Chainsaw Manual

Chain Saw Activities

There is no way to adequately list all tasks. Teams should be prepared to meet existing needs. Be **flexible** in the assignment; ready to make adjustments.

Confirm address and make sure the owner has signed the **Property Owner Request Form.**

Be informed. Deal with information in a positive way. Never be part of misinformation.

Be responsive in an intelligent, careful, supportive and effective manner. Mistakes by volunteers can make matters worse.

Continue to Develop Response Ability

- First – Aid Course
- CPR Course
- Disaster Awareness Emphasis: Church, Association
- Practice Sessions: Tools and Power Equipment

Unit Director

The unit director should wear the Blue Cap and will be responsible to the operation officer for the actions of the unit.

Chain Saw Unit

A trailer is recommended, as this will allow different vehicles to pull the unit. This reduces the insurance requirements for the unit and increases the number of drivers available.

Daily debrief and devotion

- Morning devotion
- Informal evening debrief

Websites for additional information: www.stihlusa.com, www.stihl.de/safety_manuals/usa, www.husqvarna.com, www.oregonchain.com, www.ext.nodak.edu/extpubs/agency/safety/ae1025w.htm, www.ahlbornequipment.com

Safe Chainsaw Operations

What is meant by safety?

- Being careful,
- a set of rules or
- Maybe an attitude?

Safety is all of these.

Remember the saw blade is traveling in excess of 80 feet per second. Just a touch can result in serious injury in as little as a split second.

Safety gear requirements include hand, head, ear, and eye protection as well, the proper clothing with chaps.

Clothing must not be loose fitting. Loose fitting clothing could become tangled in brush and limbs as well as the saw. Anything that could become entangled must be secured before operating a saw. Proper footwear is also important. High top boots with lug soles offer superior traction.

On each Clean-up/Recovery Unit there must be safety gear for each person operating a chain saw. These items include helmet with eye and ear protection, gloves and chaps. Safety Gear must be worn whenever you are operating a chain saw.

A key part of the safety gear is the chaps. Chaps are constructed of materials that resist cuts from the saw teeth and the internal material will also choke the saw to a stop when entangled.

Chain saw gloves are preferred they are constructed of a material which resists saw cuts to the hand in the event of a kick back. Gloves also provide a better grip while reducing fatigue resulting from extended operation.

The chain saw helmet not only provides protection to the head, it includes a pull down eye shield and ear covers to reduce noise.

During chain saw operations do not allow anyone within **6 feet** of the chain saw operator.

BEFORE OPERATING CHAIN SAW

Read and understand the owner's manual before operating chain saw.

Watch what you are doing. Use common sense. Do not operate saw when you are tired.

Use chain saw for cutting wood only. Do not use chain saw for purpose not intended. Do not use for cutting plastic, masonry, etc.

Only well-instructed adults should operate chain saw. Never allow children to operate chain saw.

Do not operate chain saw.

- While under the influence of alcohol, medication or drugs.
- Within 10 feet of highly flammable liquids or gases.
- While in a hurry.
- While in tree or on a ladder unless trained to do so.

Wear the following safety gear when operating chain saw:

- Heavy-duty gloves
- Heavy-duty boots.
- Eye protection such as safety glasses, goggles or face screen.
- Safety hardhat.
- Ear protectors

- Hair covering to contain long hair.
- Face or dust mask (if working in dusty areas).
- Chaps

Before cutting always provide the following:

- Clear work area
- Secure footing
- Planned retreat path from falling tree (safest route is at 45 degree angle to the rear)

Inspect tree before cutting down. Make sure there are no dead limbs or branches that may fall on you.

WHILE OPERARTING CHAINSAW

Stay alert. Use common sense while operating chain saw.

Keep work areas clean. Cluttered areas invite injuries.

Be aware of local poisonous plants. Poison ivy, poison oak and poison sumac are the most common poisonous plants in the United States.

Keep children, animals and bystanders away from chain saw. Only chain saw user should be in work area.

Do not cut down a tree unless you are trained or have expert help.

If two or more persons perform felling operations at the same time, provide plenty of distance between operations. Provide distance of at least twice the height of tree being felled.

