

## **I. Purpose**

The chainsaw is one of the most efficient, productive and dangerous portable power tools used. By learning to properly operate and maintain the saw in good working condition, you will avoid injury and be more productive.

This procedure is designed to keep employees, the public and equipment safe during chainsaw operations.

## **II. Personal Protective Equipment**

Required

- Chaps
- Hard hat
- Eye/Face protection
- Hearing protection
- Sturdy boots
- Gloves

Chaps shall be washed periodically to keep the fibers loose. Follow washing and drying instructions per manufacturer.

Do not wear loose-fitting clothing.

## **III. Definitions**

- **Anti-Vibration System:** A system containing springs and bushings which prevents or reduces vibration to the chainsaw operator.
- **Bucking:** is the process of cutting a felled tree into logs, typically for a fireplace or stove.
- **Chain/Manual Brake:** is operated by the top-hand guard being pushed forward to engage the brake and pulled back to disengage. This spring-loaded action enables powerful braking under emergency conditions and can stop a chain in a fraction of a second.
- **Chain Catcher:** is a plastic or metal guard designed to prevent a broken or derailed saw chain from hitting the operator.
- **Chain Gauge:** is the thickness of the chain's drive links. The chain gauge size tells a user the strength of a chain's drive links. It's calculated by measuring the portion of the drive link that fits into the groove of the guide bar. It's typically expressed in thousandths of an inch: .050" or .063"
- **Chain Pitch:** is the distance between the chain's drive links. The pitch measurement of the chain tells a user the overall size of the saw chain. A larger pitch indicates a heavier and bigger chain. It is calculated by measuring the distance between any three consecutive drive links and then dividing by two. **Example:** 3/4" divided by 2 = 3/8".
- **Chain Tensioning Device:** During use, a chainsaw chain loses some of its tension and will need tightening. The tension of the chain should be checked every time you use the chainsaw; if the chain's too slack it could come off during use. The chain tensioning device will either be a thumb-wheel lever you can grip and turn or a screw that you tighten with a screwdriver.
- **Chaps:** protects only the front of the legs and are worn over conventional work clothes.
- **Chock:** wedge or block implemented to secure a log and prevent it from moving.
- **Choke:** mechanism that controls the air to fuel ratio supplied to the engine.

- **Depth Gauge:** each chain tooth has a depth gauge which rides ahead of the tooth and limits the depth of cut. Depth gauges are an essential safety feature. A depth gauge that's too high will cause very slow cutting, if too low the chain will become more prone to kickback.
- **Felling:** is the process of downing individual trees. The person doing the cutting is called the feller.
- **Front Hand Guard:** primarily controls the chain brake. The brake is engaged when the hand guard is pushed forward and becomes disengaged when pulled back. This spring-loaded component allows powerful braking under emergency conditions and can stop a chain at full power in a fraction of a second.
- **Guide Bar:** Metal bar extending from the chainsaw and supports and guides the chain.
- **Inertia Brake:** A safety mechanism that immediately stops the chain when kickback occurs based on the rotation motion of the chainsaw.
- **Kickback:** occurs when the chain near the tip of the chainsaw's guide bar either catches on wood without cutting through it, or when the wood closes in and pinches the chain in the cut.
- **Sawyer:** a person who cuts timber.
- **Scabbard:** A protective sleeve for the guide bar and chain when the chainsaw is inoperative. A safety device preventing injury while storing or transporting the chainsaw.
- **Throttle Interlock:** prevents the chain from being turned on if the trigger is accidentally pushed by an obstruction. The safety throttle is an additional layer of safety and protection.
- **Wedge:** A tapered "wedge-shaped" object placed in a kerf or cut. Typically utilized to prevent pinching, split wood or aid the lean of the tree toward the chosen fall direction.

#### IV. Part of the chainsaw (OSHA requires that the chain saw have the parts underlined)

- Chain catcher to prevent a broken or dislodged chain from striking the logger.
- Flywheel
- Clutch
- Decompression valve
- Anti-vibration handle system is recommended by OSHA to limit ergonomic stress to the logger's joints.
- Hand guard
- Muffler to reduce engine noise.
- Chain brake to stop the chain if kickback occurs.
- Throttle which will stop the chain when pressure on the throttle is released.
- Throttle interlock which prevents the throttle from activating until the interlock is depressed.

#### V. Operating chainsaw

##### Before Starting the Saw

- Put on PPE.
- Check controls, chain tension, and all bolts and handles to ensure they are functioning properly and adjusted according to the manufacturer's instructions.
- Fuel the saw at least 10 feet from sources of ignition.
- Start the saw at least 10 feet from fueling area, with chain brake engaged, and with the chainsaw on the ground or otherwise firmly supported using the leg lock. **Do not drop start!**
- Fuel container must be metal.
- Clear away dirt, debris, small tree limbs and rocks from the area and path.
- Look for nails, spikes or other metal in the tree before cutting.

##### While Running the Saw

- Clear the area of obstacles that might interfere with cutting the tree or using the retreat path.
- Keep hands on the handles with thumb wrapped around top handle and maintain secure footing while operating the chainsaw.
- Do not cut above shoulder height.
- Shut off or engage chain brake prior to retreating.

- Shut off or engage chain brake when carried, especially on hazardous terrain.
- Maintain control of the cutting area. Watch for other employees and bystanders.

## VI. Training

Employees will be offered chainsaw training and evaluation by a training professional. All employees who use a chainsaw should go thru this training. Employees rated a B Sawyer or above may supervise other employees.

Records of these trainings and evaluations shall be kept during the employee's employment.

Note: the Hendersonville Fire Department has their own chainsaw safety program.



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John F. Connet, City Manager



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Date of Approval

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