B 303 assembly of project with open and closed segments in same row.

This project involved some interesting issues as to how to assemble it and getting the correct segment edge lengths on the closed segment sections. Because I wanted a gap between the closed segment section and the open segment section this effected the segment edge lengths for the closed segment sections.

All design was completed with Segment Pro. I designed the bowl as fully closed, saved it and changed to fully open, saved that. Exported both summary sheets to excel and created a third summary in excel, similar to a recent project I posted. The difference here was I added all the open rows to the closed rows by copy and paste the rows from the open summary to the closed summary, creating a third summary with both an open and closed line for each row, with the quantity of closed/open segments in each row adjusted. This gave me the information I needed for each row, but the segment edge lengths for the closed section were not accurate since it doesn't account for the opening at each end of the closed segment.

I solved this with some simple math as I assembled each row.

Initially, I was going to assemble this using the Lohman jig, but when I tried this, I thought it would be too difficult to adjust for the difference between the closed and open sections. I changed to using the 48 open segment seg- easy plates. I used these to layout and attach the open segment sections to the previous completed row, then filled in the closed segment sections by hand, similar to filling in sections when completing a closed segment row on the Lohman jig. However, I found setting the previously completed section on the seg-easy plate requires extreme care to make sure the open segment sections are properly aligned with the already installed previous row.

Since I was figuring this out as I went, I knew I would need a way to determine the correct edge lengths for the closed sections. Once I had that figured out, I continued with the seg-easy plates, but for a future project like this I probably would use the Lohman jig since I'm installing the closed segments manually anyway.

To determine the closed segment edge lengths for each row, I did the following. I know this will sound complicated, but it's far easier and simple to do than it is to explain. Once you do one, it's just fill in the blanks for the rest. I did the calculations for each row as I went along because I was already into the project, but again the next time, I probably would get them all done before I started since the information is already available in the summary sheet.

Circumference of row = A

Open SEL from summary x 48 =B

A-B =total open segment gap/48 = actual open gap (OG)

Open segment SEL x 8 = D

OG x 9 = E (there are 9 gaps for 8 open segments)

(D + E) X 3 = total length of circumference for open section F

Total circumference of the row, A – F equals total circumference for the closed section/3 = one closed section circumference G

G/8 = SEL for each closed section segment.

Row	Board Width	Length	Segment S.E.L.	Ring Type	Species	Segs	Thick	Angle	Radius Outer	Inner	Species Maple	Lgth	Cherr	Lgth	Walnu	Lgth	Blood	Lgth
1	.00	.0	.000	disk	Koa	0	.500	.00°	1.7"									
2	.73	15.1	.240	closed	Maple	48	.180	3.75°	1.8"	1.1"	24	7.5						
2	.73	12.6	.176	open	Maple	48	.180	2.75°	1.8"	1.1"			8	2	8	2	8	2
3	.63	16.0	.253	closed	Maple	48	.180	3.75°	1.9"	1.3"	24	8						
3	.63	13.3	.185	open	Maple	48	.180	2.75°	1.9"	1.3"			8	2.1	8	2.1	8	2.1
4	.58	16.7	.263	closed	Maple	48	.180	3.75°	2"	1.4"	24	8.3						
4	.58	13.8	.193	open	Maple	48	.180	2.75°	2"	1.4"			8	2.2	8	2.2	8	2.2
5	.57	17.3	.275	closed	Maple	48	.180	3.75°	2.1"	1.5"	24	8.6						
5	.57	14.2	.202	open	Maple	48	.180	2.75°	2.1"	1.5"			8	2.3	8	2.3	8	2.3
6	.55	17.9	.286	closed	Maple	48	.180	3.75°	2.2"	1.6"	24	8.9						
6	.55	14.7	.209	open	Maple	48	.180	2.75°	2.2"	1.6"			8	2.3	8	2.3	8	2.3
7	.55	18.4	.296	closed	Maple	48	.180	3.75°	2.3"	1.7"	24	9.1						
7	.55	15.0	.217	open	Maple	48	.180	2.75°	2.3"	1.7"			8	2.4	8	2.4	8	2.4
8	.52	18.8	.304	closed	Maple	48	.180	3.75°	2.3"	1.8"	24	9.4						
8	.52	15.4	.223	open	Maple	48	.180	2.75°	2.3"	1.8"			8	2.5	8	2.5	8	2.5
9	.51	19.2	.312	closed	Maple	48	.180	3.75°	2.4"	1.9"	24	8.8						
9	.51	15.7	.229	open	Maple	48	.180	2.75°	2.4"	1.9"			8	3.2	8	2.5	8	2.5
10	.50	19.6	.319	closed	Maple	48	.180	3.75°	2.4"	1.9"	24	9.7						
10	.50	15.9	.233	open	Maple	48	.180	2.75°	2.4"	1.9"			8	2.6	8	2.6	8	2.6
11	.48	19.9	.324	closed	Maple	48	.180	3.75°	2.5"	2"	24	9.9						
11	.48	16.2	.237	open	Maple	48	.180	2.75°	2.5"	2"			8	2.6	8	2.6	8	2.6
12	.48	20.2	.330	closed	Maple	48	.180	3.75°	2.5"	2"	24	10						
12	.48	16.4	.242	open	Maple	48	.180	2.75°	2.5"	2"			8	2.6	8	2.6	8	2.6
13	.48	20.5	.337	closed	Maple	48	.180	3.75°	2.6"	2.1"	24	10.2						
13	.48	16.6	.247	open	Maple	48	.180	2.75°	2.6"	2.1"			8	2.7	8	2.7	8	2.7
14	.47	20.8	.342	closed	Maple	48	.180	3.75°	2.6"	2.1"	24	10.3						
14	.47	16.8	.251	open	Maple	48	.180	2.75°	2.6"	2.1"			8	2.7	8	2.7	8	2.7
15	.46	21.1	.347	closed	Maple	48	.180	3.75°	2.6"	2.2"	24	10.5						
15	.46	17.0	.255	open	Maple	48	.180	2.75°	2.6"	2.2"			8	2.7	8	2.7	8	2.7
16	.45	21.3	.351	closed	Maple	48	.180	3.75°	2.7"	2.2"	24	10.6						
16	.45	17.2	.257	open	Maple	48	.180	2.75°	2.7"	2.2"	24	8.5	8	2.8	8	2.8	8	2.8

