

Cut Matching Curves

Router templates ensure a perfect fit between panels and solid-wood edging

BY CAROL KOEBBEMAN

Designing a table with a veneered plywood center and a solid-wood border, I was confronted with the dilemma of matching the curves on the plywood and the border.

Like all the best solutions, this one came to me in the early hours of the morning: In the same way a thin strip of wood can be bent to a desired arc, I realized I could use a pair of strips to make matching templates, one to shape the plywood center and the second to shape the solid-wood edge. The solution lay in how to stiffen these thin strips to withstand the force of a bearing-guided router bit.

The first template begins on the bandsaw

Begin by cutting a pair of template edge strips out of ¼-in.-thick plastic-coated medium-density fiberboard (MDF) or Masonite, which gives a smooth surface for the bearing to ride against. I



A perfect match.

The author solved the problem of how to cut matching curves on the veneered panels of the table and the solid-wood edging.



Make the convex template

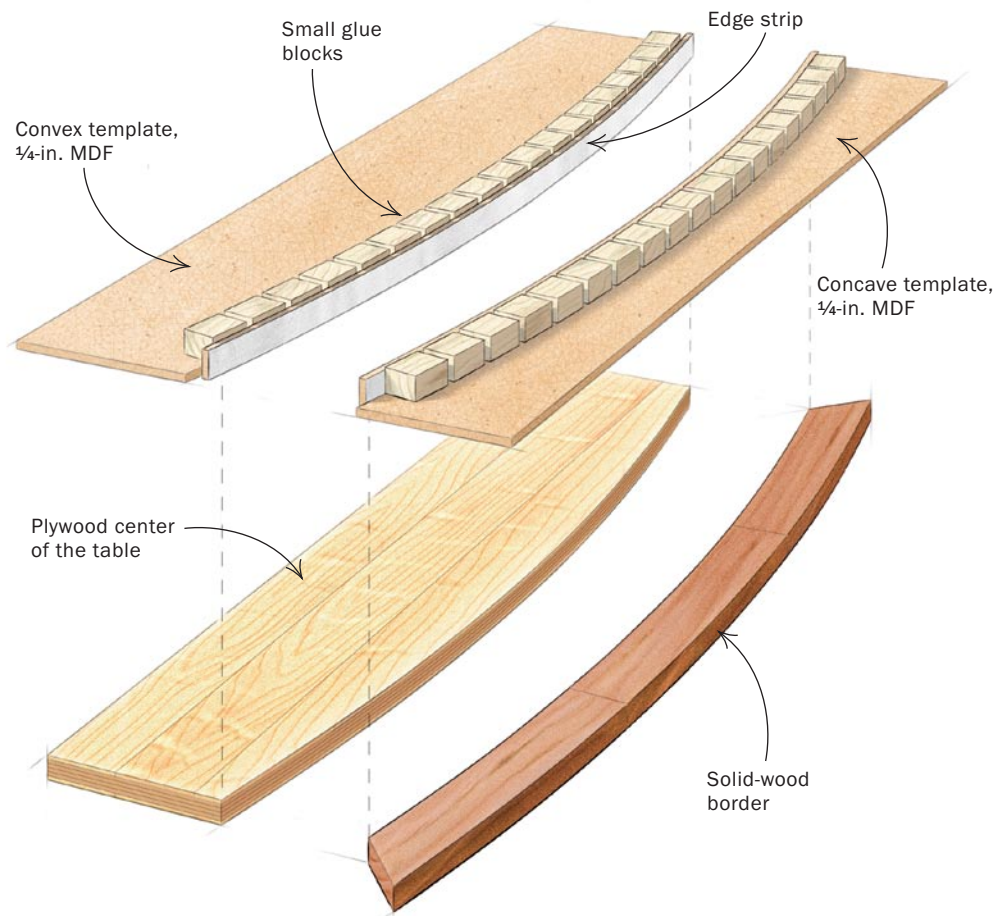


Bandsaw the two bases. Don't worry about cutting a perfectly smooth curve on the bandsaw (left). Use hot-melt glue to attach wooden blocks to the center and each end of the base. Let the blocks slightly overhang the edge of the base (above).



