Bowl-from-a-board layout without any math.

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The bowl from a board technique has been used for a long time to produce low cost functional bowls by taking a flat board and cutting angled rings out of it which can then be stacked to produce a bowl form. The key to the success of this technique is determining how to layout the angle and diameter of each ring so that you get the shape you want and adequate wall thickness to successfully turn a bowl form. Below is a layout approach that is easy to do with just a ruler, protractor, and a pencil. No math is required.

The basic layout begins with a square board that is cut in half. A series of circles are then drawn on the board that represent the angled rings that will be cut out of the board using a bandsaw, scroll saw, or other means. Although the layout technique is the same regardless of how you plan to cut out the rings, the rest of this article will focus on my preferred approach which is the bandsaw.

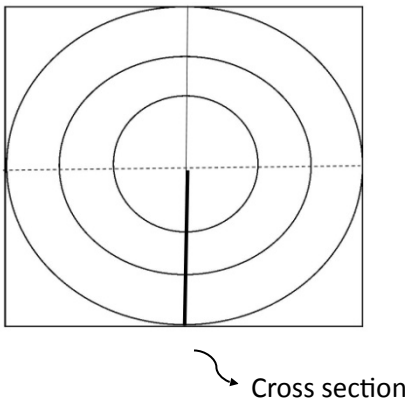


Figure 1

Start by laying out on paper a full-size drawing looking at one half of the centerline of the board cut in half (Figure 2 represents the bold portion of Figure 1)

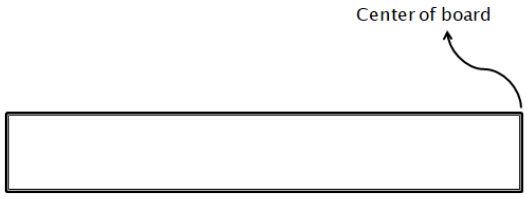


Figure 2

The first step is to determine the radius of the base you desire. For example, if you want a 3” base, layout a vertical line that is 1.5 inches from the center of the board (Figure 3).

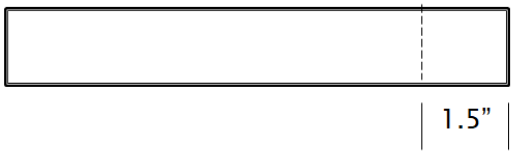


Figure 3

Now that the diameter of the base is established, you need to determine the wall thickness of the first ring. This can be simply laid out by drawing a second vertical line that represents the thickness you desire. When you connect the diagonal points, that determines the angle that you will cut the first ring (Figure 4).

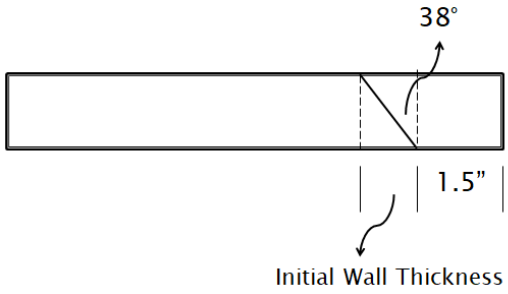
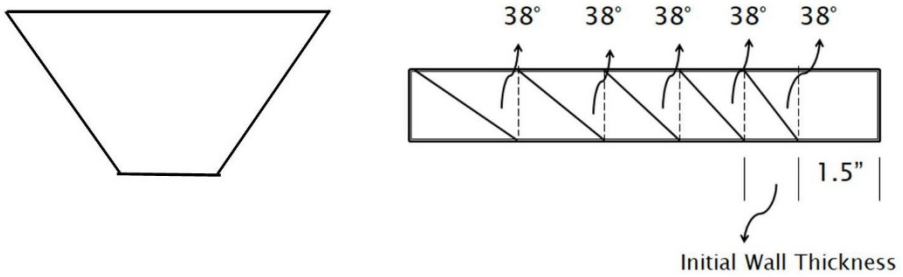


Figure 4

Once the thickness and angle of the first ring is established, you can complete the layout process in number of ways. If you want the side walls to be straight as in figure 5, continue the layout process leaving the angle that you cut every ring the same.



Note: Angles drawn here are not correct. They should all be at the same angle as the one on the far right.

Figure 5

If you prefer side walls that flair out, increase slightly the angle that you cut each ring (Figure 6). Keep in mind the limitations of the saw that you are using. All bandsaws and scroll saws have a maximum tilt that must be considered

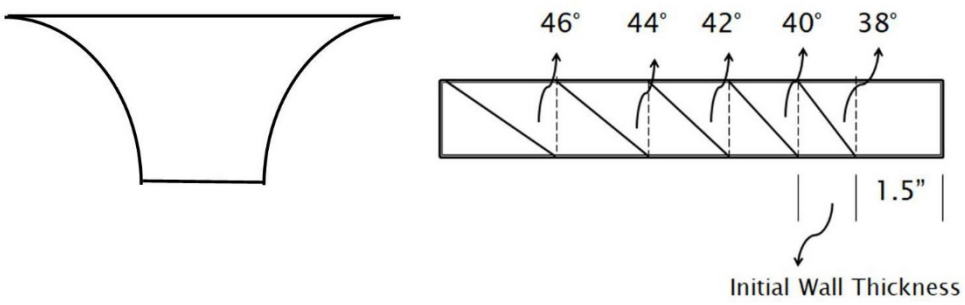


Figure 6

Your layout is now complete, and you are now ready to cut out the rings, glue them together, and turn the final form. Although complete assembly details are outside the scope of this article, the below paragraph and photos show the primary steps.

First the radiuses from your layout are transferred onto the board as in Figure 7. The half rings are then cut out of the board using the bandsaw as in Figure 8. All the half rings are then glued together as in Figure 9. Finally, the top and bottom surface of each ring must be cleaned up before they are glued together as in Figure 10. All that is left now is to complete the turning and finishing process and you will have your first BFB design.

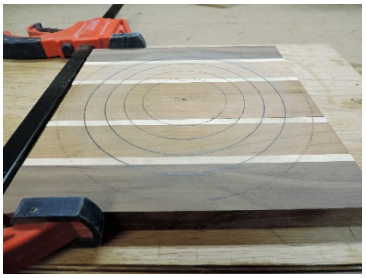


Figure 7

Figure 8

Figure 9

Figure 10