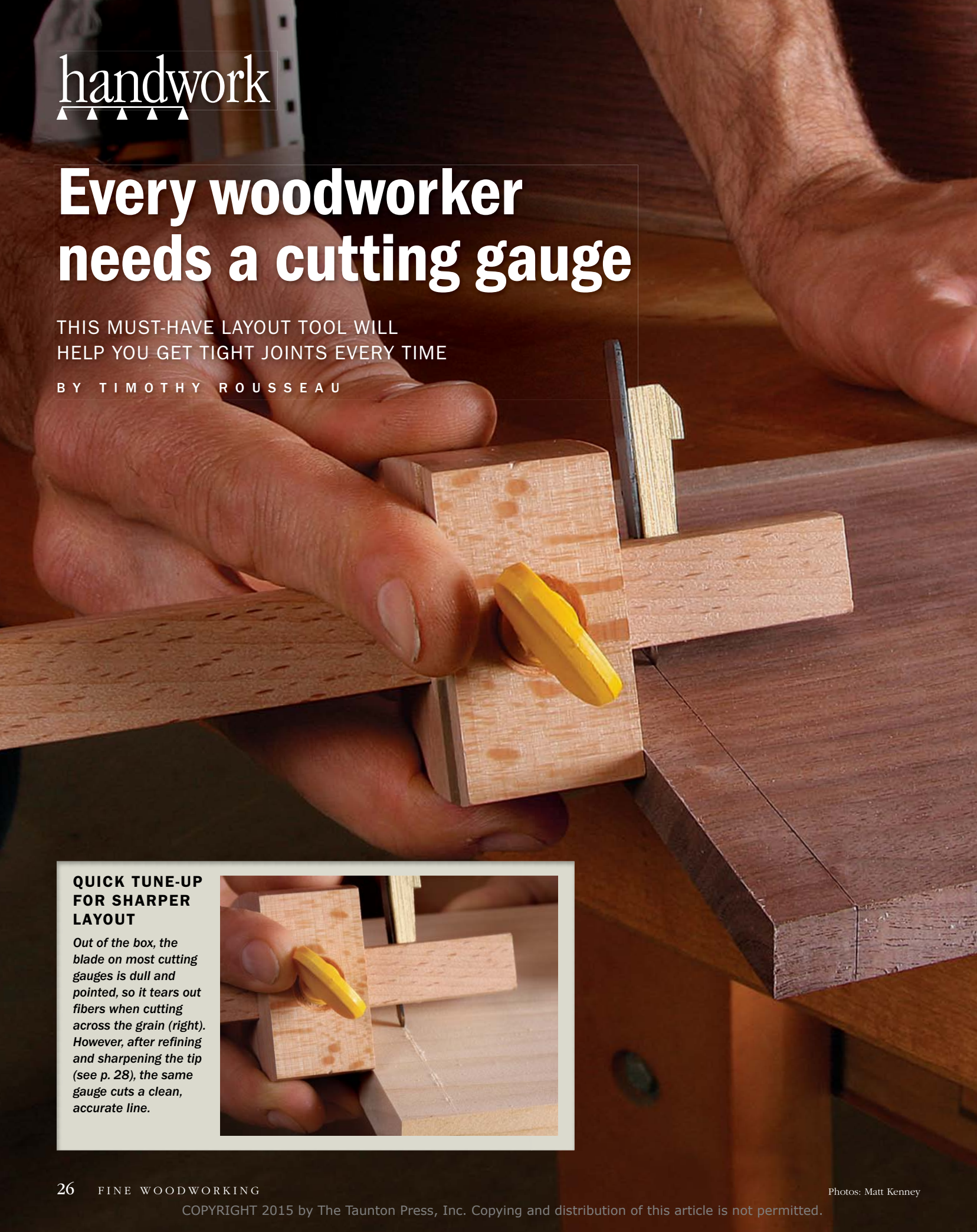


# Every woodworker needs a cutting gauge

THIS MUST-HAVE LAYOUT TOOL WILL  
HELP YOU GET TIGHT JOINTS EVERY TIME

BY TIMOTHY ROUSSEAU



## QUICK TUNE-UP FOR SHARPER LAYOUT

*Out of the box, the blade on most cutting gauges is dull and pointed, so it tears out fibers when cutting across the grain (right). However, after refining and sharpening the tip (see p. 28), the same gauge cuts a clean, accurate line.*





