

Folding Tabletop

An uncommon way
to maximize your table area

BY STEVE LATTA

During the Federal period, some card tables and even dining tables had a unique design that allowed the top to pivot 90° and then fold open, doubling its surface area. Building a table this way eliminated the need for fly rails or other elaborate support mechanisms. The design is pure simplicity, and I thought it appropriate for a certificate table that I made for my Quaker meeting. In the Quaker faith, the wedding couple signs their names to a marriage certificate that states their commitment to each other. All members in attendance sign the certificate as well in support of the union. I made a second version of the table for my home, and it has proven to be one of the most versatile pieces I live with. Near the front door, in the smaller position, it serves as an entryway table, holding keys and mail. Opened larger, it offers drinks and hors d'oeuvres. I can easily see changing the dimensions to make coffee tables or end tables with the same technique.

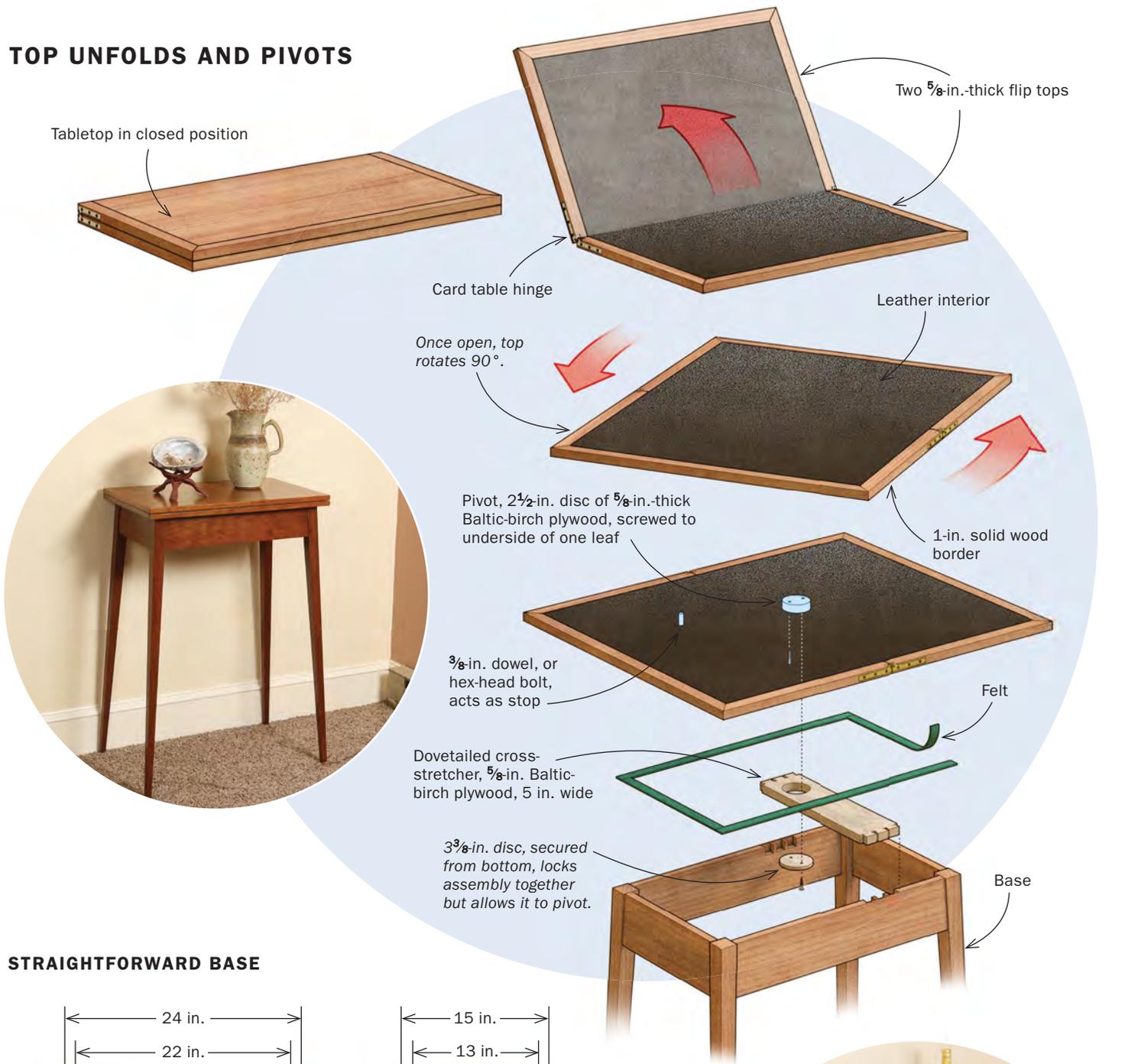
The base and top are basic in design

The base for the table is nothing more than four splayed legs connected to tenoned aprons. When closed, the top measures 15 in. by 24 in., has a 1-in. overhang on all sides, and displays a veneered surface. When rotated and opened, the top doubles in size to 24 in. by 30 in., overhanging the sides by 5½ in. and the ends by 4 in., and is covered in leather, providing a great surface for signing the certificate.

