



## Pocket Tool Pen

Product #129305

### 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.

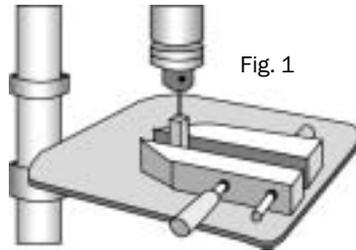


Fig. 1

#### 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.*



Fig. 2

### 5. Mandrel Preparation

Woodcraft's new Pen and Pencil Makers 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 or a #2 Morse Taper. 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 bushings 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 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 machinist 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 two blanks, one  $\frac{5}{8}$ " x  $\frac{5}{8}$ " x  $2\frac{1}{8}$ " and one  $\frac{5}{8}$ " x  $\frac{5}{8}$ " x  $2\frac{1}{2}$ ".

### 2. Drilling Blanks

Using a  $\frac{13}{32}$ " twist bit, drill a hole lengthwise through the center of each blank. See General Instructions for details.

### 3. Gluing Blanks to Tubes

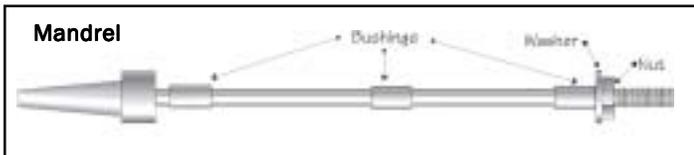
Prepare as described in the General Instructions.

### 4. Sanding Blanks to Length

Prepare as described in the General Instructions.

### 5. Mandrel Preparation

Mount the blanks and bushings on your lathe mandrel. Place the first bushing, which has only one lip, on the mandrel with the lip facing the tailstock end of the lathe. Slip the wood/tube blank over the bushing lip, followed by the bushing with lips on both ends. Slip the second wood/tube blank onto the mandrel followed by the third bushing, which has only one lip, with its lip facing the headstock. Secure the assembly with the mandrel nut and washer, ensuring that the lips of the bushings slide into the wood/tube blanks.



### 6. Turning the Blanks

Prepare as described in the General Instructions. The blanks may be turned to the exact diameter of the bushings for a parallel barrel pen or turned to any shape you desire by designing custom profiles.

### 7. Finishing the Blanks

Prepare as described in the General Instructions.

### 8. Assembly

1. Press the Collet Retainer Insert (C) into one end of the longest turned barrel (D). **Note:** There are three female threaded inserts in this kit. The two with the largest internal diameter are the Center Connector Inserts (E), they thread onto the Knurled Center Connector (F), the third, with the smaller internal diameter, is the Collet Retainer Insert (C).
2. Press one of the two Center Connector Inserts (E) into the opposite end of the barrel into which the Collet Retainer Insert was pressed in Step 1.
3. Press the other Center Connector Insert into one end of the shorter turned barrel (G).
4. Press the Clip Support Insert (K) into the opposite end of the shorter barrel from the Center Connector Insert. Slip the unthreaded end of the Cap Retainer (I) through the Clip (H) and press this assembly into the Clip Support Insert previously pressed into the tube, securing the clip between the Cap Retainer and the Clip Support.
5. Slide the Collet (A) through the Collet Nut (B) and screw the collet loosely into the Collet Retainer Insert previously pressed into the longest, or bottom, barrel.
6. Screw the Center Connector (F) into the opposite end of the bottom barrel from the collet, then screw the top barrel onto the Center Connector.
7. Insert the tools into the top barrel and screw the Cap (J) onto the Cap Retainer.

### 9. Using the Tool

1. Select a tool from the body, loosen the Collet Nut (B) and insert the tool. When inserting tools with small flanges near the end, such as the screw drivers, align the flanges with the two jaws of the collet which are grooved to accept them. Tighten the Collet Nut **finger tight** only, this is sufficient pressure to hold the tools.

#### Additional Parts:

**129581** replacement tube set (5 pr.)

