

# From Logs to Lumber

*A brief guide to custom milling*

By Blueberry Hennin

For centuries lumber milling has played an integral role in developing communities. Historically, people cut and milled their own wood to build homes, barns and furniture. Although today's lumberyards and home centers make finished boards readily available, milling your own lumber can provide better quality and a more varied selection — and save money as well.

Imagine the satisfaction of selecting a tree in the forest and giving it new

life as part of your home or a piece of furniture. And with construction of homes and highways, as well as older trees being removed from yards and parks, you may even be able to get free logs.

Milling can be physically taxing, but most new sawmills are designed to reduce the amount of labor involved. DIYers can choose from an array of options with varying levels of difficulty and a range of prices.

## Equipment options

Whether you plan to start small or buy a large machine, you'll have to make an investment. Chain saw mills (\$80-\$700) are ideal for beginners or casual millers because they're portable and compact. You can take a chain saw mill to a site and mill a log rather than lugging the log out of the woods. Moving boards or even beams is easier than moving an entire log — especially if you're short on heavy equipment.

Chain saw mills come in several sizes; choosing one depends on your saw and the size of the logs you want to mill. In general, you can use chain saws ranging from 50 cc (3.05 cu. in.) to 120 cc (7.32 cu. in.). For example, Granberg International's Mini Mill fits a chain saw as large as 20 in., and the biggest of its five Alaskan chain saw mills can mill logs as large as 52 in. dia.

Before you buy, remember that a chain saw mill requires you to move the machine

through the log. It not only demands sweat equity but also consumes the most wood, averaging a 7/16-in. kerf loss with each cut.

Circular saw mills are a bit more difficult to get. Many commercial mills use them, but the price usually eliminates them as an option for homeowners — unless you build your own. DIYers have been known to collect old truck engines, large saw blades and steel bars to build their own mills (see "A Sawmill Built on Promises," p. 52). One advantage of a circular saw mill is its speed. If you need to cut a lot of lumber quickly, this may be your best option, but remember to consider the kerf loss. Although it can vary, the average is 5/16 in.

Band saw mills (starting at \$4,000) are particularly popular because they require the least amount of manual labor and the kerf is only about 1/16 in. Manufacturers sell several models that vary in size and hydraulic capacity. For example, Wood-Mizer offers six models. The least expensive is the LT15, which consists of a saw and a log base with a hand-crank height adjustment. A trailer and log-loading ramps are sold separately. The top-of-the-line Wood-Mizer has heavy-duty hydraulics that load,

level and turn logs. The models in between offer combinations of hydraulic and manual features.

As the dollar signs spin through your head, remember that milling your own lumber can translate into long-term savings and even income. Many millers counter the initial investment by offering to mill or remove logs for woodlot owners.

## Milling tips

Sawyers and sawmill manufacturers agree that selecting a tree is one of the most important steps in milling high-quality lumber. The length and diameter of the tree you select will be determined partially by your sawmill's capacity, but you should consider other criteria besides size (see "Selecting a Tree," p. 52).

Once you've found a tree, fell it in a direction that minimizes breakage. If you drop a tree on stumps, boulders, logs or even a small hill, you're likely to split the trunk. When cutting a tree with large forked branches, be sure that the fork lands flat.

After the tree is down and the dust has settled, examine the wood. If you find cracks or rot, you may want to cut off sections until you get a log without

