

# ASK SMITTY

No woodworker (except *SMITTY*, of course) has ALL the answers. From time-to-time, everyone hits a snag, trying to figure out some sort of in-shop problem. Don't worry. *SMITTY* can help. Just use the special e-mail link directly below to send your questions to *SMITTY*. He'll do his best to get back to you soon, with the answers to those questions.

Here are the questions...and *SMITTY*'s answers for this issue...

## **Placing veneer between layers of turning stock**

*From Scott Hampton, Visalia, CA*

*I have read several articles about turning bowls on wood lathes and would like to know more about it before trying it myself. I have found that most authors of these books and articles recommend placing veneer between the boards that they glue together to create deeper bowls, but they don't say why they do this. Does it create a better bond between the layers of wood, or is it merely for decorative purposes...and you can go without the veneer without any turning problems? Looking forward to your answer.*

This is a purely decorative approach and does not create a stronger bond between the woods. Assembling layers of contrasting woods merely looks "snazzy".

## **"Curling" tabletop has man baffled**

*From Gene, via e-mail*

*Some years ago, I built a dining table. For the top, I used an oak plywood sheet and (in accordance with the plans) attached 1 x 4 strips to the plywood sheet using wood screws and glue. In less than a year it appeared that some of the edges of the 1 x 4 strips began to curl and slightly separate from each other. Why did this happen and how, if I decide to build a table using a similar design for the tabletop, can I avoid the same thing happening? Additionally, I was shown a dining tabletop which was built by creating a frame and strips of wood that were glued edge-to-edge and then fastened inside the frame. I am not sure how this was accomplished, but, once again, the strips are separating and the edges appear to be curling. What am I not understanding?*

If the edges are curling up, one of two things are happening. Either the underside is taking on moisture (relative to the top), or the top is losing moisture (relative to the bottom). Turning all the planks with the annual rings cupping down when you build your next table will hedge the bet toward flatness because, with equal moisture top and bottom, the annual rings tend to straighten. However, we think you have a situation with uneven moisture (obviously). Poly-U is a good sealer, but not even it will prevent cellular moisture loss. From research through the Forest Products Laboratory, no finish totally blocks moisture loss or gain except a thick coat (over 1/16") of paraffin wax.

Your problem has more to do with moisture loss rather than moisture gain, judging by your location. Even wood that is kiln dried to 6% moisture in a mill will lose moisture in the extremely dry desert air of Las Vegas. It may drop to 2% or even less.

Gluing planks edge to edge WITHOUT the plywood underlayment is your best bet. Also finishing the table surfaces equally top and bottom will help a great deal. Quarter-sawn wood is also much more stable (especially in oak) and it will only move half as much as flat or rift sawn boards.

You should add your thickness just around the edges, but your edging MUST follow the grain of the top. In other words, edge grain on the sides and end grain on the ends.

You must not frame the top with solid edge banding or restrict the movement of the wood in any way (such as with plywood). The top will still move, either splitting the top or the corners of the banding. You should also allow for the movement of the top with slotted or oversized screw holes in the table rails or use table-top clips in grooves in the table rails.

How much movement should you allow for? In your area (and only if the tables are going to stay in the desert environment), allow 1/16" per foot of width for quarter-sawn...and 1/8" per foot for flat sawn wood. If you ever plan to move these tables to a damper environment, these dimensions must be doubled.

How do furniture manufacturers get away with banding table tops, you might ask? They use veneers on mdf (or some other stable base) or some companies even vacuum impregnate their solid wood tops throughout with finish (like pressure treated lumber). When cured, all cells are either coated and/or filled with finish and in that way, the top is permanently stabilized. I hope all this helps.

### **Wood cutting terminology**

From Gene writes via e-mail (**follow-up question to question above**)

*At the risk of seeming completely ignorant, there are some terms in your last message I need explained. Actually, it's rather embarrassing, but if I don't ask, I won't know. Please explain the following:*

1. *"quarter-sawn wood"*
2. *"flat-sawn boards"*
3. *"riff-sawn boards"*
4. *"table-top clips"*

*I'm sure there are a number of books around that explain these terms but I'll bet they aren't available in Braille.*

*Your information is both helpful and educational. Again, thanks a million.*

1: Quarter-sawn lumber has been sawed so that its wide surfaces extend approximately at right angles to the annual growth rings. With this method, the logs are first sawn into quarters, then the boards are sliced off. Imagine a pie-shaped end view with the curvature at the top and the point at the bottom. The slices are then cut off straight up-and-down...so, you'll have the widest boards in the center with the boards getting narrower as you approach each edge. The "rays" of the wood will appear as small

“flakes” across the board surface. Quarter-sawn lumber will swell & shrink less in its width and warp less, as well.

2: Flat sawn (or plain sawn) lumber has been sawed parallel to the pith and approximately tangent to the annual growth rings. The log is first squared, then sawed lengthwise. This is the most common sawing method.

3: Rift sawn lumber has been sawed at not less than 35-degrees and not more than 65-degrees to its annual rings — (usually, around 45-degrees). As with quarter-sawn lumber, it’s cut into pie-shaped quarters first, then the boards are sliced off as described above. The annual rings will appear as longitudinal lines, with the “rays” also running longitudinally and typically longer than those in lumber cut by other methods.

4: Table clips are small steel clips that attach to the underside of the tabletop and have a “nib” that slips into a 1/8" saw kerf cut in the outer face of the table apron...the purpose of which is to hold the top down while allowing room for movement. To better describe the shape...imagine a 1/8" thick piece of steel, about 3/4" to 1" wide. Stand it on end. Drill a screw hole down about 1/4" to 3/8" from the top, at the center of its width. Now, bend it into an “L”. Then, make a short downward (90-degree) bend at the end of the L-shaped leg. This short, downward bend slips into your 1/8" saw kerf.

## **Setting Miter Gauge To Cut a 45-Degree Angled Corner Joint**

*From Phil J. via e-mail*

***How do I set up my MARK V to cut 22-1/2 degree miters for a 45-degree angled corner joint ?***

Start by setting your miter gauge to as close to 67-1/2 degrees (90-degrees less 22-1/2 degrees) as possible.

From this point, the set-up is a matter of making a series of trial-and-error “practice cuts”. That’s because no table saw manufacturer makes a miter gauge that’s accurate to half-degrees. To achieve this degree of accuracy, you’ll need to spend upwards of \$100 — OR MORE — on an aftermarket Miter Gauge. It’s just one of those troublesome “woodworking facts of life”.

Once you’ve made your “practice cuts” and managed to get your angle set precisely, cut a fairly sizable (make it 12" or so on each side) piece of plywood (it’s more STABLE than hardwood) at your 22-1/2 degree angle and save it for use as a set-up gauge the next time you need to cut this angle. Be patient.

## **Removing permanent marker stain from a finished oak tabletop**

*From K. Snyder, Evansville, IN*

***My nephew wrote on my finished oak coffee tabletop with a permanent marker. How can I remove the marker without damaging the tabletop?***

I conducted a little internet research for you and managed to get in touch with the manufacturer of America's most popular permanent markers. Although they don't make a product to remove permanent marker, they suggested that I try a product called "Amodex". They suggested that I call the Amodex folks TOLL-FREE at 1-800-336-4775 to find out where I might purchase their product locally.

Good luck.