

Converting the old model Aulos bass to accept the Current Model Pipe.

I have had no luck recently in trying to obtain parts to breathe new life into old Aulos bass recorders. The models with a side entry mouth pipe. Replacement mouth pipes are not available and though the current model top entry pipe is available, the matching cap is not. (Similar pipes are available from Mollenhauer.)



Here is a cap that I have converted to accept the current style pipe.

It was not an easy job and should not be attempted without at least a basic lathe.

I drilled a hole into the top of the cap. Not so easy as it sounds... the plastic is very difficult to work and the bulk of the cap is hollow. The hole also ends up significantly larger than the drill. The hole should go far enough to break into the original mouth pipe hole. And... ideally... no further.



You are not likely to be able to make the precise 12mm. hole that is needed to suit the pipe. My new 12mm. drill produced a hole about 0.5mm oversize.

The voids in the cap need to be filled, at least partially. I used a mixture of slow setting epoxy glue, 'Araldite', and fine hard wood turnings produced by my last job. It took two applications because, even with a filler, the mixture sags. Leave to set for **24 hours**.

I opened out the hole with a 13.5mm. drill so as to provide space for a lining of (synthetic) cork, 1.5mm. thick, fixed with 'Gorilla' glue.



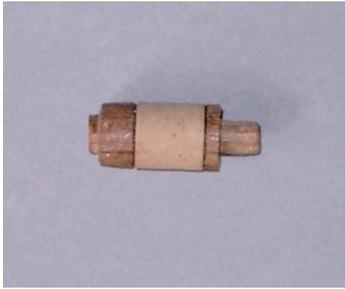
The inside of the cap may be opened out. It helps the conversion as one can see what is going on and clear away swarf and excess glue, but it is not necessary for the performance of the recorder. Take care that the tip of your drill does not break through if you don't want to have to tidy up your work.

A spherical rotary burr in a 'Dremel' type tools works well for milling away plastic.



The next stage is to deal with the original mouth pipe hole. It has to be plugged.

I made a plug from hardwood. It serves two purposes, not only does it prevent air from escaping, it stops the mouth pipe from entering the cap all the way to the bottom of the hole. If it does it will prevent any air from getting through to the wind way of the recorder.



Here is my plug. It is made of a scrap of teak.

The projection on the left blocks the ingress of the mouth pipe.

The projection on the right is provided so the it may be gripped by a pair of pointed pliers and removed. The pipe is a snug fit in the original 12mm. hole and just long enough to be pushed home by hand.

The lapping is of 1.0mm. (synthetic) cork.

General Comments.

Large drills are practically guaranteed not to produce a hole of the size you would expect, particularly in plastic. They need to be fed very slowly and revs kept very low. With plastic it is essential to keep the work cool and to clear swarf frequently. I have found precise large holes very difficult to achieve. My best results have come from the use of a flat bit that I have ground for my specific purpose (12mm. mouth pipes for wooden caps) following a pilot hole. This did not work well with the plastic Aulos part. There were too many voids and heat was a problem.

When boring the hole I used my basic woodworking lathe. The cap was held by small four jaw chuck with the jaws expanding into the underside. The drill was in a Jacobs chuck in the tail stock and I advanced it very slowly with the tail stock feed screw. For the final sizing pass to clear away excess filler and prepare the hole for the cork lining I turned the work **by hand**. The hole was nice and clean but still came out about 0.5mm. bigger than the drill size.

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