

Pattern and Instructions for Viking Age Re-enactor's Trousers

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Rev1.0

February 14, 2007

The current version of this document is available at:

http://www.hurstwic.com/library/how_to/thorsbjerg_trousers.pdf

Introduction

I am not a tailor. Nor am I a historic textile expert. In this article, I provide a functional full-scale pattern and basic instructions so that the reader has all the information needed to construct a respectable pair of trousers for Viking Age re-enactment. The plan for these trousers is a moderate compromise between historical accuracy and practicality. There are a number of exceptional articles on the web that can give a great deal of historical background and perspective as well as some significant construction detail. It was my experience that all of these articles left frustrating gaps that made it difficult for a reader without significant textile and garment construction experience to actually implement the ideas shared in these articles. I have tried to eliminate all of these gaps to provide a complete overview.

This is one possible interpretation of a pair of Thorsbjerg style trousers. The original artifact is a very close fitting "hose" type of trousers found in a bog in Thorsbjerg, Germany. The artifact is dated to the mid 4th century. A fragment of trousers found in Hedeby dated to the 10th century have very similar construction through the seat. This suggests that the basic form of construction was used throughout Northern Germania and Scandinavia over the course of centuries, including the Viking age. In this interpretation, it's somewhere between the very wide, knee length "Rus" type and actual hose, and it fits something like a modern pair of denim blue jeans. The patterns omit the waist closure and focuses on the basic garment construction. The artifact had belt loops and an attached waistband that was wide. Archaeologists theorize this waistband would have been folded down over the belt. A simple drawstring is a good working option, as it's all out of sight under the tunic.

Analysis of the pattern

My analysis relates the pattern (at the end of this article) to its place on the body in a way that an inexperienced tailor can understand. If you take your favorite pair of jeans, fold them in half at the fly, and lay them out flat, you should see a shape roughly defined by the points A-B-G-H-I-M. This should help you visualize the functional dimensions. In a typical pair of denim jeans, there are seams following all the edges in this folded state. The jeans are simply made of four roughly equal panels sewn up with a closure in front.

The historical trousers differ in that the body is made of two major panels that wrap completely around the leg on their respective sides. The area through the crotch from the front of the belt line to the back, known as the “rise”, is made of two panels that join to each other. I’ll refer to them as the “crotch” panel for the long narrow piece, and the “back panel”. Each major leg panel attaches to either side of the crotch.

There are some interesting advantages I have observed from wearing trousers made to this pattern. The front part of the rise panel creates two seams that run on either side of the male organ rather than right over it. This makes the trousers much more comfortable when sitting despite their typically snug fit. Also, there is no seam on the hip, which can gather and bind when sitting. The inseam diverts from the inner thigh at about the knee and runs to about the midline of the buttocks. When sitting on modern chairs this puts a seam right under your weight and can be irritating. However, when sitting on a horse where the weight is concentrated more to the surface of the inner thigh, the seam is out of the way. Common tailoring measurements relate to the pattern as follows (with apologies to the vast majority of the world that uses metric measurements):

Waist (red)	$(2 \times A-C) + N-P + X-Z$
Hips	Waist + 5”
Inseam (green)	H-I-M
Rise (light blue)	U-Y + O-R
Outseam (dark blue)	B-G

The garment made to the pattern (at the end of this document) fits me very well: at waist 34”; hips 39”; inseam 30”; rise 26”; outseam 39”, or essentially a 34” x 30” pair of blue jeans. Stout is the polite description.

If you were to take a tape measure to the drawings, some things might not make sense. One would think that the length of segment L-M-A should match to the length of segment T-Z, as these edges are sewn together. As you fasten the straight crotch piece to the curve of the rise section, some material stretches and some gathers. The lengths provided work well given the dynamic of the shapes with medium weight linen. I’m not sure about other materials. It’s the same phenomenon for the final closure seam of the legs. The lengths are not theoretically matched but seem to work out.

