

ORION PEN

Instructions

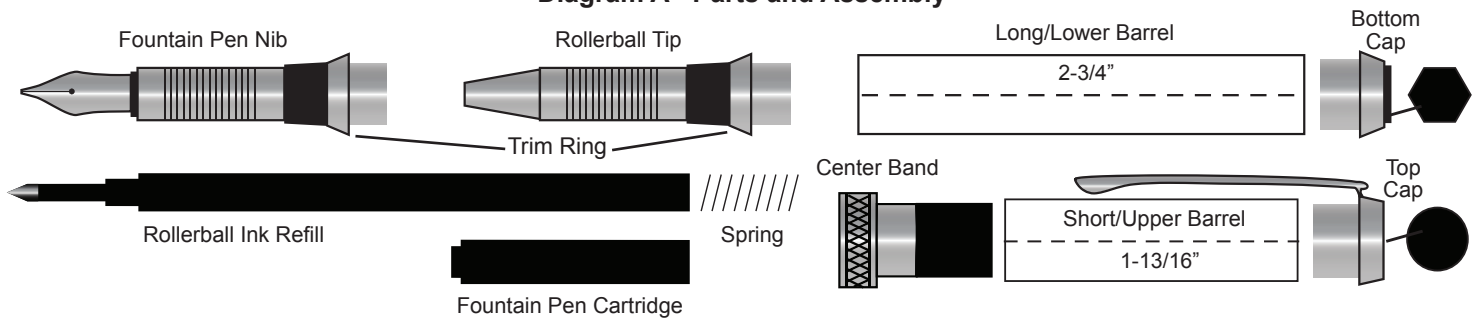
Kit Features

- Shows off the wood in a way a smaller pen cannot
- Rollerball uses smooth-writing rollerball refill (RE-RB2) and Fountain Pen uses cartridge refill (RE-FP10)

Required Accessories & Materials

- 7mm mandrel
- 4-pc. Orion bushing set (PKORIONBU)
- 25/64" and 15/32" drill bits (DB25/64) (DB15/32)
- Barrel trimmers, sizing sleeve, and/or belt sander for squaring the tubes
- Glue (We recommend the thick "gel" CA glue—GTHICK2)
- Sanding and finishing supplies

Diagram A - Parts and Assembly



BLANK PREPARATION

The tubes in an Orion pen kit are of different lengths and diameter. Make sure that, as you cut the blanks for the tubes, you orient them so that the longer 2-3/4" tube will be used as the lower pen barrel. The upper tube is shorter at 1-13/16" long. **Cut** your blanks approximately 1/16" longer than the tube to allow for squaring with the barrel trimmer. If using wood blanks, mark the blanks so it is easier to keep the grain running in the same direction when you place them on the mandrel for turning. Use a medium drill speed to **drill** the blanks. Raise the bit from the blank every 1/4" to 1/2" to allow the chips to clear from the flutes of the drill bit. Don't force the drill bit; use an even pressure and let the bit do the work. After drilling the blanks, **sand** the exterior of the brass tubes to roughen their surface and use CA **glue** to glue the tubes inside the blanks. Sand or barrel trim to **square** the ends of the blanks.

TURNING THE PEN

Set up the mandrel as shown in Diagram C. The Orion pen has four bushings, so proper orientation is critical. In setting up your bushings, you will slide on one of the smaller bushings (bushing 1) first. Then slide the lower barrel onto the mandrel followed by the other small bushing (bushing 1). Next, place one of the larger bushings (bushing 2) on the mandrel followed by the upper barrel and then the last large bushing (bushing 2). Keep in mind which pen barrel you are turning as the top and bottom. Remember, the upper tube is shorter than the lower tube. If you mistakenly get the short tube at the bottom of the pen, the refill will not fit. **Turn** the blanks down to the bushings, then **sand** with abrasives and **finish** with your choice of polish.

ROLLERBALL and FOUNTAIN PEN ASSEMBLY

(Line up finished parts according to Diagram A)

To avoid damage to components when assembling, use a vise with covered jaws or one of WoodTurningz' pen presses.

Assemble the four-piece upper barrel, which consists of the top cap, the center band, clip, and short barrel. Slide the clip over the cap and press it into the barrel. Press the center band into the bottom of the short barrel.

Final Steps for Rollerball: Slide the trim ring over the black end of the tip (be sure the tapered end of the trim ring—the side without the lip—is facing the tip of the pen). Carefully press the tip assembly into one end of the long barrel. Insert the spring into the long barrel before pressing the bottom cap into the other end of the long barrel (this spring is oversized and must be inserted into the tube first; it will not push easily into the tip end due to its size). Press the bottom cap into the other end of the long barrel. Unscrew the plated part of the tip and then insert the ink refill; screw the tip back on and screw the cap onto the pen.

Final Steps for Fountain Pen: Slide the trim ring over the black end of the tip (be sure the tapered end of the trim ring—the side without the lip—is facing the tip of the pen). Unscrew the fountain nib from the tip assembly to avoid damage during pressing. Press the tip assembly without the nib into the long barrel, and then press the bottom cap into the other end of the long barrel. Press the cartridge onto the nib assembly. Screw the nib back on and screw the cap onto the pen.

