



Cigar Circuit Board Pen Blanks

Product #150965, 150966, 150967



150967 shown as finished kit,
pen parts not included.

General Instructions

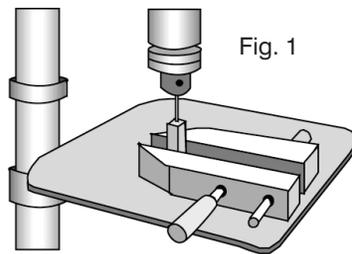
Whether you're a novice turner or a pro, you'll find these projects are all quick and easy to make. Using cut-offs and shorts, the type everyone saves but doesn't know what to do with, you'll find yourself making handsome, custom woodturning projects which are great for gifts or for sale. The following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

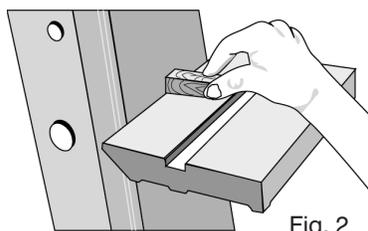


3. Gluing Blanks to Tubes

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 (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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Not required for this kit.

2. Drilling Blanks

Not required for this kit.

3. Gluing Blanks to Tubes

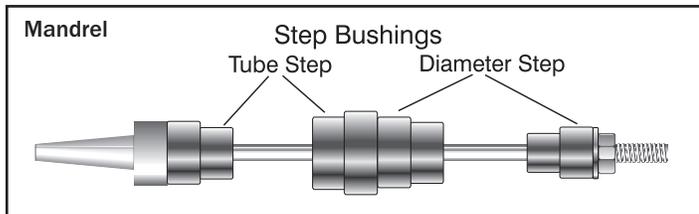
Not required for this kit.

4. Sanding Blanks to Length

See General Instructions for details.

5. Mandrel Preparation

The bushing set (147161) contains four different diameter bushings. It is critical to ensure you mount the bushing and blanks in the correct order. Mount the blanks and bushings on the lathe mandrel in the following order. If you are not using a Woodcraft adjustable Professional Pen Mandrel (145997 #2 MT), slide the spacer onto the mandrel first. Follow the spacer with the next to the smallest diameter bushing with its smallest diameter "step" facing the tailstock. Next slide the shortest blank (which will be the pen cap) with the "Golden Cross" towards the headstock onto the mandrel making sure the tube slides completely onto the lip of the bushing. Next slide the largest diameter bushing onto the mandrel lip first, again making sure the lip seats inside the tube previously installed. The second largest diameter bushing goes onto the mandrel next with the lip end facing the tailstock followed by the longest blank (which will be the pen body) ensuring that the "Golden Belt" is facing towards the tailstock. Finish the mandrel preparation by sliding the smallest diameter bushing onto the mandrel lip end first and seating the lip inside the tube of the wood blank just installed. Secure the mandrel assembly with the mandrel nut and washer.



6. Turning the Blanks

Turn the blanks to match the outside diameter of the bushings.

7. Finishing the Barrels

Begin sanding with 320grit working up to 600grit, then wet sand using Micro-mesh Pen Sanding Kit (145982) ensuring to work thru all of the grits to achieve a glass-like finish.

8. Assembly

Refer to the assembly instructions for the Premier and Ultra Cigar Pen Kits.

Pen Blank Parts

