

Peppermill Problem Solving

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Notes on Big Leaf Maple.

Coastal Big Leaf maple from the Oregon and California coastal zone is a true maple but it is not as hard and dense as its eastern U.S. cousin. However, generally it has more color and texture, often is curly and sometimes has dark streaks of figure that is uncommon in eastern Maple. Wood like this that is curly, or burls and wood that is softer can challenge turners to work with both in turning and in boring with drills. But it can be done. Some tips are included below.

Here are some problem solving tips for working with the Chef Specialties stainless steel peppermill mechanisms, and figured wood such as the Big Leaf Maple.

Body is too long for mill mechanism. (The threaded shaft doesn't protrude above the top, or does so by less than 1/8th inch)

1. Mount the mill bottom onto a tapered jam chuck with the top toward the head stock.
2. In the tailstock mount a drill chuck with the 1-5/8th inch Forstner bit.
3. Insert the Forstner into the previously drilled cavity at the base of the mill bottom. Put it all the way in, but without any drilling pressure.
4. Turn on the lathe at a very low speed, and turn the tailstock handle to slowly deepen the 1-5/8th hole until you are deep enough so that when assembled, the top of the shaft protrudes about 1/8th inch above the top of the mill.

Body is too short for mill mechanism (shaft sticks out too far, and you can't turn it down far enough to grind pepper fine.

1. With the knob removed but otherwise with the mill fully assembled, measure the amount you'd need to shorten the shaft such that about 1/8" inch of threaded shaft would stick up above the mill top.
2. Disassemble the mill.
3. Cut off the length of the shaft needed to be removed that you measured in step 1. Note: leave this a smidge long, perhaps 1/64th inch as you will be hammering out a flare in the end.
4. Take the end you just cut, put it in your vice so it is proud of the vice jaws by 1/64th. Hammer it to flare out the ends on the sides. Rotate the end by 90 degrees and hammer again so that the flare is even on all four sides.
5. Check to see the new flared end fits into the mill grinder part. If not, make adjustments.

End Grain is tearing when you bore the recess with the the 1-5/8th inch Forstner bit

1. Drill only 1/4" into the base.
2. Check to see if you are tearing badly if not, then proceed to drill out to the full 1/2 inch.
3. If the end grain is tearing, continue to drill but stop short of the full depth by 1/16th inch (total depth of 7/16th inch at this point, with the plan to go to a total depth of 1/2 inch
4. Remove the bit.
5. Stand the blank on end and saturate the area you are drilling with very thin (water consistency) CA glue. Let it soak in.
6. Let it stand several hours or overnight.
7. Hone the edges of your Forstner bit so it is sharp. It is the two inner cutters, not the rim that are important to be sharp.

8. Put it all back in the lathe, and insert the 1-5/8th Forstner bit and finish drilling to a total depth of ½ inch. Advance the cutter very slowly and you should be able to clean it up. If it still tears a bit, don't worry about it ... just added character.

Curly or soft grain is tearing when I turn the exterior

1. Sharpen or resharpen tools – especially important with difficult grain.
2. You are “spindle” turning – not doing bowls. Speed is your friend. Move it up ... assuming your blank is securely well mounted between centers, turn at 1800 to 2200 rpm.
3. Don't rely on your rouging gouge for a smooth finish. That works sometimes but usually not with highly figured, curly or soft grain wood.
4. Switch to your (sharp) spindle gouge and see if that does better.
5. If not, try your skew in a planning cut at a very sharp angle.
6. If you still have problems then plan on much sanding and stepping through all the grits.
7. Curly grain is its own problem ... beautiful when done, but can be a bugger to work with.
 - a. Sometimes a scraper with a sharp hook on the edge will do better than other tools
 - b. Failing all of the above, leave enough room for a lot of sanding. Start with 80 grit, and work up – 120, 150, 180, 220/240, 320/ 400.
 - c. In your sanding, at each step, reverse the rotation of the lathe from the previous grit.

Finishes

1. No finish on the inside. Any odor from the finish will get into the peppercorns and on the inside a finish will take forever to fully dry and cure. Leave it as drilled. You can sand it if you wish.
2. Do not use a Lacquer finish on the exterior. Standard Lacquer reacts adversely over time to fingerprints and hand oils and gets gummy... not a good thing with something designed to be handled.
3. Good choices for an exterior finish
 - a. Danish Oil – a durable medium satin luster finish ... a blend of linseed oil, polyurethane, thinner and drying agent. In spindle turning Danish Oil Finish can be friction applied on the lathe so that the heat will cure it and set it up hard. Use a strip of cloth and do 2 or 3 thin applications one right after another.
 - b. A friction polish. High gloss. Any of these that would be used on pens would be fine.
 - c. A CA finish. Very durable.
 - d. Wipe on Poly. Ditto.
 - e. For a hard wood, perhaps just a wax finish can be ok.
4. Whatever is chosen above, a quick coat of any wax over the finish will help durability and cleaning.
5. If you have a buffing system such as a Bealle buffer, use the wax wheel to finally polish it out.
6. Remember that this is something that will be constantly handled so a smooth finish with good texture will always be desirable.

Enjoy!
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