Pickle Project: Travel Accessories and Zipper Tutorials

Small travel accessories, part 1

As always, I post these projects because I like the idea of encouraging folks to make and modify their own gear; and I feel that gift-giving is more meaningful when it's something handmade and practical and thoughtful than when people trample each other on the way to the Black Friday sale. If you use them, I would love to see what you create! You can use #pickleproject if you are so inclined.
And if you enjoy them, please consider making a small donation to the League of American Bicyclists, MassBike, American Bicycle Education Association, BikesNotBombs, or another worthy bicycle advocacy organization of your choice. Thank you.

Two flavors of duffel bag, any size, part 2

Note: People will tell you that sewing is hard. Ignore them, they are wrong. You may think that only certain kinds of people can sew, or that you need lots of expensive equipment to be able to do anything good, or that "home sewing" means making cutesy curtains out of quilting cotton and rick-rack that just look "home made" and not in a good way. Those assumptions are also wrong! Sewing is a skill that gets better with practice, but it isn't rocket science. All of these items are things you absolutely can do with no previous experience, if you are patient. Don't be afraid to do dry runs, rip out seams and try again, practice things a few times until they feel comfortable. You can do it!!

Here is a list of information and techniques covered in these two tutorials:

Part 1:

All about zippers: types of zippers, how to buy zippers, how to install zipper sliders
Stopping the ends of zippers
Sewing the zipper onto fabric
Figuring seam allowance with zippers
Using one side of a zipper in a long loop instead of two sides
Making a pouch with one folded side
Finishing seams with grosgrain ribbon, bias tape, etc.
Making a pencil case to go in a 3-ring binder
Using contrasting tabs on the ends to stop a zipper
Using a lining to make a clean finish on the inside
Making a lining even easier
Making a 3-D boxy pouch by sewing across the corners
Adding an outside pocket
Finishing the pocket pouch
Flattening the corners to give the pouch some depth
Finishing the boxy pouch
Odds and ends, other possibilities, and where to shop for supplies

Part 2:

A word about cutting, and also rulers
Designing and cutting a circular duffel, and the dimensions for the example
Sewing a covered zipper and calculating seam allowance for it
Making your own handles and straps
Sewing box tacks for strong strap attachments
Using notches to align cut edges
Sewing a curved edge to a straight edge
Making a boxy 3-D structure starting from one rectangle and calculating dimensions of the cut pieces
The two approaches to sewing down the corners to create a 3-D structure
Dimensioned drawing for the large square duffel
Another method for making an outside pocket with a zipper
Another method for attaching D-rings
Finishing the square duffel
Odds and ends and other ideas

All about zippers:

You are probably wearing something with a zipper right now. They're everywhere, and for good reason. But lots of people think they're intimidating to sew, which is a real shame because they really don't have to be.

Zippers come in several flavors, but here's what they have in common:

- interlocking teeth
- a "slider" that goes back and forth and locks and unlocks the teeth
- a fabric tape that the teeth are stuck onto so that you can sew the zipper onto things
- some way to stop the slider from sliding all the way off the ends when the zipper is in use

And here are some ways they may differ:

- Separating vs. non-separating. Jackets and sleeping bags have separating zippers, which means that the whole thing can separate and then be zipped back together. Actually, this only affects the bottom of the zipper. The ends at the top can be dealt with in all the same ways as other zippers.
- Size. Zippers are generally sized by "number", which refers to the width of the teeth in mm. So when a #5 zipper is zipped closed, its teeth are 5mm across.
- Tooth vs. coil. Zipper teeth are formed in two basic ways: either they are individually molded onto the tape, which looks a little chunkier, or they are made from a spiral of plastic that is sewn onto the tape.
- Metal vs plastic: Nowadays most zippers are plastic, but some do have metal teeth, whether for durability or for fashion. Needless to say, you can't sew or cut through metal zipper teeth! That means you either need to buy the zipper at the right length to start with, or you need to pluck off teeth at the point where you need to shorten it so that you have bare tape to work with. Then you need to either install new stops or stop the ends some other way.
- "Water-resistant": Waterproof/water resistant zippers have a shiny plasticky coating on one side that makes the teeth and the tape impervious to water. The waterproof treatment does sort of interlock in the middle, but that part wears over time and in any case gets bent a bit around the slider. So they aren't completely waterproof, but they're pretty decent at keeping a lot of water out. Also, the coating means that the tape can't stretch or flex as much, which can make it easier to sew at times but also less suitable for curves and corners or softer items. They also look super fancy!
- Sliders: These come in a variety of styles and can be used in a variety of ways. They can have the pull tab either on the top, on the bottom, both, or reversible. "On top" means that the tab is on the same side of the tape as the zipper teeth. "On the bottom" means the tab is on the other side. Lately I've been noticing more reversed zippers on stuff, which gives a slightly smoother look to the finished item. Waterproof zippers are usually used this way, and so are "invisible zippers".
- "Invisible zippers" are usually used in dresses and pants and things where the zipper should be hidden as much as possible. They're very fine coil zippers with a low-profile