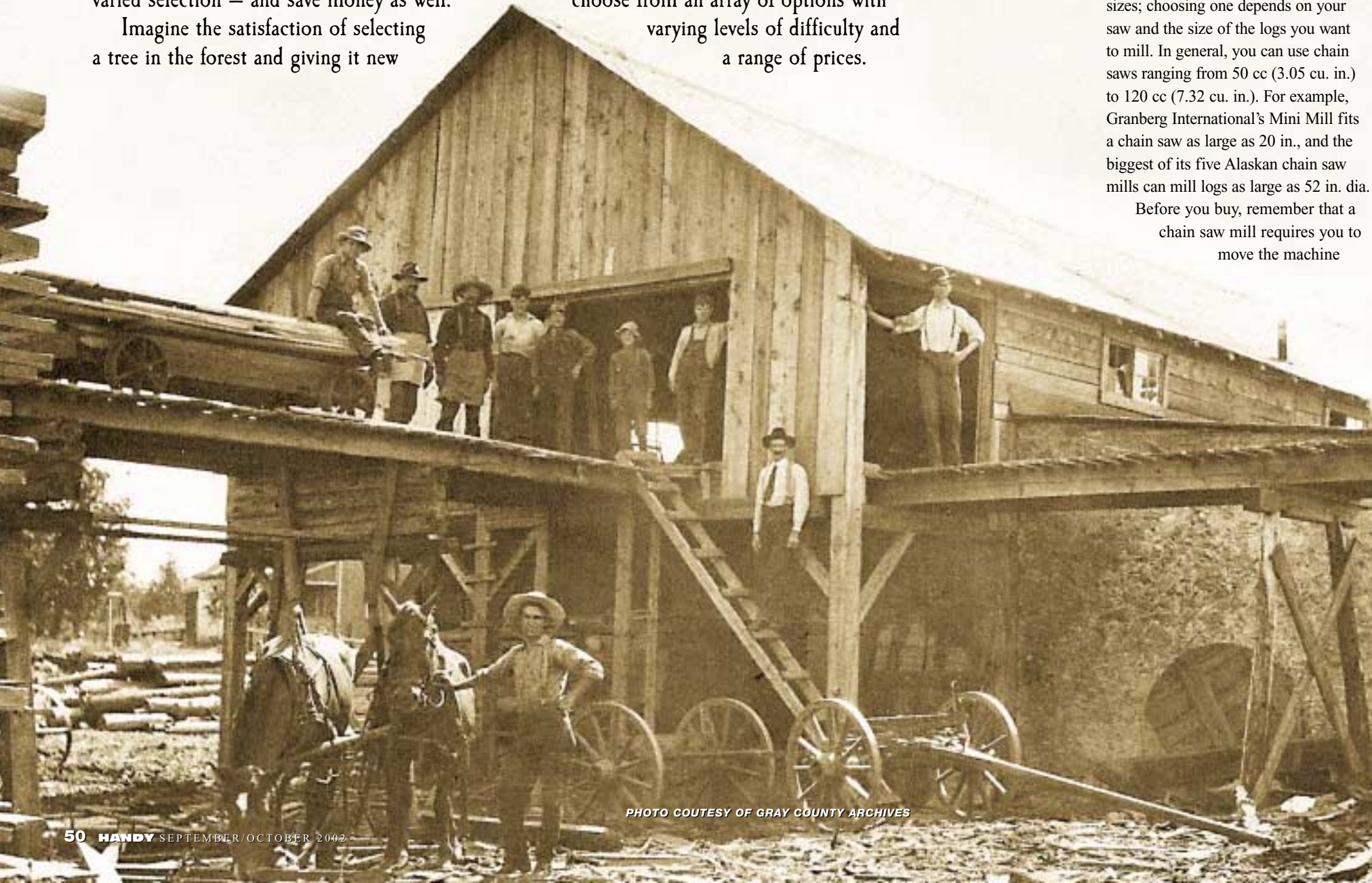


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Technological advances during the last 100 years have reduced the size and increased the efficiency of sawmills, making them practical for DIY use.



**For many sawyers, the versatility and low cost of chain saw mills are compensation enough for the dust.**



**A two-man chain saw mill allows you to mill large logs and can be easier on your back.**

defects. Always orient logs so that significant defects are on the ends because they are often trimmed off during milling or construction. Some sawyers recommend sealing the logs with a wax emulsion paint to prevent excessive checking.

Remember that logs are perishable. Warm weather and insects can quickly cause rot, although the rate depends largely on the wood species. Have a clear picture of the stock you want from a log before you start milling it, advises sawyer and sawmill manufacturer Ed Gibson of Log-Master, because you may find rot or

## SELECTING A TREE

When inspecting a tree, watch for:

- Fungus on the outside. The rot inside is likely to be advanced, and even minor fungus can stain wood, especially in warm weather.
- Curves in the trunk, which can reduce the number of boards a log yields.
- Branches or grown-over branch stubs, which can translate into knots in milled lumber.
- Unusual swelling, a sure sign of rot.

other defects that change your plans after you get started. He recommends milling a log within six months of felling it, though some sawyers let logs sit for a year.

Regardless of what kind of sawmill you use, removing the bark before you begin to mill will preserve your blade as well as the wood. Leaving the bark on some logs can stain the wood. (For example, Southern yellow pine turns blue.) Some mills come with debarkers; Log-Master's sawmill is a "clean-side-cut mill" which means that you turn the log so the blade cuts into the clean side of the wood every time. In a pinch, you can use a pressure washer to remove any loose bark, dirt and other debris.

Once you have milled the wood to the dimensions you need, you must dry it. There are a number of ways to dry wood, from stickering it in your garage to building a drying shed (kiln). Each has a slightly different effect on how the wood changes over time. Be sure to research the options before you mill.

**Milling lumber can be extremely dangerous. Always wear appropriate safety gear and follow the sawmill manufacturer's instructions.**

### SOURCES

#### Better Built

978-657-5636, [www.ripsaw.com](http://www.ripsaw.com)

#### Granberg International

866-233-6499, [www.granberg.com](http://www.granberg.com)

#### Log-Master

800-820-9515, [www.logmaster.com](http://www.logmaster.com)

#### TimberKing Sawmill

800-942-4406, [www.timberking.com](http://www.timberking.com)

#### Wood-Mizer

800-553-0219, [www.wood-mizer.com](http://www.wood-mizer.com)

## A SAWMILL BUILT ON PROMISES

Back in the late 1960s, Club member Billy Heikkila of Cromwell, Minnesota, spotted an ancient Belsaw sawmill carriage at a rural salvage yard. The mill was in rough shape, so the yard owner agreed to exchange it for a promise of some lumber in the future. A while later, Billy spied an abandoned '58 Chevy pickup in a neighbor's field. The valves in the in-line six-cylinder engine needed to be rebored, but otherwise it had plenty of life left. A quick trade was negotiated. Finally, a trip to a local flea market yielded a couple of 36-in. circular ripping blades — the last pieces of the puzzle.

On a hill near his northern Minnesota home, Billy arranged the engine and saw carriage on timbers salvaged from power line poles. Then he machined a few new parts in his metal shop and tweaked the systems until everything was perfectly aligned. He's been milling lumber cut from trees on his land ever since.

With the carriage extension, Billy's mill can handle logs as long as 20 ft. He cuts mostly poplar, using the boards for various outdoor projects. He has also milled thousands of board feet of red pine flooring along with some tamarack — a beautiful but very unstable wood. A stand of basswood has yielded some excellent carving wood that he slab-cuts and dries for a friend.

"You don't need to sell the wood to make cutting it yourself worthwhile," Billy maintains, pointing to the many structures dotting his land that were born on his DIY sawmill. Along with supporting his own projects, he's used the mill to supply free lumber to just about every one of his friends and family members. Knowing that there's a little piece of his land in the homes and yards of so many loved ones is a great reward in itself. — *Mark Johanson*



PHOTOS BY MARK JOHANSON AND COURTESY MANUFACTURERS