

Bandsawn Bridle Joints

Make this stalwart joint with a quick setup and no layout

BY BRIAN BOGGS



Better bridles. Using a bandsaw and a simple system of shims, Boggs creates clean-fitting bridle joints quickly and efficiently without layout.

Most woodworkers cut bridle joints at the tablesaw, which works very well for the task. So why bother using a bandsaw for this dependable joint? Because with the technique I show here, the setup is simpler, the process is more efficient, and both halves of the joint can be cut entirely without layout. A well-tuned bandsaw, which is easily precise enough for joinery, is both quieter and safer than a tablesaw. And the bandsaw comfortably handles long parts that pose a problem when you try to cut them vertically on a tablesaw. Give bandsawn bridles a try.

Start with the tenon cheeks

When you use the bridle joint method I'm explaining here, it doesn't really matter whether you cut the tenons or the mortises first, but I'll start with the tenons. What does matter is that all your stock is dimensioned accurately. Because to cut the tenon cheeks you'll use just one fence setting, flipping the workpiece between cuts and using both faces as reference surfaces. You'll take the same approach when you cut the mortise cheeks.

I like my bridle-joint tenons to be about half the thickness of the stock. So for $\frac{3}{4}$ -in. stock, I'll cut tenons about $\frac{3}{8}$ in. thick. I don't bother measuring, I just set the fence by eye and make shallow cuts into the end of a test piece. If the spacing looks good, I'll cut my tenons. Be sure to set the fence so the blade cuts the cheek of the tenon that's farthest from the fence; this doesn't really matter now, but as you'll see, it will help later when you're cutting the mortises and need to clean out between the kerfs.

When you have the fence where you want it, set two backup blocks carefully against the back side of the fence and

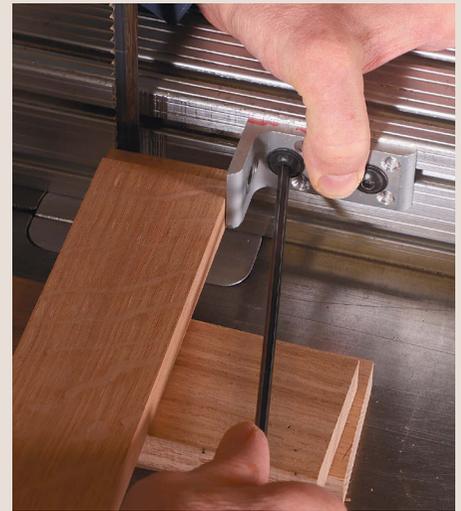
Tenons



Tune the machine. Be sure the fence and blade are square to the table and the fence is set to compensate for blade drift. See that the back of the blade is also square to the table.



Clamp on backup blocks. With the fence set, clamp blocks against its back face. Be sure the ends of the blocks are square and fully contact the fence.



Set the stop block. Fix a stop block to the fence or to the table. Use the width of the workpiece to set the depth of cut. For easier assembly, set it slightly shy of full width.

clamp them to the table. They'll keep the fence from deflecting as you cut and later they will play a critical role in setting the fence for the mortises. Next, to control the length of the cheek cut, ensuring that it ends right at the shoulder, clamp a stop block to the table or to the fence.

Now cut all the tenon cheeks with this setup, making cuts from both faces of the workpiece. Once all the cheeks are cut, trim off a bit of the waste on both faces of the workpiece. I trim them this way for three reasons: so I don't confuse them with the mortised workpieces, which would otherwise look nearly identical at a certain point; because with the waste removed I'll get more consistent alignment later when I cut the shoulders; and because it gives me a way to test the size of the mortises.

Move on to the mortises

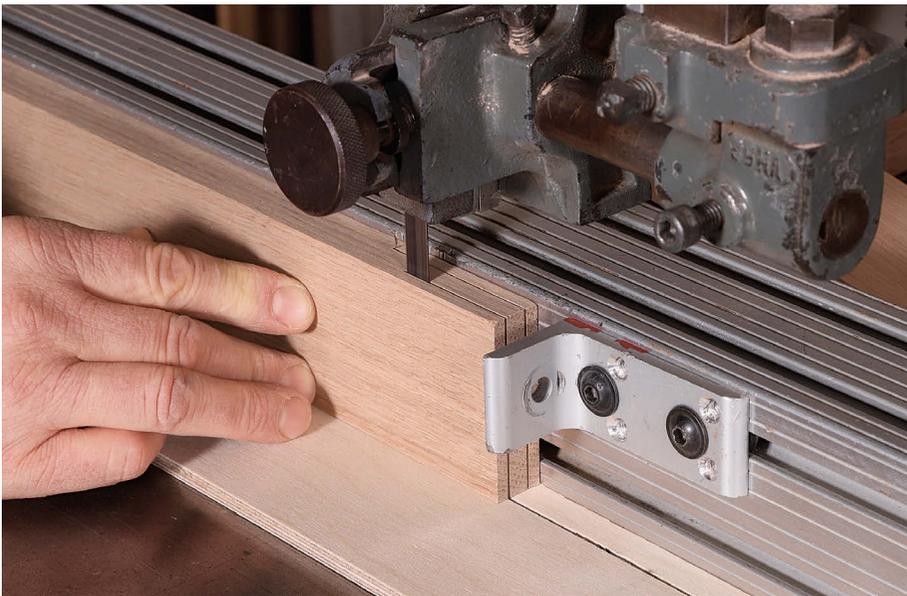
To cut the mortises, you'll need to move the fence toward the blade by exactly the width of the saw's kerf. A quick way to do this is to fill a test kerf with a stack of playing cards or thin card stock until the fit is just snug. You don't want it overtight or too loose. Use pieces of paper if need be to microadjust the fit. Then, leaving the backup blocks clamped down, loosen the fence and place the stack of shims between the back of the fence and one



Cut, flip, and cut again. Use the same fence setting to cut all the tenon cheeks, flipping the workpiece between cuts (above). Once the cheeks are cut, trim away a bit of the waste, being careful not to let the blade contact the tenon.

