

Testing a Saw

Make a cut in an average log. A properly running saw runs without jumping or catching, doesn't bind, makes a straight cut, and makes thick shavings without "whiskers."

Jumping or catching is most often caused by a raker out of adjustment. Check the shavings: if a raker is too long ("high"), it will show up by pulling shavings with whiskers. If the rakers were filed carefully, the most likely cause of a "high" raker is overfiled cutters. To correct a high raker, lay the raker gage lightly over the offending raker and file it down. Use as little pressure as possible so the points of the cutter teeth in contact with the raker gage are dulled as little as possible.

If most shavings have whiskers on just one side, either the filing plate on the raker gage is not square to the plane of the saw (resulting in an unsquare raker cutting edge) or the file in the jointer was not square to the plane of the saw (resulting in the cutter teeth on one side being longer than the other). The solution is either refile the saw after correcting the tool problem or use the saw as is.

If the saw runs hard and pulls whiskered shavings, the rakers are too long (too little raker depth).

If thin papery shavings are pulled, the rakers are likely too short. To check further, push down hard on the saw while cutting. If this



Thin shaving
(Raker teeth probably too short).



"Whiskered" shaving
(Raker teeth probably too long).

does not produce thicker shavings with whiskers, the rakers are probably too short. Another test is to saw a small pole, or saw so only a few teeth are in contact with the wood. If whiskers are not produced the rakers are too short.

Another cause of a catchy or jumpy saw is uneven set.

Binding can be caused by too little set or a curving cut.

A curving cut can be caused by several things: A kinked saw, too much set allowing the saw to flop in the cut, uneven set that pulls the saw to one side, sawyers bending or twisting the saw as they cut (not a fault of the saw, but a problem that might be blamed on the saw).

Choosing and Using a Saw

Felling saws have been used by trail crews instead of bucking saws for several reasons. They are light and flex easily to conform to a backpack or horse pack. Although they are generally used by two persons, a felling saw, if it is filed properly and the cut is close to vertical, can be run easily by one. However, with cuts much off the vertical, the free end will droop on the push stroke and oscillate violently on the return stroke.

Saws made today have solid ends (the teeth don't run to the ends of the saw). These saws are adequate for bucking and felling where it is not necessary to use the end of the saw. But for finishing some cuts, for example, a log lying in the dirt, you need a saw with teeth right to the ends. If you have a choice when acquiring a crosscut saw, choose the toothed-ended saw.

An effective saw guard can be made of a section of old firehose, preferably rubber-lined, that has been slit along its length. A guard often removed can be made to fasten with Velcro to speed removal and replacement.

To carry a saw lay it flat across your shoulder with the teeth guarded and facing away from your neck. Remove the rear handle so it won't catch on brush or limbs. In a group, you should walk last in line.

When transported, saws should have better protection than firehose. An accidental blow with a tool or against the sides of a vehicle will cause the teeth to cut through the hose and be dulled. One effective way to transport saws is between two pieces of plywood that are firmly bolted together.

The first step in cutting a log is swamping. Remove *any* brush, plants, etc., that may interfere with the saw. Something as seemingly insignificant as a blade of grass between the teeth and kerf can jam a saw.

Check the lay of the log and decide what will happen when the log is cut. Will it roll? Will it jump? Will it drop? Plan your cuts accordingly. Sometimes it will only be safe to have one person sawing. This is often the case if the log is on a slope. Saw from the uphill side.

Before making the cut, remove the bark where the saw will pass. Bark often has dirt in it and some say bark itself dulls a saw rapidly.

When cutting green wood, sap may stick to the saw blade and gradually build up in thickness to where the saw blade will bind in the kerf. To prevent this, the saw blade should be lubricated with kerosene occasionally or when the blade begins to get sticky.



An old firehose used for a saw guard.

Kerosene for this purpose can be kept in a small flat hip flask that can be carried comfortably in the back pocket. If the cork in the neck of the flask has two to three small grooves cut down its length, the blade can be covered evenly with a thin film of kerosene, by whisking the corked bottle along the saw blade.

