

Fresh Take on Tabletops

With a center gap for expansion, the design options multiply

BY DOUG STOWE

A few years ago, I attended a family reunion at a state park in Tennessee. As a woodworker, I couldn't help noticing that the cabins in the park had solid-oak tables made with breadboard ends. The breadboard ends kept the tabletops flat and covered the end grain, giving a more refined look. I also noticed a common problem: The humidity had caused the top to expand so that it extended $\frac{3}{8}$ in. on both sides of the breadboards.

Breadboard ends have an annoying design quirk related to humidity and wood movement. As humidity changes, a board

expands and contracts in width. That same humidity, however, has no significant effect on the board's length. And that's the problem. When a table is built, the edges of the top often are made flush with the ends of the breadboards. During summer, when humidity is high, the top absorbs moisture and gets wider, but the breadboard ends stay the same length. As a result, some of the top's end-grain begins to show. In the winter, when humidity is low, especially in heated homes, the top gets narrower as it dries and the breadboard ends stick out.



Center gap solves a problem

At the same reunion, an aunt, wanting to encourage my wood-working career, asked me to design and build her a table. With the cabin tabletop issue fresh in my mind, I began to consider other ways to address the challenges presented by the expansion and contraction of wood.

Inspired to think outside the box, I decided to make the top with a narrow center board separated slightly from the other boards to create a pair of end-to-end gaps. With the top attached to the breadboards only at the outside ends, the gaps allow the wood to expand and contract at the center of the table. That means the overall width of the top doesn't change, and the edges of the top and the ends of the breadboards stay perfectly flush. The center board added a unique and interesting look to the table.

Since then, I've used a center-gap concept in several tables and even a bench. In some, I inlaid small, flat stones to add texture and visual interest (see photos, p. 55).

Having a center gap and fixed edges on the tabletop also affects what you can do with the base. For a bench made from curly maple (see photo and drawing, right), the center gap helps in a slightly different way. Without it, the top ends of the legs would



CONNECT A TABLETOP RIGIDLY TO A BASE

Thanks to the center-gap design, Stowe can dovetail the ends of the legs into the benchtop without danger of flexing the base.

Expansion in a normal top would cause this base to flex.



With a center gap, expansion is directed inward and the base doesn't flex.

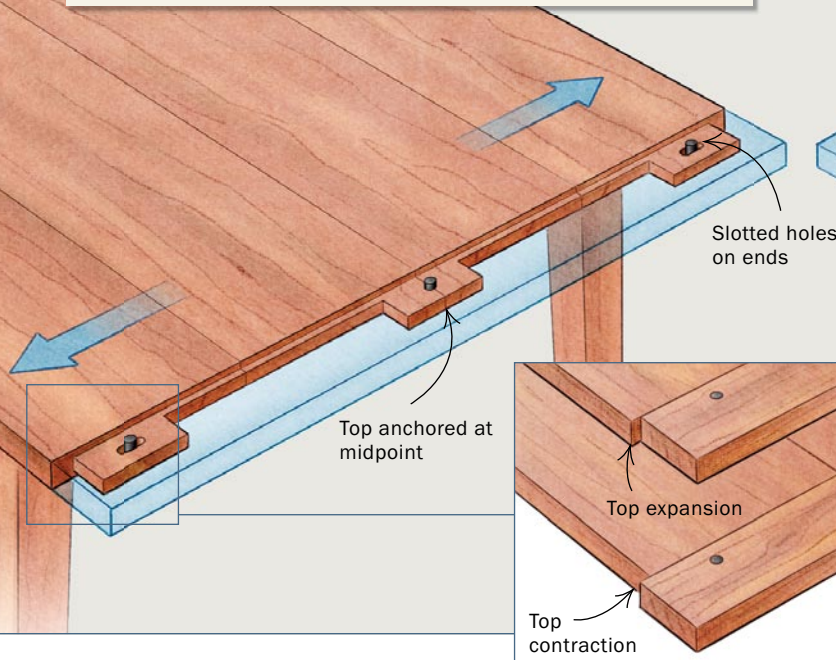


KEEP BREADBOARD ENDS FLUSH

TRADITIONAL BREADBOARDED TOP:

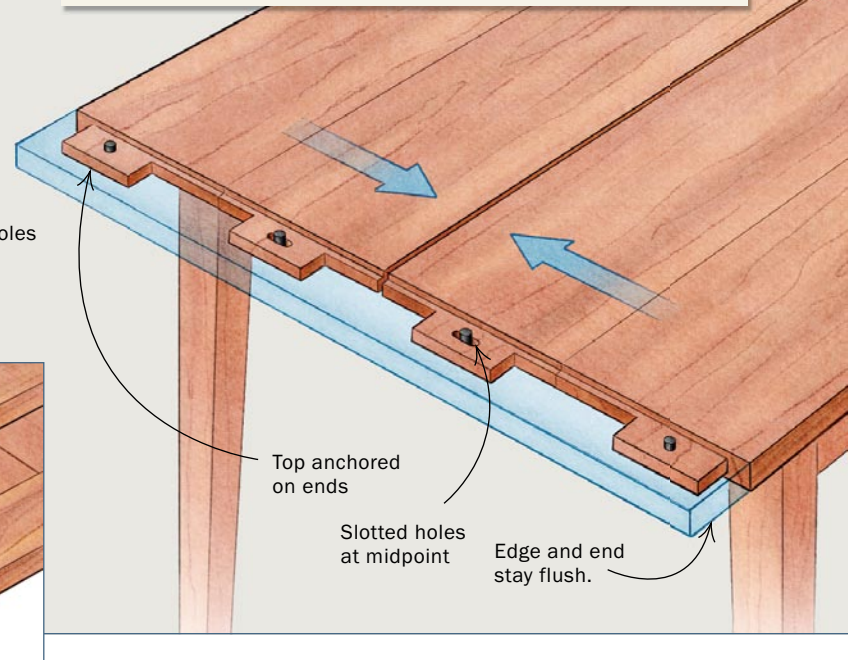
SEASONAL MOVEMENT CAUSES MISALIGNMENT

Breadboard ends look good and help keep tabletops flat, but seasonal changes in humidity make the top expand and contract in width, creating misalignment between the edges of the top and the ends of the breadboards.



CENTER-GAP DESIGN DIRECTS WOOD MOVEMENT INWARD, SOLVING THE MISALIGNMENT PROBLEM

By creating a center gap in a top, and gluing or pinning the top at its outside edges, any expansion or contraction is directed to the center gap. The outside edges of the table and the ends of the breadboards always remain flush.



ADD VISUAL INTEREST TO TABLETOPS: THREE WAYS

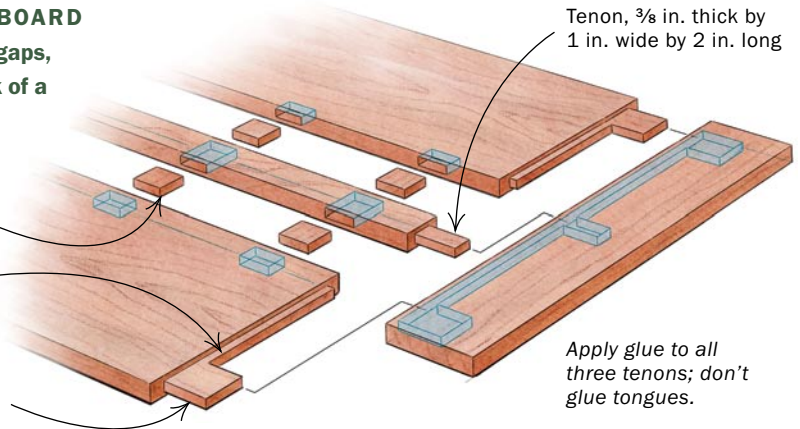


1 NARROW CENTER BOARD Except for the center gaps, this table has the look of a classic dining table.

Loose tenon, $\frac{3}{8}$ in. thick by
2 in. wide by $1\frac{1}{2}$ in. long

Tongue, $\frac{3}{8}$ in.
thick by $\frac{3}{8}$ in.
long, positions
breadboard end.

Tenon, $\frac{3}{8}$ in. thick by
2 in. wide by 2 in. long



flex. Eventually, such flexing would cause the leg rails to loosen. The center gap eliminates the problem.

Inlaid stones add detail and texture

Natural materials like wood and stone work wonderfully together. That's why I sometimes inlay a few shallow, flat stones in tabletops that incorporate my gap technique. The stones stand just slightly proud of the surface. It's a pretty straightforward technique, yet it adds considerably to the warmth and character of the top.

Arrange the stones on the top in a manner that pleases your eye. Then use a pencil to trace the perimeter of each stone on the top. To help when it's time to relocate the stones later, label each stone and matching perimeter with identical numbers. Use a

carving gouge to remove material under each stone. Don't worry much if the match isn't perfect; the glue fills in any gaps.

Apply a generous amount of two-party epoxy to a cutout. Place the mating stone in the cutout and press firmly. Repeat for each stone. Sometimes I extend a stone across the gap. In that case, make sure the stone is glued to one side of the gap only. If both sides are glued, the movement at the gap would surely cause something to crack, probably the epoxy joint. Also, when carving, be sure to create a little clearance around the perimeter of the unglued portion of the stone. That way, when the top expands, the stone won't jam against the edge of the recess. □

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2 INLAID STONES

By adding stones to the center gap, Stowe blends two natural materials to create a whimsical detail.



Lay out the stones. Stowe begins the inlaying process by positioning the stones and then tracing their outline.



Remove the waste stock. A carving gouge pares stock as needed so that each stone can be inlaid to about one-half its thickness.



Glue the stones in place. A two-part epoxy bonds the stones securely to the top. Stones that span the gap are glued to one side only.



3 A BED OF STONES

Stowe sometimes opens up a portion of the gap and arranges loose stones to fill the opening. He adds a plywood board with solid-wood edging to the underside of the top to support the stones. To allow for wood movement, the board is attached on one side only.

