

# Shop Short Cuts

## Handling a Haunched Tenon

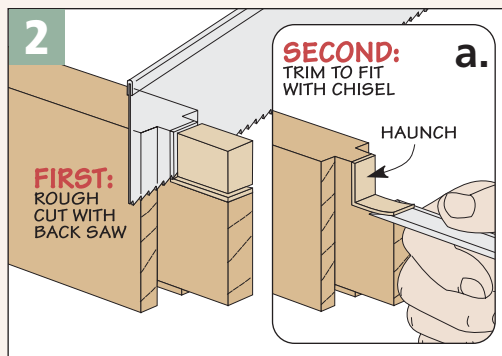
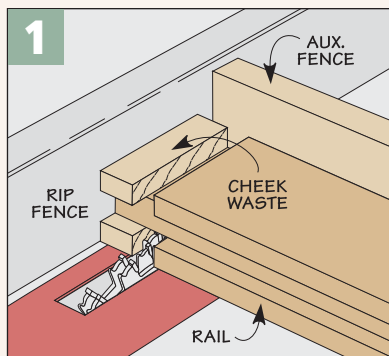
■ Mortise and tenons are a solid way to join frame and panel assemblies like the ones used on the workbench on page 30. But what makes the tenons used here a little different is the small “haunch” at the top of the tenon (drawing above).

**Why a Haunch?** Instead of cutting all the shoulders of the tenon so they’re flush with each other, it’s important to leave the “top” shoulder extended a bit. This way, the haunch fills the end of the groove cut earlier in the legs.

Creating the haunch isn’t difficult. Start by cutting the cheeks of the tenon to fit the mortise. This is just a matter of trimming each side of the rails and stretchers (Figure 1) until the tenon just slips into the groove. (It’s the same width as the mortise.)

**Trim to Fit.** Once the cheeks are cut, you’re ready to trim the tenon so the shoulders butt tight against the legs and the haunch fits tight against the bottom of the groove.

I found it easiest to do this by rough-cutting the tenon to size with a back saw first, as illustrated in Figure 2. Then it’s just a matter of trimming the tenon and shoulder with a chisel (Figure 2a) until you have a nice, tight fit.



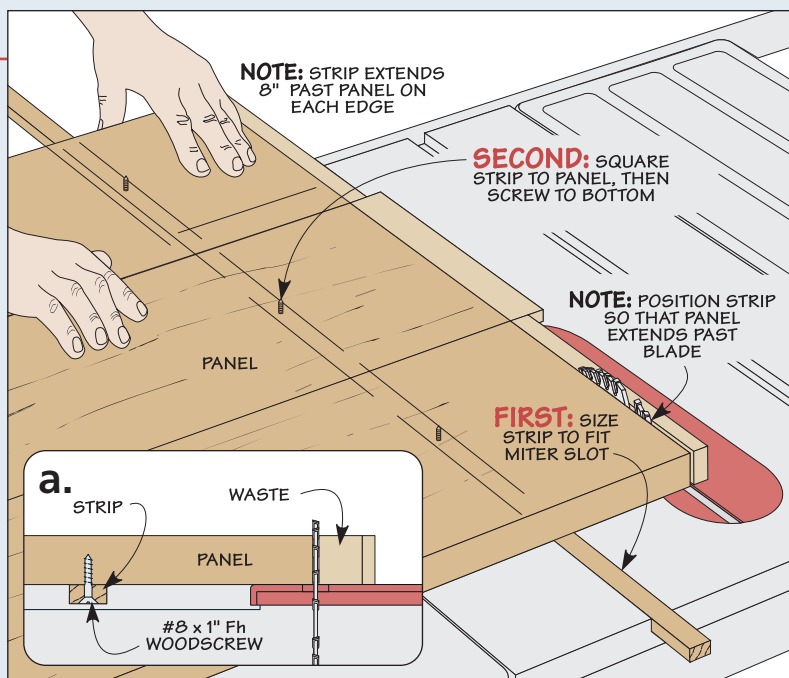
## Squaring a Large Panel

Using the table saw to square up the ends of a large glued-up panel (like the benchtop on page 30) is a challenge. The panel is too wide to cut safely or accurately with a miter gauge or sled. The solution is to use a wood strip to guide the panel through the saw (see drawing).

**Make the Strip.** For this to work, the strip should fit the miter slot snugly, but still slide smoothly. And for best results, the strip should be long enough to extend 8" past each edge of the panel.

**Attach the Strip.** Once you have a good fit, you’re ready to attach the strip. And there are a couple things to keep in mind here. First, the strip needs to be located so the end of the panel extends slightly past the blade, as in detail ‘a.’ Second, the strip needs to be square to the edge of the panel. (I used a framing square.)

**Make the Cut.** Depending on the size of your saw’s extension table to the right, you may need to provide extra support for the panel as you make the cut. So set up extra outfeed and side supports before you start.



# Routing Square Holes

The cabinet-base workbench features traditional, square bench dogs. And for that, you need square "holes." To make quick work of completing these holes, I turned to my hand-held router, a 1/2"-dia. pattern bit, and a handy shop-made jig

**Making the Jig.** Since a pattern bit will follow the edges of a template exactly, the key to accurately routing the dog holes is taking the time to make the jig just right.

You can find all the information you'll need to build the jig in the Dog Hole Jig drawing shown at right. On the top of the jig, you'll see a pair of openings created by three shaped patterns. The patterns are attached to a pair of glued-up cleats that fit tight against the edges of the bench dog strip. The guide strips keep the jig in just the right position as it's screwed in place, like you see in Figure 1.

**Two Openings.** Each opening is shaped like a bench dog, and the openings are angled toward each other. As shown in Figure 1, one opening is used to rout the holes in the bench dog strip. The other opening is then used to rout the holes in the tail vise strip (Figure 2).

Since the bench dog holes you rout will match the jig exactly, be sure to test fit the bench dogs in the jig and then make any adjustments before you start routing your workpieces.

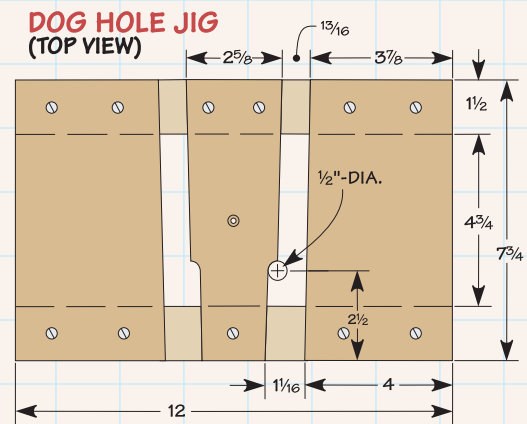
**Routing the Holes.** Once the jig is complete, routing dog holes is just a matter of laying out their locations and screwing the jig over the workpiece so the opening lines up with the layout, as in Figure 1. Don't worry about the screw holes, they'll be covered up when you attach the strips to the bench.

Since you'll be routing the dog holes across the grain, you don't want to remove all the waste in a single pass. I found that a series of shallow passes works best (no more than 1/4" deep). But there's one small problem. For the first couple passes, the bearing won't make contact with the edges of the jig.

To solve this problem, you'll need to carefully rout down the center of the opening to remove most of the waste, as in Figure 1a.



**DOG HOLE JIG (TOP VIEW)**



Once the bearing is below the top of the jig, you can then trim along the edges to remove the rest of the waste, like you see in Figure 1b. Note: Be sure to set the depth stop on your router at the final depth of cut (3/4"). This way, each dog hole will end up identical. 