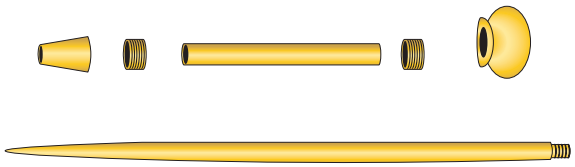
Scratch Awl Kit **CT-SA-G** INSTRUCTIONS



A. REQUIRED TOOLS AND ACCESSORIES

- 7 mm Pen Mandrel MAND-91 or MAND-92
- Drill Bit 7 mm BPD-7MM-PRC
- Slimline Bushing set (3 pc) PKM-BUSH3
- 7 mm Barrel Trimmer PKTRIMKIT
- 2 Part Epoxy Glue or CA (cyanoacrylate) glue
- Sanding and finishing supplies

B. PREPARING THE BLANKS

1. Cut the blank about 3 mm (1/8") longer than the brass tube to allow for squaring the ends later.

2. Drill the blank with a 7 mm drill bit at a speed of 900 to 1200 RPM.

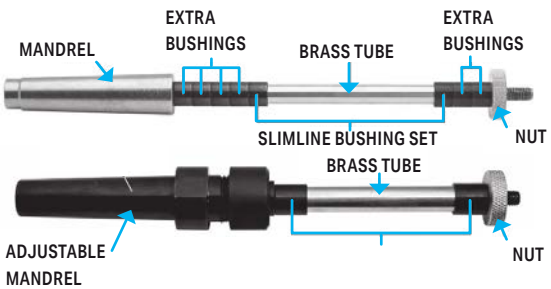
3. Roughen the brass tube with low-grit sandpaper to remove oxidation. This can be done by hand, using a drill press, or a portable hand drill.

4. Prepare to glue with medium CA (cyanoacrylate) glue or two-part fast-drying epoxy.

5. Apply the glue to the outside of the tube with a generous amount around the tube end that is inserted first. Do not apply glue to the inside of the blank, as this will cause the glue to get inside the brass tube and ruin the tube.

6. Insert the tube with a twisting motion into the blank until the tube is about the same distance to both ends of the blank. Wipe off any excess glue on the ends of the blank. Allow the glue to dry.

7. Using a barrel trimmer, disk, or belt sander, trim the ends of the blank until you can just see the bright brass ends of the tube. The face of both ends must be perpendicular to the brass tube and parallel to each other. Ensure the trimmed blank length is the same as the original length of the brass tube and that the inside of the brass tube is clean and free of any glue.



B. TURNING THE BLANK

1. Assemble the blank on the mandrel with the bushings placed, as shown in the picture above. Note that all the bushings are the same size. Wood spacers may also be used to fill the extra space on the mandrel.

2. Tighten the mandrel nut that holds the blank, then bring the tailstock up against the mandrel. Do not over-tighten the tailstock or mandrel nut, as this may cause the mandrel to flex, causing the blank to go out of round.

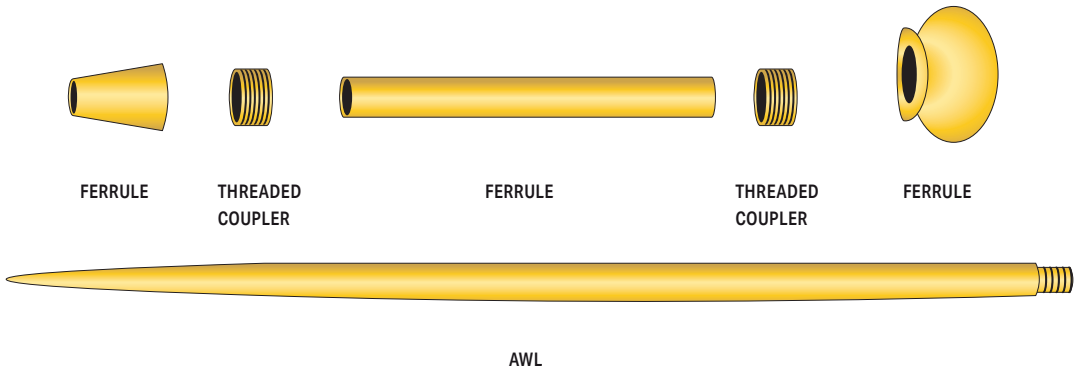
3. Measure 6.4 mm (1/4") from the ends of the brass tube and make definitive marks. Using a sharp parting tool, remove ALL the wood from your marks to the end of the blank, exposing the brass tube. Be very careful not to damage the brass tube.

4. Turn the blank to the desired shape. The diameter of the blank at the butt end of the awl handle should be 14.3 mm (9/16"). The diameter of the blank at the pointed end of the awl handle should be 12.7 mm (1/2").

5. After turning, sand the surfaces in progressive steps of 120, 180, 240, 320, 400, 600, and even 1000 grit if a higher finish is desired.

6. Apply the finish of choice and polish. Micromesh sandpaper may be used for acrylic blanks.

7. Remove the blank from the mandrel.



C. ASSEMBLY

1. Press one threaded coupler over each exposed end of the brass tube. The threaded couplers have a larger diameter stepped area on the inside, making it easy to fit the threaded coupler onto the brass tube.

2. Thread the awl into the cap.

3. Insert the awl through the butt end of the brass tube and thread it into the threaded coupler.

4. Slide the ferrule onto the awl point and thread it onto the threaded coupler.

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