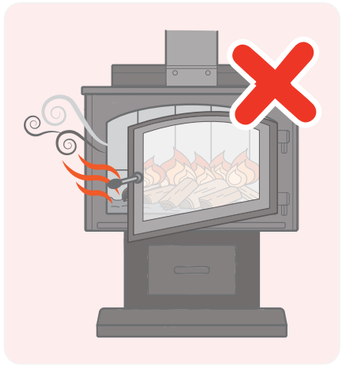


CAUTION

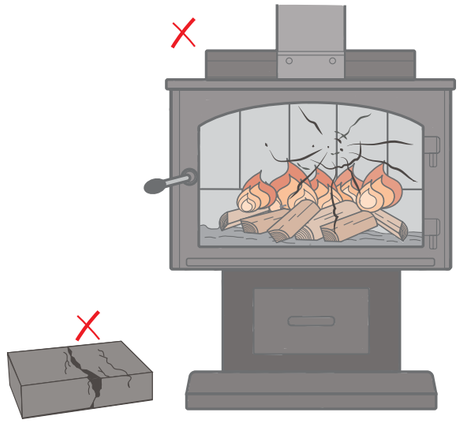
- **HOT WHILE IN OPERATION**
- **KEEP CHILDREN, CLOTHING AND FURNITURE AWAY**
- **CONTACT MAY CAUSE SKIN BURNS. GLOVES MAY BE NEEDED FOR STOVE OPERATION.**

- Operate only with the door fully closed or fully open with the fire screen in place. If the door is left partly open, gas and flame may be drawn out of the opening, creating risks from both fire and smoke.





- Using a stove with cracked or broken components, such as glass, firebricks or baffle may produce an unsafe condition and may damage the stove.
- Open the air control fully before opening the loading door.
- This stove has been tested for use with an open door in conjunction with a fire screen, sold separately. The door may be open, or fire screen removed only during lighting procedures or reloading.



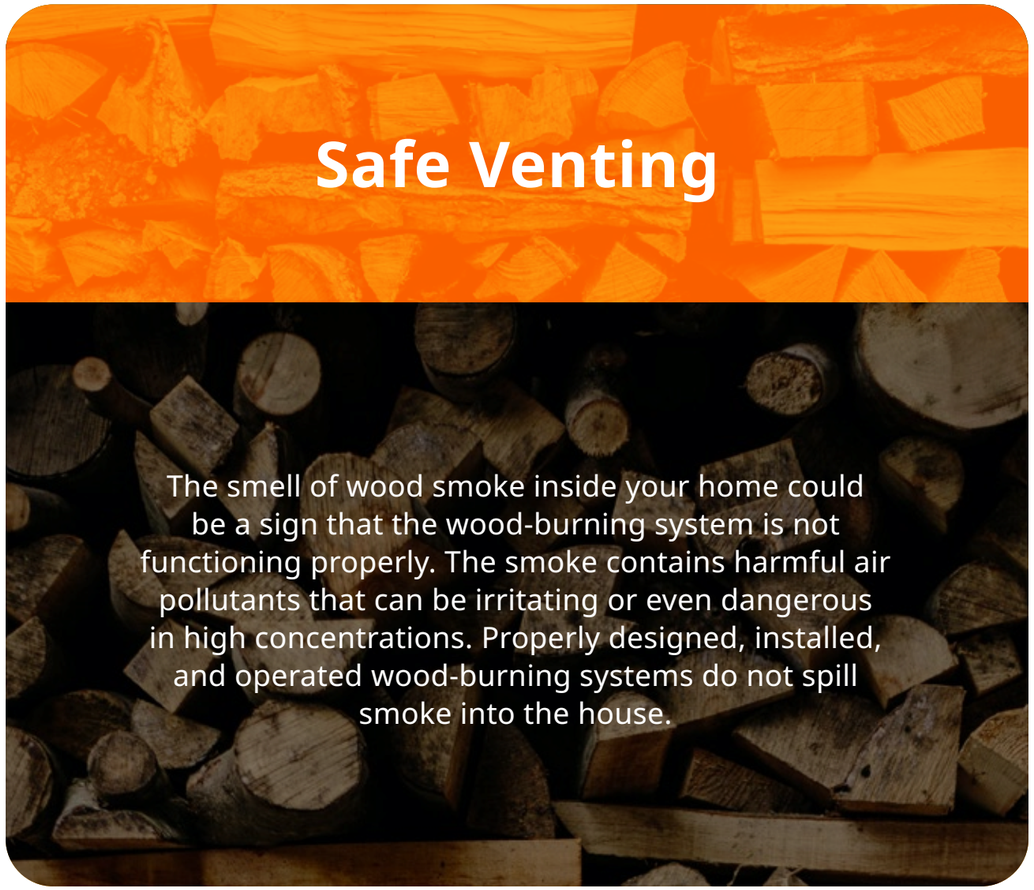
CAUTION

- **ALWAYS CLOSE THE DOOR OR PUT BACK THE FIRE SCREEN AFTER IGNITION.**
- **DO NOT LEAVE THE STOVE UNATTENDED WHEN THE DOOR IS OPENED WITH OR WITHOUT THE FIRE SCREEN.**

Negative Pressure in the House

Houses are more tightly sealed than in the past but are also more sensitive to depressurization when air is exhausted from the house. Because new houses are tightly sealed, there are few holes to allow replacement air to enter, and the house pressure becomes negative compared to atmospheric pressure outside.

