

More than just a

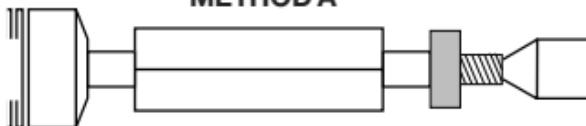
# UNIVERSAL ORIGINAL PEN MANDREL

This ROTUR UNIVERSAL ORIGINAL PEN MANDREL has been designed to provide a means of holding practically any size of pen barrel during the turning operation. It is capable of accommodating either one or two components at a time by simply adjusting the length of shaft protruding from the shank. The clamping grub screw bears on a brass pad thus ensuring that the ground surface of the shaft remains undamaged.

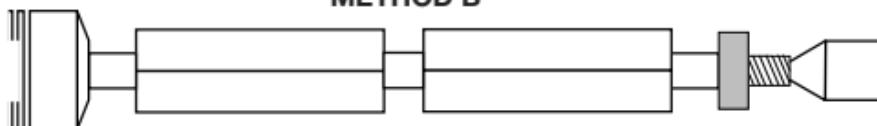
Why not try turning discs, wheels etc on the mandrel? It is so much more versatile than a standard pen mandrel.

Below we have shown the four main methods of securing pen parts during turning.

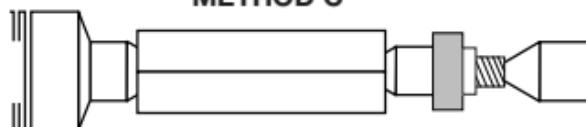
METHOD A



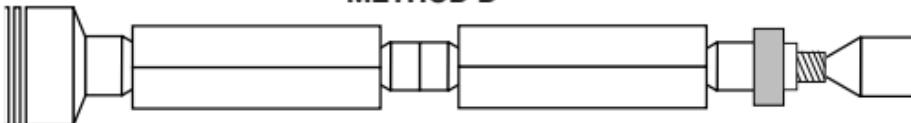
METHOD B



METHOD C



#### METHOD D



Methods A and B show single and double part mounting using the parallel spacers. This is suitable for pens with 7mm outside diameter barrels.

Methods C and D show single and double part mounting using the cones. These cones have an included angle of 90° and will not cause any mouching or other damage to the pen parts, in normal use. A lock nut kit is included for use when turning with cones.

In addition to the above options this mandrel will, of course, accept any 1/4" diameter bore adaptor bushes provided by the pen kit distributors.

**To use this mandrel** simply loosen the grub screw in the shank head and pull out ample shaft for the components to be turned. Assemble all the required parts onto the shaft including the brass thumb nut. Slide the shaft complete with pen parts back into the shank as far as possible and lock up the grub screw. Now tighten the thumb nut to clamp the whole assembly firmly together along the shaft. Support the end with a rotating tailstock centre (see next section).

**Choosing a suitable tailstock centre** is very important in order to maximise the life not only of your mandrel but also of the centre itself. A rotating centre should always be used as a solid or 'dead' centre will cause irreparable damage in a very short space of time.

Choose a centre with a 60° included cone angle. This will match the centre in the end of the mandrel. The majority of centres on the market are 60° including all ROTUR products. However, there are a number with greater or smaller cone angles and these will eventually wear both the mandrel and the centre's point. For optimum results use a centre with a hardened cone such as the ROTUR SLIM DELUXE CENTRE. These centres also have the advantage that only a small ½" diameter cone is rotating while the main body remains stationary.

**When using the cones** to turn larger pen blanks from square or in other situations where a larger than normal cutting force is applied to the work, it has been found advisable to clamp the brass ring using the lock nut kit provided. This stops the brass ring rotating and forcing the cones into the blank

The lock nut kit contains a nut, tommy bar and spanner, providing all you need to take this extra precaution.

Please carefully follow the procedures below:

1. Clamp the work up by using the brass ring in the normal way.
2. Run the nut up against the ring – again just finger tight.
3. Place the end of the tommy bar into the hole provided in the brass ring and use this to resist any further rotation as you tighten the nut with the spanner provided.
4. You may now bring your tail centre up in the normal way.

**Some miniature lathes** may have a comparatively short bore in the headstock which will restrict the amount that the mandrel shaft can be retracted into the shank. If the use of parallel spacers does not overcome this, then it is normally possible to drill the headstock bore deeper with a 7mm or larger drill bit. If in doubt about the feasibility or safety of this operation please consult the lathe manufacturer or their agent.

## **UNIVERSAL ORIGINAL PEN MANDREL**

**PM0 - No Shank**

**PM1 - 1MT**

**PM2 - 2MT**

Rotur - Made in the U.K.

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