

Segmented Woodturning Using Jig

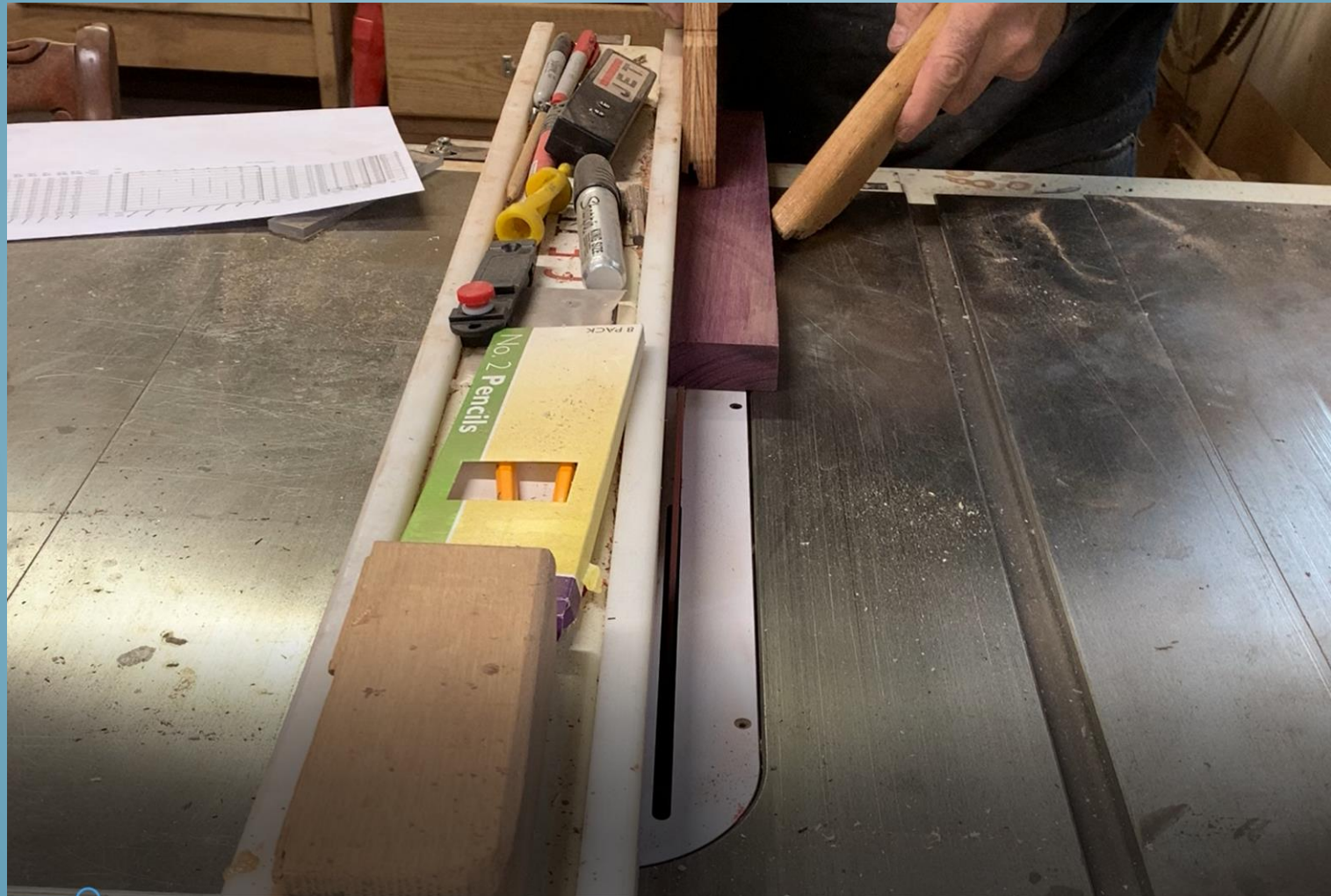
- * **Week Agenda**
- * **Video (18 minutes)**
- * **PowerPoint (Under 30 slides) Time to Ask Questions**
- * **Detail Jig Use**
- * **Design (software and templates)**
- * **Build Bowl**

