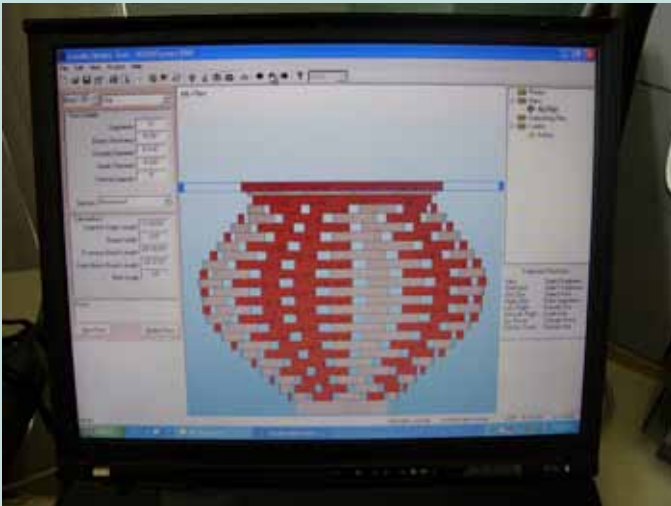


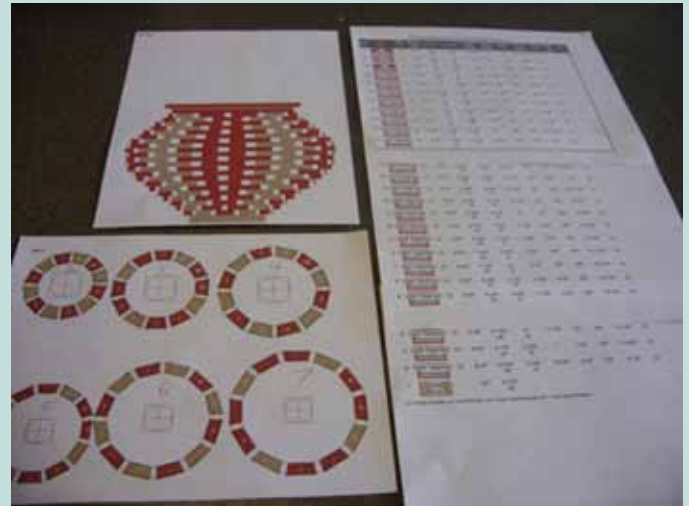
# How to create an Open Segment Form

by Bob Hunt (bobtheturner)  
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The following tutorial will show the steps I use to create my open segment forms. This is one of many ways it can be done and is meant only as a guide to help you determine what you think is the best way. Remember to use all safety items, especially a face shield, when turning. The pieces are very fragile and will literally explode into many pieces if you get a catch. DAMHIKT.



1. I use [Woodturner Pro software](#) to create my pieces. There are many others but I like this one.



2. Print out the final shape and cut list. I also take screen captures of the rings and put several on one page in PowerPoint. The software only will print one ring per page.



3. Glue the base to a sacrificial block. I was going to get rid of my Rikon mini, but it seems to make a great assembler and ring press. By the time you mill your stock and cut a few rows of segments, this will be dry enough to true up to size.



4. Mill out your stock for the project. The software will tell you how many feet of each width of wood you need. Also get a sleeve of plastic cups and number them to put each row of cut segments into.



5. I have been using a miter saw to cut my pieces but I am going to change over to a table saw with a sled. I use a fresh base and fence for each angle. Be sure to use a hold down for your cuts and a block to hold the stock against the fence.

