

Basics of Turnshoe and Pouch Making

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Overview

This handout/class is a set of tricks, tips, hints, and historical facts to help even the beginner in leather working make historically constructed medieval turnshoes and pouches. This will have guidance on basic tool, stitches, construction techniques, materials, and books that will hopefully inspire the reader to take a chance and try making those all important accessories that really finish an impression in the SCA or reenactment.

Some of the information, tips, and tricks come from books on the subject, others from practical experience, and some from expert leather tradesmen who were willing to share and pass on knowledge to the writer.

Basic Tools

1. **Awl** – There are three basic awl types; square head needle, round head needle, and diamond leaf blade. I find the square headed blade works best for shoe stitching and pouch making. The basic Tandy awl comes with a square needle. The Osborne awl comes with a leaf blade. Both can fit a round needle awl handles.
2. **Razor blade or carpet knife** – This will come in handy for many things including cutting your pattern out if you do not have leather scissors. Basic razors for art can be found in any arts or crafts store and carpet knives run under five dollars at hardware stores.
3. **Leather Hole Punch** – There are two basic types of punches: a rotary pouch you squeeze to punch with and a punch you hammer through the leather with. If you use the hammer type you should also look for a self healing plastic mat, a razor mat, to punch on; a hard surface like wood or granite will damage the punch.

Nice Tools to Have but are not Necessary:

1. **Leather Scissors** - These are recommended; they make it much easier to cut your pattern out for anything less than 10oz leather. Razors are much easier to make mistakes with.
2. **Overstitch Wheel System** – This tool creates little dimples in your leather to mark your stitching; it helps keep your stitching even when using an awl.
3. **Sharp Single Blade Wood Chisel** – Can be used to make the slits in the layers of a pouch for binding the layers together or it can be used to do openwork decoration on shoes.
4. **Three or Four Prong Buckstitch Chisel/Stitching or Thonging Chisel** – This is a chisel that punches multiple holes at a time in leather for you instead of using an awl. It can come in handy when you are sewing pouches together. It can save time when you are sewing multiple layers of leather together with a straight stitch that will be hidden.



Tandy Awl

Osborne Awl

Overstitch Wheel System

Buckstitch Chisel

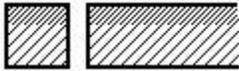
Materials

1. **Leather** – Vegetable tanned leathers are the closest thing to historical leather you can easily get today. I often used commercial oak tanned (oak is a type of vegetable tanning) from Siegel of California. My shoe/boot uppers are made from 3-4oz cowhide and the soles are 8 oz or higher. Pouches are made from 2oz cowhide or goatskin and sometimes have a 3-4oz back made of cowhide.
 - a. **Vegetable Tanned Leathers** - are also known as crust leathers, this means the tanning prevents the skin from rotting but the leather is not finished. You will have to dye and oil the leather which is known as stuffing to English leather makers.
 - b. **Chrome Tanned Leather** - is finished leather but is not historical; it has silicon added in the tanning to help make it water resistant. It makes good shoes and pouches but is not historical in nature but is an option for those looking for more maintenance free leather goods.
2. **Thread** – Some early Europe finds have leather thongs holding the shoe together and Viking and Anglo Saxon finds have wool thread but all other finds Roman through the middle ages are sewn together with flax linen. Some leather worker prefer modern materials such as artificial sinew, cotton, and polyester as they are not prone to rotting like flax linen is; however over time damage will happen to the shoe. If you use flax linen often it will break before the leather gives way while other materials are stronger than the leather and destroy the leather instead of breaking the thread. When this happens your shoe will not be repairable. Some feel it is better to re-stitch the thread instead of destroying the leather of the shoe.
3. **Bees Wax** – I wax my linen thread and I use oil and wax paste to finish my leather to help make it water resistant.
4. **100% Natural Neatsfoot Oil** – This is great oil for finishing vegetable tanned leathers. Apply your coats slowly giving the leather time to soak up the oil. If you put it on thick it will make your leather oily and greasy to the touch and will get oil all over your clothing or anything your shoe may come in contact with.
5. **Dyes** – I prefer oil dyes for leather. I also tend to coat my leather first with dye, then you need to use a soft rag or towel and buff the dye multiple times to get the excess dye up to prevent transfer, then oil the dyed leather, sometimes I add **acrylic dye sealant**, lastly a coating of oil/wax mix or oil, lard (or tallow), oil, and wax. The acrylic is modern but it seals the dye and prevents it from transferring when the shoe gets wet it however can crack and peel off in the turning process or during use. I often only use acrylic on belts.
6. **Sewing Needles** – For the most part I only use blunt tapestry needles. Leather items are mostly pre-punched with an awl or a stitching chisel and sharp needles tend to cause problems by getting caught in the fibers if the leather. The blunt needles will not get caught in the fibers of the leather that easy. Leather needles are needed for some advance leather sewing not covered in this handout/class.