Make sure the saw doesn't get in dirt or rocks at the end of a cut. Make the last few strokes with the end of the saw; then if it does get in the dirt, only the end teeth are dulled. Put a piece of bark under the log if possible when there's a chance of running the saw into the dirt. If necessary, dig the log free where the saw will pass. The object is to keep the saw sharp as long as possible.

Though not recommended, a saw can be touched up in the field. An improvised vise can be made by cutting a slot in a stump or log and wedging the saw in the slot with some wood slivers. Usually only a file is available in the field, so only the cutter teeth can be touched up. Remember, don't overfile. It is better to leave the saw just a little dull than to shorten the tooth by overfiling.

If a saw has a raker that is catching badly, it can be shortened a slight amount until the saw runs smoothly again. Be sure to shorten only the offending raker; it is sometimes difficult to determine which one is catching.

A leaning tree will have grown so the fibers are quite compressed on one side. In this case it may be possible to only sink the teeth in a couple inches before they bind. If this happens, grab an ax and start chopping. Saw a few inches and chop out the severed wood.

Often a log will be lying such that the kerf begins to close on the saw before a cut is completed. This occurs when the wood is under compression as when a log is supported

at the ends and the cut is in the middle. In some cases, the cut can be continued by driving a wedge into the kerf behind the saw. Where this won't work, as when there is not room to drive a wedge or the wedge won't open the kerf, the log must be cut from the bottom, or "underbucked."

Generally, this should be done by one person with one handle removed from the saw. This reduces the chance of a saw's being kinked or broken if the log carries it to the ground. To underbuck, plant an ax in the log so the handle can be used as a support for the back of the saw. Cut a small notch in the handle for a guide. Some oil in the notch will let the saw run easily and reduce ax handle wear. The spring of the ax handle will hold the saw in the cut with uniform pressure. A log or rock can be placed under one side of the cut to hold the log up so it will be less likely to carry the saw to the ground as the cut is completed.



Using an ax for support to "underbuck" a log.

Handle Positions

How a saw cuts is determined to some extent by how the handle is put on the saw and how the handle is held. Assume the saw is making a vertical cut with the teeth pointing down. With the handle pointing up, a pull stroke will be easier the farther toward the end of the handle the hands are held. The push stroke will be harder. On the other hand, with the handle pointing down, the opposite occurs. In saws that have two holes on each end (generally bucking saws), changing the handle position from the lower to the upper

hole will have the same effect as moving the hands several inches up the saw handle.

The difference in force necessary to make a saw stroke under different handle positions is due to the different downward forces applied to the saw. For example, with the handle up, a push stroke increases the downward force on the saw causing the teeth to sink deeper into the wood. (This results in a deeper cut that requires more energy.) On the pull stroke a slight upward force is applied to the saw.

Storing Saws

A saw should be stored straight. Leaving a saw bent (around a firepack) will bow the saw. A stored saw should be well oiled with a heavy oil. Painting the saw with a mixture of 50 percent 30w oil and kerosene or diesel also works well.

Finding Saws and Tools

Until the advent of the chain saw, crosscut saws were common, and several large companies manufactured them. Now, I know of only one company producing crosscut saws in the United States: Jemco Tool Corp., Seneca Falls, NY. The company distributes its saws through a subsidiary, Crosscut Saw Co., P.O. Box 7879, Seneca Falls, NY 13148; 315-568-5755.

