

Apollo Closed End Pen Kit

Kit Features:

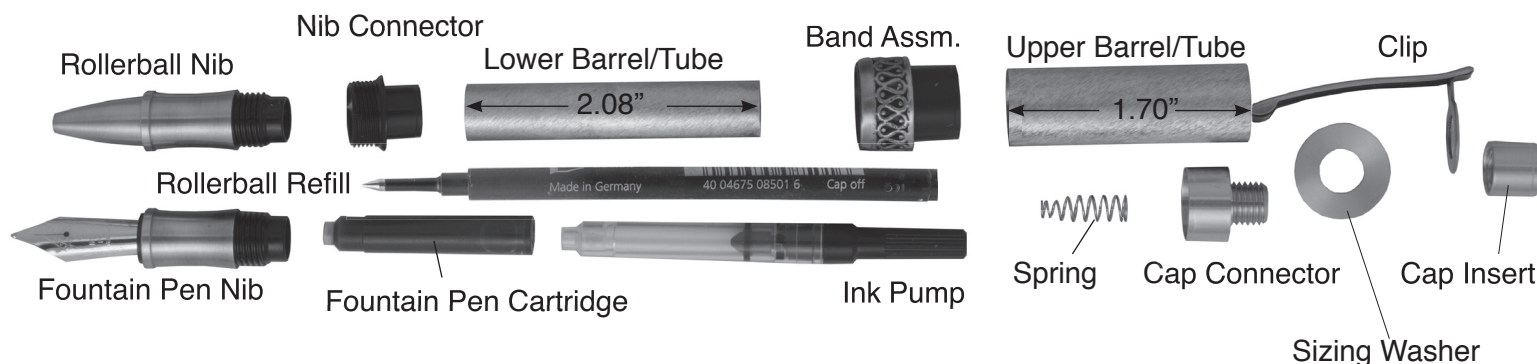
- Blind End Design
- Minimum parts - easy to assemble
- Available in multiple finishes
- Overall Length: approx. 6" closed
- Uses Schmidt Rollerball Refill or Ink Pump w/ Ink Bottle

Other Required Accessories:

- Requires Big Grabber pen mandrel system, item #PKMBLB2
- 10.5mm drill bit item, # PK105MM
- 9/16" drill bit item # PKDB916
- Bushing set, item # PKAPCEBU (2/set)
- Barrel trimmer sleeves, item # PKAPBTS (use with 7mm trimmer)(2/set)
- 10MM drill bit, item # PK10-10
- 7mm drill bit # PK-7MM
- 2 part Epoxy or insta-cure, Cayanoacrylate glue C/A
- Project requires 2 pen blanks - Total length 7.5"



DIAGRAM A / PARTS LAYOUT



Preparing the Blank: (Diagram B)

- Cut 3 blank sections; 4" for the lower end. 1-7/8" upper blank. 2" cap blank.

LOWER END BLANK:

- Mark the center of the blank on both ends.
- Drill a 10.5mm hole, 2 1/8" deep.
- Drop the counter sink bushing, chamfered side up. Drill a 7mm hole through, 3 1/8" deep. (see Dia. B)
- Glue the tube into the hole, let dry.
- Use a sander (the hole is too short for a trimmer shaft) sand the end square.

UPPER BLANK:

- Mark the center and drill a 9/16" hole through the blank.
- Glue the upper tube into the hole, center in the blank. Let dry.
- Use a trimming sleeve with a 7mm barrel trimmer shaft to square both ends of the blank.

CAP BLANK:

- Mark the center on both ends of the blank.
- Drill a 10mm hole at one end, 11/32" deep (Diagram B & C)
- Squeeze glue drops into the hole, slide the cap insert recessed end in first into the hole. Let dry.
- Use a sander to square the end over the insert.
- Press the cap connector, recessed end in first into either end of the barrel. Stop at the flat surface of the wood. (Diagram C)

