

BereaHardWoods CO.Inc

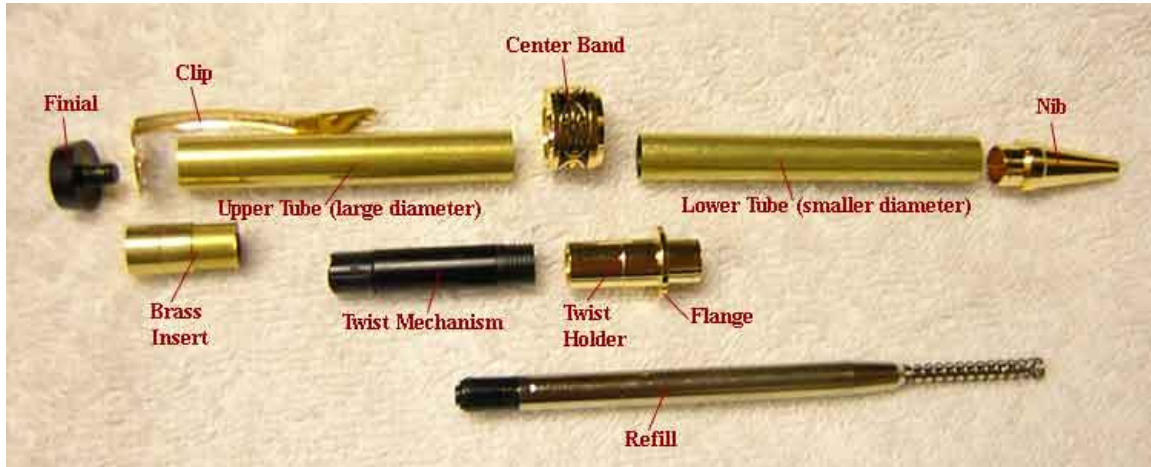
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Berea Hardwoods Co., Inc.
Pen Instructions

Perfect Fit Convertible Ballpoint Pen/Pencil (Berea #58051/B-xxx)



Needed: Mandrel-B
Drills-O and 11/32"
Bushings-14B or 47A
Wood size- 5/8" x 5/8"
Cap Gauge



1. **METHOD #1**-This method will require cutting a tenon to the depth of the brass tube to accept the center band. OR
2. **METHOD #2**-This method will cut the blank for the cap the size needed at the out set. Therefore, there will be no need for parting the tenon.
Cut the blank for the cap exactly 1 7/8" long.
3. Cut lower blank about 1/8 longer then the brass tube.
4. Drill the upper blank, the shorter one, with the 11/32" drill bit. This will be the larger bit.
5. Drill the lower blank, the longer one, with the letter O drill bit. This will be the smaller bit.

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Perfect Fit Convertible Ball Point

6. Prepare your glue. We recommend 5-minute epoxy. Be sure to mix it thoroughly.
7. Place some of the epoxy into the blank using a small piece of dowel or other small stick.
8. Roll the appropriate tube in the epoxy.
9. Insert the tube with a twisting motion until it is in the material blank.
10. Push the brass tube through the blank until the other end is flush with the blank.
11. Move it aside for 30 minutes until the epoxy has had time to reach its maximum strength.
12. When the glue has cured, use a hobby knife to remove the plugs from the ends.
13. Using a barrel trimmer of the proper size, face off the ends of the blanks until you can just see bright brass. STOP facing at this point. Your pen's proper operation is dependent on having the proper length tubes. This facing operation can also be done with the proper jig and a disk or belt sander.

Turning the Blanks



1. Assemble the blanks on the mandrel with the right bushings in the right place.
Cap-.4650 in. Centerband-.5410 in. Twist Flange-.4700 in. Nib-.3650 in.
2. Tighten the tailstock before tightening the blanks on the mandrel. This will center the mandrel first. Then tighten the nut that holds the blanks.
3. Turn the blanks to the desired contour making sure that the area next to the bushing is turned to the size of the adjacent bushing.
4. After turning the blank, sand the surface in progressive steps- 180-12000 grit.
5. Apply the finish of your choice and polish.
6. Remove the blanks from the mandrel.

Pen Assembly

1. Press the nib into the smaller end of the longest blank.
2. Press the twist holder into the other end. DO NOT press on the end of the holder. Use a press block made by drilling a hole, a 5/16" will do, in a piece of wood. Slip the longer end of the holder into the block for pressing. This will allow the pressing force to be on the flange and not the thin threaded end.
3. Place the chosen insert into the barrel. If a pen is chosen be sure the spring is in place on the refill. The pencil mechanism will need not spring.
4. Place the twist mechanism over the insert and screw into place.
5. Check the operation of the mechanism.
6. Lay this piece aside for a moment.
7. Press the 3 piece center band onto the exposed brass tube.
8. Press the brass insert into the other end of the brass tube until it is flush.
9. Place the finial threads through the clip and screw into the brass insert.
10. Slide the cap on the mechanism.
11. Check for correct operation again.

Changing Inserts

1. Unscrew the cap from the pen.
2. Remove the present insert and replace with the chosen one. When removing a pen insert be sure that the spring comes out also. When replacing with a pen insert be sure the spring is in place.
3. Screw the cap back on the pen.

Now, isn't that a beautiful piece of work!