



4 WAYS TO BUILD A Tavern Table

Build almost any table you please with these tried-and-true construction methods.

We used to have a table just like this one that was great for playing cards or board games with our two kids. Unfortunately, I sold that table and have always regretted it. So when we finished out a couple new basement rooms for the kids, building a new game table was first on my list.

The top of this table is made from three boards of wormy chestnut, a species of wood that you're going to have to hunt for. I bought mine from a wholesaler who bought it out of a barn in the Smokies. And it was expensive: about \$10 a board foot. The painted base is made from poplar.

Begin the project by milling the legs and cutting the taper. You can use a tapering jig for your table saw, but I don't recommend it. A few years ago I came up with a quick way to use a jointer to cut tapers faster and safer. See the story on this technique on the following pages.

by Troy Sexton

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SOME THOUGHTS ON TABLE DESIGN

No matter which construction method you use to build your table, there are a few rules you must follow when designing your table. Otherwise your family and guests will be uncomfortable, they'll ram into each other or they'll constantly bang their knees on your aprons.

We've combed several books on the topic of tables and most sources agree on these guidelines.

TABLE HEIGHT

You don't have a lot of room to wiggle here. Make sure your table height falls between 28½" and 30". A few sources state that 32" is OK, but 30" or less is more common.

APRON HEIGHT

Make sure each of your sitters has at least 24" to 25" of room between the bottom of the apron and the floor. This means that a 30"-high table with a ⅞"-thick top should have aprons no wider than 5⅛".

OVERHANG

The distance from the edge of the top to the apron can vary. Between 10" and 18" is great — if possible.

ELBOW ROOM

The amount of tabletop allowed for each place setting should be no less than 23". A roomier table will have 28" to 30".

TABLETOP WIDTH

The standard width is between 30" and 34". A square table for four should be about 40" x 40". Six can be accommodated by a 60" x 30" top.

CIRCULAR TOPS

To seat four, make your top 44" in diameter (34½" per person). To seat six people, make it 54" in diameter (28¼" per person).

LEG TAPER

Tapered legs are a common feature of dining tables. Legs should taper down to half their width at the floor. The taper should begin about 1" below the apron.

SOURCES

For more about standard furniture sizes and basic furniture construction, check out the following books:

"*Illustrated Cabinetmaking*" by Bill Hylton, Reader's Digest, Pleasantville, N.Y.

"*Measure Twice, Cut Once*" by Jim Tolpin, Popular Woodworking Books, Cincinnati, Ohio.

"*Encyclopedia of Furniture Making*" by Ernest Joyce, Sterling Publishing Co. Inc., New York.

"*Cabinetmaking and Millwork*" by John L. Feirer, Bennett Publishing Co., Peoria, Ill.

— Christopher Schwarz,
managing editor



The plugs for the breadboard ends are made from the same material as the table top. Sand the plug to fit, put some glue on the sides and tap it in place (above).

I usually build my tables using straight mortise-and-tenon joinery (top right). However, there are special cases when other methods are just as good or even better.

These table top fasteners are cheap (\$1.99 for a pack of eight) and sturdy. Simply place the clip end into the kerf in your apron and screw the other end to your table top (right).



There are a lot of ways you can join the aprons to the legs, from totally traditional to quick-and-dirty. I prefer using a straight mortise-and-tenon joint, though if I were building a little side table or something else that wouldn't see daily abuse, the two less traditional methods I'm going to cover would work just fine. But before we talk about the bases, build the top.

Making the Top

After I pulled the right boards from my woodpile, I got them ready for glue-up. I wanted this top to look rustic, so I didn't plane the lumber. Instead, I jointed the edges of the planks and glued up the top. Then I rough sanded it with a belt sander to get it reasonably flat and to remove some of the milling marks. Then I cut the top to size and worked on the breadboard ends.

For a long time I used traditional through-mortises to attach breadboards to cover the end grain of my tabletops. Other people showed me how to do it with slotted screw holes. I was always against using that method until I actually tried it. Now it's the only way I'll attach breadboards. You actually get less up-and-down movement using screws, and the top stays flatter-looking for a longer time. Here's how I make my breadboard ends.

