



## Breast Cancer Awareness Soft Grip Pen Kit

Product #158716, 158717



### General Instructions

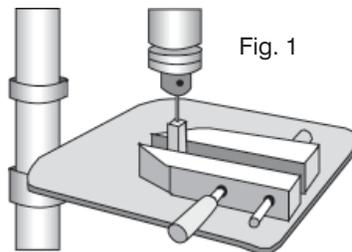
Whether you're a novice turner or a pro, you'll find these projects are all quick and easy to make. Using cut-offs and shorts, the type everyone saves but doesn't know what to do with, you'll find yourself making handsome, custom woodturning projects which are great for gifts or for sale. The following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

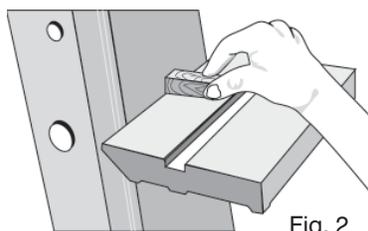


#### 3. Gluing Blanks to Tubes

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.



### 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 (145982) 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 two blanks to measure a minimum of  $5/8"$  x  $5/8"$  x  $23/16"$ .

### 2. Drilling Blanks

Using a 7mm drill bit, drill a hole lengthwise through the center of each blank. See General Instructions for details.

### 3. Gluing Blanks to Tubes

See General Instructions for details.

### 4. Sanding Blanks to Length

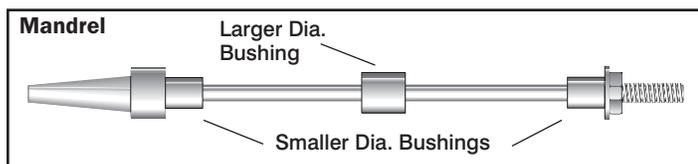
See General Instructions for details.

### 5. Mandrel Preparation

The bushing set #145228 contains three bushings, two identical and one larger. Slide one of the smaller bushings onto the mandrel first followed by sliding the Upper Blank/Tube Assembly (F) onto the mandrel followed by the largest diameter bushing. Next slide the Lower Blank/Tube Assembly (C) followed by the remaining smaller bushing. If you are not using the Woodcraft Professional Mandrel you may have to make a wooden spacer to fill any gap on your mandrel between the bushings and blank assembly and threaded portion of your mandrel. Secure the bushings and blank assembly (and spacer if necessary) with the mandrel washer and nut. Do not over tighten the nut or damage to your mandrel may occur.

### 6. Turning the Blanks

After turning the blanks following the General Instructions a portion of the lower barrel will need to be parted off. Measure up 1" from the smaller diameter end of the Lower Blank/Tube Assembly (C) and mark this point. Using a parting tool, carefully make a parting cut completely to the brass tube **on the side of the mark towards the small bushing**. Turn the remaining wood from the brass tube between the part and the small end of the turned barrel.



### 7. Finishing the Barrels

See General Instructions for details.

### 8. Assembly

#### Upper Barrel:

Begin by sliding Clip (G) over Cap Finial (H) and press the assembly into the small end of the Upper Blank/Tube Assembly (F).

#### Lower Barrel:

Slide the Soft Grip (B) over the parted off portion of the Lower Blank/Tube Assembly (C). Next press the Nib (A) into the smaller end of the Lower Blank/Tube Assembly (C). Gently press the Twist Mechanism (D) brass end first into the larger diameter end of the Lower Blank/Tube Assembly (C) until the small indicator rings are just covered. See the additional Special Instructions below for additional installation information. Once you have completed the Special Instructions for properly seating the Twist Mechanism slide the Center Band (E) over the Twist Mechanism until it meets the Lower Blank/Tube Assembly. Finish by pushing the Upper Blank/Tube Assembly onto the Twist Mechanism until it is seated on the Center Band.

### 9. 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 (D) 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 and/or replacement pen refills (I), your custom made pens will perform properly regardless of the pen refill utilized.

