

Curved Bevels Made Easy

Tablesaw sled creates facets, and a bit of sanding finishes the job

BY GEOFFREY CARSON

Several tables that I make have curved ends with bevels as wide as 2 in. The curves are a straightforward cut at the bandsaw, but the wide bevels can be a challenge. Bevels wider than 1 in. cannot be cut with a router, because bits that large aren't available. A shaper with a tilting head or custom knives would work, but that's an expensive solution. Also, in my experience router bits and shaper knives do a mediocre job on figured woods, often tearing out the grain more than cutting it.

So I devised an easy way to bevel curved edges using a tablesaw. All you need is a slightly modified panel-raising sled. The tabletop

stands on end, clamped to the sled, as it is pushed past the blade. Then you make successive cuts, rotating the tabletop a bit each time, and leaving a curved, but faceted, bevel. These facets are surprisingly easy to level out with sandpaper, leaving a smooth bevel.

Modified sled is the key

The sled I use is basically a box that sits over the rip fence. It rides on the table and the fence guides it past the blade. I made it from ultra-lightweight MDF, which is just as flat and rigid as standard MDF but weighs much less.

The most critical part of making the sled is getting it to ride smoothly along the fence. If it is too tight, it will bind.


If it's too loose and

wiggles side to side, the bevels won't be accurate. Cut the sides first and place one on each side of the fence. Measure the distance between them and rip the horizontal spacers to that width. Then clamp them in place and test how well the sled slides. If the fit is loose, trim a bit off the spacers. If it's too tight, shim the spacers with masking tape and try again. Screw the sled together after you are sure it will slide smoothly along the fence.

If you don't have an outfeed table, use a roller stand to support the sled as it leaves the saw table. Otherwise, the sled and tabletop might tip downward, pulling the other end up.

Lay out the tabletop and set up the saw

For a tabletop like this one, I leave the overall panel 1/8 in. wider than the final



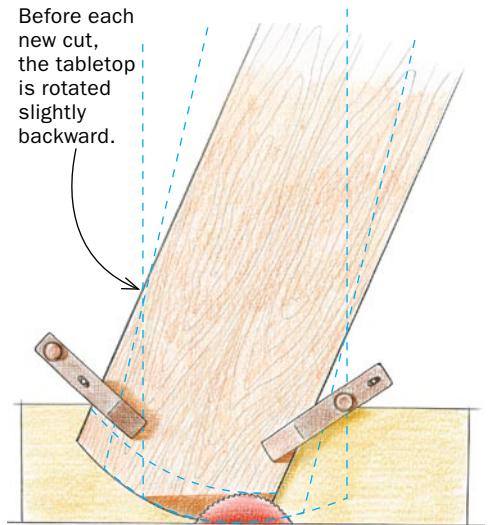
Wide bevels are attractive on curved edges. However, they haven't been easy to cut, until now. Router bits are too small, and most woodworkers don't have a shaper with a tilting head.

Online Extra

To watch Carson demonstrate his technique, go to FineWoodworking.com/extras.

HOW THE SLED WORKS

Before each new cut, the tabletop is rotated slightly backward.

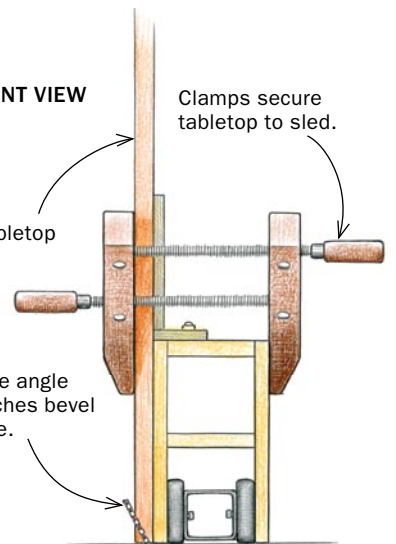


FRONT VIEW

Clamps secure tabletop to sled.