Mortises

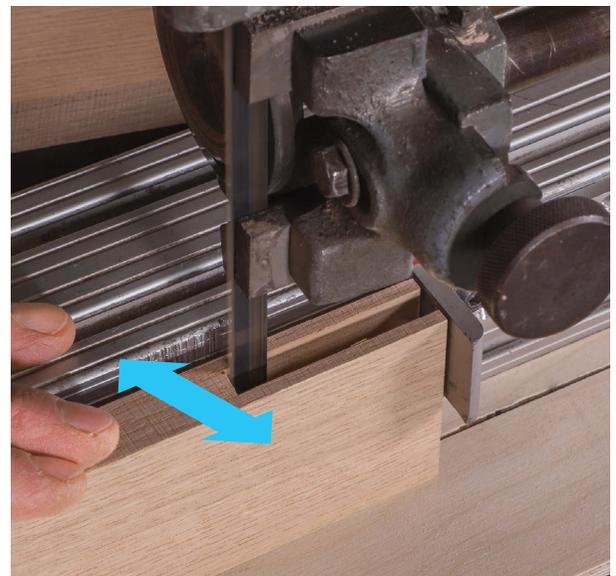
Move the fence by a kerf's width. To cut the mortises, leave the backup blocks clamped and move the fence toward the blade by the width of the sawkerf. Stack card-stock shims until they fit a kerf snugly, then place them between the fence and the backup blocks (right) and lock down the fence.



of the backup blocks. Press the fence tight to the shims to hold them in place and insert a second batch of shims between the fence and the other backup block. Then lock down the fence. That's your setup for the mortises. Leave the stop block in place and use it for the mortises as well. Cut a test mortise and check the fit. It's likely to be perfect or tight. If it is tight, subtract from the shims; if it happens to be loose, add to the shims.

Once the mortise cheeks are cut, remove the waste between the kerfs. To do so, leave the fence in place and cut away most of the waste freehand, making diagonal cuts and being careful to avoid hitting the cheeks. Once nearly all the waste is gone, you can clean up the shoulder of the mortise by pressing the

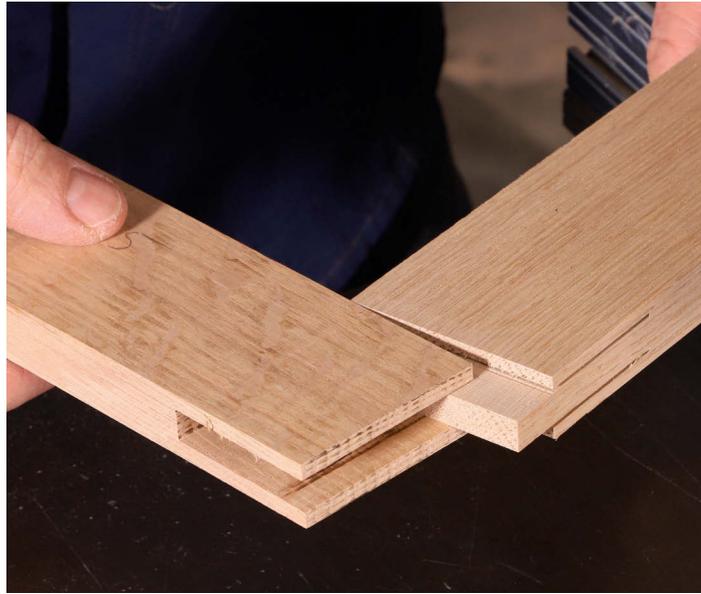
Mortises cut and cleaned. Using the new fence setting (but the same stop block setting) make stopped cuts for the mortise cheeks (above), again flipping the workpiece between cuts. After making careful diagonal cuts to clean most of the waste (right), square the shoulder by moving the workpiece side to side with its end pressed against the stop block (far right).



end of the workpiece gently against the stop block and then sliding the workpiece sideways, cutting with the side of the teeth. You can only cut about $\frac{1}{32}$ in. of material this way, but it leaves a clean surface that should not need any hand truing. At this point the mortises are done.

Shoulder the tenons

Now it's on to cutting the tenon shoulders. Remove the backup blocks and shims and set the fence so the distance from the fence to the outside of the blade equals the length of the tenons. To help create nice flat shoulders, use a miter gauge or a square crosscutting push block as you cut them. Feed slowly. You might find a stop block helpful here. If you do use a



Check the first mortise. Use one of the tenons to check the fit of a test mortise. If the fit is too tight, remove a piece or two of paper from your shim stacks. When the fit is right, cut all the mortises.



Shoulder drill. To cut the tenon shoulders, set the fence to the length of the tenon (above), then use a push block or miter gauge to keep the workpiece square during the cut. Having trimmed off some of the waste makes this process more accurate.



stop block, clamp it to the table on the outside of the blade. This way the waste will be clear to fall forward as it is cut off.

With the shoulders cut, you're done. Check the final fit and fine-tune by hand if need be. As with any woodworking skill, practice is key. I recommend making a complete test joint with scrap before cutting a real joint, so you get comfortable with the process before risking good stock.

I have written a lot of words to describe a simple process. Try it and you will see just how simple it really is—in fact, it's more easily done than said. □

Brian Boggs makes chairs and other custom furniture in Asheville, N.C.



Bring the bridle home. You can size your bridles exactly to the width of the stock, or make them slightly underwidth, as Boggs often does, to make it easier to clamp the shoulders tight.