

POLARIS PEN AND PENCIL KITS

KIT FEATURES

- 24 karat gold plated brass parts with epoxy coating
- Contemporary design components
- Both writing instruments are constructed as a matching set
- Smooth twist operation
- Pen uses a Parker® style ball point refill
- Pencil mechanism uses 0.7 mm lead.
- Overall length (each) 4-7/8"

REQUIRED ACCESSORIES

- 7 mm, long mandrel
- 2 piece bushing set :
- 3/8" drill bit :
- Universal pen blank squaring jig (optional)
- 2 part epoxy glue, polyurethane glue or insta cure (cyanoacrylate) glue.

Diagram A - Pen Parts

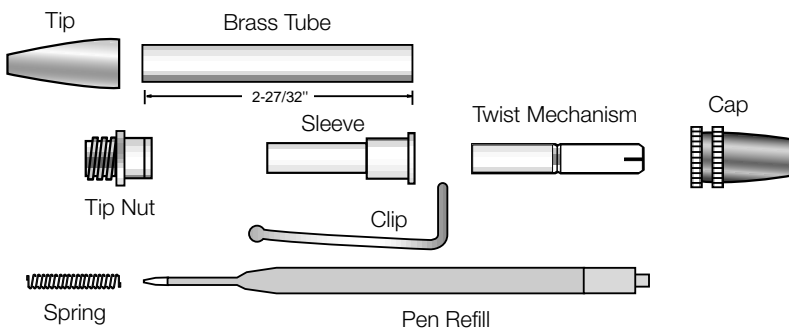
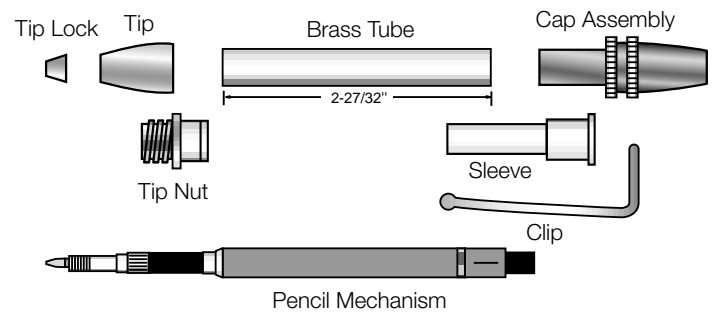


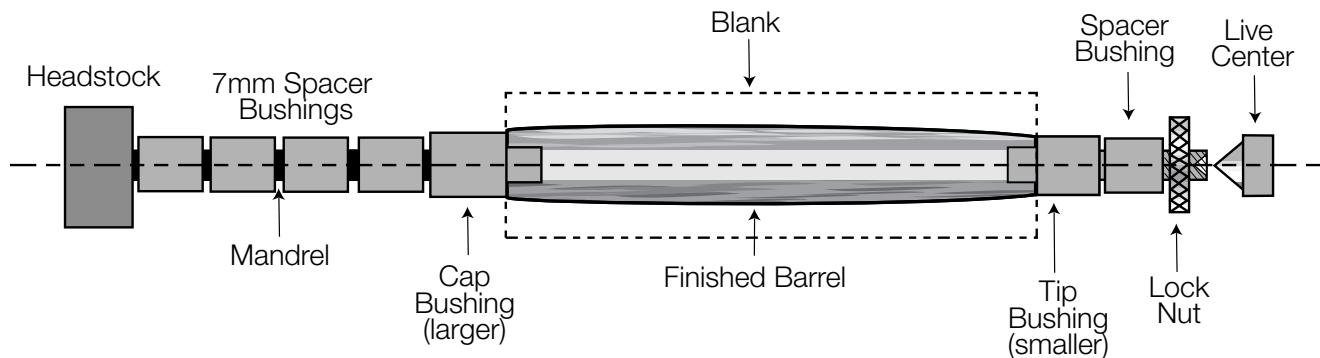
Diagram B - Pencil Parts



PREPARING THE BLANK

- Cut 3/4" to 5/8" square blank to the length of the brass tube (add 1/16" for squaring off).
- Drill a 3/8" center hole lengthwise through the blank.
- Spread the glue over the tube. Insert the tube into the blank with a twisting motion to spread the glue evenly inside. Center the tube lengthwise in the blank.
- When glue dries square the ends of the blank. Use a universal pen blank squaring jig or a belt/disc sander to square the ends. Take the wood down flush to the brass tube.

