Chain Saw Safety – Quick Tips



Chain saws are one of the most widely used power tools at home and in the workplace. They also have the potential to be among the most lethal. Whether it be the weekend warrior cutting firewood or a professional logger clearing land, proper personal protective equipment (PPE), training and technique are the keys to preventing injuries

Most chain saw injuries involve contact with the cutting chain, which results in severe injury to the hands, legs, feet and head. Preventing such injuries in the workplace requires a joint effort on the part of both employee and employer. Employees should use proper personal protective equipment, chain saws with the latest safety equipment and proper techniques when cutting. Employers must provide chain saw safety training and supervision.

Chain Saw Safety Training and Supervision

Chain saw operators must receive training. The most effective training includes a combination of classroom and hands-on instruction. Depending on the experience of the chain saw operator, training should include instruction on:

- safe working techniques
- basic information about the chain saw, components, design and limitations
- stopping and starting
- cleaning and servicing
- kick back prevention
- chain sharpening
- PPE use and limitations

General Chain Saw Safety Precautions

Before using a chain saw it is important to read the owners manual and familiarize yourself with safe operation. Giving a chain saw to an inexperienced worker without proper training is an injury waiting to happen. Before each use, check that:

- chain saw is in good general condition (no leaks or damage)
- the throttle, safety throttle lock and stop switch operate correctly
- the chain brake works
- the chain is lubricated, sharp and tensioned correctly
- the sprocket and bar are in good condition

- the idle is properly adjusted

When starting a chain saw, it should always be started on the ground or a well supported and stable surface. Drop starting a chain saw is dangerous and prohibited by OSHA. A drop start is done by thrusting the saw down with your left hand and pulling the starter cord up with your right hand.

When refueling a chain saw:

- avoid smoking
- be at least 10 ft (3m) from any open flame or other ignition source
- choose a clean area
- refuel only after the motor has cooled
- wipe off any fuel that spilled on to the saw
- use safety cans to store fuel
- keep a fire extinguisher or shovel nearby

The chain saw must be shut down whenever a saw is carried. Whenever possible use the bar cover. A saw should be carried by its front handle with the chain bar pointing to the rear. Do not carry the chain saw on your shoulder. If you lose your balance, you will not be able to use your arm to break your fall. After completing work, the following maintenance needs to be completed:

- clean the saw, especially the air filter, cooling inlets and sprocket
- reverse chain bar, top to bottom, to prevent wear and burring
- clean chain brake
- clean out chain bar groove
- sharpen saw chain

Chain Saw Kickback

Kickback occurs when the upper portion of the tip comes in contact with another object or the chain is pinched in a cut. As a result the chain saw will violently jump or kick back towards the operator. To prevent kickback injury the following precautions should be taken:

- buy chain saws with or install chain brake (preferably inertia activated)
- check brake mechanism before each use for effective operation
- use a low kickback chain (meets American National Standards Institute B175.1-1991 Safety Requirements for Gasoline Powered Saws)
- sharpen the saw chain frequently; a sharp saw chain is safer than a dull one (if wood shavings become dusty the chain is dull and needs to be sharpened)
- hold chain saw firmly
- check chain tension
- never bend over the saw, if you stand up straight and to the left of the bar any kickback should go over your right shoulder
- wear protective equipment -especially head protection and chain saw chaps or leggings
- don’t cut above shoulder height
- never hold saw with one hand or by one handle
- always begin the cut at peak revs
- clear brush and debris from area

PPE Selection and Use

To minimize injury, workers need proper safety equipment. *(29 CFR 1910.266)* The equipment listed below must be worn at all times during chain saw activities:

Hand Protection – Hand protection, which provides adequate protection from puncture wounds, cuts and lacerations must be provided. *(29 CFR 1910.266 (d)(1)(iii))*

Hard Hat – All hard hats must meet ANSI standards Z89.1-1989 or Z89.2-1971 for impact protection. High visibility colors are suggested. *(29 CFR 1910 Subpart I)*

Safety Glasses and Face Shields – Safety glasses are considered to be primary protection and must be worn when eye injury is possible. Proper safety eyewear will meet ANSI Z87.1-1989. Face shields may be worn to protect the face from wood chips and other small objects. However, face shields are secondary protection and safety glasses or goggles (primary protection) must be worn. *(29 CFR 1910.266 (d)(1)(vii)(A)&(B))*

Hearing Protection – There are many types of hearing protection, such as foam plugs, ear muffs and hearing bands. All the different types provide excellent hearing protection. When choosing hearing protection, you should look for the NRR (Noise Reduction Rating). This number refers to the amount of noise the hearing protection will reduce the surrounding work environment. In general, the higher the NRR the better. The type of hearing protection (ear plug, ear muff or ear cap) that works best depends upon the preference of the worker.

Leg Protection – To prevent injury to the legs, special chaps or leggings should be worn. The most common types are made of Kevlar™ or ballistic nylon. When choosing protective clothing, look for equipment which meets American Pulpwood Association (APA) guidelines. *(29 CFR 1910.266 (d)(1)(iv))*

Safety Footwear – When choosing proper footwear make sure the footwear is Z41-1991 compliant. Shoes that meet this standard have been tested for both impact and compression resistance. In addition, footwear may also provide special protective qualities such as being conductive, metatarsal protection, electrical hazard protection or puncture resistance. All footwear meeting the ANSI specifications will be marked with what portion of the standard it complies with. In addition, American Society for Testing and Materials (ASTM) has recently published F1818, Standard Specifications for Foot Protection for Chain Saw Users. This standard has specific criteria for footwear intended to minimize foot injuries caused by accidental contact with a running chain saw. *(29 CFR 1910.266 (d)(1)(v))*

First Aid – First-aid kits should be provided at each worksite where trees are being cut, at each active landing and on each employee transport vehicle. Among the criteria is that each kit should be based on the number of employees and the hazards anticipated. *(29 CFR 1910.266 (d)(2)(i))*

Sources

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