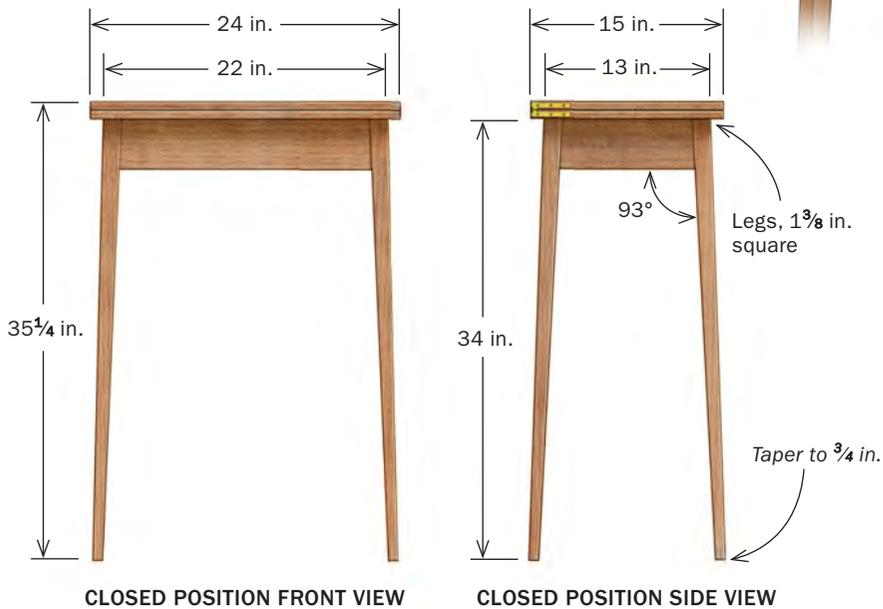
The folding top is made of two plywood leaves. I veneer one side of each leaf, and then, in a separate step, I glue a single piece of leather across the other side of both leaves. Then I frame the top with solid lipping and



TOP UNFOLDS AND PIVOTS



STRAIGHTFORWARD BASE



Hinge the tabletop

Mounting these hinges takes a little practice, and Latta recommends doing a mock-up first to work out the nuances. The hinges' L-shaped leaves are joined with a steel link.



The space between. Latta clamps a thin ruler between the two halves of the top when he does the hinge layout, ensuring there will be a small gap between them when the hinges are installed. Without the space, the leaves of the top can pinch in back and spring open in the front.

attach it to the base of the table. For details on adding the veneer and leather to the top, see Master Class on p. 74.

Add a frame and hinges

Once the two leaves are surfaced, you can apply the edging. The three exposed sides of each leaf get covered with a 1-in. strip of cherry mitered at the outer corners. Adding biscuits along the joint helps with alignment and slippage. The edging can be flushed on the veneered side of the leaf but I do my best to avoid taking that risk with the leather, since there is no easy touch-up to a gouge in the leather surface.

So the joint

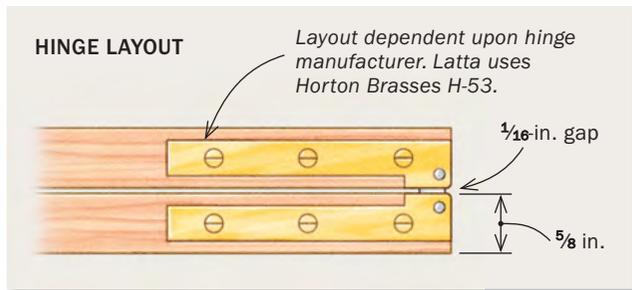


Lay out and mark. Pencil around the hinge itself to begin the layout. Then use a marking gauge to score the location. Do the layout so the end of the L with the steel link sits just a hair proud of the top's surface. The rear edge of the knuckle should extend a hair past the folding edge of the top.



STEPPED HINGE MORTISE

These hinge mortises are a three-step affair. A little practice and careful work will yield a nicely fitting mortise that doesn't bind.



between the leather and the border must be dead-on after the glue-up.

