

## A Simple Technique For Making A Scallop Edge Bowl by Bill Kloopping, Dec. 2008

This relatively simple technique uses a band saw to cut a bowl blank before turning to result in a scalloped edge bowl without the need for carving or sawing after turning. The technique allows for any number of scallops. Various turning profiles allow for scallops to be on the edge and/or on the side of the bowl.

**Materials:** Square bowl blank (length = width and corners at 90 degrees)

**Tools:** Pencil, Compass, Protractor, Square, Ruler, Band Saw

1. Ensure blank is square (length = width and diagonals are the same length)
2. On both sides of the blank, mark the exact center of the face (if not exact the scallops may be lopsided).  
The rest of the drawing steps are performed on only one side of the blank.
3. Using a square, draw a line from edge to edge through the center of the blank face. Repeat for the other edge to “quarter” the blank face (used to align protractor in step 8 – you may only need one but...).
4. Using a compass, draw a circle on the face with center at the center of the blank face and diameter slightly less than the width of the blank (want circle to be close to the edges, but not over the edges of the blank).
5. Determine how many scallops you want to have on the final piece – your choice, but note: The outline to be drawn/sawn is determined by the number and shape of the scallops. **This design is for uniform, rounded scallops.** The number of scallops to use depends on the blank size and how tight a curve you can cut with your saw. In general, somewhere between 5 and 12 scallops should work for blanks in the 6”-10” size range.
6. Using **R**=Radius of the circle drawn in step 4, and **N**=number of scallops you want to make, compute the following minimum radius for a second circle:  $R \times N / (3 + N)$   
Ex: for a 7” outer circle diameter (R = 3.5) and 9 scallops (N = 9) the minimum second circle radius number is:  $3.5 \times 9 / (3+9) = 31.5 / 12 = \underline{2.625}$  (= 2 5/8”)  
Note: This calculation only applies to the current design and is not a general rule of thumb. In reality, you can “wing it” and do whatever you want, though, the steps given here may not work well if you wing it. The point of this is to ensure the arcs drawn in step 10 will be close enough to each other without overlapping.
7. Using a compass, draw a second circle on the blank with center at the center of the blank and radius a bit larger than the minimum radius computed in step 6. This circle defines the amount of scalloping you can achieve – the larger the diameter of the inner circle, the less pronounced the scalloping will be. (Fig 1)
8. Divide 360 degrees by the number of scallops to get **X**, the angle between each scallop. Using a protractor, put a mark on the inner circle at every **X** degrees (Fig 2). You can start marking at any point on the circle.
9. Make marks on the outer circle that are ½ way between the marks on the inner circle (Fig. 3).
10. Using a compass, at each of the marks on the inner circle, draw a circular arc that just touches the outer circle. (Fig 4.) This defines the outer edges of the scallops.
11. Using a compass, at each of the marks on the outer circle, draw a circular arc that just touches the circles made in step 10. (Fig. 5) This defines the inner edges of the scallops.
12. As necessary, smooth and highlight the curve defined by the inner circle arcs transitioning to the outer circle arcs – this is the curve you will be cutting (Fig. 6).
13. Using a band saw, smoothly cut along the entire curve identified in step 12 and Fig. 6. The blank will be ready to turn once all the edge parts have been cut off.
14. Carefully mount the blank between the centers marked in step 2. Turn a tenon on the blank and mount the blank in a chuck. (nothing special, however you would normally chuck a bowl blank)
15. Turn the bowl as you would normally turn a bowl. If you turn a wide lip on the bowl (i.e. start hollowing the bowl part at or inside the inner circle - Fig. 7), the scallops will only be evident on the lip. If you turn the bowl to have no lip (i.e. start hollowing the bowl part at the outer circle - Fig. 8), the scallops will be evident on the sides of the bowl. If you start hollowing the bowl part between the inner and outer circles you will see scalloping on both the lip and the sides of the bowl.

NOTE: Finishing the bowl will require more hand sanding with the lathe off than normal as you must sand the scallop edges to remove marks left on the edges by the saw. Also, the final finish will have to be hand applied as you will not be able to effectively get finish applied uniformly in the scalloped edge areas.