Pick Out Wood



Tom Lohman

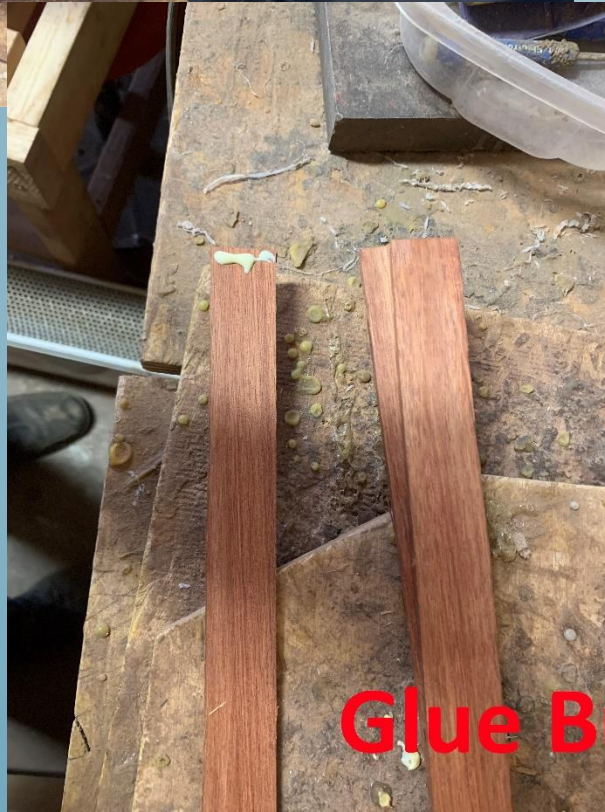
Cut Strips



Sand Strips



Glue Strips Into Bundles

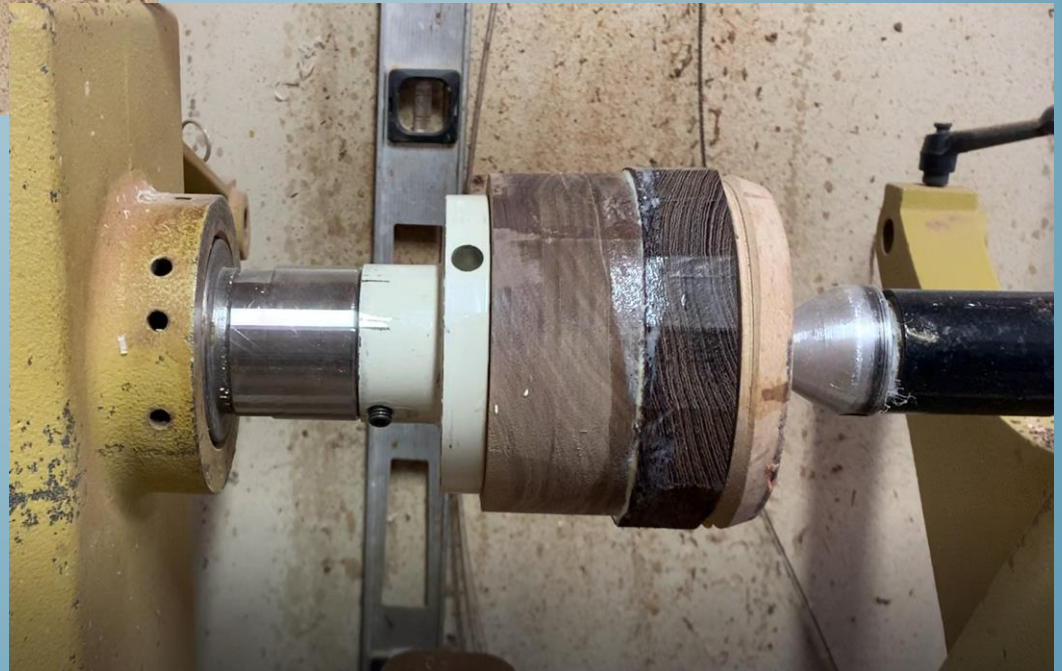


Sand Bundles

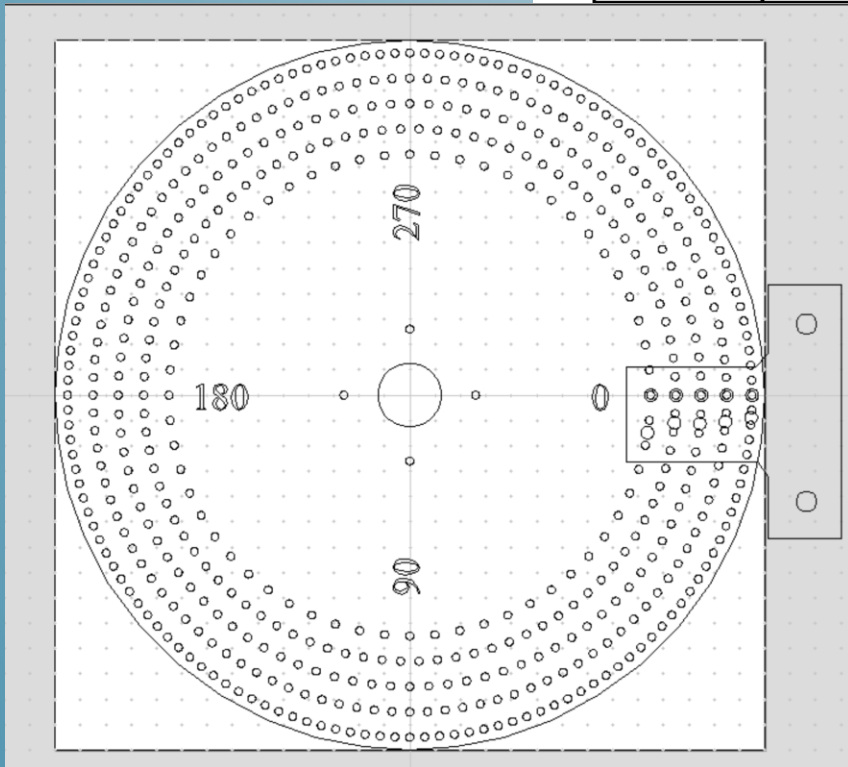


Add Tape

Screw Base to Faceplate & Glue Row 1



Skip # Holes	Number of Segments				
	2.5°	3.214°	3.75°	4°	6°
0	144	112	96	90	60
1	72	56	48	45	30
3	36	28	24		15
5	24		16	15	10
	18	14	12		
				9	6
	12		8		5