This negative pressure works against chimney draft and can cause a wood burning appliance to spill smoke, especially when a fire is started or as it dies down to coals. Because it is difficult to predict when or if spillage due to house depressurization will occur, it is important to have a smoke detection and carbon monoxide alarms. A carbon monoxide detector must be installed in every room in which a wood burning system is installed.



The Importance of Indoor Air Quality

On average, Canadians spend 90 % of their time indoors. For this reason, indoor air quality is an important health concern.

Everyone's health can be affected by indoor air quality problems including:

- People with asthma, allergies, lung disease, children,
- Elderly can be greatly affected and are the most vulnerable by poor indoor air quality,
- Poor indoor air quality can affect development in children and has been linked to lung disease later in life.

This is why it is important to have proper ventilation in your home to remove dry stale air, pollutants, and give your home fresh clean air, preventing excess moisture in your home which can lead to the growth of mold. An HVAC unit or heating, ventilation, air conditioning system will maintain good indoor air quality in your home.

Heating, Ventilation and Air Conditioning Systems (HVAC)

Heating and ventilation are of utmost importance in both homes and office buildings.

- Heating, Ventilation and Air Conditioning (HVAC) systems function to maintain the comfort and safety of building occupants.
- Heating and air conditioning components assist us by controlling indoor climate and proper airflow.
- Health benefits of a well-maintained HVAC system come into play with the prevention of mold, which frequently thrives in warm, damp areas.

WE WANT TO DO OUR BEST TO MAXIMIZE EFFICIENCY

Heat Recovery Ventilators

Heat Recovery Ventilators are mandatory in houses containing a wood burning appliance must have a ventilation system consisting of a heat recovery ventilator according to OBC 9.32.

Energy Recovery Ventilators can precondition fresh outdoor air to room temperature for buildings, school, office, or home while:

- Substantially reducing your energy bill,
- Improving indoor air quality,
- Reducing the emissions that feed global warming.

In other words, the units efficiently recover energy from stale air leaving the building and use it to warm room temperature in colder months and cool it during the warmer months.

Clearances

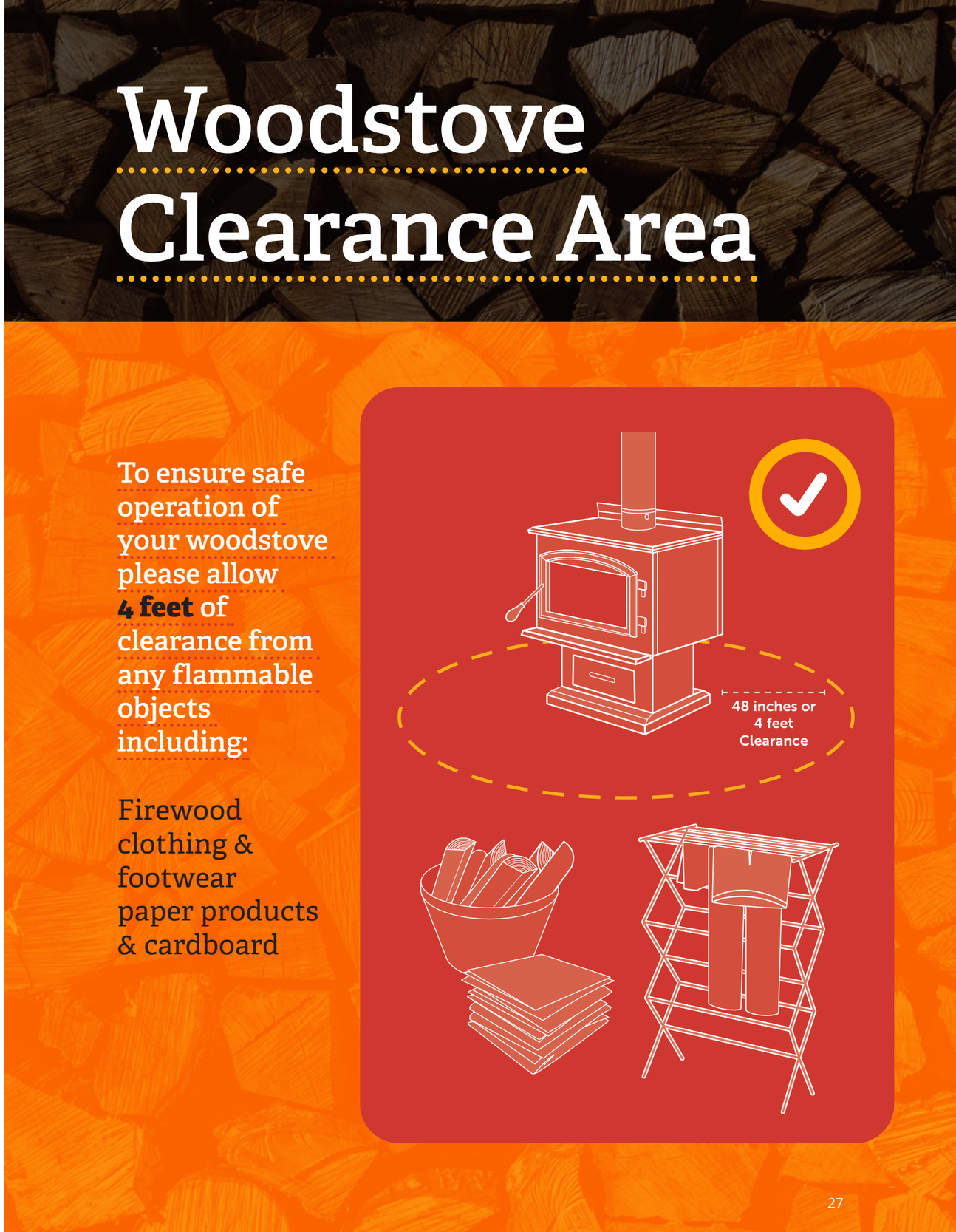
Below is a list of general clearances to follow when using your Osburn 2000 wood stove.

