

Charnwood

Woodworking machinery at its best!

Instructions for Cigar Pen & Pencil Kits



Kit Features

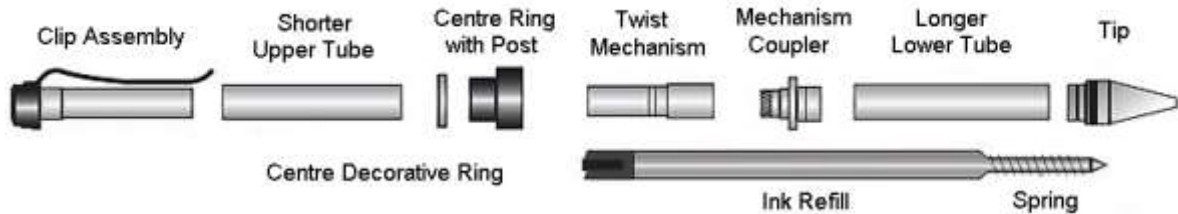
- Larger diameter pen of heavier design
- Overall length 143mm (5 5/8 ") closed
- Pen uses 'Parker' style ballpoint refill
- Pencil uses 0.9mm leads
- Smooth twist operation

Accessories Required

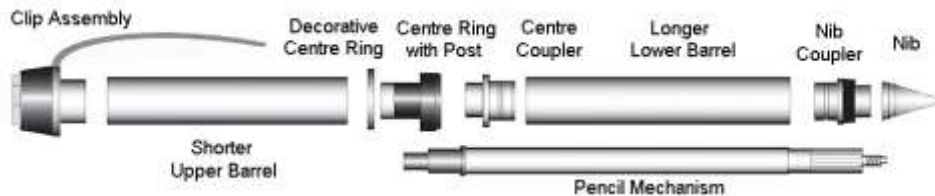
- 7mm Pen Mandrel (PM1MT or PM2MT)
- 10mm Drill Bit (PBD10)
- Bushing Set (PENCBUSH)
- Barrel Trimmer with 10mm Shaft (PENBT + PENBTP)
- Adhesive – 2 Part Epoxy, Polyurethane or Medium Cyanoacrylate
- Blank of minimum size 19mm sq x 115mm (3/4" sq x 4 1/2")

Diagram 1 – The Parts of the Pen included in the Kit

Pen



Pencil



Preparing the Blank

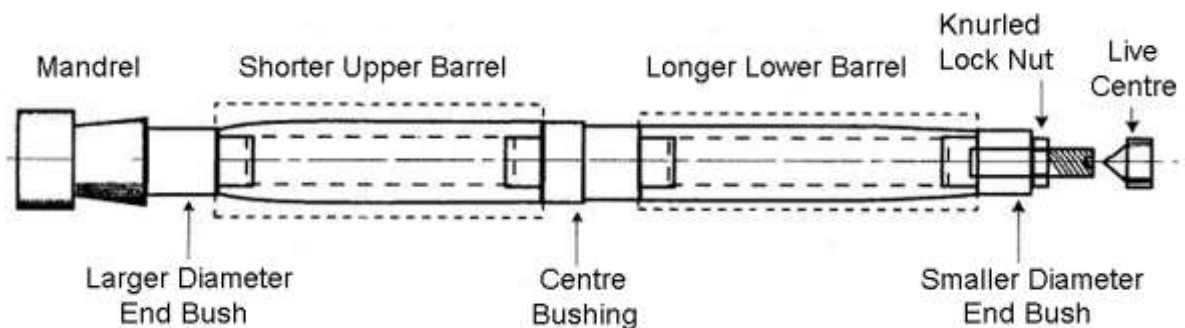
Step 1 – Cut the blank (wood or acrylic) to the length of the brass tubes plus a small amount (approx. 2mm) for trimming.

Step 2 – Drill a 10mm hole length wise through each blank. Use a slow speed and avoid using excessive pressure as this could cause the drill to wander or the blank to crack. Back out the drill regularly to clear chips and prevent overheating.

Step 3 – Roughen the outside of the tubes with coarse (80g) abrasive. With your choice of epoxy, polyurethane or medium cyanoacrylate adhesive, cover the outside of the tubes and insert into the blanks using a twisting motion to ensure that the glue is evenly spread. If using a polyurethane glue, wet the inside of the blanks before inserting the tubes. Centre the tubes lengthwise and allow to dry. If using a translucent acrylic blanks it is advisable to paint the inside of the bored holes or brass tubes white as this will enhance their colour and prevent the tubes being visible.

