Chainsaw Safety

The power chainsaw is the right tool for the job when the job is bringing down limbs or whole trees. However, chainsaws are dangerous. When activated, they'll cut anything in their path, including a finger, hand or limb. Because these tools don't have brains, you need to tell your workers to use their own when using these tools. Here are some training pointers.

Power Chainsaw PPE

You need the proper PPE when using a chainsaw. The danger of this tool puts a premium on PPE:

1. **Clothing:**
   - For cut protection of the legs, chaps or special logging pants are necessary—if that chainsaw were to slip, these specially designed pants help protect your leg by ripping apart and clogging the chain and sprockets;
   - A long-sleeved shirt is needed to protect against scratches from the branches and twigs; and
   - Gloves, generally leather palm, are a must because they provide protection against vibration and abrasion resistance from handling the wood.
2. **Eye, head and face protection:** Wood chips flying around means eye, head and face protection are a must, as are safety glasses with side-shields and a face shield. The use of the logger's hardhat with built in face shield and hearing protection is a good solution.
3. **Hearing protection:**Gasoline chainsaws are noisy! Period. End of story. However, you can protect yourself with either:
   - The hearing muff protector in the logger's hardhat;
   - A regular hearing muff; or
   - Any type of in-the-ear plug.

Whichever type you choose, you do need hearing protection. Having said that, some of the electric chainsaws are not very noisy and

you may be able to get by without hearing protection. Remember the rule of thumb: if you have to shout to be heard by a person three feet away, you're over the OSHA limit, so use hearing protection.

16 Rules for Safe Chainsaw Operation

Now that you've covered the gear required, next week, you should explain the 16 important safety rules any chainsaw operator should know—and follow.

1. Before you begin, read and understand the manufacturer's instructions. If you don't understand any aspect of the instructions, ask the salesperson where you purchased the equipment to explain it to you.
2. Use PPE. (Refer to last week's piece on what PPE is appropriate.)
3. Do not start cutting trees until you have:
    - A clear work area;
    - Secure footing; and
    - A planned path of retreat from a falling tree.
4. Inspect the saw prior to use. Do not operate a chainsaw that is:
    - Damaged;
    - Improperly adjusted; or
    - Not completely assembled.

Point to Inspect: Be sure that the cutting chain stops moving when the throttle control trigger is released. If in doubt regarding the mechanical condition of your saw, consult your servicing dealer.

1. Follow the manufacturer's sharpening and maintenance instructions. Sharpening a cutting chain is a two-step process:

Step 1: Sharpening of the cutting edge; and
Step 2: Adjusting the depth gauge setting.

Again, when in doubt, ask your servicing dealer for advice or repairs.

1. Maintain proper saw chain tension. A loose chain can come off the guide bar and can strike the operator.
2. When cutting:
    - Hold the saw firmly with both hands, with thumbs and fingers encircling both chainsaw handles;
    - Grip the saw with the right hand on the rear (throttle) handle and the left hand on the front handle, even if you are left handed. A firm grip will help you maintain control of the saw in the event of kickback or other unexpected reaction; and
    - Keep the chainsaw handles dry, clean and free of oil or fuel mixture to avoid slipping and to aid in control of the saw.
3. Chainsaws are designed to run at full speed. Maintain full throttle settings while cutting to maximize your productivity and, for safer operation, to reduce fatigue.
4. It’s possible that you may lose control of the saw. So to reduce your risk of injury:
    - Cut while standing slightly to the side, out of the plane of the cutting chain and guide bar;
    - Cut only while in a comfortable position; and
    - Do not overreach or cut above shoulder height.
5. When carrying the chainsaw, make sure the engine is stopped, the guide bar and cutting chain are to the rear and the muffler is away from your body. When transporting your chainsaw, always use the appropriate guide bar scabbard.
6. Do not operate a chainsaw while you are in a tree or on a ladder. Don’t overreach. Literally. If you can’t reach what you want to cut, you might have to bring in the professionals to do the job.
7. Beware of wood closing in and pinching the saw. The ‘push’ force which is exerted when the top chain is pinched can add unexpectedly to any ‘pull’ force you may use when attempting to pull the saw free. You may pull the moving chain into yourself.
8. Use extreme caution when cutting small-size brush and saplings. Slender material may catch the cutting chain and get hurtled toward you or pull you off balance. This is why

PPE is so important.

9. When you work with a chainsaw, keep by-standers and animals out of the work area at a safe distance.
10. Keep all parts of your body away from the cutting chain when the engine is running.
11. Use caution when handling fuel:
    - Move the chainsaw at least 10 feet away from the fueling point before starting the engine;
    - Do not smoke while refueling your saw; and
    - Use gasoline-powered chainsaws only in well ventilated areas.

General Advice

Chainsaws are made to cut only one thing: wood. Do not use a chainsaw to cut other materials, and never let your chain contact rocks or dirt during operation. Remember, your chainsaw is moving in excess of 50 miles per hour. In just one second of contact with a rock or with the ground, each cutter will be impacted more than ten times.

Never force a dull chain to cut. When it is sharp, the saw chain is designed to feed itself into the wood, and needs only light pressure to cut efficiently. Dull chain produces fine wood dust, a sure sign that maintenance is required.

How to Avoid Kickback

Kickback may occur when the moving chain at the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut.

Contact with the tip or bar nose can occur in some cases because a lightning-fast reverse reaction occurs, kicking the guide bar up and back toward the operator. Pinching the cutting chain along the top of the guide bar may also push the guide bar rapidly toward the operator. Either of these reactions may cause you to lose control of the saw, which could result in serious personal injury to yourself or to bystanders.

The top of the tip of the chainsaw guide bar is known as

the **“Kickback Danger Zone.”** When contact is made with an object such as a branch or a log, there is a danger of a sudden bar nose kickback reaction.

To avoid the risk of kickback:

1. Make sure that the area in which you are cutting is free from obstructions;
2. Do not let the nose of the guide bar contact a log, branch or any other obstruction while you are operating the saw; and
3. Do not cut near chain link fences, wire fences, or in areas where there is loose or scrap wire.

Conclusion

Even though we just devoted a lot of time to this topic, there is always more to learn about the safe use of chainsaws. You can get more information regarding chainsaw maintenance and safety from Oregon Chain at their website **http://www.oregonchain.com/tech/manual_maint.htm]** and from their Maintenance and Safety Manual **http://www.oregonchain.com/tech/ms_manual/ms_manual.pdf**.