

Mosaic Cutting Boards

Simple, repetitive steps elevate your shop scraps into beautiful, useful kitchen tools

BY JONATHAN BROWER



Like a lot of woodworkers, I realize it must be time to make cutting boards when the scrap pile is at fire-hazard status. I have made many end-grain cutting boards over the years. I prefer them because they stand up well to the use and abuse of knife work, liquids, and the general torture of meal prep and food service. They are great gifts that get a lot of use. A large cutting board can be a focal point for a family preparing and sharing a meal and can become a treasured item in the kitchen.

When I build my mosaic boards, I use a carefully calibrated process to yield specific final dimensions. It is a material heavy process; lots of cuts and surfacing. So, typically, three to four times the board footage is required to net one board foot of finished board. You can dry-clamp the scraps at the beginning and know pretty well where you're heading. I start by gluing together pieces of different widths and lengths much as with any other edge glue-up for a cutting board. After the first glue-up is surfaced, I crosscut it at 90°, and then cut it into strips. I turn the strips end-grain up, and playtime begins as I rearrange the strips and then glue them back together.

Once this end-grain-up assembly is done, I really start slicing, dicing, and reassembling. Instead of making the next crosscut at 90°, I do it at a couple of degrees off 90 before ripping the panel into strips. In the end, I'll have done five separate glue-ups, the last three with strips cut on an angle.

The first batch

For the first assembly, as I'm edge-gluing the long scraps, I try to keep similar pieces of wood together as a bundle: pieces of simi-



It starts with long-grain blanks

The first stage is edge-gluing long offcuts into a panel. Sticks should be similar in height, but width and species can vary.



lar length and width but varied thicknesses. I also consider my machine capabilities here, keeping the bundles under 13 in. wide, under 2 in. thick, and of a manageable length for clamps and crosscuts. Once I prep all the stock and choose the way they'll go together, I glue up and clamp the pieces.

After the first glue-up has been surfaced and crosscut into 2-in.-wide strips, I flip each piece so the end grain is facing up. Here is the sea of possibility. While keeping the end grain up, I begin rotating, turning, and trading the strips until nothing looks the same and it all looks a bit random. Once I am happy with the arrangement, I do the first end-grain-up assembly. When that dries, I unclamp the assembly, scrape any glue, and pass the board through the planer until it is just clean enough to lie flat and safe for a crosscut.



Roll it on and clamp it up. Brower uses a paint roller to quickly spread Titebond III on the sticks. He lines them up on their sides, applies glue, and then flips them upright. With risers beneath to keep the sticks in plane, alternate clamps on top and underneath the assembly and clamp tightly. Use a damp rag to wipe off any squeeze-out.



Flatten it out. After the glue-up has dried, run the assembly through the planer to skim off any remaining glue and flatten it.



Rip and flip

Crosscut your first assembly, rip it into strips, then glue the strips together with their end-grain facing up.



Cut it clean, and rip. With the miter gauge, crosscut the uneven end at 90°, and begin to cut uniform 2-in. strips off the assembly.

A different way to introduce work to the machines

From this point on you'll be working with end-grain-up blanks, and the machine use will need to be slightly adjusted. If you straighten an edge on the jointer by standing the cutting board upright against the fence, you will be jointing across the grain and it will tear out at the end of the cut. You can let that happen and take care of it later by trimming it off, or chamfer the end before jointing to minimize tearout. Similarly, when you send the board through the planer as an end-grain-up piece, the trailing end will tear out. Chamfer that end as well or glue or adhere a temporary support block to minimize or eliminate the tearout.

Also, when cutting the end-grain boards into strips on the table saw, although you are technically making a ripcut, cutting with the grain and not across it, it's my experience that the tablesaw has to work a little harder. So I slow down my feed rate and use a high-quality rip blade. This gives a safe and clean cut for glue-ups.



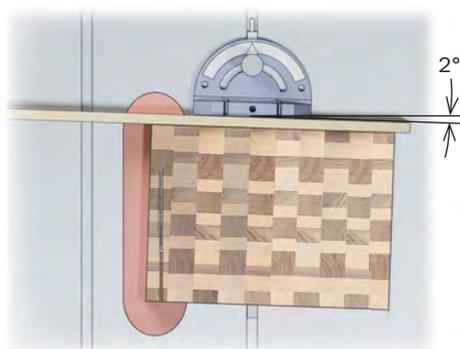
Rip against the fence. When the assembly is narrow enough to safely rip against the fence, Brower sets the fence to the desired width and rips the rest of the assembly into strips.



