

# Early Period Seam Treatments

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*Author's Note: Underlined words can be found in the Glossary.*

The wonderful thing about sewing in the SCA is that there is nothing new under the sun. A running stitch is a running stitch, whip stitch is whip stitch, couching is couching. If you were taught how to sew on a patch or a button years before you ever tried making clothing for the SCA, then you already know how to sew as they did in period. This class will focus on edge and seam finishing as it was practiced in Northern Europe in early period, mostly between 793 and 1066, which was the time period of the Viking Age in Scandinavia and the British Isles.

What has changed about sewing between the Viking Age and now, however, are materials and construction techniques. Very few of us were taught how to finish seams so that they will last without fraying – “press open your seam allowances” is about as far as we got. In period, seams were carefully finished for a variety of reasons; among these, to alleviate fraying, to support seams under stress, and to help the garment hang in a particular way.

Different fabrics had different finishing techniques, as well – what works for wool would not be appropriate for silk, and linen doesn't hang on the body or sew up like either silk or wool. Also, different applications of seaming were finished differently, which affects the way the garment fits and hangs on the body. And of course, materials were different. There were no mass-produced spools of thread available at the local fabric merchant, and needles were handmade, rather than available in packs of forty for fractions of a penny apiece.

## **Thread**

Thread for sewing was spun from wool or flax, both of which were produced from raw materials by the Norse. Silk thread was used to a certain extent, but was much more likely to be thread picked from the fabric itself, rather than thread purpose-made for sewing, as sericulture is difficult in the cold northern climates.

Wool thread is produced by shearing or rooing a sheep of its wool, washing it, combing or carding it, spinning it to the desired thickness, and if necessary, plying the thread together for additional weight and tensile strength. Most sheep in the modern age must be sheared; the ability to pluck or “roo” wool from sheep has been bred out of most species in order to control wool production. Shetland sheep, for example, can be rooed, and they are also a period breed.

Once the wool is off the sheep, the fleece must be skirted, and then washed to remove dirt and excess lanolin. Excessive agitation will case the wool to felt and become unspinnable, so it's important to be

gentle when washing wool. Once the fleece is clean, it can be dyed, but it's generally easier to dye after spinning – less chance of felting.

Most modern people are familiar with the use of wool cards for preparing wool for spinning. Wool cards create light, fluffy, lofty rolags, which are used to create light, fluffy, lofty yarn, which in turn create warm, soft, fluffy knit garments. This type of yarn is called a "woolen" preparation.

However, light, fluffy woolen yarn is not so great for sewing, so wool for thread and weaving was (and is) prepared using wool combs. Where wool cards mix up the fibers so that they are random, wool combs straighten and align the fibers so that when spun, they create a tight, smooth, firm thread, which is easy to sew with. This type of preparation is called worsted, and fabrics woven with worsted yarn tend to be smooth, firm, and hard-wearing. Modern men's suits are often made from worsted wool.

Unlike wool, which is an animal fiber, linen thread comes from the flax plant and is a bast fiber. Bast fibers are generally very strong, and get softer as the items made from them are used and washed over time. Flax is grown, harvested, and then retted, which separates the desirable bast fibers from the inner core of the stem. After retting, the fibers are scutched, which separates the desirable fibers from the outer skin, then hackled, which separates the shorter fibers from the longer, more desirable ones, and finally spun to create strong thread. The length of the fibers, combined with the twisting action when it is spun and the subsequent plying, makes linen thread very strong indeed.

Silk, like sheep's wool, is an animal fiber, originating from the cocoon of silkworms. A common variety of silkworm used for silk threads is *Bombyx mori*, the white silkworm. The larval stage of the white silkworm has been raised for silk production for thousands of years, bred specifically for that purpose. The adult silkworms can't even fly, and as they are born without working mouth parts, all they can do is mate, shortly after which they die.

Silkworm larvae in cocoons are generally stifled, where the larvae are killed with heat or steam before they emerge. If the silkworm emerges from the cocoon, the silk fiber cannot be reeled off in one long strand. The cocoons can still be salvaged and used for silk caps, which can also be spun, but reeled silk thread is the most desirable for sewing and weaving.

