My version of the basic, no frill, just get the job done, tenon jig starts out as a few pieces of left over plywood or solid wood.

Step 1. The tenon jig rides on the fence, so the first step is to measure its height.

To help get an accurate measurement of the fence side, I rested a strip on the top of the fence and measured from the table top to the bottom of the strip. The main reason for this is that the fence side has a rounded edge treatment that made it difficult to determine the height without the reference edge for accuracy.

Step 2. The next measurement to find is the overall width of the fence.

Step 3. It's time to start cutting the scraps to the correct sizes. There are four pieces to cut. (1) tall side, (1) bridge, (1) short side, (1) sacrificial fence

I find it helpful to have the two sides and bridge all the same length. Perhaps it's my obsessive compulsive side, but it just looks right.

Step 4. I need to locate where the bridge will be connected to the tall side. I like to have the bottom of the jig raised up off the table top. This provides for sawdust and chips to be cleared away between cuts. The side of my fence was 2”, so I marked my first reference line at 1 15/16”

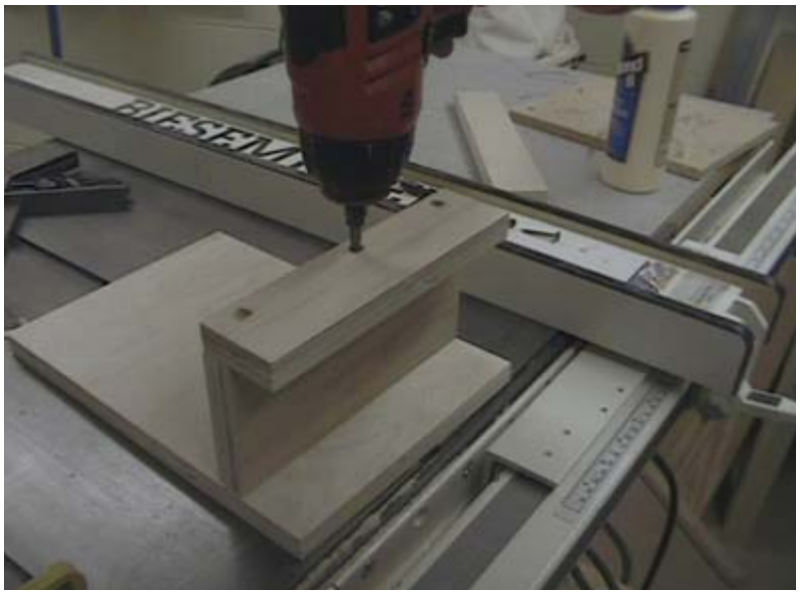
Step 5. The reference line I just drew, represents the bottom edge of the bridge. Since I know the thickness of the material I can determine the center line and then drill and countersink holes for the screws that will join the side to the bridge. Since I’m already drilling the tall side I went ahead and drilled the short side too. It’s less critical about positioning the short side but I have the top of it flush with the bridge.

Countersinking the holes is critical to making sure the blade doesn’t accidentally nick the screw heads.

Step 6. Using the reference line I struck in step 4, I line the bottom face up with the line. Before adding clamps though, I add a bead of glue to reinforce the screws.

The first screw to be set is the middle screw. This gives me a chance to find the right level on the left and right before finishing.

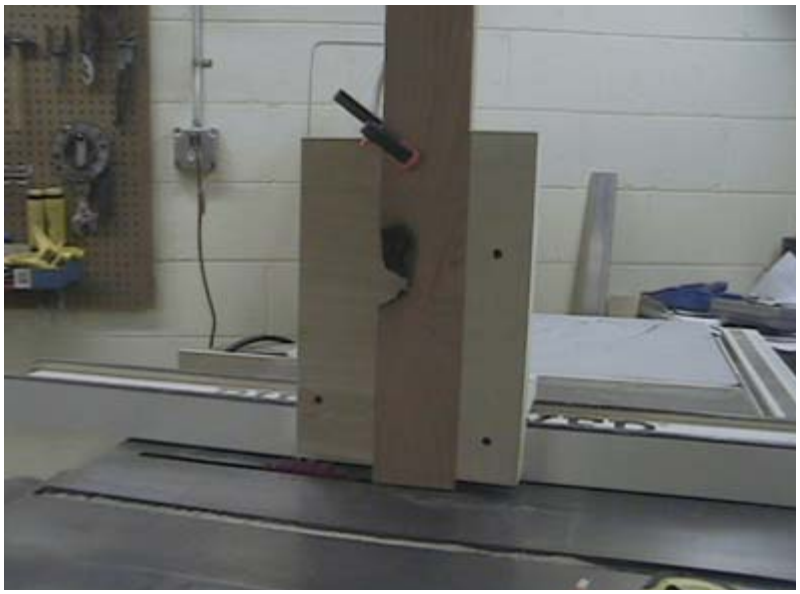
The same is true for the the short side. A bead of glue, some clamps and then the screws.



Step 7. The sacrificial fence is attached. I'm not worried about the appearance since it will be replaced from time to time. The main concern is to make sure the edge backing the component is square to the table. If it's not, your tenons won't be either.

This is the completed jig. As you can see it rides on the fence. The key is to have a snug fit but yet it can move back and forth with slight effort. A little wax and it should be ready for action.

Here's the jig in action (not really, but it kind of looks like it doesn't it?) Some improvements on this basic design would include a handle on the bridge, and a modified clamp to hold the component tight to the jig.



If you're using it as designed here, REMEMBER TO KEEP YOUR HANDS AWAY FROM THE BLADE!!