

The Versatile Trestle Table

Learn wedged-tenon joinery and design a table that suits your needs

BY GARY ROGOWSKI

With a simple form that allows many variations, the trestle table can look contemporary or classic. The trestles, the stretcher that joins them, and even the top can be shaped in myriad ways. The design offers easy access for diners, with no table apron to knock a knee against and more chair room on each side. And it is expandable, scaling up easily from this kitchen-sized table to a large dining table.

A key feature on many trestle tables, including this one, is the wedged joinery for the stretcher, which

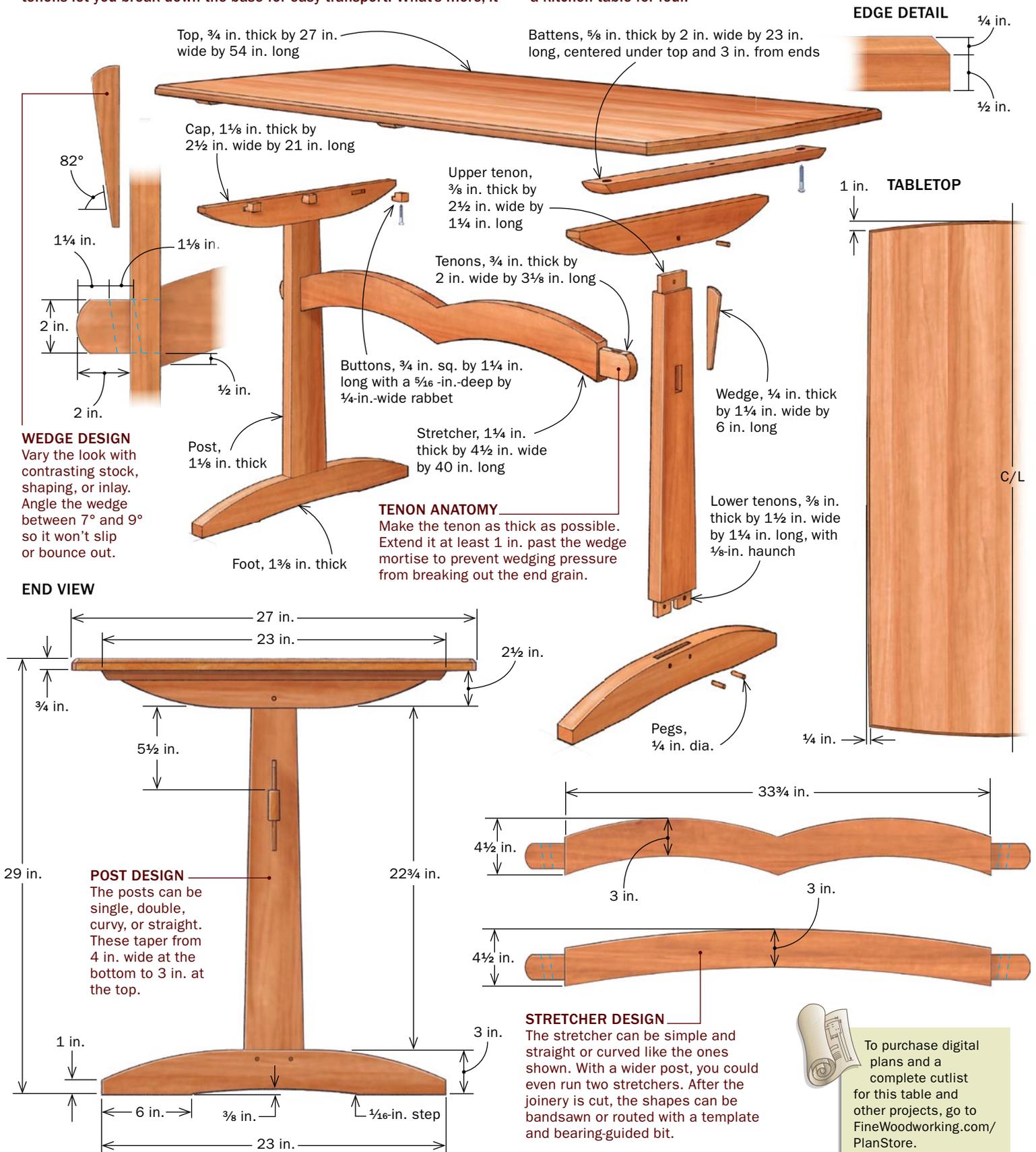
is rock-solid even though it's called "knockdown." With a through-mortise-and-tenon joint, the stretcher locates and holds the trestles upright. In a marvel of engineering, the wedges lock everything together, preventing the table from racking along its length. I know of no stronger joint. It's also good looking: The projecting tenons and the wedges add another design element.

