

## General Assembly (continued)

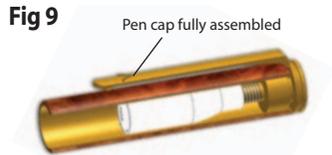
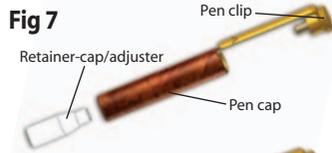
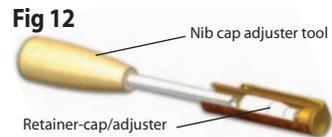
Line up the pen cap components as shown in Fig7. You may find it an advantage to introduce the Retainer Cap/Adjuster onto the thread of the pen clip before assembly. See Fig 8.

Ensure the clip is aligned with the notch and press gently but firmly together. If you have not introduced the Retainer Cap/Adjuster, introduce it into the pen cap barrel, push up as far as possible, and screw it onto the thread (The Nib Cap Adjuster (Part no. 210083) is the ideal tool for this procedure). See Fig 8a.

The pen cap should now be assembled as shown in Fig 9.

Screw the Lower End Cap and the Pen Nib into the pen body. See Fig 10. Introduce the Pen Nib into the Pen Cap. As shown in Fig 11. The Pen Cap is held in position by the action of the small ridges (in the mouth of the retainer cap/adjuster), locking over the raised rim of the pen nib. When correctly positioned the pen cap should be locked onto the nib and the face of the pen cap should be flush with the face of the coupler. If this is not the case the retainer cap/adjuster can be moved forward or back by screwing or unscrewing.

There is a profile similar to a screw head moulded in the bottom of the adjuster, which can be engaged with a small flat bladed screwdriver, or the nib cap adjuster tool. See Fig 12.



**Fitting the Ink Cartridge**  
When assembly is completed and satisfactory. Remove the pen cap. Unscrew the pen nib from the pen body. Align the Ink Cartridge with the receiver in the end of the nib. See Fig14. Insert them cartridge and press firmly home. There will be a small resistance felt as the 'spike' in the receiver

pierces the cartridge to allow the ink into the nib galleries. Give the cartridge a very gentle squeeze to help the ink flow. Refit the nib/cartridge assembly back into the pen body. Replace the pen cap.

## Axminster Pen Mandrels

These mandrels are machined with either parallel or Morse taper mounting and have a shoulder to assist with removal. They are supplied with a number of spacers for locating the pen components. See our catalogue for details as to whether or not you will need to purchase additional bushings for the project that you have chosen.



## More Information



If you are still a little unsure about getting into pen and project kit making, why not come on one of our one day courses here at Axminster.

This is a one day course for anyone who wants to learn the art of pen making and producing objet d'art from project kits. If you are thinking of buying a small lathe or have a lathe, this is the course for you.

Gaining a real insight into what can be achieved, after one day you will be able to leave with the completed, professionally finished masterpieces and a multitude of ideas and skills.

For details visit: [axminsterskillcentre.co.uk](http://axminsterskillcentre.co.uk) or call: Vicky Turner on 0800 9751905.



## Pen Kits The Principles of Turning



# 10-24ct Fountain Pen

Code: 310479-500171



# Pen Kit Instructions



**AXMINSTER**  
TOOL CENTRE

[axminster.co.uk/penmaking](http://axminster.co.uk/penmaking)

## Instructions for the Pen Kits

### Kit No's. 310479-500171 Fountain Pen

Pictures of samples of the finished articles, in both timber and acrylic, can be found in our catalogue in the 'Woodturning Projects' Section.

Below is a list of the items required to make the finished items from the purchased kits (Not including the body blanks). If you do not possess these items we have offered our catalogue stock code numbers alongside the items as a quick guide. We have tried to include everything in the list, although we realise that many woodturners will already have most of them.



### Required items

Alternatives are listed to cater for different lathe configurations.

Pen Mandrel (with 1MT Drive Centre)	Code No:	340198
Pen Mandrel (with 2MT Drive Centre)		340199
Pen Mandrel (with Parallel Drive Centre)		800375
60° Live Tail Stock Centre 1MT		340202
or 60° Live Tail Stock Centre 2MT		340203
or 60° Live Tail Stock Centre 3MT		340204
Bushing Set (4 pieces)		310387
10mm Drill Bit (we recommend the Colt Pen Drill)		702556
Universal Pen Barrel Trimmer		700265
2 Part Rapid Epoxy Resin Adhesive		340282
or Zap-A-Gap Adhesive (Cyanoacrylate)		990095

### Recommended Accessories

Quick Action Pen Blank Vice	600771
Axminster Pen Assembly Press	200205
Nib Cap Adjuster	210083