Understanding the Spreadsheet

Row #	Radius	Radius Diff	OD	Board Width	Board Thickness	Total Pieces	Open Space	Cut Angle Deg's	Segment Edge	Calculated Board Length	Wenge	Bloodwood	Yellowheart	Chaka Viga	Check Piece Count	Board Length	Wenge	Bloodwood	Yellowheart	Chaka Viga	
1	2.050		4.10	4.1	0.75	1	0.000	180.00	0.000	0					0	12	0.00	0.00	0.00	0.00	
2	2.250	0.20	4.50	0.75	0.15	48	0.000	3.75	0.295	18	36	4	4	4	48	18	13.35	1.48	1.48	1.48	
3	2.400	0.15	4.80	0.75	0.15	48	0.000	3.75	0.315	19	24	8	8	8	48	19	9.37	3.12	3.12	3.12	
4	2.550	0.15	5.10	0.75	0.15	48	0.000	3.75	0.334	20	24	8	8	8	48	20	9.84	3.28	3.28	3.28	
5	2.700	0.15	5.40	0.75	0.15	48	0.000	3.75	0.354	21	24	8	8	8	48	21	10.31	3.44	3.44	3.44	
6	2.850	0.15	5.70	0.75	0.15	48	0.000	3.75	0.374	22	24	8	8	8	48	22	10.79	3.60	3.60	3.60	
7	3.000	0.15	6.00	0.75	0.15	48	0.000	3.75	0.393	23	24	8	8	8	48	23	11.26	3.75	3.75	3.75	
8	3.100	0.10	6.20	0.75	0.15	48	0.000	3.75	0.406	23	24	8	8	8	48	23	11.57	3.86	3.86	3.86	
9	3.200	0.10	6.40	0.75	0.15	48	0.000	3.75	0.419	24	24	8	8	8	48	24	11.89	3.96	3.96	3.96	
10	3.300	0.10	6.60	0.75	0.15	48	0.000	3.75	0.433	24	24	8	8	8	48	24	12.20	4.07	4.07	4.07	
11	3.400	0.10	6.80	0.75	0.15	48	0.000	3.75	0.446	25	24	8	8	8	48	25	12.52	4.17	4.17	4.17	
12	3.450	0.05	6.90	0.75	0.15	48	0.000	3.75	0.452	25	24	8	8	8	48	25	12.67	4.22	4.22	4.22	
13	3.550	0.10	7.10	0.75	0.15	48	0.000	3.75	0.465	26	24	8	8	8	48	26	12.99	4.33	4.33	4.33	
14	3.600	0.05	7.20	0.75	0.15	48	0.000	3.75	0.472	26	24	8	8	8	48	26	13.15	4.38	4.38	4.38	
15	3.600	0.00	7.20	0.75	0.15	48	0.000	3.75	0.472	26	24	8	8	8	48	26	13.15	4.38	4.38	4.38	
16	3.600	0.00	7.20	0.75	0.15	48	0.000	3.75	0.472	26	24	8	8	8	48	26	13.15	4.38	4.38	4.38	
17	3.600	0.00	7.20	0.75	0.15	48	0.000	3.75	0.472	26	24	8	8	8	48	26	13.15	4.38	4.38	4.38	
18	3.600	0.00	7.20	0.75	0.15	48	0.000	3.75	0.472	26	24	8	8	8	48	26	13.15	4.38	4.38	4.38	
19	3.550	-0.05	7.10	0.75	0.15	48	0.000	3.75	0.465	26	24	8	8	8	48	26	12.99	4.33	4.33	4.33	
20	3.550	0.00	7.10	0.75	0.15	48	0.000	3.75	0.465	26	24	8	8	8	48	26	12.99	4.33	4.33	4.33	
21	3.500	-0.05	7.00	0.75	0.15	48	0.000	3.75	0.459	26	24	8	8	8	48	26	12.83	4.28	4.28	4.28	
22	3.450	-0.05	6.90	0.75	0.15	48	0.000	3.75	0.452	25	36	4	4	4	48	25	19.01	2.11	2.11	2.11	
23	3.450	0.00	6.90	0.75	0.15	48	0.000	3.75	0.452	25	48				48	25	25.35	0.00	0.00	0.00	
											576	160	160	160	1056		Totals				
																	in Inches	287.66	80.25	80.25	80.25
																	In Feet	23.97	6.69	6.69	6.69
											Total Seg Piece count				1056						

Set Ring Size



Cut Pieces



Installing Faceplate Into Hub



Turn index wheel 360 with faceplate installed, to make sure the faceplate is seated in the hub square



