



Segmented Bowl

**Materials:**

(1) 5 1/4" x 36" x 1"

Router Bits:

2" Core Box

Techniques:

Flat Stock Milling

Preparation: Create two templates as shown in figure A. These templates should reflect the interior and exterior shapes of the bowl. This is best done on a band saw using 1" MDF material. Use double-sided tape to mount the template and the stock you will be milling to the table. The material should be mounted parallel with the bed rails of the machine, and the template will mount approximately 3" away from the end of the stock. (Fig. B) The outside rectangle (Fig. A) shows the dimension of the material (1" x 5.25") that will be used for final milling.

Machine Setup: Attach a shop-made milling table to the rails of the machine. (see *Appendix, Milling Table*) Place a 2" core box bit into the router.

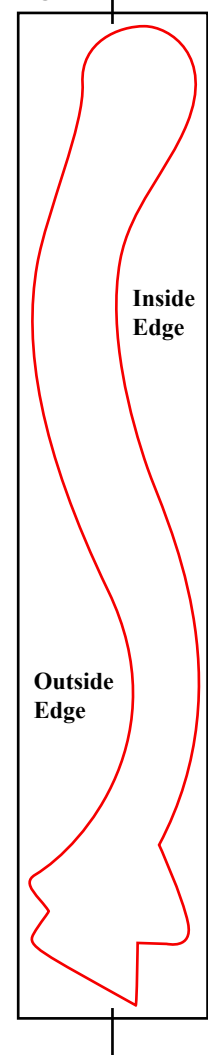
STEP ONE: Start with the router turned off and plunge the core box bit down until it touches the template. Slide the router bit off of the template, turn the router on, and slide the router along the length of the stock.

STEP TWO: When you get to the end of the workpiece turn the router off and release the plunge. Slide the router back to the template and move the router 1/8" on the y-axis (half of a turn on the handwheel). Reset the plunge and repeat step one.

STEP THREE: Continue this process across the workpiece until you have completed milling the contoured profile of the first template (Fig C).

STEP FOUR: Flip the workpiece over and secure it, and the second template onto the table with double-sided tape. Repeat steps one - three (Fig D). You may want to try using different profiles of router-bits to give your own look to the profile of the bowl.

STEP FIVE: Once you have milled both profiles onto the workpiece you will want to sand the surfaces to remove the small peaks that were left from the milling. We have found it helpful to sand the workpiece while it is still

Fig A**Fig B**



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mounted to the table. Use a course 80 grit paper to sand the peaks. Finish it off with a 150 grit paper.

STEP FIVE: Once the workpiece was smoothed up, we used a 3-phase buffing system to finish the stock. It's best to finish the material before cutting and joining the bowl. Finishing the inside of the bowl once it is glued up can present a real problem.

STEP SIX: In order to get the sides of the bowl to flair out, we cut the end of the piece on an angle with the table saw (Fig D - the outside edges become the top and bottom of the segmented bowl once the miters are cut, and the piece is glued up).

STEP SEVEN: The bowl is divided into 10 segments. You will have 4 segments cut at 22.5 degrees, 1 segment cut both ends at 90 degrees, 4 more segments at 22.5 degrees, and the final segment again at 90 degrees. If you cut the segments in that order you will have the grain of the wood meeting up as it wraps the bowl.

Fig C

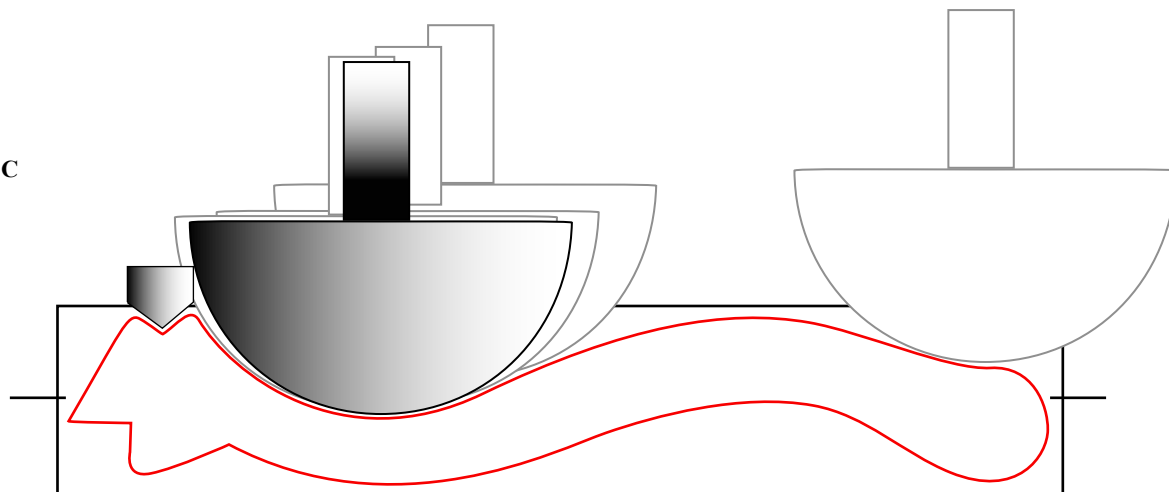


Fig D