slider and teeth that roll the tape toward the middle a bit so that you can sew right up to the edge and the zipper can be fairly indistinguishable from just a plain seam when it's zipped shut.

A bit more about coils vs. teeth: Coil zippers go around curves and corners a little more smoothly, but the stitching that holds the teeth on can be a weak point. However, if it starts to come un-stitched in one place, the rest of the zipper will function so you have some time to get around to fixing it. Tooth zippers are a bit less likely to wear out in that way, but if one tooth breaks or stops interlocking, the whole zipper will come unzipped or the slider will come off when you try to zip it, so you have to do something about it right away. In general, you can sew right through coil zippers with relative impunity, even on most home sewing machines, so that makes them convenient.

Buying zippers:
You can buy zippers at fabric stores in a variety of colors and common sizes. These can be easily shortened too, so you can always get one longer than you need. Many home sewing patterns are designed to use zippers in standard sizes. Some places, especially those that sell fabric for outdoor gear, will also sell zipper by the foot or by the yard with sliders sold separately. This is obviously the better option for customizing gear or for making things like sleeping bags and luggage where you might need odd sizes or especially long lengths. It's also just handy to have a roll of zipper and a pile of sliders on hand for whenever you need it.

Installing zipper sliders:
Sliders have an open end with two openings, and a closed end with just one opening. To install a slider, open the end of the zipper like the one in the picture that's missing one. Insert each of the loose ends into the two openings in the "open" end of the slider. It may take a couple of tries to get the ends to line up properly. Then just slide it on.

(This is really a two-hand job, but one hand was holding the camera)

In some cases, it's handy or at least a nice touch to have two sliders facing each other. In that case, just do this from both ends. As you can see, the zipper is still stuck together in the middle until you unzip it.

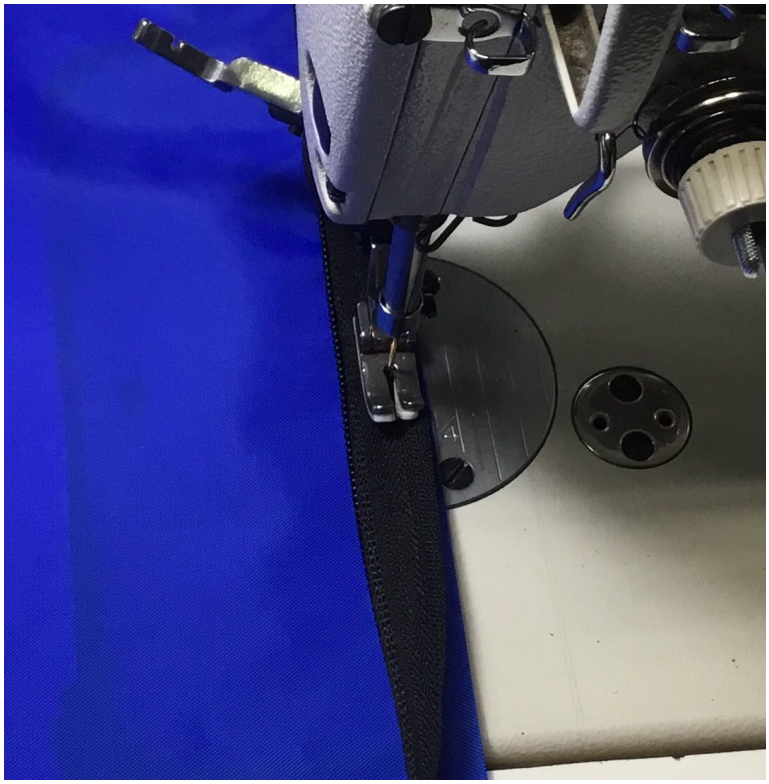
How to stop the ends of zippers:
For both coil and tooth zippers, you can buy top stops that you crimp onto the tape at the end of the teeth once you shorten the zipper to the length that you need. Alternatively, you can just sew a piece of fabric or tape over the teeth to stop the slider. You can do this at the top of each side or straight across the whole thing. This works for both coil and tooth zippers, and can be a nice way of finishing the tops of separating zippers on jackets or sweaters, as shown:

This is a small bit of grosgrain ribbon wrapped around the end of the zipper and acting as a soft, comfortable top stopper.

