

# Propeller Plane Pen

## Kit Features

- Easy to Turn with Straight Tubes
- Minimal Parts--easy to assemble
- Available in multiple finishes
- Overall Length: 5-7/16"

## Required Accessories

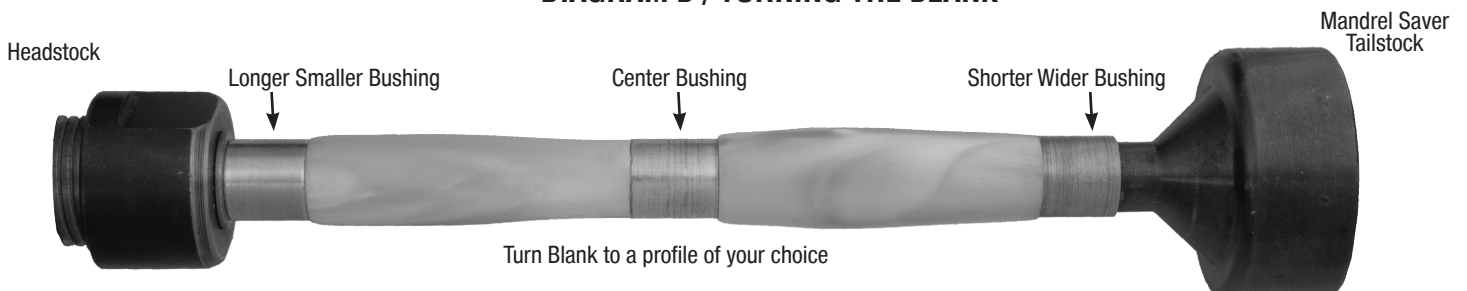
- 7mm Pen Mandrel
- Drill Bit: #PK-38BP for Wood, #PKEXEC-38 for Plastic
- Bushing Set(3pc): #PKPROPBU
- Barrel Trimming: #PKTRIM38 or 3/8" sleeve from #PKTRIMSET with squaring jig on disc sander
- Live Tailstock or Mandrel Saver
- 2 part Epoxy or Thick CA (Cyanoacrylate) Glue
- Pen Blank Minimum Size: 3/4" x 3/4" x 3-13/16"L



## Preparing the Blank:

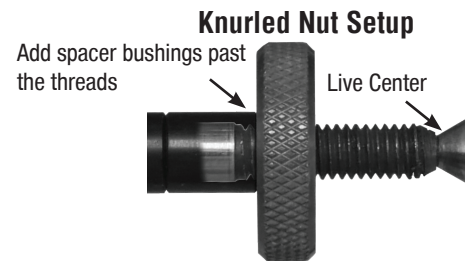
- Cut blanks to the length of the tubes, adding 1/16" for squaring off.
- Drill 3/8" hole lengthwise through the blanks.
- Spread glue over tube, insert the tube into the blank with a twisting motion to spread the glue evenly inside.
- Center the tube lengthwise inside the blank.
- When the glue is dry, square the ends of the blanks, making sure the trimmed ends are 90° to the tube. Use a 3/8" barrel trimmer or a pen blank squaring jig with 3/8" sleeve on a disc sander. Take the excess material down flush to the ends of the tubes. Do not trim past the end of the tube since this may interfere with assembly and the operation of the mechanism. Use a barrel trimmer to clean the inside of the tube.