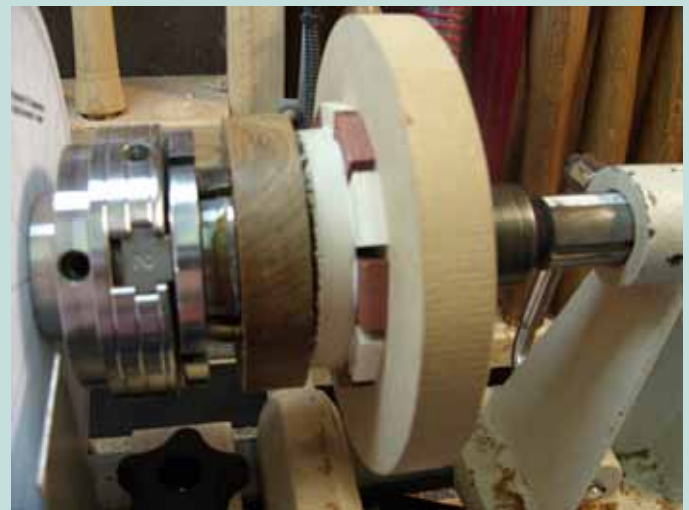


6. I learned from an earlier piece how important accuracy is to the final look.



7. Here I have started gluing the first row. This shows the index wheel mounted behind the chuck. You can get soft copies from [William Smith's site](#). (Also buy his book.) I used spray adhesive and glued it to a piece of Lexan, drilled the center and cut it round. The knob below the chuck is for the indicator strip that I use to set the rotation and then clamp the wheel to it. This also shows my segment diameter jig. It is an aluminum angle with a 6" scale glued to it that lines up with the center.

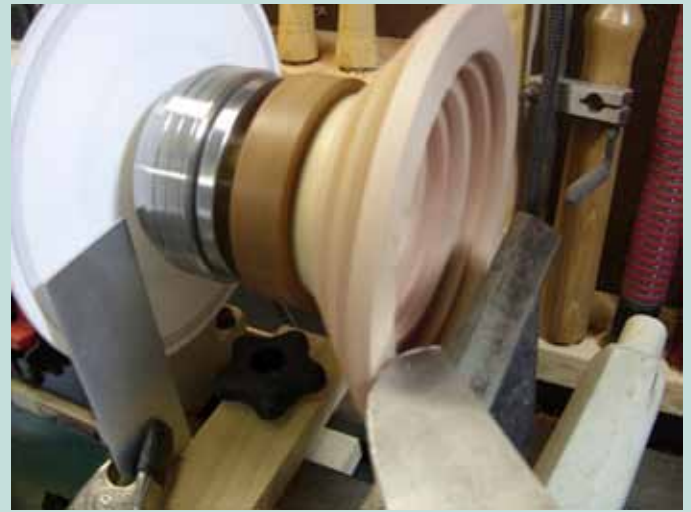
*There is a better picture of both on the next page.*



8. After all the segments for the ring are glued on, bring up the tailstock and use a disk (MDF on this one) to apply slight pressure. Once you have several rows done, you can break the assembly apart if you use too much pressure. DAMHIKT Next use a dental tool to clean the squeeze out between the segments. Tip: Use white glue. It won't show up as much as yellow glue if you don't get it all cleaned out



9. After about 30 minutes the glue should be dry enough so you can sand the segments flat. I use a 3/4" plywood board with a block on the back to hold and 80 grit glued on with spray adhesive.



10. About every 4 or 5 rows, I will use a negative rake scraper and make sure I have a true surface.



11. It does not take much glue at all. I put a puddle big enough to do one full row on wax paper and apply it with a tooth pick. If you are spending a lot of time cleaning up the squeeze out, you are using too much glue. Don't bother cleaning the glue on the inside or outside because you will be turning it away.



12. Here I have glued the top of the form to a sacrificial block and started gluing the top open segmented ring on. I like to make two separate pieces divided at the widest point of the form. This makes it easier to hollow and less likely to get a catch. This shows the jigs and how they work with each other.



13. The two pieces of the form all glued up and ready to be turned.



14. I set the two pieces together to make sure I didn't mess up the pattern. DAMHIKT



15. This is the fun but scary part. Turn both pieces smooth inside and out. Be sure the diameter and wall thickness is the same on both parts. I use a disk with stick-on foam to secure the piece while I turn the outside. When both parts are turned it is time to glue them together on the lathe. Once they are dry, part off the block at the top and smooth the inside joint. Bring up the tailstock with stabilizer disk and clean up the outside joint. Sand to desired finish then part off the bottom.



The finished work. Sanded to 400 then spray on semi-gloss lacquer. Yes. I did change my mind about the top.