

From Rough to *Ready*

A one-man system
for preparing more stock in less time

BY ROGER A. SKIPPER

I'm a woodworker and a writer. I also enjoy eating regularly, so I have found other ways to supplement my income. A few years ago, I built a 3,000-bd.-ft. lumber kiln. Because many of my clients are basement woodworkers who have no practical way to turn rough lumber into finished stock, I am often asked to dress their stock as well as dry it. No problem. No problem, that is, if you have a 16-in. jointer and a rip saw. I don't.

When forced to dress 3,000 ft. of lumber at a clip, from wide and twisted material to long and crooked, I found that standard small-shop methods were unwieldy and slow. So I developed methods that streamline the process and also work well for a small shop on a shoestring budget. And these procedures are valuable for dressing any large amount of lumber, from 100 bd. ft. to thousands. The system combines efficient materials-handling, a few shop-made sleds and accessories and a logical order of operations. Here's how I do it.

Plane first

I tackle the planing operations first. Most of the lumber I dry has been cut on a portable mill. My biggest problems are the overall range of thicknesses and single boards with tapering thicknesses. Because my planer's maximum bite is about $\frac{1}{8}$ in., it doesn't take much taper to stall a board midway through the cut. It is also frustrating to watch your valuable time trickle away as a board too thin to reach the knives plods to a halt again and again. I sort the lumber as it comes rather than constantly adjust the planer. Find an average thickness of the lumber you are going to

plane, and set your planer to take a medium cut from that measurement.

Go/no-go gauge—A two-sided thickness gauge will save you countless hours and aggravation. Measure the thickest part of the plank. If it's between the gauges, send it through the planer. If not, throw it back into either the too-thick pile or the too-thin stack. Also make a separate pile of twisted or bowed lumber for later processing.

As you feed the stock, flip any crowned lumber so that the concave side is down. This ensures that the edges will be of similar thickness and that the thin spot will end up in the center of the board. If it is fed in with the concave side up, the board will be unstable, and the pressure of the rollers will dominate on one side, with the planer biting deeply into the other edge. This often produces a board that is unusable for half its width.

Bark edges, common on rough lumber, often contain dirt and other debris that is bad for the knives, so I keep a drawknife handy to strip away bark. I constantly watch for hazards, such as loose knots or rotten areas, and cut them away with a small radial-arm saw. Broken ends that come to a point can get wedged under the planer and also must be cut away.

I am a one-man band, so I handle the outfeed side, too. I stack the planed lumber on rolling carts, close to the outfeed table. At the completion of the pass, I move the stack of lumber back to the starting point and offbear onto another set of wheels. With my radial-arm saw nearby, and my in-feed and outfeed stacks on both sides, I



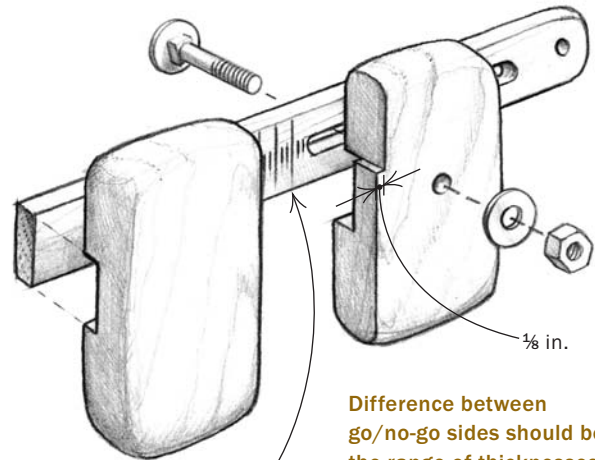
A small go/no-go gauge identifies boards that fall within the planer's $\frac{1}{8}$ -in. cut. Many sawmills don't deliver boards of uniform thickness. Valuable time is wasted when a tapered board binds in the planer or a thin board won't feed. Too-thick and too-thin boards are put aside for later passes.



