

How To Use A Chainsaw

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INTRODUCTION: TAMING THE TIMBER BEAST

The chainsaw is one of the most empowering tools a landowner, hobbyist, or professional can own. It turns a daunting pile of storm-felled branches into neat firewood in minutes, and it can transform an overgrown property into a manageable landscape. Yet, for all its utility, a chainsaw is also an inherently dangerous machine. Ask any experienced sawyer, and they will tell you the same truth: **knowing how to use a chainsaw correctly is not optional; it is the single most important factor separating a productive work session from a trip to the emergency room.**

This guide is designed to take you step by step through the entire process. Whether you are unboxing your first chainsaw or looking to refine your technique after a few seasons, the principles here will help you build safe, efficient habits. We will cover everything from essential safety gear and understanding your saw’s anatomy to starting procedures, basic cutting techniques, and vital maintenance. By the end, you will have a clear, actionable roadmap for handling this powerful tool with confidence and respect.

SAFETY FIRST: THE NON-NEGOTIABLE FOUNDATION

Before you ever pull the starter cord, you must prepare yourself and your surroundings. Chainsaw accidents happen in a split second, often when fatigue, distraction, or improper gear are involved. Let us lay the groundwork for every safe cut.

Personal Protective Equipment (PPE)

Your body is the most valuable asset on the job site. Invest in the following items and **never operate a chainsaw without them:**

- **Chainsaw chaps or protective pants** – made of multiple layers of Kevlar or similar material that will snag the chain and stop it instantly if it contacts your leg.
- **Safety helmet with face shield and ear muffs** – protects your head from falling branches, your face from flying debris, and your hearing from the engine’s roar.
- **Heavy-duty work gloves** – preferably with a reinforced palm and anti-vibration padding.
- **Steel-toed boots** with a non-slip sole – chainsaws can drop, and logs can roll; your feet need real protection.
- **Close-fitting clothing** – avoid loose sleeves or hoodie strings that could get caught in the chain.

Assess Your Work Area

A clean, organized worksite is a safe worksite. Before you make your first cut, walk the area and identify hazards:

- Remove tripping obstacles like vines, roots, and loose branches.
- Ensure you have a clear escape path when felling trees – typically a 45-degree angle away from the direction of the fall.
- Check for overhead dead limbs (“widow makers”) that could be dislodged.
- Keep all bystanders, especially children and pets, at least twice the tree’s height away.

Fuel and Oil: Respect the Mix

Modern chainsaws run on a two-stroke engine, meaning you must mix gasoline with high-quality two-stroke oil at the ratio specified by your owner’s manual (commonly 50:1). **Never use old or stale fuel.** Also, fill your chain oil reservoir with bar and chain lubricant – the oil that keeps the chain moving smoothly on the guide bar. Running without bar oil will destroy your saw in minutes.

KNOW YOUR CHAINSAW INSIDE AND OUT

Before you can master how to use a chainsaw, you need to know what every major component does. Familiarize yourself with the following parts:

- **Guide bar** – the long metal blade the chain rides on. It comes in various lengths, usually between 12 and 24 inches for most residential work.
- **Chainsaw chain** – a loop of sharp cutting teeth that spins around the bar. The chain can be dulled by dirt or contact with the ground.
- **Chain brake** – a critical safety feature; when activated (either by the operator’s wrist or by inertia in a kickback), it instantly stops the chain.
- **Throttle trigger and trigger lockout** – the throttle controls engine speed, and the lockout prevents accidental engagement.
- **Oiler adjustment screw** – regulates how much bar oil is pumped onto the chain. Proper lubrication is essential.
- **Air filter cover and spark plug** – keep these clean for reliable starting and running.

Also, understand that chainsaws come in electric (corded or battery) and gas models. Electric saws are quieter, lighter, and require less maintenance, while gas saws offer more power and longer run times for heavy-duty felling. The fundamental operating principles are the same, though battery saws have no choke or primer bulb.

HOW TO START A CHAINSAW SAFELY

Starting a chainsaw is a two-part sequence: cold start vs. warm start. Follow these steps for a gasoline saw.

Cold Start Procedure

1. Place the saw on a flat, clear surface with the chain brake engaged (push the front hand guard forward).
2. Set the choke lever (usually a toggle or integrated into the air filter cover) to the “full choke” position.

3. Press the primer bulb (if equipped) 5–6 times until fuel is visible in the bulb.
4. Hold the rear handle firmly with your right foot through the rear handle opening (for larger saws) or simply brace it with your knee. Better yet, use the “ground start” method: put the saw on the ground, press down with one hand on the top handle, and pull the starter cord with the other.
5. Pull the starter cord firmly until the engine pops (usually 2–4 pulls). Then push the choke lever to the “half choke” or “run” position.
6. Pull again until the engine starts. Once running, squeeze the throttle briefly to disengage the choke completely.
7. Allow the saw to idle for 15–30 seconds before revving it. Disengage the chain brake by pulling the front guard toward you.

