

Turning a Lidded Box

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Turning a Lidded Box

- Material & Approach
 - Can use green or dry wood, but final turning must be done dry to achieve a good fit of the lid
 - If Dry: Can turn to final shape/thickness in one setting
 - If Wet: Can turn to rough thickness, allow to dry and then re-turn to round
 - Much like a twice-turned bowl
 - You need to rough out both the lid and the base
 - Do some hollowing to relieve stresses during drying process
 - Can also dry pieces in the microwave to speed the process
 - Can be done in face or spindle orientation
 - Spindle orientation is a bit more common

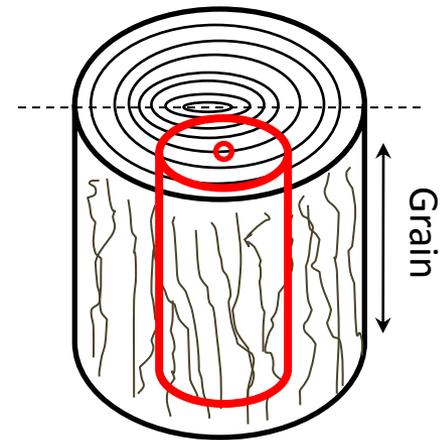
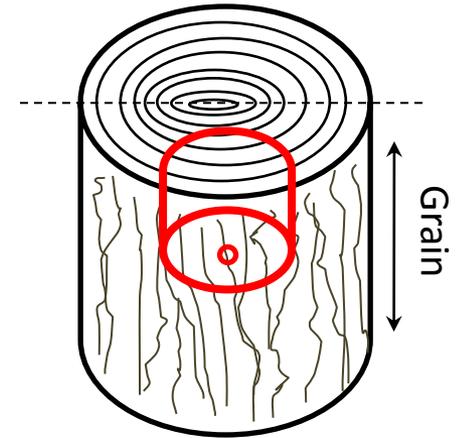
Refresher on Face Grain and End Grain Orientation

- Face Grain

- Grain orientation on the lathe is perpendicular to the lathe ways
- A wet turned piece will dry slightly oval

