



# TILE-TOP CRAFTSMAN TABLE



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*A simple design with no-nonsense mortise and tenon joinery makes this table an irresistible project.*



You say you've never tried to cut a mortise and tenon joint before? Well this attractive Craftsman-style table might be a great place to start.

Like most Craftsman-style pieces, this table sticks to the basics. It's mostly just straight lines and straight-forward joinery. Mortise and tenon joinery is one of the cornerstones of woodworking. And once you get a

good feel for it, you're well on your way to building this classic little table.

Let's break it down for a quick look at what's going on. You start with four square legs and then join the upper and lower rails with "mitered-end" mortise and tenon joints. Next, you add some vertical slats on three sides. They're joined to the rails with a shallow mortise and tenon.

And then to top it off, you build a mortise and tenon frame into which a ceramic tile panel is set.

The best news is that the joinery here isn't the least bit difficult. Whether you decide to cut your mortises by hand, the way I like to do it, or maybe invest in a mortiser, you'll get some good practice with a great end result.

I like to start work on a table by making the legs, and if you take a look at the drawing at right, you'll see that this is a straightforward task.

**THE MORTISES.** The box below shows you the steps to hand mortising. With the legs cut to size, you begin by laying out the four mortises on each leg. I like to “gang them up” and mark them all at once, as shown below.

Take a look at detail 'a' and you'll see how the two adjacent mortises meet in the leg. This means that when drilling the second mortise into the previously drilled mortise, you'll need to go slow to avoid splintering.

**LEG** (A)

$\frac{1}{8}$ " roundovers on edges of legs

22

$1\frac{3}{4}$

$1\frac{3}{4}$

**NOTE:** All four legs are identical

**LEG** (A)

$10\frac{3}{4}$

$2\frac{1}{2}$

$\frac{1}{4}$

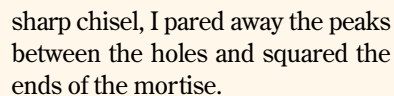
2

$\frac{1}{4}$

**NOTE:** All mortises are  $\frac{1}{4}$ " wide

**LEG** (A)

**NOTE:** Legs are cut from  $1\frac{3}{4}$ "-thick stock



I didn't want to leave sharp edges that could be easily damaged, so I installed a 1/8" roundover bit to ease all four long edges and the bottom edges, as shown in details 'b' and 'c.'

Mark end cuts of mortises

**NOTE:**  
Legs clamped flush at ends

1/4" Forstner bit

Use auxiliary fence to position leg

**NOTE:** Rough out mortises on drill press

*Pare waste to layout lines*

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## Fitting the Rails

With the four legs ready and waiting, I turned next to making the upper and lower rails that connect them.

