My Way of
Making Boxes with Threaded Lids
Using a Threading Jig

Dalton Area Woodturners Guild
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Introduction

Included in this Demo

• My procedure for preparing box blanks from wet wood
• My threading jig
• Making a threaded box with “good” wood
• Making a threaded box using rings of “good” wood
• Other methods of making threaded boxes
• Methods for making threaded boxes from diagonally cut laminated wood

NOT included in this Demo

• Box design
• Decoration of boxes
• Hand-Chasing Threads
My Procedure for Preparing Box Blanks From Wet Wood

1. Start with “1/2 log” normally 1-2 ft long
2. Rough cut with chain saw
3. Cut “squares” with table saw (Optional)
4. Mount between centers
   a) Round – Easy Rougher®
   b) Smooth (Optional) – Oval Skew
   c) Make tendons – Bedan
   d) Shape tendons for dovetail – 1/2” Skew
   e) Part (Optional) – Diamond parting tool & saw
5. Mount in chuck and:
   a) Part lid from base – 1/16” parting tool
   b) Drill base – Forster bit leaving 3/8 – 5/8 walls
   c) Finish hollowing – Bedan
6. Repeat step 5 for lid
7. “Dry”
   a) Denatured alcohol – overnight
   b) Drain outside – 1+ hour(s)
   c) Dry inside – 3+ days
   d) Kiln – 5+ days
   e) Inside for 3+ days
My Threading Jig
My Procedure for Making Threaded Boxes with “Good” Wood

“Good” Wood
• Blackwood – 1.27
• Boxwood – 0.89
• Lignum Vitea – 1.26
• Mopani – 1.08
• Bocote – 0.85
• Cocobola – 1.10
• Osage Orange – 1.01

“OK” Wood
• Black Locust – 0.82
• Dogwood – 0.82
• Bradford Pear – 0.69

1. True tendon, outside, & inside of blank, if needed.
2. Prepare lid – see diagram on next slide.
3. Sand and apply finish to inside of lid.
5. Determine size of tendon for base.
6. Prepare base – see diagram (slide 6).
7. Finish hollowing, sand and apply finish to inside of base.
8. Cut threads on base.
9. Adjust for “grain” match.
10. Finish turning, sanding, & applying finish to outside of box except for bottom.
11. Finish turning, sanding, & applying finish to the box bottom.
Diagram for Threaded Boxes

For 16 tpi: $D = 0.035$ to $0.040$ inches about 1 mm = 0.03937 inches
Making a Threaded Box Using Rings of “Good” Wood

1. Plan for the thickness of the rings. About ¼ will be the thickness of external walls on the lid, about ½ will be for the two matching ring of “good” wood and ¼ will be for the thickness the base tendon walls. If the original box blank’s walls are too thin, this is not a good method to use. If they are too thick you might reduce both the lid’s and the base’s wall thickness.

2. Hollow lid so walls are about ¼ the original (or modified) thickness.

3. Prepare a ring of “good” wood with walls about the thickness of the lid walls.

4. Use flexible CA to glue the ring in lid and when dry prepare as in diagram (slide 6).

5. Sand and finish inside of lid then thread lid.

6. Determined the size tendon needed for threads on base.

7. Cut a tendon of that size in “good” wood about ½” long and turn chamfer at end.

8. Cut threads on tendon to fit lid.

9. Cut about a 3/16” long tendon on base so walls on tendon are about ¼ the original (or modified) thickness.

10. Hollow tendon on “good” wood about ½” deep and sized to fit tendon on base.

11. Part off ring of “good” wood about 3/16” long and place it on base tendon, but do not glue yet.

12. Thread ring for the base into lid and place lid on base and using tailstock to hold the lid in place, finish turn the outside near the base/lid join.

13. Spread flexible CA glue on the inside of the base ring and slide onto base so the you have “grain” match, then back off lid about ¾” and let dry.

14. When glue has dried tighten lid and proceed as usual.
Other Methods of Making Threaded Boxes

1. Using CA glue – not worked for me with walnut
   a. Before cutting threads (or after cutting very shallow threads) soak the threading area with thin CA glue.
   b. Let dry at least 5 min before cutting threads – don’t use accelerator.

2. Using slow cure epoxy for threads:
   a. Cut slots in both the lid and base about 1/4“ wide and 3/8” deep.
   b. Fill slots with slow cure epoxy (color may be added).
   c. Let dry 72+ hr.
   d. If epoxy shrinks too much fill again and wait 72+ hr.
   e. Prepare the lid as in the diagram (slide 6) so only about ½ the epoxy is left.
   f. Continue as in using “good” wood.

3. Using box type inserts made of “good” wood.

4. Using “pre-made” inserts.
Methods for Making Boxes from Diagonally Cut Laminated Wood

Using box type inserts made of “good” wood or using “pre-made” inserts method, with the addition of a “washer” between the base and lid, will give reasonability good results.

To achieve “perfect” match of the slats you must use the threaded rings made of “good” wood method. You will lose grain match within the slats. The “trick” of being able to achieve “perfect” match of the slats lies in the way you prepare the base and the lid.

**Base and Lid Preparation with Diagonally Cut Laminated Wood**

1. When cutting the laminated block, cut the blank about ½” wider than the block is thick.
2. Mount the blank between centers and part the lid from the base while the blank is still rectangular. (Or cut on bandsaw or table saw.)
3. Align the slats in the lid with the slats in the base with the lid lapped over the base about ¾”.
4. While in that position, mark on the base and the lid where the two parts overlap. It will be about ½” from the edge on both the base and the lid.
5. Cut those about ½” sections off both the base and the lid resulting in nearly square blocks for the base and the lid.
6. Use double-sided tape to attach the lid to the base and mount between centers. Be careful to find the centers on both ends of the lid and the base as the dimples made in step 2 are NOT the new centers in this step. Round the piece and cut tendons at the top and bottom.
7. Hollow both the base and the lid. (The base hollowing can be left until latter, if you prefer.)
8. Continue as in the treaded rings of “good” wood method. But, when cutting the tendon at the top of the base be very careful to make the tendon exactly the right length so that the slats match “perfectly” when the lid is placed over the tendon. The tendon is likely too long so cut to desired length and continue with the threaded rings of “good” wood method. A good time to get the length of this tendon correct is Just after the lid is hollowed and before the ring is glued in the lid.
References


The End