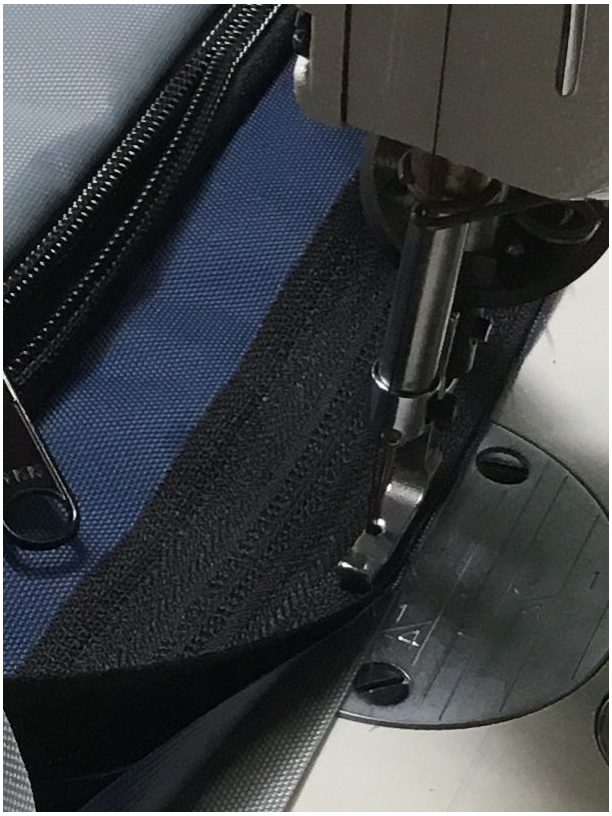
But for lots of things like pockets and pouches and bags, both ends of the zipper will be sewn into something, so you can just stop the ends by sewing over them one way or another. This is generally something you should only do with coil zippers; with tooth zippers you'll have to pick off the excess teeth so as not to break needles trying to sew through them. But since these are all coil zippers, sewing through them is what we'll do for the remainder of these projects.

Sewing the zipper onto the fabric:
Or, the moment we've been waiting for and the part where people get worried.
The first thing to keep in mind is that most zipper tape is fairly flexible so it can conform to what its being sewn to. This means it can go around curves and corners fairly easily, but also that it's easy for it to get stretched, compressed, or distorted if you're not careful. If you see zippers that look wavy, that's one reason it happens - it's because the zipper tape fed a little faster than the fabric and pulled in a little. So depending on your fabric and your sewing machine, you may need to experiment with the presser foot tension or with putting the zipper on the top or the bottom when you sew in order to get it to come out right. However, it's important to do it the same way on both sides so that the ends meet up!

Your sewing machine probably comes with a zipper foot of some sort. In some cases, you may not need one if you aren't trying to sew that close to the zipper teeth. In other cases you want to get closer, and a zipper foot will let you do that. Some zipper feet are wide on both sides and have a groove for the teeth, and some are like a foot that has only one side.



Sewing one side of a zipper with ¼" seam allowance, using a standard foot



Sewing a zipper with ¼” seam allowance using a zipper foot. It’s not necessary in this case, but if I wanted a larger seam allowance here it would be.

Zipper tapes vary somewhat in width. So if you’re planning a project you will want to take into account how wide the tape is and what your seam allowances will be. For example, the zippers I’m using here have a tape that’s about 1.25” wide. If I line up the edge of the zipper and the edge of the fabric and sew it on with a ⅜” seam allowance, I’ll have about ½” of zipper remaining in between. So as an example, let’s say I want to end up with a piece that is 8” wide and has a zipper running straight down the middle. The finished width of the zipper that shows will be ½” wide, which means that there will be 3 ¾” of fabric on each side if I sew in the zipper with that aforementioned ⅜” seam allowance. So I will want to cut the two pieces of fabric each 4 ⅛” wide.
Alternatively, I could also just cut them wider than that and trim the piece back to size afterward. That would obviously be a slow and cumbersome way to do things in an industrial setting, but when you’re just making one or two of something, it’s fine and it’ll work just as well in the end. And then you don’t have to worry so much about being exact with the seam allowance; you just need to be consistent so everything comes out looking neat.

