

Cutting the mitered bridle joint

BY CHRIS GOCHNOUR

Combining the beauty of a miter joint with the strength of a bridle joint, the mitered bridle joint is a great choice for any frame—a door, for example—that needs both robust joinery and a clean look.

Cutting a mitered bridle joint with hand tools is not much different from cutting a standard bridle joint, which I demonstrated in a previous *Handwork* (*FWW* #257, p. 80). There's still a tenon on the end of the rail that fits into the stile's open-ended mortise. The difference is that the tenon's shoulder is angled 45° across the rail's front and back faces. This means that the end of the stile must be mitered to match. It's not as complicated as it might sound. I'll demonstrate how to lay out and cut the joint, starting with the mortise in the stile.

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Mortise the mitered piece.

Tenon is one-third the thickness of the stock.

End is cut at 45°.

Shoulder is cut 45° across face.

Cut the mortise

Creating an accurate miter with hand tools begins with careful layout. Remove the waste with a backsaw, and then trim to the layout lines with a block plane.



Lay out a miter. With a miter (or combo) square aligned with one corner, strike a knife line across the face of the stile.



Knife across the inside edge. To align the square, place the knife in the line cut into the face and slide the square up to it. Mark the edge, then mark the second face.



Remove waste with a backsaw. This cut is for roughing out the angle, so be close to the line, but not on it.



True the miter. The low-angle, bevel-up blade of a block plane severs the end-grain fibers cleanly. Keep an eye on the layout lines on both faces.



Check for square. Use a small square to check across the miter, then pull out a combination square and check the miter's angle. Refine as needed.



Mark the outside edge. Don't use a knife here, because the severed fibers would be visible.



Lay out the mortise. A mortise gauge works best for this, because it marks both sides at once. Cut along the end grain, then down the outside edge. Do not change the gauge's setup.



Cut the cheeks with a backsaw. Then remove the waste with a coping saw.

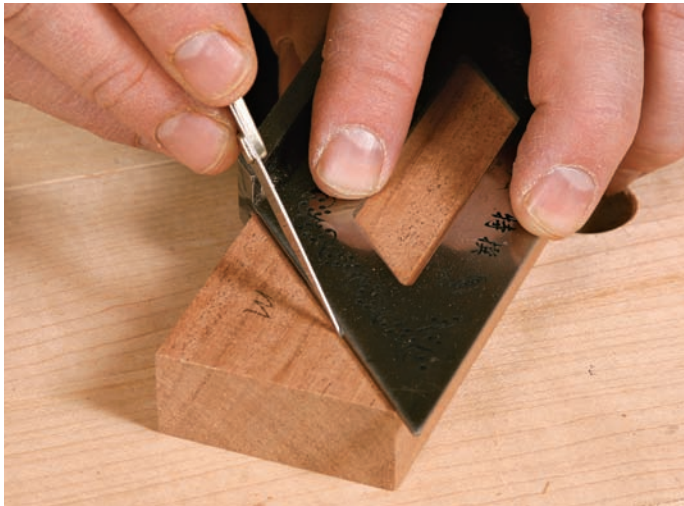


Pare the bottom. Work into the center from both edges. The knife line cut earlier on the inside edge allows the fibers to break off cleanly rather than tear out.

Tenon cheeks are mitered

Don't let the angled shoulders throw you. Good layout and careful sawing gets you most of the way there. Judicious paring brings you home.

Locate the tenon's shoulder and knife across the inside edge. With the stile sitting on edge and the rail standing on end, cut a tick mark into the rail. Place the knife in the tick mark, slide the square up to the blade (far right), and then cut a line into the edge.



On the face, the shoulder is angled. Use a miter or combo square to carry the line from the edge onto the face. Repeat for the other face.



Use the mortise gauge again for the cheeks. To ensure that the tenon aligns with the mortise, register the fence against the same face on the rail as you did on the stile.



Cut the cheeks first. Start at the top corner of the inside edge and hold the saw at a roughly 45° angle.



Then cut the shoulders. Don't rely on the saw for accuracy. Cut rough and then pare to perfection.



Beautiful and strong. After fitting the cheeks, the joint should come together snugly, with a tight miter where the parts meet.