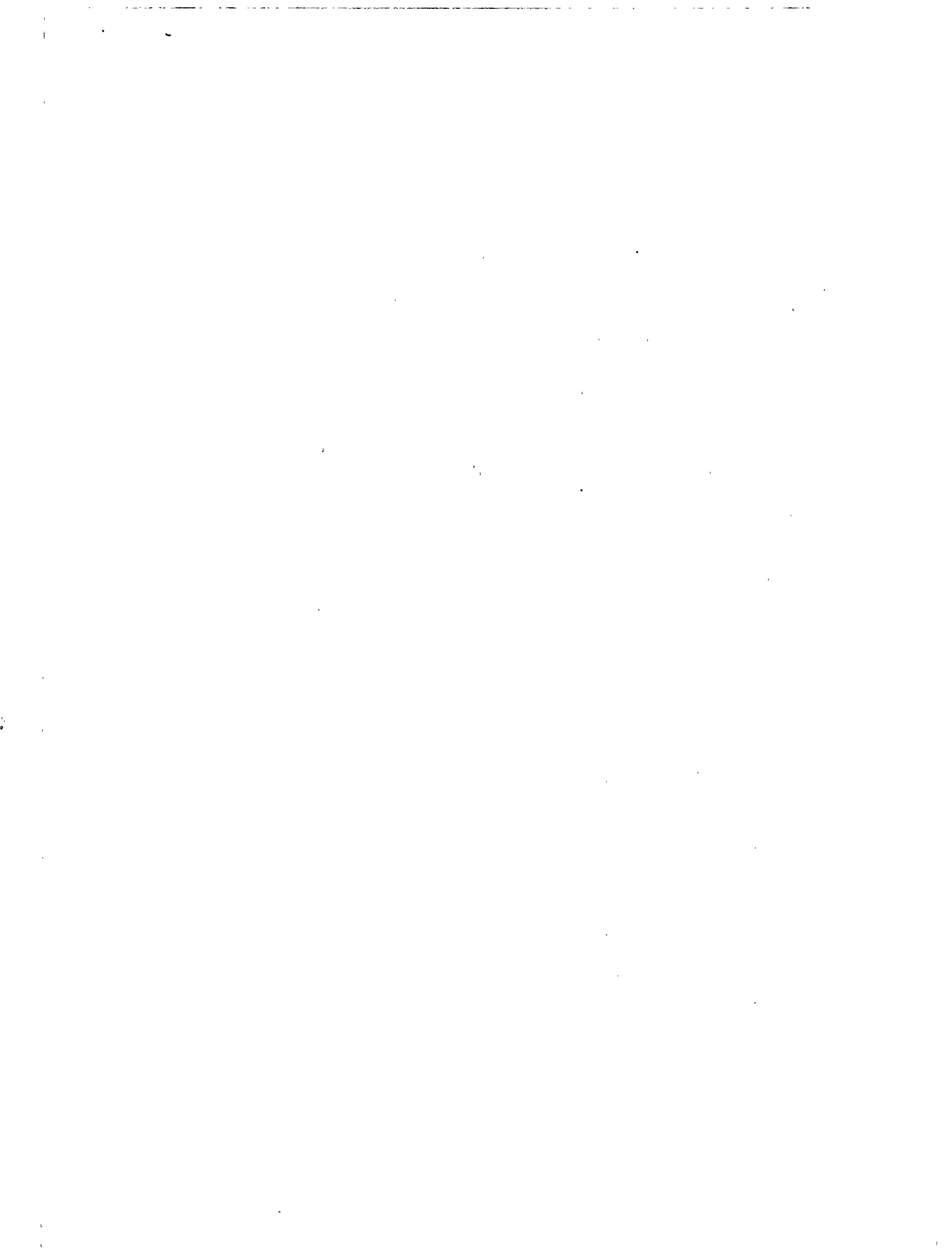
Crosscut saws are available to Government agencies through the General Services Administration. GSA stocks two saws, both manufactured by Jemco: a 3-foot saw, National Stock Number 5110-00-242-7147 and a 6-foot saw, 5110-00-062-6625.