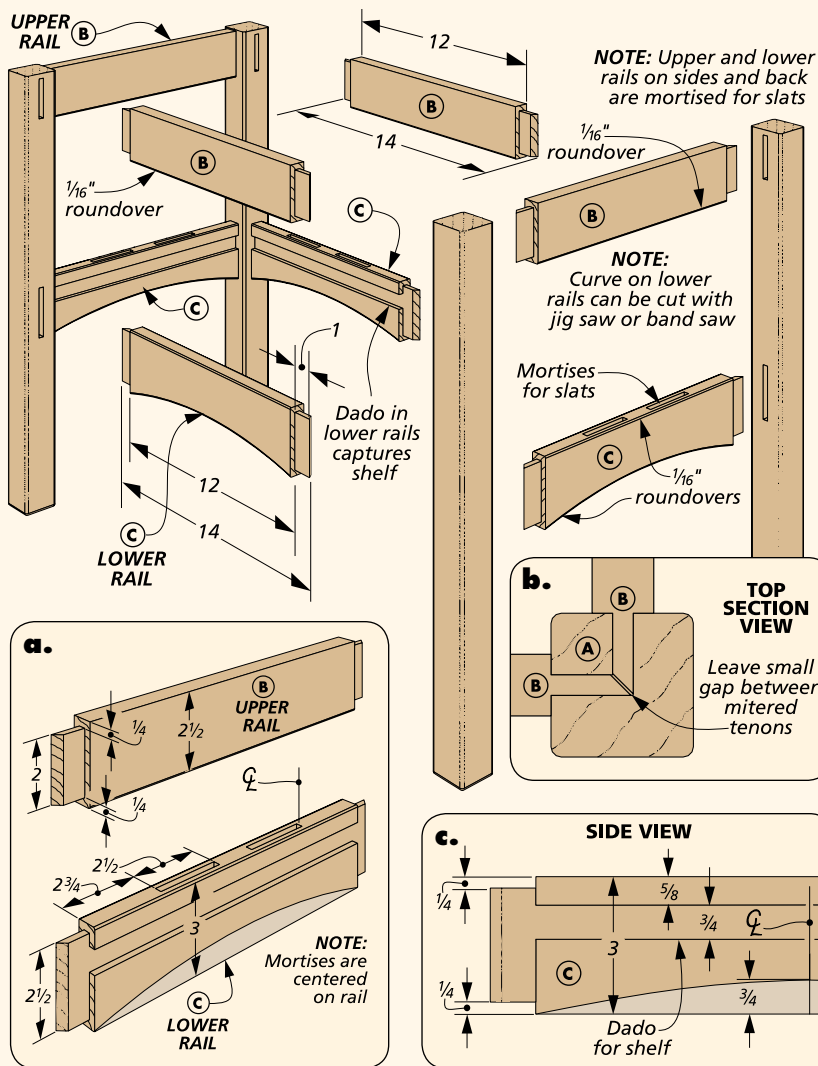
**TENONS FIRST.** Once you've cut the four, identical upper rails (B) and the four, identical lower rails (C) to size from  $\frac{3}{4}$ "-thick stock, you can install a dado blade in the table saw. Use it to cut the tenons on the ends of the rails (detail 'a').

When each tenon is a snug fit in its mortise, switch back to a standard blade to miter the ends of the tenons (detail 'b'). A small gap between the tenons will leave space for glue and ensure that the tenons seat fully in the mortises.

**A FEW MORE MORTISES.** At this point the leg to rail joinery is done. But later, you're going to add vertical slats between the upper and lower rails on three sides of the base. This requires cutting a few more shallow mortises. You can do this using the same method used for the leg mortises. Both the upper and lower rails on the two sides and the back have identically-spaced mortises — but not the two front rails.

**THE SHELF DADO.** You'll also be adding a shelf that's captured by dados in the lower rails of the base. So cutting these dados is the next task. The drawing in the box below shows you what you need to do.

**GENTLE CURVE.** The shallow curve on the lower rails is a classic Craftsman-style



touch. Detail 'c' gives the dimensions you need and the photo below shows a clever way to draw consistent curves.

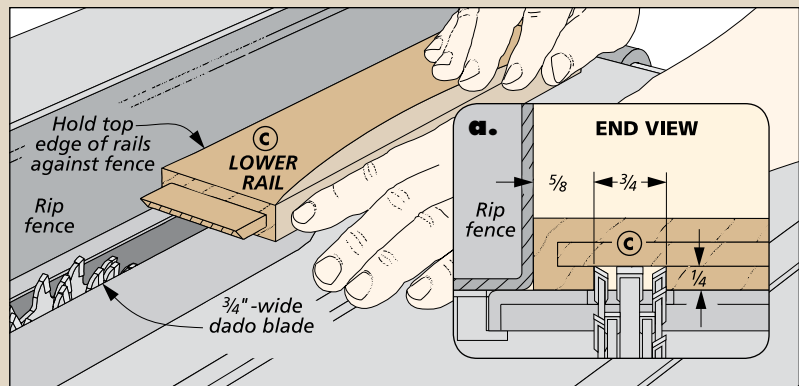
**KNOCK OFF THE EDGES.** After cutting the lower rails to shape at the band saw,

I sanded the edges smooth and then took all the rails to the router table. There I used a  $\frac{1}{16}$ " roundover bit to ease all of the sharp long edges (but not the tops of the upper rails).

