

PEN KITS ASSEMBLY INSTRUCTIONS MINI PENLIGHT KEYCHAIN

Required Accessories

- 7mm Long Mandrel
- 2 Piece Bushing Set (RZ-MINPKITbushings)
- 9/16" Drill Bit
- 2 Part Epoxy Glue or Insta-cure (Cyanoacrylate)

Diagram A / Parts Layout



Preparing The Blank

- Cut a 3/4" to 1-1/2" square blank to the length of the brass tube (add 1/16" for squaring off).
- Drill a 9/16" 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 inside the blank.
- When the glue dries, square the ends of the blank. Use a belt / disc sander to trim the wood down flush to the end of the brass tube.

Turning the Blank

- Position the stop bushing, two penlight bushings and the wood blank onto the mandrel as shown in diagram B.

Thread on the lock nut hand tight. Bring the tail stock snug with the mandrel. (Do not overtighten, it could damage the mandrel).

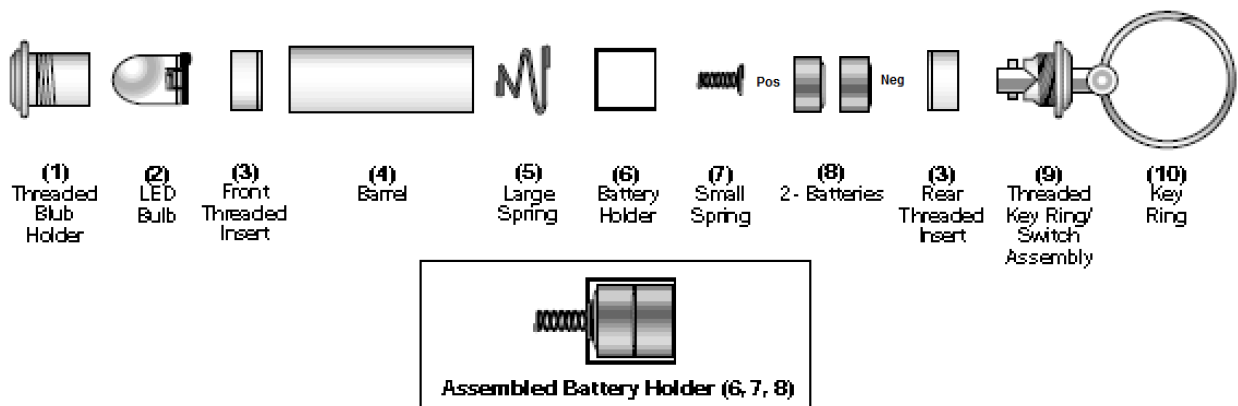
Slide the stop bushing toward the blank, adjust to remove spaces.

Then tighten the set screw, and the lock nut.

- Using a lathe chisel, turn the blank to the design of your choice.
- Use the bushings as a guide to determine the outside diameter of the ends of the blank.
- Finish the blank with gradual higher grits of sand paper and your choice of polish and waxes

Assembly

Diagram C / Penlight Assembly



- Line up finished parts according to above Diagram C.

NOTE: Front and rear threaded inserts #3 are identical.

- Press the front threaded insert #3, recessed end first into the front end of the barrel #4.
- Drop the large spring #5, narrow end first into the back end of the barrel #4.
- Drop the battery holder #6 small hole end first, into the back end of the barrel #4 behind the spring.
- Press rear threaded insert #3, recessed end first into the back end of the barrel #4.
- Place LED bulb #2, rounded end first all the way into the bulb holder #1. Thread the bulb holder assembly into the front end of the barrel.
- Place the small spring #7, flanged end first, over the pointed lead end of a pencil. Push the spring through the small hole inside the battery holder #6 as shown in diag. D. (remove pencil)

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- Drop 2 batteries #9 into the battery holder #6. Position as shown in diag. D. with the positive side toward the spring.
- Attach the key ring #10 to the switch assembly #9. Screw the On/Off switch assembly #9 into the rear of the barrel #4.
- The penlight operates by turning or pushing the key ring On/Off.

NOTE: A quarter turn should lock the switch into an 'on' or 'off' position.

TROUBLE SHOOTING:

IF THE BULB DOESN'T LIGHT...

- Check parts assembly per diagram B.
- Check that the batteries are positioned properly.
- Check that the front spring is positioned properly and doesn't short circuit across the bulb. Tighten rear assembly last to avoid spring distortion.
- Make sure batteries are in contact with small spring inside battery holder.
- Check bulb and batteries individually for proper electrical operation.

IF THE BULB DOES NOT TURN OFF...

- The front spring is probably installed improperly.