But why is all this important? Because in period, there was no all-purpose thread. Like any other DIY project, you need to choose the right materials for the job. In general, wool fabric is stitched with wool thread, linen fabric is sewn with linen thread, and silk fabric is sewn with silk thread. It would be folly to sew seams in wool with linen or silk threads, because these threads are stronger than wool, and will saw right through the fabric itself. Wool, in its turn, is too soft to hold linen or silk fabric, and linen thread is generally too coarse for sewing fine silk.

## **Needles**

Needles were made of metal, bone, and wood, and varied in size and shape according to their use, just as they are today. Many of the metal needles recovered from the Anglo-Scandinavian finds in the English city of York were quite fine, and could be used to sew with fine threads on lighter-weight fabrics. I confess that while I own some bone needles and bronze needles, I have never tried to use them for

sewing, because they are too coarse. At some point, perhaps I will try to make my own... but I don't think that will happen any time soon.

## Fabric

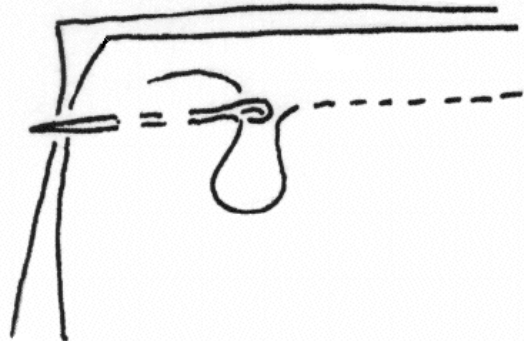
Wool and linen fabric in the Viking Age in both Scandinavia and Anglo-Scandinavian England was generally woven on a warp-weighted loom. The warp would often be formed with tablet weaving. The warp of the tablet-woven band would be at least as long as the desired width of the warp-woven fabric, while at one side of the tablet band, the weft would be a long loop, several inches longer than the length of the loom. (The extra warp length compensated for the take-up and the tie-up.) The tablet-woven band would be used as an exposed selvage, for instance, at the top of an apron dress.

Woven selvages do not fray, and therefore don't need the same care with finishing as cut edges. Wool fabric tends not to fray as badly as linen and silk, due to wool's tendency to felt. However, even if the seam allowances of wool garments don't need finishing to keep them from fraying, it's frequently desirable to keep seam allowances open to make the garment lie nicely on the body and prevent chafing and rubbing that could degrade the seam. Such stitching can also be decorative on the right side of the fabric.

## Stitches

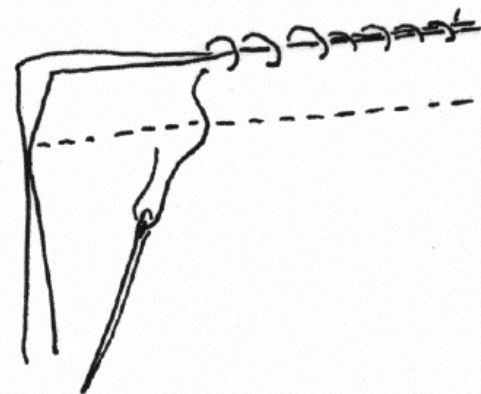
### *Basic Running Stitch*

The most basic of all stitches, running stitch is used primarily to join two pieces of fabric together. While it is fast to work, it is also vulnerable: one snapped stitch and the entire seam can give way. Given that, it is still the most common of the seam stitches found in period.



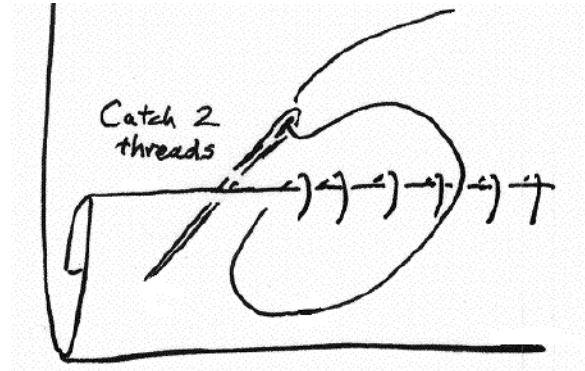
### *Overcast/Whip Stitch*

Overcast or whip stitch is commonly used to either bind the edge of thick fabric (like heavily fulled wool) or to join two pieces of thick fabric at the edge.



