PROJECT PEN KITS

For more info and videos scan here

AXMINSTER woodturning

Rollerball Pen Kit - 24kt Gold (Black Clip)

Code: 810116

WHAT'S REQUIRED

Bushing Set: **310387**
Drill Bit Size: **10 mm**
Minimum Blank Size: **16 mm x 16 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 blank onto a pen mandrel according to the diagram.

2. Secure the bushings and blank 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 blank down to become the Pen Barrel with the profile of your choice.

5. Turn the blank 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.

7. Finish the Pen Barrel with your preferred choice of polish.

Tips/Hints

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

Continues over...

ASSEMBLY, HINTS & TIPS

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

Note: When removing the blanks from the mandrel, use a felt tip pen to mark the inside of each tube where they join to maintain the grain or pattern alignment.

2. Decide which Pen Barrel will be the Pen Body and which Pen Barrel will be the Pen Cap.

3. The Pen Barrel chosen to become the Pen Cap needs to be modified to accept the Pen Clip. This modification is a small notch (4mm wide by 1mm deep) cut/filed in the top edge of the Barrel.

4. Take the Pen Barrel chosen to be the Pen Body and press one of the Couplers into one end.

5. Press the other Coupler into the opposite end.

6. Screw the Lower End Cap and the Nib onto the bottom of the Pen Body.

7. Screw the Top End Cap onto the top of the Pen Body.

8. Screw the Retainer/Cap Adjuster onto the thread of the Pen Clip

9. Ensure the Pen Clip is aligned with the notch and press gently but firmly into the top of the Pen Cap.

Introduce the Pen Body into the Pen Cap. The Pen Cap is held in position by the action of the small ridges (in the mouth of the Retainer/Cap Adjuster), locking over the raised rim of the Nib.

10. When correctly positioned the Pen Cap should be locked onto the Pen Body and the face of the Pen Cap should be flush with the face of the Coupler.

11. If this is not the case the Retainer/Cap Adjuster can be moved forward or back by screwing or unscrewing. There is a profile similar to a screw head moulded in the bottom of the adjuster, which can be engaged with a small flat bladed screwdriver, or using Cap Adjuster Tool (210083), which has a tip designed specifically for this task.

Fitting the Refill

1. When assembly is completed and satisfactory. Remove the Pen Cap.

2. Unscrew the Lower End Cap and Nib from the Pen Body.

3. Locate the Spring; (note that the Spring is 'coned'), insert the small end of the Spring onto the locating 'dimple' in the end of the Refill.

4. Insert the Refill into the Pen Body.

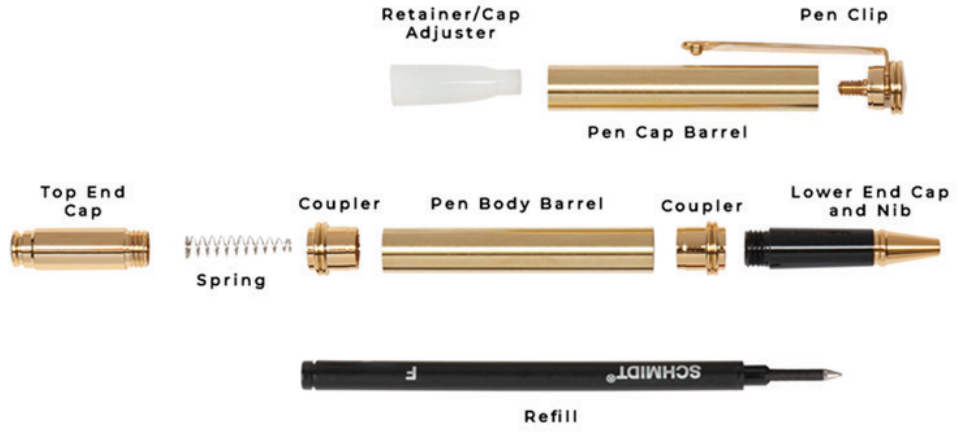
5. Refit the Lower End Cap and Nib and screw home. There will be a small resistance felt as the Spring is compressed to apply the pressure to keep the Refill in position.

6. Refit the Pen Cap.

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 pen 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

Axminster Tools, Axminster, Devon, EX13 5PH
AXMINSTERTOOLS.COM