A PAIR OF TEMPLATES LETS YOU MAKE PERFECTLY MATED PROFILES

Even in the unlikely event that you were able to saw a perfect curve, the width of the sawkerf would prevent you from using the resulting pieces to create perfectly matching concave and convex profiles. To overcome this problem, the author invented a pair of matching templates.



Form the curve. Clamp an edge strip to the three blocks to form a smooth curve.



Use more blocks to stiffen the template. Glue more blocks to the base and the back of the strip. Take care not to alter the curve.



Make the concave template



Create the matching profile. Thoroughly clamp the strip that forms the face of the second template to the first one (left). Slide in the second base until it almost touches the back of the second strip. Attach blocks to the base and the strip using hot-melt glue (above).

made them $\frac{3}{4}$ in. wide, a few inches longer than the curve. For larger, shallow curves, you may need $\frac{3}{8}$ -in.-wide material.

Bend one of the strips to the desired curve and temporarily clamp it to a base of $\frac{1}{4}$ -in.-thick MDF, plywood, or Masonite. The base should be the same length as the strips and slightly wider than the depth of the curve. Mark the curve on the base, remove the clamps, and cut the curve on the bandsaw. There is no need to follow the line perfectly. You now have two bases whose curves roughly match the concave and convex curves on the tabletop.

Place one of the bases on your bench and attach a small block of wood to the center and to each end of the curve using hot-melt glue. The blocks must stand slightly proud of the edge to ensure that irregularities in the bandsawn cut don't interfere with the final curve. Bend one of the strips and clamp it to each of the blocks with the smooth edge facing outward to produce a curved edge. Reinforce this strip by gluing more blocks at about $\frac{1}{4}$ -in. intervals

USE THE TEMPLATES FOR LAYOUT AND SHAPING



First, use the templates as a layout tool. With the concave template face down, use it to trace the curve on the solid-wood table edging (left). It is important that the template doesn't move when in use, so after roughing out the curve on the bandsaw, screw the template to waste areas of the workpiece (above).

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Visit our Web site to see the author making and using the templates.



along its length, taking care not to alter the curve. Finally, remove the clamps and glue the strip to the end blocks.

Use the first template to form a second

The secret to matching curves begins by clamping the second $\frac{3}{4}$ -in.-wide strip to the face of the first template. Make sure you use plenty of clamps to ensure there are no gaps between the strips. Slide the matching base in until it is almost touching the second strip, then repeat the process of gluing blocks to hold this second strip to the second base, gradually replacing the clamps with blocks.

When you are done, flip both templates over. Each should have a graceful curve that matches the other perfectly. If not, fiddle with the fit until no gaps exist.

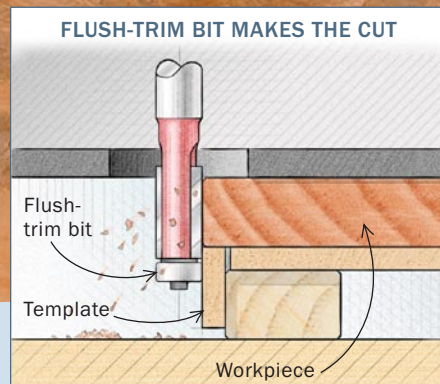
Use the templates twice for each curve

The first step is to use each template as a layout tool. Use the bandsaw to cut away most of the waste, staying proud of the layout line. Then clamp the workpiece on top of the matching template and use it to guide the bottom-bearing router bit around the curve. Go slowly to ensure a clean cut. If you make a mistake and gouge the workpiece, unclamp the workpiece, slide it slightly forward, and re-cut the profile.

It may be difficult to clamp the concave template to the narrow solid-wood border. If so, screw the template onto parts of the border that will be cut away later.

When finished, you will have two parts whose curves join perfectly. □

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Trim the edging. Use the concave template to rout the finished curve on the inside of the table edging.



A perfect match. Using the two templates will shape pieces that match flawlessly over their entire length.