

## When Is an Inch Not an Inch?

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In my woodworking experience, that would be:

1. When it's me that's doing the measuring.
2. When you haven't checked (and rechecked) the drawing, the tool in hand, the measurement tool you are holding and anything else that has a dimension or is measurable.

For that Tag Frid stool I mentioned in last month's PN, the tenons on the stretchers are simple round tenons, though the stretcher will be of elliptical cross-section and tapered except at the tenon itself. Simple, round, right? Just put the stretcher blank in the lathe and turn an inch of the ends down to match the mortises, right? Right! So far, I have the process down pat.

The auger for the mortises was  $7/16$ ". OK. I set some calipers at  $7/16$  and started the lathe. Patience not being one of my finest virtues (if I have any virtues at all), I got a bit too aggressive with the parting tool (used to set depth cuts to work from) and went beyond where I should, to about  $3/8$ ". Now I've always said that the person who invents a way to make a board longer or wider or thicker after an "oops" will be a billionaire. Unfortunately, I don't know of anyone who has risen to that challenge yet, so..... (Note: shortly after writing this, Jim Russell did, in fact, lengthen one of the legs on his stool. But I'll leave him to tell that story. Unfortunately, he's not a billionaire - yet.)

A very wise man once told me (actually, he probably told me 10 times, but I'm glad of it) that when you have to do something to the end of a piece, like make a tenon or a miter, make the blank extra-long. Then, if you screw up the tenon, cut it off and start over and you don't waste the entire blank. Damned fine advice, Mr. Russell. Thank you. In this case I had 2 stretchers to make, one about 20" long and the other about 13". My first blank was 22" long and my second was about 16". I was working on the longer blank, and so had room to spare. Well, I should have had room. I turned the next inch until the calipers just barely passed over the turning. But when I tried to fit the tenon into the leg mortise, it seemed like I was dropping a 16d nail into a barrel. Recheck the setup. Sure enough, the calipers were set to a hair UNDER  $7/16$ ". Reset them to a hair OVER  $7/16$  - I'll take the last few thousands off with sandpaper - and start on the third inch. Turned it to a slightly fat  $7/16$  and tried the fit again. Still very sloppy. What the ....?

I took out my dial calipers and measured the tenon. It was a VERY fat  $7/16$ , closer to  $15/32$ ". How can that be so loose? Did I manage to widen the mortise by wobbling the auger bit after all? I then measured the mortise. (Insert long, vehement string of unprintable words here). It was 0.501 inches! The  $7/16$  auger bit wasn't a  $7/16$  auger bit. It was a  $1/2$  inch bit! (repeat unprintable string of words here, with even more emphasis)

Now if you're following this with a little arithmetic, I started with an oversized 22" blank, needed a 20" finished piece, and have now wasted 3". Harrumph. The long stretcher blank is

now the short stretcher blank. I'll make a new long blank tomorrow. I blame my mentor! Knowing me, Jim should have told me to make the blank an extra FOOT long!

Back on the lathe and with dial calipers set to 0.510", I carefully turn another inch of tenon. (No, I really don't try to work in thousandths of an inch, except when I can. I'm happy plus or minus a hundredth. I just report it to the thousandth to tick people off.) I turned it perfectly, then took the last 10 thousandths off with sandpaper, stopping two or three times to test the fit. Finally, at 0.499" the fit is snug. Excellent. Wonderful; done! With the first tenon. The trick is to get all your ~~errors~~ practice done on the first end, because you need a finished part of a specific length, so you only get one shot at the tenon on the other end! Hmmm, I'll think about that tomorrow.

Lesson(s) learned? Not only measure twice, cut once, but **check and double-check the dimensions of everything you touch**. I still don't know how a 7/16" auger bit drilled a perfect 1/2" hole, but I'm sure that if I'd looked more closely at the tools, it wouldn't have happened. And if I'd checked the mortise, I'd have discovered the error earlier and could have avoided the mis-turnings by simply matching the tenon to the real mortise, not the supposed-to-be mortise. Then I "disrespected" the calipers by simply eye-balling the setting using a ruler. Normally, that might be OK, and would be for a spindle turning like a chair leg or baluster, but mortise and tenon joinery relies on a snug fit and even I can't eyeball within a very few thousandths.

One evening, one tenon. And a step backwards because I now need to mill another blank for the long stretcher. I'm a perpetual novice not because I don't learn but because it takes me so long to learn. I'm committed to finishing this project; no more piles of parts in a corner collecting dust. So, stay tuned. I'm sure there'll be more episodes that I'm hoping will help you AVOID some of your own episodes. And have a chuckle along the way.

Don Michael, PN (Perpetual Novice)