Leather and Shoe Terms

1. **Flesh** - The side of the leather formerly in contact with the flesh of the animal; in the case of archaeological shoes it is usually found in the interior of the shoe.¹ Often a hide is split down to make it thinner and to specific weights for varied uses; the flesh side is the side that is cut or split.
2. **Grain** – The grain side of a hide is the smooth side. The side of the leather that formerly was covered with hair. Removal of the hair leaves the pattern of the pores and follicles, by which the kind of animal (leather type) can often be determined.² Some shoes and jerkins in the renaissance were what we call “suede” and that means the flesh side is showing instead of the grain side.
3. **Suede** -Suede in the pre 17th century meaning would be an item made with the flesh side showing but with the grain side still attached for strength. There are examples of shoes and jerkins with the flesh showing in the renaissance. *It is important to note* that modern suede is flesh on both sides; in the production of modern suede the grain is removed by splitting the hide multiple times. Modern suede is not good for historical reproductions, without the grain side the leather becomes stretchy; you are better off buying a normal hide with the grain on and sewing the flesh side out as was done historically for reproductions.
4. **Upper** - All the leather above the sole and covering parts or the all of the foot and leg.³

Stitches and Seams for Both Shoes and Pouches

1. **Stabbing or Stab Stitch** - The hole goes in one side and comes out the other. The diagram shows two rectangular blocks of material. The first block has a vertical line on its left side, representing a hole. The second block has a vertical line on its right side, representing the hole coming out.
2. **Split Hold** – This is the way you stitch the sole of a shoe when stitching it to the upper
 - a. **Grain Edge Stitch** - The hole goes in the grain side and comes out the edge. The awl enters one face of the leather and out the side thickness, but does not stab through the leather. Instead it either emerges from the same face of the leather, or out the edge, in either case ‘splitting’ the leather. Archaeologically, the split hole will appear as an edge/flesh stitch, a tunnel stitch, or a decorative stitch. The diagram shows a cross-section of a leather piece. A hole is shown entering from the top face and exiting from the right edge, splitting the leather.
 - b. **Flesh Edge Stitch** - The hole goes in the flesh side and comes out the edge. The awl enters one face of the leather and out the side thickness, but does not stab through the leather. Instead it either emerges from the same face of the leather, or out the edge, in either case ‘splitting’ the leather. Archaeologically, the split hole will appear as an edge/flesh stitch, a tunnel stitch, or a decorative stitch. The diagram shows a cross-section of a leather piece. A hole is shown entering from the bottom face and exiting from the right edge, splitting the leather.
3. **Double Running Stitch/Shoemakers Stitch/Saddle Stitch** - It consists of two threads passing each other through the same holes in the leather.

¹ Stepping Through Time: Archaeological Footwear from Prehistoric Times Until 1800. Olaf Goubitz

² Olaf Goubitz

³ Olaf Goubitz

Cutting out the Leather

It is important to note that when working with leather you can damage it and here are a few tips on cutting out pieces for shoes and pouches:

1. Do not use ink to mark your pattern. Remember that ink marks can't be removed except by cutting off the marks, so marking should be done with a pencil, or a scratching awl.
2. Make sure your tools are clean. If you are going to use a metal ruler or T-square to cut lines on leather make sure there is no marker or dye marks/spots on the metal as that can transfer, even if dry to the touch, onto your leather.
3. Be careful not to drag anything along the surface of your leather. You can scrape or scuff the surface and that cannot be covered up in any way.
4. Make sure to cut around damaged parts of the hide. Almost every hide will have holes, cracks, tool marks, and brands on them; be sure to work around such damaged area of a hide for the best-looking and best-responding results.