Diagram B - Bushings

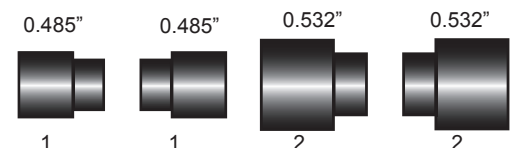
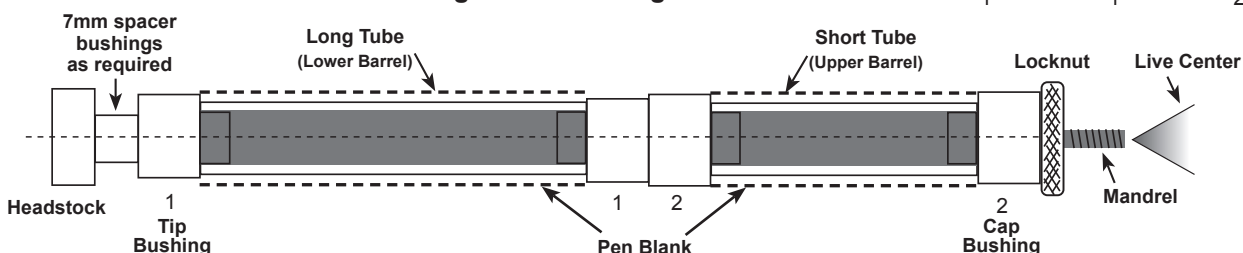


Diagram C - Turning the Pen



ORION TWIST PEN

Instructions

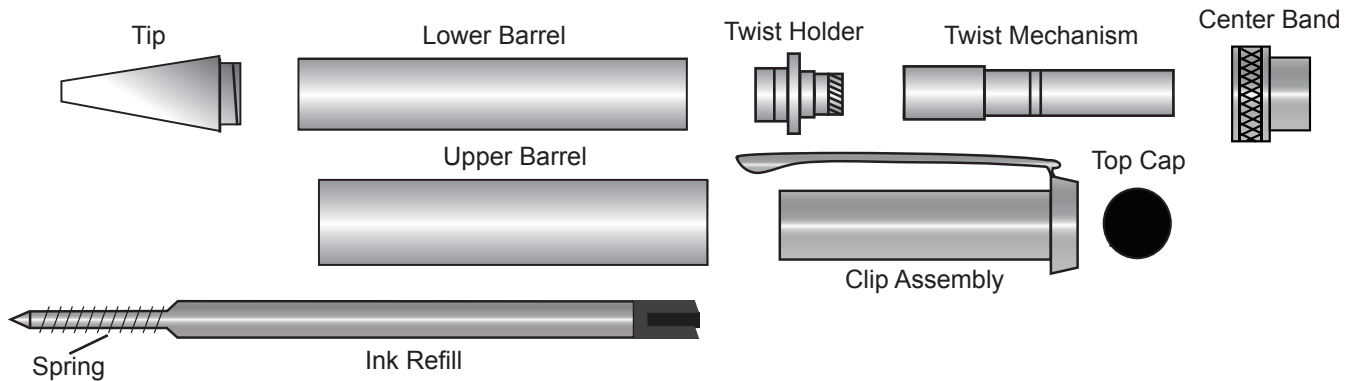
Kit Features

- Shows off the wood in a way a smaller pen cannot
- Twist pen uses the smooth-writing Parker refill (RE-PARK)
- A Double-twist Mechanism

Required Accessories & Materials

- 7mm mandrel
- 4-pc. Orion bushing set (PKORIONBU)
- 25/64" and 15/32" drill bits (DB25/64) (DB15/32)
- Barrel trimmers (BTRIMKIT9) or belt sander for squaring the tubes
- Glue (We recommend the thick "gel" CA glue—GTHICK2)
- Sanding and finishing supplies

Diagram A - Parts and Assembly



BLANK PREPARATION

The tubes in a Orion Twist pen kit are of different diameters. **Cut** your blanks approximately 1/16" longer than the tube to allow for squaring with the barrel trimmer. If using wood blanks, mark the blanks so it is easier to keep the grain running in the same direction when you place them on the mandrel for turning. Use a medium drill speed to **drill** the blanks. Raise the bit from the blank every 1/4" to 1/2" to allow the chips to clear from the flutes of the drill bit. Don't force the drill bit; use an even pressure and let the bit do the work. After drilling the blanks, **sand** the exterior of the brass tubes to roughen their surface and use CA **glue** to glue the tubes inside the blanks. Sand or barrel trim to **square** the ends of the blanks.

TURNING THE PEN

Set up the mandrel as shown in Diagram C. See Diagram B for information about your 4 bushings. (use Bushings 1 with the lower 25/64" tube and Bushings 2 with the upper 15/32" tube.)

ASSEMBLY

(Line up finished parts according to Diagram A)
To avoid damage to components when assembling, use a pen press or a vise with covered jaws.

1. Press the Tip into the Lower Barrel (25/64" tube).
2. Press the Twist Holder into the opposite end of the Lower Barrel.
3. Drop the Ink Refill with the refill spring into the threaded twist holder and screw on the Twist Mechanism. Check for proper refill retraction. If it doesn't retract fully, the lower tube dimensions have most likely been shortened.
4. Press the Center Band into the bottom of the upper tube.
5. The Clip Assembly consists of two parts which in some kits may come assembled and in others may require assembly. Press the Clip Assembly into the upper end of the Upper Barrel.

Diagram B - Bushings

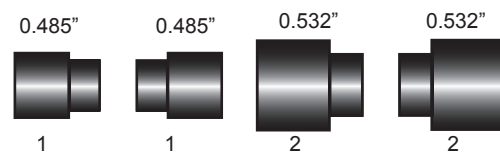


Diagram C - Turning the Pen