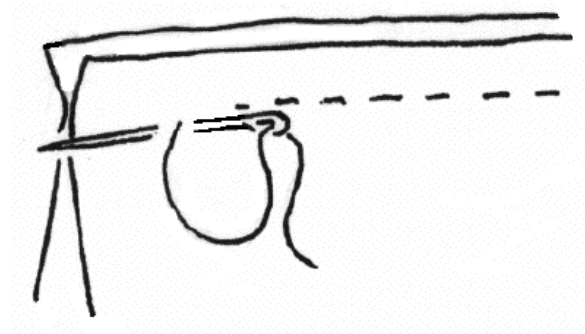
### *Hem Stitch*

The basic hem stitch can be used, as the name implies, to sew a neat hem at the opening of a garment. It can also be used to finish seam allowances on fabrics with a tendency to fray.



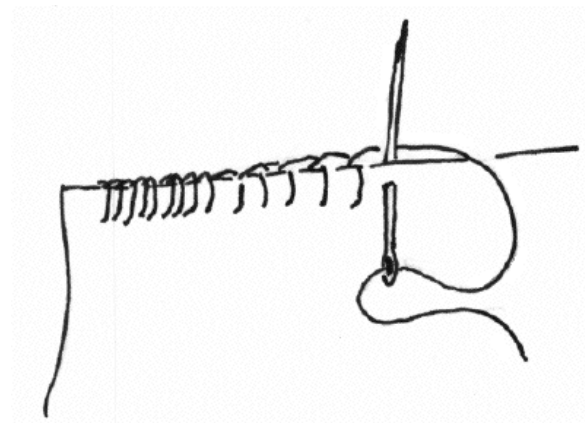
### *Backstitch*

The backstitch is a very sturdy, very inflexible stitch that can be used to join two pieces of fabric. It can also be used as a decorative stitch. However, it is not used terribly often as a structural stitch in period, perhaps because it uses much more thread than a running stitch.



### *Blanket Stitch/Buttonhole Stitch*

Blanket or buttonhole stitch is frequently used as a reinforcement stitch for cut edges, particularly buttonholes and eyelets. On the edges of fabric, the stitches may be farther apart (blanket stitch), sometimes used decoratively, whereas when used to reinforce an eyelet, the stitches will be flush against each other and cover the raw edge (buttonhole stitch). This stitch is a variant of overcast stitch.



### *Herringbone Stitch*

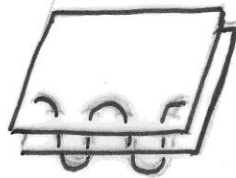
Herringbone stitch can have a few uses. It can be used as a blind hem stitch on the inside of the garment, only catching a couple of threads as it is worked, or it can be used as both a functional and a decorative stitch on the outside of the garment, both holding the seam allowance in place and adorning the seam along which it is worked. Sometimes the crosses are tacked down with running stitch.



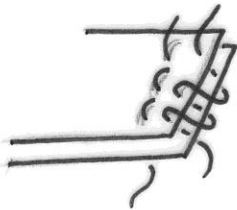
### **Seams and Edge Finishes**

Please see the following diagrams and descriptions for common seam and edge finishes. For the purposes of this class, I have not directly addressed sewing silk, as it was vanishingly rare to see silk used for garments in Northern Europe during the Viking Age. If it was found at all, it was trim or facing material, which is outside the purview of this class.

