The care and feeding of Canvas Tentage

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The Nautical Guild of St Erasmus

So you went ahead and finally got yourself a nice canvas tent. Congratulations. No longer will you find yourself confined to the back areas of encampments, where they hide those polyester portayurts. You may have made it yourself, but probably you bought it from a commercial manufacturer or dealer. Either way, it's a step up, and a commitment.

No matter how you got your tent, it's an investment, and you will want to keep it for a long time. To do this you have to be able to care for it. Chances are that you need to repair it at some point too. Knowing how to handle basic canvas care and some repairs will ensure that your "home away from home" will be yours for years to come.

Know Your Enemies

Let's talk about the enemies of your tent first.

The most destructive element is one of the most common substances on Earth – water. Moisture promotes the growth of molds and mildew that break down and weaken the fibers of the tent. Rot destroys tents. I have seen canvas that has been stored damp for only a few weeks literally fall apart in the hands as it is lifted from the box.

The second is dirt. Dirt is an abrasive, If it gets embedded in the fibers of the canvas, it begins a slow process of wearing away at the structure of the tent from the inside. Dirt is also hydroscopic, which is to say it holds moisture. Moisture, as we know, is bad for your tent.

The third is you. Yes, YOU.
Well, that is to say "people" are the enemy.
Carelessness, inappropriate handling, accidents, these all are primary causes of damage to tents. The most common cause of damage is carelessness. Water accumulating on the roof because the ropes/poles are not set up properly or not tightened before a storm tears canvas. Falls across ropes and into tents tear canvas. Dropped items and poles puncture canvas. Aggressive cleaning and harsh chemicals wash away surface treatments and weaken the fabric.

Cleaning and care

The first and most essential rule is this:
Keep the canvas clean and dry in storage.

This means that after **every** campout, you need to clean it, **and dry it** before you store it. The best way to do that is set it all up again when you get home, rinse off the dirt, and let it dry **completely**.

Canvas is dry when it no longer feels cool when you touch it to your cheek.

If there is a heavy layer of dust and dirt on your tent, then, before you set it up, it is best to lay it out on a clean surface and gently brush off the dirt using a soft bristled broom or wash brush. Do not scrub.

Heavily soiled areas can be cleaned using a diluted solution of a mild soap in water, lightly scrubbed into the surface. Bleach and harsh detergents should be avoided, as well as vigorous scrubbing as they may remove surface treatments.

After cleaning, be sure to set up the tent and turn the hose on it to rinse it very well and then **dry it out**. (Be careful here, since a wet tent is a heavy tent, and is easier to tear and puncture as well!)

If you are a denizen of an apartment or dorm and don't have a handy yard to set up in, you can still keep your tent clean, but you have to work on it a bit at a time. For this you'll need something like a box or coffee table and a few towels. Place the towels on the table, and then lay out a section of the tent on the surface and gently clean it. Brush off surface dirt with a soft brush like a 4 inch natural bristle paintbrush. (You can vacuum the tent if you don't have a beater brush on your vacuum.)
Work on any spots with diluted detergent and a dishcloth. Let the treated area dry before moving to the next section. This will naturally take longer, but at least you can still manage to keep your tent a long time.

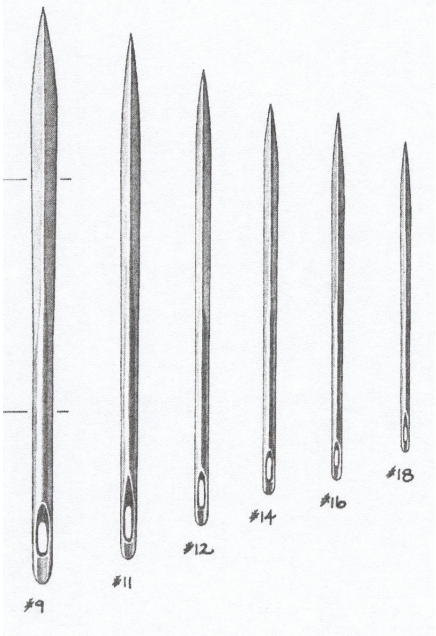
Repairs

Should your tent become damaged, there are three fix possibilities: Stitch, Patch or Replace.
Stitching will fix small, straight line rips in non critical areas.
Patching will fix small to medium rips and punctures in any area. Replacing panels or partial panels will be needed for large tears or extensive damage that extends across an entire panel.
Replacement is an advanced technique that requires patience and care to do in the field. You may want to consider sending your tent to the manufacturer if you need a replacement. We will cover repair techniques in a bit.