Arrange and reassemble. Now with the strips oriented end-grain up, twist them, turn them, flip them until you are happy with the pattern. Then apply glue and clamp them into another assembly.

Re-rip at an angle

To create the mosaic effect, Brower introduces angles when ripping the strips apart. This is the first of three angled cuts.



Establish the angle. Set a miter gauge equipped with a backer board to 2° off 90. Make a crosscut that skims off the end of the assembly and establishes that angle.

Start with the 2° angle

The three crosscut angles I typically use to create the mosaic pattern are 2°, 4°, and 6°, but I have experimented with slightly higher angles as well. The first of the three angled cuts begins here, with a 2° setup. You'll need an angle-cutting jig or holding system. I use a miter gauge with an extended backer block made from wood or plywood and set the angle.

Make the first angled crosscut to trim one end and establish the angle. Then you can either keep crosscutting with the miter gauge or take it to the rip fence and finish the cuts. You get to decide the width of the strips. I try to keep the first around 1½ in. to 2 in. depending on the size of the pieces and what scale pattern I want. I change the width of the strips with each new angle cut, going down in thickness about ¼ in. each time.

Once I have the strips cut, I line them up in order, and then I flip every other strip long end over long end until a zigzag or herringbone pattern appears. Then I adjust the strips if I don't like what I'm seeing. Once I'm satisfied with the look, I glue and



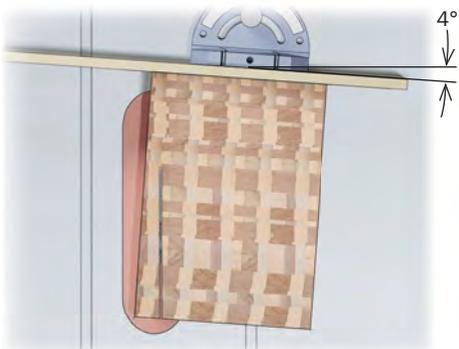
Rip angled strips. Now that the 2° angle has been cut, set the rip fence to the thickness you want and rip the rest of the assembly into strips, always riding the angled end against the fence.



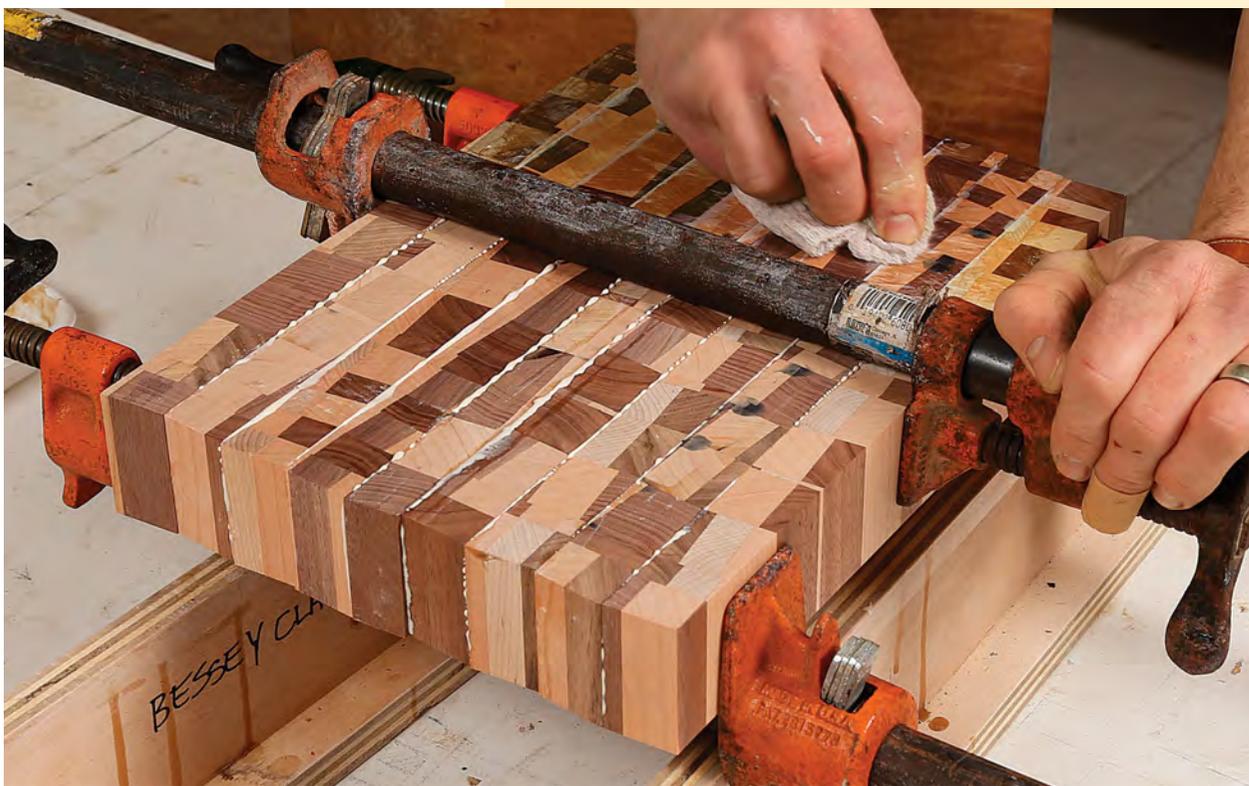
Mix them up. Line up your 2° strips in order. Then flip every other strip long end over long end and you'll see a zigzag or herringbone pattern appear. When flipping, balance the angles so they counteract each other, and you'll end up with a rectangular assembly. Glue and clamp that assembly.

