Pedestal Dining Table

Stout parts and straightforward joinery combine for a commanding piece

BY DAVID LAMB

Photos, except where noted: Barry NM Dima

Large turnings

Turn the tenons to fit in their mortises. *Lamb creates each post's tenon by first creating the shoulder with a parting tool and then roughing away much of the waste with a gouge. Then he sneaks up on the final dimension by taking light cuts with a scraper (far left), checking the fit regularly in a test hole (left).*

This elemental table is a stripped-down version of a breakfast table I built, which had a drop leaf and a telescoping base. The original was a rewarding build, and the final product inspired this simpler version. I love the new table's direct aesthetic. A standout for me is the substantial visual feel of the cluster of posts and the cantilevered top. Gentle curves throughout keep the piece from looking too clunky. There's room to vary the details on the design too. While this top is circular, the table can be successful with a slightly oval top as well.

Patterns and story sticks

As always, I created a full-size drawing for this table. I recommend taking the time for this, as the drawing process gives the maker a more complete idea of how parts work together and the potential issues and pitfalls. Most importantly, erasing a misdrawn line is always easier than starting over in wood. The drawing also functions as the source for patterns and story sticks, which are necessary for this work. I frequently use 1/16-in.-thick pasteboard or 1/4-in.-thick hardboard or wood for patterns that I trace around, like for the feet. If I use the pattern at the lathe, I always choose wood because of its stiffness and readability. I make sure all my patterns contain relevant joinery information as well.

Turn the posts

This design calls for 16/4 stock for the turnings and the bottom braces. I'm using

Posts get a gentle taper. *With the tenons done, Lamb turns his attention to shaping the posts. He plunges to final depth at the middle to help him taper evenly from end to end.*

Carve channels for the glue. *This big, long tenon can easily seize during glue-up. To mitigate this, Lamb cuts small grooves around each tenon with a V-tool. He drills a small air-escapement hole through the bottom of each mortise for the same reason.*

PRESENCE AND ELEGANCE

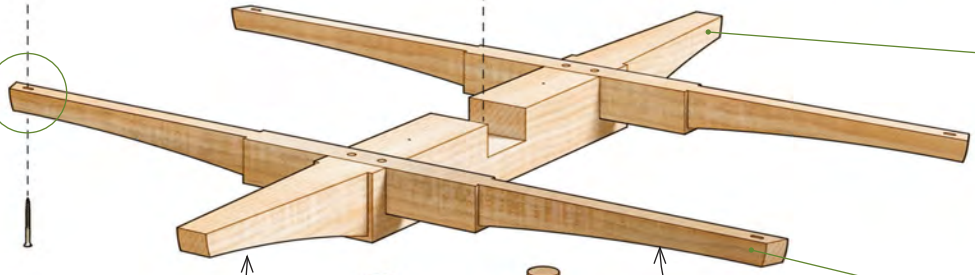
This pedestal table is a balancing act. The size of its components gives it considerable visual weight. But as the eye draws in, it also finds soft, considered angles and curves. If you don't have a lathe capable of turning these posts, consider tapered octagons.

Top, 7/8 in. thick by 48 in. dia.

Upper major brace, 3 in. thick by 3⅛ in. wide by 42 in. long

Minor braces slightly curved at ends in plan view.

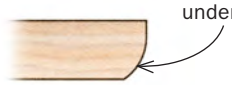
MINOR BRACE TOP VIEW



Minor brace, 2 in. thick by 1½ in. wide by 41½ in. long

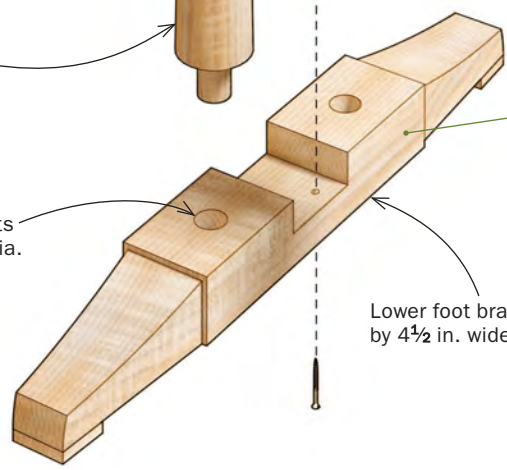
Lower major brace, 3 in. thick by 3⅛ in. wide by 42 in. long