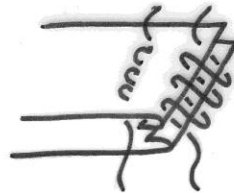
# SEAMS WOOL & LINEN



RUNNING STITCH



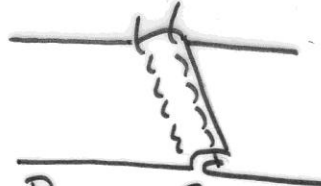
RUNNING STITCH  
RAW EDGES OVERCAST



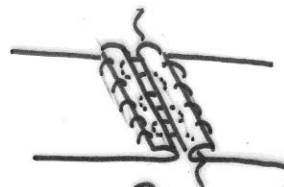
RUNNING STITCH  
RAW EDGES TURNED IN  
& OVERCAST TOGETHER



RUNNING STITCH  
SEAM ALLOWANCES PRESSED  
TO ONE SIDE & HEM STITCHED



RUNNING STITCH  
SEAM ALLOWANCES PRESSED  
TO ONE SIDE & STITCHED  
W/ RUNNING STITCH



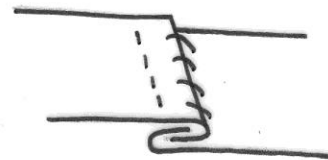
RUNNING STITCH  
SEAM ALLOWANCES  
PRESSED OPEN &  
HEM OR OVERCAST  
STITCHED



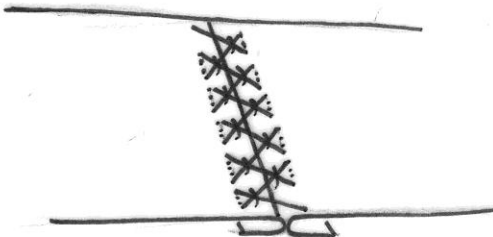
RUNNING STITCH  
W/ OVERCAST OR HEM STITCH



WS TO RS, RAW EDGES  
TURNED INWARD  
STITCHED W/ RUNNING ST



WS TO RS, RAW EDGES  
TURNED INWARD  
FASTENED W/ RUNNING  
ST + TACKED DOWN  
W/ HEM STITCH



RUNNING ST SEAM  
HERRINGBONE DECORATES RS  
& HOLDS SEAM ALLOWANCE OPEN



RUNNING STITCH  
RAW EDGES TURNED  
OUTWARD & OVERCAST

EDGES & MORE SEAMS

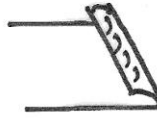
WOOL & LINEN



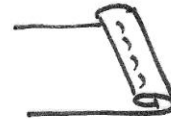
SINGLE FOLD HEM STITCHED



DOUBLE FOLD HEM STITCHED



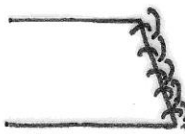
SINGLE FOLD RUNNING STITCH



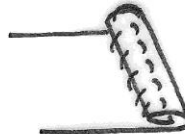
DOUBLE FOLD RUNNING STITCH



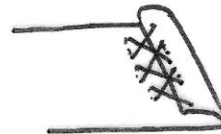
ROLLED EDGE OVERCAST ST



RAW EDGE / BLANKET ST (MAINLY WOOL)



DOUBLE FOLD HEM STITCHED TOP STITCHED USING RUNNING ST



SINGLE FOLD HERRINGBONE ST



- EDGES PRESSED OPEN + HEM STITCHED
- RUNNING ST TOP STITCH
- OVERCASTED TOGETHER



EDGES HEM ST. OPEN THEN OVERCAST TOGETHER



RAW EDGES FELLED TOGETHER W/ HEM STITCH



RAW EDGES FLAT-FELLED TOGETHER + HEM STITCHED

THERE ARE MANY, MANY MORE VARIANTS - WAYS TO ATTACH FLAT FACINGS, WAYS TO SEAM THREE PIECES TOGETHER, OR FOUR. BUT AT THE BASIC LEVEL, THESE TECHNIQUES ARE THE BUILDING BLOCKS. WITH THESE STITCHES & THESE JOINING TECHNIQUES, A REASONABLY COMPETENT TAILOR CAN MAKE A WELL-FITTED, ATTRACTIVE, & DOCUMENTABLE GARMENT.