## HOW TO: SHELF DADOES



▲ A notched scrap of hardboard and a short length of string is all you need to lay out a smooth, consistent curve. A series of knots tied in one end of the string allows you to easily adjust the amount of "bow."



**Cutting the Dados.** The dados in the lower rails that hold the shelf can be cut quickly with a  $\frac{3}{4}$ "-wide dado blade installed in the table saw. Clearly mark the top edge of each rail and then hold that edge against the fence. Gradually raise the blade to sneak up on the final depth of the cut.

## Completing the Base

At this point you might be getting a little anxious to see the fruits of your labor take shape. Well, once you've made the vertical slats and the solid wood shelf, you can start to put all of the pieces together.

**THE SLATS.** First, I tackled the slats. You'll need to cut 6 vertical slats (D) to size from  $\frac{3}{8}$ "-thick stock. The slats have a short tenon cut onto each end to fit the mortises in the rails (detail 'b'). Once again, a dado blade is the tool for the job.

For short tenons like these, I use a  $\frac{3}{4}$ "-wide dado blade buried in an auxiliary rip fence. You want to end up with a snug-fitting tenon and a slat that fits tightly between the rails. So slowly sneak up on the length and the width of the tenons by adjusting the rip fence and gradually raising the blade.

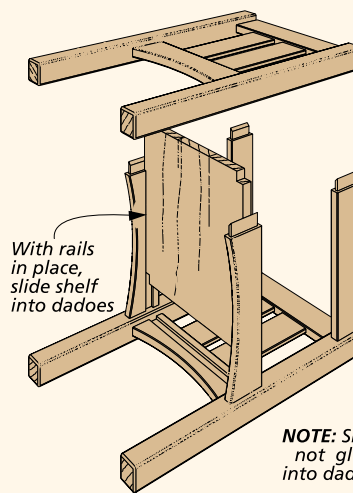
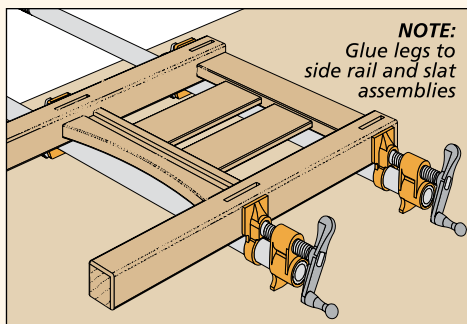
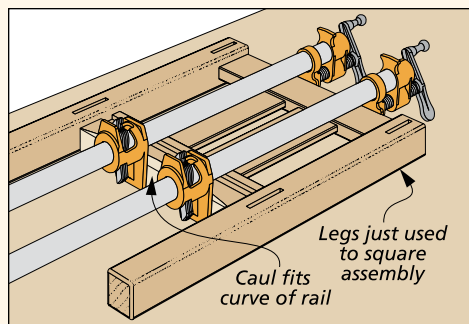
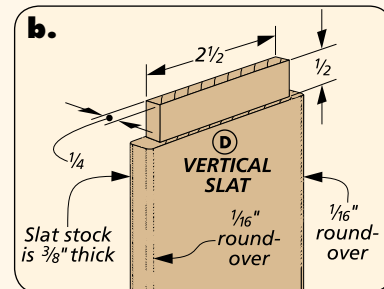
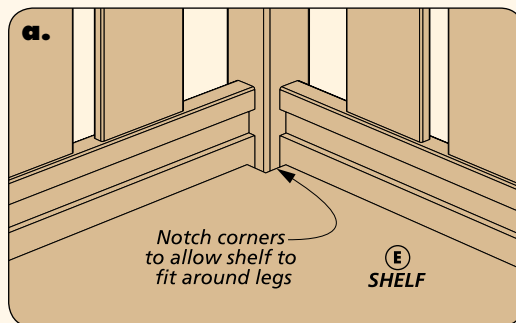
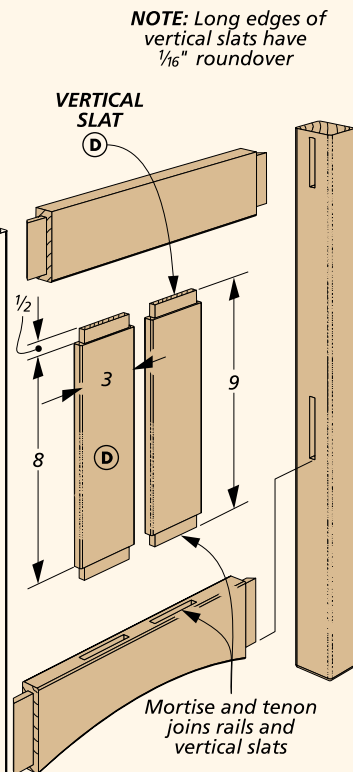
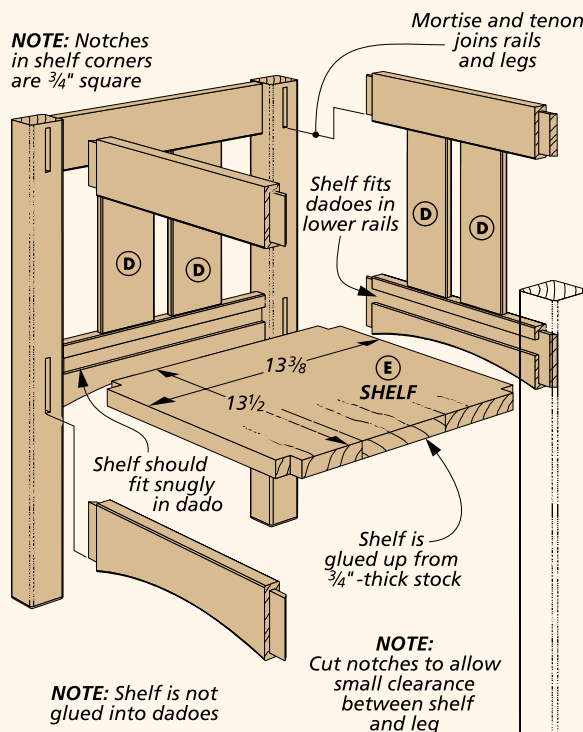
Then, just as before, you can soften all the long edges of the slats with a  $\frac{1}{16}$ " roundover.

