

# Open Basic Segmented Project

using the Driskell Open segment assembly Jig

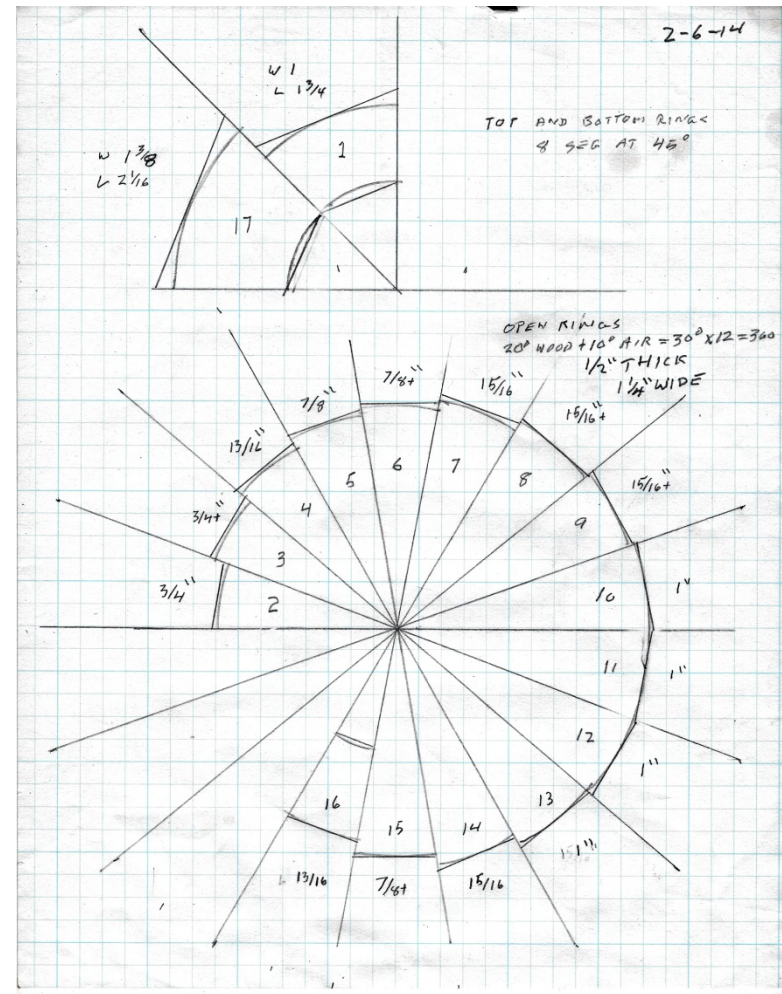
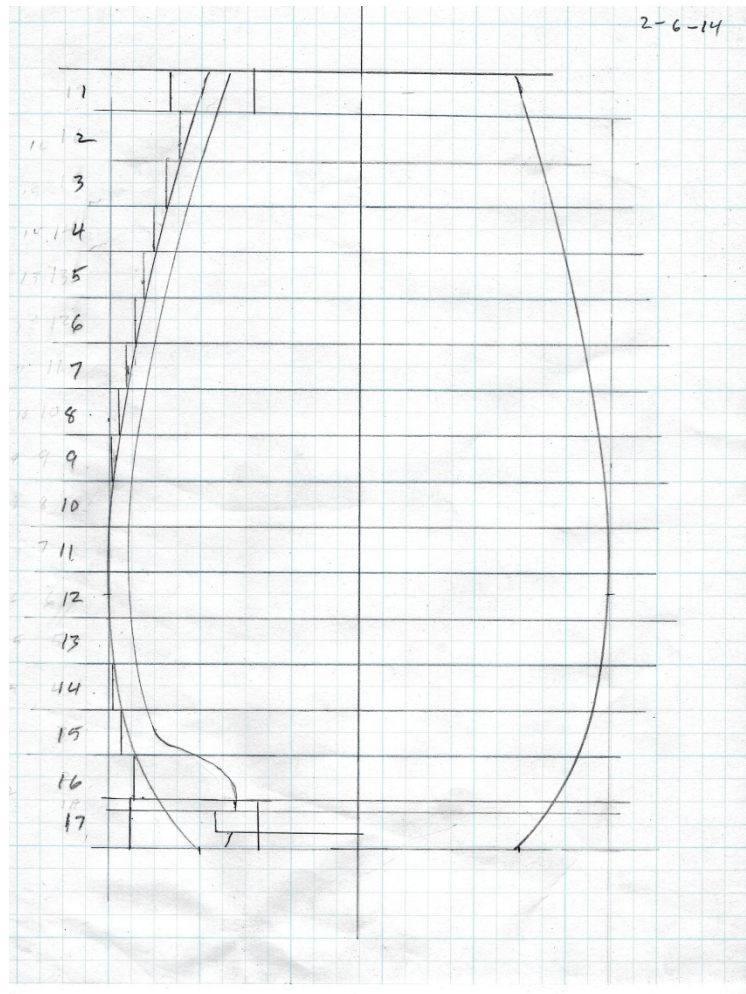
Jim Driskell