POST

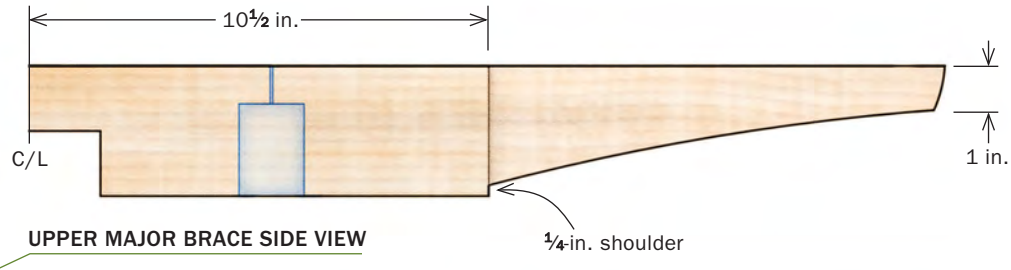


¾-in. roundover under top

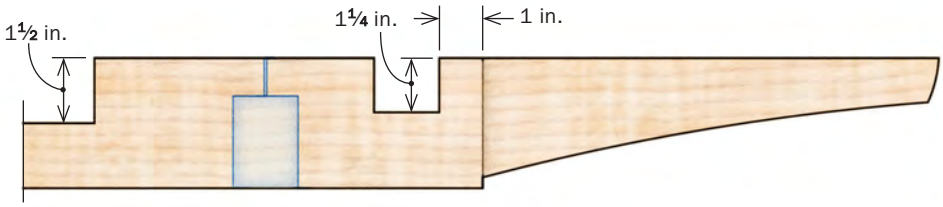
TOP PROFILE DETAIL



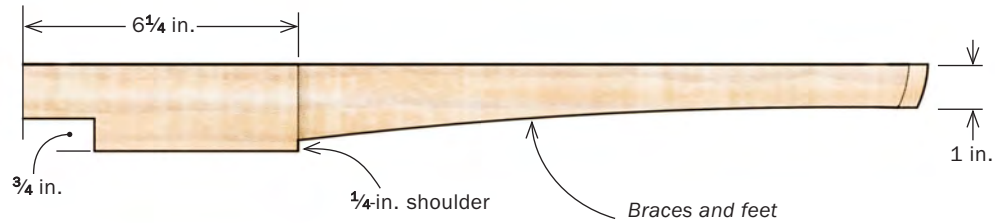
Drawings: John Hartman



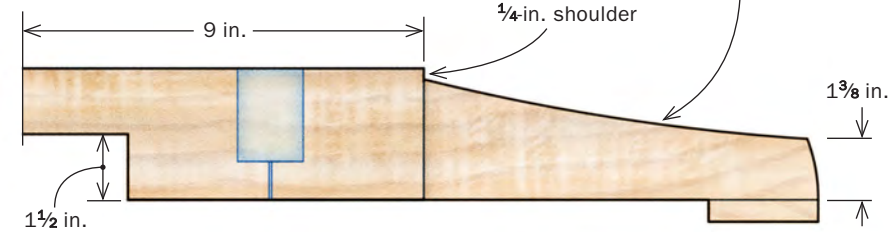
UPPER MAJOR BRACE SIDE VIEW



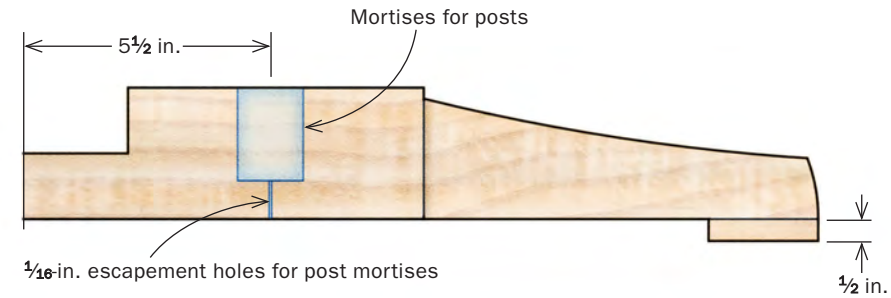
LOWER MAJOR BRACE SIDE VIEW



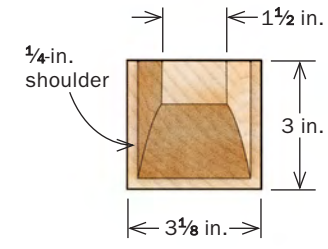
MINOR BRACE SIDE VIEW



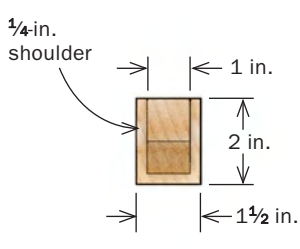
UPPER FOOT BRACE SIDE VIEW



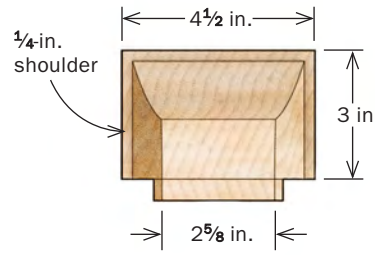
LOWER FOOT BRACE SIDE VIEW



UPPER MAJOR BRACE END VIEW



MINOR BRACE END VIEW



FOOT BRACE END VIEW

curly maple for this project, a choice that strongly directs me to use full thickness stock rather than laminating thinner boards because matching curly figure in a laminated glue-up is a nightmare. And with glued-up stock you will likely cut through the glueline when you shape the foot. If 16/4 stock is not available, gluing up 8/4 stock is your best bet. If that's the case, consider straight-grained wood to ease achieving a good grain match, paying close attention to where the boards meet at the glue joint. You'll want 8/4 stock for the upper braces and 4/4 stock for the top.

After milling the material, go to the lathe to turn the post blanks to 3½-in.-dia. cylinders. Using the pattern, lay out the tenons, then turn them. I use a test hole drilled into scrap to check the fit. A good, slop-free fit is important here because these posts will be doing a lot of work. Finish the tenons by lightly grooving them with a V-tool, which will help alleviate glue pressure during assembly.

