



UNIVERSAL DELUXE MANDREL

PEN TURNING KIT

Made in the UK

**INSTRUCTIONS FOR TURNING A PEN
USING THE ROTUR UNIVERSAL DELUXE
PEN MANDREL AND ACCESSORIES.**

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UNIVERSAL DELUXE MANDREL PEN TURNING KIT

Congratulations on purchasing the Rotur Universal Deluxe Pen Turning Kit! Everything you need to start turning top quality pens is included, apart from the wood or acrylic.

The Universal Pen Mandrel has been designed for professionals 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 colleted mandrel has been designed so that the collet is totally concealed and is therefore dust free.

This kit includes:

- ◆ Colleted pen mandrel and shaft
- ◆ 3 parallel spacers for 7mm pens
- ◆ 3 stepped bushings for 10mm pens
- ◆ Lock nut kit
- ◆ Pen blank trimming tool
- ◆ 5 pen kits
- ◆ Spanner
- ◆ 6.8, 6.9 & 7mm drills (PMKC) / 7mm Colt drill bit (PMKCC)

INSTRUCTIONS FOR TURNING YOUR PEN

Please note: The following instructions are not intended to detail all aspects of good and safe practice as it is assumed that at least a minimum level of safe practice is understood by the operator. If you do not feel confident in following these instructions safely, or feel that any part of the instructions contravene your understanding of the safe use of a lathe or tools, please refer to a competent person for additional advice.

Obtain straight grained timber 10 – 12mm square and cut 2 pieces to a length that is just 2 or 3mm longer than the brass tubes supplied with the kits.

Using a bench drill and vice, drill a 7mm hole down the length of each blank. It is advisable to check the fit of the tubes into a hole on a scrap piece of material first. It should be a very close fit. The 6.8, 6.9 & 7.0mm drills are used for drilling denser or harder timbers or acrylic blanks.

Glue the brass tubes into the wood blanks using a medium consistency super-glue or similar product. Ensure that both ends of the tube are slightly below the surface of the end of wood.

Leave the glue to dry. This is very important as a brass tube could slip during subsequent processes if the glue is not properly cured.

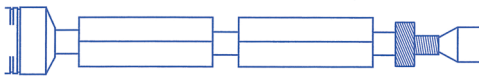
Take the pen mandrel and shaft assembly. Remove the shaft from the shank by just slackening the two mandrel body parts in the head of the shank. This releases the collets grip on the shaft and enables removal. Secure the shank in the headstock of your lathe.

Place the shaft of the pen blank trimming tool into the shank and secure by retightening the two mandrel body parts using the spanner on the nut built into the nose and the tommy bar engaged in the mandrel body.

REMOVE THE TOOL REST FROM YOUR LATHE TO ENSURE THAT YOU DO NOT CATCH YOUR HAND ON IT DURING THE FOLLOWING OPERATION.

With the lathe running slowly, offer the wood blanks carefully on to the pen blank trimmer allowing the flute to clear any excess glue that may have accumulated within the barrel. Press gently against the trimmer teeth and carefully allow it to shave the end of the wood blank down level with the end of the brass tube. Prepare all four ends in the way and then remove the trimmer from the lathe, replace the tool rest and insert the pen mandrel shaft into the shank but do not tighten.

Ensuring that there is ample shaft protruding to support all the components to be turned, assemble all the required parts onto the shaft including the brass thumb screw. The diagram below shows the order in which the components are mounted – the gaps between the stock being taken up by the parallel spacers supplied with the kit.



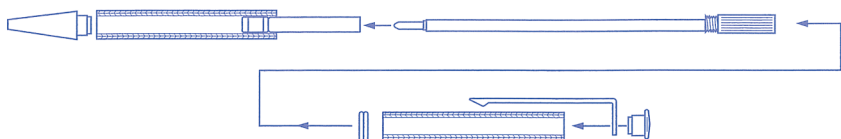
Once you have assembled all the components as shown, slide the shaft, complete with pen parts, back into the shank as far as possible and lock up the shaft by tightening the two body parts together engaging the collet on the shaft. Now tighten the thumb screw to clamp the whole assembly firmly together along the shaft. This can be assisted by use of the tommy bar provided. Support the end with a rotating centre – the Rotur Slim Deluxe centre is ideal as it has a hardened nose cone of the correct angle and only the small centre rotates, the body remaining stationary.

You are now ready to turn the wood parallel until it is the same diameter as the spacers.

Once you have turned the wood it is usually easiest to apply a finish, such as friction polish, while it is still in the lathe. It is safest to remove the tool rest again before attempting this operation.

Once you are happy with the finish of your pen, remove the parts from the lathe and prepare to assemble the pen parts.

Provide yourself with an arrangement that will push the pen parts firmly and squarely together without any danger of them being pushed at an angle. This can quite simply be arranged using a drill or bench vice or even by using a bench drilling machine as a small press. Having done this, assemble the parts in the manner shown in the drawing overleaf.



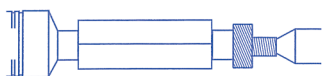
PKT1 Pen Kit Assembly

VARIATIONS

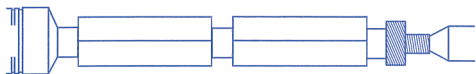
The sketches below show different ways in which you can mount pen blanks on the Universal Deluxe Mandrel by either sliding the shaft further into the shank, by using the spacers or a combination of both. In this way a great variety of pen kits may be turned using the same basic mandrel set-up.



7mm Spacers on a shortened shaft



Using the 10mm stepped bushings



The lock nut kit contains a nut, tommy bar and spanner. Please carefully follow the procedure below:

1. Clamp the work by using the brass ring in the normal way.
2. Run the nut against the ring, 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 using the spanner provided.
4. You may now bring up your tail centre 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 the parallel spacers does not overcome this, then it is normally possible to drill the headstock bore deeper using 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.

ROTUR WOODTURNING PRODUCTS

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