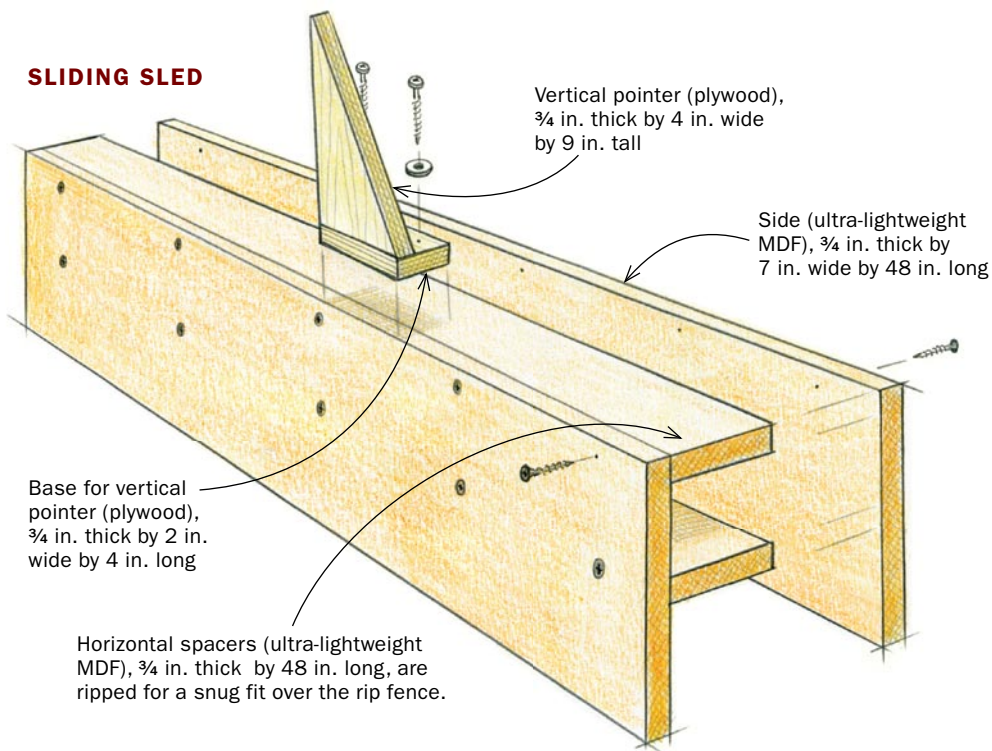
Tabletop

Blade angle matches bevel angle.



Tall order. Actually, the sled makes it easy. Rotate the top incrementally before each cut, and after just a handful of passes you'll have a slightly faceted bevel that needs only a bit of sanding to make it smooth to the touch. (Turn the page to find out how the pointer works.)

SLIDING SLED

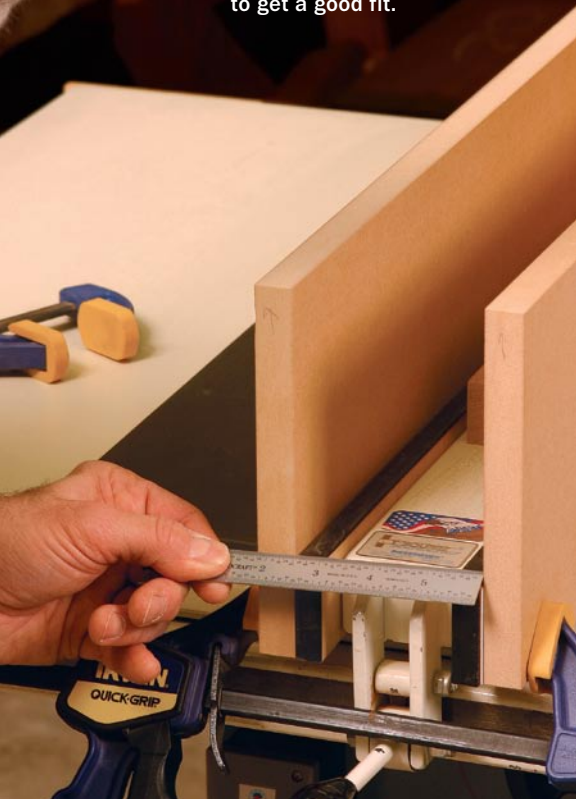


BUILD THE SLED TO FIT THE FENCE

The sled should slide easily over the fence without any slop. Building it around the fence makes it much easier to get a good fit.