4/28/14

# Open Segment Construction

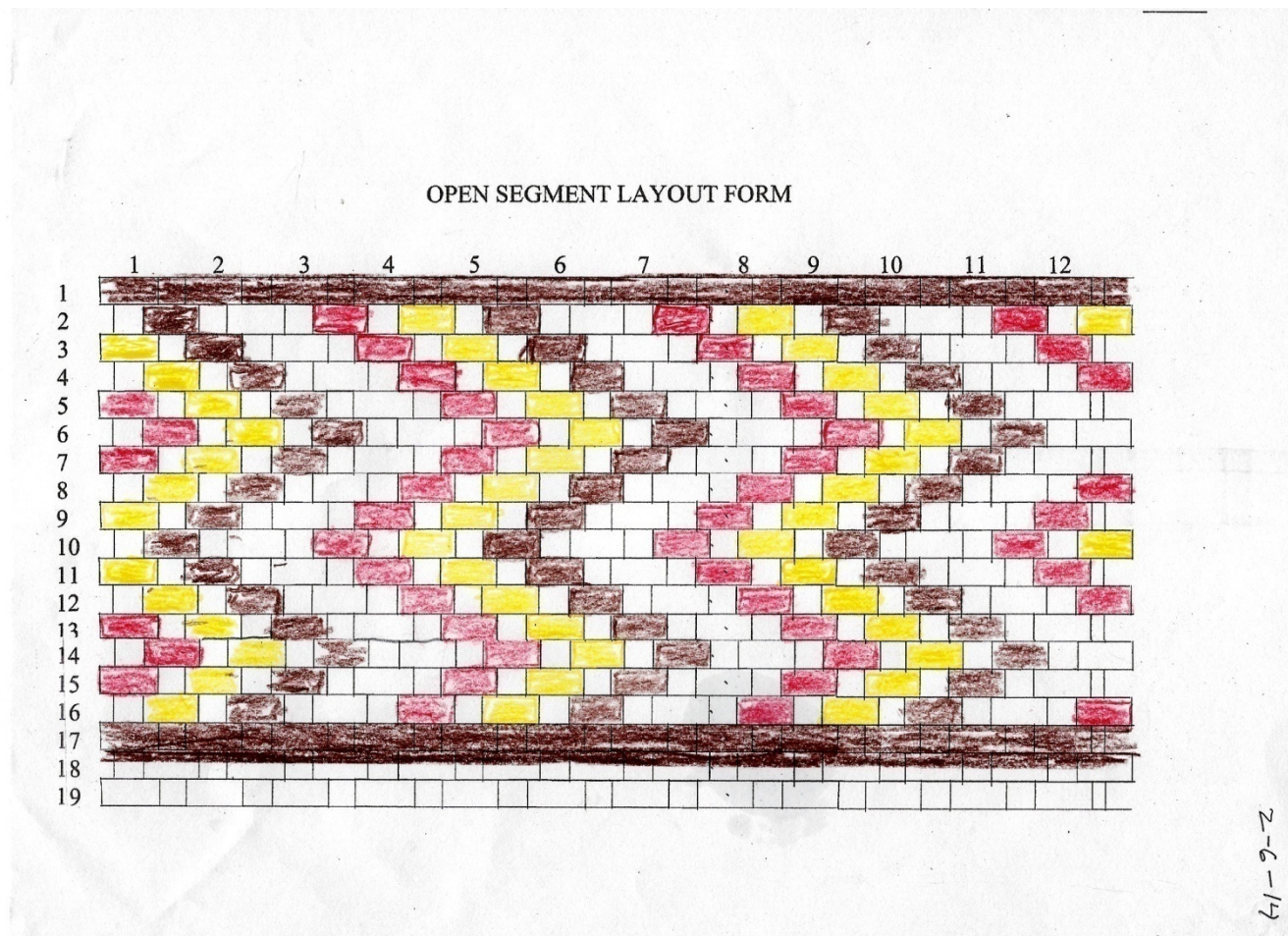


# Layout Profile and Segment Map





# Layout Design for 12 Segment Construction

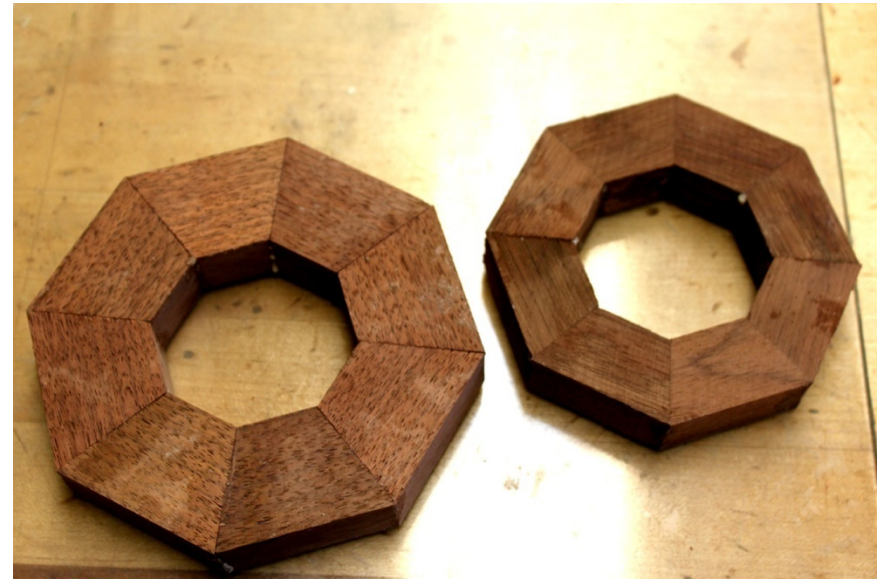




