



Woodturning

Bob Larson
2823 Fallcrest Drive
Carrollton, TX 75006
972 416 2064

sigurd6@juno.com

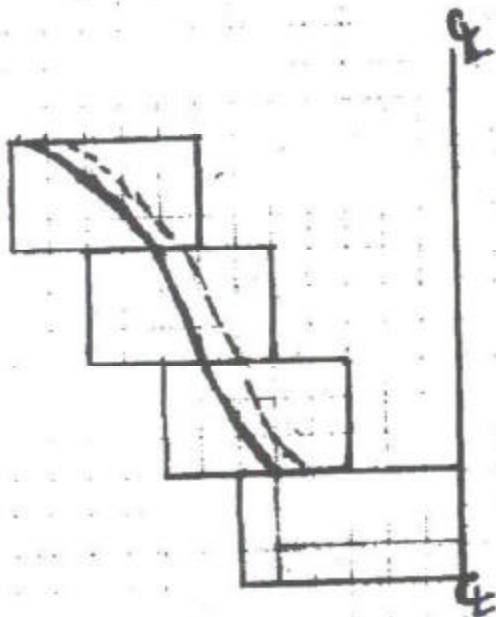
SEGMENTED BOWL

OUTSIDE DIA. X π (3.1415) = CIRCUMFERENCE

CIRCUMFERENCE \div # SEGMENTS =
SEGMENT LENGTH

$$360 \div \# \text{SEGM} \div 2 = \text{ANGLE}$$

e.g. $360 \div 8 = 45 \div 2 = 22\frac{1}{2}^\circ$
 $360 \div 12 = 30 \div 2 = 15^\circ$



<u>RING #</u>	<u>O. DIA.</u>	<u>SEGMENT LENGTH</u>
		(8 SEGM)

3	6"	2.36"
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2	5"	1.96"
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1	4"	1.57"
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BASE $\frac{3}{4}$ " X 3" DIA.

BOB LARSON 2/21/01

Kevin's Woodturnings

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PLANS FOR A FRAME (flat) MITER SLED

This page contains plans for the frame-miter table saw sled I use for cutting frame-mitered ring segments. I use sleds for cutting segments because they can quickly cut perfect segments that require almost no sanding. I usually cut segments for either 8-sided rings or 12-sided rings, depending on bowl diameter, so I designed the sled with a stationary fence, i.e., non-adjustable for angle. I made two fences, one fence for cutting 8-sided segments and another fence for cutting 12-sided ring segments. Swapping fences takes less than a minute. Actually, by flipping a fence over and flipping it end-for-end, each fence can be used for four different angles. I have two fences that I can use for eight different perfect angles but only one frame miter sled.

My old sled had an adjustable fence that had to be regularly replaced because the sawcut in the fence became so wallowed out from cutting various-angled segments that it would eventually become unsafe. I like to have the cutoff segment completely backed by the fence when the segment is cut off. With a wallowed-out fence, the cutoff would sometimes get caught between the sawblade and the wallowed-out fence, jamming the sawblade.

With the stationary fence, I can use the fence sawcut to accurately line up my segment cutting marks. You might notice on the sled sketch that the sled fence looks like it could be adjustable because of the pivot bolt. Well, the fence is adjustable until the fence angle has been perfectly adjusted, then I make it non-adjustable. I have included a instruction section in these plans that tells how to adjust the fence to cut perfect