

A Mill for the Chainsaw

With this easily made accessory,
you can mill your own boards and beams

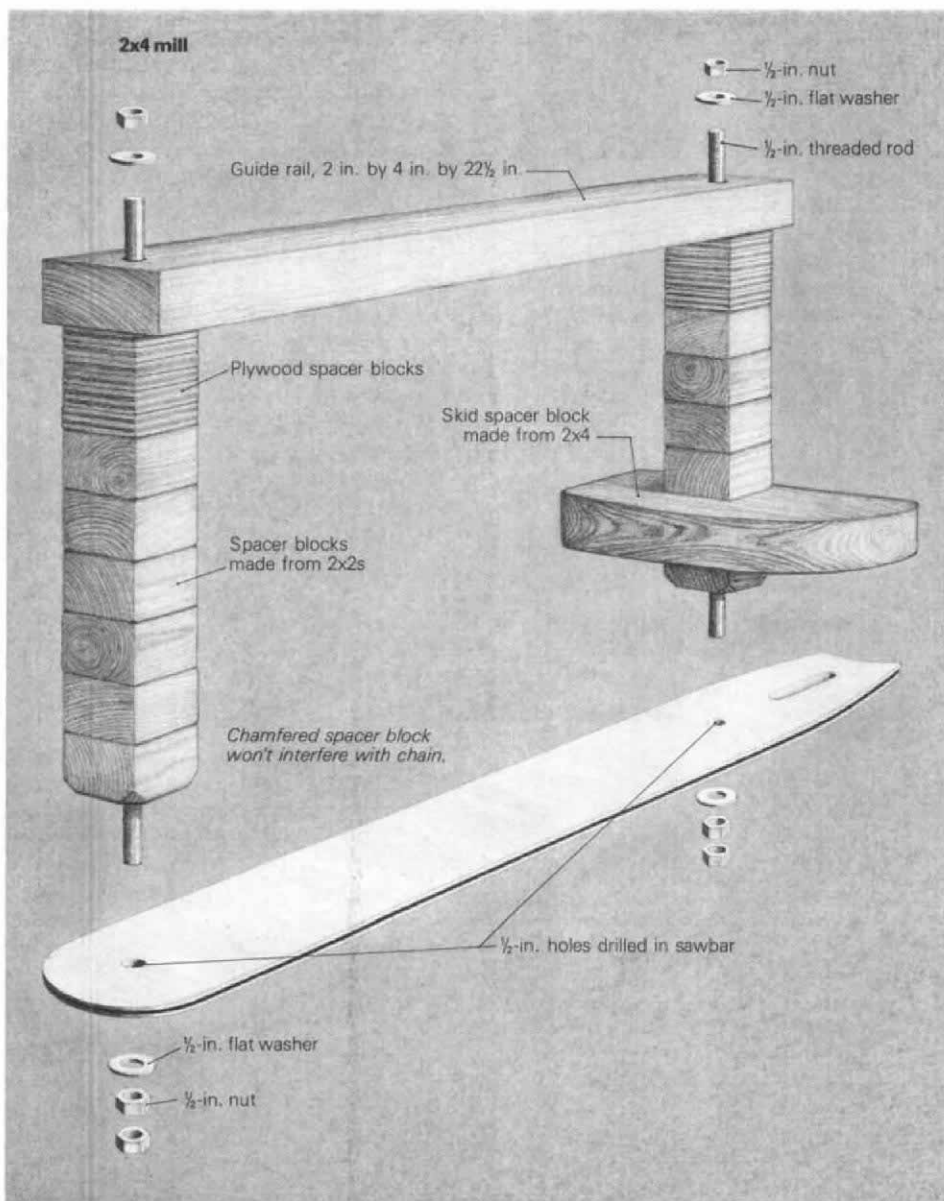
by Will Malloff

Editor's note: During the last five or six years, with the advent of commercially made chainsaw mills, growing numbers of owner-builders have discovered the advantages of harvesting their own trees and sawing them into boards and timbers. Will Malloff has been milling wood with chainsaws for 20 years. In his new book, Chainsaw Lumbermaking (The Taunton Press, 52 Church Hill Rd., Box 355, Newtown, Conn. 06470, \$23.00), he tells what he has

learned about cutting-tooth geometry for ripping chain and about the various milling accessories he's developed to make the work easier and more efficient. His book begins with instruction on how to maintain and modify the saw and mill, continues with methods for lumbering in the field and ends with a chapter on specialty milling operations. Malloff uses a Stihl 090 saw engine with either a bearing-roller or bearing-sprocket bar end. But what

makes his system work is what Malloff calls the ultimate chain for lumbermaking, a refined version of the ripping chain he invented and patented in the early 1960s.