After cutting the breadboards to size, cut ⅜"-wide by 2½"-long by 1½"-deep mortises in the breadboards. I cut five of these for my 36"-wide top. However many you use, it's always good practice to use an odd number of mortises so it's easier to lay them out. I put the two outside mortises ½" in from the end of the breadboard.

Now cut two slots for two screws in each



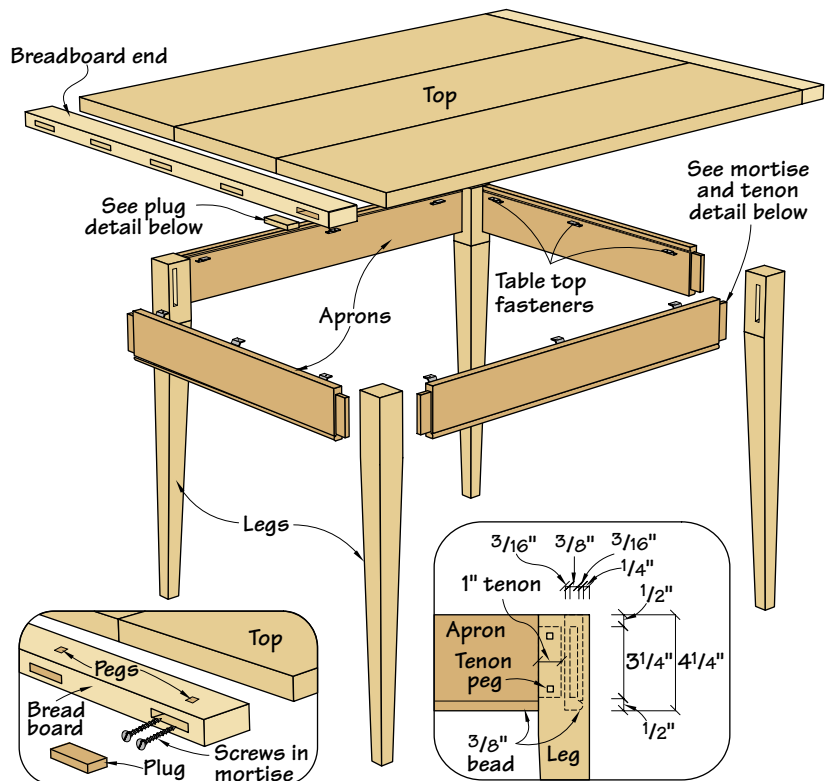
mortise. I make the slots about $\frac{3}{8}$ " long to give the top some real room to move if it has to. You can make a router jig to cut the slots, or you can use your drill press and work the bit back and forth. Clamp the breadboard to the table top and put two screws in each mortise. I put the screws at the sides of the mortise, not at the center. I do this because I peg the fake plug later in the process, and this keeps me from boring a hole into one of my screws accidentally. Don't drive the screws in too tightly because you want the table top to be able to move.

Now plug the mortises. I cut plugs to fit the opening and taper them a bit so they fit snugly when tapped in place. Glue the plugs in place, then peg the plugs through the top with $\frac{1}{4}$ " x $\frac{1}{4}$ " square pegs.

Now age the top. I strike the top with a key ring full of keys; I even write people's names in the top with a knife. It's pretty amusing to watch people as they see me do this. They freak out.

Stain the top with a golden oak color and then add a natural oil finish, such as Watco, which is an oil/varnish blend. You don't want the top to look too shiny.

Now turn your attention to the base.



Detail of breadboard ends

Detail of mortise and tenon

Mortise and Tenon

Cut your aprons to size. Cut 1"-long tenons that are $\frac{3}{8}$ " thick. The apron lengths in the Schedule of Materials include the tenons. I cut my tenons first and use them to lay out my mortises, which results in less layout, in my opinion. These aprons

SCHEDULE OF MATERIALS: TAVERN TABLE

No.	Item	Dimensions T W L	Material
4	Legs	$2\frac{1}{8}$ " x $2\frac{1}{8}$ " x $28\frac{1}{4}$ "	S
2	Aprons*	$\frac{3}{4}$ " x $4\frac{1}{4}$ " x $31\frac{3}{4}$ "	S
2	Aprons*	$\frac{3}{4}$ " x $4\frac{1}{4}$ " x $25\frac{3}{4}$ "	S
1	Top	$1\frac{1}{8}$ " x 36" x 43"	P
2	Breadboards	$1\frac{1}{8}$ " x $2\frac{1}{2}$ " x 36"	P

P = chestnut; S = poplar • * including 1" tenon



Mitered mortise-and-tenon joinery is common on tables with thin legs or when your set back is deeper than normal (**top**).

