

# PROJECT PEN KITS



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AXMINSTER

woodturning

## Comfort Chrome Plated Pen Kit

Code: 200355



## WHAT'S REQUIRED



Bushing Set:  
**611007**

Drill Bit Size:  
**7 mm**

Minimum Blank Size:  
**16 mm x 16 mm x 85 mm**

## PREPARING THE BLANKS, HINTS & TIPS

Preparing a wooden or acrylic/polyester blank for a pen mandrel.

1. Cut a blank to the length of each tube plus approximately 2.5mm to allow for trimming and squaring off the ends.
2. Mark the centre on the end of the blank.
3. Using the recommended drill bit, drill a hole lengthwise through the blank.
4. Apply epoxy glue, Polyurethane glue or gap filling cyanoacrylate (super glue) to the tubes.
5. Insert the tube into the blank with a twisting motion to spread the glue evenly inside the hole.

6. Centre the tube lengthwise inside the blank.
7. Allow the adhesive to cure.
8. When cured, square the ends of the blank. Using a barrel trimmer with a guide matching the inner diameter of the tube or a universal pen blank squaring jig with a disc sander.
9. Take the excess material down flush with the ends of the brass tube. (do not trim beyond the length of the tube since this may interfere with operation of the mechanism and assembly).

## TURNING THE BLANK, HINTS & TIPS

1. Starting from the headstock end, mount the bushings and blanks onto a pen mandrel in the following order, using bushing set 611007.
2. Small diameter bush followed by the blank chosen to be the lower part of the pen (If using a wooden blank, check the grain alignment).
3. Larger diameter bush followed by the blank chosen to be the upper part of the pen, finally one of the standard bushes supplied with the mandrel.
4. Do not worry about the long sleeve bushing as yet.
5. Secure the bushings and blanks onto the mandrel.
6. Slide the tailstock with a live centre into place against the mandrel and lock in position. This is for support; only slight pressure is required.

7. Using sharp tools, roughly turn the blanks down to a cylinder.
8. You may decide at this point to omit the comfort grip. If you so chose, ignore the following stages and continue with stage 13.
9. If using the comfort grip, make a pencil mark 27mm from the Nib end of the lower blank.
10. Use a parting tool, remove this 27mm section of the blank down to the brass tube. Keep a sharp, 90 degree corner on the blank.
11. Remove the blanks and bushings from the mandrel.
12. Place the long sleeve bushing over the 27mm section of the brass tube, reassemble the blanks and bushing on the mandrel as before.

### Tips/Hints

- If using a wooden blank, draw a short pencil line lengthwise across the centre of the blank. This will help maintain grain alignment when mounting the blanks onto a mandrel.
- Excessive pressure may cause the drill bit to wander and/or split the blank. Slow the feed rate and back the drill bit out repeatedly for chip removal.
- Roughen the brass tube slightly with abrasive for better adhesion.
- Certain acrylic blanks are more transparent than others, especially lighter colors or blanks with light colored swirls. To avoid the risk of the brass tube showing through the pen blank, paint the tubes white or black before gluing them in.
- The barrel trimmer guide also cleans any adhesive that may have gotten inside of the tube.

13. Turn the blanks down to become Pen Barrels with the profile of your choice.
14. Turn the blanks very slightly oversize, then sand and polish the ends down to the same diameter as the bushings.
15. Using successively finer abrasives gradually sand and polish the Pen Barrels.
16. Finish the Pen Barrels with your preferred choice of polish.

### Tips/Hints

Don't be afraid to sharpen frequently especially when turning acrylics.



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## ASSEMBLY, HINTS & TIPS

Layout parts according to diagram A

1. Slip the Cushion Grip, wide end first, over the exposed end of the brass tube on the lower Pen Barrel.
2. Press the Nib into the Lower Pen Barrel against the Cushion Grip.
3. Press the Twist Mechanism, brass end first, into the top of the Lower Pen Barrel to the Indentation.

**Note:** Be very careful not to press the Twist Mechanism too far into the Pen Barrel as it cannot be pulled out.

To determine if the Twist Mechanism is at the correct depth. Insert the Refill into the Pen Barrel and screw fully into the Twist Mechanism.

Actuate the Twist Mechanism to expose the Refill's point. When properly fitted the point should be fully hidden when retracted and just the chamfered portion of the Refill visible when extended.

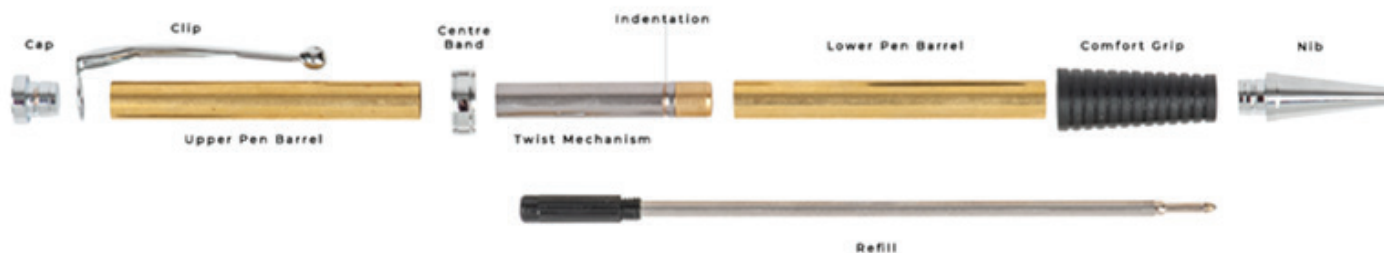
If the point does not extend far enough, remove the Refill and press the Twist Mechanism a little further into the tube.

4. Slide the Clip onto the Cap, do not try to force the Clip onto the Cap by hand it will seat fully when the Cap is pressed into the top end of the Upper Pen Barrel.
5. Press the Clip/Cap assembly into the top of the Upper Pen Barrel.
6. Slide the Centre Band over the Twist Mechanism.
7. Push (by hand) the Upper Pen Barrel over the exposed Twist Mechanism to complete the pen.
8. There is sufficient grip between the Upper Pen Barrel and the Twist Mechanism to keep the Upper Pen Barrel in place.
9. The Pen is operated by twisting the two halves in opposite directions to extend or retract the point.
10. To replace the refill: Pull the two halves apart and change the refill. Push back together.

### Tips/Hints

- Use a woodworking vice, one handed bar clamp, arbor press or a dedicated pen press.
- Press parts together slowly and steadily
- When pressing the parts together, CHECK the parts are correctly aligned with each other and straight. If the part is crooked or misaligned, it will result in a poor fit or render the pen unuseable.
- When laying out your pen barrel with the parts, pay careful attention to keep the pen barrels in the same orientation as when on the mandrel. i.e. a barrel may have a "top" and "bottom", now is the time to be certain of the orientation.

## DIAGRAM A



Visit the Knowledge blog 'How To Make A Pen' for hints, tips and videos  
[knowledge.axminstertools.com/pen-turning](http://knowledge.axminstertools.com/pen-turning)



Axminster Tools, Axminster, Devon, EX13 5PH  
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