

STEPS FOR MAKING A PEPPERMILL

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Before you start, read and understand this entire procedure and the instructions that accompanied your chosen peppermill mechanism.

Within this set of instructions, the suggested or required tools and/or materials are shown in bold print, within { } style brackets.

{Wood blank: 3"x3"x12"}.



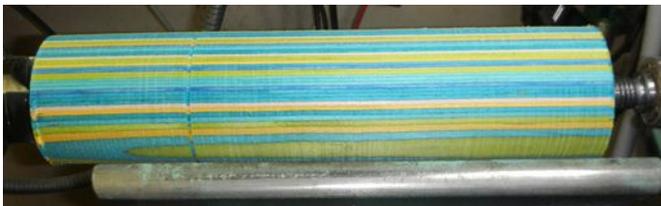
If a short peppermill is to be made, a blank to suit the shorter length may be used. In this case, the mechanism shaft length must be cut to match, see steps 19 – 22.

Use close grained hardwoods like maple or cherry or 'dry' exotic wood species. Cocobolo, ebony, cedar or other species containing toxins are not recommended without a liner.

Before you start turning, draw the design to fit within the constraints of the wood blank chosen and the mechanism you will be using.

Technique:

1. Take square stock and turn into a cylinder **{spindle roughing gouge or spindle gouge}**.



Note parting line started in above photo. this is where, in step 3., the blank will be parted into 'top' (on the left side of the rounded blank) and 'body' (on the right side of the rounded blank).

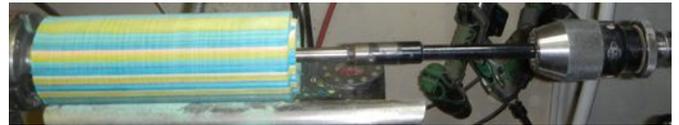
2. Turn a tenon to about 1/4" smaller than the outside diameter of your rounded blank on both ends of the stock. **{parting tool, bedan}**.

Ensure that your chuck will be able to grip this reliably. Do not make a tenon that is less than 2^{1/4} inch, don't restrict the use of the last part of the blank for your design, have enough solid wood around the bit when drilling the 1^{5/8} inch through hole.



3. Part the cylinder stock into two pieces, a top and a body, according to your design. **{parting tool}** See photo in step 1. above for the proportions of the design in this example.

4. Place body between centres and turn a tenon on the end of the body that was parted off in step 3, this will be the end that mates with the 'top'. Make the tenon the same size as the one made in step 2. **{parting tool, bedan}**
5. Mount the 'body' in a chuck, using the tenon made in step 4. Centre tailstock end to drill the through hole accurately in line with the outside diameter.
6. Mount a **{drill chuck}** and **{1^{5/8} inch forstner bit}** into the tailstock.



With lathe speed at 100-200 rpm (slow), drill a hole in the bottom of the body, approximately 1 to 1^{1/2} inch deep. This will be the 'indentation' for mounting the mechanism.

This hole can be shallower to suit particular designs.

7. Mount a **{1^{1/16} inch forstner bit}** into the tail stock. Bring the drill bit up to the end of the body, set it into the centre point from the hole made in step 6 and proceed to bore a hole. Bore slowly, removing the bit frequently to clear the hole and drill bit. Do this by pulling the bit, Jacob's chuck and tail stock out together. A drill bit extension may be necessary if the body is longer than the drill bit shaft.
8. Drill to the centre then reverse the body and bore the remainder of the through hole from the other end. To mount the reversed body, a **{chuck with spigot jaws}** that fits into the 1^{1/16} inch hole would be ideal. Note: When finished, there will be a quarter sized plug in the centre of the tunnel, push it out.
9. Reverse the body so the 'bottom' is at the tailstock end. Finish turn the bottom – can apply finish to the bottom at this time. Turn body to designed shape, for stability, use the tailstock as support. **{spindle gouge, spindle roughing gouge, skew chisel}**

Sample design shown. Note that although the piece is chuck mounted, a cone tip live centre is being used to hold the tailstock end. Wise move!~



This photo shows orientation to turn the 'bottom' and most of the outside shape. After turning the bottom, you can apply the finish to that part of the body.

The shape of the peppermill is entirely up to you. Look at other's designs for ideas.

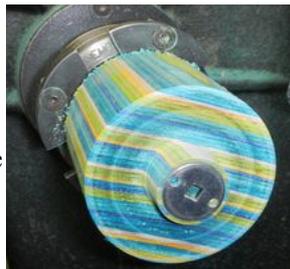


Turn the body around to final turn the 'top'. For safety and accuracy, use the tailstock with a cone or shop made accessory to hold the open end.

10. Sand the completed body, on the lathe, to 400 grit. At this stage, a finish may be applied.
11. Remove the body from the chuck. This is a good time to insert a liner or coat the inside of the body if required or desired.
12. Mount the peppermill's top tenon into chuck. Make sure that the end that mates with the body faces the tailstock to keep wood grain lined up after turning.
14. Drill a 5/16 inch hole through the top, using a drill chuck mounted in the tailstock. Drill slowly, removing bit often to clear. **{drill chuck, 5/16" drill bit}**



15. Make a 1 inch long tenon that is a tight fit, but moving smoothly in the peppermill 1^{1/16} inch body hole. **{parting tool, bedan}** (see photo, step 16)
16. Cut a recess in the end of the top tenon to tightly fit the drive plate. The recess should be as deep as the drive plate is thick and the through hole must be clear. **{parting tool}** Finish turning the face.



17. Holding the top by the tenon cut in step 12, turn the peppermill top you designed. Note, you will need jaws to fit the smaller diameter of the 1^{1/16} inch tenon. Caution: remember that there is a 5/16" through hole, turn carefully when finishing the top. **{roughing gouge, spindle gouge, skew chisel}**



18. Sand the completed top, on the lathe, to 400 grit.
19. Assemble the mechanism – follow the instructions! and connect the top and body together. The excess rod length will protrude from the top.
20. Measure from the top of the hole to the middle of the rod threads. **{dividers, calipers, ruler}**
21. Remove the rod from the mechanism, this may require complete removal of the mechanism.
22. At the **non threaded** end of the rod, mark off the dimension measured in step 20. Holding the rod in a **{vise}**, cut the excess length with a **{hack saw}**. **DO NOT CUT OFF AT THE THREADED END.**



23. With the rod in the **{vise}** (protect rod from vise jaws), use a **{hammer}** to mushroom the four sides of the rod (at the non threaded end). The burrs must be large enough to keep the rod reliably in the mechanism. Be careful not to bend the rod.
24. Apply your finish of choice, allow to dry or cure, then reassemble the mechanism to the peppermill.
25. Fill the peppermill, and start grinding!

TIPS

- Depending on the design chosen you may need to join the top to the bottom and turn them together between centres for a smooth and seamless design. Paper or paper towel can be used around the top tenon for a tight fit while turning the assembled pieces.
- Mating surfaces should have a slight bevel toward centre for a gap free fit.
- Finishing the bottom of the pepper mill with a bevel creates a more professional look.
- Using a sealing agent or liner inside the peppermill is a good food safe safeguard.
- Applying bees wax between the top and body insures a smooth, squeak free pepper mill.
- Pick attractive woods. It should reflect your one of a kind, custom made design.