Two more angles

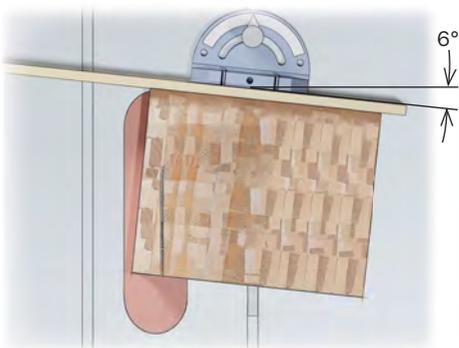
After gluing up the first angled assembly, crosscut it at 4°. But before cutting, turn the board 90° so the cut is roughly perpendicular to the previous gluelines.



4 degrees. With the miter gauge set to 4°, rotate the board 90° and make the initial crosscut. Once you establish the angle across the assembly, move to the rip fence and cut the rest of the assembly into strips, always riding the angled end against the fence.



Clean the squeeze-out. While the glue is still wet, use a damp rag to wipe away any glue on the surface. Once the glue is dry and the clamps are off, you can run the assembly through the planer to skim off any residual glue and flatten it. Yes, even end grain up.



When the 4° strips are cut and glued up, again rotate the board 90° to make the final cuts at 6°.



The final angle. Trim the end of the assembly to 6°, then move to the rip fence. Brower varies the thickness of the strips, moving the fence closer to the blade for each assembly.



Finishing touches

Add a subtle profile, sand, finish the board, and add feet.

Round over the edges. Use a $\frac{1}{8}$ -in. bearing-guided roundover bit on your handheld router to ease the edges of the board, top and bottom.

clamp the strips into one assembly, clean up the squeeze-out, and let the glue cure.

Move on to 4° and then 6°

Because these cutting boards get a lot of machining, I let each glue-up remain in the clamps overnight. Years ago I retrofitted my 13-in. planer with a helical, carbide-tipped cutterhead. This was not only quieter, but also allowed me to run end grain through it, taking light passes without much issue. After unclamping, again plane the surface to a working flatness and then crosscut the rough edges off the piece so it is ready for the next angled crosscut. This time, change the angle to 4°, and rotate the glued-up panel 90° so your crosscut is roughly perpendicular to the previous gluelines. Then rip the board into strips.

Once you have the new strips cut, it's the same song and dance with arranging the pieces. Feel free to move pieces around; I eyeball the pattern until I like what I see, then I glue up and clamp.

Now move on to the third angled glue-up, with a 6° angle this time. After this round, there won't be many parallel pieces left. You can keep going, but this is where I typically stop.

Finishing touches

After the last glue-up has gone through the planer and is flat, I take the board to the tablesaw for final sizing. Then I use a drum sander to flatten the surfaces, remove planing marks, and bring it to 150 grit. You also can use a belt sander, an orbital sander with low grit to start, or a super sharp handplane with a low angle setting. I rout a $\frac{1}{8}$ -in. roundover along the edges and sand the surfaces up to 220 grit. The finish is a cocktail of four parts mineral oil and one part beeswax. After that, I use a little mineral oil when the board dries a bit to keep up the appearance. □

Jonathan Brower makes cutting boards and furniture at his business, Mosaic Woodworks in Newport, R.I.

www.finewoodworking.com



Work the grits. Sand the top and bottom surfaces of the board. Work from 150 grit up to 220 grit.



Finish coat and feet. Brower uses an oil/wax cocktail made from four parts mineral oil and one part beeswax. He applies the finish on the bottom of the board, and then screws the rubber feet in place. Then he flips the board and applies the rest of the finish.

