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Berea Hardwoods Co., Inc.
Pen Instructions

Berea Hardwoods

Kaleidoscope Egg Kit (# KS0507-HP-1) BHW-735, BHW-736

The Kaleidoscope Egg Kit is one of the easiest and most dramatic kits available. The egg to the left is shown with the optional egg stand. It is the perfect accessory to display your talent and mastery of your turning craft.

Although it is a large kit it is turned on a standard “A” mandrel. Follow the steps carefully and you will have a gift that will be treasured for years to come.

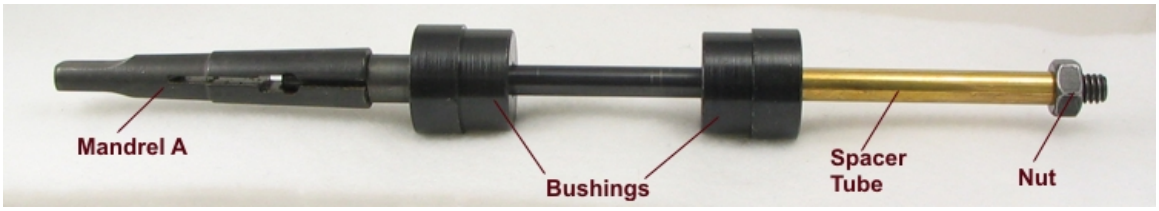
Ensure the blank is securly held in place prior to drilling!

Needed: Mandrel-A
Bushings - 60A
Drill - 13/16” Forstner or the Norseman 13/16" drill bit
Wood Size - 2” x 2” x 2 3/8" inches (minimum)

Preparing the Material Blank

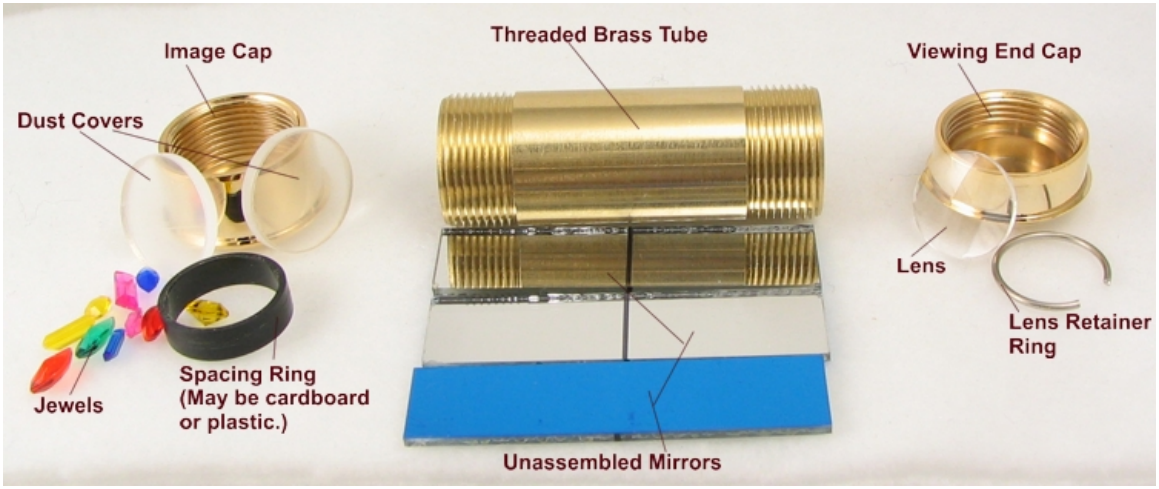
1. Rough cut your 2” x 2” blank no shorter than 2 3/8” long.
2. Drill a 13/16” hole in the center of the blank through the length of the blank. The center can be found by drawing an “X” from corner to corner on one of the 2” faces. We recommend using a Forstner bit or the Norseman drill bit.
3. Once the hole is drilled, cut the blank EXACTLY 2 5/16” long making sure that the 2” faces are square to the 2 5/16” sides of the blank. Longer is OK - shorter is not!
4. When all this is done you are ready to mount your blank on the mandrel and turn your egg.