With the edging mounted and flushed, install the card-table hinges. Mounting the hinges takes a little practice and I always recommend doing a mock-up first to work out the nuances. These hinges are basically two L-shaped leaves joined with a steel link. Position the hinge so the end of the L that joins the link is just slightly proud of the table surface; this will allow for the top to fold without



the edges binding. If the hinge is mounted too far from the face, the edges will rub and, if extreme, tear the leaves from their mounting. I also set the hinges so the rear edge of the knuckle extends past the rear edge of the tabletop a hair, noticeable if you run your finger along the back edge. Once again, this allows the top to fold without binding.

With layout for the first hinge complete, use a trim router set to the hinge leaf depth to rough out the main recess. Then cut to your layout lines with a chisel. Reset the router to the knuckle depth, and rout that section. Drive just the center screws and make sure the hinge works properly. If it does, set all the screws making sure it still works. If all is good and the heavens have aligned, repeat the process with the second hinge.



The initial mortise. With the two leaves clamped together, use a trim router to remove most of the waste, then clean up to your marking gauge lines with a chisel.



Secondary mortise and a little excavation. Hold the hinge against the initial mortise to mark the location of the knuckle (far left). Then rout a deeper section to accept the knuckle. Chisel out the section where the leaves of the hinge will meet.

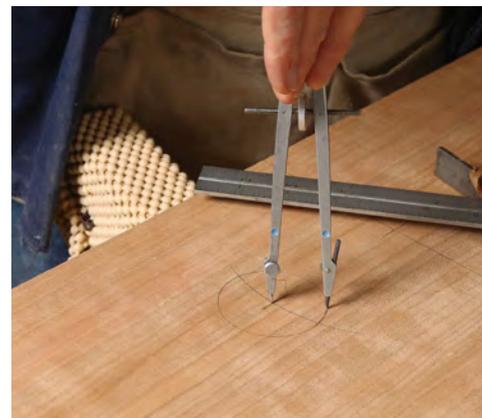
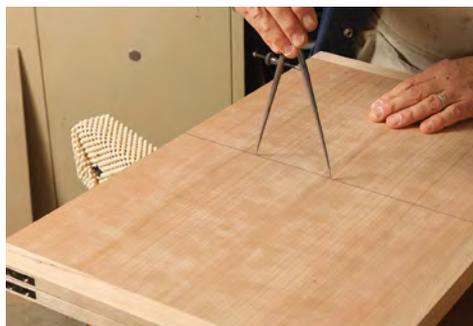


Final fit. Slide the hinge in place, make any adjustments necessary to the fit, and set just the center screws to make sure it all works as planned. Then you can set the rest of the screws.

Mount the tabletop

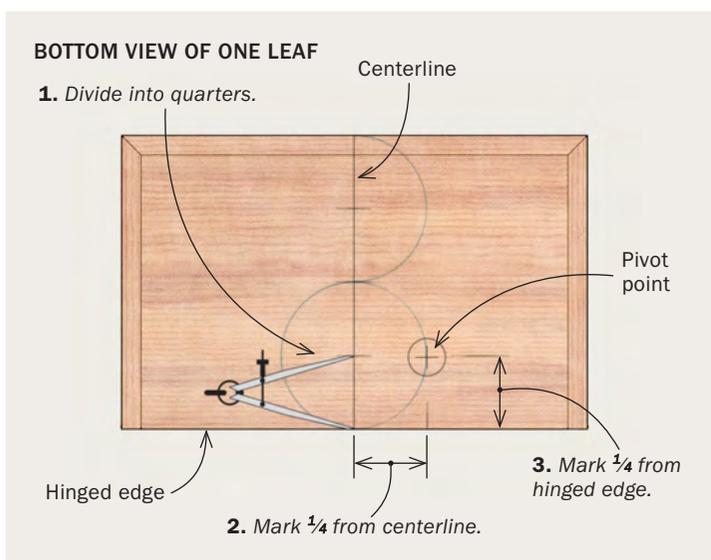
PIVOT-POINT LOCATION IS CRUCIAL

Latta uses a simple method to calculate where to create a swivel point for the top.



It's all about division. On the underside of the bottom leaf, draw a centerline across the short dimension. Divide that line into quarters with dividers and mark the point one quarter from the hinged edge. Set a compass to that same one-quarter distance, put its tip in the marked point, and swing an arc to one side of the centerline. With a combination square, make a cross mark.

A place for the pivot disc. With a compass you can use that point as the center to draw a 2½-in. circle where you'll mount the pivot disc.



Transfer the disc placement. Use the leaf itself, carefully centered in both directions, to mark the location on the cross-stretcher where you'll drill a mating hole for the pivot disc.



