

Antler on Pens

Contributed by: Philip F. Duffy

A.K.A "philipf"



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Deer Antler is an attractive substance on pens. Customers like the feel, the weight and the look, particularly when it has a great shine and carries a bit of exterior surface to provide contrast. When it contains no exterior surface of the antler, it looks like ivory. This article explains my method for choosing the right piece of antler for the pen you are making and how to prepare it for the finishing process.



*But, before we proceed, we need to address the hazards of antler dust. It should be noted that when a substance is sanded with fine grits in the 600 to 1200 values, or higher, the dust is a natural hazard and must be avoided by your lungs and eyes. Wearing full face protection with a face mask, or a negative pressure powered system is essential for your health. When taken in the aggregate with all the other dust hazards we deal with in the shop the best approach is **CAUTION!***

Antler of the Whitetail Deer is has an outer surface composed of hard calcium and an inner core material (marrow) that is quite soft and porous. The core material reduces to a tiny vein at the outer limits of the antler tines. Most tines off the main beams appear solid and make great material for pens. But the base of all racks, have a large core that is not suitable for pens.



We want to try to deal only with antler pieces that result in the outer surface exposed and avoid bringing the inner core to the outside of the finished blank. The reason is quite simple; the inner core is porous, not hard and absorbs all kinds of unwanted fluids and takes an ugly stain pretty easily. The outer material is very hard, dense and takes a great polish.

The process of putting deer antler on pens is a bit of challenge. The pen must look and feel right when it is completed and that means taking into account several factors in the raw antler material. First and foremost one must consider the diameter of the pen-tube. A 7mm pen barrel/brass tube is a whole lot smaller than one that measures 10 to 12mm. In other words, the antler blank must match the size of the brass tube. But there are other factors as well. When the pen is finished the antler should be white all over, or nearly so, with some natural exterior coloring showing at some place on the pen. This provides the buyer of the pen with a level of “authentication” that the pen is really antler.



Therefore, the challenge is to choose an antler piece that has some or all of the following characteristics; large enough to accommodate the drill bit for the kit, small enough so that the exterior of the blank will still be present when you turn the pen, be white enough to make it look natural, and it cannot have a core that is so large that it comes to the outside of the blank when drilled. Selection is the key to getting the antler pieces that fit these criteria. Pieces that are crooked - -nearly all are to some extent-- - make the challenge more intense. How I deal with the crooked pieces is discussed below.

Then there are other factors in the selection process. A blank that is a “shed” – one that is thrown off by the deer in February is not usually a good choice for immediate use because it smells very repugnant when turned and sanded. One that is 3 years old has little smell to it and is a far better choice.

An antler that someone has had nailed to the “barn door” for the past ten years is also useless because the sun has bleached it to such a high degree of whiteness that makes the calcium too dry to be useful or attractive. So, you need to be very discrete in choosing the piece of antler to use on your nice pen. Check the diameter, look at the size of the core, see that the exterior is large enough though the length of the pen tube so avoid a drill bit breaking through the side.



Drilling on the lathe; NOT YET!

I have developed a process for mounting the potential antler blank between centers to initially turn the antler to a rough size. This allows one to adjust the point of engagement of the live center so as to minimize the distortion of the blank on the lathe and to see that you will be cleared when drilling.

First of all, mark the antler with a pen mark so that the piece you want to use is well described. Then, add a ¼ inch or so. This will come in handy when you need to mount the blank in the chuck. Use the brass tube as your guide when you choose the section of antler to be cut. I suggest using a hand saw or a hacksaw to cut out the blank and then mount it between centers with a small spur drive on the headstock and a 60 degree live center in the tailstock.

When you turn on the lathe - -slowly to start -- -you can see from the shadow how much the curve of the piece is deflecting. I then try to minimize the deflection by moving the engage point on the live center. You may have to reverse the two ends of the antler to find the right axis for turning. If the piece of antler is very straight there will be little or no shadow or deflection. Then, with a very sharp 1/8in parting tool, take a few thin cuts to see how it looks and then proceed with caution. When the blank is close to being round, stop the lathe and examine it carefully for flaws or cracks.

Then you can put it into a chuck for drilling - - slowly and carefully. I like to cool the drill bit with a spray bottle of water. The bit will do a cleaner job if kept free of buildup and the chances of burning the antler are reduced significantly when kept cool. Should you break through the sides, you have missed the mark and start all over. Once the drilling is completed, I wash the core with water and use expanding glue or epoxy to lock the brass to the antler. Be sure to rough up the brass before gluing and use enough glue that it is all over the brass.

Then, as a pre-check to your success and before you apply glue, put the brass tube in the antler and *mount it by hand with the bushings in place*. You must have excess diameter of antler or your blank will not support the finished pen appearance you desire. When all is well and the glue is solid, proceed to turn the blank on your bushings by using a sharp skew.

Sanding should be a routine you have down to a science but I add this caution. If there is any core material showing on the exterior of the blank, do not try to use any plastic polishing compound as the material will be absorbed into the pores of the antler and you will not get it out! You can try sealing the porous material with sanding sealer, but that is your call. Finish it with 600 grit or higher and, if you desire, CA glue or wax. Either way you should have a very attractive pen barrel for your customer.

Don't forget the safety precautions stated above. Good Luck.