In this article, I'll focus on the stretcher joinery—the most challenging aspect of the project. Executing the

MODERN TRESTLE TABLE

The trestle design is centuries old, yet its rock-solid construction and easy access for sitting remain unequalled. It can be made in any size—from breakfast to banquet table—and its wedged through-tenons let you break down the base for easy transport. What's more, it

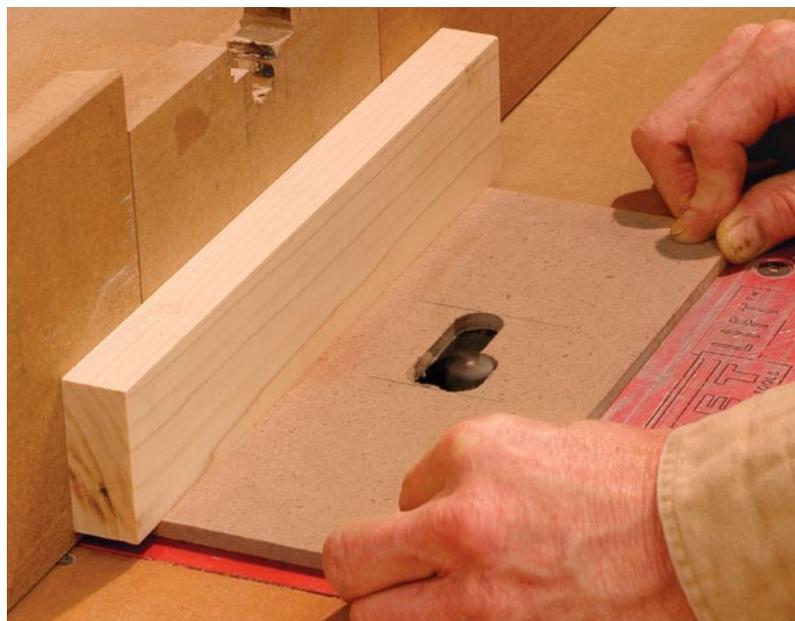
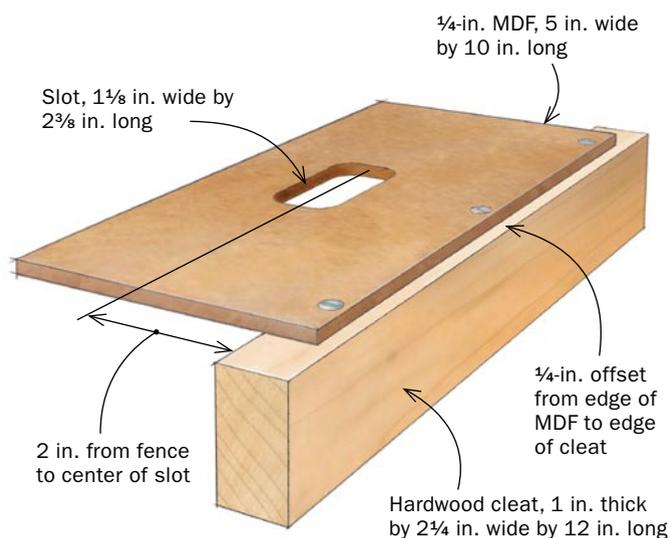
is a designer's playground, with the feet, posts, stretcher, through-tenons, wedges, and tabletop each offering room for interpretation. I like this smallish version, sized to be a desk or a kitchen table for four.



To purchase digital plans and a complete cutlist for this table and other projects, go to FineWoodworking.com/PlanStore.

Cut a flawless wedged-tenon joint

1. ROUT THE THROUGH-MORTISES



A TEMPLATE TAMES THE TASK

A simple template, used with a guide bushing, makes it easy to cut through-mortises to the right size, in the right place.