INSTALLING THE PIVOT



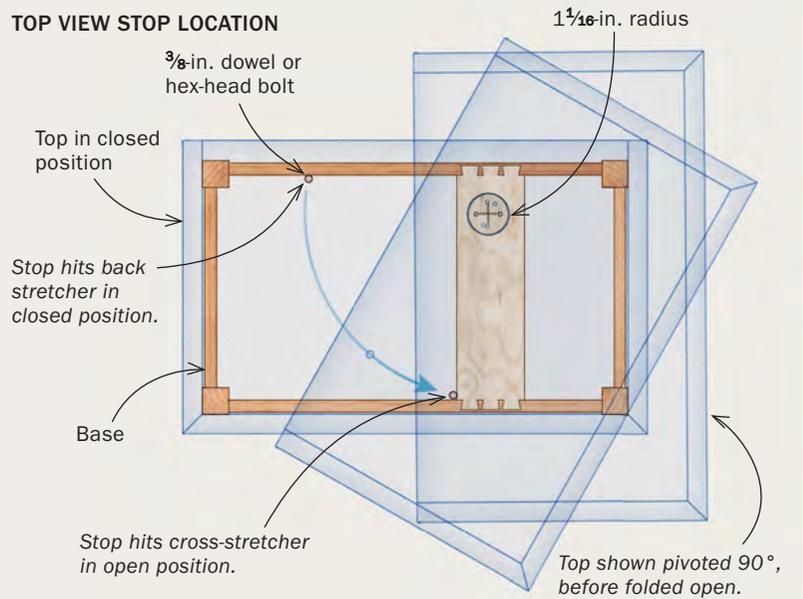
A little felt goes a long way. Before screwing the disc in place, Latta adds felt to the underside (above). It gives a soft thin gap between the leaf and the disc. Pre-drill with a countersink and then screw the disc to the leaf (right).

A SIMPLE STOP

A dowel or a hex-head bolt limits the pivot when it bumps against the apron or cross-stretcher.



TOP VIEW STOP LOCATION



Finding and mounting the pivot

I spent many an hour trying to find the magic formula for calculating the tabletop's pivot point. I never knew the direct method of finding it, but I always got there. Well, with writing this article as an incentive, I dug a little deeper and realized the answer was always in plain sight. I was just twisting the simple into something complicated.

On the underside of the bottom leaf, draw a centerline across the short dimension. Divide that line into quarters with a pair of dividers. The rotation point will be one quarter of the way from the leaf's folding edge to its outer edge. And that same distance—one step of the dividers—away from the centerline. Bingo! That is it. I'll leave it to the mathematicians and engineers to figure out the why, but it works every time!



Drill for the pivot disc. Once you've marked the location, use the drill press to cut the hole for the disc.

The finishing touches

Add felt to the base. Latta uses spray adhesive to glue down strips of felt to the top edge of the aprons. This makes sure the leaves are running smoothly and not getting scratched as they swivel.



Wax the disc. A layer of paste wax on the moving parts of the joint goes a long way to keep the pivot action smooth.



Next, on the bottom of the pivoting leaf, attach a 2½-in. disc of ⅝-in.-thick Baltic-birch plywood centered on the pivot point. Dovetail a 5-in.-wide cross-stretcher of the same ⅝-in. Baltic-birch between the aprons of the base, making sure the disc will fall well within its borders. Bore a 2½-in. hole in the cross stretcher to receive the disc. Once the pieces are fit together, a 3⅜-in. disc will be secured from the bottom, locking the assembly together but allowing it to pivot.

Before that magical moment, however, I adhere strips of blended wool felt to the top of the aprons and legs to make the pivot motion work easily and prevent scratching. My local fabric store offers a 35% wool, 65% rayon that is stronger and more durable than the standard craft felt at the hobby store.

Mount the top to the cross rail and make sure it pivots easily. The larger disc screws into the pivot disc and a little trial-and-error is required here to get the proper level of resistance. If the top is hard to turn, take a manila

folder and cut several 2 $\frac{3}{8}$ -in. discs to serve as shims. Veneer also works but often splits when you are trying to secure it. Add shims until the top rotates smoothly but takes some effort to move—not just sliding at the slightest touch. Then you should be good to go.

To limit the top's rotation, add a hex-head bolt, or a dowel, as a stop. Open the top and make sure the overhang is even all the way around. Mount the stop to the bottom of the pivoting leaf right up against the cross stretcher. When the top is closed and pivoted back, the stop will contact the long apron. See the drawing on p. 63 to help determine the stop's specific location. □

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Final placement. Lining up the pivot disc with the hole in the cross-stretcher, place the top on the base (above). Then, with the table upside down, screw a slightly bigger disc over the pivot disc. This will lock the top to the base while still letting it pivot.