Once I form the tenons, I turn the post to a taper, add the four decorative score marks, and finish-sand.

Shaping before joinery

Working at this scale, with large stock and stout joinery, requires special considerations, which I will point out when necessary. But it also affords some freedom.

For example, I can roughly shape the braces before joinery. Normally that process is flipped, since cutting joinery is typically simpler when the stock is square. After all, the more you cut away, the less reference surface you have. But with large parts like those in this table you have plenty of reference even after cutting curves. So I cut the sweeps on the upper and lower braces now to let me see the design coming together early on.

Last, glue the risers onto the foot brace. Making the risers with offcuts from the profiling cuts should help with a good grain match.

Note that both the braces and risers get slight curves in the side

Shape the feet

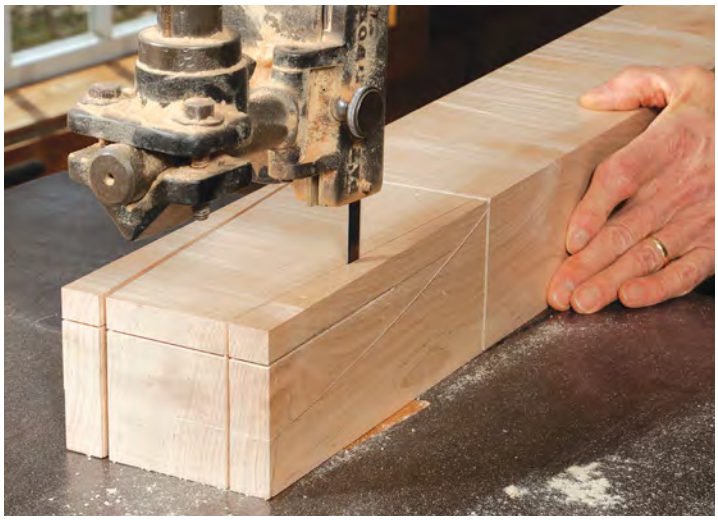
Lay out each foot brace's plan view and elevation using templates. *These one-sided templates flip around the foot brace's centerline, guaranteeing symmetrical layout.*

view, including the foot on the inside end. These curves echo the gentle slopes throughout the table. I accomplish them with files and sandpaper. The ends of the minor braces get a slight curve in the plan view for the same reason. They're small details, but trust me, they add up. With the table's otherwise stout, elemental form, these gentler, flowing accents soften the hard lines and add a designer's touch.

