

Safety With Chainsaws

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Introduction

Do you know approximately what percentage of all woods accidents in a year are typically the result of a chain saw cut?

30 Percent

Do you know how fast a chain saw blade can move at full throttle?

45 MPH

Do you know which age group of operators are at the greatest risk for injury?

Younger Operators

Do you know how many of all chain saw accidents could be prevented?

Almost all of them

Chain saws are powerful tools that make your job of cutting firewood and fallen trees and removing small trees much easier. But their power makes them very dangerous tools.

Most accidents are the result of a moving chain contacting the operator in some way.

The good news for you is that there are several things you can do to keep yourself from becoming a victim.

You Are the Most Important Factor of Your Own Safety

How?

1. Know your saw and how to operate it before you use it. That means reading and understanding your operator's manual. If there are instructions you do not understand, talk to your chain saw dealer or to someone who is very familiar with how to use your chain saw.
2. Take the time to prepare for the job. This includes several factors discussed in this information fact sheet and probably in your owner's manual.

3. Practice! Begin with logs on which you can make trial cuts to get the feel of your saw and the way it handles.

4. NEVER WORK ALONE! At least be within yelling distance of help.

Even if you have used your saw a few times before, or you've used it once a year for the past several years, these are still important steps to take and precautions to think about.

What Saw Should You Choose?

The best saw for you is the one you can comfortably handle and is appropriate for the type of work you do most often.

<i>Lightweight saws</i>	<i>good for occasional use: cutting limbs, firewood and small trees</i>
Midweight saws	better for more frequent use
Heavyweight saws	for PROFESSIONAL use only

There are also many safety features you should look for -- NOTE that these features do not prevent accidents, they only reduce the risk to you.

Anti-Kickback Devices

Chain brake stops the chain if kickback occurs. This can mean the difference between possibly a speed of 45 MPH and 0 MPH if the chain actually contacts you.

Throttle Interlock prevents the throttle from accidentally advancing or inadvertently moving by automatically returning the throttle and chain to idle when the trigger button is released.

Hand Guard will keep the left hand from slipping into the chain.

Balance is not a device, but something to look for. You can maintain better control over the saw that is well balanced in your hand if kickback occurs.

Anti-kickback chains reduce the forces on the chain that cause kickback.

What Should You Do To Prepare For Cutting?

Clear Your Work Area:

Make sure there are no nails in the wood or loose objects in the area where you are cutting, such as twigs, brush, leaves and stones.

Check Your Chain's Condition and Sharpness:

(Follow the instructions in your manual and use the proper maintenance tools.)

Sharpness- a sharp chain make the chainsaw easier to use.

Tension- if the chain is too loose, it may derail and cause a severe injury; but if it is too tight, it may bind and also cause an accident or damage to the chainsaw.

Idlespeed- prevents the chain from rotating when the controls are in the idle position.

All nuts and screws should be tight. Everything should be well lubricated.

Fuel the Saw in a Safe Place:

Completely wipe off any spilled fuel and move the chainsaw to a new location before starting the engine.

Check the Conditions in Which You Are Cutting:

If you are felling a tree, make sure you consider which way the wind is blowing in deciding which direction the tree should fall. Also look for a lean in the tree and a heavy imbalance if several large limbs are all on one side of the tree. IN EVERY CUTTING SITUATION you must make sure you have secure footing. If the ground is slippery from rain, snow or ice, then you should not cut there. Always look for broken limbs or other trees caught in the tree you want to cut.

Plan Your Escape Route:

Make sure there are no obstacles that can cause you to trip. Then, after you have made your cut, you will be able to move rapidly at least 25 feet away from the tree at a 45-degree angle without any hazard. If you have an electric saw, be careful not to trip over the cord.

Assess Your Own Physical Condition:

Cutting with a chain saw is physically demanding, even for strong persons, so do not use a chain saw if you are not physically able to handle it. And take plenty of rest breaks before you get tired. BE ALERT! Otherwise you put yourself at a severe risk.

Under NO circumstances should you be under the influence of ANY substance -- this includes drugs, alcohol AND cold medicines -- that can impair your vision, dexterity or judgement.

What Clothing Should You Wear?

Wearing the proper clothing is one of the best safeguards for you to reduce the possibility of serious injury.

- Wear sturdy, snug-fitting clothing that gives you complete freedom of movement. Do not wear anything loose that could catch in the moving chain, such as sleeve cuffs, cuffed pants, scarves, loose long hair (tie it back), jewelry or (if you are female) a skirt.
- Heavy duty, non-slip gloves will improve your grip and protect your hands from abrasions, cuts and splinters.
- Sturdy boots with non-slip soles ensure good footing; and protective toes and high top boots protect your feet and ankles.
- Wear a non-fogging, vented face screen or safety goggles to prevent injury from flying chips or a chain that may break off and fly toward your face.
- Wear an approved safety hard hat. If it is properly fitted, it will be cool, comfortable and provide protection from falling limbs.
- Chain saws are very noisy, so ear muffs or ear plugs are essential to protect your hearing.
- Chaps made for use when using chainsaws protect your legs from severe cuts should the chainsaw slip.

