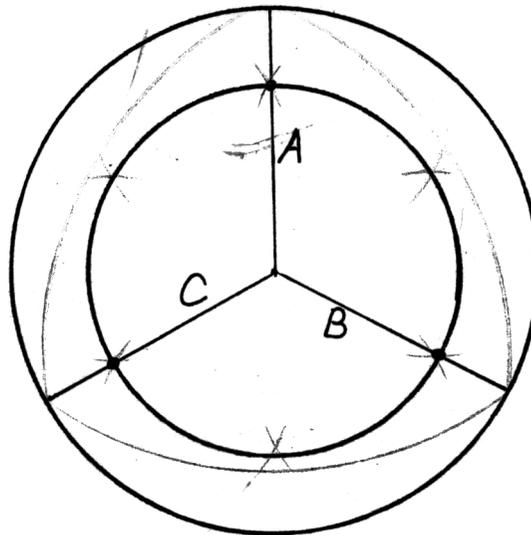


Three-Sided, Twisted Box

By Stacey Hager

1. Turn a cylinder. (3½ to 4" diameter works well) Use a dense, fine grained, completely dry wood.
2. To find the length, multiply the diameter x 1.618. (Example: 3½" D x 1.618 = 5.663".) Add about 1¼" (3 parting cuts, plus box tenon, plus 2 chuck tenons). This would give a length of about 7".
3. Part the cylinder at about 1/3 its length and hollow the lid and base. Make the tenon extremely tight. You don't want the box to twist while you are turning off-center.
4. Lay out off-center points on both ends of cylinder by drawing a circle with a radius about ½" smaller than the radius of the cylinder. Divide this circle into thirds by laying out the radius 6 times around the circumference. Using every other mark, draw a line from the center to the edge of the cylinder. Index one radial line to the opposite end and repeat the process. Label the three points on one end A, B, C. On the opposite end rotate one mark (120 degrees) and label the three points a, b, c.



5. Place the drive center at point "A" and the live center at point "a". Start the lathe slow and bring the speed up until it starts to look scary (about 600rpm). Set your tool rest parallel to bed of your lathe. Using your fingers as a depth gauge cut (don't scrape) as if you were turning a uniform cylinder. Cut until the new surface just reaches the index marks at both ends of the cylinder. Move the drive center to point "B" and the live center to point "b" and repeat the process. (Do the same for "C" and "c") At this point the "ridge" will be sharp at the ends and wide in the middle. You must now free hand an arc on each of the three sides such that the "ridge" is sharp all the way.
6. Hand sand taking care to keep the ridges and edges sharp.
7. If you wish, turn a top ornament and bottom pedestal. You may have to make a jam chuck in order to finish the top and bottom.
8. Apply your favorite finish.