



Ion Pen Kit Fitting / Assembly Guide

The Ion is a precision pen kit, it is based on our Atom 2 kit and requires the same bushings and drill size - please read this guide fully before beginning to make your kit

Blank size: 105mm x 16mm x 16mm (trimmed down to 99mm length)

Drill: AT² Drill: 8.7mm

Bushings: AT2 bush (TBC / MBS)

A note about the bushings: The Atom² bushings & kit are designed to be turned between centres, a mandrel is not required and they will not fit onto a standard (6.23mm) mandrel. This provides better accuracy in turning and also means that parts of a mandrel do not get in the way of your tool rest. It provides ease of mounting, un-mounting and re-mounting with virtually no blank movement provided your lathe is in correct alignment.

ADDENDUM: We now have bushings that will fit a standard pen mandrel (AT2-MBS) however we believe better results are achieved by turning between centres.



1] Drill your blank using Atom2 drill, abrade the surface of the brass pen tube lightly and glue inside the blank using your preferred adhesive. The drill flutes are slightly shorter than the blank length so ensure you withdraw the drill regularly to remove swarf and allow the drill to cool if necessary. This process is commonly known as pecking – it is very important especially for acrylic blanks to prevent overheating / melting.

2] Once dry trim off any excess blank using your chosen method (sanding / pen barrel trimmer) ensuring each end is completely flat and trimmed to the correct length. The length for a correct operation is 99mm

3] Place a bushing part in either end of the tube and mount on your lathe between centres. Ensure sufficient pressure to ensure the blank does not stall on tool presentation. We recommend a 60° dead centre at headstock end and a live centre at tailstock. If you do not have a dead centre it is very easy to make one yourself by mounting a scrap of wood into a chuck and turning to a point

4] Turn and finish to your requirements – the Ion has been designed to allow your design flair to experiment with shapes and designs to make a unique and individual pen – it is more about your skill than the factory produced parts

ASSEMBLY

5] Place the pocket clip over the mechanism housing and insert into the heel end of the pen and using your preferred method (press/vice/lathe etc) press firmly into place

6] Place the assembled nib and coupler to the nib end of the blank and repeat the step above to press into place

7] Drop the refill and refill spring into the heel of the pen then screw in the twist mechanism. It is important that the mechanism brass tube fits correctly over the plastic nipple of the refill, if it is not located properly the refill will not travel the correct distances. They normally self-locate.

8] Once the mechanism is screwed in, make sure it is tight as the mechanism is bi-directional, if it is not tight it will unscrew when rotating anti-clockwise instead of pushing the nib out.

9] Push fit the finial on the end of the mechanism by hand

10] Both ends of the pen kit will unscrew for refill replacement however we recommend using the nib section so there is no unnecessary wear on the mechanism.

Your pen is now complete and ready to use.