Warm Start

If the saw has been running recently and is still warm, you can skip the full choke. Simply set the choke to “run,” apply throttle lock (if present), and pull. If it does not start after three pulls, go back to half choke.

Important: Never drop-start a chainsaw. That is, do not hold it in one hand and pull the cord with the other while the saw is dangling. This is extremely dangerous and a common cause of inadvertent acceleration and kickback.

BASIC CUTTING TECHNIQUES: THE HEART OF THE MATTER

Now that your saw is running and the chain is lubricated, it is time to cut. We will cover three fundamental operations: felling a small tree, limbing, and bucking (cutting a fallen log into lengths).

Felling a Tree (Under 6 Inches Diameter)

For larger trees, you need professional training and a felling license in many areas. For small trees, use this simple approach:

1. Plan your escape route – 45 degrees back and away from the fall line.
2. Cut a notch on the side of the tree facing the intended fall direction. The notch is a horizontal cut about one-third into the trunk, then a second cut at a 45-degree angle meeting the first cut, removing a wedge of wood.
3. Make the back cut on the opposite side of the tree, slightly above the bottom of the notch. Leave a “hinge” of uncut wood (about 1/10 of the trunk diameter) to guide the tree’s fall.
4. As the tree starts to lean, shut off the saw, turn the engine cut-off switch, and retreat along your escape route. **Never turn your back on a falling tree.**

Limbing (Removing Branches)

Once the tree is on the ground, you will cut off the branches. Work from the base of the trunk upward, keeping the saw on the downhill side (if on a slope) to avoid pinching.

- Hold the saw with both hands, pivot on your hips, and cut with the bottom of the bar (the “bucking” side) when possible.
- Make small cuts rather than trying to slice through large, springy branches, which can slap the saw back at you.
- **Never cut a branch that is under tension** (a “spring pole”) from the side facing you. Instead, cut from the outside of the bend, or use a relief cut to release pressure gradually.

Bucking (Cutting Logs to Length)

Bucking is where the chainsaw earns its keep, turning a fallen trunk into manageable firewood or lumber.

- **Log on the ground, no support under it:** Cut about two-thirds of the way through from the top, then roll the log (using a cant hook or peavey) and finish from the bottom to prevent pinching.
- **Log supported on one end:** Begin cutting from the top, but stop before you reach the bottom to avoid the bar being trapped. Then cut from the bottom up.
- **Log supported on both ends:** Cut from the middle, using the top of the bar first, then switch to the bottom. Gravity will help the cut open.

Kickback avoidance: The most dangerous chainsaw hazard occurs when the tip of the bar contacts wood or another object, causing the saw to lurch violently upward and backward toward your face. Always keep the nose of the bar away from your body, and never cut with the top corner of the bar tip.

MAINTENANCE: A SHARP SAW IS A SAFE SAW

Using a dull chain is not only frustrating – it forces you to push harder, creating unsafe conditions. A sharp chain produces fine chips (not sawdust) and pulls itself into the cut.

Chain Sharpening

- Use a round file of the correct diameter for your chain pitch (usually 3/16” or 7/32”). File each tooth at a consistent angle (often 30 degrees) with light pressure, using a filing guide to maintain the correct depth.
- Every few filings, check the depth gauges (the “rakers”) and file them down with a flat file if they protrude too high above the cutting tooth.
- If you are unsure, take the chain to a professional sharpener or swap it with a spare. A well-maintained chain will last many seasons.

Daily Care Checklist

- Clean the air filter – a dirty filter restricts air and makes starting difficult.
- Check the chain tension – it should snap back when pulled up from the bar but still rotate freely. Adjust as needed with the side tensioner.
- Inspect the guide bar for burrs or wear marks. Flip the bar occasionally to even out wear.
- Empty the fuel and oil tanks at the end of the day if you won't use the saw for a month or more – stale fuel can gum up the carburetor.

TROUBLESHOOTING COMMON ISSUES

- **Won't start:** Check spark plug connection, air filter, fresh fuel, and that the choke is set correctly. Also ensure the chain brake is disengaged.
- **Chain not moving:** The chain brake may be engaged, or the clutch is faulty (rare). Also check that the bar oil is flowing – a dry chain can seize.
- **Cutting crooked / pulls to one side:** Dull chain, unevenly sharpened teeth, or a bent bar. Replace or sharpen as needed.
- **Excessive vibration:** Could be a loose bar, worn sprocket, or debris in