# Mill Material

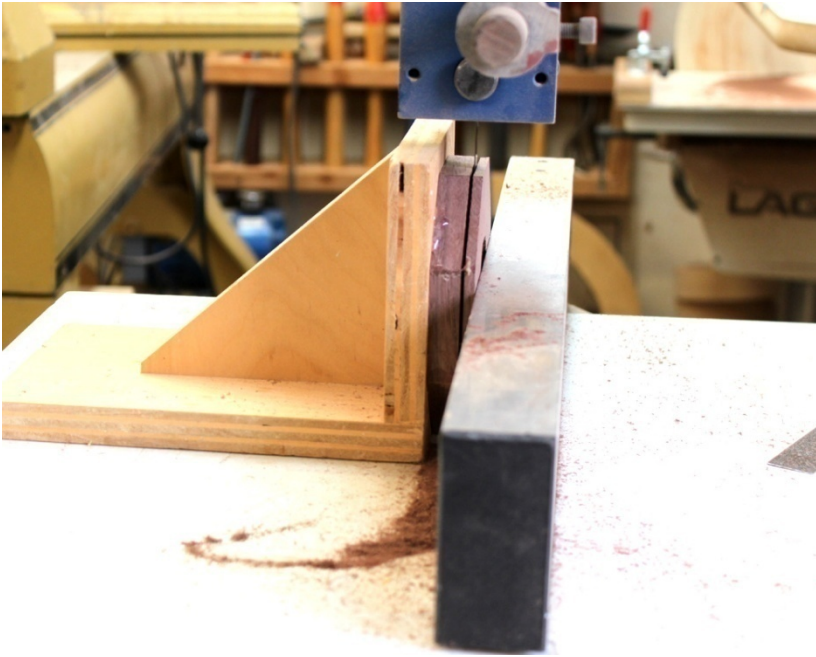


Material for open segment layers is milled to  $\frac{1}{2}$ " thick and  $1 \frac{1}{4}$ " wide