How to make the template. Drill a hole in the MDF, then move to the router table. The jig's cleat rides the table's fence, so the slot is cut parallel to the cleat. Start the router bit in the drilled hole and go from there. Reposition the fence for a second pass and a bigger mortise.



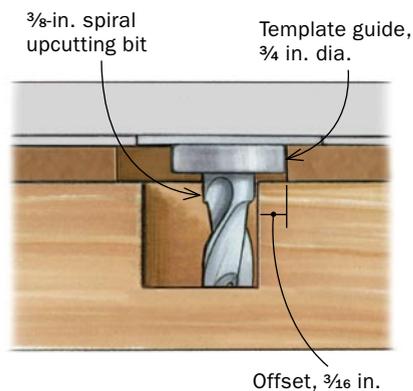
Offset the layout. The template slot is bigger than the mortise, so make a separate registration mark to locate the template accurately and carry that mark around to the other side.



Router the mortise. With the template in place, cut halfway through the stock. Then flip the board end for end (below) to ensure that the jig is clamped to the same reference edge for the second cut.

TEMPLATE GUIDE

A guide bushing rides the template's rim and shields it from the spinning bit. Be sure to factor in the bushing diameter when sizing the slot in the template.



Clean up with a sharp chisel. Chop the corners square, working in from both faces.



2. SAW THE THROUGH-TENONS



Cut the shoulders on the tablesaw. Use a miter gauge with a long fence or a crosscut sled to manage the long stock.



Move to the bandsaw. Use a test cut to adjust the fence for drift. Leave the cheeks slightly fat for trimming and cleanup.



Clean up the cheeks. Plane away the saw marks and adjust the fit. Use a shoulder plane to get into the corners.



Cut the tenon to width. Again, leave the tenon slightly oversize. Make the adjoining cut with a handsaw to remove the waste.

joinery successfully relies on careful fitting of the through-tenons and the wedges to their respective mortises.

How to cut large, clean mortises

Furniture construction is like painting a floor. Careful planning keeps you out of the corners. In this case, it's important to lay out and cut the large through-mortises in the posts *before* shaping the posts to preserve a parallel reference edge for guiding the router.

I use a template guide bushing and a simple shopmade mortising jig to rout mortises. The jig consists of a 1/4-in. MDF routing template attached to a fence that registers against the stock. The jig centers the mortises on the width of the posts, but you'll still need to do a little layout. First, measure from the top of each post to mark the tops and bottoms of the mortises. Use a square to carry the lines around to the board's opposite face, then check the edges of both boards side by side to ensure that the marks line up. Then, because the jig's slot is slightly larger than the mortise itself, make a separate registration mark to locate the jig accurately.

Clamp the mortising template securely in place on the outside face of the post. To cut the mortises, I use a plunge router and a 3/8-in. spiral-fluted bit. It's possible to rout all the way through the post or stop short of full depth and clear the remaining waste with a chisel. But for a technique that will work for posts of greater thickness, start by routing away—in shallow passes—about half of



Clean up the shoulder. Using the tablesawn shoulders as a reference, walk the chisel's edge across the hand-sawn section to establish your line, then chop away the waste.

the mortise depth. Then remove the template, flip the workpiece, reattach the template on the opposite face, and finish the cut.

After routing the mortises, chop them out square, working in from both faces. Now you can shape those posts.

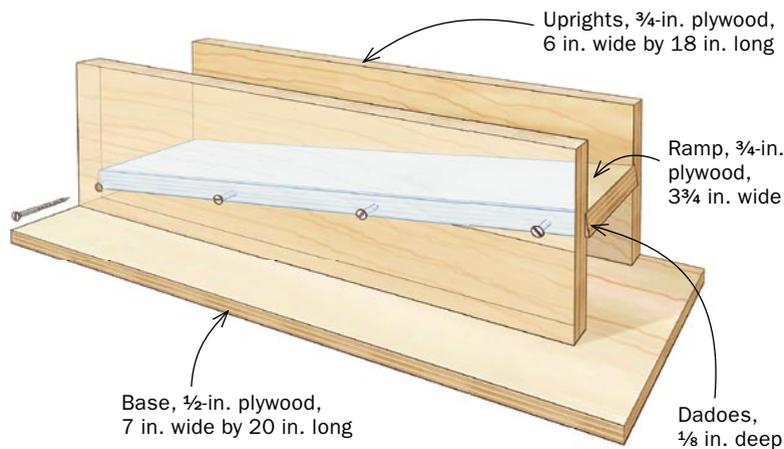
Cutting tenons on a long board

The size of the stretcher makes it generally difficult to handle. For example, it's too long to support safely in a tablesaw tenoning jig. Whatever tenoning method you use, it needs to be clean and accurate—all the more so because the tenon's fit will be visible where it exits the big through-mortise.