Step 4 – Using a Barrel Trimmer with 10mm shaft, square the ends of the blanks 90 degrees flush to the ends of the brass tubes. Alternatively this can be done using a disc/belt sander. Take care not to over trim the tubes/blanks as this will shorten the barrel and may affect the operation of the mechanism. Ensure that the inside of the tubes are clear of dried glue. The use of a Tube Insertion Tool (PENTI) will minimise contact with the glue.

Diagram 2 – Mandrel Assembly



Turning the Blank

Step 5 – Mount the bushings and blanks on the mandrel according to Diagram 2 and hand-tighten the knurled nut to hold all components in place. Please note that the two end bushings are of very slightly different diameters. Hold the two together to determine which is larger. If you plan to finish your pen with a varnish or CA, first apply a little paste wax polish to the bushings which will help prevent them from sticking. Slide the tailstock and live centre up to the mandrel & locate the point in the dimple in the end of the shaft. Lock in place and lightly tighten the quill to remove any play. Take care not to overtighten as this could bend the mandrel shaft.

Step 6 – Using sharp tools, turn down the blank to a diameter slightly larger than the bushings. The profile of the barrel can be straight or shaped, but take care when making the final cuts as the material remaining could be less than 1mm thick.

Step 7 – Reduce the speed of the lathe and sand the barrel to the diameter of the bushings. Start with 150 grit abrasive, progressing through higher grades up to 400 or 600 grit. Always stop the lathe and sand along the length of the barrel before continuing to the next grade of abrasive. Abranet is the ideal abrasive as this does not clog.

Step 8 - A wood finish of your choice can then be applied. For a glass-like finish on acrylic, or wood with CA applied, continue sanding at a higher speed using Foam Backed Sanding Pads (PENSP) wet, through 1500, 1800, 2400, 3200, 3600, 4000, 6000, 8000 grits and up to 12000 grit.

Step 9 – Remove the barrels from the mandrel. Depending on the finish applied, it might be necessary to remove any overspill by lightly sanding the ends by gently twisting them on a piece of 120 grit abrasive placed on a flat surface.

Assembly

It is possible to assemble your pen using a suitably sized wood clamp, but this process is made much easier by using Pen Press Set (PP1MT or PP2MT) fitted to your lathe.

Step 12 – Line up and identify the finished parts according to Diagram 1. Some parts may be supplied ready assembled in which case they should be unscrewed.

Pen

Step 13 – Press the Clip Assembly into the smaller diameter end of the finished upper barrel. Place the Centre Decorative Ring over the Centre Ring post and press into the other end of the barrel.

Step 14 – Press the Mechanism Coupler into the larger diameter end of the finished Lower Barrel. Then press the tip into the other end.

Step 15 – Thread the Spring over the nib of the Refill and insert through the Coupler into the lower barrel. Screw the Twist Mechanism over the end of the Refill and on to the threaded end of the Coupler.

Step 16 – Engage the end of the Twist Mechanism with the end of the upper barrel and push-fit together until the two halves are connected.

The pen is now complete and can be operated by twisting the barrel.

Pencil

Step 13 – Press the Clip Assembly into the smaller diameter end of the finished upper barrel. Place the Centre Decorative Ring over the Centre Ring post and press into the other end of the barrel.

Step 14 – Press the Centre Coupler into the larger end of the lower barrel. Then press the Nib Coupler into the other, smaller end.

Step 15 – Fully insert the Pencil Mechanism into the lower barrel until the threaded tip protrudes through the nib coupler. Place the black ring onto the Coupler and screw on the Nib tightly.

Step 16 – Engage the end of the Pencil Mechanism with the end of the upper barrel and push-fit together until the two halves are connected. This is removable for access to the eraser. Spare leads can be stored in the mechanism by first removing the eraser.

The pencil is now complete and is operated by twisting the lower barrel until the lead is exposed. (Use 0.9mm leads).

Charnwood, Cedar Court, Walker Road, Bardon, Leicestershire, LE67 1TU
Tel. 01530 516 926 Fax. 01530 516 929 email: sales@charnwood.net
www.charnwood.net