Grip chain saw firmly with both hands. Never operate chain saw with one hand. Never use hand guard as handle.

Keep finger off trigger until ready to make cut.

Before starting chain saw, make sure chain is not touching anything

To start a chain saw, set it on the ground, place your foot on the handle and pull the start cord. Don’t start a chain saw while holding it with one hand.

Keep all parts of body away from chain when saw is running.

Do not force chain saw while cutting. Apply light pressure. It will do the job better and safer at the rate for which it was intended.

Cut small brush and saplings with extreme care. Slender material may catch in the chain and be whipped toward you. This could also pull you off balance.

When cutting limbs or tree trunk that is under tension, use extreme caution. Be alert for wood springing back. When wood tension is released, limb could spring back and strike operator causing severe injury or death.

Try to keep the bar out of dirt and sand.

To carry chain saw from one place to another:

- Turn saw off
- By holding front handle (never use hand guard as handle)
- Carry with chain pointed toward the rear.
- Engage chain break

Never put the chain saw over your head.

Stand at the side of the saw, not behind it and keep your feet well braced and body balanced.

Run the engine at full throttle.

When felling a tree, have an observer to watch for danger.

Have wedges and sledge hammer close by to unpinch a saw.

Should the saw become pinched turn the saw off before trying to remove from tree.

Chainsaw Equipment List

Hope in Crisis Tracts	Bolt Cutters
Rope	Air Compressor w/hose
Equipment Owner's Manual	Axes (2)
Loping Shears	Pressure Washer w/water hose (1500 psi)
Fire Extinguisher	Shovels (pointed and square)
Hand Saw (bow saw)	Generator (min. 3500 watts)
First Aid Kit	Hack Saws (extra blades)
Pole Saw (Manuel or power)	Floodlights w/extension cords
Gas Cans – (1-5 gallon 1- 2.5 gallon)	Chain Saws (4) minimum 16" bar
18" Traffic Safety Cones (4)	Extension Ladder
2 cycle oil (1 case)	Spare bar and chain
Rakes	Wet/Dry Vacuum
Bar Oil (1 gallon)	Sharpener
Pitch Fork	Chain Saw Safety Equipment (chaps, ear/eye protection, work gloves and safety helmet)
Tool Box with basic tools	Wheelbarrows (2)
Come – a – long (2-ton)	Hand Trucks w/large tires
Wrecking Bars (crow/pry)	
Water Coolers (2)	

CHAINSAW MAINTENANCE

The performance of your saw can make the difference between a good day and a bad day in the field. There is nothing more frustrating, than a saw that does not operate properly once you are in the field and ready to go to work. Maintenance is very important.

Maintenance should be performed at the unit or preferably in a shop where a vise and adequate space are available. The field is not the appropriate place to do maintenance unless absolutely necessary. If maintenance must be performed in the field, find a clear area and spread a tarp on the ground so smaller parts will not get lost.

1. Do a visual inspection of the complete saw.
2. Clean air filter.
3. Inspect sparkplug.
4. Check starter cord.
5. Check flywheel.
6. Inspect clutch drum and drive socket.
7. Clean chain and bar.
8. Inspect chain, sharpen and properly tighten the chain.

BASIC SAW-CHAIN RULES

1. Your chain must be correctly tensioned.

   SOLID NOSE BAR

   If you have a solid nose-bar pull the bar nose up, and keep it up as you adjust tension. Turn your saw's tension-adjustment screw until the chain come up and just touch the bottom of the bar rail. While still holding the nose up, tighten your saw's rear bar mounting nut first, then tighten the front mounting nut. Pull the chain by hand along the top of the bar several times, from the engine to the bar's tip. Chain should feel snug but still pull freely.

   SPROCKET-NOSE BAR

   If you have a standard sprocket-nose bar pull the bar nose up, and keep it up as you adjust tension. Tension must be tighter on a sprocket-nose bar than on a solid-nose bar. Turn your saw's tension-adjustment screw until the chain comes up and solidly contacts the bottom of the bar rail. Then add an additional 1/4 turn of the adjustment screw. While still holding the nose up, tighten you saw's rear bar-mounting nut first, then tighten the front mounting nut. Pull the chain by hand along the top of the bar several times, from the engine to the bar's tip. Chain should feel snug but still pull freely. Now do the snap test. Grasp the chain along the bottom of the bar pull down, and let go. Chain should snap back to its original position, solidly contacting the bottom of the bar.