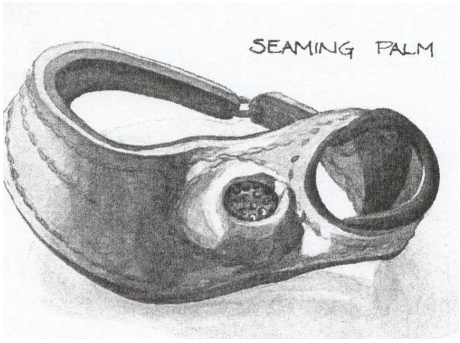
What you'll need

Here's a basic tool list for your canvas survival kit:
Essential tools:
Triangular Canvas Needles
Sail maker's Palm
Beeswax
"Bench" hook
Mechanical pencil
Sharp clean scissors
Seam rubber
Canvas (the same type as your tent is preferable)
Thread

Needles:
You want a variety of good triangular canvas needles. Thicker Needles are good for thicker thread, to be used in thicker material.
In most cases you'll need #12 or #14 needles. Get good smooth needles, you don't want the triangular area sharp as that will cut through the fabric making the hole too wide, which prevents the canvas from closing about the hole and making it waterproof. You smooth it with a small honing stone, or you can take a bit of fine sandpaper, such as 200-400 grit "wet-dry" paper, and just polish off the edges a bit, if you think the edges are too sharp.
Don't skimp on the needles though. Really good English ones can be had, so look around. Places like West Marine can sell them on-line.

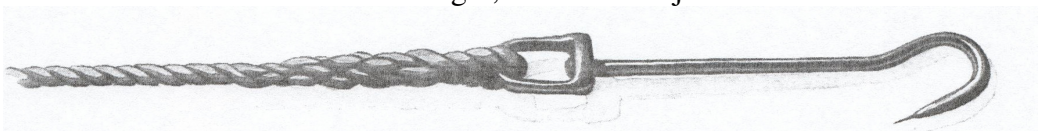


Seaming or Sail Makers palm
This is also used in leather working and you can get fairly good ones from a number of sources, such as Tandy and West Marine. If you are a southpaw, left handed variants can be had from many of the same sources, though you may have to order.
When you have one, make sure it is comfortable to wear and use. You may need to cut the back and reconnect it smaller if it is very loose. It should be just snug if you make a fist.



Beeswax
Beeswax is a great material to use. It lubricates the needles as it passes through a thick seam, and it helps fill the holes and protect the thread against water intrusions and rot.

Bench Hook
A bench hook is a third hand. You need one of these if you are going to do any hand work at all. Trust me. The bench Hook is, at its most basic level, a small hook with a cord attached. In use, the cord is tied off to the leg of a chair, or to some other fixed point (I have even run it under my thigh and held the cord in my toes when sitting on the ground and working a low seam). It provides a pulling force on the seam to keep the seam straight as you work it.
You will probably want to make yours; professionally made ones are hard to come by. Mine is made form an old coat hanger, and it works just fine.



Seam rubber
A Seam rubber is just a smooth, tapered, block of hard close grained wood that you use to press and crease a seam flat before sewing. They can be made of anything as long as dragging it across the canvas won't leave a mark or stain. I have even seen a really good one made from a scrap of white Teflon plastic, but for SCA purposes, a wooden butter knife works well too and is readily available.

Mechanical pencil
You will find a lot of uses for your mechanical pencil. I use mine to layout patches and seams, and to put "tick" marks along a seam so that the sewing stays properly laid out, and does not bunch up one fabric over another.

Sharp clean scissors
You need these to cut your patch materials. If you don't keep a set in your repair kit, I can practically guarantee you won't find some when you need them in the middle of a rainy field somewhere.

Canvas
Stock a few good sized chunks of it. At least as big as the width of the widest panel in your tent is a good idea. The same type of canvas as is used your tent is preferable. The best place to get canvas is to get it from the same manufacturer as your tent (unless you are the manufacturer, in which case you already know where to get it.)

Thread
If you don't get the repair thread from your tentmaker, you should use a good medium-heavy weight poly-wrapped cotton core thread.