Diagram B

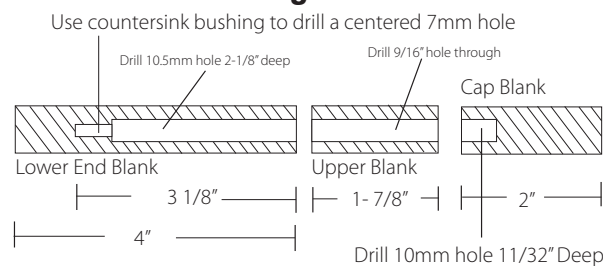


Diagram C

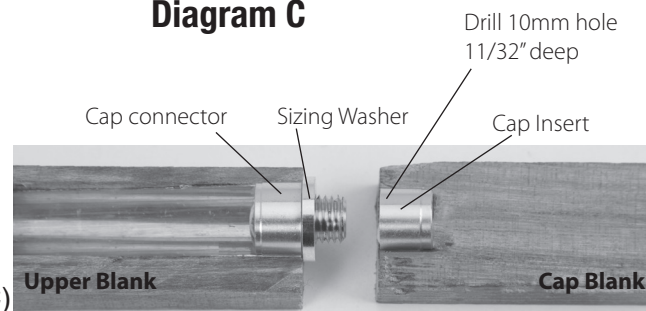
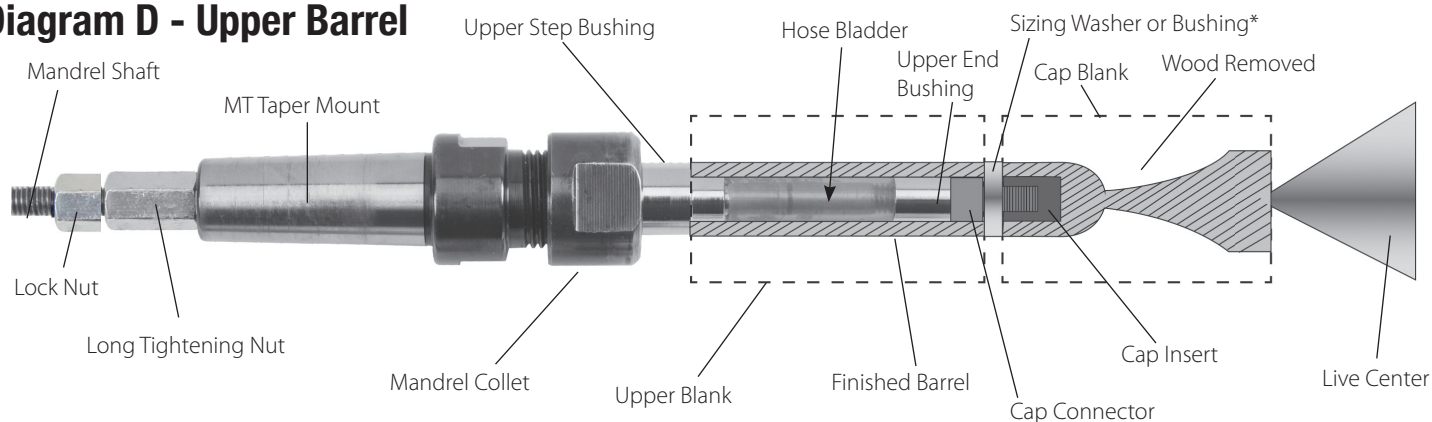
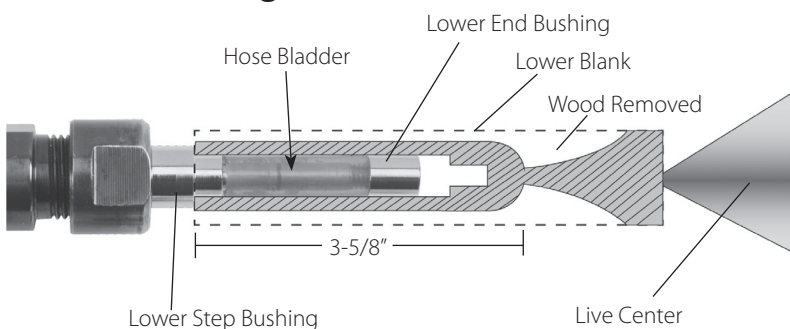


Diagram D - Upper Barrel**Turning the Upper Barrel and Cap see Diagram D**

- Slide the upper step bushing and a 9/16" bladder over the mandrel shaft.
- Thread on the upper end bushing.
- Slide upper blank over the hose bladder onto the upper step bushing.
- Affix the sizing washer over the threads. Screw the cap blank over the washer.
- Tighten the 2 nuts and expand the bladder to secure the set up. Insert the mandrel into the spindle of the lathe, bring the tail stock in for support. Lock in place.
- Turn the blanks down to the bushings*. When near the sizing bushing* stop and remove the bushing. Continue the process and make a smooth transition to match both blanks. When near finishing the profile at the tip end, remove the tailstock and part the wood (see Diagram D) finish the end manually. Sand and finish the upper barrel.

Turning the Lower Barrel see Diagram E

- Insert the lower step bushing, the bladder and screw the 10.5mm end bushing over the mandrel shaft.
- Slide the blank over, to bottom. Expand bladder with lock nuts.
- Attach the mandrel into the taper of the lathe. Bring the tail-stock over so the live center support the blank. Lock set up in place, ready for turning.
- Turn the blank down to the bushing at the front. Measure 3-5/8" as the end of the barrel and shape the end round as shown. Part off then sand off the end and finish the barrel manually.

Diagram E - Lower Barrel**Upper Barrel Assembly see Diagram F**

- Remove the sizing washer
- Affix the clip over the exposed thread. Screw the cap end down onto the cap connector.
- Press the band into the opposite end of the upper barrel.

Lower Barrel Assembly see Diagram F

- Press the nib coupler, recessed end first into the opening at the lower barrel.

FOR ROLLER BALL REFILL:

- Insert the spring into the recess in the bottom of the refill. Drop the refill into the opening at the lower barrel.
- Screw the tip over the refill.

FOR FOUNTAIN PEN:

- Affix either the ink cartridge or fountain pen pump into the back of the nib assembly. The cartridge will supply the ink. The refillable pump will require an ink bottle to draw ink into the storage pump.

GENERAL

- Just screw on both ends of the pen when not in use.
- Note: Cap will **NOT** post

Diagram F Assembly