2. Your chain must be well lubricated.

   It is best to use a good grade of bar oil. Never use motor oil or used oil. About 80' of chain passes one spot on the bar every second, this amounts to almost 300,000' or 53 miles in one hours use. Every time you gas up also fill the oil reservoir.

3. Your chain must be sharp.

   When your chain is sharp, it does the work. When it's not, you do the work – and your cutting attachments will wear more rapidly.

4. Your chain's depth gauges must be set correctly.

   - A correctly set depth gauge is very important to having a good cutting chainsaw because the average depth of cut is only .25. Every time the chain is sharpened the depth becomes less than .25 which makes smaller chips and slower cutting. This just adds time and wear on the chainsaw.

   - Before removing chain check for bar wear by placing straight edge on the side of bar and side of a tooth. There should be a small gap between straight edge and bar when the chain is at the proper tension.

   - Always release the brake before removing clutch cover. If you do not release the brake you will not be able to get the cover back on without problems.

5. Check for ridges on sides of bar caused by wear. File the ridge flat with sides of the bar. Be careful these ridges are very sharp.

6. While the bar is off, clean out oil holes in the bar and clean down in bar groves with a small screwdriver. A technician's pocket screwdriver is just about the right size. You may have to grind it down to get all the way to the bottom of the grove. It is important to keep the saw dust from packing down in the grove because it will restrict the flow of oil to the chain.

7. Check chain for signs of wear or damage. A damaged chain can damage the sprocket or bar.

8. Always check drive sprocket for wear or cracks.

9. Every time you remove the chain turn the bar over to equalize the wear.

10. If the bar has roller teeth on the end it should be greased quite often.

CHAINSAW OPERATIONS DISCLAIMER

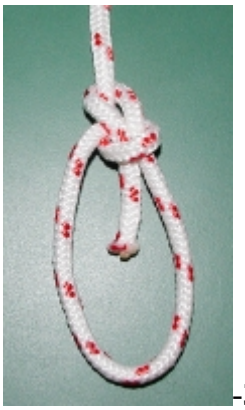
If you have never used a chainsaw before, knowing these rules and watching the film does not qualify you to go out and operate a chainsaw. Please ask your team leader to put you with someone that will give you hands on instructions, and guide you through some on-the-job training in using one.

USEFUL KNOTS

Bowline

The Bowline has been called "the King of Knots," and it is used around the world in one form or another. Here is the basic way to tie a Bowline. First make a small loop so that the rope crosses over on top of itself, then bring the end of the rope up through that small loop (picture 1). Bring the end of the rope around behind the main part of the rope and insert it into the small loop (picture 2). Dress and set the knot (picture 3).


-1

-2

-3

Clove Hitch

The Clove Hitch is a popular hitch that is easy to tie, but it is not considered to be as reliable as some of the other hitches. This is essentially Two Half Hitches tied around an object.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Reef Knot or Square Knot

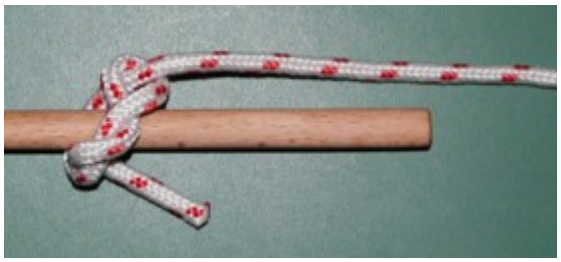
This is not a bend, but I included it here because people sometimes erroneously use it as a bend. The Reef Knot is unreliable and unsafe when used as a bend.

 -1  -2

Timber Hitch

Ashley says that this is "much used in handling cargo, for which it is very convenient, as it practically falls apart when pull ceases. Also see the Killick Hitch.

NOTE: For clarity, picture 2 only shows the end of the rope making a single turn around the main part of the rope. It is much more secure to make at least three turns around the rope instead.

 -1 

Some web sites to find how to tie knots.

www.animatedknots.com

www.layhands.com/knots

What Can Happen