

Gathering, Preparing, and Storing Firewood ¹

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When gathering firewood for your own use you may be faced with several options. Trees may be felled and bucked (cut into pieces that fit your fireplace) already, so that all you would need to do is haul, split, and stack. In other cases, you may need to do your own limbing and bucking, or perhaps even fell your own trees.

These latter operations closely resemble those performed by the professional logger, whose occupation is a dangerous one. Therefore, it is advisable to be familiar with the hazards associated with the equipment you use and the operations you perform.

Equipment

Although cross cut saws and axes are still used to cut firewood, many individuals choose to use a chain saw because of the speed of cutting and the ease of operation. The chain saw is a simple but versatile tool. It consists of a 2-cycle gasoline engine with a sprocket that pulls a bicycle-like chain with chisel teeth. A bar with a slot to guide the chain is attached to the saw. Oil is automatically or hand fed to the chain to reduce friction as the chain moves around the bar.

The better saws can be provided with a bow attachment for cutting trees 14 to 20 inches in diameter (Figure 1). The bow is simply a circular guide, open in the center; the guide is very narrow and tapered toward the inside.

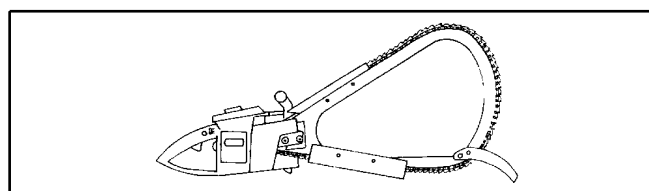


Figure 1 .

With a stop on the lower front of the guide, the saw can be placed directly against a tree or log that is to be felled or bucked. In addition, when the bow is used to cut small limbs and logs, pinching is reduced. Pinching occurs when the log being cut collapses inward on both sides of the cut (the kerf), catching or "pinching" the saw between the two sections of the log. (Figure 2).

The bow also allows you to stand when bucking a tree, virtually eliminating the danger of kick back. Bows are usually shielded on the bottom and top to prevent an individual from accidentally touching the chain. This places the cutting end of the saw well away from the body. Bows are used almost

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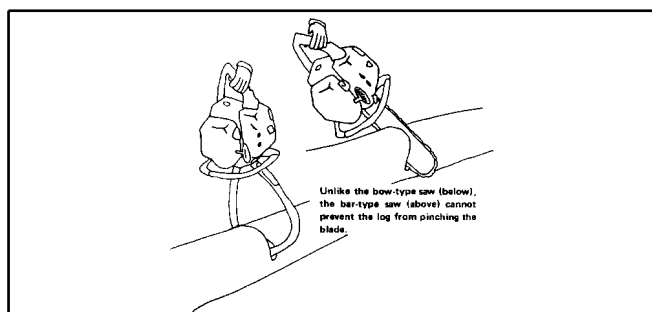


Figure 2 .

exclusively by cutters because of the features listed above. However, they do have disadvantages. When compared to bars, bows are more expensive, and the chains are longer and take more time to sharpen. Bows, more limited in capacity than bars, are also difficult to see and control when you are felling trees. For trees up to 14 or 16 inches in diameter, bows are very good; for trees larger than that, switch to the bar. The bows and bars are interchangeable.

Felling

Once you are familiar with your saw, and the teeth are sharp, you are ready for felling, a dangerous activity. If you have doubts about your ability to fell a large tree, get an experienced logger to do it. Gain experience by limbing and bucking; try your hand at felling smaller symmetrical trees.

When you have decided to fell a tree, prepare an escape route to one side of the planned direction of the fall. Although a tree may fall opposite to the direction planned it is less likely to fall to the side. Some safety experts recommend an escape route 45 degrees back from the direction of planned fall.

If the tree you are going to cut is over 8 inches in diameter, make a level cut (the undercut) about 1/3 the diameter of the tree - no more. Then make an angular cut above the first cut above the first cut so that you can remove a wedge-shaped piece of wood from the tree. Make the back or felling cut 1 or 2 inches above the undercut on the opposite side (Figure 3). As you cut horizontally toward the undercut, carefully observe how much wood is "holding". This uncut part of the tree will act as a hinge and will determine the direction of fall. Never cut off either side of the tree. You will be surprised to learn how effective this living hinge is in controlling the direction of fall.

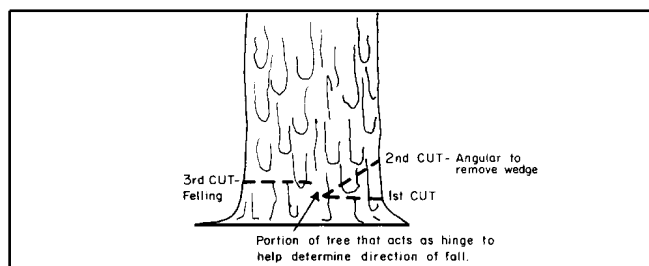


Figure 3 .

Usually, if you have positioned your undercut correctly, the tree will begin to show signs of instability as you cut the hinge down to an inch or two. Take your time if you are uncertain. On a large tree insert a felling wedge in your back cut and tap it in. If the tree is ready to fall, there will be a noticeable shudder when the wedge is tapped in. Several more taps should cause a noticeable lean. If fall has not begun carefully look around to be sure no limbs or vines are holding the tree. Check your escape route and then cut away a fraction more of the hinge. When the tree begins to fall and you are certain of the direction, withdraw your saw and walk back a safe distance perpendicular to the direction of fall. Don't run ! If you have miscalculated the direction of the fall, or a sudden breeze causes the tree to fall unexpectedly, a step or two to one side of the tree will get you clear as long as you are near the stump. If you run in the wrong direction you can hardly out distance the tree, particularly one with wide spreading branches. If you can't safely retrieve your saw, leave it. Saws can be replaced.

