

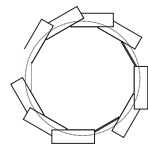
# The Mid-South Woodturners Guild

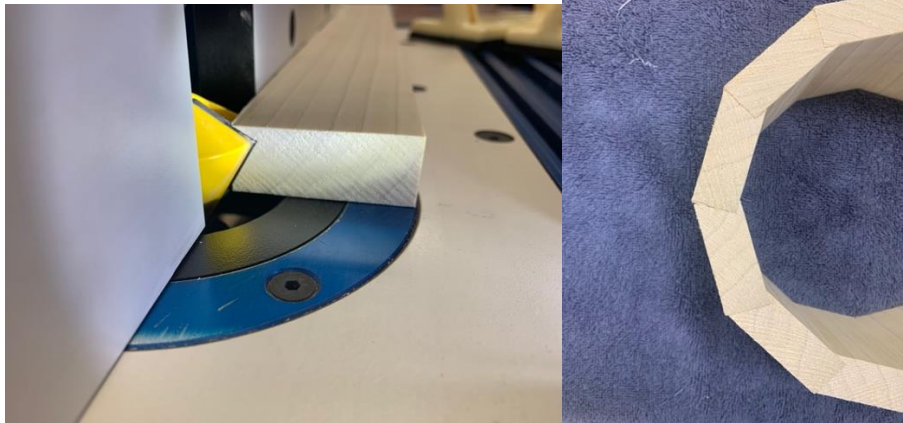
## Beads of Courage Box

### Creation Steps

Step 1: Prepare wood stock into 3/4" thick x 2" wide x L (where L = whatever length of stock you have in your shop). A very manageable length is 25". Sand stock.

Step 2: Run a groove with a bird mouth 12 sided bit set to a height of 21/32 with the Yonico router bit, until there is a ledge of about 1/16 inch left. This ledge is necessary to run along the bottom of the in-feed fence through the router bit and continue along the out-feed fence as you route the board. It is important that you have this edge, if not the workpiece will not be supported as it passes through the cutter head. It is highly recommended that you run a few test pieces through from the same stock as the finished boards so as to get the height and depth of cut correct. The top of the board will feather to a point which will be on the inside of the box and form a nice flush interior finish. We also recommend downloading the instructions for the bit you will be using from Yonico.





Step 3: Cut these lengths of stock down to 6". You will need 12 pieces to complete one box.

Step 4: Lay pieces out with the short side facing the inside of the box.

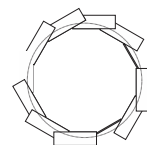
Step 5: Route a 1/4" dado, 1/2" from the bottom edge into each piece 3/8" deep to accept the base.

Step 6: Bandsaw cut the bottom from a piece of 1/4" plywood to about 6 3/4". Remember this is just a starting point, you may have to fine tune it to fit your project.

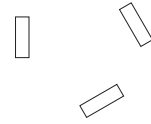


Step 7. Assemble all 12 staves and captured base and apply one clamp to assure exact fit. Ideally there should be a small amount of play in the base to allow for movement. Adjust the base as needed for a correct fit. All joints should be closed.

Step 8: Glue all joints and working quickly, assemble the staves capturing the bottom into the dado and clamp with bands. Do not glue the base into



the dado. Set aside to dry overnight.



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Step 9: Mount dried box assembly to your lathe, with an expansion chuck and support from your tailstock utilizing a cone shaped plug in the open end, and turn the outside round. Trim the bottom and top with this cone in place to correct any uneven staves.



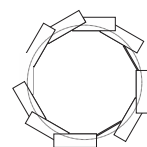
Step 10: Remove the cone support from your tailstock and bring the tailstock up against the bottom (I use a rubber chucky so it won't mar the bottom) for support while cut a rabbet into the lip to accept the 6 3/4" lid, 3/8" to 1/2" deep.