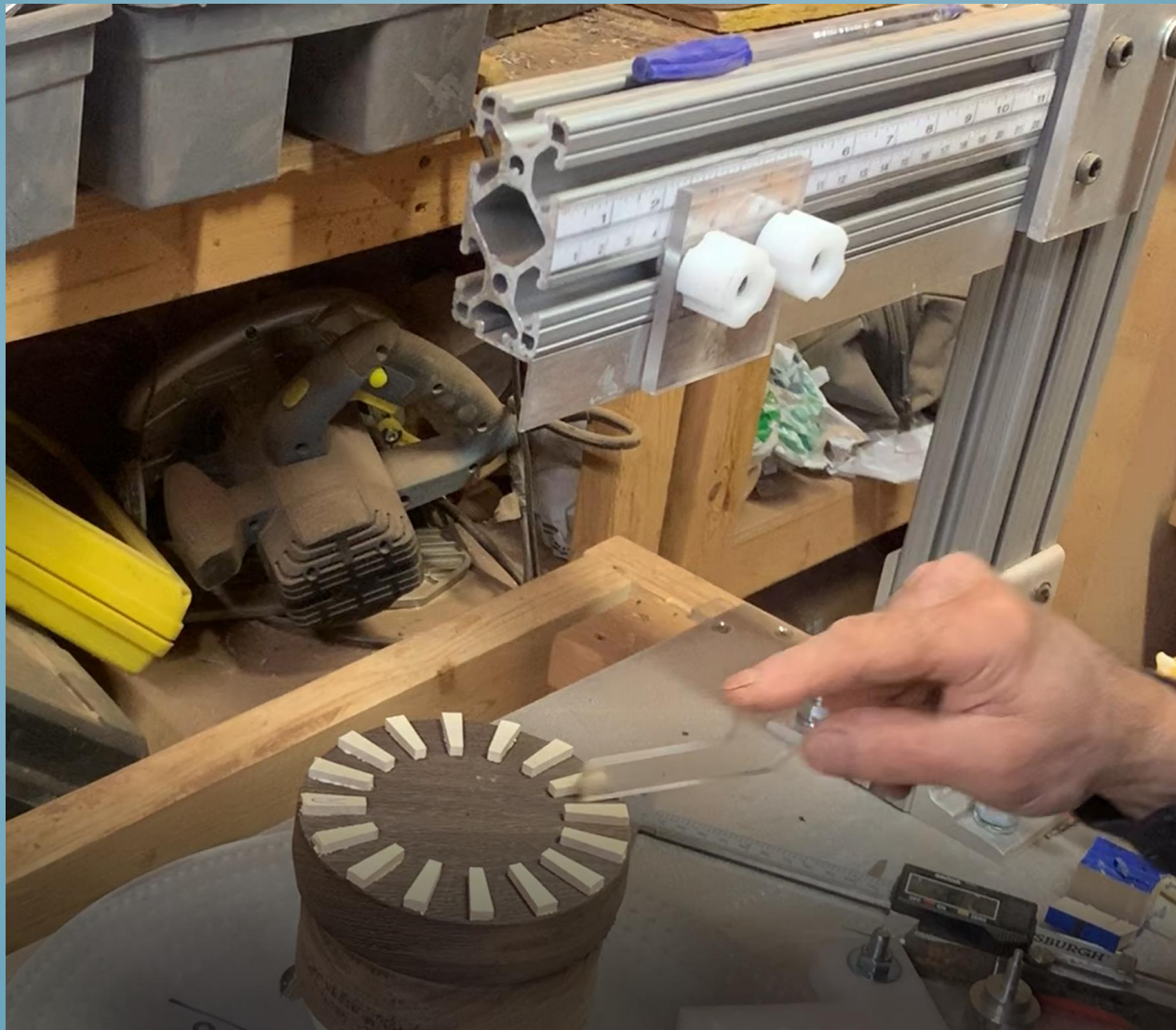
Glue First Row



Apply Pressure



Clean Glue



Fill in Gaps



First Dry Fit



Then Glue

Apply Pressure



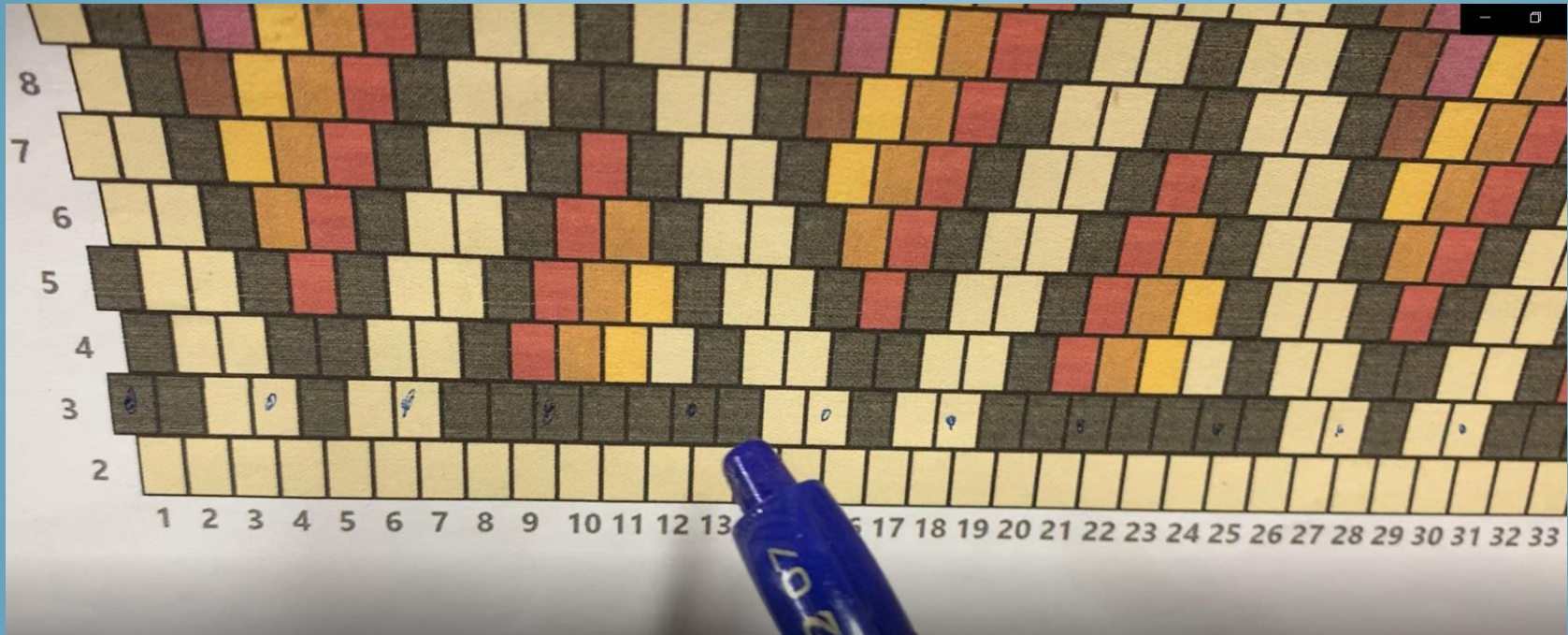
Clean First Row