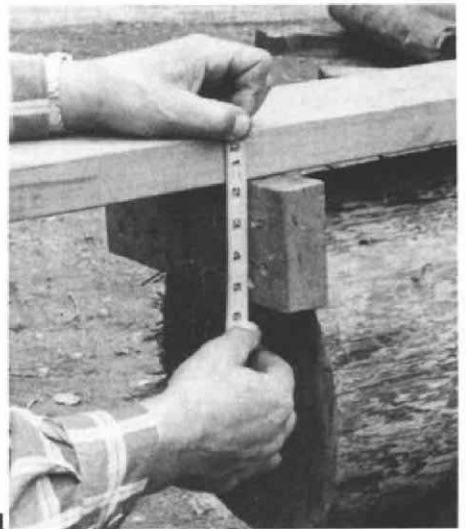
The following selection is a description of how to make and use one of his specialty mills. Malloff calls it a 2x4 mill because its working parts are all cut from ordinary 2x4 framing lumber; the mill can be used to produce both boards and beams.



An accurate and inexpensive mill can be built from a dressed 2x4, two feet of $\frac{1}{2}$ -in. threaded rod, four $\frac{1}{2}$ -in. flat washers, six $\frac{1}{2}$ -in. nuts, and a few scraps of 2x2s and plywood for spacers. Use several thicknesses of plywood, such as $\frac{1}{4}$ in., $\frac{3}{8}$ in., $\frac{1}{2}$ in., $\frac{5}{8}$ in. and $\frac{3}{4}$ in., so you can set the cutting height accurately.

Drill two $\frac{1}{2}$ -in. holes in the bar of your chainsaw for mounting. Lock together two of the nuts on the bottom ends of the threaded rods. Then drill two $\frac{1}{2}$ -in. holes in the 2x4 guide rail, using the bar holes as a template. You can substitute a dressed 2x6 or a wider board for the 2x4 if you wish.

1. To mill a square timber with the 2x4 mill, first set up the end boards and guide plank. The end boards, pieces of 2-in. thick dressed lumber, hold the guide plank parallel to the pith of the log—make sure the top edges of both boards are the same distance from the pith. The guide plank I use is just a 10-ft. long dressed 2x12. Determine mill height by measuring from the top of the guide plank to where you want to make the first cut.





2

2. Assemble the mill with the necessary number of spacers, positioning the skid block below the bar with a regular block in between to keep the chain from pinching the skid. Stack surplus spacers above the guide rail of the mill and secure the assembly with a flat washer and nut. Double-check cutting height by measuring from the edge of an inside chain tooth to the bottom of the guide rail.

3. Mill through the first cut, pressing down firmly on the guide rail to keep it level on the plank. Drive in end dogs when the guide rail is just past the end board. The dogs tack board and log together so the board can't deform during the cut. Use kerf wedges as necessary to keep the top slab from sagging into the kerf and pinching the chain.

3





4



5



6

4. Reassemble the mill to adjust for the depth of your next cut, positioning the skid block above the bar with a regular spacer block in between so that the skid will ride against the log during milling. The blocks next to the bar should be chamfered on one side so they can't interfere with the chain.

5. For the second cut, lay the guide plank back on top of the slab. Because the 2x4 mill has only one guide rail, you need to use the plank with every cut to control the mill during exit and entry. Torque down the top nuts, double-check mill height and make the cut, using end dogs and kerf wedges. Then set the cant on edge and install the end boards as before.

6. Adjust the mill to the correct height and mill through the third cut, then the final cut.

Below, the completed timber. □