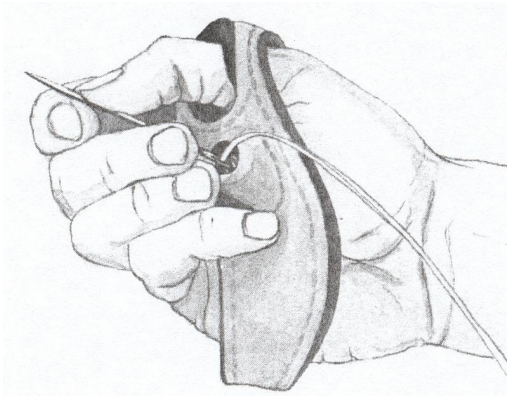
Optional:
Seam ripper for undoing sewn seams prior to working in a patch or a panel.
Fid or marlinspike: a tapered bit of hardwood or metal to work into knots and straps to loosen them without cutting them.
Double sided tape for placing patches.
Seam cement for placing small patches and sealing seams. (NOT Seam sealer – that is different stuff. It is designed primarily for modern poly tents, and does not work well with canvas)

Making Repairs

Stitching

Loading the needle
Unroll about two times the length of your arm from the spool, and thread it halfway through the eye of the needle. Do not knot the end. Drag the thread several times through the beeswax to give it a good coat, and then twist it slightly by rolling the needle against your thigh while holding the ends taught.

Holding the needle



Hold the needle as shown. When held properly, the needle is guided using the thumb and forefinger and the other fingers just apply pressure to hold the end in the palm thimble.

Sewing

Sewing with a palm is not done with the fingers or wrist, the motion comes from the shoulder. If you find your hand cramping you are doing too much work with the hand. You push the needle through and then when the point is engaged you continue push with the palm and then pick up the needle again on the other side of the stitch, and pull it all the way through, reseating it in the thimble as you tighten the stitch. Trust me, after a few stitches you'll get it, it's really just establishing a rhythm as you sew.

In all these stitching techniques if you run out of thread on the needle, cut it off about an inch and a half or so, and then start the next thread by twisting the last inch and a half of the new thread to the old and over sewing the resultant pigtail.

If you tightly over sew it, you won't need to knot the new length to the old.

Stitches

There are only a few stitches you need, and if you get adept at them, they are pretty much all you'll need for nearly all repairs.

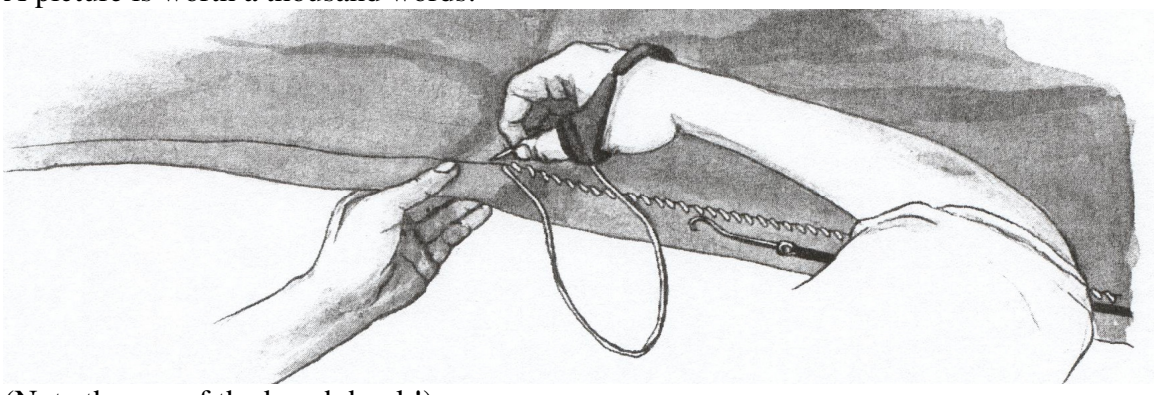
The Roll Stitch

The roll stitches is done by lining up the edges of some cloth and you just keep pushing the needle through from the same direction, bring the thread over in a sort of spiral, working your way along the seam.

The Flat Stitch

The flat stitch is just the roll seam laid out so that one edge is placed on a flat field, but you dive the thread under and back out of the field.

A picture is worth a thousand words:



(Note the use of the bench hook!)

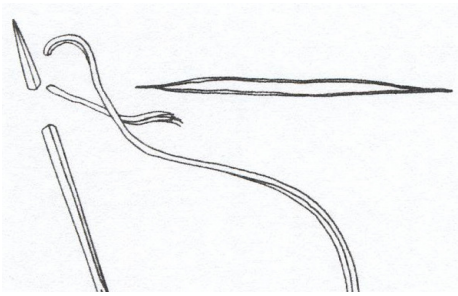
The Herringbone Stitch

The herring bone stitch is a very good repair for small straight rips in side walls and "flys" and other such areas.