Tight joinery begins with crisp, accurate layout. This is why a scribed or cut line is better than a pencil line for most layout work. A knife and square can be used for most (if not all) layout jobs, but I find that a gauge is often more efficient and accurate. The three most commonly used in woodworking are the marking gauge, the mortise gauge, and the cutting gauge. Marking and mortise gauges use a pointed pin to scribe lines with the grain, while a cutting gauge has a knifelike blade that slices fibers across the grain.

All three are necessary if you cut joinery by hand, particularly the mortise-and-tenon. However, if you use a powered apprentice to cut mortises and tenons, then the marking and mortise gauges won't get much use. The cutting gauge, however, is an indispensable tool for furniture making regardless of which tools you use to cut joinery. It's perfect for marking dovetail and tenon shoulders, and can be used to sever fibers and minimize tearout before making a crossgrain cut with a tablesaw or router.

There are two types of cutting gauges. Wheel gauges have a steel beam with a round cutter at the end. The fence is usually round, too. These work fine, but I prefer the traditional-style cutting gauge with a wooden beam and fence. The cutter is often a spear-point knife that is held in the beam by a wedge. Because

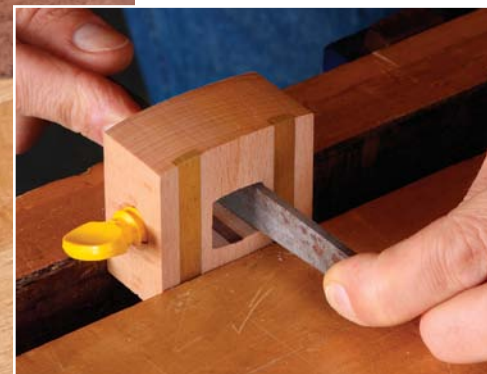
### INEXPENSIVE GAUGE GETS THE JOB DONE

There are many traditional-style cutting gauges on the market. Of these, Rousseau prefers the Robert Larson cutting gauge (model #605-1100, circlesaw.com). For \$22 and some time spent on a tune-up, he says it can't be beat.



### TUNE UP THE FENCE

A cutting gauge works best when the fence glides smoothly along the edge of the workpiece and the blade cuts parallel to the fence.



**The beam and fence should be square.** If the beam does not move smoothly through the mortise in the fence, file the mortise.



