

# william wood-write

## Churchill rollerball/fountain pen instructions



### Needed:

Mandrel B; drills 31/64 and 13.3 mm; bushing 16B; wood size 3/4" x 3/4"

This is a very large diameter pen, so extreme care must be taken when drilling the blanks. The bits are very large, so there is a high probability that the blank will split if the bit is allowed to exit the material without support. Therefore, we recommend that the blank length should be the length of the tube plus 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 31/64 bit and then enlarge the hole in the short blank with the 13.3 mm bit.

### Preparing the blanks

1. Cut the blanks the length of each brass tube plus 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 13.3 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 31/64 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 a material of your choice – such as wax or potato – 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. Prepare your glue. We recommend two part epoxy glue – use a fast drying type, one hour or less. Be sure to mix it thoroughly. Wax or baking paper or even a Post-it notepad all make excellent mixing surfaces. You can also use thick flexible CA glue, but you have to work quickly to get the tube all the way into the blank before the glue dries.
7. Roll one of the tubes in the epoxy.
8. Insert the tube with a twisting motion until it is almost entirely inside the blank. Then use a dowel or small stick to push it until the tube is equidistant between both ends of the blank. Repeat with the other tube.
9. Set aside until the epoxy has had time to reach its maximum strength.
10. When the glue has cured, use a hobby knife to remove the plugs from the ends.
11. 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 on the mandrel with the right bushings in the right place. The right bushing can be found by comparing the diameter of the bushing to the piece of hardware that will be placed in that place. For example, the bushing that is the same size as the clip will fit on the end of the blank that will eventually become the top of the cap.

2. Lightly tighten the mandrel and secure. Do not over-tighten the brass thumbnut – this can cause the mandrel to bend, which means your pen will 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. After turning the blanks, sand the surface in progressive steps until you get to 400 or 500 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.

### Assembling the pen



Another common cause of pen failure is the misalignment of parts when pressing them into place. We recommend using a pen press or small arbor press, but you can also use a good “C” clamp and much care. Be sure that parts are straight and in line with the blanks when pressing in the various parts – if not, you’ll end up with a poor-fitting pen or one that doesn’t work at all.

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. Drop the spring, small end up, into the receiver. Screw the receiver onto the receiver holder.
4. Remove cap from refill and drop it in with the point sticking out of the tube.
5. If making the fountain pen, replace steps 3 and 4 with this: insert refill cartridge or converter pump on the writing nib.
6. Place the thin trim ring on the nib and screw it in place. Lay this aside for a minute.
7. Press the center band assembly into the upper tube (short tube). Be sure to observe all techniques regarding grain or pattern match.
8. 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.
9. Place the clip over the threaded part of the brass clip insert.
10. Place the clip ring over the clip with the notch over the clip.
11. Screw on the finial.
12. If the clip is not quite tight, you can disassemble the clip and press the threaded insert into the tube just slightly more.
13. Place the cap on the pen – you’re finished!