

# Flat Top American pen



## Needed:

Mandrel A, bushing 34A, drill 8 mm.

## Preparing the blanks

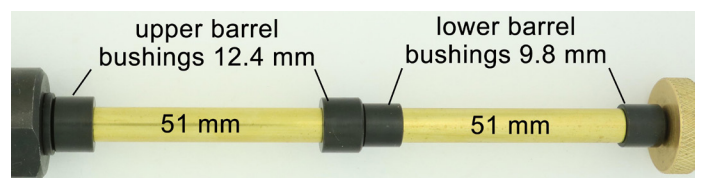
1. Cut the blanks the length of each brass tube plus 1/4". Drill each blank length-wise with the 8 mm drill bit.
2. Scuff the brass tubes with sandpaper to clean off the oxidation and give the glue a better adhesion surface.
3. Plug the ends of the tubes with a material of your choice – we recommend base plate 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.*
4. Roll one of the tubes in the glue. Insert the tube with a twisting motion until it equidistant between both ends of the blank. Repeat with the other tube.
5. Set aside until the glue has had time to reach its maximum strength.
6. When the glue has cured, use a hobby knife to remove the plugs from the ends.
7. Using a barrel trimmer of the proper size, square off the ends of the blanks until

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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 – the two large bushings are for the shorter upper barrel/cap and the two smaller bushings are for the longer lower barrel.
2. Turn the blanks to the desired contour, making sure that the area next to the bushing is turned to the size of the adjacent bushing. **Be sure that the lower barrel is not any higher than the bushing on the twist holder end. The centre bands needs to turn freely over this portion of the lower barrel.**
3. After turning the blank, sand the surface in progressive steps until you get to 400 or 600 grit.
4. Sand with Micro Mesh through 12,000 grit for a smooth finish. Use finish of your choice.

5. Measure 1 13/16" from the cap clip end and mark. With a sharp parting tool, remove the wood all the way to the brass tube and all the way to the end of the tube, on the cap center band end. This will receive the center band of your pen. Your cap blank should then have 1 13/16" of finished wood and the rest should be bare brass tube.

6. Remove the blanks from the mandrel.

### Assembling the pen

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1. If the nib assembly is not already assembled, push the nib into the black center.
2. Slide on the decorative ring and press this into the barrel tip end of the lower tube.
3. Press the twist holder into the other end of this blank.
4. Press the 3-piece center band onto the exposed tube of the other blank.
5. Do a twist test as follows:
  - Slide the brass end of the twist mechanism into the upper tube in the

centre band end and twist it to see if it turns freely. If it doesn't turn freely, sanding the inside of the tube is required. Repeat this test on the other end of that same tube.

- Once you're satisfied that the twist mechanism turns freely on both ends, continue to the next step.

6. Press the clip bushing into the unthreaded end of the twist mechanism.
7. Press the twist assembly, with the clip bushing attached, into the cap clip end of the upper tube. Press it flush with the end of the blank.
8. Put the black finial threads through the hole in the clip and screw into the brass clip bushing pressed in the blank in step #6.
9. Place the refill in the lower barrel with the spring attached.
10. Slide the cap over the refill and screw this cap assembly into place.
11. Check to see that the pen operates properly.

