

Chapter 6 - Chain Saw Safety

Modern lightweight chainsaws have become common on farms, as well as in urban areas. They are frequently used for cutting and trimming trees, cutting fireplace wood, and cleaning storm damage.

The principal danger in chain saw use is in getting cut by the saw blade. It is important to realize that the modern chain saw cuts through material very quickly, and as it breaks through it can cut you. Wearing protective gear will safeguard you from cutting injuries. There are a number of other factors that can make chain saws hazardous.

- * Inclement weather
- * Falling trees
- * Saw noise and vibration
- * Unsafe operation

The Weather

Wind can create serious hazards when cutting down trees. It can come up or change direction unexpectedly and cause a tree to fall in the wrong direction. Avoid cutting trees on windy days.

Rain, snow and ice may lead to slips and falls. Be especially cautious when working under these conditions. If possible, put the job off until the weather improves.

Fire

Periods of hot, dry weather make leaves and grass a fire hazard. A faulty muffler can provide a spark that could set off a fire. Also, don't let dry combustible material contact a hot muffler.

Spilled fuel adds to the danger. Refuel on bare ground with the engine stopped and wipe spilled fuel off the saw at once. Move at least ten feet upwind from the fuel source before starting the saw. Carry fuel only in safety cans.

The Tree

Certain trees can be dangerous to cut, especially for inexperienced operators. Professional lumbermen have coined some expressions that describe problem trees:

- * Widower--This is a tree with broken or dead limbs. Serious injury can result from a limb falling on you.
- * Spring pole--This is a sapling that's bent and held down under tension by another tree. If the spring pole is cut or the other tree is removed from it, the sapling could snap up with tremendous force and seriously injure anyone nearby.

* Schoolmarm--This is a tree with a prominent fork in the trunk or two trees grown together at the base. This makes it difficult to predict which way the tree will fall.

Until you've had plenty of experience or instruction, don't attempt to cut trees like this.

The Saw

With extended use, chain saw noise can cause hearing loss. Additionally, noise and vibration can cause fatigue and swelling of the hands. To reduce these potential harmful effects:

- 1) Select a saw that has low noise and vibration characteristics
- 2) Wear hearing protection equipment
- 3) Take periodic rest breaks

A chain saw must be properly maintained to be safe. This includes keeping teeth sharp, correct chain tension, proper lubrication, and keeping a properly tuned, clean engine. Keep the engine adjusted so the chain stops moving when the throttle is released. Check your operator's manual for maintenance information.

The Operator

The most important factor in chain saw safety is the operator. Personal protective equipment such as trim fitting clothes, a safety "hard" hat, hearing protection devices, safety goggles, non-slip shoes and gloves should be provided. Protective leggings will also help.

To start the saw, place it on level ground and get good footing. Hold the saw with one hand and pull the starter rope with the other. Keep others away when starting the engine.

Use extreme caution to be sure the chain does not contact limbs or logs other than the one you want to cut, strike nails or stones or touch the ground when it is operating. The saw will jump back if the chain at the top of the bar touches anything and could cut the operator. This is called kickback. A chain that's misfiled or loose is likely to kick back. Kickback is also likely if you start a cut with the saw chain moving too slowly.

Be sure the bumper is against the tree while sawing or the chain riding across the tree may jerk the saw out of your hands.

Never carry a saw when it is running. If you should fall, the saw could spin around and cut you severely. The engine should be stopped and the saw carried with the blade pointed to the rear.

Felling

Only after you have mastered steady and even cutting should you attempt to fell a tree.

Check the situation carefully before felling a tree. Take note of the longer branches and wind direction to determine how the tree will fall. Be sure you have a clear area around the tree in which to work, and an open pathway from the tree for an escape route. Remove dirt and stones from the trunk of the tree where the cut will be made.

Examine trees for loose, dead limbs before felling. If such limbs appear to be a hazard, remove them before felling the tree.

When felling a tree:

1. Cut through trees less than 8 inches thick with one cut.
2. On larger trees make the notch cut on the side of the tree on which it is expected to fall. It should have a depth of approximately one-third the diameter of the tree. Make the lower notch cut first. This keeps the chain from binding and being pinched by the wedge of wood while the notch is made.
3. Make the felling or back cut at least 2 inches higher than the horizontal notching cut. The felling cut should be kept parallel with the horizontal notching cut. Cut it so that wood fibers are left to act as a hinge, keeping the tree from twisting and falling in the wrong direction.
4. Keep the guidebar in the middle of the cut so that cutters returning in the top groove don't re-cut the wood. Don't twist the guidebar in the groove. Guide the saw into the tree -- don't force it. The rate of feed will depend on the size and type of timber.
5. Remove the saw from the cut, shut it off and put it down before the tree falls. The tree will begin to fall as the felling cut approaches the hinge fibers. Move to a safe spot at a 45° angle away from the line of fall.
6. Do not cut through the hinge fibers. The tree could fall in any direction. -- maybe in the direction in which you are retreating.

Limbing

Most chain saw accidents happen during limbing operations. Leave the larger lower limbs to support the log off the ground to aid bucking cuts. Prune the smaller limbs in one cut by starting at the bottom end of the tree. Undercuts should be used on limbs supported by branches to keep from binding the chain.

On small logs stand on the opposite side from the limb being cut. If on a side hill, work on the uphill side.

Bucking

Make sure you have good footing and can get out of the way if the log should start to roll. On sloping ground, stand above the log rather than below it. If possible raise the log clear of the ground by using limbs, logs or chocks. To avoid pinching the guidebar and saw chain in the cut and splintering the log at the finish of the cut, use the following procedure.

1. When the log is supported along its entire length, cut it from the top (overbuck).
2. When the log is supported on one end, cut one-third of the diameter from the underside (underbuck). Then make the final cut by overbucking the upper two-thirds to meet the underbucking cut.
3. When the log is supported on both ends, cut one-third of the diameter from the top (overbuck). Then make the final cut by underbucking the lower two-thirds to meet the overbucking cut.

Trimming

When removing a limb on a standing tree, hoist the saw with a rope. Don't carry the saw while climbing. You need to use both hands to climb safely.

It is best to use a safety rope around the tree. Fasten it securely to your waist to avoid falls.

Topping

Topping is a technique for cutting off the top part of a tree while it's still standing. It's a difficult procedure and should be attempted only by highly skilled loggers.