Half laps and mortises

The posts' tenons connect to mortises in the upper and lower braces. The braces themselves come together with simple half laps. But don't let their simplicity entice you to breeze through these joints. This is

Knife in the half-lap's width and depth. *The base comes together with a half-lap. To mark the width, Lamb lays one member over the other, letting him directly scribe the joint's exact width. He then uses a marking gauge to scribe the depth.*



Saw the profile's cheeks after its shoulders, but stop short. *Lamb cuts to just before the shoulder, maintaining the reference surface and layout lines until he's ready to snap off the waste by hand.*

Offcut becomes a riser. *To elevate the feet off the ground, Lamb glues on an offcut from the previous step. If you can't achieve a good grain match, consider cutting a small V-groove around this joint.*

Simple joinery

Start the half-laps at the miter saw. *Cutting a bunch of closely spaced kerfs makes it a snap to break away the waste. Lamb sets the miter saw's depth stop to just a hair above the scribed baseline. He eyeballs the shoulder cuts.*

Finish by paring to depth by hand. *Rather than relying on a power tool to finish the joint, Lamb prefers to use a sharp chisel. This is why he knifed in the baseline: It provides definite, reliable registration for a chisel. Come in from both sides of the joint to avoid blowout.*

Bore the mortises at the drill press. *Drill these ⅛ in. deeper than the length of the tenons so they won't bottom out. This extra space also provides an area for excess glue.*

Flip the piece over and drill a small escapement hole. *This hole serves the same purpose as the grooves in the tenons. Because there's so much contact surface in this joint and glue can be viscous, a lot of pressure can build up if the air is trapped and has no escape.*

a heavy table with big parts, so it's necessary to carefully lay out, cut, and fit these joints to maintain their strength.

When laying out the half laps, use a knife and marking gauge for precise cross-grain marks and a marking gauge for depth marks. Do this after making sure the stock is free of tearout and other defects. If you clean up your workpieces after cutting the laps, you'll end up with a poor fit.

To cut the half laps, I use a chopsaw to bulk out most of the waste before paring to my scribe lines with a sharp chisel. The lower brace gets a single lap right in the middle. The upper brace gets three laps: a central lap plus one on either side. The two outer laps are for the minor braces,

Refine the shapes. *To smooth the bandsawn surfaces of the figured maple, Lamb starts with rasps and files, then moves to scrapers and sandpaper. He repeatedly feels the surface, examining for bumps and irregularities.*

Glue up the braces and posts

Begin by assembling the upper and lower X-braces. *With the braces elevated on blocks, Lamb can easily clamp right at the center of the joint. Pine cauls keep the clamp from denting the joint. Lamb adds screws, which will be hidden in the final assembly, to each center joint for extra security.*

Caul with holes helps clamp posts to lower assembly. *Applying good pressure to the posts can be tricky, so Lamb makes a caul with two holes that fit around the tenons. When he clamps the caul, it directs pressure against the shoulders to close the joint evenly.*

which help support the top and keep it flat. Remember to change the depth stop for these shallower cuts, since these are not exactly half laps.

Next, drill the mortises for the post tenons. Use the patterns to locate these holes, since it's critical they line up on each brace. Otherwise, your table won't come together square. Bore these holes ⅛ in. deeper than the length of your tenons to keep them from bottoming out and as a place for excess glue. I also drill a small hole through the mortise to help air and glue escape the sizable joint during glue-up, which helps to keep it from seizing up.

Later, the top will be attached to the base with screws. Drill the holes for them now, being sure they allow the top to expand and contract seasonally. I seat my screws in stepped elongated holes.

Glue up the base

Now you're ready to glue up the base. I assemble the lower brace with glue and screws before adding the posts one by one. Then I glue and screw the upper brace. I finish by gluing the whole base together.

The posts are where the rubber hits the road. They need to go in square while having zero wiggle or slop but still be clampable. These are generally the criteria for any joint, but the mass of these joints, their quantity, and their structural role in the table mean a dry-fit is particularly advisable here. Check for gaps, square, and twist.

When you're ready for the glue-up, do it in stages. Gluing one post at a time and allowing it to set up and cure can save a lot of aggravation compared with doing all four at once.

To help distribute clamping pressure when gluing the second post to a brace, I make a simple, stout caul and drill it at the same mortise locations as the braces. Its holes are slightly larger so it doesn't get hung up on the tenons. I also recommend a slow-setting glue, like Titebond III.