Top and bottom rings are from  $\frac{3}{4}$ " material and are 8 segment construction

# Prepare Bottom Ring and Open Segments



A thin slice is cut off the bottom ring to go on top of floating bottom



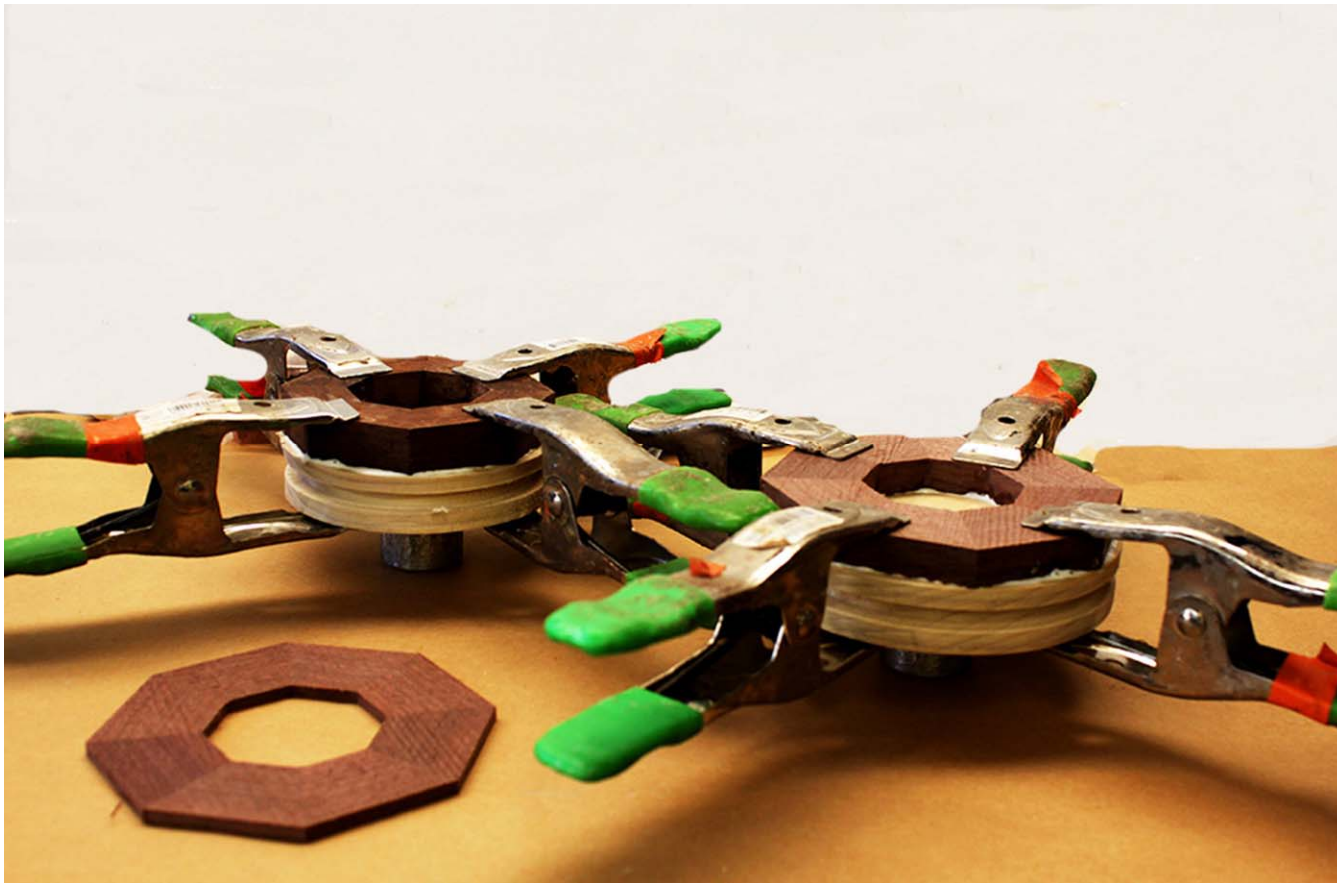
Open segments are cut at 10 deg on the miter saw for 12 segment construction