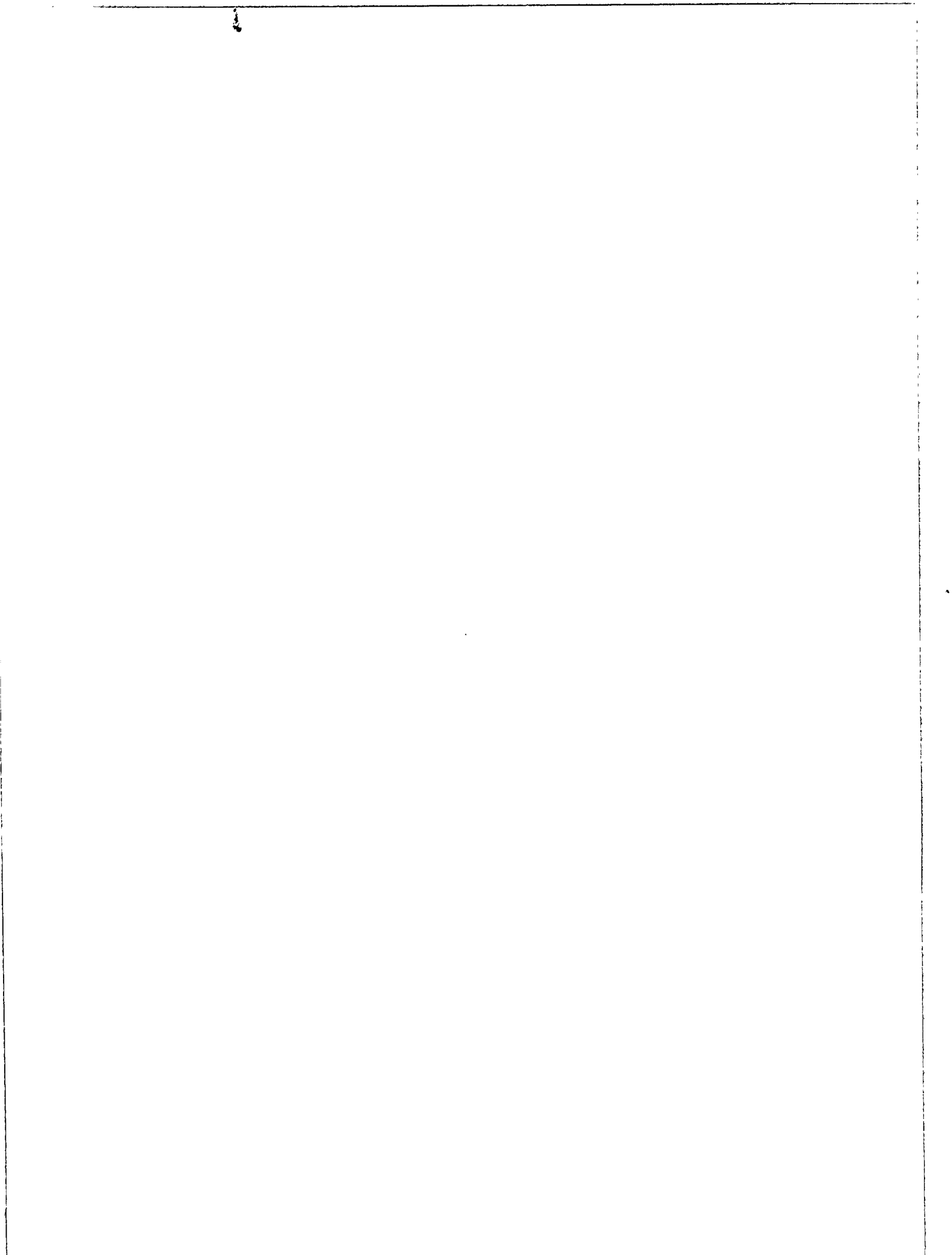
Other sources of saws and tools are second-hand stores, the odd hardware store that still stocks saws and tools, and saws of surplus from Government agencies. The Crosscut Saw Co. also reconditions and sells "vintage" saws. These are saws produced years ago by U.S. companies no longer manufacturing saws.