Sand Flat



Add Code



*Pattern for every third piece is a repeat of four
(Bk, Bk, W,W) x4*

Glue Every Third Piece



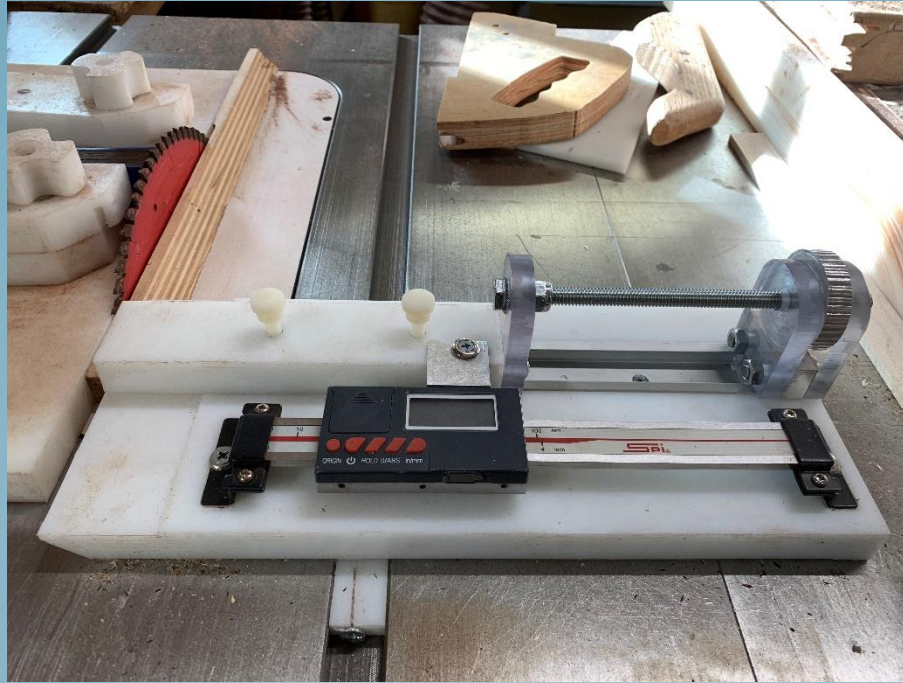
Dry Fit



After Gluing Press Segments Down Tight