Assembly

The pattern, as provided has no seam allowances. I’ve left these to the reader, as they will need to be adjusted based on the types of seams used. Excellent references to seams and stitch types can be garnered from the internet by a simple Google search on the terms included here. For my trousers, I used French seams for all constructions with three exceptions. A flat felled seam is used for attaching the bottom of the back panel, Q-S, to the seat section, K-L, T-V, L-K. With a fit this close, there is significant stress on this junction when bending over, so a stronger seam was desired. A backstitch was used

to connect the waist flap to the body of the trousers. This seam is completely hidden and fastens the tops of the belt loops as well. I used a modified blanket stitch for the hems and closure of the waist flap. I used a 3/8" allowance for both parts of a French seam. For the flat felled seam, I used 1/4" on the inner edge and 1/2" on the outer. 1/2" was used for the rolled hems on the cuffs, and 1/4" for the running stitch attaching the trousers to the waist flap.

- 1.) Attach crotch piece to legs by matching points T to L of one leg and V to L of the other leg. I advise using lots of pins to pin the materials. Keep the edges aligned as much as possible. Whether you're hand stitching or using a machine it's much easier to not have to hold the edges in alignment as you sew. If hand stitching a simple running stitch is OK for the first of the French seam. I would recommend a good backstitch for the second part, though. Complete the seams.
- 2.) Attach the back panel Q-S to the seat formed by K-L, T-V, L-K of the main assembly. If the lengths end up different, center the piece before pinning to split the error equally on either side. This will create a "jog" that can be trimmed off before pinning the leg closure seam. My variation on the flat felled seam when done by hand leaves two stitch lines on the outside and one on the inside.
- 3.) Close the legs by pinning the edges created by C-D-E-F to the edge created by H-I-J-K-S-N. The attachment at the points E and I are where the inseam changes direction. I prefer to start pinning at these points and go out in both directions to the ends. If these two sharp curves don't line up, you get some ugly artifacts in the seam. Mismatches at the outer edges can be trimmed before hemming.
- 4.) At this point you can actually put the trousers on to check the fit. The cuffs need to be hemmed. Depending on the waist type you choose, your next step differs. For a drawstring, you simply roll the waistline, hem it and insert the string. I used belt loops and a waistband that is above the belt line so it can fold down over the belt. This is based on archaeologist's observations of the Thorsbjerg artifact mentioned above. None of the readily available photos of the artifact make this clear. The recommended approach is to first pin the waistband to the trousers waistline face-to-face. Insert the belt loops between them so the stitch line fastens the pieces together as well as the tops of the belt loops. Complete the fastening. The waistband is then back folded and ironed so it can be sewn with a hemstitch creating the flap. The bottoms of the belt loops can be fastened with a few simple backstitches.

Modifications

Modification to this pattern can be simple as long as certain proportions are kept intact, such as the amount of flair from hip to waist and the amount of taper in the leg.

- 1.) Waist : The simplest method is to simply expand the pattern by moving line C-F horizontally. This will, however, expand the waist and hip as well as thigh and cuff. Small adjustments to the waist without effecting other dimensions can be made by widening (or narrowing) the top of the back

panel at line N-P. Small adjustments can be made by widening through the middle of both the back and crotch panels. Based on experiments, any expansion over 3/4" in the crotch panel is impractical.

- 2.) Hip : To expand the hip with the waist follow step 1 above. To increase the hip without increasing the waist is a trick. The best result will probably come from expanding the leg panels and then reducing the waist back by reducing the width at the top of the back panel at N-P.
- 3.) Rise : To increase the rise without altering the inseam to outseam ratio is something that is probably beyond the ability of this pattern. Small increases could be made by simply offsetting the line K-L, reconnecting the lines and lengthening the crotch panel by the same amount. That will increase the rise only in the back at the seat and too much will cause it to just bunch in place. The rise can be increased by moving the line A-C up vertically by half the amount you want to increase the rise by. Add that amount to the back panel by offsetting N-P and to the crotch panel by offsetting X-Z. This will increase the outseam and leave the inseam unchanged. The outseam can be recovered by moving line F-H up the same amount but not without reducing the inseam.
- 4.) Inseam : Simply move line F-H up or down to decrease or increase the inseam. This will effect the outseam. You can move line A-C with F-H to maintain the outseam but only by altering the Rise.
- 5.) Outseam : Changing the outseam has the same issues as inseam. You can increase it by moving the line F-H down but that also increases the inseam.

Other modifications can be made. For example, the cuffs can be made tighter by reducing the width of the line F-H about point G. The problem is that this requires redrawing fair curves. That may be somewhat of a gamble but could produce good results if done well. I would recommend "proofing" the pattern after such changes by cutting them out of old bed sheets and sewing with a simple machine run stitch everywhere.