Step 11: Lay out a 3/8" or 1/2" piece of Baltic birch plywood and scribe a 6 3/4" circle. Drill a 1/4" hole in the center, take to the bandsaw and cut the piece out leaving the scribed line plus 1/16" - 1/8" which will be finished at the lathe or sanded off. This piece will be your lid. Make the top fit loose like the top of a cookie jar and sand to desired finish

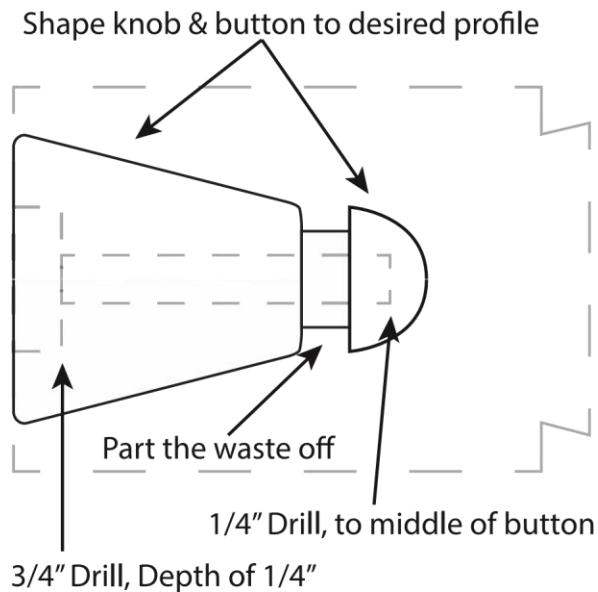
Step 12: I use a Glaser screw chuck to mount the top; an alternative method could be to insert a 1/4" dowel into the lid and mount the lid blank on the lathe and turn or sand piece down to a circle sizing it to fit in the top rabbet. You can use a flat scrap of wood to help capture the lid with your tailstock. Make sure this is a loose fit for children.



Step 13: Chuck a 2" x 2" x 3" block of wood in your chuck and turn the knob portion to the desired profile. Drill the 3/4" hole



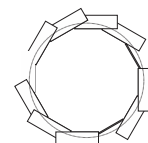
to a depth of 1/4" into the top of the knob (may have to enlarge hole to accommodate BOC bead). Drill the 1/4" hole completely through the knob and to the middle of what will be the button. Mark the outside of the blank noting the depth of your 1/4" drill depth so you are certain where to create your button. Finish the knob as desired and part off from the stock.



Step 14: Taking note of the mark made on the remaining piece that showed your drill depth, rough turn the button portion down to a more manageable size and part the roughed-out button piece off.

Step 15: Glue the roughed-out button, with CA glue, to a section of 1/4" dowel and grip it in a Jacob's chuck, a Collet Chuck or a 1/4" draw bar mounted to your lathe. Turn button to desired profile. Sand and finish the button.

Step 16: Insert glued button with dowel through the bottom of your lid blank and slide the knob portion onto the dowel from the top side. Mark the dowel with a pencil at the bottom of the 3/4" recess in the top of the knob where the dowel protrudes. Remove the knob and cut the dowel 1/8" below the mark you just made ensuring the dowel will not interfere with the Beads of Courage Bead. Test fit your BOC



Bead into the 3/4" recess and apply a glue or epoxy to hold it in place. We use the E6000 product that is available at many local stores.

Step 17: Finish staved vessel as desired.

Considerations: The children receiving these boxes are in a sensitive state and are highly affected by mold and uncured finish odors. A finished box must have time to cure before being presented to any hospital for use. We will hold all completed boxes for a minimum of 30 days prior to delivery. Any spalted wood must have some type of finish covering it that will not allow exposure to the child to any of the mold. Avoid wood that emits an aroma such as Cedar, Camphor, Brazilian Rosewood and Cocobolo.

\* Dimensions for the depth of the lid will depend on the availability of viable material if using plywood. The companies in the Memphis area we have sourced are Interstate Plywood and The Woodwork Store. Interstate Plywood's Baltic birch plywood showed voids in the plywood but was noticeably cheaper than The Woodwork Shop, whose plywood was furniture grade Baltic birch and had no voids. Interstate Plywood only carries 1/2" plywood and not 3/8". We prefer 3/8" for the lid because it lightens the piece.

**Document prepared by: Mid South Woodturners Guild – April 2021**

