

The making of a 14<sup>th</sup> century scabbard  
by  
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I would like to thank all of those who have posted worthwhile information on the net about the making of scabbards. Having never made one before, I did extensive research and have found that the Peter Johnsson scabbard is the best on the net and this is my interpretation of it. A couple of links to be of the most use:

<http://forums.armorarchive.org/phpBB2/viewtopic.php?t=50556&view=previous>  
<http://www.albion-swords.com/swords/scabbards/scabbards.htm>

Please be advised that my leather skills aren't all that hot. I have done some strap and belt making. I can punch a hole in leather just as well as the tool will allow. I have done some leather sewing (made some saddlebags for the dog) and decorating with pewter fittings, but that's it. I took on this challenge with some reservation, but my "cautious optimism" was the best thing I had going. It forced me to be over-prepared for the task. If you don't know how the leather will perform, take your time and practice on scraps before proceeding with each step.

I used a few simple tools and materials found around the house:

1. Albion Swords Landgraf sword
2. Leather dewing needles (small) both straight and curved. (\$4)
3. Waxed thread (brown) (\$3)
4. Brown calfskin 2-2½ oz. (\$35)
5. Black elk hide 4½-5 oz. (\$110)
6. Thin leather thong (\$5)
7. Large popsicle sticks to make a few leather tools (\$2)
8. Tandy "Leather Weld" glue (\$5)
9. Buckles from Anshelm Arms and Armour (\$40)
10. Blue velvet (\$2)
11. White Oak (\$10)
12. 8' work table
13. Digital caliper
14. 1 can spray Varithane
15. Soapstone marker
16. Super sharp razor knife and a box of blades.
17. Large X-acto knife set (not the smaller blades, #7 I believe)
18. Large cutting mat
19. Leather punch
20. Leather awl
21. Neat's-foot oil
22. Tite Bond #2 wood glue
23. Rubber cement
24. 6' straight edges
25. Fistful of clamps
26. Roll of 2" masking tape
27. Measuring tape 8'

28. Freshly sharpened chisel set
29. 4" Belt sander with 50 grit paper
30. 12" band saw
31. 48" X 52" K2CNC.com CNC router
32. BobCAD v19 software
33. Owain Phyfe/Cantiga/Strunz and Farah CDs. Each about 1 hour long. Mood music is so very important.
34. 15 pack of Guinness from the Costco. Mood beer is so very important.

OK fine, tools and supplies found around MY house and, no, you can't borrow them.

### Step #1 – Inner wood core

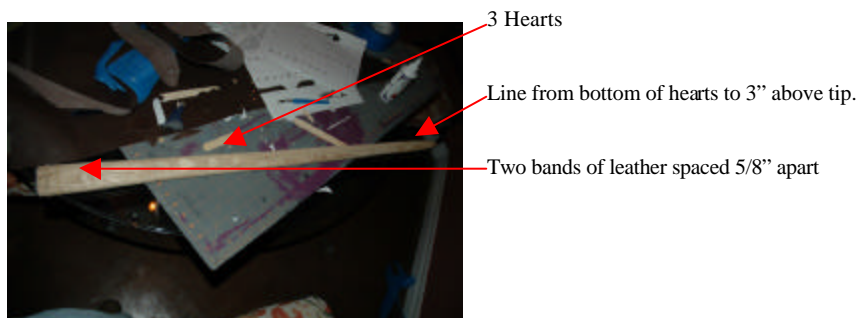
The inner wood core is the most important (in my opinion) of the whole thing. If the core doesn't work, all the rest of your efforts will be in vain. After acquiring the sword sans scabbard from Albion Swords, I took precision measurements using the digital caliper and divided the measurements by 2. Those were then programmed into BobCAD and oversized by 1/32" all the way around. I'll make no bones about it; I have absolutely zero skill with a chisel. I used a K2CNC.com CNC router device to cut the sword shape out of white oak. The inner core was then sprayed with two layers of spray Varithane. Blue velvet lining was rubber cemented into the core. Excess velvet was trimmed away and left two halves with lining. The inner core shape was traced onto the outer core for future trimming. Those halves were then wood glued together, clamped, and allowed to setup overnight. The whole process took approximately 3 Owain Phyfe CDs.

