

Charnwood

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Instructions for Classic Elite Fountain Pen & Rollerball Pen Kits



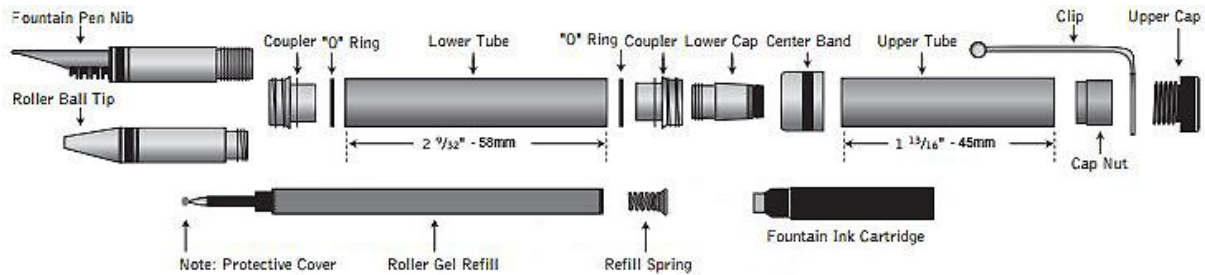
Kit Features

- Heavy Gold Plating
- Elegant contemporary design combined with old and new styling
- Screw-on cap with quarter turn threads to attach to either end of the pen
- Fountain pen uses quality Iridium tipped nib
- Overall length 135mm (5¼ ") closed
- Rollerball contains black gel refill for smooth writing
- Ink Cartridge system for Fountain Pen

Accessories Required

- 7mm Pen Mandrel (PM1MT or PM2MT)
- 10mm Drill Bit (PBD10)
- Bushing Set (PENE BUSH)
- 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 4½")

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



Preparing the Blank

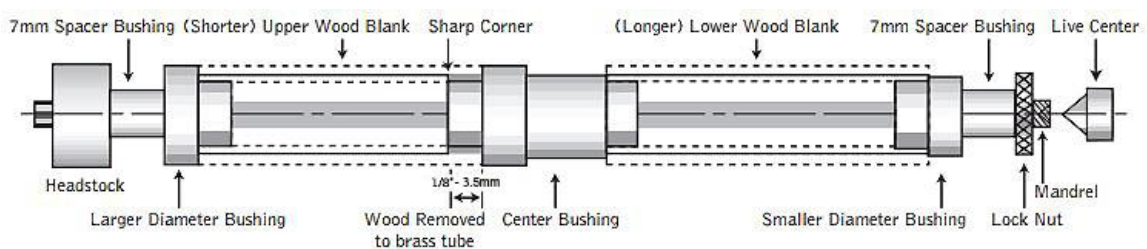
Step 1 – Cut the blank (wood or acrylic) to the length of the brass tubes plus a small amount (approx. 2mm) for trimming.

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 (PNTI) 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. 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 – With a pencil, mark a line on the upper (shorter) barrel 3.5mm (1/8”) from the centre bushing. Using a sharp tool of your choice (a parting tool is ideal) turn away the blank down to the brass tube. Take care to retain a sharp corner at the end of the blank at 90 degrees to the tube as this will ensure a tight joint with the centre band when the pen is assembled.

Step 9 - 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 10 – 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.

Fountain Pen Lower Barrel

Step 13 – After inserting an ‘O’ ring into the groove next to the thread of each coupler, press one into each end of the lower (longer) barrel. Attach the lower cap to either of the couplers.

Step 14 – Firmly push the ink cartridge (narrow end first) into the open end of the nib assembly which will cut an opening and allow the ink to flow. This assembly can now be screwed into the open end of the barrel. To help the ink start to flow, stroke the nib from the small hole to the tip with a damp tissue whilst **lightly** squeezing the cartridge.

Rollerball Pen Lower Barrel

Step 13 – After inserting an ‘O’ ring into the groove next to the thread of each coupler, press one into each end of the lower (longer) barrel. Attach the lower cap to either of the couplers.

Step 14 – Drop the spring into the barrel followed by the square end of the refill. Screw on the tip of the pen and remove the protective covering from the roller ball.

Cap Barrel

Step 15 – Press the cap nut, recessed end first, into the flush end of the upper (shorter) barrel.

Step 16 – Press the centre band (square end first) over the exposed end of the brass tube until it touches the wood/acrylic. Use a drop of glue to secure, if necessary.

Step 17 – Insert the threaded stud of the upper cap through the hole in the clip and into the cap nut and tighten.

The pen is now ready to use. A quick quarter turn of the cap will attach it to either end. Always use the cap to cover the nib/roller when not in use as this will help prevent the ink from drying.

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