

## Graduate Rollerball Pen Instructions

## **Required:**

1/4" Mandrel 10mm Drill Bit 11.5mm or 15/32" Drill Bit

Pen Mill Graduate RF Bushings

## Turning the Pen Barrels.

1. Cut a pen blanks slightly longer than the brass tubes.

- 2. Drill the blanks through the centre, lengthwise. Drill the Shorter tube with the 11.5mm bit and the Long Tube with the 10mm Bit.
- 3. Sand the surface of the brass tubes. This can be done by hand or mounted in the bushes on the lathe. This will clean off any oxidation and roughen the surface for a better glue bond.
- 4. Bond the tubes into the timber blanks. This can be done with CA or two-part epoxy glue. Insert the tube with a twisting motion then push it in until slightly under flush. About equal distance in from each end of the timber blank.
- 5. Allow glue to cure as required by glue manufacturer.
- 6. Clean all the dried glue from inside the brass tube. Not cleaning out all the glue from the tube is the most common cause of pen failure.
- 7. Using a Pen Mill, face off the ends of the blanks until you can just see the bright brass end of the tube. STOP facing at this point. Another method to square the ends is sanding on a disc sander against a square fence or using a jig to hold the tube square to the disc then lightly touching the end with the Pen Mill to finish them.
- 8. Once the blanks are square and you can see the ends of the tube brighten you can mount the blanks to the mandrel and finish the turning until the desired shape is reached.
- 9. Finish the pen to your specifications. Remove the barrels from the mandrel and it is ready for assembly.



## Graduate Rollerball Pen Instructions Assembly of the pen.



- 1. Press the End Cap into one end of the Long Tube.
- 2. Press the Nib Coupler into the other end of the Long Tube.
- 3. Insert the Spring into the pen through the Nib Coupler, large end first. Slide the Refill in and screw on the Rollerball Nib.
- 4. Press the Cap and Clip into one end of the Short Tube.
- 5. Press the Centre Band Coupler into the other end of the short tube.
- 6. Click the Cap onto the Pen body.
- 7. Your pen is finished.