# Glossary

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**Bast fiber:** Fiber from the inner bark tissue of stems of the source plant. Such plants include flax, hemp, ramie and nettle.

**Felting:** “A fabric of wool and/or wool-like fibers or fur, worked to coherence by heat, pressure, moisture, and movement. The fabric may have a woven or knit foundation.” (Amos, p. 428)

**Hackle:** “A block or board fitted with sharp steel teeth, used to comb and straighten flax line.” (Amos 434)

**Hackling:** The act of drawing fiber through a hackle repeatedly, until all the short parts (tow) have been removed and the long fibers are parallel.

**Heddles:** used to separate the warp threads for the passage of the weft. The typical modern heddle is made of cord or wire, but on modern inkle looms and on period warp-weighted looms was made of string or yarn.

**Loom weights:** Circular weights of ceramic or stone to which warp threads are tied on a warp-weighted loom.

**Reeled silk:** The act of unwinding silk from the cocoons.

**Retting:** The process of using moisture to rot away much of the cellular tissues surrounding the bast fibers, making it easier to separate those fibers from the stem.

**Rolag:** A roll of fiber created by the process of carding wool, used for spinning woolen yarn.

**Rooping:** Plucking fiber from a fiber animal. Most sheep breeds have been bred for shearing, not rooping, but angora fiber is routinely plucked from the rabbit, sometimes while the rabbit is sitting in the spinner’s lap.

**Scutching:** The act of breaking adherent particles, such as broken stem parts and dried and brittle plant matter, off of bast fibers, using a scutching blade or scutching sword, by placing the fibers over a suitable surface and striking the fibers with a series of slicing, scraping blows.

**Selvage:** (*also selvedge*) The self-finished edges of fabric.

**Sericulture:** Raising silkworms to harvest the silk from their cocoons.

**Shed:** The temporary separation between alternating warp yarns through which the weft is woven.

**Silk Cap:** Cultivated silk cocoons that have been degummed and stretched over a bell-shaped frame.

**Skirting:** Removing heavily soiled or befouled wool from the edges of a sheared fleece.



Take-up: The amount the warp shortens in length due to the undulation caused by weaving.

Tie-up: The tying or connecting of the weft to the loom weights on a warp-weighted loom.

Wool combs: "Multi-toothed combs for combing of wool. Combs are rated by pitch; the greater the pitch, the more teeth... Combs are necessary if worsted spinning is anticipated." (Amos, pp. 471-472)

Woolen: Also called "drafting-against-twist", best suited to carded fibers. The twist imparted by spinning is allowed to travel into the drafting area, producing a yarn with "low fiber density, a soft and fuzzy surface, good fulling qualities (if wool), excellent insulating abilities, and delightful loft and handle." (Amos, 124) These very qualities make woolen yarn unsuitable for sewing.

Worsted: Also called "drafting-with-twist", best suited to combed fibers. The twist imparted by spinning is kept out of the drafting area, producing a yarn with "high-fiber density, a clear surface with little to no fuzz, good tensile strength relative to diameter, not much tendency to felt, and good abrasion resistance. Worsted yarns enhance fiber luster if luster is present." (Amos, 124)

Warp: The set of lengthwise yarns through which the weft is woven.

Warp-weighted loom: An upright cloth-weaving structure consisting of a moveable "cloth beam" set across two uprights. The warp threads hang over this beam and are held down with loom weights. A fixed crossbar, called a "shed bar", is positioned near the bottom of the loom, and warp threads pass alternately in front and behind the shed bar. One or more moveable "heddle bars" rest on brackets midway up the uprights, and they are tied to the free-hanging warp threads (the ones behind the shed bar) with heddles. The heddle bar is pulled forward to create a shed through which the shuttle carrying the weft is passed. Periodically the weft is beaten up towards the cloth beam with a weaving sword.

Weft: The yarn which is drawn under and over parallel warp yarns to create a fabric.

Weaving sword: A flat blade used to beat the weft against the newly woven cloth in weaving.

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