Turning the Blank



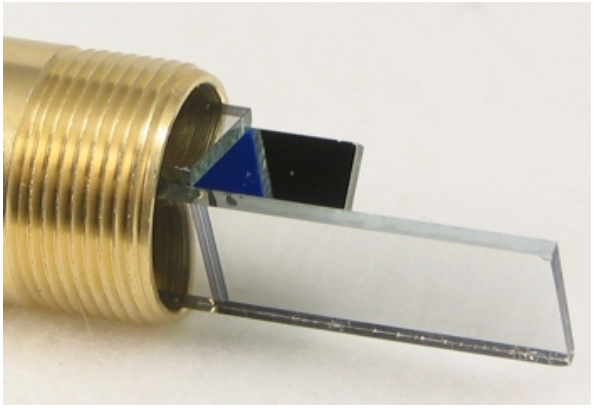
1. Mount the blank on the 2 bushings, slide them onto the mandrel, add a spacer tube, (a 7mm tube makes a good spacer) and then add the nut.
2. Tighten the tailstock before tightening the blanks on the mandrel. This will center the mandrel first. Then tighten the nut that holds the blank.
3. Turn the blank to the desired contour making sure that the area next to the bushing is turned to the size of the adjacent bushing. You do not have to turn your blank to the shape of an egg. Any shape you desire will be acceptable.
4. After turning the blank, sand the surface in progressive steps until you get to 400 or 500 grit.
5. If a higher polish finish is desired continue sanding with Micro Mesh through 12000 grit.
6. Apply the finish of your choice and polish.
7. Remove the blank from the mandrel.

Assembling the Kaleidoscope Egg

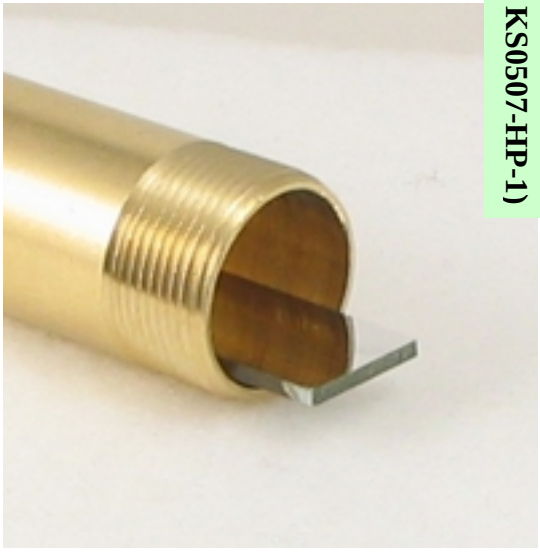


1. The first thing you want to do is to assemble the Viewing End Cap.
2. Place the lens into the viewing end cap with the curved side next to the small viewing hole.
3. Next, using a pencil eraser to hold the lens retainer in place, use a small blunt object, like a small dowel, to push the spring retainer into the provided groove inside the viewing end cap.
4. Lay this assembly aside for a moment.
5. Next you will assemble the Image Cap.

6. Place the end cap on a flat surface.
7. Peel the protective film from one of the dust covers and place it flat inside the Image Cap.
8. Next place the Spacing Ring inside the cap on top of the Dust Cover. This spacing ring may be made from plastic or cardboard. You may have to press firmly to seat this ring tightly against the dust cover.
9. Now, add the jewels as desired. The jewels should occupy no more that ½ of the volume of the space inside the Spacing Ring to allow movement as the kaleidoscope is rotated. Placing too many jewels into the cavity will make them jam and prevent a changing pattern. A variety of jewels are provided so that you can customize the color and shape of your patterns.
10. Remove the film from the second Dust Cover and place it on top of the Spacing Ring. This will completely enclose the jewels and prevent them from falling out.
11. Lay this assembly aside for a moment.
12. Now you will assembly the mirror assembly.
13. The 3 mirrors are packed inside the brass tube. Remove them very carefully as they have extremely sharp edges and must be handled in a fashion that does not result in cutting your fingers.
14. Notice that one side of the mirrors will have either a black line or an "X" drawn on them. The other side will have a protective film on it. What you are going to do is to form a triangle out of the mirrors that will fit into the brass tube.