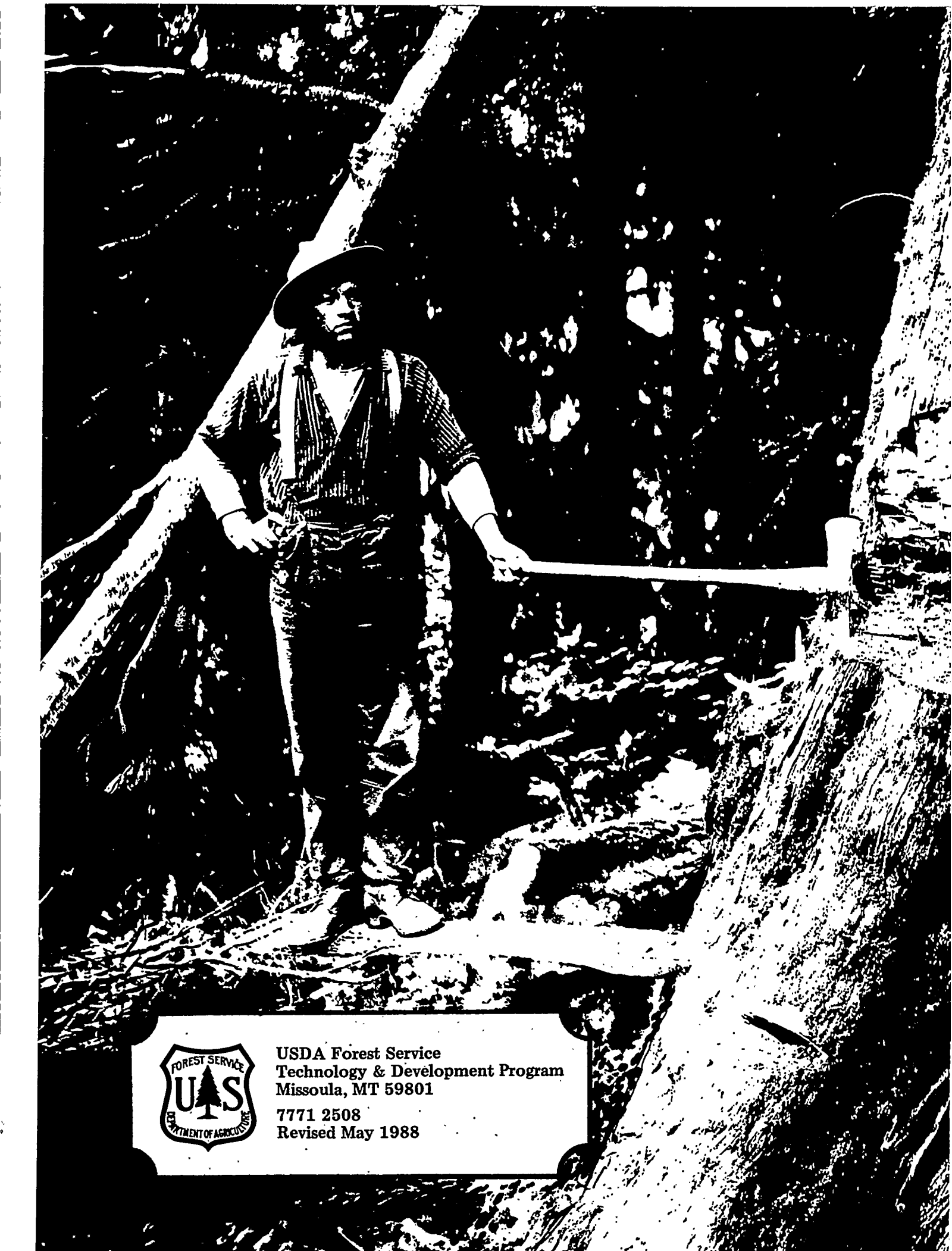
The Crosscut Co. manufactures a complete line of crosscut saw tools. These include setting and swaging hammers, jointer/raker gauges, spiders, setting anvils, and many new tools suited to maintaining crosscut saws. Write for a free catalog.

Both Simonds Cutting Tools and Nicholson/Cooper Tools manufacture special crosscut files.

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