

## SURFACING ROUGH LUMBER

Buying rough-cut lumber and do-ing your own custom surfacing is essentially no different than general planing, but there are a few tricks you should know.

Be sure the wood is properly dried. Wet or green lumber clogs the machine as you plane it. Sap builds up on the knives, interfering with the cutting action. And as the wood dries, the planed stock becomes uneven and requires resurfacing.

Air-dried wood should stand for at least one year per inch of thickness of the rough-cut stock. The moisture content of air-dried wood should be about 12% to 19%. You needn't worry about how long kiln-dried wood stands, but it should have a moisture content of about 10%. If the wood is to be used for fine furniture or cabinets, some woodworkers prefer a moisture content of about 7% to 8%.

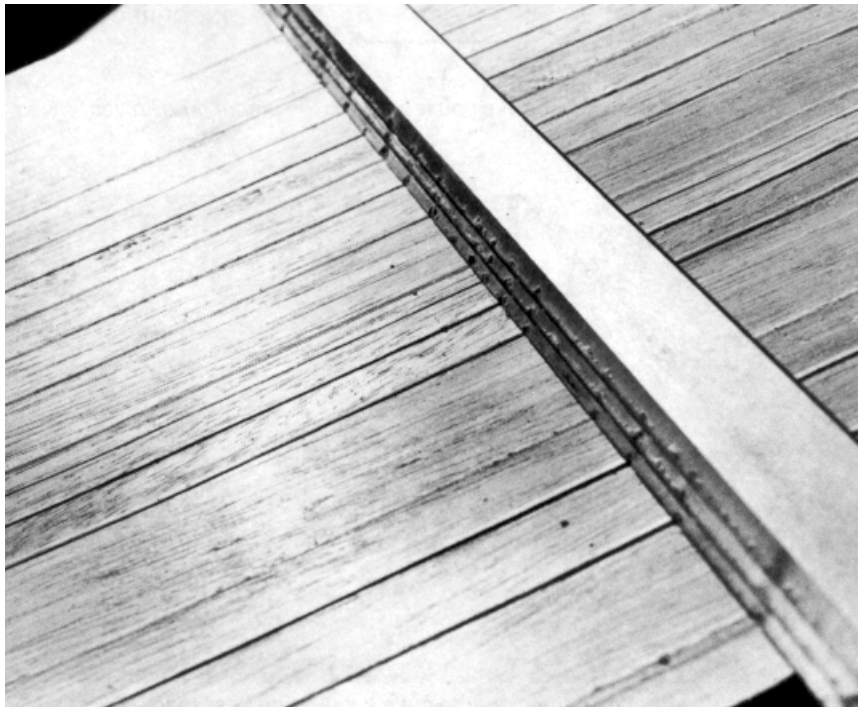
To determine the amount of moisture in wood, cut a sample block from a board. (Don't simply cut off an end--ends dry quicker and this will give you a false reading. Instead, cut 6" off the board and discard the end; then cut off a second 6" for your sample.) Weigh the sample on a postal scale; then bake it in an oven for one to two hours at 200°F to remove all the moisture. When the sample is completely dry, weigh it again. Use this equation to calculate the moisture content of wood:

$$\left( 1 - \frac{\text{Weight after baking}}{\text{Weight before baking}} \right) \times 100 = \% \text{ Moisture content}$$

Joint one edge before surfacing a board. It's almost impossible to determine the grain direction in a rough-cut board. By jointing one edge before you plane a board, you can determine which way the grain is running and feed the board into the planer so that the knives cut with the grain.

Measure to find the thickest part of the board. As wood dries, its dimensions become inconsistent--including its thickness. Measure the thickness of a rough-cut board at several places and set the depth of cut for the first pass according to the thickest spot.

Take very shallow cuts at first. Just as it's difficult to tell the grain direction in a rough-cut board, it's also difficult to tell how the grain is figured. To avoid ruining the wood, take shallow cuts (1/64" to 1/32") until you can tell whether there are any burls, bird's eyes, or other unusual grain patterns.



**Figure 21-11.** Damaged or nicked knives will leave long ridges on the planed stock. Inspect each board before you plane it to insure there are no staples, tacks, paint, dirt, glue beads, or similar materials that will damage the knives. Never plane plywood, hardwood, or any material other than solid wood.