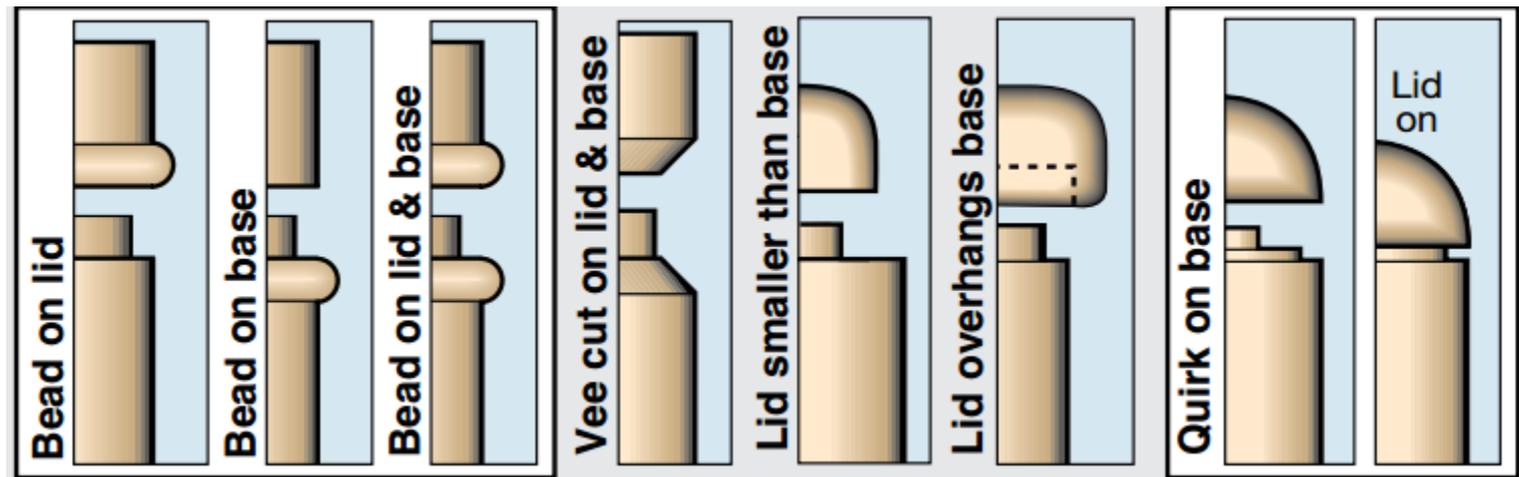
- End Grain

- Grain orientation on the lathe is parallel to the lathe ways
- A wet turned piece will dry more round (especially if centered on pith)
- Typically less movement in this orientation and better grain in a taller box form



Box Designs

- Nearly infinite choices in turned box design
- Can use fancy wood or plain wood and then embellish
- Can turn all on one axis or do off-center elements
- Can do inlays
- Two of the most important design elements are:
 - Lid to base ratio (generally 1/3 – 2/3 is a good starting point)
 - Lid to base type/joint – one that is not shown is the inset lid



Source: Critical Dimensions – Alan Lacer, American Woodturner Summer 2005

General Techniques

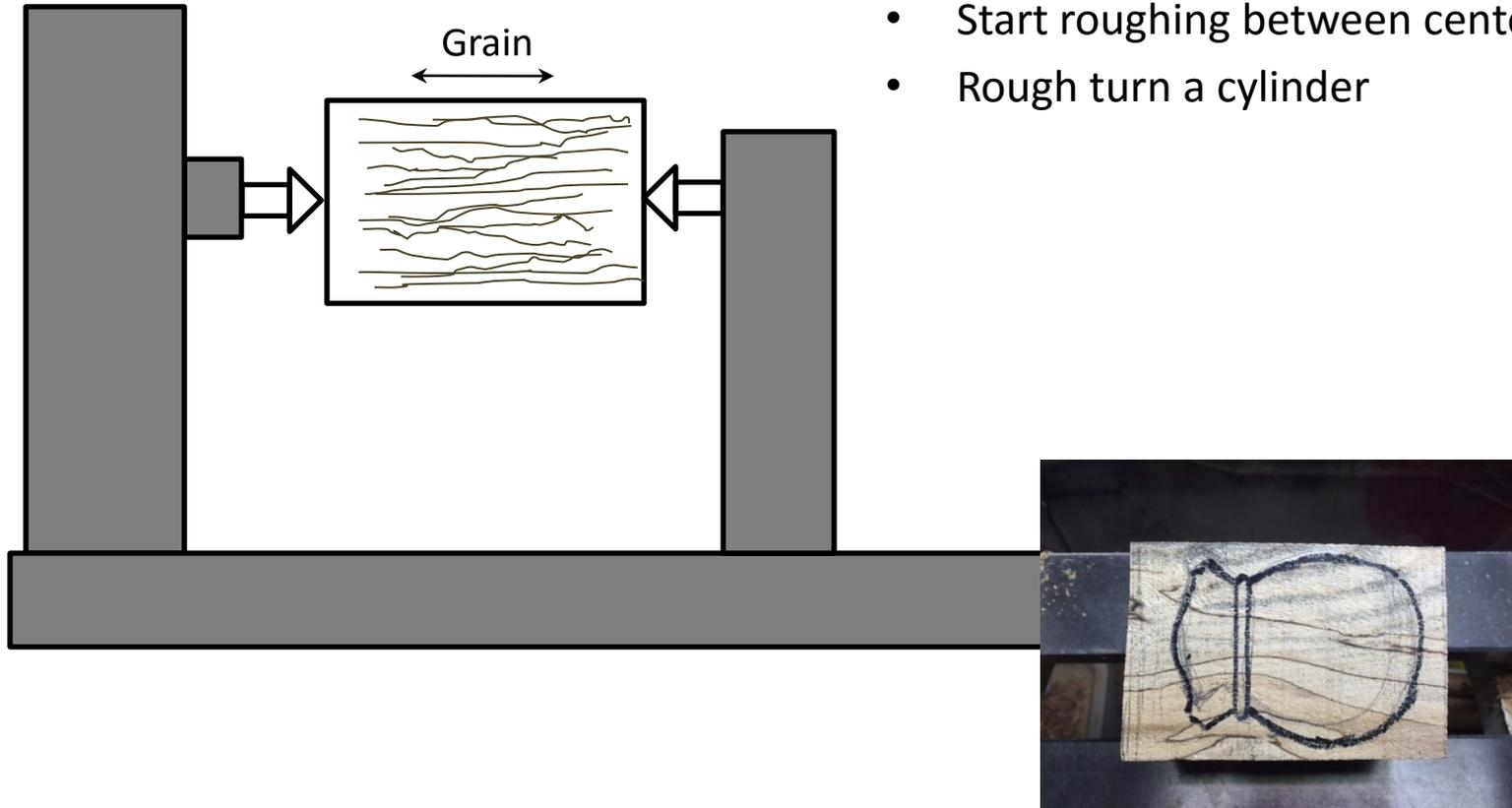
- General Techniques
 - Start between centers for rough shaping
 - Shape outside and form a tenon on each end for chucking
 - Rough shape the box if desired
 - Mount blank in the chuck
 - Outline the lid/base dimensions and part off lid section
 - If your design requires grain alignment keep parting cut as thin as possible
 - Mount the lid in the chuck and create the mortise to receive the base
 - Keep mortise walls as square and straight as possible
 - Hollow the lid – use depth hole if deep
 - Sand and finish the interior of the lid
 - Mount the base in the chuck
 - Create the tenon for the lid joint on the base and fit it to the mortise in the lid
 - This fitting process is critical
 - Initially create a tapered tenon that just fits the lid mortise and then refine
 - Drill depth hole in base close to desired finish depth
 - Hollow the base
 - Sand and finish the interior of the base
 - Friction fit the top to the base and complete turning, sanding and finishing lid and most of base
 - Create a jam chuck to receive the base. Mount it and complete turning, sanding and finishing the base and bottom
 - Assemble the box