Making Turnshoes

Putting a Shoe Together

Like clothing, sew your shoe together inside out and later turn it the right way.

1. Use your awl to punch the split hold holes in your sole. The smooth side of the leather (also known as the grain side) should be the bottom or the part that touches the ground on the outside. The suede side (also know as the flesh side) should be the part touching your foot so when using the awl start on the flesh side and push it out to the side wall of the leather. There should be no holes on the grain/smooth side of the leather.
2. I find it best to dye the upper before stitching it together
3. **Optional: sewing on a last. See the section: "Sewing the shoe on the last".**
4. Line up your upper onto the sole and push your awl through the flesh edge holes in the sole and trough the upper with a stab stitch. If you pre-punch only a few holes at a time before sewing, you reduce your risk of misaligning the holes and have problems lining them up for sewing.
5. Stitch the upper onto the sole with a double running stitch/saddle stitch.
6. Once the shoe is stitched, you will need to turn it correct side out.
 - a. Let the water soak the leather and if you see air bubbles coming out wait for them to stop before turning.
 - b. For vegetable tanned leather submerge it in water for 2-4 minutes, any longer will release the oils and dry the leather out.
 - c. The leather will be soft now and you can turn it without damaging it.
 - d. You will have to fold the sole in the turning; don't worry, you are doing it right.
7. Press the seams where the sole and upper meet to desired shape with your fingers

8. Professional shoe makers have a last or a wooden foot shape to stuff in the shoe to hold its form. If you don't have a last you can use a shoe tree, plastic bags, cloth scraps, newspaper, anything that is handy. The turnshoe will dry into what ever shape you make them so stuffing the shoe helps give it the proper shape.
9. Let dry and dye/oil as desired or needed to touch up your finish.

Drawing Around Your Foot to get the Shape of the Sole

Making the sole pattern is not as simple as placing your foot on the paper and tracing around the foot there is the shape of the foot and toes to consider. If you draw around the foot with your pencil at a 90 degree angle your sole pattern will be too large and your foot will shift around in the shoe as you walk and this will also crush the heel of the upper and that will one day ruin the leather at the heel and the shoe will be beyond repair.

If you look closely at a foot on the ground even with all the weight on it, it is not flat. Your foot curves in at the point of contact and you mostly want your sole to only cover the point of contact and the upper will do the wrapping around the foot from there.

The back of the heel and the arch of the foot are the two places it is important to not oversize. If you do not account for the arch of the foot the sole will be too large and shift side to side. If you make the back of the heel too large your show will shift and you will crush down the upper at the heel and wear a hole into the upper.

The flip side is that you need to give room for your big toe. If you don't give room at the big toe your will pinch your big toe, as the upper will be too small, which is uncomfortable.

If you are going to use an insole for your turn shoe use it as your guide to the sole shape as it will be wider than your actual foot.

Testing a Shoe Pattern

You can test a pattern in cloth before you work in leather. If you want to go this way you need to first pick a good thick material, a canvas or some kind will work; something that will not stretch when sewn together.

For the purposes of testing the pattern don't forget to provide some seam allowance to the sole. The leather version does not have a seam allowance for a sole because the sole of a turnshoe does not turn; the upper of a turnshoe does have some seam allowance since it turns so you do not need to add allowance in to the upper.

Make sure to have any openings the leather shoe will have, side lacing, top lacing, slit at the top of an upper, etc. Turnshoes should tightly with your sock or hosen on and your insole in and your cloth pattern test should too; without the proper opening you will not likely be able to get a leather version of your turnshoe on your foot.