### Step #2 – Outer wood core

The outer core was trimmed to its rough shape with a band saw with a 1/4" blade following the lines previously drawn in Step #1, oversized 3/16". The roughed shape was then sanded to its final shape. A great amount of time was spent on the sander trying to get the wall to a uniform 1/8" thickness. Total time, 2 Owain Phyfe and 1 Cantiga CDs.

### Step #3 – Leather on scabbard

The easiest way I have found to make patterns of 3D objects is to wrap it in masking tape then cut relief lines to identify where cupping needs to occur. The scabbard was so wrapped, cut, and laid out on the calfskin. The shape was cutout with a new utility razor blade. Before it was attached to the scabbard core, a few decorations were added, specifically two bands of leather thong at the top of the scabbard for the belt to set into, three heart shapes cut from the popsicle sticks (1/16" thick) and a leather thong running from the midpoint to the bottom (see picture.)



According to the Peter Johnsson instructions provided, the calfskin was glued to the front of the scabbard. I used an awl and a steady hand to pre punch holes about 1/8" away from the edge of the leather and about 1/4" apart. The skin was then wrapped



around the core and sewn using two needles and brown waxed thread. Be very careful with pulling too hard on the calfskin, for it will tear through. As best I can describe it, the thread is snug tight not overly tight. The sewing started at the tip and moved up the body. Care was taken to maintain the same X pattern. The top was folded and glued. The leather was then wetted and rubbed with a home made wood tool to shine up the skin and further stretch the leather over the patterns. Total time approximately 1 Owain Phyfe and 2 Strunz and Farah CDs.

Two small thongs

#### Step #4 – Leather Belt Pt. 1.

A 1 1/8" belt was cut from a black elk skin. A generous length was provided for each part. Remember you can always cut leather shorter. I found the elk to be stretchy one way but not so much the other, so I made sure to make the less stretchy direction the length of the belt. The first part to be attached was the long belt. The leather was wrapped around where I thought it should go and a soapstone mark was made. The location was based on having the woven belt travel at a 45 degree angle to the longer belt (see picture.)



I chose to use the "small thongs woven back into the belt" technique as opposed to the "sew it in place" technique. Two 2 1/2" long 3/16" thick thongs were cut with a leather punched hole betwixt them to keep it tidy (see above and picture to left.) Five pairs of slits were made in the belt and the thongs were woven through. The belt was then slid onto the scabbard and wedged into place. Total time 2 Cantiga CDs.

#### Step #5 – Leather Belt Pt 2.

The shorter belt with its intricate weaving was then measured and cut according to the instructions and pictures I gleaned from the web. See above links. The most important part of this step is to take your time. Measure, re-measure, then cut. I find it takes longer to rush through a project and fix the screw-ups than to take the time and do it right the first time. By choosing a 1 1/8" belt, I had two 1/2" straps with a 1/8" section cut out between them which worked out very well. The calfskin was cut using a 1/2" square X-acto blade. I found the square blade to allow me to push the cut where I wanted it as opposed to having to follow a line and risk making the cut



too long by a slip of the blade. To assist in the weaving, I put a length of waxed thread on a needle and then tied the other end to awl holes through the small belt thongs. All I needed to do was push the small needle through the calfskin and pull the belt on through. When the weaving was done, the thongs were tied off and the excess cut off. Of special note is the weave where the small thongs go through the back of the long belt. As per the PJ instructions, if you make the small thongs go through the belt AND the calfskin, it will hold the belt in place (see picture). Total time 2 Strunz and Farah CDs.

#### Step #6 – Finishing touches

The last steps are to add a chape at the tip, belt buckle and tip, and to finish the top edge of the scabbard where the hilt meets the scabbard throat. A piece of blue velvet was cut as an oval, glued and the excess tucked under the leather around the throat. The sword was then pushed through the velvet. I took great care to go through the center, which in turn cut and flattened the velvet into the core. This “double thick” velvet at the top was snug enough to not let the sword fall out when held upside down, but loose enough to be drawn easily. As of this time the chape and belt parts are on order and not installed yet. Total time 1 Owain Phyfe CD.

And there you have it: my version of the PJ method for making a scabbard. Total time: approximately 14 hours of listening to CDs and less then \$200 in supplies. Tools are a whole other issue. If I did not have the tools already, the \$700+ price tag for a PJ scabbard would look very reasonable, considering the essential nature of the wood core and the quality of his work.