# Parts are Ready for Assembly





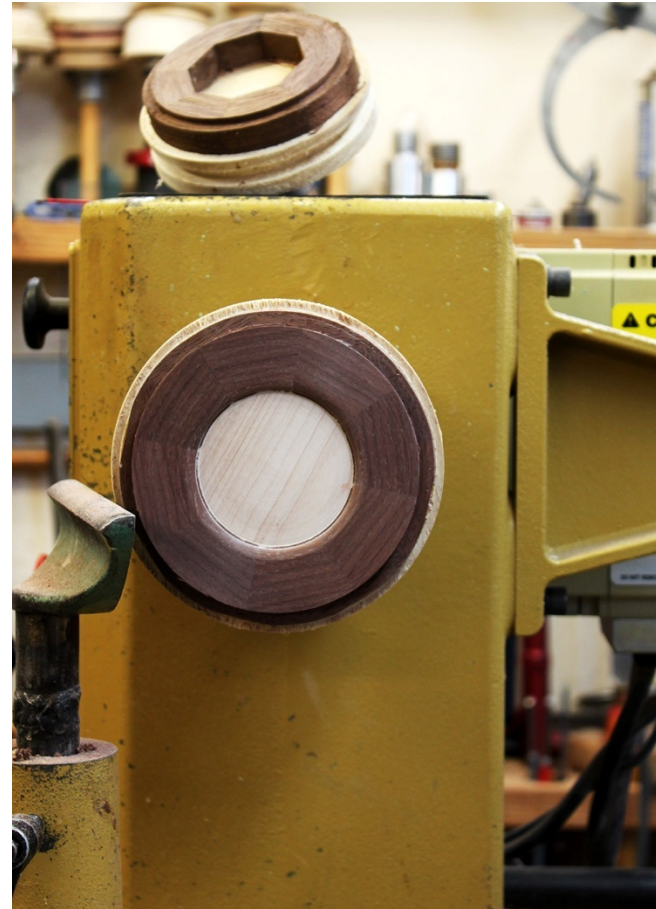
# Add Waste Blocks to Top and Bottom Rings



# Prepare Top and Bottom Assemblies



Flatten top ring and prepare bottom ring and floating bottom



Add the floating bottom and thin holder ring cut from lower part of bottom ring

# Start Open Segment Assembly

## First layer

Follow design layout for segment color order.  
Set stop to radius of layer and lock wheel to required index line.  
Use a fast tack molding and trim glue.



Apply glue to full surface of segment



Position segment to arm and stop



# Continue Assembly

## After first layer

Follow design layout for segment color order and offset.  
Set stop to radius of layer and lock wheel to required index line.



