

## Budget Streamline pen



### Needed:

Mandrel A, drill 7 mm, bushing 14A

### Preparing the blanks

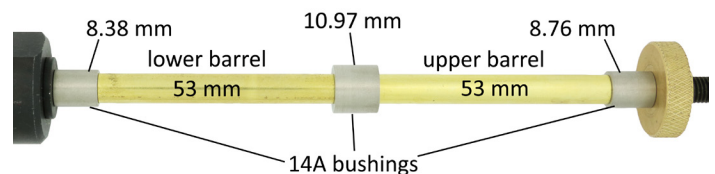
1. Cut the blanks 1/4" longer than each brass tube so you can square off the blanks after the tubes have been glued in.
2. Drill lengthwise through each blank using a 7 mm drill bit.
3. Scuff the brass tubes with sand paper to clean off oxidation and give the glue a better adhesion surface.
4. Plug the ends of the tube with a material of your choice – we recommend base plate wax – to keep the glue from getting into the tube. Push the tube ends into a thin section of the material to form a plug. *This is important – glue inside the tubes is a common cause of kit failure.*
5. Roll one of the tubes in glue and insert it into the blank with a twisting motion until it is equidistant between both ends of the blank. Repeat with the other tube.
6. Set aside until the glue has had time to reach its maximum strength.
7. When the glue has cured, use a hobby knife to remove the plugs from the ends.

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8. 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. *Improper tube length is another common cause of pen failure.*

### Turning the blanks



1. Assemble the bushings and barrels onto the mandrel referring to the image above.
2. Tighten the tailstock before tightening the blanks on the mandrel. Then tighten the nut that holds the blanks. Do not over tighten or you may bend your mandrel, which will cause your pens to come out oval.
3. This pen tapers on both ends, with the lower barrel tapering more than the cap. Turn the blanks to the desired contour, using the bushings as a sizing guide.
4. Sand to 400 or 500 grit. For a smooth finish, continue sanding with Micro Mesh through to 12,000 grit.

5. Apply a finish of your choice and remove the blanks from the mandrel.

### Assembling the pen

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1. Press the nib into the smallest end of the lower blank.

2. Press the transmission into the other end of this same blank up to the notch in the transmission. It is best to “creep up” on this pressing operation by pressing to near the right dimension, inserting the refill, twisting the transmission open, and checking the exposed tip at the nib. You want about 3.2 mm of refill tip exposed, but make sure that the tip is fully enclosed in the nib when it is retracted. This method can make up for slight errors made in trimming the barrel to the proper length.

3. Place the center band on the exposed transmission.

4. Slide the finial into the clip.

5. Press this assembly into one end of the other blank.

6. Push the top barrel over the transmission.