When you have to use mitered mortise-and-tenon joinery, don't get too worked up about the fit of the miter. You don't want the miter too tight (**left**).

are set back $\frac{1}{4}$ " from the front of the legs, this is called a "set back."

Now cut a bead on the bottom edge of the aprons using a beading bit in your router. Finally, cut a slot on the inside of the aprons for fastening the base to the top. I use metal tabletop fasteners from Rockler (see the supplies list at the end of the article). Rockler sells very sturdy ones, and I recommend them.

For these fasteners, the slot needs to be the width of your table saw's blade (between $\frac{1}{8}$ " or $\frac{1}{16}$ " wide) and $\frac{7}{16}$ " down from the top of the apron and $\frac{3}{8}$ " deep.

Glue up your base, peg the mortises through the legs and finish the base. I use square pegs in my legs. Drill a round hole through the leg and into the mortise. Then take a piece of square stock, whittle one end of it roundish, then pound it into the hole. It should convert your round hole into a square.

Be sure to glue the joint and hold the leg and apron together tightly while screwing it together.

Mitered Mortise and Tenon

This method is similar to the straight mortise and tenon above, but you must miter the ends of the tenons because your mortises meet in the middle of the leg. Why would they meet? Well you might have a

thinner leg, or your mortises might be back farther if you chose to use a larger set back.

When this is the case, I make a standard tenon and chop the end off at a 45-degree angle on my miter saw. You're not trying to match the two miters exactly (it



Pocket screws aren't my first choice for building dining tables, but for a small occasional table, it'll work.



Use the bracket as a template for locating the holes for the corner bracket. Then use a drill press to make your pilot holes.

will never show) so leave a little gap between the two tenons. If it's too tight, it could get you in trouble because the ends of the tenons will touch before the shoulders seat into the legs.

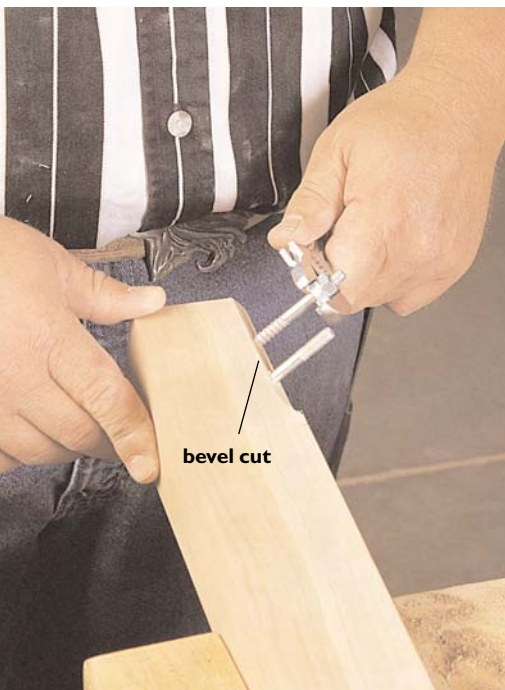
Pocket Screws

I wouldn't recommend this for a large table. If you're going to spend the money on the wood, you might as well do it right. But if you want to build a quick-and-dirty side table, this will work fine. Be sure to glue and screw this joint for added strength. It's important to keep the pieces tightly together as you screw the apron to the leg.

Corner Brackets

Corner brackets are a faster alternative to traditional joinery, but they aren't as sturdy. However, you can't beat them when you want to make a table that can be knocked down and stored away.

These measurements apply to the brackets from Rockler (see the supplies box at the end of the article). The first step to installing these brackets is to cut a bevel on the inside corner of the legs. This is where you'll later install the hanger bolts. The best way to cut the bevel is on your jointer. Set the machine's fence to a 45-degree angle and the depth of cut to $\frac{1}{4}$ ". Cut $3\frac{1}{2}$ " in on the top corner as shown in the photo.



To install the hanger bolts, thread two machine nuts onto the end of the hanger bolt and tighten them against one another. Then grip the two nuts with a wrench and screw the hanger bolts into the leg.

