



## Slim Style Pen & Pencil Kits



Product #123052, 123053, 123059, 123060, 123080, 123087, 123320, 123325, 123330, 123335, 124637, 124638, 124644, 124645, 124651, 124658, 141655, 141656, 141657, 142414, 142415, 142416, 142505, 142506, 142507, 147074, 147075, 148778, 822947

### General Instructions

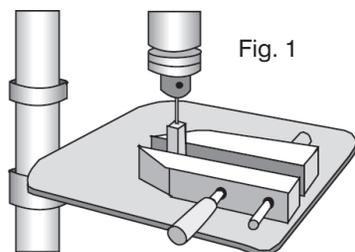
Whether you're a novice turner or a pro, you'll find these projects are all quick and easy to make. Using cut-offs and shorts, the type everyone saves but doesn't know what to do with, you'll find yourself making handsome, custom woodturning projects which are great for gifts or for sale. The following 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.



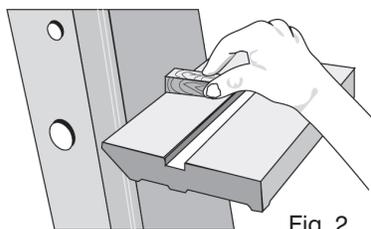
#### 3. Gluing Blanks to Tubes

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.



## Slim Style Pen & Pencil Kits

Product #123052, 123053, 123059, 123060, 123080, 123087, 123320, 123325, 123330, 123335, 124637, 124638, 124644, 124645, 124651, 124658, 141655, 141656, 141657, 142414, 142415, 142416, 142505, 142506, 142507, 147074, 147075, 148778, 822947

### 1. Cutting Blanks

Cut wooden blanks to measure  $\frac{1}{2}$ " x  $\frac{1}{2}$ " x the length of the brass tube plus approximately  $\frac{1}{4}$ ".

### 2. Drilling Blanks

Using a 7mm drill bit (123306), center and bore a hole through the complete length 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

See General Instructions for details.

Slide a bushing (06R03) onto the mandrel. Slide the first blank onto the mandrel followed by another bushing, the second blank and the last bushing. Secure the blanks with the mandrel nut and washer.

### 6. Turning the Blanks

See General Instructions for details.

### 7. Finishing the Blanks

See General Instructions for details.

### 8. Pen Assembly

All parts should be press fit with a machinists type vise. Protect all plated metal parts from scratches by covering with a cloth or thin pad before placing in vise.

1. Gently press the pen clip/cap (1/5) into the upper barrel (3).

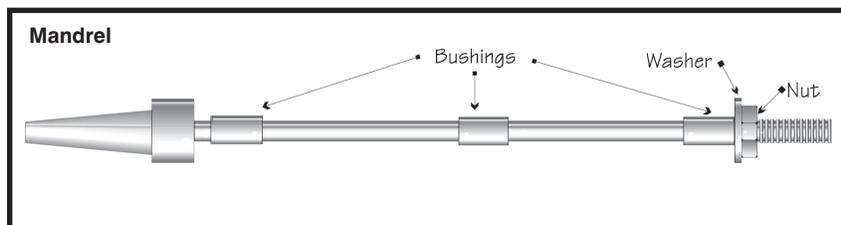
2. Install the tip (7) into the lower barrel (6).

3. Insert the pen twist mechanism (8) threaded end out into the lower barrel (6) until the small indentation is just covered. See "Special Instructions" for additional installation information.

4. Slide the brass ring (4) down the pen mechanism until it meets the lower barrel (6).

5. Insert and screw the pen mechanism (2) into place.

6. Press the upper barrel (3) down the pen mechanism until it is seated with the brass ring (4).





## Slim Style Pen & Pencil Kits

Product #123052, 123053, 123059, 123060, 123080, 123087, 123320, 123325, 123330, 123335, 124637, 124638, 124644, 124645, 124651, 124658, 141655, 141656, 141657, 142414, 142415, 142416, 142505, 142506, 142507, 147074, 147075, 148778, 822947

### 9. Pencil Assembly

1. The brass insert (2) has a large diameter end and a small diameter end. The large diameter end must be pressed into the lower barrel (3). To identify the large diameter attempt to insert one end of the insert into the lower barrel. If the insert fits loosely into the lower barrel this is the small end. If the insert will not fit into the lower barrel, but will require a press fit, this is the large diameter end which must be pressed into the barrel.
2. Press the pencil clip (6) and the pencil cap (7) together.
3. Press the clip/cap assembly (6/7) into one end of the upper barrel (5).
4. Press the brass center ring into remaining lower (3) and upper barrel (5) openings.
5. Insert the pencil mechanism (8) through the open clip/cap end of the upper barrel (5) and finger tighten the tip (1) onto the threaded end of the pencil mechanism (8).
6. The lead is advanced by pushing and releasing the plunger.

**Operation of Pencil** - Each pencil has been factory tested. Lead (.5mm) has already been advanced into the mechanism and it is ready to use. Occasionally, the lead will only advance a few clicks. This is generally caused by broken lead. To replace the broken lead simply pull it out from the tip and click a new lead into place.

### 10. Special Instructions

Due to the variable length of replacement "Cross-type" pen refills, we recommend the following procedure be followed when assembling pens. To ensure a proper fit you may want to buy a Cross refill and use it as a guide while fitting parts together.

The fit of the twist mechanism is critical in determining the distance that the pen tip extends from the pen body. To ensure correct refill tip extension, the twist mechanism must be pressed into the lower barrel slightly past the small indentation (as opposed to just covering the indentation). When performing this step be sure that the twist mechanism is not seated too deeply or the refill tip will not retract fully into the pen body.

Remember, the twist mechanism placement is a trial and error process and should be tested as you proceed to ensure proper depth of seating. If you proceed slowly, utilizing the illustration (right) and/or replacement pen refills, your custom made pens will perform properly regardless of the pen refill utilized.

**Additional Parts:**

- 06R68** repl. pen tube set (5 pr.)
- 06S76** 10 red refills
- 06S77** 10 blue refills
- 06R78** repl. pencil tube set (5pr.)