Circular top

The top gives you the chance to showcase some really exceptional wood. As I have chosen curly maple for the table, finding matching stock can be

Add the minor braces to the upper lap assembly. *These smaller braces help support the top and are half-lapped into place. Screw these in place as well.*

Bring the base together. *Lamb assembles the two components upside down, letting him clearly see the mortises in the upper brace. Because the members are large, you may need a clamp on either side of the post to ensure even clamping.*

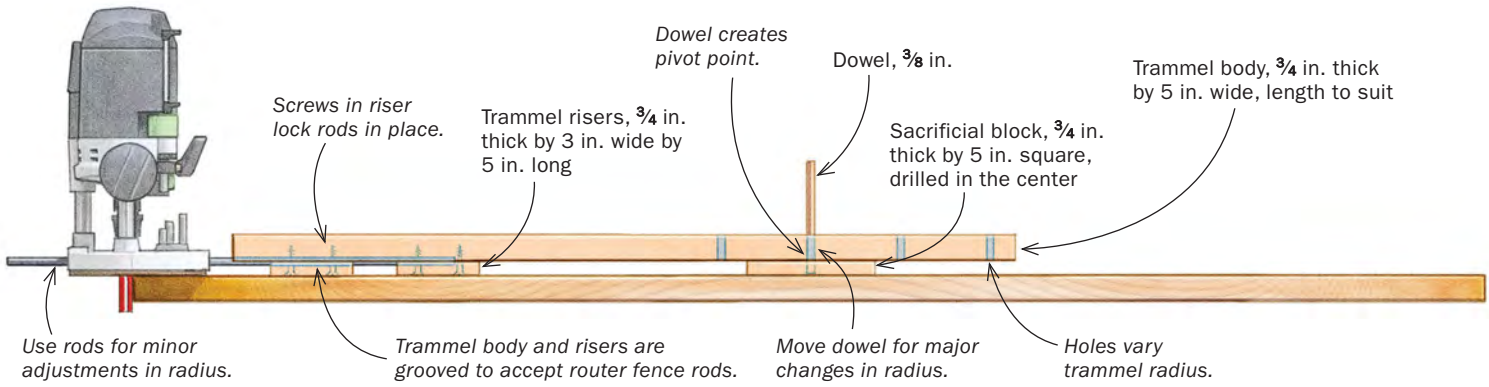
Cut and shape the top

Attach a sacrificial pivot point block. *Lamb routs the top to final shape with a router on a trammel. To provide the pivot point for the trammel, he temporarily affixes a block at the middle using a paper joint.*

Jigsaw close to the line. *Cut within 1/16 in. of your line to save wear and tear on your router and bit during the next step.*

Trammel locates in pivot point block using a dowel. *To swing the trammel around the top at a fixed distance, Lamb uses a dowel, providing a reliable connection between the trammel and sacrificial block.*

TRAMMEL JIG



a huge challenge. I advise looking for planks cut sequentially from the log for best matching. Specialty lumberyards with good stock can help in your search. If sequentially cut boards are not available, just going for similar figure and base color tone of the boards is a reasonable direction. I would also go for wide boards to minimize the number of boards needed. Whatever the species of the boards you're choosing, it is often advisable to skim their outer surface with a handplane to see the figure and grain.

After milling and gluing up the boards, shaping the top is next. Start with a jigsaw, cutting close to your final shape, staying a skinny 1/16 in. away from your line. I then rout the top to its circular shape while also profiling it. I do this with a router on a trammel. The trammel pivots around a temporary base, which I locate on the top using centerlines on both the base and the top. When routing, I use a 3/4-in. roundover bit, aiming for an asymmetrical curve. This is partly why I use a trammel, since it allows me to micro-adjust the profile's radius by moving the router toward or away from the center point. If I routed the circular shape with a straight bit and then used the bearing on a bit to create the roundover, I'd be limited to the router bits I had. The trammel means I don't have to limit my designs as much, giving me much more control over the final result. □

Lower the bit between passes as you rout the roundover. *This profile requires removing a lot of waste in maple, so Lamb sneaks up on his final cut by starting light and lowering the bit after each pass. Alternatively, you could use the rods to slide the router slightly inward each time.*

David Lamb is 2021 Cartouche award recipient from the Society of American Period Furniture Makers, recognizing excellence in period furniture making.

Photo, bottom right: Dave Clough