## DIAGRAM B / TURNING THE BLANK

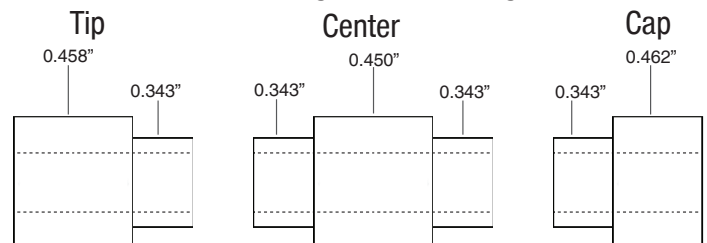


## Turning the Blank:

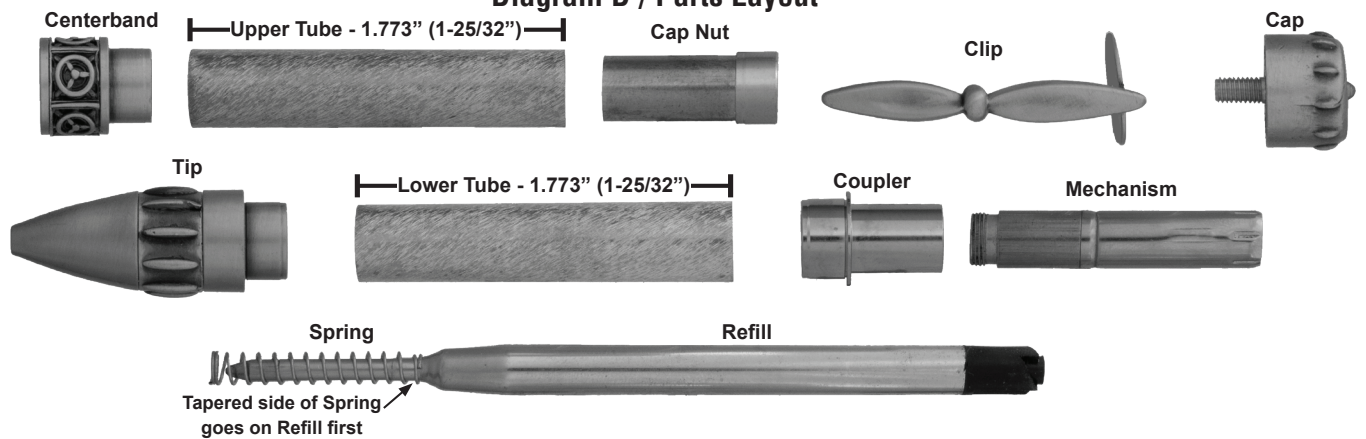
- Mount the bushings and blanks according to diagram B.
- When using Mandrel Saver, there is no need for extra spacer bushings or the knurled nut. Slide and lock tailstock directly against bushings and tighten quill until blank and bushings are secure.
- To use Knurled Nut Setup (right), add spacer bushings until past the threads on the end of the Mandrel Shaft.
- Thread on the Knurled Nut and hand tighten to hold all components in place.
- Slide the Tailstock up snugly against the Mandrel shaft, inserting the live center point into the Mandrel dimple.
- Lock Tailstock and hand tighten the quill adjustment with wheel to steady the mandrel. Do not over-tighten, it could damage mandrel shaft.
- Using sharp tools, turn the blank down close to the bushing diameter. Turn the barrel straight or to a profile of your choice.
- Sand the blank down to be flush with the bushings, gradually increasing sandpaper grits.
- Finish the barrel using your choice of polish. Allow sufficient time for the polish to cure—refer to polish manufacturer's instructions.



## Diagram C / Bushing #PKPROPBU



## Diagram D / Parts Layout

**Assembly:**

- Press Cap nut, reduced diameter first, into upper, larger diameter end of Upper Barrel.
- Press Centerband into smaller remaining end of Upper Barrel.
- Thread Cap through the Clip into Cap Nut.
- Press Tip into larger diameter end of Lower Barrel.
- Press the Coupler into smaller diameter side of the Lower Barrel. Note: to protect the threaded part from possible pressing damage, drill a 5/16" hole in a piece of scrap wood to fit over the thin portion and press directly against the rim.
- Make sure Spring is on the Refill shaft in the right direction. The Spring should grip the shaft at the base.
- Slide Refill into Lower Barrel through the Coupler.
- Thread the Mechanism into the Coupler, over the back of the Refill.
- Push Upper Barrel over the mechanism and push down until Centerband covers the Coupler Rim.
- To extend and retract Refill, twist Upper Barrel back and forth.
- To change Refill, unthread Coupler from the Mechanism. Remember to switch Spring to new Refill.

