

## Operating a Chainsaw Safely



Chainsaws are popular tools for both homeowners and professionals because they have so many uses – tree trimming, cutting firewood, cleaning up after storms, etc.

Although chainsaws are handy, they are potentially dangerous and must be used carefully to avoid serious injury.

### Personal Protective Equipment

You need protection both from the saw and from what you are cutting. Your clothing should be well fitting and not have any loose pieces that could be caught in the chain. Protective chaps, leggings and pants are available.

Protective chaps have multiple layers of Kevlar (ballistic nylon similar to bullet-proof vests) that are easily drawn into the saw by the saw teeth. Once the material is drawn into the saw, it stops the chain from running. Many loggers will tell you that saw chaps are hot in summer, but still worth wearing because of the protection they give. The \$70 cost of these chaps is cheaper than a trip to the emergency room. If protective gear is damaged by saw contact, don't reuse it – replace it.

A hard hat is important. When you start cutting a tree or limb, loose or dead limbs may fall.

Safety goggles or a full face shield is critical. Never operate a chainsaw without one or the other! Eye protection comes in many forms and keeps saw-dust out of the eyes.

Ear protection is important. Even at idle, most chainsaws exceed 85 decibels, which is a level that requires hearing protection. Operating a properly functioning chainsaw for more than 30 minutes without hearing protection will begin permanent hearing loss. If the muffler is removed, permanent hearing loss will start immediately!

Hearing protection comes in two forms – ear plugs and ear muffs. Muffs are slightly more effective than plugs and do not aggravate earwax buildup.

Earplugs are more comfortable in hot weather. Either kind works well with normal chainsaw use.

Gloves help protect your hands and also provide some cushioning from vibration. Finally, you should wear substantial shoes – at least steel-toe work boots. Protective chainsaw boots are available.

Personal protective clothing is available from most dealers who sell chainsaws, although you may have to ask them to special order it. It also is available from catalog stores.

### Kickback

Kickback occurs when the saw chain at the tip of the bar grabs the wood, causing the bar and chain to kick back toward the operator. Low-kickback chains are required on all small homeowner saws (those less than 3.8 cu. in.). Larger saws used by professionals may or may not have low-kickback chains, but they are available and recommended. You also can minimize kickback by not letting the chain at the tip of your bar contact anything. Kickback can cause the bar and chain to pivot back toward the operator abruptly. Always keep both hands on the saw!



### Fuel Safety

Gasoline engines on chain saws are two-stroke, which means they require oil to be mixed with the gasoline. Never fuel a hot engine; allow it to cool first. Be careful not to spill fuel on the engine or saw. Refuel the saw at a site at least 10-20 feet away from where you will be running the saw. Be sure to clean the filler cap on the saw and the top of the fuel container before refueling to avoid fuel contamination. You should add bar and chain oil every time you fill the fuel tank.

### Cutting

Avoid cutting overhead. Do not climb a tree or ladder with a chainsaw; leave that to a professional

who will climb and then pull the saw up on a rope. Plan your cuts based on how the tree or limb will try to fall naturally to avoid pinching the saw chain or being injured. On anything other than small trees (less than about 3 inches in diameter) you should make a preliminary cut or notch on the side where you want the tree to fall, then make the felling cut from the backside a couple of inches above the first cut or notch.

Felling a tree is very dangerous, and most hurricane cleanup fatalities come from limbs/trees falling on people and from springpoles. Before felling a tree, look up for dead or loose limbs, plan at least two escape routes and keep other people at least two tree lengths away. If you need a rope or cable to pull a tree in the direction you want it to land, you should seriously consider calling a professional. If

you do use a rope or cable, be sure it is strong and at least 50 percent longer than the height of the tree. Tension on the rope or cable should be light, as it is only to be used as insurance. Plastic or aluminum wedges should be used to fell the tree in the desired direction, after proper notching, making a back cut and leaving hinge wood.

When cleaning up after felling, be aware of limbs and smaller trees under tension (springpoles). The refuse can snap up and kill you. On a springpole, make a 6-inch-wide scrape with a running chainsaw on the inside of the bow, and keep scraping back and forth until the tension is relieved.

More people are injured cleaning up after a storm than were injured by the storm, so always take time for safety with a chainsaw.

#### **Authors:**

Cornelis F. de Hoop, Associate Professor  
School of Renewable Natural Resources  
E-mail: [cdehoop@agcenter.lsu.edu](mailto:cdehoop@agcenter.lsu.edu)  
Phone: 225/578-4242

Richard L. Parish, Professor  
Hammond Research Station  
E-mail: [dparish@agcenter.lsu.edu](mailto:dparish@agcenter.lsu.edu)  
Phone: 985/543-4125.

This material is based upon work supported by the Cooperative State, Research, Education and Extension Service, U.S. Department of Agriculture, under Award No. 2006-41210-03363.

**Visit our Web site: [www.lsuagcenter.com](http://www.lsuagcenter.com)**

**Louisiana State University Agricultural Center**  
William B. Richardson, Chancellor  
**Louisiana Agricultural Experiment Station**  
David J. Boethel, Vice Chancellor and Director  
**Louisiana Cooperative Extension Service**  
Paul D. Coreil, Vice Chancellor and Director  
Pub. 2949-A (100M) 5/06

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.