

# PROJECT PEN KITS



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AXMINSTER

woodturning

## Empress Crystal Fountain Pen Kit

Code: 951809



## WHAT'S REQUIRED

Bushing Set:  
**951820**

Drill Bit Size:  
**8.7 mm (11/32") and 14.7 mm (37/64")**

Minimum Blank Size:  
**19 mm x 19 mm x 125 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).

### 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.

## TURNING THE BLANK, HINTS & TIPS

1. Mount the bushings and blanks onto a pen mandrel according to the diagram (If using a wooden blank, check the grain alignment).
2. Secure the bushings and blanks onto the mandrel.
3. 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.

4. Using sharp tools, turn the blanks down to become the Pen Barrel and the Cap with the profile of your choice.
5. Turn the blanks very slightly oversize, then sand and polish the ends down to the same diameter as the bushings.
6. Using successively finer abrasives gradually sand and polish the Pen Barrel and Cap.

7. Finish the Pen Barrel and Cap 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

1. Layout parts according to diagram A, ensuring the turned Barrels are the same orientation as when mounted on the mandrel.

**Hint:** When removing the blanks from the mandrel, mark the inside of each tube where they join to maintain grain alignment, if using a wooden blank, during assembly.

2. Press the Cap/Clip assembly into the top of the 'shorter' Pen Barrel.

3. Press the Centre Band Coupler into the bottom of the 'shorter' Pen Barrel.

4. Press the End Cap into the top of the 'longer' Pen Barrel.

5. Slide the Trim Ring (note the orientation) over the unthreaded end of the Nib Coupler.

6. Press the Nib Coupler/Trim Ring assembly into the bottom of the 'longer' Pen Barrel.

7. Push the Ink Cartridge, narrow end in first, into the back of the Fountain Nib.

8. Push gently to break the seal then press lightly to advance the ink forward.

9. Screw the Fountain Nib into the Nib Coupler to complete the pen.

### 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.

## DIAGRAM A



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



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