

Inside outside Christmas Ornament Turned on a Pen Mandrel

By Dan Henry Nov 08

- 1) Make turning squares 4 pieces $\frac{3}{4}$ square X 3 $\frac{1}{8}$ inch long
 - a. Straight grain stock

- 2) Turn inside of the center section 1st
 - a. Put 4 pieces together, line up grain best you can
 - b. Hold them together with a good rubber band
 - c. Put masking tape around each end, about 3 wraps
 - d. **Put a $\frac{1}{4}$ spacer inside the jaws**
 - e. Put the taped blank in the chuck with # 2 jaws
 - f. **Align the center of the blocks with the live center point**
 - g. **Remove the point and hold the blank with the cup center**
 - h. Turn the inside to about $\frac{3}{4}$ dia in the center leave about $\frac{1}{2}$ on each end unturned, **make sure there is a very smooth radius**
 - i. Sand to 400
 - j. Dust and inspect, apply Deft Sanding Sealer, let dry about 5 minutes, finish with 2 coats of deft, your choice of gloss or satin
 - k. Let finish dry for 2 hours or over night

- 3) Glue up the 4 pieces into 1 blank to make the center section
 - a. Remove the tape and sand the small glue surface
 - b. Apply Yellow glue to the small surface, **sparring** along inside edge
 - c. **Make sure the cup center marks on the out side corners**
 - d. Hold the 4 pieces together with a rubber band in the middle
 - e. Put a Rubber band around each end remove band in the middle
 - f. **Align the curved end points on the inside**
 - g. Clean glue squeezes out on the inside with a Q tip and water **sparring**
 - h. Let glue dry over night
 - i. Cut ends square on the table saw, keep oval hole centered or turn on a lathe to square ends

- 4) Turn the out side of the center section
 - a. Mount the glued up blank in to the chuck with # 2 jaws
 - b. Align the live center with the point in the center of the 4 blocks
 - c. Drill a $\frac{1}{4}$ inch hole all the way through one end of the blank
 - d. Reverse the blank and align the same as(**b**)
 - e. Drill same hole as (c)
 - f. Install the center section blank on the pen mandrel using $\frac{5}{8}$ inch bushings
 - g. **Turn the blank, follow the couture of the inside, viewed through spinning openings and the small ends to around $\frac{5}{8}$ inch dia,**
 - h. Sand to 400 G
 - i. Inspect of defects and sanding scratches
 - j. Determine and mark the top and bottom

- 5) Turn the Icicle
 - a. Mount a contrasting color blank $\frac{3}{4}$ X $\frac{3}{4}$ X 3 $\frac{1}{2}$ inch long in the chuck with # 1 jaws
 - b. Turn the blank into a long cone leaving about $\frac{3}{4}$ inch at the chuck round
 - c. Lay out (3) $\frac{5}{8}$ inch spacing from the tip
 - d. Turn the tip end 1st, start the 2nd then finish sanding the 1st section

- e. Complete the 2nd and 3rd sections the same way, the tip is very fragile
- f. **Shape a round end to transition to the center section bottom using calipers to verify size and sand to 400**
- g. **Cut a ¼ inch dia tennon about 1/2 long to fit hole in the end of the center**
- h. Part off the icicle

6) Turning the Finial

- a. Mount a 3 inch X ¾ X ¾ of contrasting color wood in chuck with # 1 jaws
- b. Turn the end round or to shape of your choice
- c. **Lay out the remainder of finial and turn to size to match 5/8 dia of the center section top**
- d. Mark the center of the top with a parting tool or skew
- e. Drill a #60 hole in round end
- f. Sand to 400
- g. Install eye
- h. **Cut a ¼ inch dia tennon about 1/2 inch long to fit hole in end of center piece**
- i. Part off finial

7) Final glue up

- a. **Test fit the icicle and the finial to the center section (use sand paper to roll the edges if they do not align perfectly)**
- b. Spray the center section with CA glue accelerator
- c. Apply Med CA glue around the tennon and put the icicle and center piece together
- d. **Wipe off CA glue squeeze out very quickly**
- e. Repeat the same glue process for the final

8) Final inspect and do any final sanding by hand

- 9) Hang the complete ornament up by the eye and apply 2 or more coats of Deft spray same as used on the inside

10) Tools and Materials

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| a. Pen mandrel and 5/8 inch bushings | u. Calipers |
| b. Live center with a cup and removable point | v. ¼ MDF Chuck Shim |
| c. #60 drill | w. 1 ¼ X 8 to 1 X 8 Adp |
| d. ¼ inch drill | x. Deft spray, sealer and top coat |
| e. Drill chuck for tail stock | y. Paper Towels |
| f. Scroll chucks with # 2 and # 1 jaws | |
| g. 3/8 bowl gouge | |
| h. Thin parting tool | |
| i. Parting tool | |
| j. Detail gouge or ½ inch skew | |
| k. Yellow Glue | |
| l. Med CA glue | |
| m. CA glue accelerator | |
| p. Sand Paper | |
| q. Q Tips | |
| r. Small glue brush | |
| s. ½ inch scale | |
| t. Small container for water | |