PLANING

Efficient stock preparation without a 16-in. jointer and a rip saw. The author planes first, moving easily around an ergonomic workstation. A nearby radial-arm saw chops off problem areas, infeed and outfeed piles are readily accessible, and boards that are twisted or too thick or thin are stacked close by to be dealt with later.

TIMESAVING GO/NO-GO GAUGE



Graduated by $\frac{1}{16}$ in.

Difference between go/no-go sides should be the range of thicknesses that the planer can handle at a particular height setting, in this case $\frac{1}{8}$ in.

PLANING THICK, TWISTED BOARDS

This board is worth saving but is too wide for the author's jointer. The author uses leveling strips for thick boards that can withstand the pressure of the planer's feed rollers and aren't twisted too severely to line up with the 1¼-in.-high strips.



The leveling-strips method for twisted lumber. The plank is placed on a flat surface, and shims are placed under the high corners to even them out. Hardwood strips (¾ in. thick) are then screwed onto the sides, using 1¼-in. multipurpose screws. The strips offer three possible hole positions at each location.

The strips prevent the board from rocking as it passes through the planer, yielding one flat side. Then the strips are removed, and the board is flipped over and planed to a uniform thickness. The screw holes are ripped off the edges later.



can work through my piles without having to move around much and without being out of reach of the planer's off switch.

How to plane twisted and bowed lumber

Twisted and bowed stock will not yield full-thickness material. The more pronounced the bow or twist and the longer the length of the piece, the thinner the finished material. I cut these planks into 4-ft. pieces, sacrificing length to maintain thickness. Narrow lumber is simply leveled on one side on my 6-in. jointer, then planed to thickness. But all twisted planks wider than 6 in. are handled on the planer, with the help of the following accessories.

Leveling strips for heavy stock—Wider lumber, if only moderately twisted and if heavy enough to resist the pressure of the feed rollers, can be milled flat using leveling strips (see the photos at left). Lay the plank on a workbench or other flat surface, shim under the high corners to level the board overall, and lay a couple of ¾-in.-thick strips along the sides. Attach the strips with 1¼-in. screws. This gives a level surface to pass over the planer bed and will result in a flat surface on top. Then remove the strips, turn over the piece and plane it just enough to clean the board. The screw holes go in only about ½ in. on each side and can be ripped away.

Bowed lumber can be handled using the same method, with the concave side down.

Warning: Don't yield to the temptation to insert a row of screws in each strip and use only the necessary ones, allowing the others to protrude. These screws can come loose and become missiles and blade-destroying foreign matter. Remove all screws not in use.

Although this process is not a quick one, it allows the salvage of valuable lumber that would be wasted without access to a wide jointer. Twisted lumber is often highly figured and worth saving.

A sled for thinner or severely twisted stock

I developed this leveling sled to support severely twisted or thin stock that would be compressed by the planer's feed rollers (see the photos and drawing on the facing page). The sled consists of a stiff table with adjustable leveling supports placed every 6 in. I crosscut twisted lumber to 4 ft. or less, so I built a 4-ft.-long sled.

PLANING THIN OR SEVERELY TWISTED BOARDS

The planing sled is time-consuming to set up, but some boards are worth it. Butt the board against one side and one end of the sled and snug up and hand-tighten the end supports. Then snug up the rest of the supports and hand-tighten their fasteners. Note: This sled only accepts stock that is 4 ft. long or less, and the stock must be cut to a 6-in. increment in length so that its end is supported.



Remove the board temporarily. And tighten down all of the bolts.

Adjustable leveling supports are attached to the cross members every 6 in., measured from the rear fence. They are slotted for the bolts and notched to clear the center strip.

Center strip is screwed to cross members and flush with bottom.

Cross members

Fences

The overall length is 4 ft. 2 in., and the width is determined by the size of your planer. The solid frame is built first, joined with glue and screws. Then the adjustable supports are added, and the plywood fences screwed on.

Frame members



The entire sled goes through the planer. Multiple passes will probably be necessary to produce a flat side.