Sled should fit snugly but slide easily. Dry-fit and clamp the sled together and test how well it slides. If it binds, shim the spacers. If there is any slop, trim the spacers.



Clamp the sides to the fence. This gives you an accurate reading of how wide the horizontal spacers need to be.



Attach a vertical pointer. It should be a right triangle, located midway along the sled's length and flush with its front face. The vertical edge provides a reference to ensure that all of the facets are a consistent width and length.

dimension and trim it later, just in case the last beveling cut causes tearout.

Begin by cutting and smoothing the arc. On the top side of the tabletop, place a mark every 2 in. along the arc. Then mark the centerpoint of the curve and, using a straightedge, connect it to the marks along the arc. When you cut the bevel, you'll align these lines with a vertical pointer on top of the sled, telling you how far to rotate the top between each cut and ensuring consistent facets that will be easier to sand into a uniform curve.

Now draw an arc on the underside of the tabletop to represent the inside edge of the bevel. This layout line simplifies setting the blade to the right angle. Draw the bevel on a piece of scrap the same thickness as the top and use it to get a rough setting for the blade's angle. If you cut the bevel with the blade at that angle, the bevel will be wider than you intended because rotating the board changes the effective angle of the blade. So increase the angle of the blade 2° (angle it away from the fence). You're now ready to make the first test cut.

Forming the bevel is easy

Stand the tabletop on the saw, with the side to be beveled facing the blade. I typically place a scrap of veneer between the top and saw table. After clamping the top to the sled, I remove the veneer scrap. This clearance keeps the tabletop from being marred as it's pushed past the blade.

Align the first reference line (on the leading edge) with the vertical pointer on the sled, clamp the top to the sled, remove the veneer scrap, and make the first test cut. Turn off the saw. After the blade has stopped spinning, adjust the blade angle back just a bit toward vertical. Make a second test cut. Repeat this process until the bevel stops at the arc marking the inside edge of the bevel.

After the blade angle is set and the first facet cut, unclamp the top, rotate it, and align the next reference line with the vertical pointer. Reclamp the top and cut the second facet, and so on.

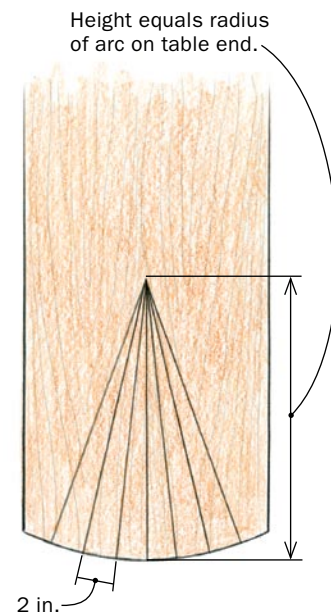
After all of the facets have been cut, use a pencil to mark them with cross-hatching. Sand the lines away evenly for a smooth

A SERIES OF EVEN CUTS

Each pass through the blade cuts a flat facet. Aligning the pointer with the reference lines ensures that the facets will be the same width, and easy to sand into a uniform bevel.



Draw reference lines. Carson draws lines from the edge to the centerpoint of the curve. He has found that spacing the lines about 2 in. apart along the edge produces a bevel that's easy to smooth while minimizing the number of cuts needed.



Add a little clearance. If the top rode on the saw table, it would get marred and the sled would be harder to push. Use a veneer spacer when clamping the top in each new position.



Reference lines guide the rotation. After each cut, move to the next line.



Curved bevel from straight cuts. The bevel is still faceted at this point, but your eye wouldn't know it.

curved bevel. On wide bevels, I use a random-orbit sander to remove the facets. Sand with P-80 grit until the bevels are gone, relying on your sense of feel to know when the bevel is smooth. Then work through finer grits to polish the surface. On bevels narrower than $1\frac{3}{4}$ in., use a sanding block. □

Geoffrey Carson builds furniture, burl-wood boxes, and fly-fishing accessories in Issaquah, Wash.



Sander removes facets quickly. Start with P-80 grit and trust your hand to know when the facets are gone. Your hands are more sensitive than your eyes when it comes to noticing smoothness.