Apply glue only along  
edge of segment



Set segment to arm and stop

# Complete Assembly of Bottom Half



Note design layout and profile layout used with scale

# Continue Process on Top Half



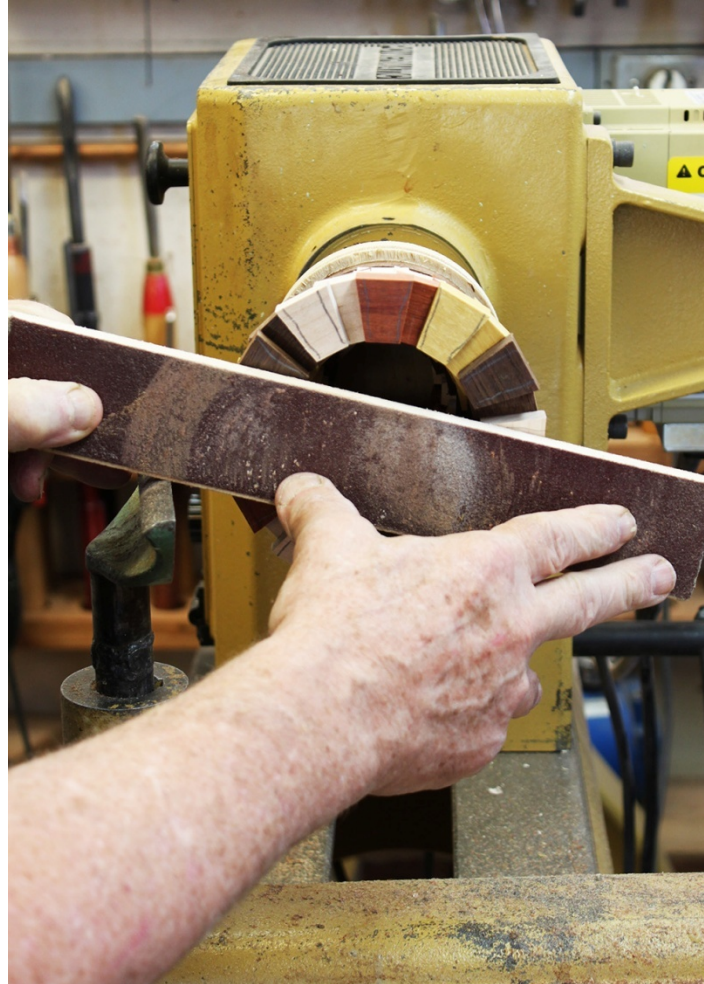
Start top half taking care that segments color order and offset are correct



