Chain Saw Safety
ACLP Safety & Tools Workshop

Three areas of concern regarding safety when using trimmers and brushcutters:

1) Operator safety
2) Proper use of equipment
3) Startup and operation
4) Transportation and storage

Overview:

Carelessness or not following the recommended safety practices is the most common cause of an accident when using power equipment. Most important safety device when using a chain saw is COMMON SENSE.

Before using a chain saw, become familiar with the cutting situation and the cutting environment. Never modify equipment. Always read the safety and operator's manuals before using a chain saw.

1) Operator Safety
   a. User should be focused and alert at all times
   b. Never use saw when fatigued or under the influence of alcohol or drugs
   c. User should be in good physical and mental health
   d. All other humans and/or animals should be far away, twice the distance of the height of the tree
   e. Make certain surrounding area is free from obstructions
   f. Wear appropriate clothing:
      i. Eye protection – ANSI Z-87
      ii. Hard hat
      iii. Hearing protection
      iv. Heavy duty gloves
      v. Safety tip boots with non-slip soles
      vi. Clothing should be snug fitting but roomy enough for freedom of movement
      vii. Chaps are recommended, can reduce severity of injury

2) Proper Use of Equipment
   a. Safety Steps
      i. Proper bar and chain maintenance is important. Normal wear will degrade performance
      ii. Inadequate lubrication can cause hazards
      iii. Always complete routine maintenance
b. When throttle control trigger is released, chain saw should stop
c. **Always refer to operator’s manual**
d. Always disconnect and move spark plug wire away from spark plug
e. When transporting saw, use appropriate scabbard
f. Make certain spark plug arrester screen is in good repair
g. Fuel
   i. Carry fuel supply in approved container
   ii. Fuel tank may be under pressure, loosen cap slowly
   iii. Follow operator’s manual when adding fuel
   iv. Add fuel outdoors, never indoors
   v. Do not over tighten cap
   vi. Promptly wipe up spills
   vii. Before starting, move saw at least 10 feet away from refueling area
   viii. Do not smoke or bring sparks or flame near fuel supply
   ix. Never refuel when engine is hot
   x. Never add fuel to running engine
   xi. When cutting, always be aware of where fire protection equipment and first aid kit are located

3) **Startup and Operation**
   a. Proper Cutting techniques
      i. **Kickback** – the most fundamental safety hazard when using a chain saw, the operator loses control of the saw
      ii. *Kickback* occurs when material touches the chain or nose at the tip of the guide bar in an area known as the kickback quadrant
      iii. *Rotational kickback* refers to kickback that is lightning fast reverse reaction pushing the saw up and back toward the operator
      iv. *Linear kickback* occurs when the saw chain is pinched at the top of the guide bar and the bar is pushed back towards the operator
      v. Use a kickguard to eliminate kickback
   b. Evaluate each cutting situation
      i. **Always use a kickguard if:**
         1. A novice or beginner is using a chain saw
         2. In any situation where the tip of the saw may come in contact with something
         3. There may be limited situations in which a kickguard cannot be used, take extra care and precautions
   c. To avoid kickback:
      i. Never use a grip where the thumb and finger do not encircle the saw handle, one may lose control
      ii. Hold saw firmly with both hands using a wrap-around grip
      iii. Proper stance, balance and cutting position are important
      iv. Always start with both feet on the ground
      v. Adjust stance so you are away from the saw chain and the line of cutting
      vi. Generally, cutting at high speed will reduce kickback
      vii. Evaluate cutting situation, always use kickguard if possible
   d. Always wear protective clothing
e. Make certain that thumb is on the underside to the front handle, never on top
f. Use correct grip on handles at all times
g. Hold chain saw firmly with both hands
h. Position body properly and maintain a balanced position at all times
i. Keep left arm straight
j. Never bend over or crowd guide bar
k. Cut only one piece of wood at a time when limbing and pruning
l. Shut off saw engine when moving more than a few steps or setting the saw down
m. Limit cutting to within range of control, never overextend. Do not cut above chest height.
n. Do not use a chain saw when standing on a ladder
o. Do not attempt to plunge cut or bore with the saw unless you are highly experienced
p. Stand on the opposite side of the trunk when cutting limbs
q. Felling a tree is a very complicated process. Operator must plan the cuts, determine the tree fall path and tree lean, look for above hazards and establish the escape route.
r. Do not work on a tree if any branches are in contact with power lines
   i. If a tree hits a power line, do not go near the tree, notify the power company
s. Never cut a tree in order to drop a tree that is against it; have lodged trees pulled down
t. Carefully inspect the tree before doing anything
u. Plan two exit paths; each should be at a 45° angle to the line of fall
v. Prepare working area; clear escape routes, keep others away at least distance of two times the height of the tree
w. Use wedge or tether line to control fall
x. Only one person should be working on the tree
y. Never walk on a trunk or cut while standing on a trunk
z. For all limbing, use kickguard device, properly installed
aa. Cut from perimeters
bb. Weather Conditions
   i. Extreme heat can increase operator fatigue
   ii. Cold conditions: dexterity is decreased; more difficult to move freely
   iii. Operator should monitor activity and take breaks
   iv. Saw should be held with both hands, keeping the wrists straights
cc. Use sound judgment, evaluate each situation

4) **Transportation and Storage**
   a. Shut down engine
   b. Keep fingers away from all chains
   c. Drain all fuel completely
   d. Never store unit with fuel in the tank
Summary: Safety always begins with the operator

- Always use extreme care when mixing or draining fuel
- Always wear recommended safety gear
- Keep bystanders away
- Be aware of hazards