With all that said, let's bring on the projects! Even if you aren't making these exact items, they're still worth reading through for more zipper tips because they're chosen to illustrate various ways of using them.

Pouches, bags, pencil cases, and other assorted travel accessories

There are lots of variations on items like this, and you can make them all kinds of ways depending on the shape and size and materials. Possibilities include pencil cases, toiletries bags, cases for headphones or chargers and cables, sleeves for tablets and phones, shoe bags, lunch bags, knitting project bags, tote bags, handbags, gift bags, party favor bags, glasses cases, etc. If you've ever lost some small item at the bottom of your backpack, now you can make it its own special place.

At the most basic level, all of these things can be made out of a rectangle with a zipper, one way or another. So let's start with the simplest example, which also shows another neat way to use a zipper.

For this one, we need a rectangle about twice the length of the finished product, ONE HALF of a coil zipper that's as long as the long edge of the rectangle, and one slider. Yes, only one side of the zipper!

(That piece of zipper is actually nearly twice as long as it needs to be; it was left over from something or other)

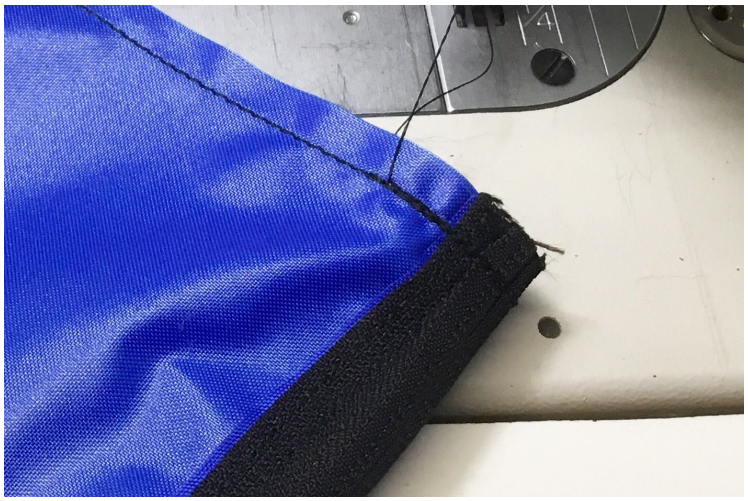
Start by sewing the zipper tape to the long edge of the fabric, with right sides (i.e, outsides) facing each other (in this case, the "outside" or "right side" of the zipper is the side where the teeth stick out more).

The edges of the zipper tape can't fray, but the edges of the fabric can, so they'll need some sort of finishing. In this case, it doesn't take much, and the zipper tape itself can do the trick. So we'll flatten it over from the outside and topstitch through the fabric and the zipper tape:

Next, trim the ends of the zipper so they line up with the edges of the fabric, fold the rectangle in half the long way, and install the slider.

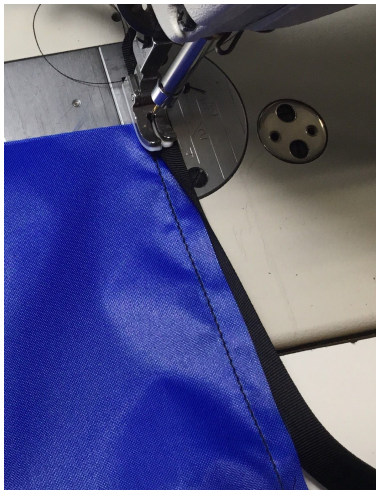
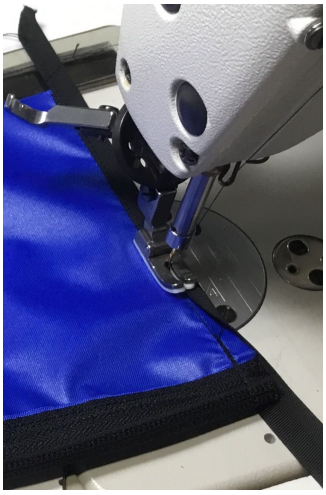
You may notice that the zipper wants to twist a little. That's because coil zippers coil in opposite directions on two sides, and instead of using two opposite sides it's just the same side folded back on itself. But for the most part, this won't be a problem in the finished product, especially for smaller-gauge zippers. Larger ones might be more insistent about twisting.