Now install the hanger bolts, which are odd-looking fasteners that have wood screw threads on one end and machine screw threads on the other. The wood screw end goes into the leg, and the machine screw end is bolted to the corner bracket. To install the hanger bolts, first lay out and drill pilot holes on the leg. Then install the bolts using the method shown in the photo.

Now you need to cut a kerf in each apron for the bracket to grab. The kerf should be $1\frac{3}{4}$ " in from the end and $\frac{3}{8}$ " deep for these brackets. Different brands can use different measurements.

Attaching the Top and Finishing

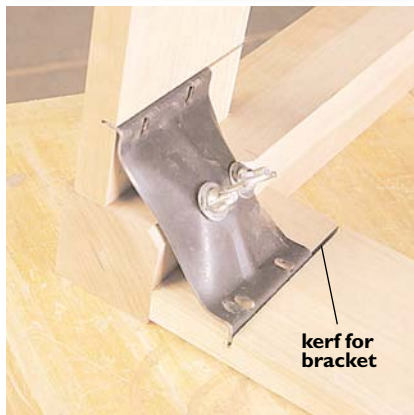
I attach the top with tabletop fasteners that I screw in place about every foot. On the long aprons, don't push the fasteners all the way into the kerf when screwing them down. This will give your top some room to move.

I finished the base with a couple coats of latex paint followed by a glazing stain. Finally, I added a couple coats of lacquer for protection. **PW**

SUPPLIES

Rockler 800-279-4441
www.rockler.com

- $3" \times 4\frac{3}{4}"$ Corner Brackets, set of four, item #34303, \$2.99
- Table Top Fasteners, eight per pack, item #34215, \$1.99



Corner brackets are great for building furniture that needs to be knocked down or griped frequently.

IF YOU HAVE A JOINTER, THROW YOUR TAPERING JIG AWAY



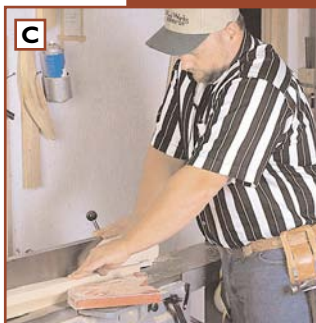
A jointer set to make a $\frac{1}{2}$ " deep cut



B popping a wheelie over the cutterhead

A. Here I am making the first pass on the leg. My jointer is set to make a $\frac{1}{2}$ "-deep cut. As soon as the cutterhead reaches the mark at 11", pull the leg up off the jointer.

B. Here I'm beginning the second pass on the jointer. I've turned the leg around and "popped a wheelie" using my pusher-holddown block. Advance slowly and steadily into the cutterhead.



C. Here I am near the end of the second pass. The outfeed table supports the tapered side after it comes off the cutterhead so the leg moves steadily over the jointer beds as long as I keep firm pressure down on the pusher-holddown block.

For years I used a tapering jig on my table saw to cut tapers on legs. Even after cutting hundreds of the things, I never liked using the jig. It felt unsafe and always brought my fingers too close to the blade for comfort. One day this method came to me out of the blue. It works so well and so fast that I'm still kicking myself for not thinking of it sooner. It uses your jointer and can cut just about any taper in only two quick passes.

Let me show you how to do this on a $2\frac{1}{8}" \times 2\frac{1}{8}" \times 28\frac{1}{4}"$ leg. First mark on the leg where the apron will be. Let's say the apron is 4" wide. Add 1" to that and make a mark 5" down from the top of the leg. Then take the remainder of the leg, $23\frac{1}{4}"$, divide that number in half and forget about the fraction — so you get 11". Make a mark on the leg that's 11" up from the bottom of the leg. To reduce the width of the leg at the floor by half (which is standard with leg tapering), set your jointer to make a $\frac{1}{2}$ "-deep cut. Now make your first pass on the jointer by slowly pushing the leg into the cutterhead — foot first — until you reach the mark at 11". Lift the leg off the jointer.

Now turn the leg around so the top part is headed towards the cutterhead. Place your pusher-holddown block on the bottom of the leg and push down so you "pop a wheelie" with your leg. Slowly push the leg into the cutterhead while pushing down and forward on your pusher-holddown block. When you finish this pass you will have a perfectly tapered leg on one side.