As with the big posts, joinery comes before shaping. After laying out the stretcher shape and tenon location, I cut the shoulders on

Wedged-tenon continued

3. DRILL THE WEDGE MORTISES



DRILLING JIG

Rogowski built this simple jig to secure the stretcher at an 8° angle for drilling out the wedge mortises. The jig clamps to the drill-press table and the work is clamped to the jig.



Position the jig. The jig stays put on the drill-press table. Slide the workpiece in the jig to reposition it, and clamp it in place for each new hole.



Support the cut. Place a block underneath the tenon to prevent blowout where the drill bit exits the cut.



Start at the ends. Where holes overlap, make sure the bit's centering point hits wood so it locates properly.

the tablesaw, using a miter gauge with a long fence or a crosscut sled with a long stop-block attachment to hold the work and locate the cut. To cut the tenon cheeks, I use the bandsaw with a roller stand for infeed support and a 6-tpi blade for a smooth surface.

Before cutting the tenon to width (height), I clean up the cheek cuts, trimming the tenon to the proper thickness. To keep the cheeks flat near the shoulder, I use a shoulder plane, but I'll switch to a block plane for quicker stock removal near the tenon ends. Remember that the last 2 in. or so of the tenon won't be housed in the assembled joint, so that section can have a slightly looser fit.

I also cut the tenon to width on the bandsaw, again leaving it just oversize and cleaning up with hand tools until it slides through the mortise with no gaps showing on the outside face.

The wedge mortises

The last step in making the tenon is to create the mortise for the wedge. In addition to cutting the mortise straight through the entire



Layout line is a visual reference. Mark the angle on the tenon's cheek and sight down the line while chopping away the waste.

Photo, facing page (top left): Steve Scott

4. CUT THE WEDGES AND ASSEMBLE



Bandsaw is safer than tablesaw. Rogowski uses a simple jig made of $\frac{3}{8}$ -in. MDF with an 8° notch cut into it.



Tap the wedges home. When the wedges are tightly driven, they pull the tenon shoulders firmly against the post for an assembly that won't budge.

width of the tenon, the trick here lies in cutting the outer end of the mortise at an 8° angle. The secret is that the inside wall of the mortise is buried in the post and doesn't need to be chopped out square, so you can cut the entire mortise at 8° on the drill press. If your drill press doesn't have a tilting table, use a jig like the one on the facing page.

Mark out the wedge mortise with a center line in the tenon thickness. Mark the mortise end at $\frac{3}{4}$ in. past the post, but have it start $\frac{3}{8}$ in. inside the post. In this way, the wedge won't bottom out against the back side of the mortise. Using a brad-point bit, drill the holes at each end of the mortise first. Work slowly and clear out the waste often. Then drill out the middle section. To chop out the remaining waste, clamp the stretcher on the bench and use layout lines on the tenon at the 8° angle or a sliding bevel placed on the bench to sight against for chopping. Chop in toward the center of the mortise from both the top and bottom, flipping the workpiece as needed. Chamfer the wedge mortise on both top and bottom so the wedge slides through more easily.

I cut the wedges on the bandsaw using a simple holding jig. Set a sliding bevel to the angle of the mortise and mark out the shape of the wedge on a piece of $\frac{1}{4}$ -in. MDF. Carefully cut out that shape and file the edges straight. Glue another piece of MDF to the bottom of this template to hold the workpiece in place. Make up wedge stock at the proper thickness and length and at roughly the correct width. Then set the bandsaw fence to cut out the wedge. Clean up the wedges with a bench plane, holding them in a vise or in the jig on a shooting board. □

Gary Rogowski runs the Northwest Woodworking Studio (northwestwoodworking.com) in Portland, Ore.



VIDEO WORKSHOP

Available August 18: Watch Rogowski build this table from start to finish in a members-only video at FineWoodworking.com/extras.