

Titan Gearshift Fidget Pen

Kit Features

- Easy to Turn with Single Straight Tube
- Minimal Parts--easy to assemble
- Easy to use Bolt Style Mechanism
- Available in multiple finishes
- Smooth Ball Bearing Spinner
- Overall Length: 5-9/16"

Required Accessories

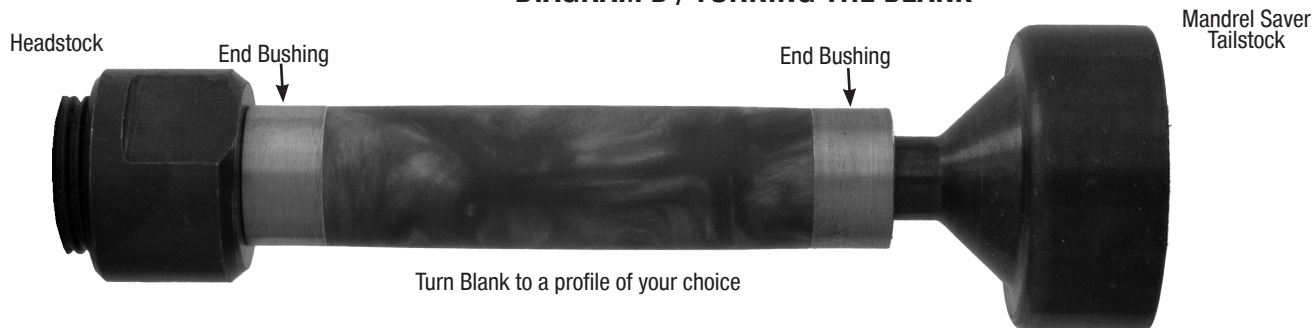
- 7mm Pen Mandrel
- Drill Bit: #PK-38BP for Wood, #PKEXEC-38 for Plastic
- Bushing Set(2pc): #PKGGEARFBU
- Barrel Trimming: #PKTRIM38 or 3/8" sleeve from #PKTRIMSET with squaring jig on disc sander
- Live Tailstock or Mandrel Saver
- 2 part Epoxy or Thick CA (Cyanoacrylate) Glue
- Pen Blank Minimum Size: 3/4" x 3/4" x 2-1/4"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 hole lengthwise through the blank.
- Spread glue over tube, insert the tube into the blank while twisting 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 PKTRIM38 or 3/8" 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.

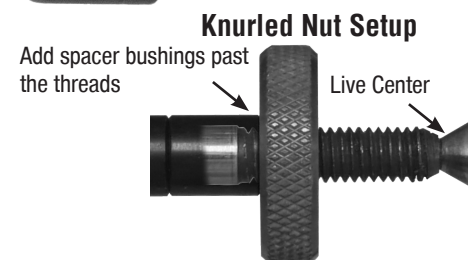


Diagram C / Bushing #PKGGEARFBU

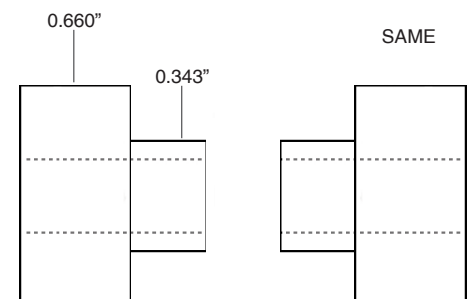
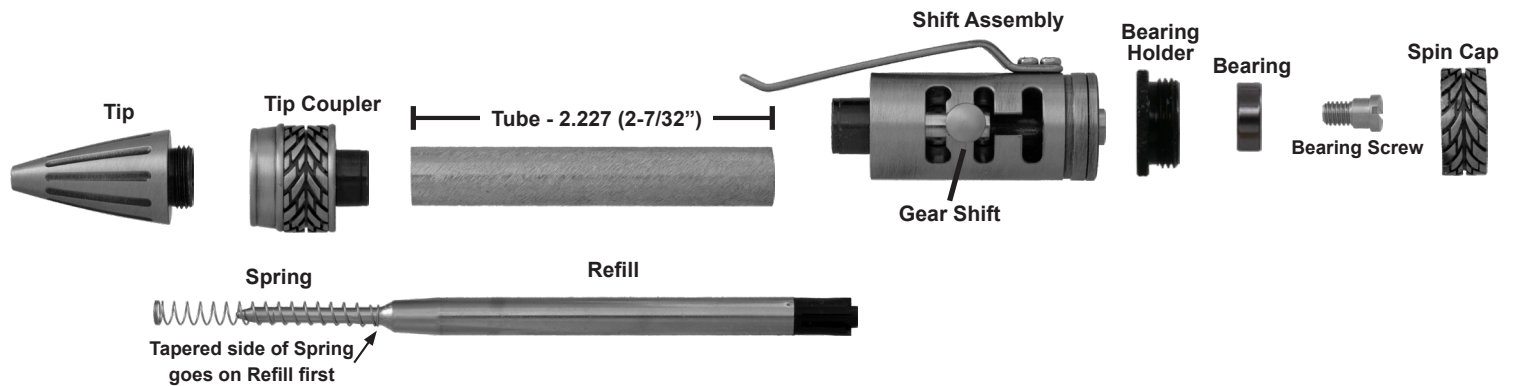


Diagram D / Parts Layout

**Assembly:**

- Press Tip Coupler into either end of the Barrel.
- Press Shift Assembly into either end of the Barrel. Note that there is a raised nub at the top where the Bearing Screw goes. You may not want to press directly on this. You can use a wooden block with a hole to press on the surrounding area to limit potential damage.
- Insert Bearing into the opening in the Bearing Holder.
- Place Bearing and Holder onto the top of the Shift Assembly and thread the Bearing Screw into the Shift Assembly through the Bearing and Holder. Tighten with a small flathead screwdriver.
- While gripping the knurled base of the Bearing Holder, thread the Spin Cap onto the top of the Holder until tight.
- Flick the outside edge of the Spin Cap to start it spinning.
- Slide Spring, tapered side first, onto Refill shaft.
- Insert Refill through opening in Tip Coupler.
- Thread Tip into Tip coupler over the Refill and Spring.
- To extend and retract, move Gear Shift along the central track and slide into the side positions to lock Refill in place.
- To change Refill, unscrew the tip. Remember to switch Spring to new Refill.