More On Cutting

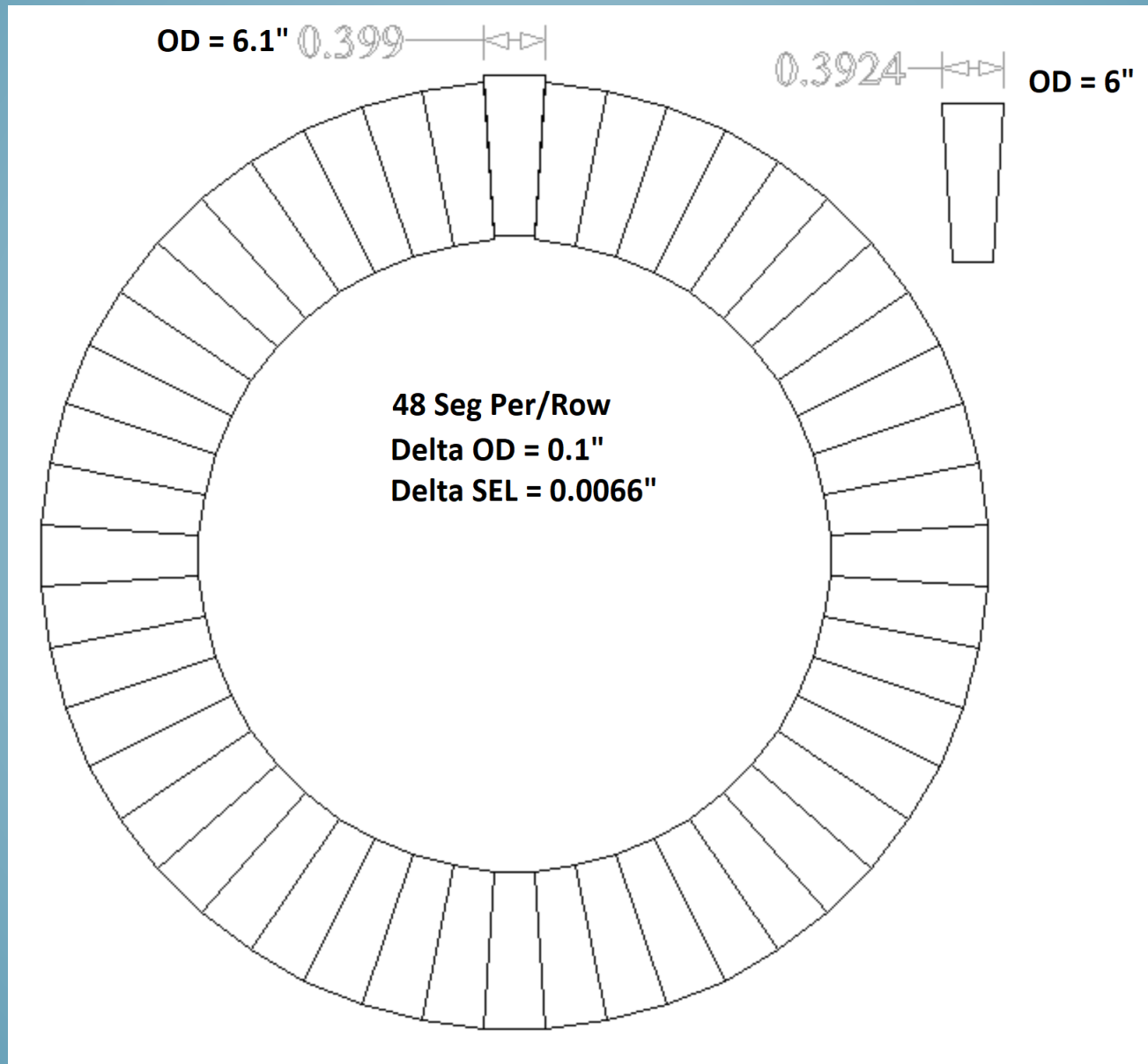


- * Press softly against stop when adjusting*
- * Hold bundle of wood square to fence*
- * Move Wedgie Sled on slide(track) , smooth push*
- * Consistent cutting*