Lay down the board with one side and one end butted against the plywood fences on the edges of the sled, then adjust the supports to fit it underneath. The twisted lumber must be crosscut to a 6-in. increment so that the front end of the board lands on one of the adjustable supports; otherwise, the planer's feed rollers will force down the front end of the board and snap up the back end.

Run the sled through the planer until the

top surface of the board is flat. Then remove the lumber from the sled, flip it over and plane it to a uniform thickness.

When all of your stock is flat, you are ready for ripping.

Sled ensures a straight edge

My idea for a shopmade ripping sled came from observing the operation of a small rotary mill. Logs are loaded onto a sliding carriage that passes by a fixed blade. The

straight sliding action is the key to producing the straight ripped edge.

My tablesaw operation works on the same principle. I made a runner to slide in the T-slot of my saw table and attached it to the bottom of a carriage board. The front of the lumber is held in place by jamming the end into several sharp multipurpose screws. I hold the back of the board in place by hand as I push it past the blade. I originally put an elaborate T-slot on the top

RIPPING A STRAIGHT EDGE ON CROOKED BOARDS

The author's shop-made ripping sled rides in the miter slot on the table-saw. Hand pressure at the back of the board and screw tips protruding at the front of the sled secure the work-piece as it moves past the blade. Again, infeed and outfeed piles are easily accessible and placed on rolling carts.



PIVOTING STOP



Engage the pivoting stop before loading a board. The small wood stop will keep the sled from sliding forward toward the blade while the board is being pressed onto the screw tips. The stop is simply trapped against the edge of the saw table and the front rail of the fence system. When the board is loaded, the sled is drawn backward to release the stop, which will then pivot out of the way when the sled moves forward. Screws left protruding on each side keep the stop from flipping over the top in use.

of this sliding carriage, with a sliding clamp to hold down the lumber. But I found this clamp to be overkill.

Building the ripping sled—My sled had to be 16 ft. long; yours should be as long as the longest stock you use. Almost any length will require rolling infeed and outfeed support. I use 4/4 pine for the carriage board. Only the miter-slot runner will ride on the support rollers, but the carriage board is stabilized by the saw table.

The sled moves quickly and could jump out of the miter slot and into the spinning blade in an instant. To hold down the table during use, I recommend attaching a wider strip to the bottom of the runner, to fit into the wide part of the T-shaped miter slot.

A T-shaped hardwood runner will stand

up to home-shop use. But I use a more heavy-duty version built up from three 1/8-in.-thick aluminum strips, with 7/8-in. fender washers fixed loosely to the bottom. The bottom strip is interrupted for each washer, allowing it to sit flush. The washers are held only loosely by screws to allow them to wiggle around the sawdust that builds up in the miter slot.

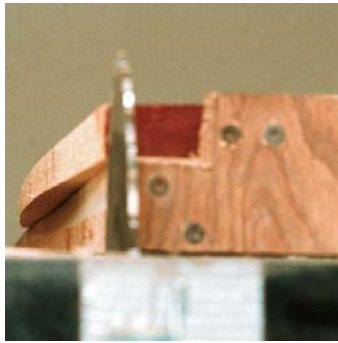
Attach the runner to the carriage board so that a bit of the board will be trimmed off the first time past the blade. The edge of the sled will indicate exactly where the sawblade passes. In use, you will be able to see and feel the overhanging portion of a board that will be cut off, and position the board for optimal ripping.

Snap a line on the carriage board for aligning and attaching the runner. Because

a chalkline is slightly fuzzy, and it is critical that this runner be straight, strike a sharp pencil line down the center of the chalkline, using a long straightedge. Fasten the runner to the board, countersinking the screw heads. When the runner is fastened, adjust your roller tables so that the bottom of this runner, not the bottom of the carriage, passes smoothly from the saw table to roller table. Good adjustment here will allow easy rolling later. The table will probably slide hard at first but will loosen up with use. A little paraffin wax helps.