Continue building following layout of color order and offset



# Flatten Each Half



Note pencil marks  
to verify flatness

# Turn Outside Shape

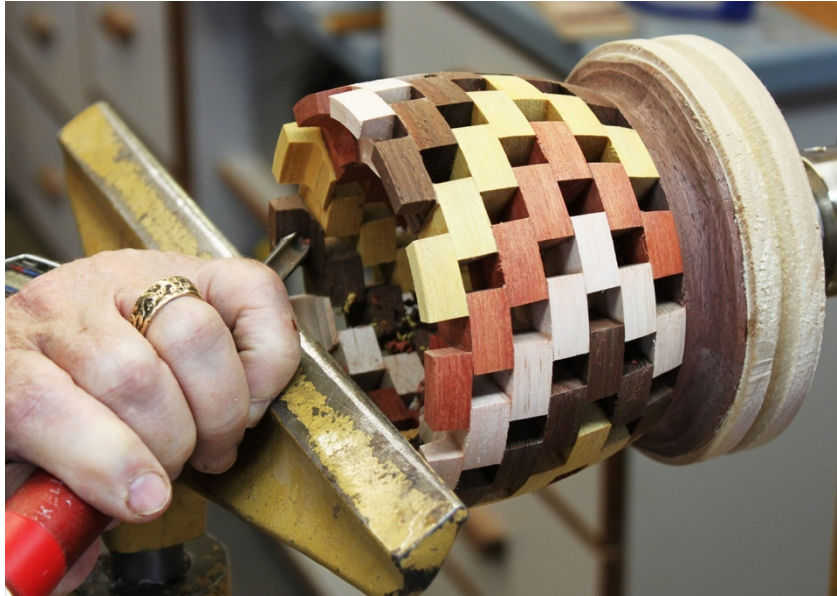


Use three small strips of double back tape to prevent slippage

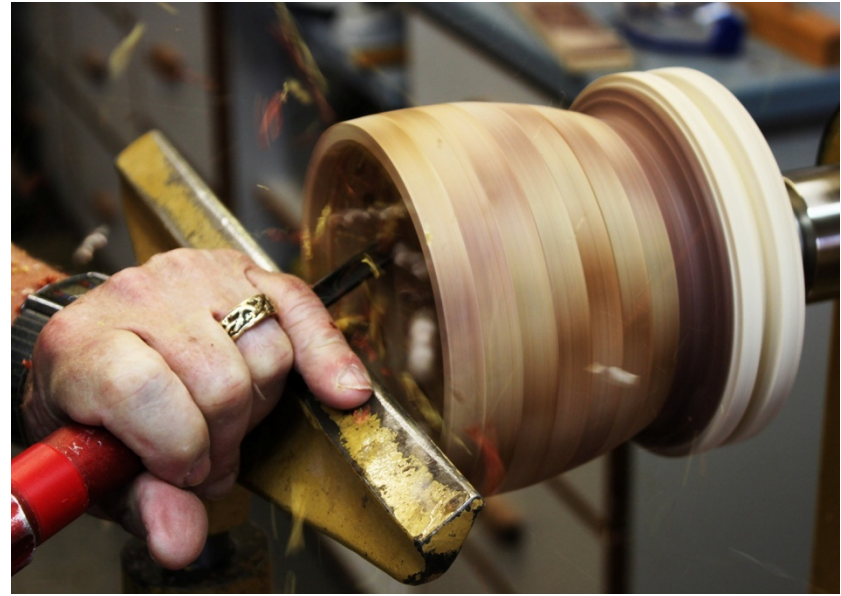


Bring the two halves together between centers and turn until no flats are present then adjust shape for a smooth curve

# Turn the Inside



Turn inside one layer at a time  
to final thickness



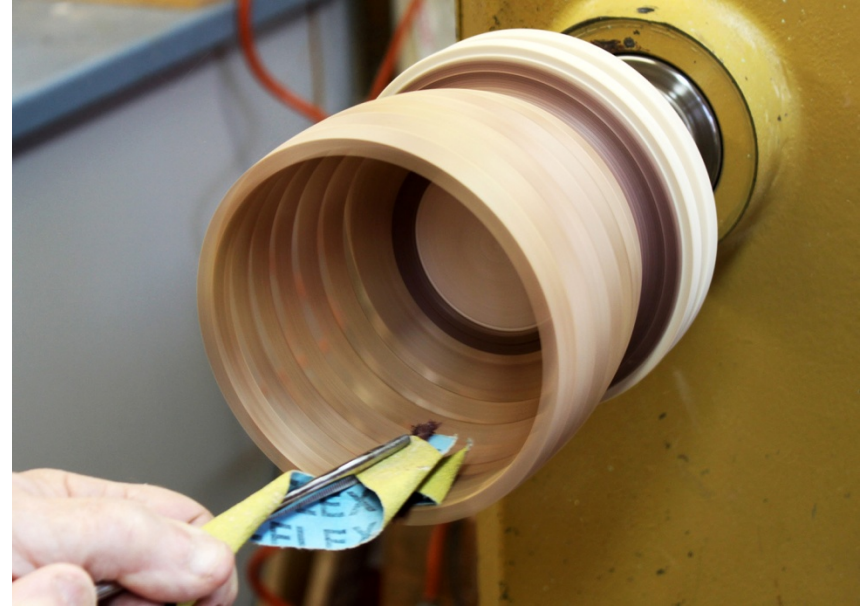
Continue for 3 or 4 layers with  
small bowl gouge



