



## Woodworker's/Artist's Pencil

Product #146767

### General Instructions

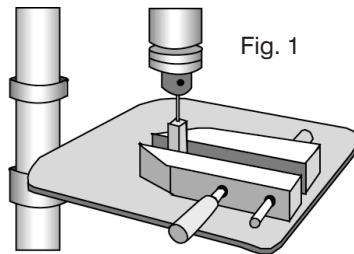
Whether you're a novice turner or a pro, you'll find these projects are all quick and easy to make. Using cut-offs and shorts, the type everyone saves but doesn't know what to do with, you'll find yourself making handsome, custom woodturning projects which are great for gifts or for sale. The following is general in nature, please refer to the instruction sheet on the opposite side for specific dimensions and sizes for your project.

#### 1. Cutting Blanks

Cut wooden blanks to the size specified in the enclosed instructions. For your safety, be sure that the blanks are solid and have no holes, checks or other defects.

#### 2. Drilling Blanks

Center and bore a hole through your stock as specified in the Project Instructions on the opposite side. The center of the blank can be located at the intersection of diagonal lines, drawn from opposite corners. All holes are easily drilled using a clamp and a drill press (**FIG. 1**). Before you start to drill be sure that your blank is at 90° to the drill press table. You may also chuck and drill the stock on your lathe.



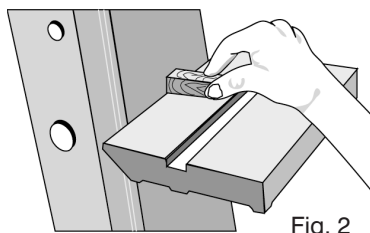
#### 3. Gluing Blanks to Tubes

Rough the brass tube's surface with a fine grit sandpaper and use a quick drying CA type glue to secure the brass tubes into the blanks. Rotate the tube as you insert it to ensure maximum surface coverage of glue. If you find that CA glue is not providing adequate bonding, an alternative is any two part epoxy type glue.

#### 4. Sanding Blanks to Length

Using a belt or disc sander, square the ends of the brass tube/wood blank. The blank should be flush with the brass tube on both ends. Care should be taken to not sand into the tubes (**FIG. 2**). If any excess glue remains inside the tubes it should be gently scraped out.

*Tip: Excess glue can be scraped out using the threaded end of the mandrel when mounting the blanks for turning.*



### 5. Mandrel Preparation

Woodcraft's new Pen and Pencil Maker's Mandrel system allows you to turn a variety of small projects without requiring the purchase of a unique, special mandrel each time. The only item you will need to purchase to turn new projects is the specially designed bushing set for the project of your choice. The mandrel is provided with either a #1 Morse Taper (141468) or a #2 Morse Taper (141469). If you prefer to use the mandrel in a three jaw chuck, simply loosen the Morse Taper set screw and slide the Morse Taper off of the shaft. Now the mandrel shaft may be mounted directly in your three jaw chuck. With the bushing sets specified on the project instruction sheet, mount your wood blanks and bushings as depicted for each project. With the mandrel mounted in your lathe, slide a bushing onto the mandrel, followed by a wood blank and a second bushing or spacer as required, followed by the second wood blank if required. With the wood blanks installed on the mandrel, secure the wood blank/bushing assembly using the washer and retaining nut provided. Bring up a live center in the tailstock to support the threaded end of the mandrel. Do not over tighten the tailstock or the mandrel will flex and bend causing oval shaped turnings.

### 6. Turning Blanks

Place your tool rest parallel and as close as possible to the blank. Rotate the blank by hand to ensure it will not touch the tool rest when the lathe is turned on. Using a turning speed of approximately 1,000 RPM begin turning the blank to a diameter slightly larger than the bushings. You can work the stock down to just short of the desired design or diameter by carefully scraping or sanding.