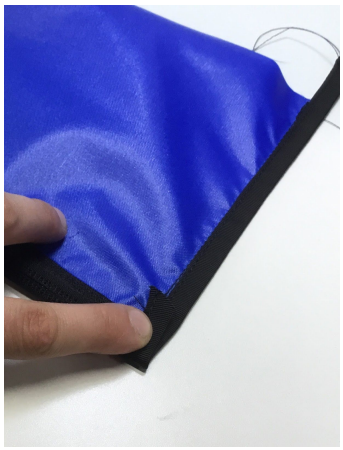
Now we just have to sew up the remaining two sides and finish off the seams and we'll have a finished pouch. Here's where we have to fudge things just a little at the end of the zipper, because the sewing machine will happily sew over zipper teeth that are lying flat but not so much over zipper teeth that are edge-on. So we start at the bottom edge (I recommend that you always backtack - sew forward and back a couple of times - at edges so things don't pull apart when you don't want them to). When we get to the zipper, we just flatten it over and sew right over it. Then tack forward and back over it a few times, which acts as the stop at the end of the zipper.



Binding the seams

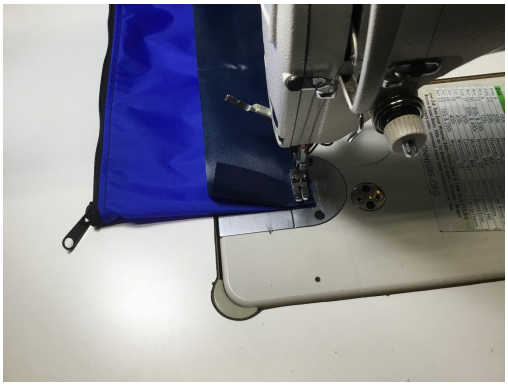
To make a neat seam finish, I just folded a piece of grosgrain ribbon in half and sewed it down. You can do this with any number of materials: strips of fabric you cut yourself, bias tape, ribbon, etc. Grosgrain is easy to get, inexpensive, and easy to work with. You can get folder attachments and guides that will help you bind the edges like this, but with a little practice it's really not hard to do it freehand. I start sewing the ribbon in half for an inch or two first, then insert the edge of the fabric, and continue sewing the ribbon past the end of the fabric. Then cut the top end off at an angle so it doesn't fray, fold it back over itself, and sew it down to finish the top edge:




To close finish the bottom edge, one option would be to just trim the bottom edge of the grosgrain and then sew the bottom edge the same way as the side, but fold both corners around as shown. But I decided to do something a little different, just to show a possible variation.

I turned the pouch right side out and closed the bottom from the outside. Then I cut a strip in a contrasting fabric long enough to cover the bottom and fold over the ends a little. I lined up the edges and sewed down one side like this:



Then I folded it around and topstitched the other side with the edge turned under:

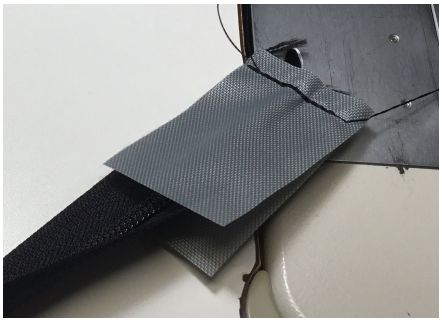
Lastly, I punched holes and installed grommets in that extra portion at the bottom:

Neat pencil case fits in a 3-ring binder

Next, let's look at **another way of dealing with the ends of the zipper** as well as **adding a lining as a way of covering raw edges** where they attach to the zipper tape. So we'll start on two more pouches - one with an exterior pocket and one with a boxy shape - which will look very different from each other in the end but which both treat the zippers the same way.

This method of stopping the ends of the zipper is one you might use if sewing the ends directly into other seams would make edges too bulky, would make it hard to turn the work right side out at the end, or as a way to add a little extra contrast color to a project. It's also a good way to extend a zipper that isn't quite long enough for the space where you want to put it.

