

TURNING A 10" PEPPERMILL USING A CRUSH GRIND MECHANISM

GETTING STARTED:

1. Select a piece of wood 3"x3"x12". Find and mark the centers at both ends.
2. Place the block of wood between centers and, using a 3/4" ROUGHING GOUGE, turn round at approximately 2000 rpm.
3. Square both ends, using a 3/16" PARTING TOOL.
4. Turn a tenon at both ends, 1/4" in long x 1 3/4" in diameter.
5. From the headstock end, measure 8 1/2" from the top of the tenon and turn another tenon 1/4" in length x 2-1/8" in diameter.
6. Mark the BOTTOM and TOP of the peppermill for orientation.
7. Using a 1/16" PARTING TOOL, part the BOTTOM and TOP at the 8 1/2" mark as far as possible without cutting it off. Use a thin kerf saw to separate the two parts.
8. Place the BOTTOM part of the wood blank in the chuck, clamping the tenon and using the 60-degree cone live center at the tailstock to center the peppermill.
9. Using a 3/8" FINGERNAIL SPINDLE GOUGE, face off the top with a little concave.
10. Using a 1-3/8" FORSTNER BIT, drill a hole 1/2" in depth at approximately 400 rpm, clearing debris often.
11. Using a 1-1/16" FORSTNER BIT, drill a hole approximately 5" in depth, clearing the debris often.

MAKING A JAM/SPIGOT CHUCK:

1. Select a piece of wood 3"x3"x12". Find and mark the centers at both ends.
2. Place the block of wood between centers and, using a 3/4" ROUGHING GOUGE, turn round at approximately 2000 rpm.
3. Square both ends, using a 3/16" PARTING TOOL.
4. Turn a tenon 1/4" in long x 1 3/4" in diameter.
5. Place the tenon in the chuck and, using a 3/16" PARTING TOOL, turn a tenon 1/2" in length and 1 1/2" in length.
6. Carefully, remove a little wood so that the top of the peppermill fits snugly on the tenon. *If you find it is a little loose, use a piece of paper towel wrapped around the tenon for a tight fit.
7. Once the jam/spigot chuck is complete, place the top of the housing on the jam/spigot chuck and bring up the 60-degree cone live center at the tailstock to the center mark of the bottom of the peppermill.

8. Using a 3/8" FINGERNAIL SPINDLE GOUGE, remove the tenon from the bottom of the housing, cleaning up the bottom using a small concave.
9. Using a 1 3/4" FORSTNER BIT, drill a hole 3/4" in depth.
10. Using a 1-9/16" FORSTNER BIT, drill a hole 2-1/8" in depth from the bottom of the housing.
11. Using a 1-1/16" FORSTNER BIT, finish drilling the middle hole.

TURNING THE BOTTOM HOUSING OF THE PEPPERMILL:

1. Mount the jam/spigot chuck and part off the tenon.
2. Mak a tenon approximately 1" in length x 1-7/8" in diameter.
3. Carefully, remove a little wood so that the bottom of the peppermill fits snugly on the tenon. *If you find it is a little loose, use a piece of paper towel wrapped around the tenon for a tight fit.
4. Once the jam/spigot chuck is complete, place the bottom of the housing on the jam/spigot chuck and bring up the 60-degree cone live center at the tailstock to the center of the top of the peppermill.
5. Turn and shape your peppermill to your specification.

TURNING THE TOP OF THE PEPPERMILL:

1. Place the tenon at the TOP of the STOPPER, in the chuck.
2. Using a 3/8" FINGERNAIL SPINDLE GOUGE, clean up the bottom of the small tenon, with a little concave.
3. Turn a tenon 3/8" in length x 1-3/8" in diameter. (should be a little loose to freely turn when grinding pepper).
4. From the bottom of the stopper and using a 1-1/6" FORSTNER BIT, drill a hole 1/2" in depth.
5. From the bottom of the stopper and using a 15/16" FORSTNER BIT, drill a hole 1 3/4" in depth.
6. Shape the top of the stopper to your specification.
7. Finish the entire peppermill with 3-4 coats of a wipe on polyurethane.

ASSEMBLY OF THE MECHANISM:

1. Dry fit the mechanism by placing the mechanism from the bottom of the peppermill.
2. Using a ruler, measure 1-1/8" and mark from the top of the peppermill housing.
3. Using a hacksaw, cut off the top of the peppermill mechanism. Check to ensure it fits properly with the top of the peppermill.

4. When satisfied, use a 2-part epoxy, and carefully spread the epoxy around the inside of the housing area. Carefully, spread epoxy around the bottom of the mechanism, being carefully not to spread glue on the moving parts of the mechanism.
5. Slide the mechanism in from the bottom of the housing.
6. Carefully spread the epoxy around the inside area at the top of the stopper. Carefully, spread epoxy around the bottom of the stopper mechanism, being carefully not to spread glue on the moving parts of the mechanism.
7. Allow the glue to dry for 24 hours.
8. The coarseness of the pepper corn may be adjusted from the bottom of the peppermill.
9. DO NOT TURN THE PEPPERMILL IN A COUNTERCLOCKWISE direction. This could dull the blades of the mechanism.

TOOLS REQUIRED:

3/4" Roughing Gouge

3/16" Parting Tool

3/4" Skew (Optional)

Easywood #1 Hollowing Tool (Optional)

15/16", 1-1/6" Forstner Bit

Stebcenter

Respirator/Dust mask

Pencil

60-degree cone live center

MATERIALS REQUIRED"

3"x3"x12" block of wood

Sandpaper (80-600 grit)

Wipe on polyurethane

3/8" Fingernail Spindle Gouge

1/8" Parting Tool

Beading Tool (Optional)

Chuck w/50 mm & pin jaws

1 3/4", 1-9/16", 1-3/8" Forstner Bit

Face shield

Ruler

Calipers (outside and digital)

3"x3"x5" block of wood (jam chuck)

2-part epoxy

Crush of Steel #1