### 7. Finishing the Blanks

Blanks can be finished like any other wood project. Using a fine grit sandpaper, sand the blank until it is flush with the bushing for parallel sided projects or until the desired profile is obtained for custom projects. Use a wood filler, if desired, to fill any grain openings in the blank. Final sanding with a wet/dry paper will create a blank which is glass smooth. *Tip: We have found that use of Micro Mesh sanding paper (11L61) after wet/dry sanding creates a perfect, glass smooth finish.*

### 8. Assembly

All parts should fit together as depicted in the parts diagram for each project. In some cases a pen press or machinists vise will be needed to completely press the parts together. Protect all plated parts from scratching by covering them with a cloth or thin pad before placing them in a vise. Proceed carefully, many of the kit components are delicate and uneven or excessive pressure will cause permanent damage.



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### 1. Cutting Blanks

Cut one blank  $\frac{3}{4}$ " x  $\frac{3}{4}$ ", and slightly longer than the brass tube (approximately  $3\frac{1}{2}$ ").

### 2. Drilling Blanks

Using a  $\frac{15}{32}$ " bit, drill a hole lengthwise through the center of the blank.

### 3. Gluing Blanks to Tubes

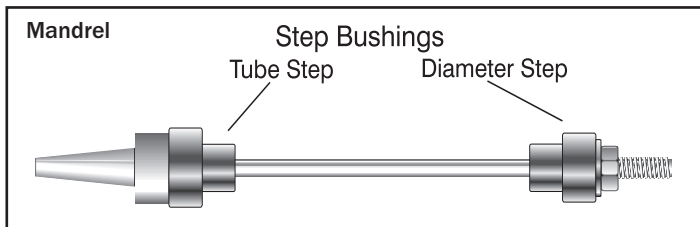
See General Instructions for details.

### 4. Sanding Blanks to Length

See General Instructions for details.

### 5. Mandrel Preparation

The two bushings have a very slight diameter difference. To determine the larger of the bushings hold the bushings together with their largest diameters facing each other. You can visually see the difference, or use your fingernail to determine the bushing with the largest diameter. We suggest marking the larger diameter bushing for future reference. Mount the blank and bushings on the lathe mandrel in the following order. Place the larger diameter bushing on the mandrel with the lip of the bushing facing the tailstock. This will be the top of the pencil. Slide the wood/tube blank on the mandrel with the end of the blank that you wish to be the top of your pencil going on first. Make sure the lip of the bushing slides into the tube. Slide the second (smaller diameter) bushing onto the mandrel lip end first, again making sure the lip seats inside the tube. Secure the assembly with the mandrel nut and washer. If you are not using the Woodcraft Professional Pen Turning Mandrel you may need to make a wood spacer to allow the mandrel nut/washer to tighten the assembly.



### 6. Turning the Blanks

See General Instructions for details.

### 7. Finishing the Barrels

See General Instructions for details.

### 8. Assembly

Press the Internally Threaded Insert (A), shouldered end first, into the end of the Tube (B) which will be the bottom of the pen. Slide the Pocket Clip (C) onto the Top Finial (D) and press this assembly into the opposite end of the tube from the Internally Threaded Insert (A) previously installed. If the Pencil Mechanism Top/Sharpener (F) is not already attached, screw the Top/Sharpener (F) into the top of the Pencil Mechanism (E). Slide the Pencil Mechanism (E) through the bottom of the Tube and screw it into the Internally Threaded Insert.

### 9. Operation

The lead is held in place by a collet located at the bottom of the Pencil Mechanism. Pushing the Pencil Mechanism Top/Sharpener opens the collet and allows the lead to freely move forward. Releasing the Pencil Mechanism/Sharpener locks the lead in place. Since the lead is able to freely slide through the open collet, do not open the collet unless you hold a finger in front of the opening to prevent the lead from falling completely out of the pencil. To sharpen the lead, unscrew the Pencil Top/Sharpener from the Mechanism, slide the open end of the Sharpener over the end of the lead and rotate the Sharpener a few times.

