

Turning a Handled Corkscrew/Bottle Stopper

Supplies Needed

- 7mm Drill Bit
- 7/8" x 7/8" x 5-1/2" Pen Blank
- Pen Mandrel
- Bushings
- Glue (Thick CA or Epoxy)
- Sandpaper/Finish
- Drill or Drill Press
- Barrel Trimmer/Disc Sander
- Pen Press or Clamp
- Eye and Ear Protection

Cutting and Drilling the Blank

1. Cut the blanks 1/4" longer than the brass tube.
2. Using a drill press with the blanks secured in a vise or clamp, drill a hole through the center of each blank stopping an 1/8" short of the bit exiting the blank. Drill at 2,000–3,000 rpm backing the drill bit partially out of the hole every 1/2" to clear chips. When using larger bits or drilling plastics drill at 250–500 rpm.
3. Trim away a small amount of wood from the end of the blank to expose the hole. The blank should be slightly longer than the brass tube. This technique prevents cracking caused when the bit exits the blank.

Gluing the Brass Tubes Into the Blanks

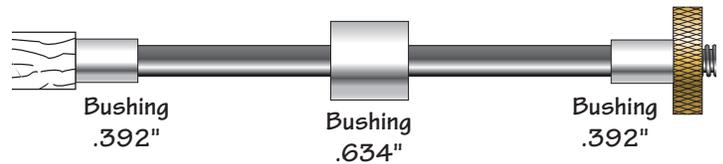
1. Lightly scuff the exterior of the brass tubes with 220 grit sand paper to prepare them for gluing.
2. For a fast bond, use thick cyanoacrylate adhesive (super glue) or 5 minute epoxy. For additional working time and more thorough bond, use expanding polyurethane (Gorilla or Sumo Glue). Apply a thin layer of glue to the tube and inside the wood blank. Insert the tubes into the blanks rotating it as you go to spread the glue evenly. Position the brass tubes in the blanks so that the wood extends beyond the tubes on both ends to allow for trimming.

Trimming/Truing the Blanks

1. Square the ends of the wood blanks with the tube using either a barrel trimmer or disc sander. This step is critical for the pen components to fit together properly. **Do Not** trim the brass tubes as this may result in an improper fit when the pen is assembled.

Mandrel Setup and Turning

1. Assemble the bushings and blank on the pen mandrel as shown below. Be sure that the ends of the blanks with the reference mark meet together at the center 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 leaving the blank slightly larger than the bushings.
4. Sand the blank using progressively finer grits of sand paper, then apply the finish.

Assemble the Parts

Layout the parts as shown paying careful attention to keep the pen tube in the same orientation as when on the mandrel. Use a vise or clamp with wood or plastic jaws to prevent damaging parts during assembly.

1. Slide the handle rods through the blanks and thread them into the bottle stopper. *Do not glue the tubes to the handle rods so you can remove the blanks from the bottle stopper when washing.*