# Continue Inside Turning



When reach is too long for bowl gouge use a boring bar

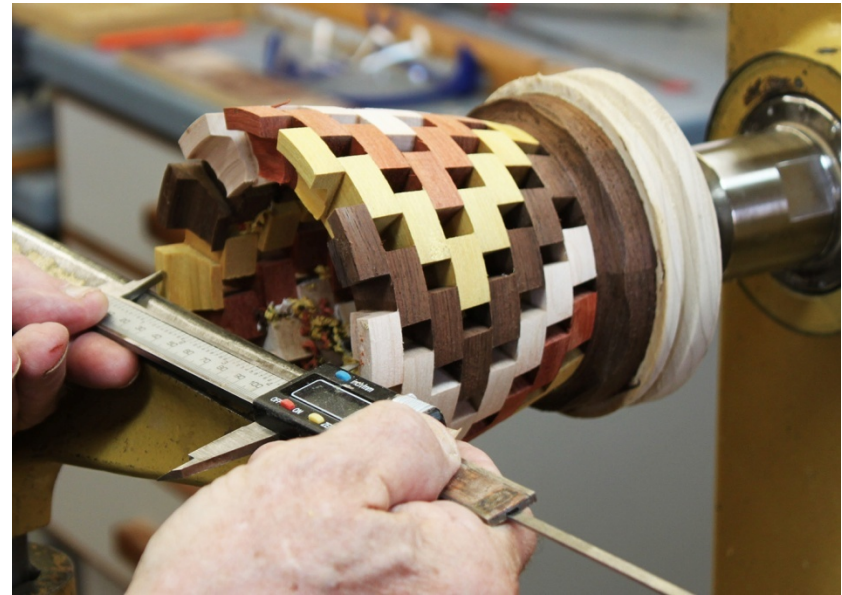


Sand the inside using forceps to keep hands safe

# Turn Inside of Second Half



Set calipers to inside of first half



Turn inside of second half to match the first half

# Prepare To Join the Halves



Spray 2 or more coats of lacquer on the inside of each half



When lacquer has dried, sand mating surfaces before joining the halves



# Join the Halves



Apply a dab of glue to the corner of each segment



Join the 2 halves between centers making sure the design aligns as drawn

# Continue Process



Sand joint area

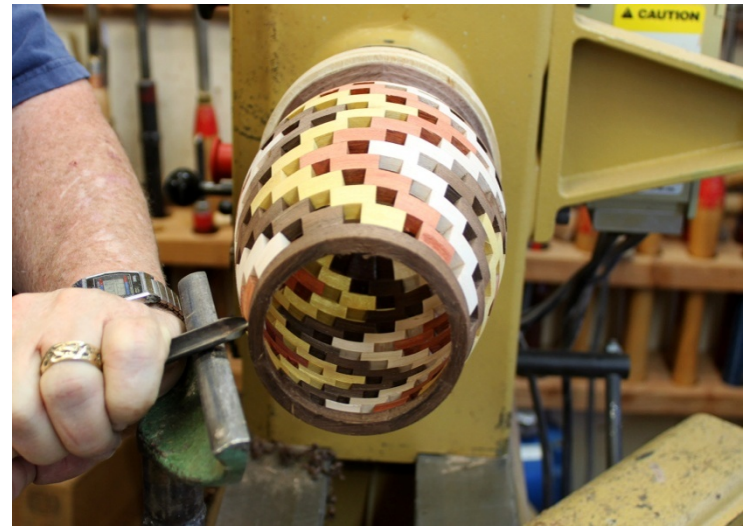


Finish turning top ring

# Part off Top



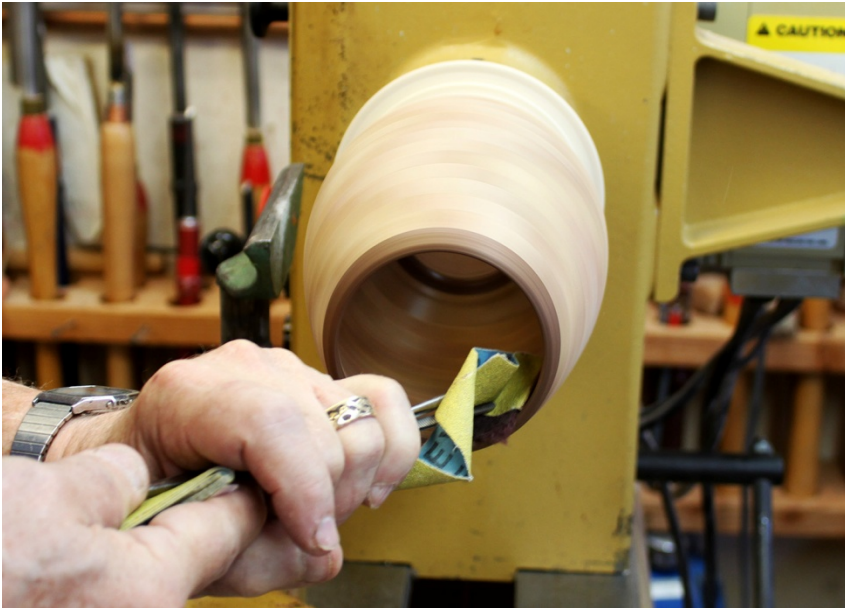
Part off top waste block



Final shaping of top lip



# Final Sanding



Sand inside of top lip



Final outside sanding

# Parting Off



Use catch box to catch vessel  
when parting off



Hand sand bottom

# Apply Finish



Done

Note: The instructions and machined spindle for the Driskell jig can be punched at <http://www.finewoodnthings.com>