**MAKE THE SHELF.** The final part to the base is the shelf, and it won't take long to complete. First, glue up the shelf (E) from  $\frac{3}{4}$ "-thick stock. And when the glue is dry, cut it to size and sand it smooth.

Now in order for the shelf to fit around the legs, it needs a square notch in all four corners, as shown in detail 'a.' I completed this job quickly at the band saw. Don't worry about getting a tight fit around the legs. The shelf will fit snugly in the dados but needs to "float" freely. And a bit of

clearance around the legs will allow it to expand and contract easily.

Finally it's time to begin the assembly. For this I took a slow, step-by-step approach as described in the drawings below.



**Slats to Rails.** The first step is to glue up the three rail and slat assemblies. The legs are just used to square the assembly.

**Rails to Legs.** Once the rail and slat sections are assembled, the two side leg and rail assemblies can be glued together.

**Complete the Job.** Finally add the back rail section, the front rails, and the shelf. But don't glue the shelf into the dados.

## Building the Top

All the table lacks now is a top. And as you can see in the photo at left, the top for this table is not your standard, everyday, glued-up slab table top. The inlaid tile center adds a bit of a wrinkle to the construction, but the good news is it's not the least bit difficult and it looks great.

**THE FRAME.** The solid frame that surrounds the tile is just more of what you've done before — mortise and tenon. The two long rails are mortised to accept the tenons of the two short rails. It's pretty simple. I got started by cutting the two long top rails (F) and the two short top rails (G) to size from 1"-thick stock. Detail 'a' shows what you need to accomplish in the next step. Begin by cutting a mortise in the long rails. Then cut matching tenons on the short rails. Once the joinery is complete, you can glue the frame pieces together.