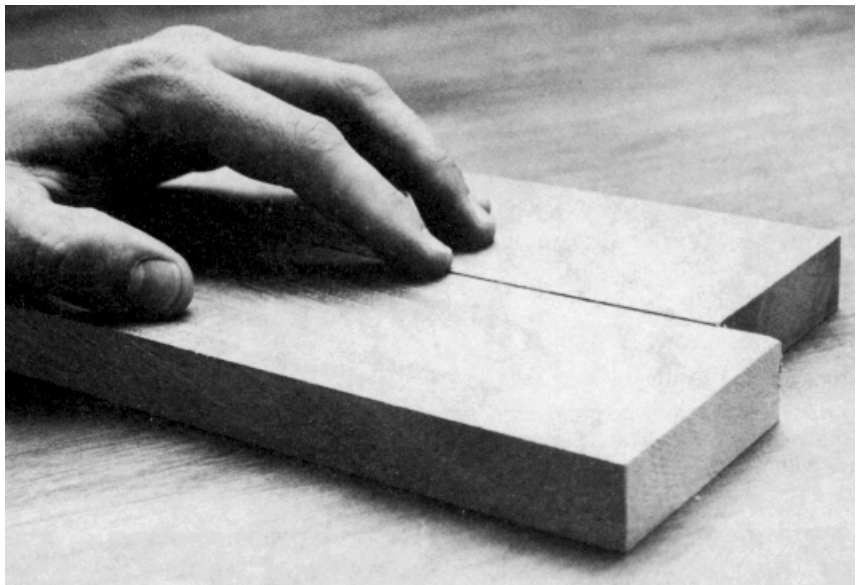
Remember to surface both sides. Plane one side until you have removed all the saw marks; then turn the board over and plane it to the desired thickness.

### **PLANING BOARDS TO IDENTICAL THICKNESSES**

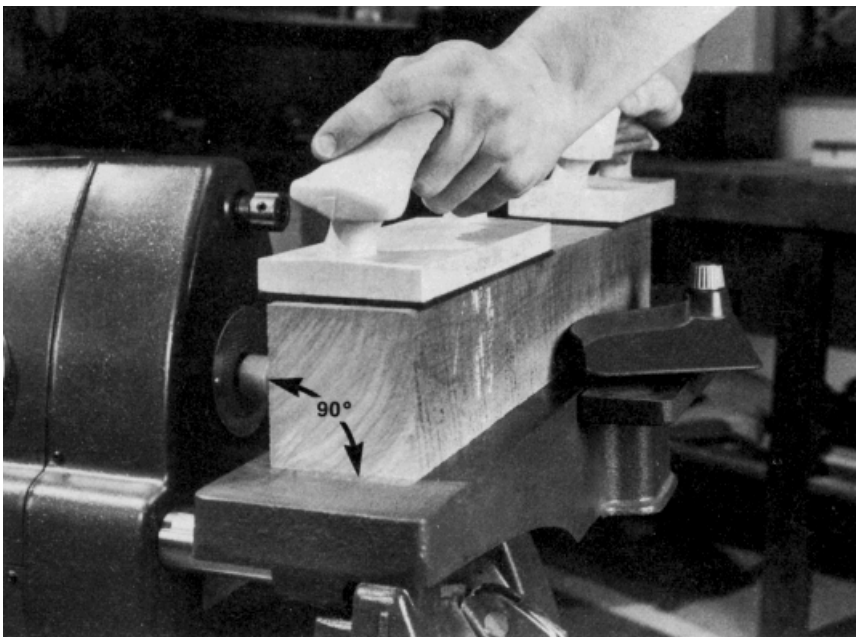
When thicknessing, you often need to plane two or more boards to identical thicknesses. To do this, start by planing the thickest board. Plane it down to the thickness of the next thickest boards; then begin to plane both boards at the same depth-of-cut settings. Cut these two boards down to the thickness of the third thickest board; then plane all three. Continue in this manner until you are planing all of the boards. Never feed two or more boards side-by-side through the planer. The boards may interfere with each other as they pass through the machine, causing them to jam or kick back.

A simple way to tell if one board has been planed down to approximately the same thickness as another is to place both boards on a flat surface, side-by-side. With your hand, feel the step from the edge of one board to the next (Figure 21-12). If the step seems higher than  $1/64$ ", continue planing the thicker board. If it's smaller than  $1/64$ "--or there is no step-- you can begin planing both boards at the same depth-of-cut settings.

Finish up by planing all of the boards at the same depth-of-cut setting at least once. This will insure that all boards are cut to identical thicknesses.



**Figure 21-12.** To tell if one board has been planed down to approximately the same thickness as another, place the two boards side-by-side on a flat surface. Then simply feel the step between the edges of the boards with your hand.



**Figure 21-13.** To square stock, start by squaring one corner on a joiner. Joint two adjacent sides so that they are exactly 90-degrees apart.

## SQUARING STOCK

The planer can also be used to square turning stock, furniture legs, and posts.

