
Wedges

The proper selection and use of wedges is of utmost importance when working with a crosscut saw. The crosscut sawyer depends on wedges more than the operator of a chain saw, but many crosscut sawyers do not have a good understanding of wedges or their uses.

The size, weight, and shape of wedges, and the material from which they are made vary with their intended use and the preferences of individual sawyers. I always take several wedges to cover ALL crosscut saw operations. I carry plastic and metal wedges in a couple of sizes. As a minimum, I carry a pair of hanging wedges and two plastic wedges.

Because the kerf made by a crosscut saw is often only one-fourth as wide as the kerf of a chain saw, the leading edge of crosscut wedges needs to have a sharper bevel than the leading edge of wedges used for chain saws. New plastic wedges should be filed to a thinner bevel before using. Wedges can be single, double, or triple tapered (figures 35 and 36).

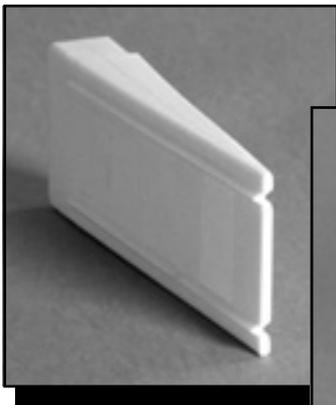


Figure 35—A rifled single-taper wedge is designed to provide lift when a tree is felled. The wedge can be stacked with additional rifled single-taper wedges. The rifling helps keep the wedges aligned and stacked as they are being driven.

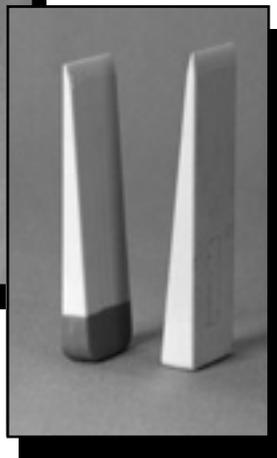


Figure 36—Double-taper wedges are designed to reduce bind.

Plastic wedges are good for felling operations. They do not split easily, and their textured surfaces provide additional holding power in the wood, helping to prevent the wedges from backing out when they are being driven. Plastic wedges are manufactured in a variety of sizes.

Although all wedges can be stacked (used one on top of the other), wedges may slip sideways if each wedge is not driven squarely. Newer wedge designs include “rifled” wedges. These wedges have a pair of grooves on one side and rails on the other. This design helps the wedges stay in place when they are stacked on each other.

Triple-taper wedges (figure 37) have a thin angle at the entry, an intermediate angle through most of the body, and a steeper angle near the top. I have not used many of these, but this design allows a shorter wedge to produce as much lift as a longer single-taper wedge. They are handy on small-diameter trees.



Figure 37—Triple-taper wedges allow a short wedge to provide as much lift as a longer wedge, but require more force to drive.

Always drive wedges by striking them squarely on the head. Drive them carefully to keep them from flying out of the cut.

Plastic wedges can break. If a long wedge can only be driven into the saw kerf a short way and refuses to go any farther, most of the wedge’s length will be exposed, allowing a misplaced blow to break it. Use the shortest wedge possible that will accomplish your purpose. Hit the head squarely. Wedges should not be driven so tightly into the wood that blows deform the head of the wedge.

The sawyer should carry a single-bit ax or a single-jack hammer and an assortment of wedges. Plastic wedges occasionally get damaged, but they can be reshaped easily with a wood rasp or coarse file.

Wedges also are made of magnesium and aluminum. I like these soft metal wedges because they are so versatile (figure 38). They are light, stronger than plastic wedges, and



Figure 38—Wedges made from soft metals such as magnesium and aluminum are stronger than plastic, can be used as hanging wedges, and will not damage the saw.

will not damage the saw. Unlike plastic wedges, they can be used as “tie wedges” or “hanging wedges” to keep a log from shifting as it is being bucked. Damaged soft metal wedges can be reshaped with a coarse metal file. Metal wedges can do the job of plastic wedges, but plastic wedges are no substitute for metal wedges.

Shallow grooves or depressions in the face of the wedge help prevent the wedge from backing out of cuts when the wedge is being driven. Wood fills the grooves and helps hold the wedge in place. Wedges with smooth faces can be roughened up with a cold chisel, helping achieve the same effect.

Felling Wedges

Felling wedges generally are longer and thinner than bucking or splitting wedges. Some felling wedges are only about 1 inch thick at the head and about 4 inches wide. Longer wedges—some as long as 13 inches—are available for large trees (figure 39).

Most felling wedges today are of the single-taper design and are made out of plastic or a soft metal, such as magnesium. Traditionally, wedges were made from durable wood or steel. Wooden wedges are not approved for crosscut saw use in the USDA Forest Service because they tend to split. For emergency use, wooden wedges can be fabricated in the field.



Figure 39—Traditional metal wedges used for bucking and felling.

Felling wedges can be accurately described as lifting wedges. They are tapered on just one face and are truly an inclined plane. Metal and plastic single-taper wedges often have a groove on the flat sole face to increase holding power, while the inclined side is smooth to allow lifting.

Felling wedges exert force in the direction of the inclined plane. Two wedges can be stacked one on top of the other to produce more lift. Lifting wedges have many applications. They can be used to tighten, pry apart, or move materials. Exerting a force in one direction can be valuable. The sawyer may need to exert a force in one direction when getting a saw unstuck or when removing a chunk of log if the saw is bound.

When trees are being felled, single-taper wedges provide a way to lift the tree, preventing it from sitting back. A wedge must be inserted into the back cut as soon as possible. When logs are being bucked, wedges can reduce binds on the saw.

Bucking Wedges

Wedges used to reduce bind or split wood are double tapered, meaning that each of the broad faces tapers equally from the center. When such wedges are driven, wood moves away from both tapered sides equally.

Double-taper wedges are preferred for bucking, while single-taper wedges are used for felling. Both types of wedges keep the saw kerf from closing. However, the single-taper wedge used for felling performs a lifting function, while the double-taper wedge used for bucking pries the log apart. Crosscut saw bucking wedges are made of metal and are

shorter than felling wedges. They are wider at the bottom and have more of a fan shape than a felling wedge (figure 40).

Bucking wedges traditionally were called *hanging wedges*, or sometimes *tie wedges*, on the West Coast. Hanging wedges got their name because sawyers carried a lanyard, or cord, with a pair of wedges around their neck. The wedges are used as a pair, one driven across the kerf at the 10 o'clock

position and the other driven across the kerf at the 2 o'clock position. Buckers usually sunk their ax on the uphill or least movable log segment tightly above the cord so when the log segments came free, the wedges would not fall onto the saw. I recommend that every crosscut sawyer have a pair of these metal bucking wedges.



Figure 40—A bucking wedge being used as a hanging wedge. The wedge kept the cut from opening too quickly and splitting the log, and also stopped the log from rolling on the bucker when the cut was finished.—Now You're Logging, by Bus Griffiths, with permission of Harbour Publishing, Madeira Park, BC, Canada