

# Churchill Pen Kits Assembly Instructions



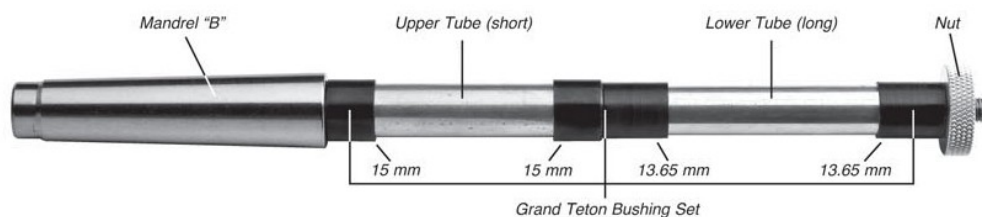
## Required Accessories

- 7mm, Pen Mandrel
- Bushing set
- Reduced shank drill bit
- 2 part epoxy glue or Insta Cure(cyanoacrylate) glue
- Wood Size-  $\frac{3}{4}$ " x  $\frac{3}{4}$ "

This is a very large diameter pen, so extreme care must be taken when drilling the blanks. We recommend that the blank should be the length of the tube plus  $\frac{3}{4}$ ", allowing you to drill the hole in the blank without piercing through the bottom with the drill bit and preventing the blowout or splitting of the blank. Some penturners will drill both blanks with the 11.7mm bit and then enlarge the hole in the short blank with the 13.2 mm bit.

## Preparing the blanks

1. Cut the blanks the length of each brass tube plus  $\frac{3}{4}$ ". Mark the place on the outside of the blank where the tube end will be when completed. ,
2. Drill the short blank with the 13.2 mm bit. Remove the blank and trim it off a little longer than the line marked in step 1.
3. Drill the longer blank with the 11.7mm bit. Remove the blank and trim it off a little longer than the line marked in step 1.
4. Scuff the brass tubes with sandpaper to clean off the oxidation and give the glue a better adhesion surface.
5. Plug the ends of the tubes with baseplate wax to keep the glue from getting into the tube. Just push the ends of the tubes into a thin section of the material to form a plug. This is important: glue inside the tubes is a common cause of pen failure.
6. Roll one of the tubes in the glue. Insert the tube with a twisting motion until it is equidistant between both ends of the blank. Repeat with the other tube.
7. Set aside until the glue has had time to reach its maximum strength.
8. When the glue has cured, use a hobby knife to remove the plugs from the ends.
9. Using a barrel trimmer of the proper size, square off the ends of the blanks until you can see bright brass tube. STOP at this point. This can also be done with the proper jig and a disk sander. *Not having the proper tube length is another common cause of pen failure.*



## Turning the blanks

1. Assemble the blanks and bushings on the mandrel.
2. Lightly tighten the mandrel and secure. Do not over-tighten as this can cause the mandrel to bend, causing your pen to come out oval. A spacer may be installed to give you more room between the thumbnut and the last bushing.
3. Turn the pen blanks to the desired shape using the bushings as a sizing guide.
4. Sand the surface in progressive steps until you get to 400 or 600 grit.
5. For a smooth finish, sand with Micro Mesh to 12,000 grit and apply finish of your choice.
6. Remove the blanks from the mandrel.



### Assembly

1. Press the nib holder into one end of the lower tube (the longest tube). Make sure you choose the appropriate end of the tube to preserve the pattern or grain match on your pen. There are two nib holders in each kit – the standard plastic one and one all metal. Either one can be used.
2. Press the receiver holder into the other end of the lower tube.
3. Rollerball kit: a. Drop the spring, small end up, into the receiver. Screw the receiver onto the receiver holder.  
b. Remove cap from refill and drop it in with the point sticking out of the tube.
4. Fountain kit: a. Insert refill cartridge or converter pump on the writing nib.
5. Place the thin trim ring on the nib and screw it in place. Lay this aside.
6. Press the center band assembly into the upper tube (short tube). Be sure to observe all techniques regarding grain or pattern match.
7. Press the brass insert into the other end of the same tube with the threaded end up. Press it in until the shoulder is flush with the blank. This will leave the threads sticking out.
8. Place the clip over the threaded part of the brass clip insert.
9. Place the clip ring over the clip with the notch over the clip.
10. Screw on the finial.
11. If the clip is not quite tight, you can disassemble the clip and press the threaded insert into the tube just slightly more.