When you put on your cloth test pattern here are some things to think about to see if the fit is proper:

1. Do the toes fit where they are supposed to?
2. Could I get this on if the material was leather or does it only fit in cloth form?
3. Is it too loose?

More Advanced Shoe Techniques

Lasts

Lasts are foot shaped wooden objects shoe makers from the Roman era and beyond use to help them make shoes to the correct size. You do not need a last to make a shoe but making a shoe on a last is the best way to get a proper fit. Making a wooden last is beyond the skills of many people so a good modern alternative is making one from duct tape.

Making a last from a sock and duck tape.

A wooden last is superior to a duct tape last for many reasons the beginning shoe maker may not appreciate; but the duct taped version it will get you by reasonably well.

Making one can be a bit tricky; when taping you can shape your foot into an unnatural position and end up with a deformed last which will alter the results of your shoe making.

Make sure you have some weight on your foot when taping the area around the toes. Your foot spreads when you stand on it. My first attempt I taped with my leg up in the air while I sat cross legged to make it easier to reach, it made a tube shape rather than the naturally flatten shape my foot really is.

Also keep your ankle straight to prevent problems with the heel of a shoe; if your ankle is bent you will not be able to make a boot the correct shape, if you desire to make boots.

Tape a layer or two over the whole foot; cut straight down the side of the ankle and foot to get the duct taped sock off. Stuff the sock with something to stiffen the whole thing up; I used linen rags. Tape the cut area up and add another layer of two of tape and try and keep the surface smooth.

Sewing the shoe on the last

1. **Important note:** The upper pattern should not exact from the start, you want it to be a little large so you can stretch it over the last; you also do not want to waste leather so the solution is to have a slightly large pattern to give it a little room to work with.
2. Wet the upper part of the shoe; soak it for a minute or two before you start stitching.
3. I start out with my sole already pre-punched (see step one of Putting a Shoe Together). I stack an extra sole (normally the other foot) between the last and the proper sole; and if you wear insoles with the shoe stack that between the extra sole and the last also. Use masking tape to hold the sole(s) and insole in place while you start to stab stitch the upper and sew it into place.
4. **Important note:** if you are going to add decorations to the shoe, open work, cut work, scrapping, or tooling, you may want to temporarily stitch the shoe together for shaping and then take it apart to add decorations. Before taking the shoe apart mark some holes of the sole to the holes on the upper, I normally mark the split on the side, so you can match the holes up again when you re-stitch the shoe.
5. You want to stretch the leather over the last as you sew the upper to the sole to get the proper shape.
6. Trim off any leather on the upper not flush with the sole before you turn the shoe.
7. Continue with the instructions in the Putting a Shoe Together section.

Girdle Pouch Making

Basic History

The basic drawstring pouch is known from the time of the Romans up to the modern era. A circle of leather with a leather, silk, wool, or linen cord set into a series of holes used to draw shut the top to create a small bag.

The Romans also used all sorts of leather bags and containers but no evidence has yet surfaced for a pouch worn on a belt. No one is quite sure when girdle (belt) pouches become popular but it is clear that by 1340 in manuscripts like "The Romance of Alexander" many men are depicted wearing girdle pouches. In the 15th century the girdle pouch becomes rich and elaborate looking with the wealthy having gold fittings and buckles on their pouches. In the 16th century many pouches become more like modern pocket books with fancy metal clasps at the top. Wallets not to unlike our own become popular in the 16th century also.

Layers of Girdle Pouches

In the 14th century pouch finds and images of pouches indicate they were simply five layers, they had two pouch areas bound together the outer layer having a cloth layer with a leather binding.

Girdle purses evolve in the late 14th or early 15th century to have many possible shapes and layers. The layers range from three layers having only a single pouch area made of two pieces with a cover flap to having seven layers with two full pouches (one with a third cloth layer), pouchlets, and a flap. Some designs also have straps and a buckle added to make up to nine layers in the binding that holds the layers together.

Putting a Girdle Pouch Together

Like clothing you sew your pouch pieces inside out and later turn it the right way.