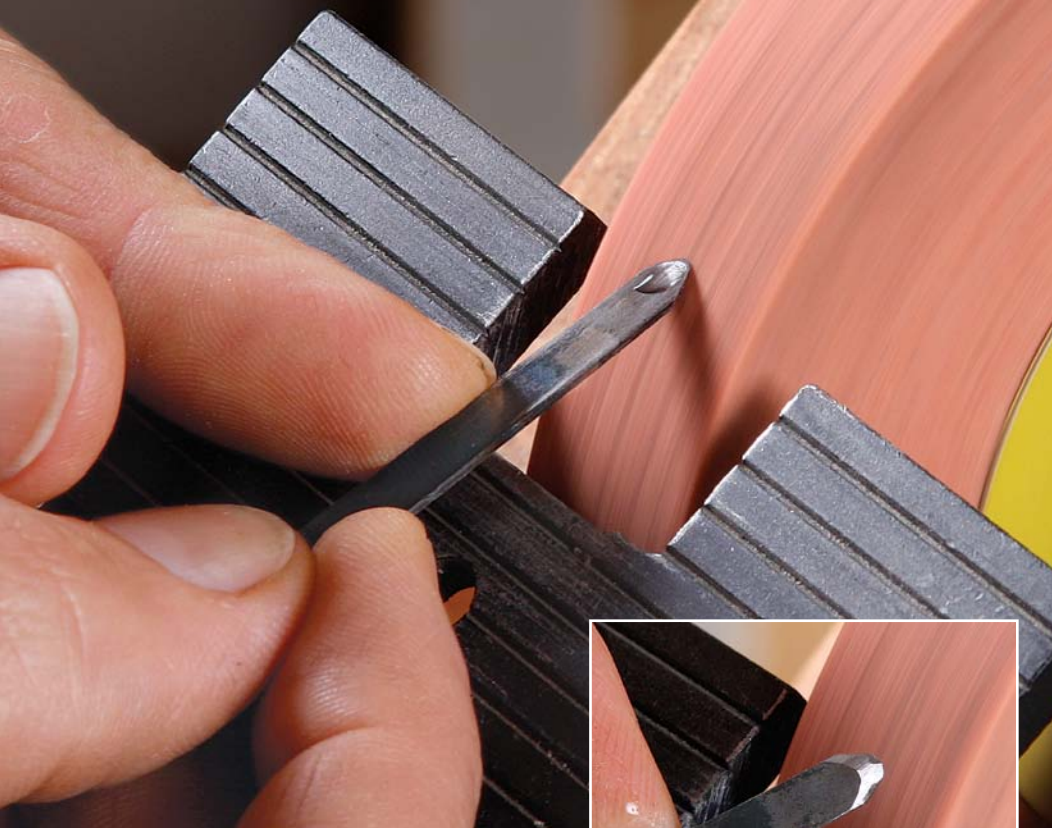
**Smooth the fence face.** For accuracy, the brass wear strips should be flush with the fence. If they're not, sand the fence on a flat surface (above), working from 80- to 220-grit, until the strips are level (left).





## SHARPEN THE BLADE

A cutter with a curved, rather than pointed, tip can be pulled and pushed through the wood.



**Round the point on a grinder.** Anchor the blade with both hands and then rotate to create the thumbnail profile (above). The cutting edge should have a slightly rounded tip (right).



**Hone the back and bevel.** Start with the back, using the edge of a polishing stone (left). Then polish the bevel (right). Don't worry if the bevel has facets. Only the cutting edge matters.



they have a wider fence, I find these gauges track the edge of the board more easily than wheel gauges. However, before you put one to use, it's a good idea to give it a quick tune-up. It's not hard, and I'll show you what to do.

### Tweak the fence and cutter

Start with the fence, which must be flat (check it with a 12-in. rule) so that it glides smoothly along the workpiece. Any hiccup caused by the fence is transferred to the cutter, leaving a hiccup in your layout line, too. The result? Joints that aren't as tight as they could be.

Check that the beam is square to the fence. If it's not, use a chisel to pare the wall of the mortise square, then glue a thin shim to the pared wall so that the beam slides smoothly in the mortise. If the beam is square, slide it back and forth in the mortise. If it is difficult to move, file the mortise until the beam slides smoothly. If the beam moves so easily that it's hard to set and lock it in place, glue in a thin shim. Next, sand the business side of the fence on a flat surface (especially important if there are brass wear strips embedded in the face).

Now move on to the cutter. Like any cutting tool, it must be sharp to perform at its best. I prefer the bevel to have a rounded tip, rather than a pointy one, because it can be pushed and pulled. I round the tip with a slow-speed grinder. I then hone the back and bevel on the edge of a polishing stone. Admittedly, it takes some practice to hone a curved bevel, but it doesn't have to be pretty, just sharp.

When the cutter is sharp, put it back in the beam with the bevel facing the fence. This pulls the fence against the workpiece during use, and also puts the bevel on the waste side of the cut for 99% of joinery layout. The cutter should stick out  $\frac{3}{16}$  in. below the beam. Slide the beam back into the fence, and the cutting gauge is ready to use. Hold it between two fingers and apply sideward pressure against the fence to keep the gauge snug on the workpiece. Take a light cut, and you'll have precise layout lines, the first step toward tight joints. □

*Timothy Rousseau of Appleton, Maine, is a professional furniture maker.*