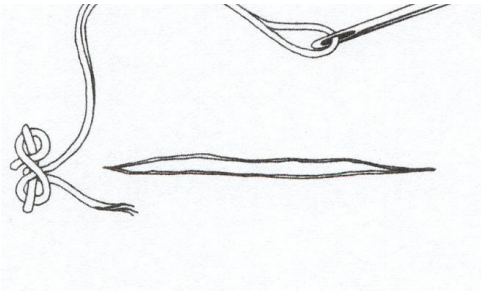
It should **not** be used on roofs, or near tent pegs or poles, or in any other areas where the fabric of the tent is likely to be stressed.

When applying the stitch, I like to use my mechanical pencil and layout the stitch lengths directly on the canvas to make sure I make a neat job of it.

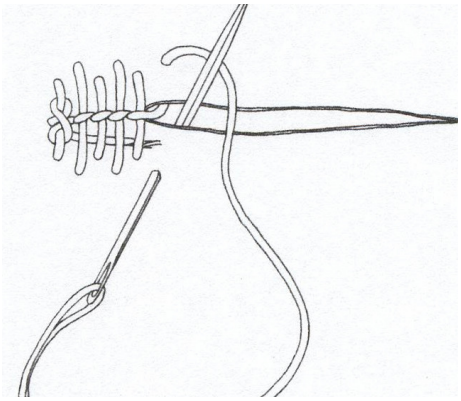
Start the stitch in sound canvas:



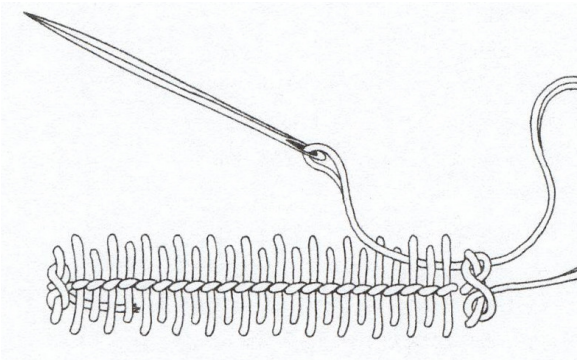
Make a terminating knot (optional but it's neat and it helps to start the Half hitches that stabilize the torn edges and characterizes this fix)



Run the stitches. Note how each stitch half hitches around it self before going back under to pick up the next stitch. Also note how the starting thread is stitched under to hold it.



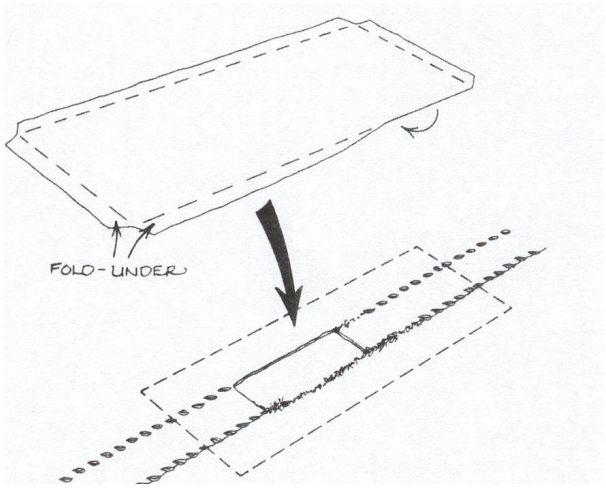
Finish the job.



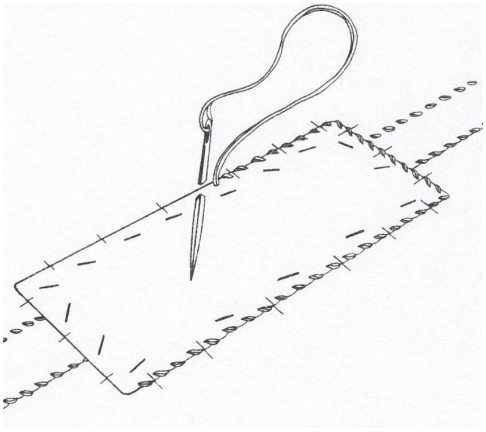
Patching

Patching is useful for nearly all other small to medium fixes, as it replaces a bad area of cloth with a good one, restoring integrity and, if properly done restoring water tightness.

Cut out a patch larger than the damaged area.
Fold the edges under and place over the area to be repaired.
(You can use double stick tape or seam repair cement to hold it in place while sewing, but these can gum up the needle and make it more difficult to sew. If you do this you should think about having a bit of alcohol soaked cotton to clean the needle every now and then.)