Lidded Box

End Grain Orientation

Step #1:

- Start roughing between centers
- Rough turn a cylinder

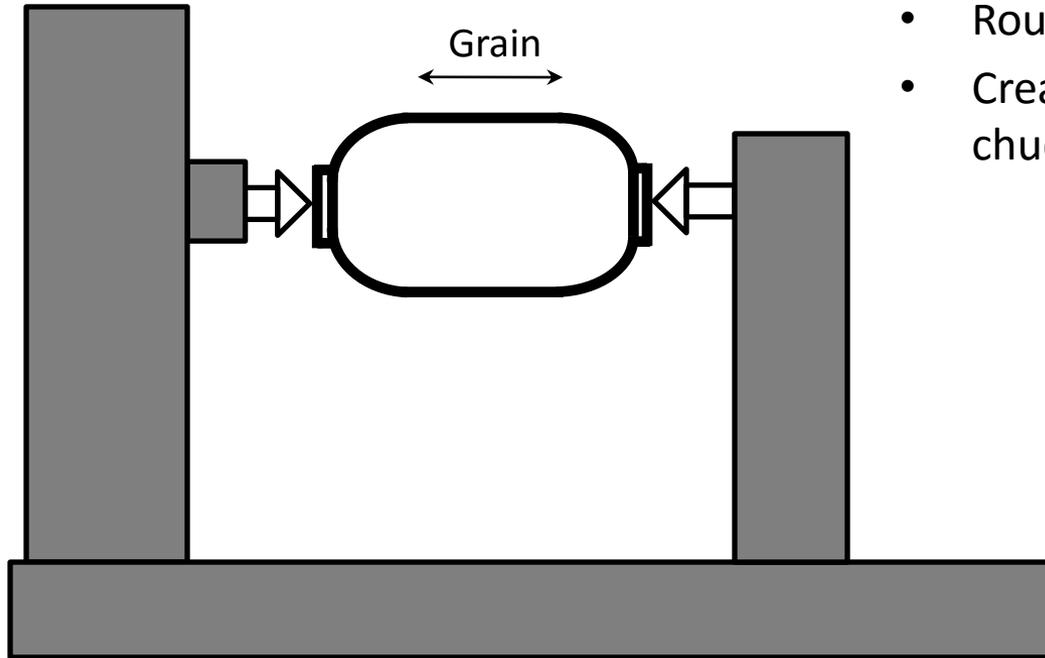


Lidded Box

End Grain Orientation

Step #2:

- Rough turn general shape
- Create a tenon on each end for chucking later

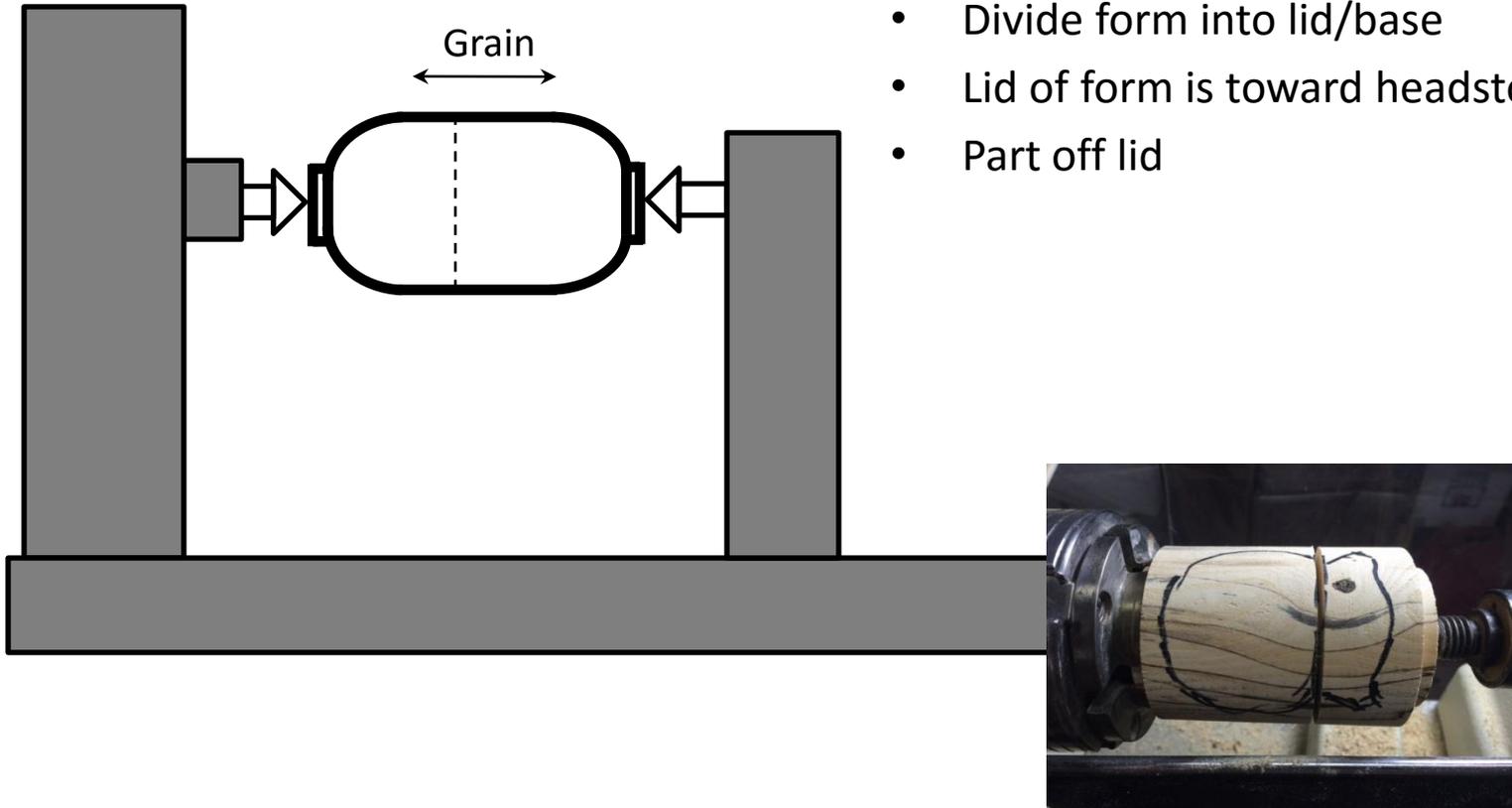


Lidded Box

End Grain Orientation

Step #3:

- Divide form into lid/base
- Lid of form is toward headstock
- Part off lid

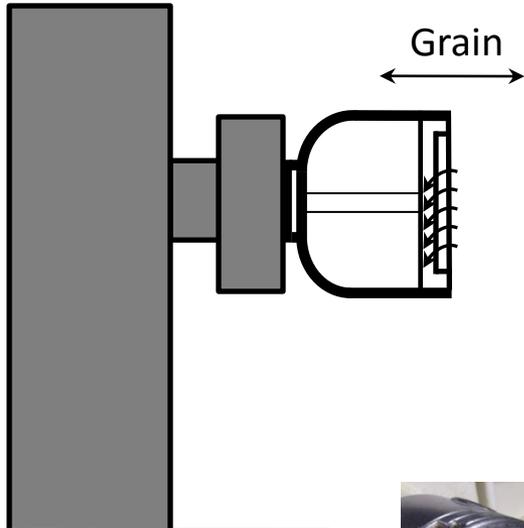


Lidded Box

End Grain Orientation

Step #4:

- Mount lid in chuck
- Create mortise to fit to base tenon
- Hollow inside
- Sand and finish interior of lid

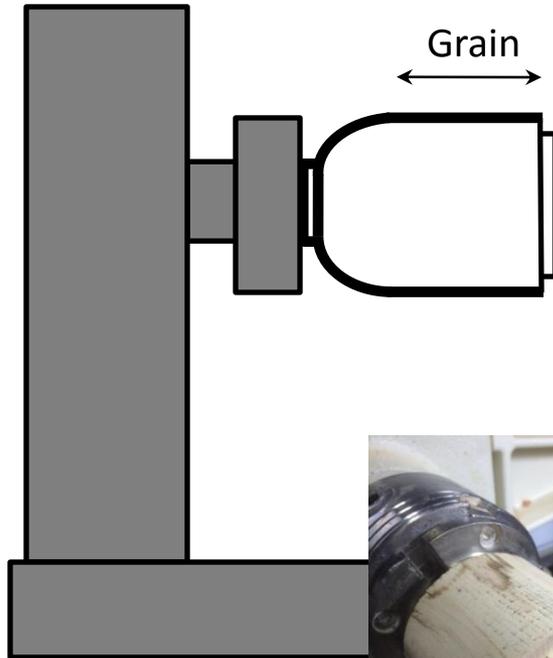


Lidded Box

End Grain Orientation

Step #5:

- Mount base onto chuck
- Create tenon for lid
- True outside shape

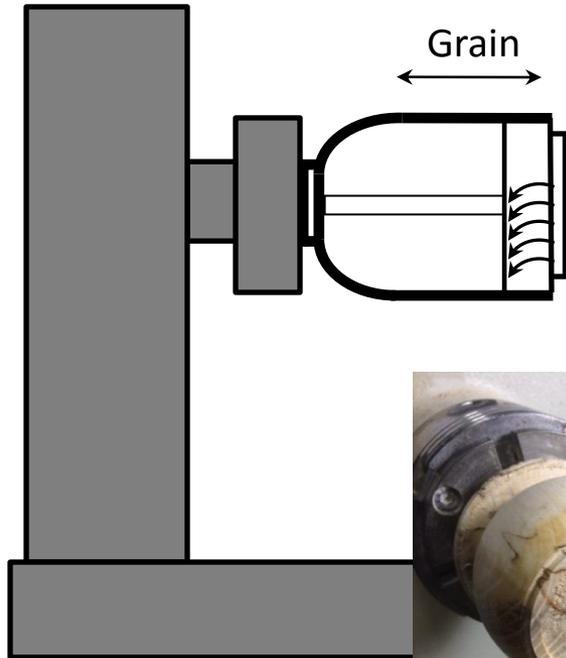


Lidded Box

End Grain Orientation

Step #6:

- Drill depth hole
- Hollow inside
- Sand and finish interior of base

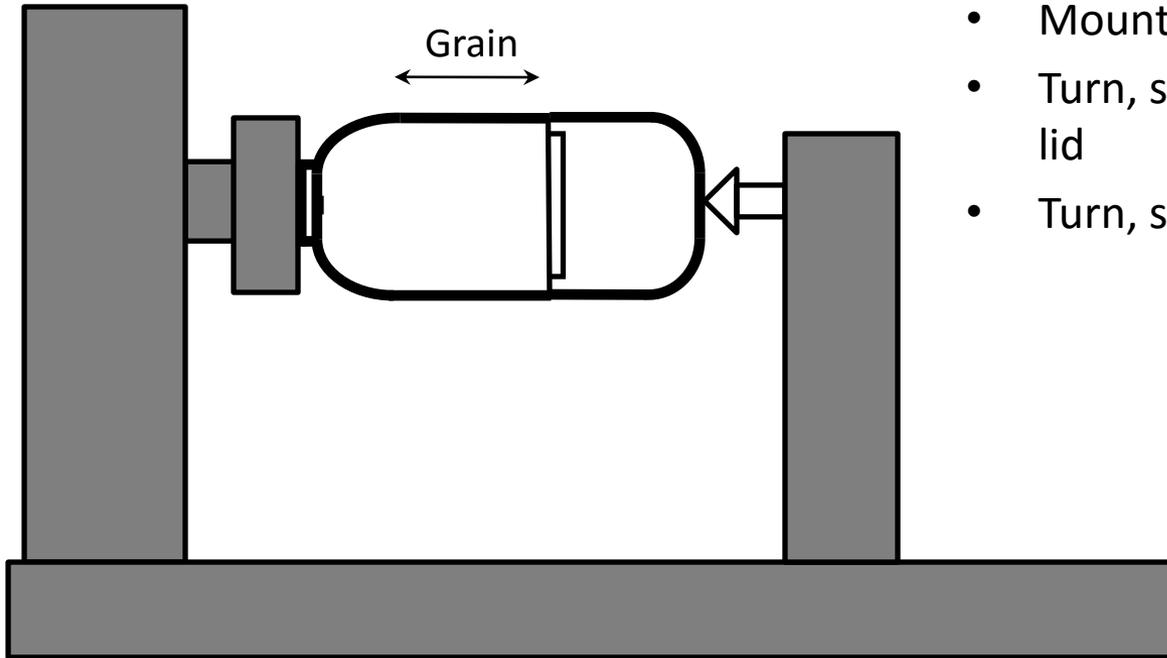


Lidded Box

End Grain Orientation

Step #7:

- Mount lid onto base as jam chuck
- Turn, sand and finish exterior of lid
- Turn, sand and finish most of base



Lidded Box

End Grain Orientation

Step #8:

- Create jam chuck for base
- Turn, sand and finish the exterior of the base and bottom

