

Segment Demo

1. Housekeeping
 - a. Hearing issues - Bobby questions
 - b. Ernie showed a sled a couple of meetings ago
 - i. This demo is going to be my segmenting process
 - ii. Even if you don't segment, ideas you can use for other things
 - iii. Excel file and PDF on website
 - c. Safety Glasses - Bench Dog with hearing protection
 - d. Good dust collection - dry wood

2. Why I decided on BOC
 - i. Really fortunate - like the idea of helping kids
 - ii. Number of bowls needed vs supply

3. Why segment
 - a. Use smaller pieces of wood, for volume hard to find wood in AZ
 - b. Can use cheaper lumber, or use cutoffs from other projects.
 - c. Allows many creative shapes, ideas
 - d. Speed is a factor over techniques, time is in the first model
 - e. Many of these ideas are from other turners

4. Design
 - a. Wood Turner Pro, although several available, \$79
 - i. Lloyd Johnson - great website
 - b. Many free versions in Excel
 - c. Explanation of edge length, board width, angle for number of segments
 - d. **DEMO - Woodturner PRO and Excel**
 - i. Design and change rows
 - ii. See colors and how it will look.
 - iii. Use Excel to calculate volume
 - e. Print out design, number rows, verify available wood
 - f. **DEMO - PASS OUT SHEETS**

5. Wood Prep
 - a. Must be flat and square
 - b. No knots or cut around them - example knotty alder - cheap but pretty
 - c. Calculate 1-2mm thicker than finished size, sanding
 - d. I use metric as it is easier to do calculations, especially on small pieces
 - e. Segment across the grain, especially for widest pieces.
 - f. Black line on top - Milwaukee pen

6. Segeasy sled
 - a. Design from Jerry Bennett
 - b. Can buy wedges although making them is fairly easy
 - i. Don't have to be exact angles - benefit of SegEasy sled
 - c. Why it works? Offset in one angle is compensated by second
 - d. DEMO - Setting it up
 - e. Key is parallel edges on front arm.
 - f. Hold down clamp design
 - g. 60 tooth blade
 - h. Zero clearance with ramp
 - i. Setup of edge length - in tooth of saw
 - j. Black line on upper edge, compensates for blade angle
 - k. Trim first edge
 - l. Move board from one arm to other
 - m. Each arm offsets any error in arm angle or blade angle

7. Gluing
 - a. Sanding off whiskers
 - i. Sanding board design, shelf liner, 3M spray glue
 - b. Use of bullet tumbler
 - i. Difference of un-sanded vs. sanded.
 - c. DEMO - PASS OUT SAMPLES

8. Rings
 - a. Assembly - every other one black line up
 - i. Cancels out any angle issues
 - ii. Put in groups to verify all pieces available.
 - b. Narrow rings - thick piece first, then cut on bandsaw -
 - i. Like Don Jovag does his bangles
 - c. Roo glue - clear - dark and light woods work equally well
 - i. Transparent when it dries, from Oregon, Woodworkers Emporium, Sherwin Williams Phoenix, Timberwood
 - d. Silicone brush and tray & Silicone mat - Rockler
 - e. Adjustable Band clamps - two sizes - easy to adjust with drill, Cleaning - Amazon
 - f. DEMO - GLUE UP RING
 - g. Glue one edge only
 - i. Strength will come from face gluing on assembly
 - h. Lightly tighten, adjust and persuade with mallet
 - i. Put between two pieces of Formica countertop
 - i. Tighten clamp and wipe, hang to dry
 - j. DEMO - Pass around glued up ring

9. BOTTOM - Glue up of rings
 - a. Nova Rings make it easy to change
 - b. Plywood, Baltic Birch faceplate and glue block
 - c. First ring is bottom. Make sure it is big enough, I prefer segments
 - d. Why is wood movement important.
 - i. Not a factor in AZ but who knows where bowls will end up
 - ii. Use Hot melt on inserts so they can move, tack in place
 - iii. IF you use solid wood, select species with very little movement like Mesquite
 - iv. Lid can use solid wood, doesn't have tight fit
 - e. DEMO - Painters tape - CA glue, ACE tape 2"
 - f. Center and clamp - use two chucks, hole in center of bottom, Perfectly centered

10. Flattening rings
 - a. Use drum sander or adjustable jaws
 - b. Talan step jaws
 - c. DEMO - Turn outside of ring. Helps to align between rings.
 - d. No drum sander - flatten top edge of ring with sanding board
 - i. Klingpor Sanding Rolls
 - ii. Painters tape and CA on laminated MDF
 - e. First mark with lead pencil - when gone is flat

11. Stomper
 - a. Another Lloyd Johnson idea
 - i. Made with parts from Home Depot
 - ii. Sprinkler and PVC - PVC for top is hardest to find. Have a couple
 - iii. Plywood
 - iv. Thrift store stool, or use vise
 - b. Longworth chuck modified - left out four slots
 - i. Centers ring
 - ii. Flange bolts sawn off
 - c. Stomper advantages
 - i. Keeps lathe free
 - ii. Drill 5/8 hole in glue block - centers with plunger helps alignment
 - iii. Since very cheap, I have two of these
 - iv. Use weights from weight sets, Big 5.
 - d. DEMO Apply glue and stomp, Lite salt and center with bolts
 - e. I use glue on both surfaces.
 - f. Can glue two or three if in a hurry although I like to flatten between rings.

- i. Tack for few minutes between rings.
- g. Usually glue up three before turning .
- h. Open segment stomper plate.

12. Turning the vessel

- a. Why I use Hunter tools
 - i. Very small cutting tip.
 - ii. Hard to get catches and cuts very well.
 - iii. Three tools can do all shapes
- b. Arizona carbide for tips
- c. DEMO Turning and scraping
- d. Negative rake scrappers
 - i. Reed Gray - Robo Hippy along with several other people
 - ii. Not grabby and when sharp make fantastic cuts. Start sending with 220
 - iii. Thompson tools for main scrappers - V10 steel, larger cheaper and no vibration
 - iv. Sharpen 65 degrees although not that important - 5-15 degrees top angle
 - v. Wide tools no vibration, last a very long time.
 - vi. Knobs and Doug Thompson Ferrules
 - i. Prefer to sharpen without handles
- e. For specialty scrappers - 5% Cobalt steel stays sharp and easy to change shape
 - i. Wholesale tool
- f. Tear drop cutter for under lips
- g. Robust J rest
 - i. Deep support inside of vessels
 - ii. Very little vibration on tools

13. DEMO - Reversing for bottom

- a. Removing from tape - cake spatula, sharpened
- b. Wood jaws to hold top, won't damage rim
- c. Use tailstock except for very center

14. Timbermate Wood Filler - why use it and how

- a. No waste - Never dries out. Keep water on top
- b. Can blend colors if necessary - actually have some colored purple - Use TransTint
- c. Don't turn it. Really dulls tools
- d. Wipe off with damp towel
- e. Other option use epoxy with colorant or CA glue with sawdust.

15. Finishing

- a. Antique oil by Minwax, pops color in wood - let dry overnight
 - i. 3 coats or one with two coats Armor Seal Glossy thinned with Naphtha
- b. Sometimes buffed out with Beal buffing wheels

16. Thanks for your patience

- a. Please feel free to come to my shop if you would like to see more details.
- b. Will also be willing to help you cut sleds, stompers, jaws, and wedges.

17. Questions