

Citizen Pen Kit Instructions

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Supplies:

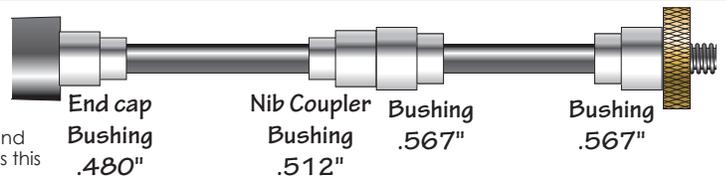
- 12.5mm Drill Bit
- 10.5mm Drill Bit
- 3/4" x 3/4" x 5" Pen Blank
- Pen Mandrel
- Citizen Pen Bushings
- Glue (Thick CA or Epoxy)
- Sandpaper/Finish
- Drill or Drill Press
- Barrel Trimmer/Disc Sander
- Pen Press or Clamp
- Eye and Ear Protection

Preparing the Pen Blank for Turning

1. Select your pen blank and cut the two pieces slightly larger than the pen tubes.
2. Using either a drill press or a lathe with drill/chuck attachment, drill a 10.5mm hole lengthways through the center of the longer blank and a 12.5mm hole through the shorter section. My personal preference is using a lathe with the drill mounted in the tail stock and the blank secured in my Nova chuck attached to the headstock. Either way you choose, be sure your material is securely mounted and take small depth cuts with the drill clearing chips out between each advancement of the drill bit
3. Once you have finished drilling the holes, you are ready to glue in the brass tubes. Lightly sand the outside of the tube to create a better surface for your adhesive to attach to. (Optional - If you are using translucent materials like Tortoise Shell or Mother of Pearl Tru-Stone for example, I would recommend painting the tubes and/or the inside walls of the pen blank after lightly sanding them. Paint them a color that compliments your blank as you will be able to see the color through the turned blank.)
4. If you went with the option of painting the tubes in step 3, make sure your paint is completely dry before continuing. Most adhesives like 2-part epoxy, super glue, Gorilla Glue, etc will work for installing the tubes, however my personal preference is a 5-minute 2-part epoxy. It sets quick and I have never had a problem with it. With a disposable brush, apply a thin layer of glue to one of the tubes as well as on the inside walls of the corresponding pen blank. Insert the tube into the blank rotating it as you go to spread the glue evenly. (I usually leave the very end of the tube clear of glue until it is up to the point of going into the blank. Then at the last second, wipe any excess glue off from around the edges and wipe on the clear portion. This keeps the glue from getting on my hands while pushing the tube into the blank.) Make sure the tube is all the way in side the blank with a little bit of material on each end of the tube to allow for trimming to size. Repeat for the second one.
5. Once the glue has fully set it's time to square up the ends of the blanks. Make sure all excess glue has been removed from inside the tubes. If there is extra, you may have difficulty inserting the bushings and the pen components. My preferred method is using a disc sander, sand each end of the blank square to as close as you can get to the brass tube without actually sanding it. Then using a barrel trimmer, trim the ends up to the brass tube. It's important to have a clean edge here in order for your components to fit properly. Do not trim past the edge of the brass tube as it could result in improper fit when you assemble your pen.

Turning and Finishing the Pen

1. Now that your blank is trimmed you are ready to assemble the pen on the mandrel and begin turning. To the right is a diagram of the assembly on the mandrel. The pen blanks are not shown but they would fall between the two sets of bushings. Once all of the parts are lined up, snugly tighten the knurled nut at the end of the mandrel.
2. Advance a 60° revolving cone center into the dimpled end of the mandrel and tighten using light pressure. **Do Not** over tighten the tailstock or mandrel nut as this may cause the mandrel to flex resulting in off-center barrels.
3. Turn the blanks to the desired shape. Sand your blank using progressively finer grits of sand paper and apply your preferred finish. The ends of your finished blank should sit flush with the bushings after all sanding and finishing are complete.



Assembly

Layout the parts as shown below. Whatever you are using to press the parts together I suggest you use a wood spacer against the components to prevent damaging parts during assembly.

1. Assemble the end cap section by inserting the coupler through the trim ring and screwing the end cap into the coupler (see Figure 1). Press the end cap assembly into the smaller end of the long tube.
2. Slide the trim ring, aligned as shown below, over the unthreaded end of the nib coupler, then press them into the larger end of the long tube. *Rollerball*- Insert the spring then the ink refill into the long tube. Thread the rollerball nib into the nib coupler. *Fountain*- Attach the ink cartridge to the back of the fountain nib, then thread the fountain nib into the nib coupler.
3. Press the center band coupler, black end first, into the opposite end of the short tube.
4. Slide the clip onto the cap, then press them into the top of the short tube.
5. If using ink reservoir, remove spring from inside the end cap.