1. Sew any pieced-together layers first. Many historical pouches have a cloth layer on the outside flap that is sandwiched between the outer leather layers and a leather edging on the inside. The leather edging is often made of several pieces that are flesh-edge stitched (on the back side) to hide the stitching.
2. Dye/oil as desired. In the case of pouch making I find it easier to dye my leather first as you do not want to dye any cloth layer of the pouch or the seams.
3. You will assemble the layers inside out, the grain side of both pieces are touching, stab stitch through both layers and use the double running stitch/saddle stitch to sew them together.
4. Assemble the leather layers and trim them before you add any cloth layers, pouchlets, or before you slit an opening in the solid leather layer to make sure you line these items up properly. You can temporarily sew the leather together and take it apart before added the above items and then permanently sew them for a better fit.

5. Once the pouch is stitched, you will need to turn it.
 - a. Some chrome tanned leathers might be soft enough you can turn the leather dry.
 - b. Let the water soak the leather and if you see air bubbles coming out wait for them to stop before turning.
 - c. For vegetable tanned leather submerge it in water for 2-4 minutes, any longer will release the oils and dry the leather out.
 - d. The leather will be soft now and you can turn it without damaging it.
 - e. Adding salt to your water may help prevent dyes from getting on any cloth layer you might have.
6. Once turned, press the seams to desired shape with your fingers. You may want to experiment with using a hammer on the seams to gently press the leather flat.
7. Binding the layers together requires slits cut through all the layers of the pouch including straps if you are using them.
 - a. I use a small wood chisel to make the slits to bind the layers together
 - b. All girdle purse finds have a leather binding, a tiny 2-3mm leather strip of the same material as the pouch. None of these archeological finds are bound with thread or a cord.
 - i. **Note: It is important which direction you cut your leather to create the binding strip. Leather stretches in one direction and not the other, you do not want the stretch in your binding strip because it can break in the binding process**
 - c. **Tip:** A small set of needle-nose pliers can come in handy when binding the layers. The pliers can be worked through the slits in the layers and clasp the leather and pull it through the other side. I often do this to speed up the process of binding the pouch at the end.

Recommended Books:

Shoes

- **Shoes and Pattens (Medieval Finds from Excavations in London)** – This is a great first book on shoes, lower cost and good clear information on how things were made. Stitching, leather types, drawings of patterns, and information on construction and decoration are all in this book.
- **Stepping Through Time: Archaeological Footwear from Prehistoric Times Until 1800** - The book about shoes. It covers many areas and many types of shoes but is not for the beginner. You still need to understand the basics to get the full use of this book.
- **Craft, Industry and Everyday Life: Leather and Leatherworking in Anglo-Scandinavian and Medieval York** – All finds from England mostly from the Anglo Saxon era and a good selection of medieval shoes though some are the same as Shoes and Pattens.
- **Before the Mast: Life and Death Aboard the Mary Rose** – For those into mid 16th century; many boots and shoes in this find. Again this book does not go over the basics of shoe making it only shoes patterns of the shoes found, some of the stitching, and leather types.

Pouches

- **Purses in Pieces** – Best book about pouches you will find. It only covers 15th - 16th century with a few 14th century items in it but it covers so much about the basics.
- **Dress Accessories, c. 1150- c. 1450 (Medieval Finds from Excavations in London)** – Really only has a few purses in it but may be worth it to those looking for more on the subject.
- **Before the Mast: Life and Death Aboard the Mary Rose** – For those into mid 16th century; some small purses and wallets in this find.

Web Sites on Shoes:

- Marc Carlson's shoe site has a great term glossary on it:

Web Sites for Tools and Leather:

- Siegel of California – Frankly the best leather supplier period. Sign up for the Friday deals; they often have much better prices than Tandy and much better quality leather: <https://www.siegelofca.com/Default.asp>
- Tandy: <http://www.tandy-leatherfactory.com/>
- Pyro Supplies – They have a great price on heavy four and six strand linen thread which I use for sewing shoe uppers and soles together: <http://www.pyrosupplies.com>