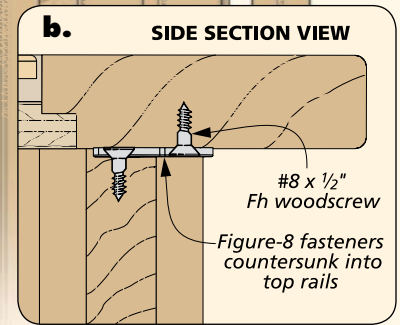
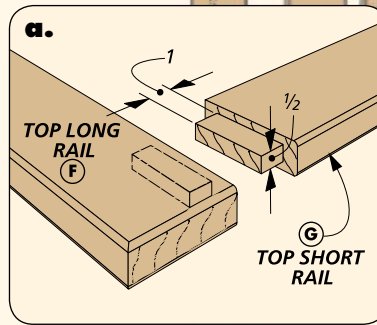
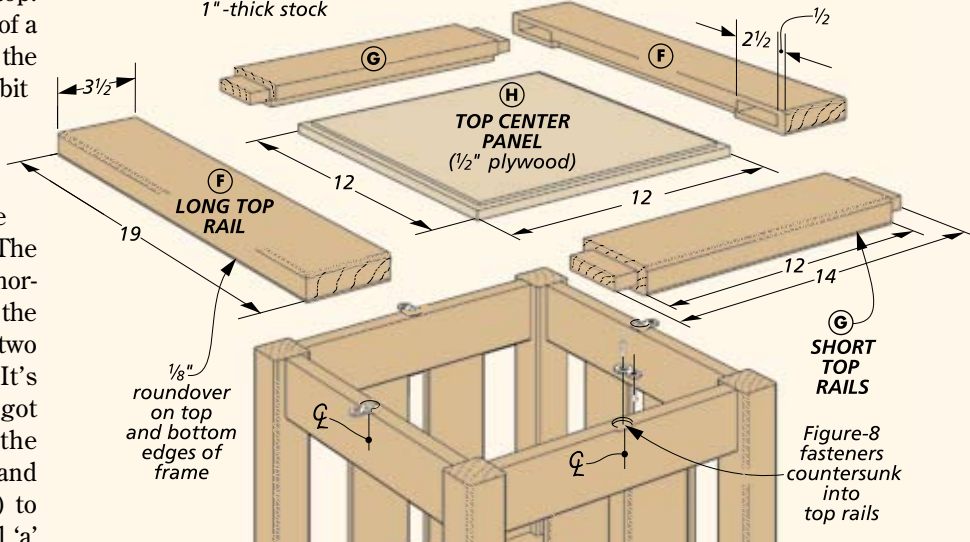
**ROUND THE EDGES.** Once the frame is assembled, take it to the router table to soften the top and bottom edges with a  $\frac{1}{8}$ " roundover.

**ADDING THE PANEL.** Next you need to add a center panel on which to set the tile (box below). This requires rabbeting the lower, inside edge of the frame to accept the plywood top center panel (H). But this process needs some explanation.

Ceramic tiles inlaid into top

**NOTE:** Top rails are cut from 1"-thick stock

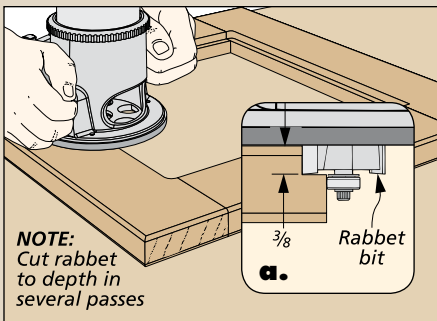
**NOTE:** Rails of top frame are joined with mortises and tenons



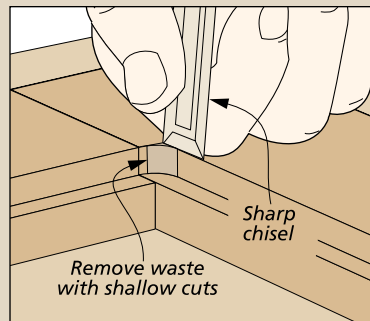
When you set the tile, you want it to sit flush with the surrounding frame. I used four standard-sized ( $5\frac{7}{8}$ "-square) tiles, but the catch is that different brands and styles can vary in thickness. So, you need to

custom-fit the panel so the recess matches the thickness of the tile you choose. This just involves cutting a second rabbet on the plywood panel. If you follow the step-by-step below, you shouldn't have any problems.

