

# HORSE TWIST PEN

## Kit Features

- Easy to Turn with Straight Tube
- Minimal Parts--easy to assemble
- Available in multiple finishes
- Overall Length: 5-15/32"

## Required Accessories

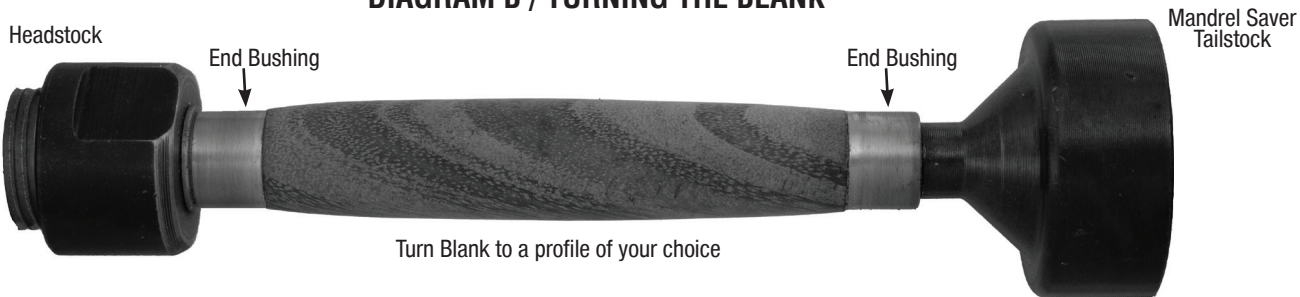
- 7mm Pen Mandrel
- Drill Bit: #PK-38BP for Wood, #PKEXEC-38 for Plastic
- Bushing Set(2pc): # PK50RBU
- Barrel Trimming: #PKTRIM38 or 3/8" sleeve from #PKTRIMSET with squaring jig on disc sander
- Live Tailstock or Mandrel Saver
- 2 part Epoxy or Thick CA (Cyanoacrylate) Glue
- Pen Blank Minimum Size: 3/4" x 3/4" x 3-1/16"L

## Preparing the Blank:

- Prior to cutting and gluing, always verify tube length is correct (see parts diagram on back page)
- Cut blank to the length of the tube, adding 1/16" for squaring off.
- Drill 3/8" hole lengthwise through the blank.
- 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 barrel trimming sleeve with a pen blank squaring jig 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.

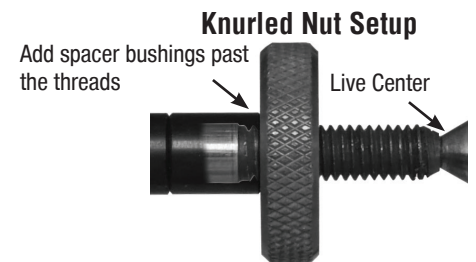


## DIAGRAM B / TURNING THE BLANK

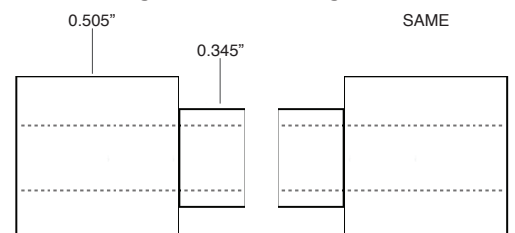


## Turning the Blank:

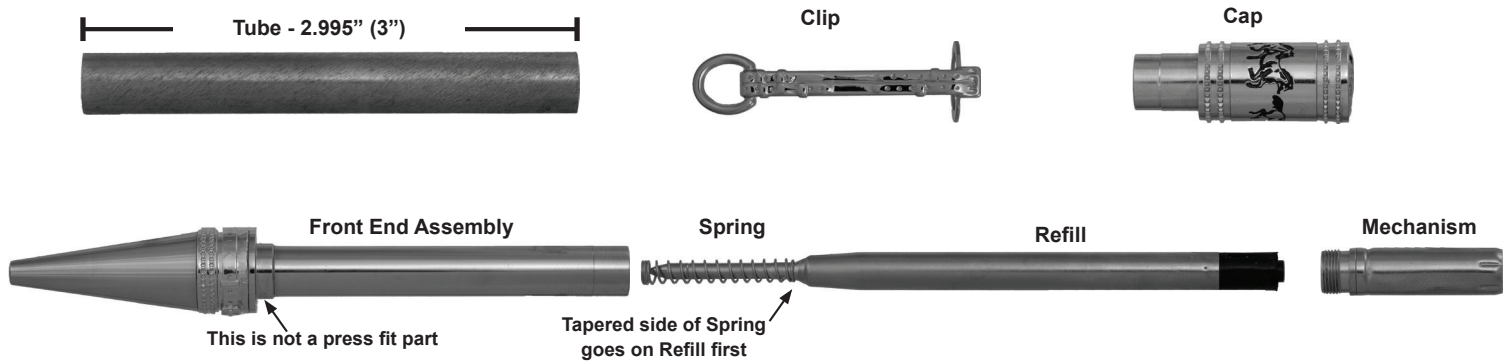
- Mount the bushings and blanks according to diagram B.
- When using Mandrel Saver, there is no need for extra spacer bushings or the knurled nut. Slide and lock tailstock directly against bushings and tighten quill until blank and bushings are secure.
- To use Knurled Nut Setup (right), add spacer bushings 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 #PK50RBU



## Diagram D / Parts Layout

**Assembly:**

- Press Cap, through the Clip, into either end of Barrel.
- Slide Spring, tapered side first, onto Refill shaft. Spring should grip shaft and not fall off.
- Insert Refill into the back of Front End Assembly.
- Thread Mechanism over the Refill and into the back of the Front End Assembly.
- Insert Front End Assembly into Open end of Barrel. This should go in by hand—do not use a pen press! Note that Front End Assembly is not a press fit, it must be able to twist in Barrel.
- To extend and retract Refill twist Barrel and tip back and forth.
- To replace Refill, unthread Front End Assembly from Mechanism. Remember to switch Spring to new Refill.