

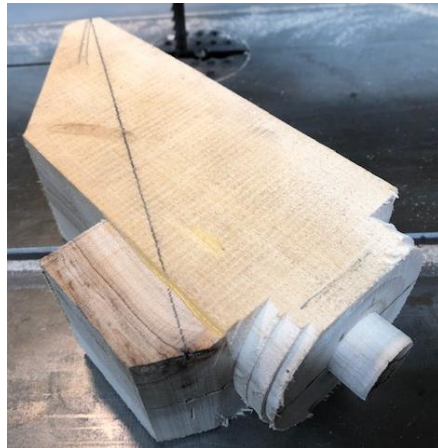


Crooked Kransekake- Phil Holtan 10-6-19

You are free to turn this project but do not sell.

First step- For maximum offset, glue an extra piece of wood off the side, 1 1/2 inch from bottom. Mark centers carefully and also a center line. Cut small wedges out of opposite corners to make a secure mount for centers. My first crooked tree, I used the chuck for all the tilts, and found I couldn't get enough swing. The good news is you can do this without a chuck, just shifting spindle centers.

2. Cut a 22 mm (.865") tenon on the bottom, 7/16 deep with a pilot hole bored for a 1 1/4" number 10 set screw through chuck into the bottom. That will come into play in step 4. This will fit on the Escoulen chuck made by Vicmark.



3. Trim the top corner of the blank on the band saw to get rid of waste as shown in the photo. Mount between the offset



centers. Carefully, with all safety precautions, turn the upper section corner between centers to do top. 2 7/8 inches of rings, 1 5/16 (1.31) inch outside diameter at bottom of this section, .9 inches inside, approximately 9 rings. Sand and oil this section. Then cut the rings as outlined in the directions for the

regular Kransekake (ringed tree). Finish off 3 false rings in a finial after the rings are loose, the sand and oil the completed section.

4. Mount the tree in a vise or clamp, very carefully to protect the fragile rings already turned. Drive the 22 mm tenon into the ball of Escoulen chuck, being very careful to align with one of the 3 swinging axis, so all tilts will be in the same plane. It works best to pound the wood onto the shoulder at the base of the top rings. Then strengthen the tenon's grip with a coarse #10 sheet metal screw through the chuck into a predrilled hole in the tenon, with a modified washer to hold the screw. The washer and screw in the picture will be inserted into the hole in





the top and screwed tight to hold the base of the tree flush against the ball, with no space between.

5. Remove the tailstock from the lathe. Mount the ball assembly into the chuck, and the chuck onto the lathe. In this next step, the chuck needs to hold the whole assembly straight, with no tailstock support. No tilt but you must slide about 3-5 mm to line up the completed top to the next section. This is very tricky. You must be able to visualize the joint between sections as you spin the assembly. To be sure, use your parting tool to cut into the spinning block and see if you are leaving equal amount of wood all the way around the next section. Carefully measure the base of the top section. If that is $1 \frac{5}{16}$ (1.31) and .9 inside diameter, then the next lower section begins at $1 \frac{7}{16}$ (1.435) outside and just under 1 inch inside. About $\frac{1}{10}$ inch difference per ring, a bit more at the joints

Getting this right will be essential to have a nice flow of rings from one section to another. Beginning now and to finish after you turn the rings, use a carving gouge, files, and I like a triangular shaped vibrating sander to smooth the transition from one section to another. As you do that, bring the upper rings down to see how they are spaced, You want those top rings to drop a bit into the joint area but not into the next section.

I tend to turn 4 rings in this section, each $\frac{1}{10}$ inch larger than that above it. Turn this set of 4 rings. Sand and oil this section, including finishing and sanding the transition section.

6. 2 options now- either a 3rd shift to make a continuous curve, or a doubling back to make an S-curve. To get maximum tilt here, I use my parting tool to trim in close to the ball at the base, so there is no wood preventing the maximum tilt. This time you will tilt the ball and therefore the tree, by loosening set screws, to make it swing only on the axis you lined up with. For most dramatic effect, I tend to tilt the max, about 15 degrees, and then shift to match up the joints. This is tricky once again. You will often need to slide the whole assembly 10-20 mm.

For a continuous curve- Trim around the chuck to allow the whole assembly to tilt further, all the way out to the third marked circle- 15 degrees. Measure from the very bottom of the blank ?? inches, and that is where the top ring section will end and the base begins. Mark out the rings, usually 4, and also turn the base ring, which will not be cut loose. I like the base ring smaller than the bottom loose ring. The diameter of the blank may limit your outside diameter. After turning the rings, use the parting tool to cut a 90 degree shoulder about $\frac{1}{2}$ " deep to the left of base of the ring section, with a right angle fillet at the bottom (your cleanest cut with a parting tool), and a then steep sloping curve about 65 degrees to provide clearance. I have found it is absolutely necessary to cut the bottom of un-cut base ring before you tilt or swing. Sand and oil.

Photo of base of un-cut ring

For a reverse (S) curve- Similar process but you will tilt the chuck the opposite direction from the curve of the two top sections to make an S curve. Otherwise, same directions as with continuous.

7. Now for the offset neck of the base, Keep the same tilt but rotate 180 and then slide about 10 mm to turn offset neck, mostly with 3/8 gouge and 1/4 inch round-nose scraper. The more offset, the more difficult this will be. Be modest on the offset for your first project, no more than 10 mm. Be very careful not to touch the shoulder or the bottom ring. You're looking for a cove shape here, with the outside slopes meeting at a sharp angle.

You have lots of choices for your last axis or two. Your choice will determine how the ringed tree sits- either fairly straight or very tilted. That partly depends on whether you chose the continuous curve or the S curve.



Notice also the continuous curve or s curve shapes. The position of the stem/trunk brings a lot of "attitude" to the piece.

It is important that you finish the bottom with careful thought to the angle at which the tree stands, tip over the center of gravity, or not. A precarious balance is dramatic but perhaps unstable and vulnerable. But maybe worth it for the look.

I sometimes tilt and shift the base 2 or 3 times to experiment,

After your last cut, You should determine how much material you need to part off the base and clean up the end grain surface with a skew chisel. Then carefully turn the base, blending the convex curve and fillet with the offset neck. Some carving, filing, and sanding may be necessary.



Sand and oil. Congratulations, you have accomplished a difficult task but I'm sure you are proud of the result.