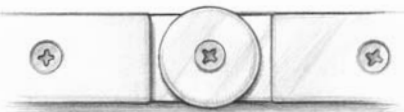
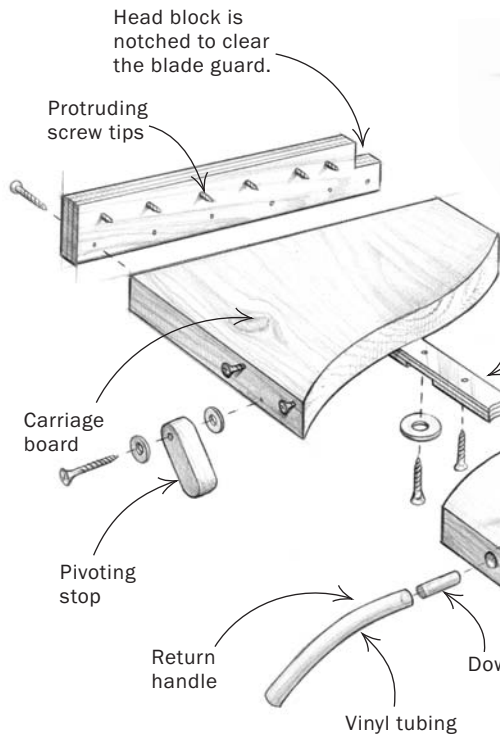
All that remains is to put in the head block, a piece of plywood with screw tips protruding on the inside; a pivoting stop to keep the table from drifting into the blade while a board is being loaded; and return handles. The stop is a simple piece of Plex-

The edge of the sled is trimmed flush with the blade, so it is easy to tell how much material will be removed. You can see and feel the overhang and thus optimize the amount being ripped away.



RUNNER DETAIL

The bottom aluminum strip is interrupted for $\frac{7}{8}$ -in.-wide washers, screwed loosely in place.



Runner is made of three $\frac{1}{8}$ -in.-thick by $\frac{3}{4}$ -in.-wide aluminum strips, stacked and screwed on.

The main component of the sled is the carriage board, made of a stable species 1 in. thick by 12 in. wide by any length needed. Aluminum makes a heavy-duty runner. The slightly wider washers keep the runner in the miter slot during use.

iglas or wood with a couple of screws added to keep it from flipping over the top. The return handles are pieces of vinyl tubing used to pull the table back to its infeed position after a pass. A series of these handles allows one to be handy wherever you end up. I installed rigid return handles on my first version of this sled, but a few painful encounters with these convinced me that flexible handles were better.

Using the ripping sled—Do yourself a favor and get a blade designed for ripping. The ease and speed of cut will make the purchase worthwhile.

Latch the sled in the rearward position. Lay a board to be straightened on the carriage, allowing whatever you wish to cut away to hang over the edge. Push the

board forward into the screws in the head block. Pull the sled backward a couple of inches to release the pivoting stop, then smoothly feed both the stock and sled through the saw as you hold down the rear of the board against the carriage. Push the sled past the blade a safe margin before removing the stock.

Severely crooked boards can be cut in half lengthwise, reducing the crook by a factor of two.

These stock-preparation methods aren't costly or elaborate, but they work very well. They'll get your next major project off the ground more quickly. □

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Rolling carts for moving lumber

The heart of the rolling cart is a pair of heavy-duty swiveling casters. I purchased mine from the Northern Tool & Equipment catalog. For easier rolling, use wheels that are at least 6 in. dia., and size the weight capacity to reflect the loads you intend to carry. I got my heavy-duty casters for a little more than \$20 each. I opted for steel wheels, which roll



well on my concrete floor. If you are working on a wood floor, as is the case with the local lumber company that is using my system, rubber wheels are available for about the same price.

Use a section of 2x10 or 2x12, and screw plywood skins onto the top and bottom. Attach the casters with carriage bolts.

Don't think that you can use this method in your parking lot. It is a smooth-floor system only. Also, be aware of the concentrated weight exerted by each caster, and make sure your floor can handle the load.

Wheel pairs are easy to store. Two-caster assemblies take up far less space than a complete four-caster frame would.

