

Cindy Drozda "The Fine Art of Woodturning"

P.O. Box 19065 - Boulder, CO 80308 - voice/cell: 303-449-7170 cindy@cindydrozda.com - www.cindydrozda.com

The Triangle Box

This design starts with a dry blank 3" x 3" x 3 1/4 "

1. Layout top and bottom of box
2. Mount blank between centers, round down to just over the Blue (major) diameter.
3. Part in to Red (solid) diameters on ends to create reference diameters
4. Turn multi-axis triangle using the 3 centers on the Green diameter. Cut until each side contacts Red diameter.
5. Sand the triangular outside of the box completely
6. Cut chucking tenons on both ends.
7. Chuck on bottom, part off the 1" long piece that will be made into the top of the box.
8. Hollow, sand & finish inside of box. Create lid recess.
9. Chuck on lid, cut tenon to fit recess in box.
10. Hollow, sand & finish inside of lid
11. Jam fit lid onto waste block to shape and sand the top, creating inlay if desired.
- or -
7. Chuck on lid, part off bottom of box, leaving the lid in the chuck.
8. Create lid tenon, hollow, sand, & finish inside of lid.
9. Chuck on bottom of box, create a recess to jam fit the lid in place.
10. Complete the top of lid, including recessing in a piece of wood for inlay if desired.
11. Hollow, sand, & finish inside of box.
12. Tune up lid fit if needed.
13. Jam fit bottom of box onto waste block to shape the bottom.

Done!

This layout is for one specific size and shape of box, but many variations on this concept are possible. It can also be adapted to make items other than boxes. Try peppermills, vases, accent trim rings, bowls, tool handles, candle holders, etc. The possibilities are endless!

Here's how I determined the relationships in the layout

(this formula works in this size range, and may (or may not) work the same way in much larger layouts):

Starting with the largest diameter available in my blank:

1. Multiply the major (Blue) diameter by .77 to get solid (Red) diameter
2. Subtract 1/2 " from the Red diameter to get the centerpoints (Green) diameter

Starting with the smallest possible chucking point diameter that my chuck can use:

1. Multiply the Red diameter by 1.3 (or divide by .77) to get the Blue diameter
2. Subtract 1/2" from the Red diameter to get the Green diameter

Other things I have discovered:

1. The larger the radius of the outer arcs, the more "triangular" the box appears.
2. The smaller the radius, the more like a circle it looks
3. If the design of the box doesn't fit within the Red cylinder, the hollowing will cut through the sides. This could be either a good thing or a bad thing!
4. Other numbers of centerpoints are also possible using the exact same ideas. 6, 4, and 8 are easy to figure out.
5. Don't feel limited by symmetrical points! Any variation of asymmetrical polygons is possible!
6. If the centerpoints 1, 2, & 3 are shifted in relation to each other, you will get a "twisted" triangle (or whatever). This looks cool but is a lot harder to sand.
7. This same idea works well by only shifting the centerpoints on one end of the block, also.
8. Try a tapered 3 (or 4, 6, 8, etc)-sided turning. Make the layout smaller on one end of the block.