You should always keep items **48”(4 ft)** from your wood stove to prevent accidents. Items that are kept too closely to your wood stove may catch fire and can get out of hand quickly.

Clearances for the Osburn 2000

Always make sure to adhere to the proper clearances as listed below.

	Single wall pipe	Double wall pipe*
Clearance – back wall	14 ½"	6"
Clearance – corner	10"	7”
Clearance – side wall	17"	17"
Clearance – floor to ceiling	84"	84"
Clearance – front of the stove (door)	48”	48”



General Information

Model	2000 (OB02015)	
Type of combustion	Non-catalytic	
Fuel Type	Dry Cordwood	
Recommended heating area (sq. ft..)	500 to 2,100 ft2 (47 to 195 m2)	
Nominal firebox volume	2.4 ft3 (0.068 m3)	
Maximum burn time	8 hours	
Maximum heat output (dry cordwood)	75,000 BTU/h (22.0 kW)	
Overall heat output rate (min. to max.)	14,800 BTU/h to 28,600 BTU/h (4.34 kW to 8.38 kW)	
Average overall efficiency Dry cordwood	69 % (HHV)	74 % (LHV)
Optimum efficiency	77 %	
Average particulate emissions rate	1.54 g/h (EPA / CSA B415.1-10)	
Average CO9	89.4 g/h	

Specifications

Model	2000 (OB02015)	
Maximum log length[1]	20 in (508 mm) East-West	
Flue outlet diameter	6 in (150 mm)	
Recommended connector pipe diameter	6 in (150 mm)	
Type of chimney	ULC S629, UL 103HT (2100 °F)	
Baffle material	C-Cast	
Approved for alcove installation	Yes	
Approved for mobile home installation	Yes	
Shipping weight (without option)	390 lb (177 kg)	74 % (LHV)
Appliance weight (model with legs)	368 lb (167 kg)	
Appliance weight (model with pedestal)	377 lb (171 kg)	
Type of door	Simple, glass with cast iron frame	
Type of glass	Ceramic glass	
Particulate emission standard	EPA / CSA B415.1-103	
Canada standard (Safety)	ULC S627	

Resources

This resource guide was written by staff members within the Infrastructure and Housing Department at Nishnawbe Aski Nation and is intended to be used as a simple reference guide for safe operation of your Osburn 2000 wood stove.

This guide was created using the Osburn 2000 owner's manual as well as a reference guide developed by Canada Mortgage and Housing Corporation, if you require additional information from either of these sources please refer to:

1. A Guide to Residential Wood Heating- Canada Mortgage and Housing Corporation, 2009. https://woodheat.org/attachments/article/woodbook.pdf
2. Osburn 200 Manual – Stove Builder International Inc, 2015.
   www.osburn-mfg.com/en
   tech@sbi-international.com
3. WETT Training Manual – Wood Energy Technology Transfer Inc., Fourth Edition 2006. Revised in 2018.

ALWAYS read and follow the manual prior to operation.

The views expressed in this guide are NOT those of Nishnawbe Aski Nation Corporate Services.

If you require further information, please contact:

Mike McKay,
Infrastructure and Housing Director, NAN
mmckay@nan.ca

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Amber's
FIRE SAFETY CAMPAIGN

Increasing Fire Safety and Fire Prevention in Nishnawbe Aski Nation

Nishnawbe Aski Nation
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nan.ca/resources/fire-safety