charnwood

Woodworking machinery at its best!

Instructions for Sierra Pen & Pencil Kits

Kit Features

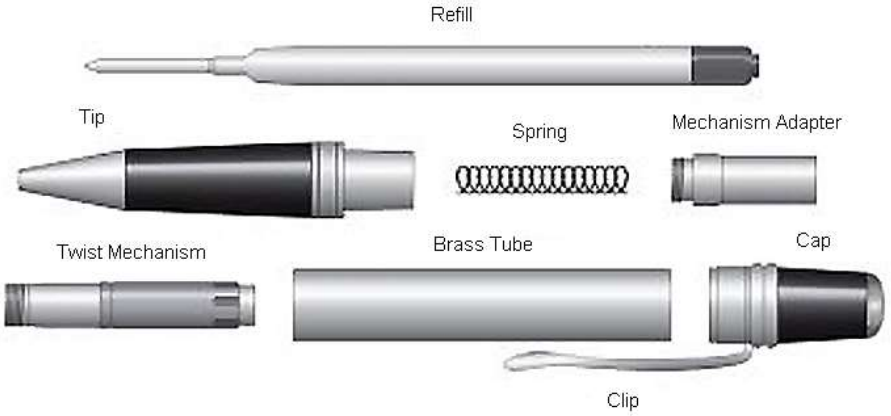
- Easy to turn single tube design
- Minimal parts to assemble
- Pen uses Parker style refills (PENSR)
- Available in Chrome or Gold
- Overall length 135mm (5 ¼")
- White tubes available for use with translucent blanks (PENSTWH)

Accessories Required

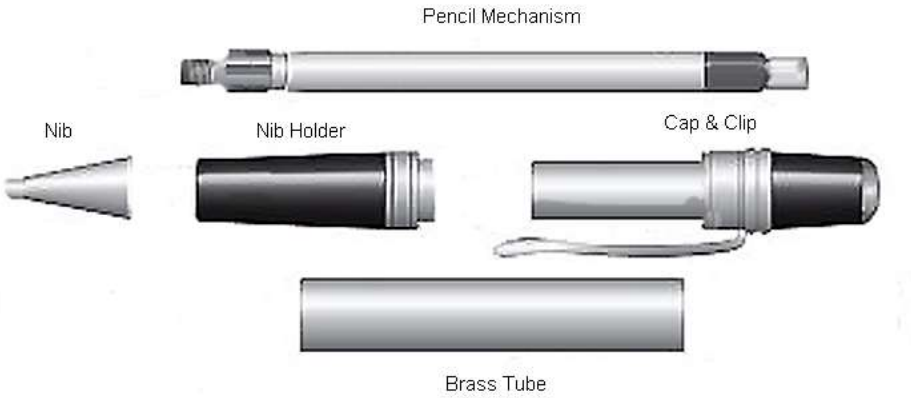
- 7mm Pen Mandrel (PM1MT or PM2MT)
- 27/64" Drill Bit (PBD2764)
- Bushing Set (PENSBUSH)
- Barrel Trimmer with" Shaft (PENBT + PENBTP)
- Adhesive – 2 Part Epoxy, Polyurethane or Medium Cyanoacrylate
- Blank of minimum size 19mm x 65mm (3/4" x 2½")

Diagram 1 – The Parts included in the Kit

Pen



Pencil



Preparing the Blank

The barrels for the pen and pencil versions of the Sierra are identical

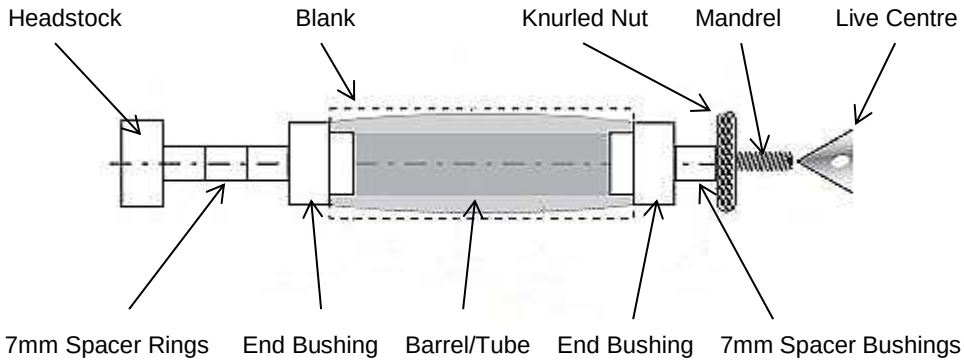
Step 1 – Cut the blank (wood or acrylic) to the length of the brass tube plus a small amount (approx. 2mm) for trimming.

Step 2 – Drill a 27/64” hole length wise through the 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 tube with coarse (80g) abrasive. With your choice of epoxy, polyurethane or medium cyanoacrylate adhesive, cover the outside of the tube and insert into the blank using a twisting motion to ensure that the glue is evenly spread. If using a polyurethane glue, wet the inside of the blank before inserting the tube. Centre the tube lengthwise and allow to dry. If using a translucent acrylic blank it is advisable to paint the inside of the bored hole or brass tube white as this will enhance its colour and prevent the tube being visible. Alternatively you can use the optional ready painted tubes (PENSTWH).

Step 4 – Using a Barrel Trimmer with 27/64” shaft, square the ends of the blank 90 degrees flush to the ends of the brass tube. Alternatively this can be done using a disc/belt sander. Take care not to over trim the tube/blank as this will shorten the barrel and may affect the operation of the mechanism. Ensure that the inside of the tube is 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 blank 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 - 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 barrel 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 10 – 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 Assembly

Step 11 – Press the Cap with Clip into one end of the Barrel.

Step 12 – Screw the Mechanism Adapter into the Nib. Insert the Spring into the open end of the Adapter, followed by the Pen Refill. The Twist Mechanism is then placed over the end of the Refill and screwed into the Adapter.

Step 13 – Insert the assembly into the open end of the Barrel - it is a push-fit which allows the assembly to be removed when the refill requires replacement.

Twist to operate.

Pencil Assembly

Step 11 – Press the Cap with Clip into one end of the Barrel.

Step 12 – Insert the Mechanism into the open end of the Nib Holder and screw on the Nib tightly.

Step 13 – Insert the assembly into the open end of the Barrel - it is a push-fit which allows the assembly to be removed when the eraser is required.

Twist to operate. Uses 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