Turning a Jr. Gentlemen's II Pen

Supplies Needed

- 12.5mm Drill Bit
- 10.5mm Drill Bit
- 3/4" x 3/4" x 5" Pen Blank
- Pen Mandrel
- Jr. Gentlemen's 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

Cutting and Drilling the Pen Blank

1. Draw a 1" line lengthwise across the center of the blank to help maintain proper grain alignment when turning.
2. Cut each blank 1/4" longer than the brass tube.
3. Using a drill press with the blank secured in a vise or clamp, drill a hole through the center of the 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.
4. 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 tube with 220 grit sand paper to prepare it 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 tube into the blank rotating it as you go to spread the glue evenly. Position the brass tube in the blank so that the wood extends beyond the tube on both ends to allow for trimming.

Trimming/Truing the Blanks

1. Square the ends of the wood blank 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 tube as this may result in an improper fit when the pen is assembled.

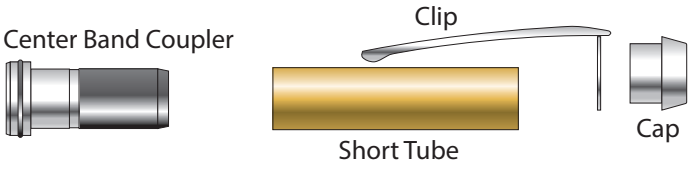
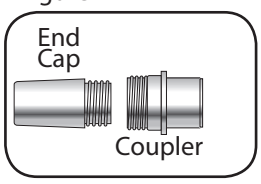
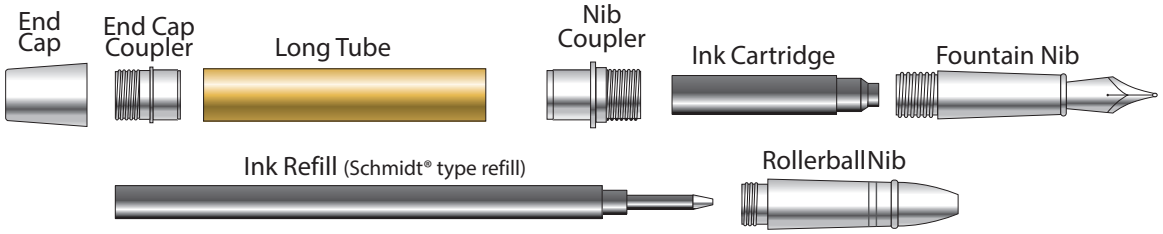


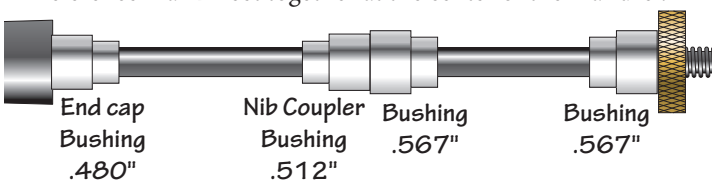
Figure 1





Mandrel Setup and Turning

1. Assemble the bushings and blanks 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 both blanks to the desired shape leaving the blanks slightly larger than the bushings.
4. Sand the blanks 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 tubes 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.

Hint: *While removing the tubes from the mandrel, mark the inside of each brass tube where they join to maintain grain alignment during assembly.*

1. Press the end cap coupler into the smaller end of the long tube, then screw the end cap onto the end cap coupler. See figure 1 for Threaded End Cap assembly.
2. Press the nib coupler 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.

Hint: *If you want to align the grain pattern more closely, press the body of the pen together first, then thread the center band coupler onto the nib coupler. Slide the short tube over the black portion of the center band coupler. This will allow you to rotate the short tube around until proper grain alignment is found. Once grain alignment is satisfactory, press the center band coupler fully into the short tube and continue with assembly.*

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.

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