What's The Big Deal About Kickback?

Kickback is one of the greatest saw hazards. It occurs when a force throws the saw rapidly and sometimes uncontrollably towards you. It is a very violent and sudden motion which can severely or fatally injure you. There are several causes:

- an abrupt change in wood character -- hitting a knot or a nail

- striking a nearby limb with the tip of the moving chain while cutting
- running the chain too slowly
- twisting the saw in your cut so the chain grabs
- using a dull or loose chain
- having a loose grip on the saw or cutting with only one hand
- not paying attention

But kickback can be prevented by a few steps and precautions on your part. These **DO NOT PREVENT** kickback completely, but they do reduce the possibility of it happening to you.

- Always hold the saw firmly with both hands and keep the left arm as straight and stable as possible
- Use a saw equipped with a chain brake, anti-kickback chain, or other Anti-kickback devices.
- BUT, do not rely exclusively upon safety devices.
- Watch for twigs that can snag the chain -- the area should be free from any obstructions.
- Cut with the lower part of the saw blade-- not with the tip or nose.
- Maintain a high saw speed when entering, cutting and leaving the wood cut.
- Keep the chain sharp.
- DO NOT cut above mid chest height -- the saw is too close to your face.
- DO NOT cut brush or shrubbery.
- Use only replacement bars specified by the manufacturer.

The more you understand kickback and what it can do to you and your saw, the better chance you have of controlling its surprise movement by

keeping your balance and control over the chain saw.

What Jobs Are Not For You And Your Chain Saw?

If possible, have a buddy with you so that you do not have to work alone; but NEVER allow someone else to hold the wood while you cut.

You should also reposition the log between cuts, NOT while the chain saw is still running or in your hand.

Never cut small, flexible branches or brush with your chain saw. Their size and flexibility can easily cause the saw to bounce toward you or bind up with enough force to cause a kickback. The best tools for that kind of work are a hand saw, pruning shears, an axe and other hand tools.

What Jobs Should You Leave For The Professional?

Some jobs are too risky for you to try. They may be jobs that require a heavyweight saw, special training or years of experience.

- Do not fell medium to large trees because it is very complicated and dangerous. Leave it to the pros.
- Do not work from a ladder or from within the tree. Leave it to the pros.
- Do not do boring cuts because it is very risky unless you are trained for the job. Leave it to the pros.

Chain Saw Troubleshooting

If you are having difficulty cutting or the saw is cutting poorly, there are several problems you should consider:

- the chain is dull
- the chain is improperly sharpened
- the chain is installed backwards
- the chain is not properly tensioned

- the bar and chain are not properly lubricated
- the guidebar is damaged
- the exhaust ports are dirty
- the fuel filter is dirty
- the air filter is clogged
- the spark plug is fouled

Your chain saw will also give you clues when it is time to sharpen the chain.

- when you notice the chain tends to walk sideways while cutting
- when the cut produces fine powder instead of chips
- when you find yourself pressing down hard to keep cutting
- when you smell burnt wood
- when it takes considerably longer to complete cuts made in less time earlier on the job

Fire Prevention

Gasoline and the hot chain saw engine can be contributing factors in starting fires in the woods. You should take precautions to prevent fires.

There are five very important rules to remember:

1. **NEVER fuel a saw while the engine is running.**
2. **NEVER fuel a hot saw.**
3. **NEVER smoke or have any type of flame while you are around a saw or during fueling.**
4. **NEVER start the saw where you fueled the engine.**
5. **Keep leaves and dry materials away from the hot muffler.**

Other Safety Rules to Remember

- BEFORE starting the engine, make sure the chain is not contacting anything.
 - DO NOT let the saw rest on your leg or knee while you start the engine.
 - Do not drop start the chainsaw
 - ALWAYS maintain control by standing securely holding the saw firmly and taking your hand off the trigger between cuts.
 - DO NOT work when you are fatigued.
 - Keep the handles dry and clean and free from the oil and fuel mixture.
 - Whenever you are cutting, be sure your body is clear of the natural path the saw will follow when the cut goes through.
 - NEVER straddle the log to make a cut.
 - ALWAYS shut off the engine before setting the chain saw down: even when you are retreating from a falling tree
- Make sure the saw is off and the chain has stopped before making any adjustments or repairs.
 - Do not run the saw indoors.

Limbing

- Stand on the opposite side of the tree whenever possible, using it as a barrier between yourself and the limb you are cutting. Do not overstretch yourself to do this because you are less stable.
- Do not face the limb you are cutting squarely -- stand at a 45-degree angle to prevent the saw from striking your leg if it slips.
- If you are on a hill, stand on the upside of the hill.
- NEVER cut limbs above mid-chest height.
- Do not cut limbs that are supporting the log.

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