

CIGAR PEN

SAFETY: Be sure to read and follow the safety instructions that came with your lathe. Always wear proper eye and ear protection when using shop equipment. A dust mask is also recommended when turning on the lathe. Operate your lathe at a safe speed.

CUTTING: Measure the length of each brass tube, then mark the blanks so they are 1/8" longer than the brass tube(s) when cut. This allows for trimming later on.

DRILLING: Mark the center of each blank, then secure it in a clamp or vise. Set the drill press speed to 2,000 – 3,000 rpm, then drill each blank using the appropriate size bit(s). Make sure to clear the bit after every 1/2" – 1" of drilling to clear the chips and reduce heat buildup.

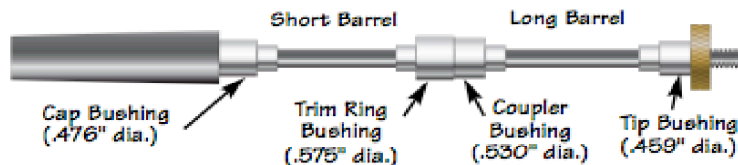
GLUING: With 220 grit sandpaper, slightly scuff each brass tube leaving scratches for the glue to adhere to. We recommend gap-filling cyanoacrylate glue for fast drying and epoxy for slow drying. Apply a coat of glue to the tube and rotate the tube as you insert it into the drilled blank. Set the blank aside until the glue cures.

TRIMMING: Use a barrel trimmer to square the ends of the blanks. This is the fastest and most accurate method of ensuring a proper fit. You may also use a disc sander to carefully sand the ends square with the tube. Make sure not to remove any of the brass tube as this may result in an improper fit when assembled.

STEP 1 Mount the cap bushing (.476" dia.), short barrel, trim ring bushing (.575" dia.), coupler bushing (.530" dia.), long barrel, and tip bushing (.459" dia.) onto a pen mandrel as shown below. **TIP:** For easier identification, the bushings for the short barrel are slightly longer than the other bushings. Advance a 60o revolving center into the dimpled end of the mandrel. **DO NOT** over tighten the tailstock or the mandrel nut as this may cause the mandrel to flex, producing an oval pen.

STEP 2 Turn down the barrels, with your desired shape, until they are slightly larger (approx. 1/32") than the bushing diameters to allow for sanding.

STEP 3 Sand the barrels using progressively finer grits of sand paper, then apply your favorite finish.

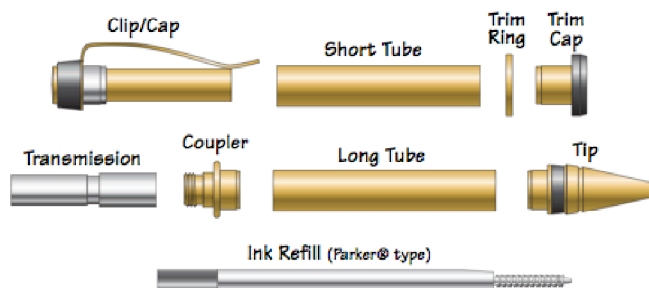


Drill: 25/64"

Blank: 3/4" x 3/4" x 5"

ASSEMBLY:

1. Press the tip into the smaller end of the long barrel.
2. Press the coupler into the opposite end of the same barrel. Use a press block (see fig. 1) to prevent damaging the threads.
3. Insert the ink refill into the long barrel, then screw the transmission onto the coupler.
4. Press the clip/cap into the smaller end of the short barrel.
5. Slide the trim ring onto the trim cap, then press them into the opposite end of the short barrel.
6. Press the short barrel onto the transmission to join the two halves. Your pen is now complete.



MAKING A PRESS BLOCK

Drill a 5/16" dia. hole to a depth of 1/2" in a piece of scrapwood. Place the threaded coupler into the press block when pressing it into the turned barrel. This will protect the threads.

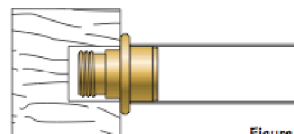


Figure 1