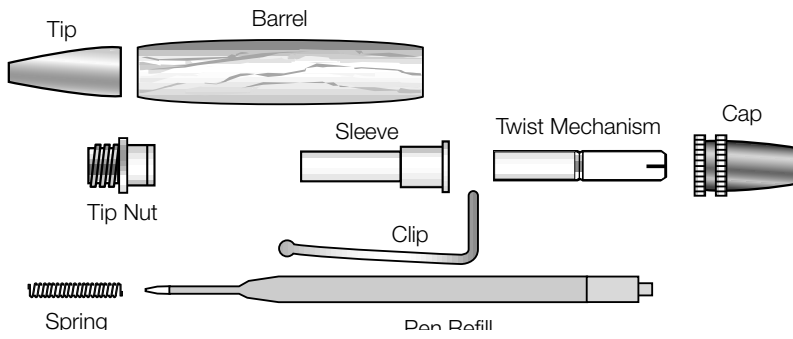
Diagram C - Turning the Blank



TURNING THE BLANK

- Place three or four standard 7mm bushings onto the mandrel, followed by the cap bushing (larger) - wide end first, then the wood blank and lastly the tip bushing (smaller) narrow end first. Use additional spacer bushings to fill the space on the shaft up to the threads.
- Thread on the lock nut and hand tighten to hold all items in place.
- Slide the tail stock snug to the mandrel shaft, (do not over tighten, it could damage the mandrel). Lock in place.
- Turn the wood down, flush with the bushings using lathe tools and gradual higher grits of sandpaper.
- Finish the wood with friction polish

Diagram D - Pen Assembly



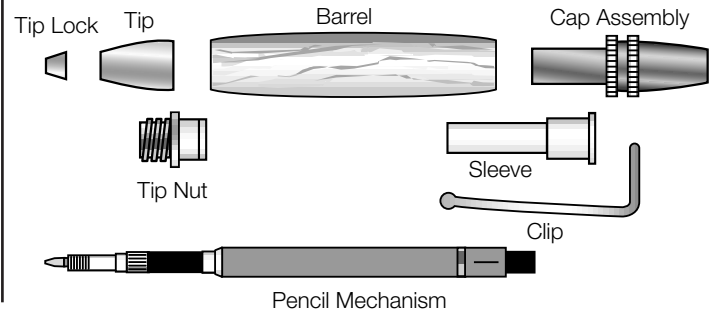
ASSEMBLY TIPS

- Line up finished parts according to Diagram D or E.
- To press parts in, use a pen press or a vice with covered jaws. Press parts slowly to avoid scratching and damaging the gold plated parts.

PEN ASSEMBLY

- Insert the tip nut, recessed end in first, into the narrow end (tip) of the barrel, and press to the shoulder.
- Insert the sleeve into the clip. Press the narrow end of the sleeve into the opposite end of the barrel.
- Insert the twist mechanism, brass end first into the opening at the sleeve. Press the mechanism in slowly, until you feel it stop, which should leave 11/16" of the chrome remaining exposed. Test that the mechanism is spinning freely back and forth.
- Insert the refill with the spring over it, black end into the opening at the tip end. Thread the tip over the nut.
- Insert the cap assembly over the exposed end of the mechanism.
- The pen operates by twisting the cap to extend or retract the refill.

Diagram E - Pencil Assembly



PENCIL ASSEMBLY

- Insert the tip nut, recessed end in first, into the narrow end (tip) of the barrel, and press to the shoulder.
- Insert the sleeve into the clip. Press the narrow end of the sleeve into the opposite end of the barrel.
- Screw the tip over the tip nut.
- Insert the pencil mechanism into the opening at the clip end until threaded end is exposed at the tip end.
- Thread the tip lock onto the thread at the end of the pencil mechanism tightly.
- Insert the cap assembly over the exposed eraser onto the pencil mechanism to the end.
- The pencil operates by twisting the cap to extend or retract the lead.
- To replace a used lead, pull the cap off, unscrew the lock tip. Pull the mechanism out. Turn the mechanism clockwise. When the lead holder is showing and is leveled with the surface, insert a new 7mm lead into the opening until it grabs. Retract the lead back in. Remount the mechanism into the barrel.

Diagram F - Bushing Set

