

Maintenance of axes

1 - Sharp the cutting edge slowly

2- The head edge must not be very thin in order to prevent its break easily.

3 - Start the sharp of the head in distance 2-3" from the cutting edge and the sharp process must be continued to a distance 0.5 " from the cutting edge.



Fig. 1: Axe sharpening tools

Maintenance of saws

- Regular maintenance increases the sawing capacity.

- No maintenance means loss of time, waste of energy and wage.

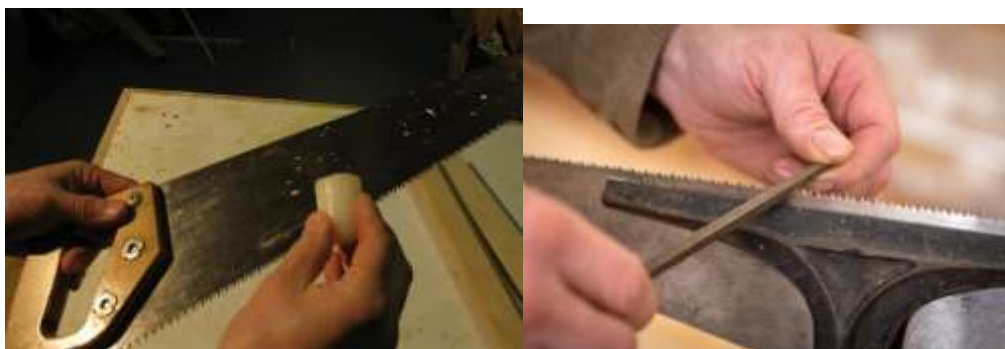


Fig. 2: Maintain hand saw

For Maintenance:

- Don't allow the rust to appear in the saw.
- Store in dry and dust free place.
- Rub the blade and teeth of the saw regularly with cloth soaked in oil or grease.
- Regularly sharpen the teeth with the help of files.
- Align the teeth in regular interval.

Why saw cuts badly?

- Saw cuts crookedly: When saw blade is not straight
- Sawing is heavy : When saw blade is not clean and is rusty.
- Saw runs easily but cuts badly: When saw teeth are not aligned properly.
- Saw cuts roughly and jumps on the kerf: Joint effect of blunt tooth, rusty blade

and wrong or no alignment of teeth

The condition of a saw can be accurately judged by the kind of sawdust it makes. a saw in good condition pulls long stringy curls of sawdust from the cut, showing that the cutting teeth are severing the wood fibers on both sides and that the rakers are chiseling out the wood so severed.

- Fine, granular sawdust is a sign of a dull saw in correctly sharpened and set.

Third/ Power Saw

with the increased wages and the lack of experience workers in the process of tree felling, currently different types and sizes of saws been appeared, such as:

- 1- Chain saws (with strings) (more than eleven species)

2- Circular saws (with at least thirteen species)

3- Drag saws (with at least eight types)

Among these species the chainsaws are more types of saws commonly used in the field of harvesting.



Fig. 3: Chain saw



fig. 4: Circular saw



Fig. 5: Drag saw

Chain saw

After the second World War the portable chain saws were introduced as tools of felling. The first company use chainsaws widely were Eastman Gardiner company in the state of Missouri in United States and that was in 1930.

Most of chainsaws work with fuel (gasoline) and there are some species that use electric power, also there are other kinds that works with both fuel and electricity in the case of the availability of one of them, there are different sizes of saws such as one –man power sows and two - man power sows.

Description Chainsaw

A chainsaw is a portable; mechanical saw which cuts with a set of teeth attached to a rotating chain that runs along a guide bar. It is used in activities such as tree felling, logging, pruning etc. Power saws are generally supplied power by a small gasoline engine attached with the machine

There are two types of blades

1 -Solid, Spherical in shape and long called cutter bar, the chain revolves around its edge incisor (used when cutting large trees)

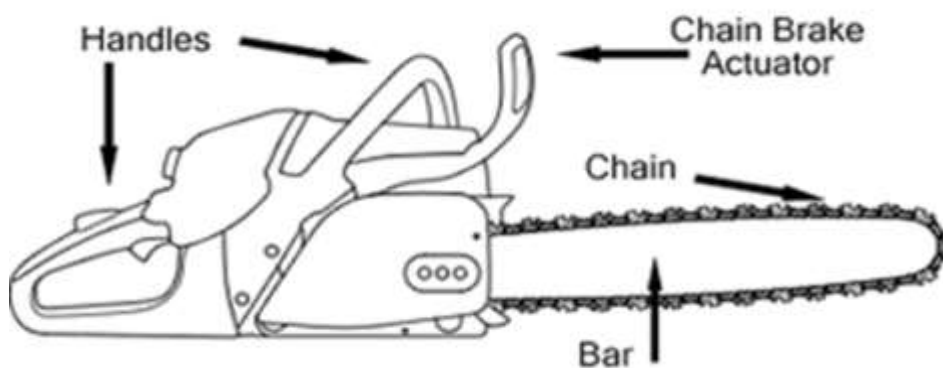
2 - The second type is with curved shape and the chain revolves around the incisor (used when cutting smaller trees)

These saws have the ability of cutting from the top and bottom and the end of the blade, but it was noted that the lower parts more efficient because of the stability of saw during the work (cutting) .

Saw weighing ranged between 38-69 pounds

Parts of chain saw

A chainsaw consists of the power head, bar, and chain. The power head has two integrated handles for handling the saw.



All modern chainsaws have a chain brake capable of stopping the chain instantaneously in the event of kickback. The brake is actuated by a bar that runs across the front of the top handle of the chainsaw.

Advantages and Disadvantages of Power saws

Advantages

- 1- Trees can be felled to lower stump.
- 2- Production rate per hour is high.
- 3- Light weight and therefore easily portable.
- 4- Higher precision and less loss of wood.
- 5- Can be used for sawing horizontally and vertically.
- 6- strong and solid
- 7- easy to change their damaged parts.
- 8- Ease of sharpening and changing the disc and chains.
- 9- Relatively low-cost.

Disadvantages

- 1- In rugged and sloping terrain and in places with heavy under growth, moving power saws from one tree to another is sometimes cumbersome and time consuming.
- 2- Operating power saws requires skilled persons and such persons may not be always available.
- 3- Maintenance and replacement of parts cannot be readily secured in interior locations

Prevent kickback injuries by:

- holding the saw firmly with both hands.
- keeping the thumb around the top handle.
- using a saw equipped with a chain brake or kickback guard.
- watching for twigs that can snag; not pinching the bar.
- sawing with the lower part of the bar, not on the top near the nose.
- maintaining adequate saw speed when beginning or completing a cut.