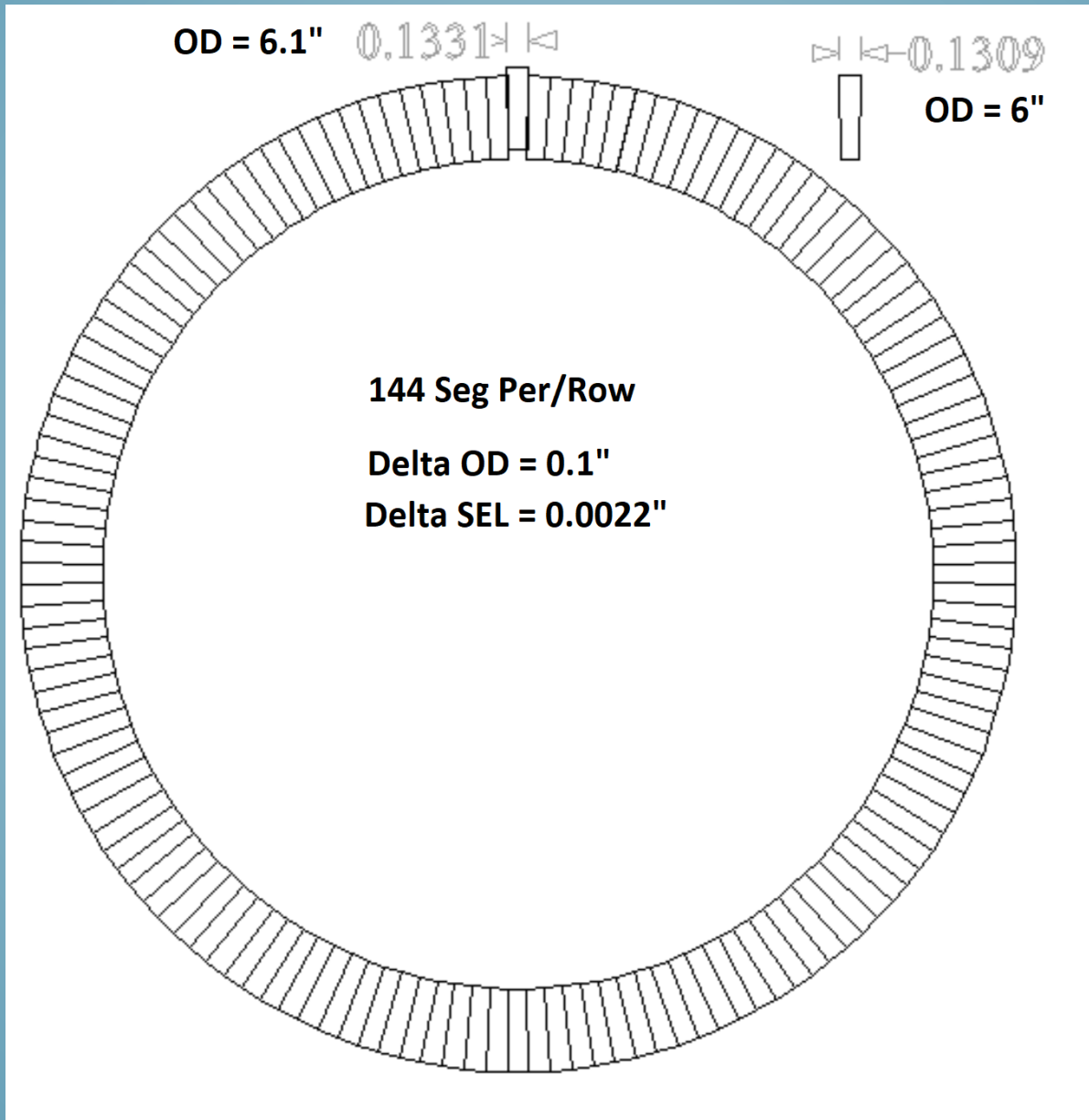
Finish Up



Change of SEL Effect



Change of SEL Effect



Why Measure

Circumference (C)		$C = OD \times \pi \approx CNT \times SEL$
Outside Diameter (OD)		
Segment Edge Length (SEL)		$SEL \approx (OD \times \pi) / CNT$
PIE (π) 3.1416		
Approximate (\approx)		$\Delta SEL \approx (\Delta OD \times \pi) / CNT$
OD = 0.1		OD = 0.1
CNT = 48		CNT = 72
$\Delta SEL = 0.006545$		$\Delta SEL = 0.00436$
$(0.1 \times 3.1416) / 48 = 0.006545$		$(0.1 \times 3.1416) / 72 = 0.00436$
OD = 0.1		
CNT = 180		
$\Delta SEL = 0.00174$		
$(0.1 \times 3.1416) / 180 = 0.00174$		

Questions