

Eccentric Bowl Demonstration - Henry Williams Front Range Woodturners

April 5, 2011

Eccentric (off-center) bowl, Vicmarc balancing system, pyrography texturing

- 1) Design influenced by
 - a) Keith Gotschall
 - i) Off-Center Exercise, American Woodturner Summer 2007
 - ii) Off-center platter demonstration, Front Range Woodturners Nov 2007
 - b) Molly Winton
 - i) Branding/Pyrography, Rock Mountain Woodturning Symposium 2008
- 2) Safety
 - a) Dust mask – P100 particulate filters
 - b) Face shield or safety glasses
 - c) Lathe speed – start SLOW
- 3) Grain Orientation
 - a) Closely spaced grain lines – bowl cavity cuts across concave growth rings
 - b) Widely spaced grain lines – bowl cavity parallels concave growth rings
- 4) Drill holes for screw chuck
 - a) Drawings are useful for spacing and resulting off-center effect
 - b) Two holes 3/4” offset works for ~12 inch bowls
- 5) Waste Block
 - a) Rectangular size
 - b) Orientation aligned with axis of screw chuck holes
- 6) Mount bowl blank on screw chuck using middle hole (center #1)
 - a) Turn outside of bowl and foot
 - b) Sand
 - c) Turn tenon in waste block less than half the total depth of jaws to maintain #1 tailstock center
- 7) Reverse and mount in scroll chuck
 - a) Turn top of piece flat
 - b) Sand top flat with a sanding block
- 8) Mark heavy side edge of bowl on the diameter thru the two centers as an aid in balancing with the Vicmarc balancing system
- 9) Vicmarc balancing system
 - a) 9¼” swing, 17 lbs
 - b) Setscrews added
 - c) Alignment lines added
 - i) Diameter lines on weights using a center square
 - ii) Index lines on hub using tool rest and lathe index
- 10) Mount Vicmarc balancing system with weights in line and balanced
- 11) Mount bowl on screw chuck using second, offset center hole
 - a) Adjust Vicmarc balancing system to minimize vibration
 - i) Using lathe index, place heavy side mark on bowl at 90 deg

- ii) Rotate weights so they are vertical and opposite each other by lining up the diameter lines, then rotate weights equally away from heavy side mark on bowl using hub index lines as reference
 - iii) Check balance first by hand, then starting with a very SLOW SPEED, ramp the speed up slowly
 - iv) Adjust balancing system by trial and error as required to minimize vibration
 - b) Turn a second tenon in waste block, keeping #1 tailstock center visible
 - c) Ensure total length of tenons are less than the depth of jaws
- 12) Lock lathe index so heavy side mark is at 90 deg
- 13) With lathe index still locked, mount bowl in scroll chuck with heavy side mark at 90 deg to maintain the balance setting
- 14) Turn the bowl cavity
- a) Mark desired diameter of cavity
 - b) Caution: start with a slow speed to check balance and vibration
 - c) Check depth
 - d) Sand
- 15) Reverse chuck the bowl aligned on first tail center, adjust balancing system as required
- a) Mounting options
 - i) Vacuum Chuck
 - (1) Use a very thin pad approximately the diameter of bowl cavity plus twice the width of narrow rim section to maintain bottom parallel to top
 - ii) Cole Chuck
 - iii) Jam Chuck with tail center
- 16) Turn and sand the bottom
- 17) Texturing
- a) Textured area laid out with compass and wood "tool" for center
 - b) Woodburning textures
 - i) *Pyrography Workbook* by Sue Walters
 - c) Carving
- 18) Finish – Danish Oil and paste wax