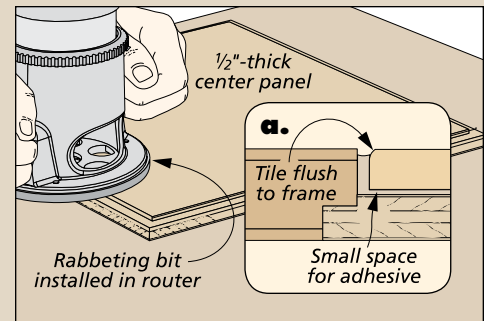
## HOW TO: FITTING THE CENTER PANEL



**Rabbet the Frame.** Get started by using a hand-held router with a rabbeting bit installed to cut a  $\frac{3}{8}$ " x  $\frac{3}{8}$ " rabbet around the bottom, inside edge of the frame.



**Squaring Up the Corners.** Next, I set down the router and picked up a sharp chisel to carefully square the rounded corners left by the rabbeting bit.



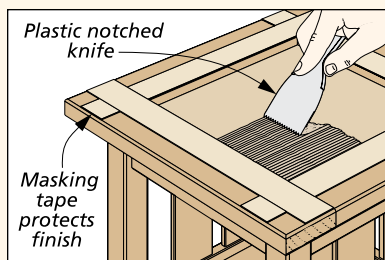
**Rabbet Panel.** After sizing a panel to fit the frame, adjust its height by rabbeting the top edge. You want the "tile" recess to match the tile thickness plus space for adhesive.



**ATTACH THE TOP.** Once you've glued the panel in place, the top can be attached to the table base. The metal "figure-8" fasteners that I used made this an easy job, as you can see in the left drawing below). One fastener countersunk into the center of each top rail, as shown in detail 'b,' will hold the top tightly to the base.

### TILE SETTING

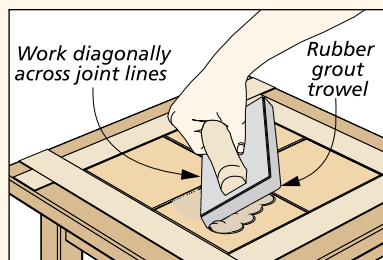
Before getting started on the tile, I went ahead and applied my finish.



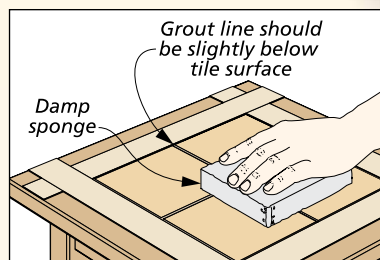
**Spread Adhesive.** First, tape off the frame. Then use a small, notched knife to spread the tile adhesive.

This way the wood is sealed from any stray adhesive or grout and I won't have to worry about keeping the stain and finish off of the tile and grout later on. Then to protect the finish, I carefully taped off the frame area around the center panel.

Setting the tile in the top isn't a difficult job, it just takes some basic know-how. The technique I used is fairly traditional, but also pretty easy. The boxes below give you the basic step-by-step approach. **W**



**Grouting.** Once the tile is set, mix a small batch of grout and work it into the joints with a grout trowel.



**Clean the Surface.** Finally, use a damp sponge to clean the excess grout from the joints and surface.



You can simplify the tiling process a bit by picking up a tube of pre-mixed grout. ►

## DESIGNER'S NOTEBOOK

The simple design of this table allows you to easily modify the size and create a table with maybe a different purpose, but an equally attractive appearance. If you take a look at the drawing at right, you'll see that all I did was make the square footprint of the table slightly larger. And instead of two vertical slats between the rails, the table now has three. All of the joinery and construction techniques stay exactly the same.