Start by rough-cutting your stock square, leaving at least 1/8" extra stock for planing. Square one corner of the stock on a jointer, jointing two adjacent sides so that they are exactly 90 apart (Figure 21-13).

On the end grain of the stock, mark the sides opposite the joined sides S1 and S2. Set the depth of cut on the planer; then plane the stock with side S1 up. Without changing the depth of cut, make a second pass with side S2 (Figure 21-14). Continue in this manner until you have planed the stock to the desired dimensions. If you wish to square two or more boards, you can combine this procedure with the procedure for "Planing Boards to Identical Thicknesses," described earlier in this article.

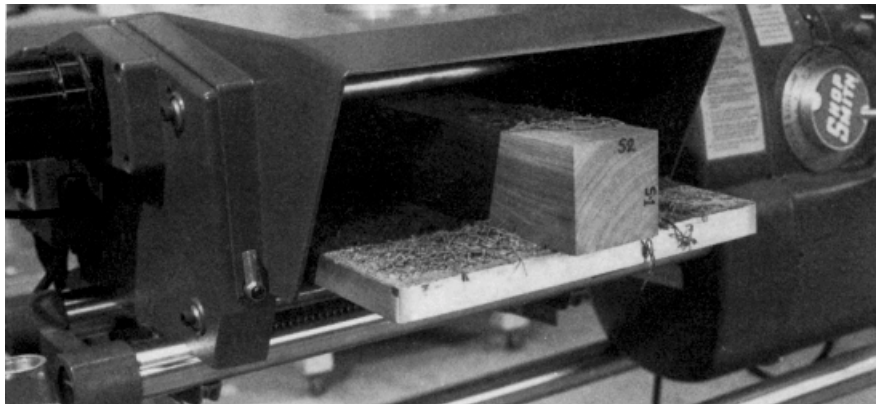
## PLANING GLUED-UP STOCK

Your planer is designed for planing wood. Other materials, including glue, will dull or damage the knives. However, on those occasions when you need to true up glued-together stock, follow this procedure to minimize the damage to the knives:

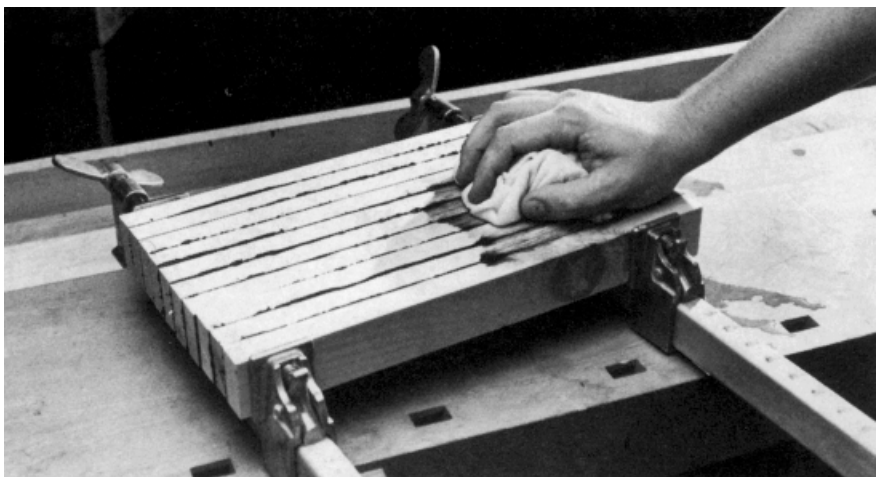
After you glue up the stock, scrub all the glue off the surface with a wet rag (Figure 21-15). This will prevent glue beads from forming on the surface of the wood. Allow the glue to dry at least 24 hours; then check the stock for any surface glue you might have missed. If you find any, remove it with a scraper or a belt sander.

**Warning:** Glued-up stock must dry for 24 hours prior to planing. If it doesn't, the stock may come apart in the planer.

When you plane glued-up stock, take a shallow depth of cut (1/32" or less) and use a slower feed rate than normal. When you're finished, check the planer knives for built-up pitch and signs of wear.



**Figure 21-14.** On the end grain, mark the sides opposite the joined sides S1 and S2. Plane the board with side S1 up; then without changing the depth of cut, repeat the pass with side S2 up.



**Figure 21-15.** If you wish to plane glued-up stock, scrub the wood with a wet rag while the glue is still wet. Be sure to remove all the glue on the surface of the stock. If any surface glue remains after the glue dries, remove it with a scraper or a belt sander. **Warning:** Allow the glued-up stock to dry at least 24 hours before planing it.