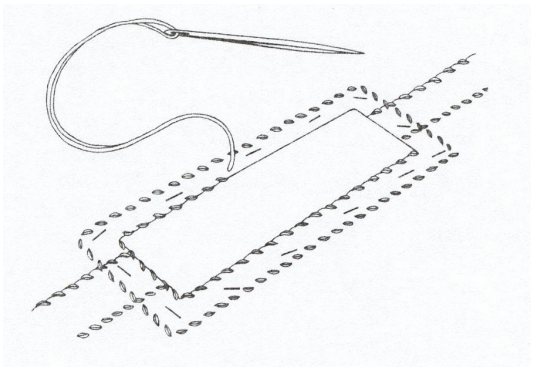


Flat Sew the patch over the hole. You will note the use of tick marks around the patch to help keep it aligned while sewing. This illustrator also uses staples to hold the fabric while sewing, which is not a bad idea, but in SCA use, this is not often feasible to do, so it is well to be able to do this without staples.



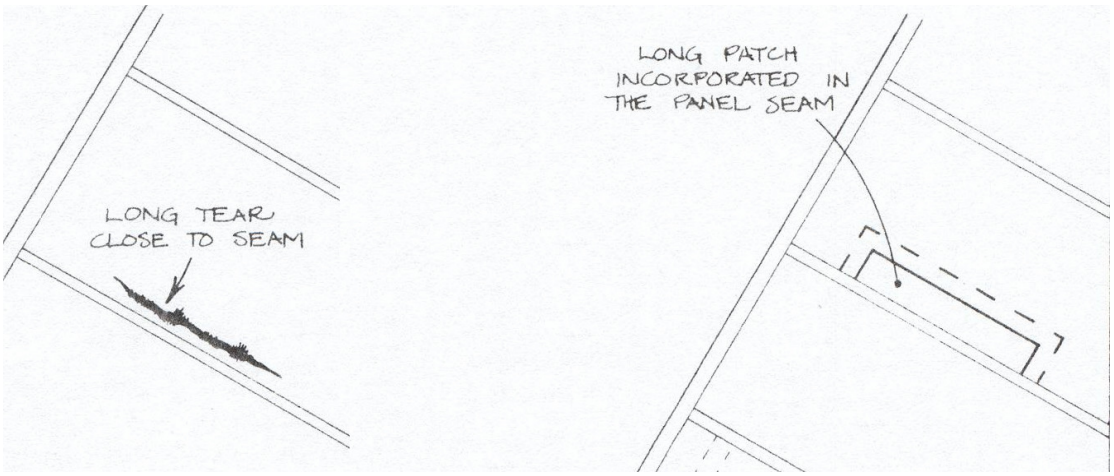
Turn the repair over. Cut the excess cloth away leaving enough flap to turn under about the same amount as in the first step.
Turn this flap under and flat sew around the inside of this area.

Done!

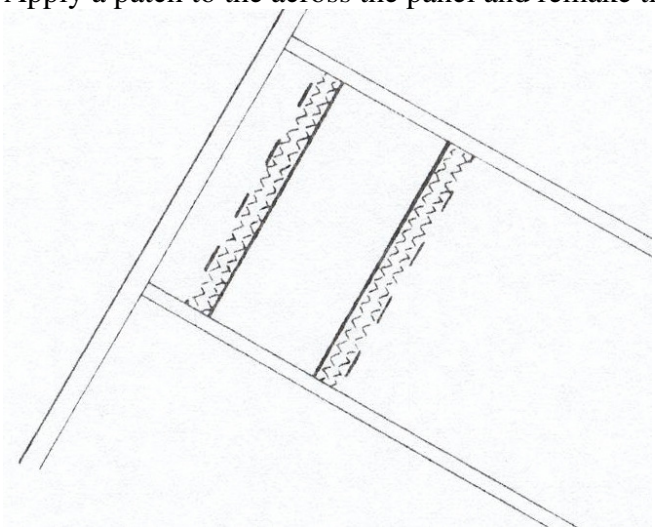


Special patching considerations:

Tear close to seam
Disassemble the seam (You should use a good seam ripper or a short sharp knife, but be careful! they can cause a LOT of damage, and not just to your tent!)
Apply a patch to the edge and remake the seam as shown



Tear full across the panel
(This is a partial panel replacement, and as much as you are going to want to do on your own. Worse damage than this should be handled by the manufacturer!)
Disassemble the seam on both sides (Again be careful)
Apply a patch to the across the panel and remake the seams as shown



Sources:
Casey, Don, Canvaswork and Sail Repair, Camden, ME, International Marine, 1996
Marino, Emiliano, The Sailmaker's Apprentice, Camden, ME, International Marine, 2001

Also:
Innumerable discussions on the Medieval Encampments email group,
<http://groups.yahoo.com/

And loads of Personal Experience!

Images: Christine Erikson, courtesy of the Sailmaker's Apprentice, Cited above