

SLIMLINE PEN ASSEMBLY / DISASSEMBLY TOOLS

This instruction sheet will give you an alternate method of assembling 7mm slimline pen kits and will give instructions on how to disassemble a 7mm slimline pen should you ever need to take it apart for repair, refinishing, or just a mistake in assembly. The most common problem with slimline assembly is getting the transmission at the right depth, so the pen point does not extend past the tip in the closed position. By making the jig shown you can get it right every time.



Pictured above are simple jigs to assemble or disassemble 7mm slimline pens.

- (1) 1/4" x 3" carriage bolt
- (1) 1/4" x 4" carriage bolt
- (1) nylon stop nut
- (1) 3ft. Length 1/8" steel rod (Lowes or Home Depot.)
- (1) 3/4 x 3/4 x 1 - 7/8" hardwood block. (I used Maple)



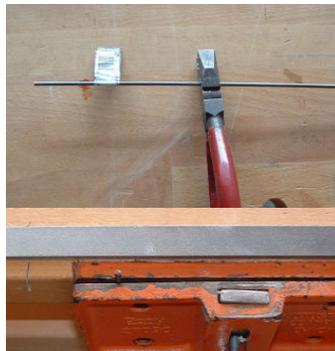
Jig for pen assembly. Spin on a nylon stop nut about a 1/2" to cut the threads. (top photo) then remove it and spin it on backwards to the depth you will set the transmission. (bottom photo) (approx 1-11/16") from the base of the nut to the tip of the bolt. Once set you will be able to install the transmission to the correct depth every time.



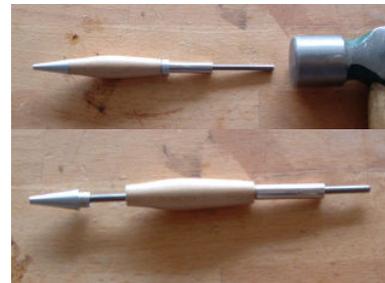
For use: simply insert the carriage bolt with stop nut in the tip end of the pen, and the transmission in the other end and press until the transmission bottoms out on the bolt. If you are doing production work this will really speed up the process. (Note this is the reverse assembly you may be used to.) Assemble the clip & cap as usual into the upper barrel of the pen and set aside. See next photo for tip assembly.



Cut a hardwood block 3/4 x 3/4 x 1 - 7/8" and drill a 7mm hole in it. Slide the block over the transmission and set the pen tip. Install the pen refill and slide the upper barrel on and you are done. This hardwood block will also be used for disassembly. These jigs will only set you back about \$3 bucks, and about 10 min. of your time.



A piece of rod will be needed to remove the tip from the pen barrel. Cut a 5" length of 1/8" rod. This rod will slide thru to the tip in place of the refill. After cutting, smooth the end of the rod with a file.

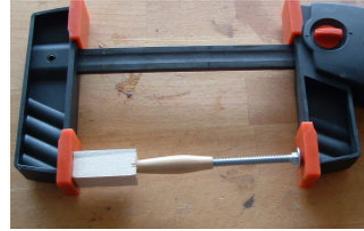
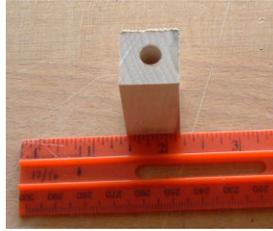


To remove the tip, slide the 1/8" rod in until it bottoms in the tip. Hold the barrel tightly in your hand and tap the rod with a hammer and the tip will eventually pop off. I aim the tip into a cardboard box lined with a towel to catch it and protect it from damage.

CLIP & TRANSMISSION REMOVAL PROCEEDURE



To remove the clip from the barrel, insert a 4" carriage bolt into the barrel until it bottoms on the clip cap. Hold the barrel tightly in your hand and tap the bolt with a hammer. This is the same procedure as for the tip.



Above are some extra photos I took to show more detail of the assembly—disassembly block. These are approximate dimensions, and they work, but you can do what works for you. A 7mm hole works just fine and is a loose fit so the transmission won't bind in the hole. To press the transmission out, simply insert a 1/4" x 4" carriage bolt into the tip end of the pen and slide the block over the transmission. Press until the transmission slides into the block.

FINAL THOUGHTS

I hope you find these instructions useful. I have tried a number of pen assembly methods and I find this works best for me. I use a squeeze clamp available at any hardware store for pressing the parts together. There are commercial "Pen Presses" out there but they don't work any better (in my opinion) and cost a lot more. You can also set up a drill press with a block of wood, use your lathe with a set of wood blocks, but they all take setup time. Another option is an arbor press. These are available on the internet and some local tool stores.

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