### Fountain Pen Kits

Kit No. 310479	10ct Fountain Pen (A logo)
Kit No. 500171	24ct Fountain Pen

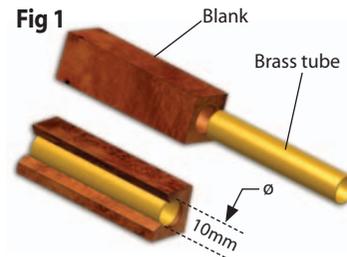
## What's Included

2 off	Brass Tube	(a)
2 off	Couplers	(b)
1 off	Pen Clip	(c)
1 off	Pen Nib	(d)
1 off	Ink Cartridge	(e)
1 off	Retaining-Clip/Adjuster	(f)
1 off	Lower End Cap	(g)



### Preparing the Bodies

Using 16mm (5/8") Square stock; cut the blanks to the length of the brass tubes adding 2-3mm to allow for trimming. The Pen Blank Sizing and Cutting Jig (code no. 600623) makes this process very much easier. Drill a 10mm diameter hole through the centre of the blank. Care must be taken not to force the drill bit, (this may cause it to 'wander' from the centre line), and remember to back out the drill frequently to clear the debris from the hole. If you are using a pillar drill the Quick Action Pen Blank Vice (code no. 600771) is a very useful accessory for this task, it ensures that the blank is held upright and firmly in position. Moreover, if the vice is clamped to the table of the drill, it will provide accurate repeatability for all the blanks that require drilling. When the hole is drilled, spread the adhesive randomly over the brass tube and insert the tube into



the blank using a twisting motion to ensure the glue is spread evenly between the two surfaces. Over insert the tube into the blank by approximately 1mm giving an allowance for the blank to be trimmed to size and the excess glue to be removed. See Fig 1

**Warning. If you are using cyanoacrylate adhesive, exercise extreme caution and do not allow the adhesive to come into contact with the skin. If this happens keep the affected area from contact with any other surface, until the glue has hardened or you can treat the area with a softening agent similar to Zap Z-7 Debonder (code no. 990099), and you can remove the glue.**



Allow the adhesive to dry thoroughly. Using the Barrel Trimmer (with the 3/8" guide insert fitted) (code no. 700265) trim the ends of the brass tubes; this will also remove any excess glue that may have exuded from the joint. Take care not to undercut the brass tubes.

### Turning the Bodies

Slide a mandrel spacers onto the shaft. Insert a bushing into each end of a body and mount onto the shaft. Repeat for the other body. Add mandrel spacers so that the near

## Turning the Bodies

end of the mandrel thread is covered, (this will ensure that the locking nut will tighten the assembly). Thread on the lock nut and do up finger tight. Check that the arrangement on the

shaft allows sufficient space/clearance to turn each end of the body; if this is not the case, rearrange the layout of the assembly until you are satisfied. See Fig 2.



Tighten the lock nut to allow the assembly to be turned without moving. **Do not overtighten**, this may cause the assembly to distort? the bodies to split? strip the thread on the lock nut? etc. Similarly do not advance the tailstock centre with too much

force. The current bulk of the blanks may be adding strength to the assembly but as the body diameters are reduced, too much force on the mandrel may cause it to distort/bow? Turn the bodies down to the diameter of the pen bushings.

**Note. You may find that this finished diameter is very slightly proud of the diameter of the mating face of the coupler (because of the 'rolled edge' of**

**the ribbing). You may wish to match the diameters of the mating faces by turning/filing/sanding a very small fillet on the outside rim of the body. See Fig 3.**

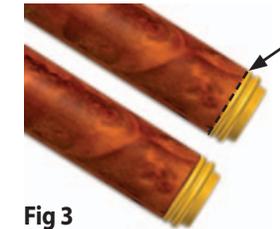


Fig 3

Carry out the finishing work on the bodies. Remove the finished bodies from the pen mandrel. Apply your selection criteria (graining/pattern match etc., etc.) to decide which body will be the 'pen' and which body

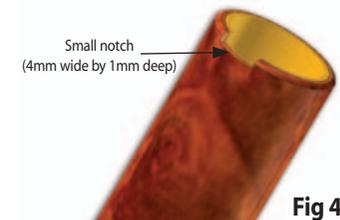


Fig 4

will be the 'cap'. The cap body needs to be modified to accept the 'clip'. This modification is a small notch (4mm wide by 1mm deep) cut in one rim of the body. See Fig 4.

### General Assembly

Line up the pen body components as shown in Fig 5. Ensuring the longest sleeve of the coupler is introduced into the body. Gently but firmly, press the coupler home. The Axminster Pen Assembly Press (code

no. 200205) is a very useful accessory for this operation, as it gives greater control over the applied force and maintains the components in line. Repeat the procedure for the other end. See Fig 6



Fig 5



Couplers inserted into the pen body



Fig 6

Axminster pen assembly