15. Remove the protective covering from one of the mirrors.
16. Place it, with the marked side down, on the bottom of the tube.

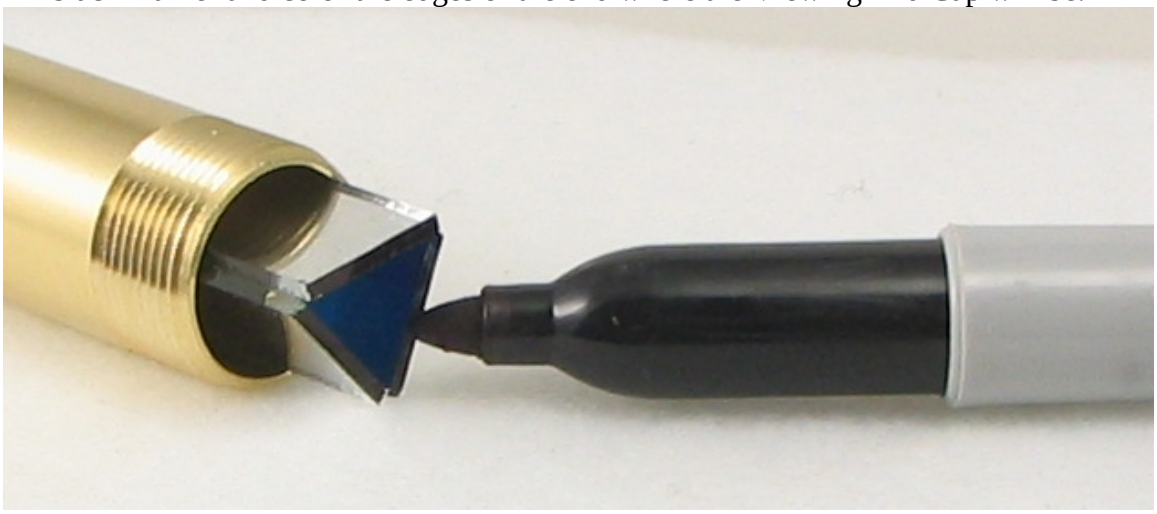


17. Now place a second mirror, with the marked side out, inside the tube to form a "V".

18. Last, place the third mirror on top of the other two to form a triangle.

This assembly should fit snugly into the brass tube. If it does not, simply slide it out of the tube about an inch and wrap a piece of cellophane tape around it and retry the fit. Keep adding tape until the mirror triangle fits nicely inside the tube.

19. Before you place the mirrors into the tube for their final time take a permanent black marker and color the edges of the end where the Viewing End Cap will be.



This will eliminate any reflections from the eye piece from being visible inside the kaleidoscope.

20. Now, for the fun part. I would advise assembling the assemblies before installing into the egg. This way you can change the jewels in the kaleidoscope more easily than after it is all assembled.
21. Simply screw on the Viewing End Cap on one end of the tube and the Image Cap onto the other.
22. Now look through the View End Cap at a bright light and turn the entire assembly. If the colors or patterns are not what you want simply open the Image Cap carefully and add, replace, or remove jewels. The possibilities are endless.

23. Once satisfied with the patterns and colors remove the Viewing End Cap, slide the tube through the opening in the large end of the egg and reattach the Viewing End Cap.

An optional stand can be purchased separately.

Now all you have to do is decide who's day you will brighten with this wonderful little Kaleidoscope Egg.

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