OPEN SEG CIRC. → ← CLOSED SEG. CIRC.
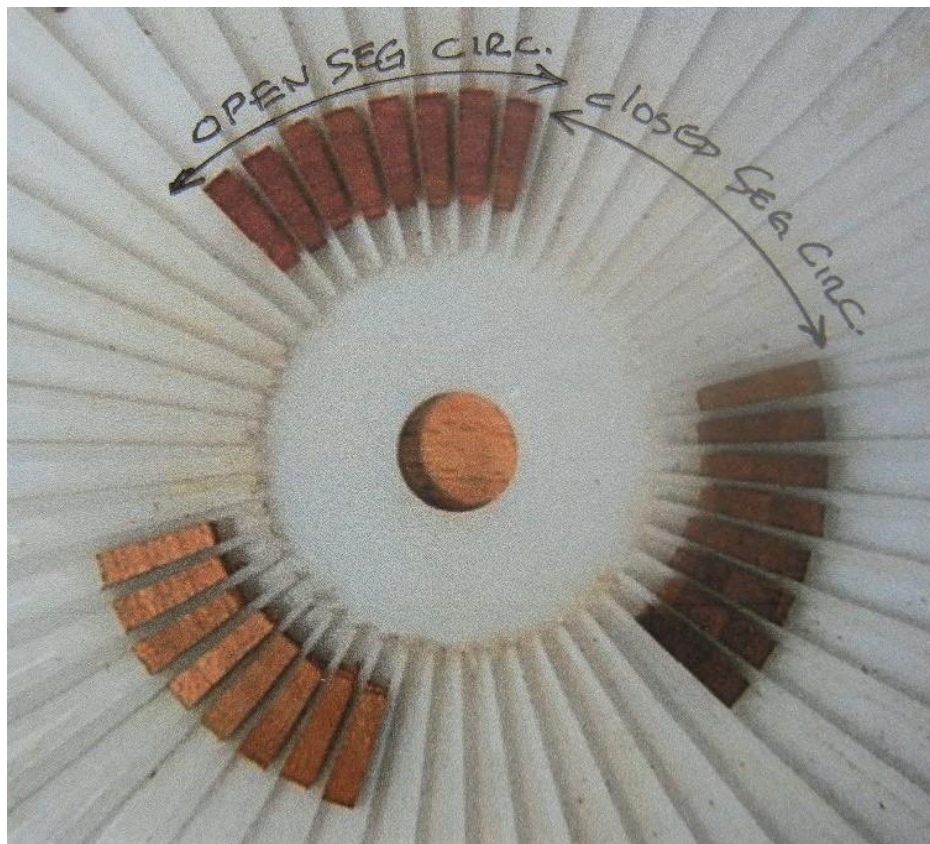
Open complete, ready for closed sections

I didn't use the gap spacers after the first few rows   Completed row