Several precautions should be observed before felling a tree. Examine the crown for dead limb or snags. Professional loggers call these "widow-makers" for good reasons: as a tree falls, branches of neighboring trees may catch and throw dead limbs back from the direction of fall. Check the tree for lean or for an unbalanced crown. Trees will fall toward the weighted side; don't try to fell a tree against the lean. Dead, damaged or defective trees present a problem. Unfortunately, these are the kind of trees commonly marked for firewood use. Besides having a high proportion of dead limbs, these trees are often hollow or have hidden decayed centers. Since dead or decayed wood does not "hold well", you can lose the effectiveness of "hinge" control. Extreme care must be used in felling this type of tree. Sometimes when you are felling a tree in a heavily

wooded area the tree will catch and hang in the crown of a neighboring tree. Often this dangerous problem can be solved by simply cutting through the remaining wood "holding" the stump and allowing the "hung" tree to roll off. If the tree is firmly caught and will not roll, you may be able to cut short sections from the base of the trunk. This is a tricky procedure, for the cut may give way and suddenly allow the trunk to drop. The tree will also have a tendency to slide down and assume a more vertical position as successive pieces are cut from the base. If this does not do the trick, you may have to pull the base of the tree back with a winch, tractor, or truck. Don't try to cut the holding tree because this places you in a vulnerable position beneath the hung tree.

Often a cut tree will bend small saplings as it falls. These saplings, when bent like a bow, have high potential energy. A blow with an axe on the back of the bow could cause the sapling to split and kick back with tremendous force. If you must cut a bent sapling, stand to the side and cut from the inside of the bow.

Bucking

After being felled, the tree is usually supported by limbs in the crown. Where possible, cut nonsupporting limbs into firewood lengths. Place pieces of cut wood beneath the trunk before cutting supporting limbs. This will keep the trunk above ground for easier bucking and reduced pinching. One of the main problems in bucking an unsupported trunk is the tendency for the kerf (the cut) to close and pinch or bind the chain. On a large tree, one or more felling wedges can be tapped in to prevent this. On smaller trees, a shallow top cut can be made and the straight bar then moved beneath the trunk for an upward cut. This requires strength and a steady hand; you are cutting with the top part of the blade and, because of the rotation of the chain on the bar, the saw will tend to be forced back towards you. Use considerable care when cutting in this manner.

Cut your firewood several inches shorter than the maximum allowable for your stove or fireplace. This will allow easier fueling and will also compensate for errors in bucking large logs.

Splitting

Some limb wood and wood from small trees can be burned without splitting, but most sections will need to be reduced in size before stacking. You may wish to do this immediately after bucking or wait until you transport the pieces to your backyard.

Some large blocks may need quartering before they are made light enough to load. An axe is commonly used for splitting small blocks, but larger pieces will require one or more splitting wedges and a sledge or maul for driving in the wedges. A "Go-Devil", or splitting maul, is built like a heavy wedge with a handle. An 8-pound splitting maul, swung like an axe, will usually split straight-grained wood with one blow. The splitting maul can be driven in with a sledge as needed to split a stubborn block of wood.

A pickup truck is commonly used to transport firewood. A long-body, 1/2-ton truck will carry about 1/3 cord of unsplit wood. The same weight of split wood requires more space. Owning a pickup is not necessary however, because depending on haul distance, many conveyances can be used - including carts, wheelbarrows, tractor wagons, car trunks, trailers, and station wagons. A lot of wood, the world over, is moved by hand.

Storing

In order for wood to be well-seasoned for burning, it should be cut, split, and stacked in a sheltered area 6 to 8 months before use. Wood can be stacked many ways, but for satisfactory results several things should be done.

Wood should not be stacked on the ground. Use some base material such as treated fence posts, old cross ties, or sections of utility poles. Treated timbers on concrete building blocks are frequently used.

The stacks should be supported. Deeply set fence posts work well and seldom need bracing unless the stack exceeds 4 feet in height. Some stacks are made between living trees, but small trees sway when the wind blows, making the stack unstable. The stack may be covered on top by plywood, sheet metal,

plastic sheet, or other waterproof material. The cover should not be able to be blown off and should be adjustable as the wood is used or replaced.

A stacking area that has space for two face cords of wood should hold enough to last a season. In addition, a stacking arrangement should provide for the use of dry wood from one area and replacement with green or partially seasoned wood in another (Figure 4).

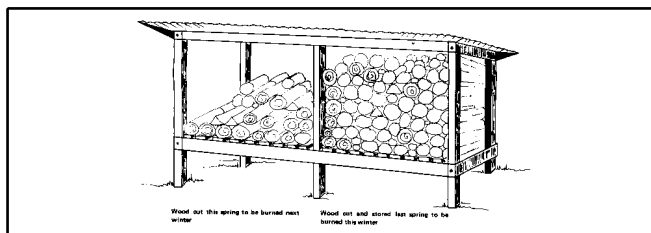


Figure 4 .

A sheltered space should be provided for kindling wood, which will be needed throughout the season.

A serious wood-burner may find it practicable to build a modern version of the old wood shed, with a permanent roof and well-drained foundation. With provision for adequate storage of a year's supply of firewood and kindling, and storage for wood handling equipment, this could be an attractive and efficient answer to the storage problem.

Heating your home with wood is not easy, but if the task is approached in a serious manner, and special efforts are made to prepare and store the wood properly, you may find that heating with wood is personally rewarding and energy saving.