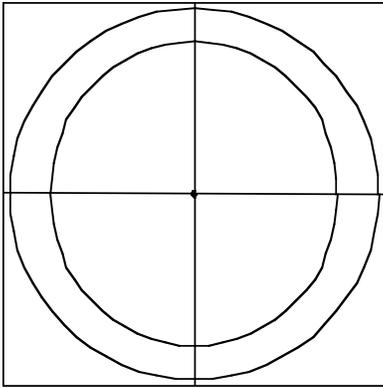


Fig. 1 – Quartered face with 2 circles

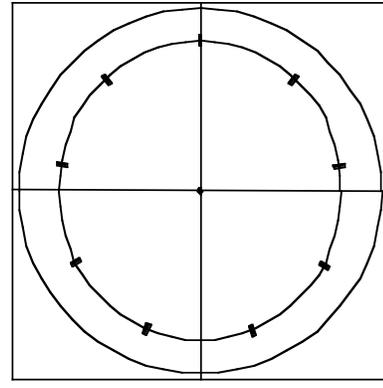


Fig. 2 – Evenly mark # scallops on inner circle

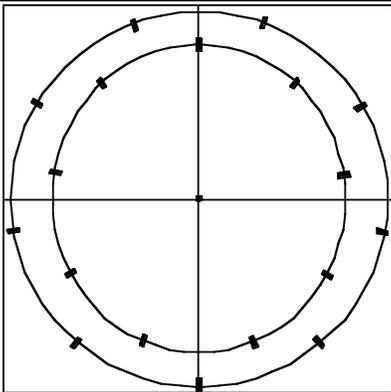


Fig. 3 – Put marks on outer circle  $\frac{1}{2}$  way between each of the inner circle marks

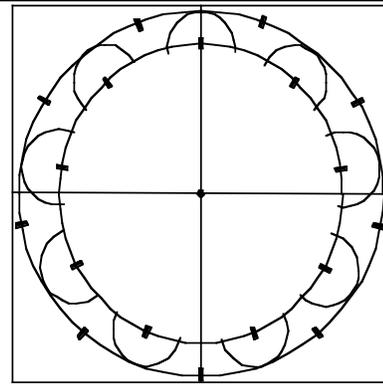


Fig. 4 – Draw circles centered at each inner circle mark that just touch the outer circle

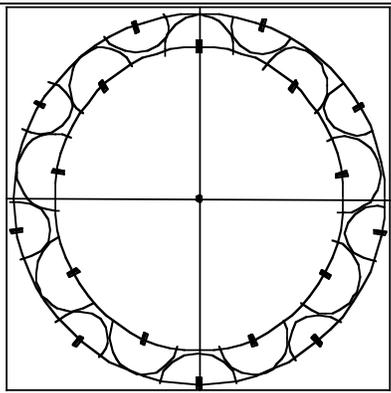


Fig. 5 – Draw circles centered at each outer circle mark that just touch circles on inner circle

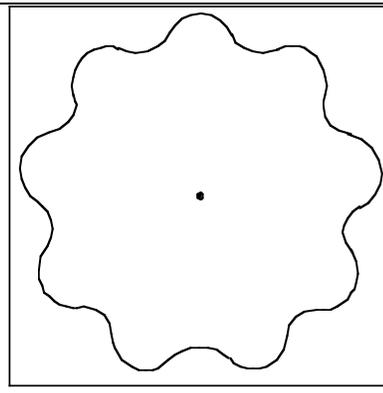


Fig. 6 – Shape to saw is a smooth curve that follows the line of inner circles to outer circles

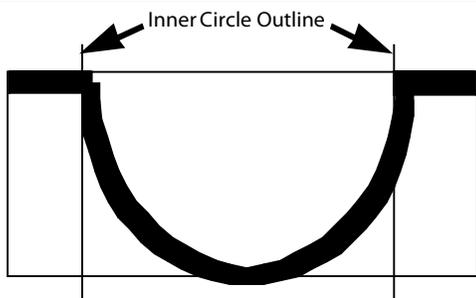


Fig. 7 – Turning a wide lip leaves scallops on the lip

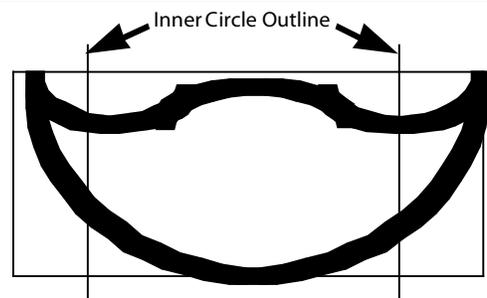


Fig. 8 – No lip puts scallops on bowl sides