Start by cutting small rectangles the same width as your zipper and sew them at the ends (Remember to install the slider(s) first!!). You can just put one of these on the outside of the zipper, in which case you may want to finish or cover the end of the zipper on the inside to keep things tidy; or you can put one on the outside and one on the inside, in which case the ends of the zipper are covered. To sew it, you make a sandwich with the zipper in the middle:



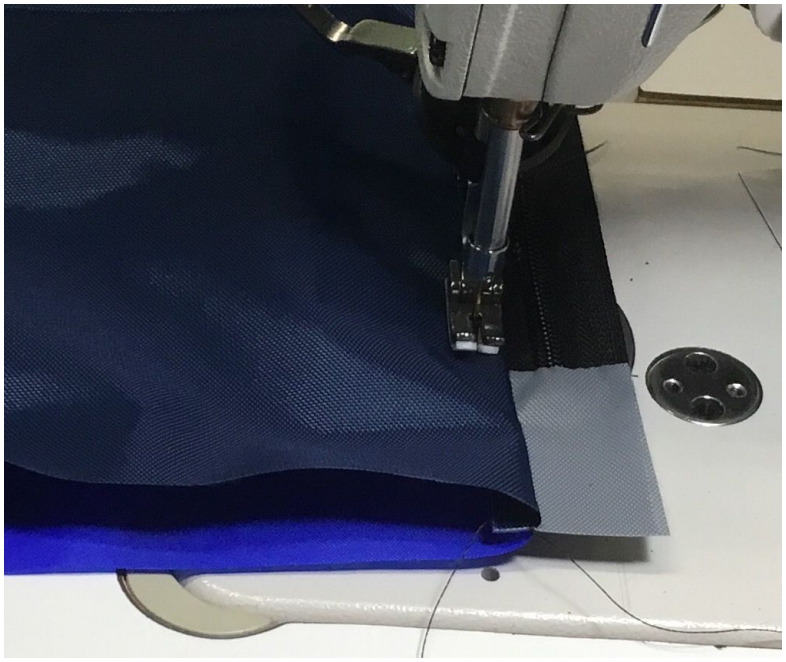
Remember to backtack back and forth over the zipper, since this is your zipper stop. If your sewing machine objects to backstitching over the zipper like this, just turn the piece around when you reach the edge and go back and forth that way. You can topstitch the tabs down or not, as you see fit.

Once you've done this at both ends and folded the end tabs out, you basically have a long strip you can use the same as if it were just a zipper, except that the ends are just fabric and have no teeth.
Note that for this to work, the zipper needs to be shorter than the length of the space it's going to go into. And keep the seam allowances at the ends of the zipper in mind, too; you want the overall cut length of the zipper to be enough shorter than the fabric edge that the ends of the zipper teeth stay clear of side seams or whatever else so that they don't get in the way. While you do need to measure the zipper to make sure it will work for its intended use and won't end up interfering with other operations, I usually cut the rectangular tabs extra long and then trim them to length afterward.

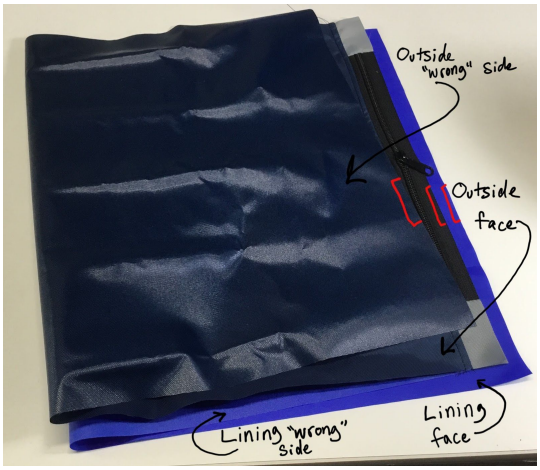
Zipper shorter than fabric edge, tabs long enough to make up the difference

Now we'll sew in this zipper-plus-extension tabs just as if it were only a zipper. In this case, the pouch will have a brighter blue lining, and the lining will serve to encase the zipper tape as well as the raw edges of the fabric, so the inside of the bag is as neatly finished as the outside.

To sew it, you'll make another sandwich with the zipper in the middle, the face (the "right" side) of the lining against the inside of the zipper, and the face of the outside fabric against the outside of the zipper. If you find it awkward to hold and stitch three layers like this, do it in two passes - stitch one fabric edge to the zipper, then the other one, and then topstitch if you're going to. It's often a good idea to topstitch in cases like this so that the zipper slider doesn't catch on the lining. If you don't want the appearance of the topstitching on the outside, you can flip that piece of fabric out of the way while you topstitch the lining only.
In this case, I topstitched all three layers. In this photo you can see how all three layers go together:



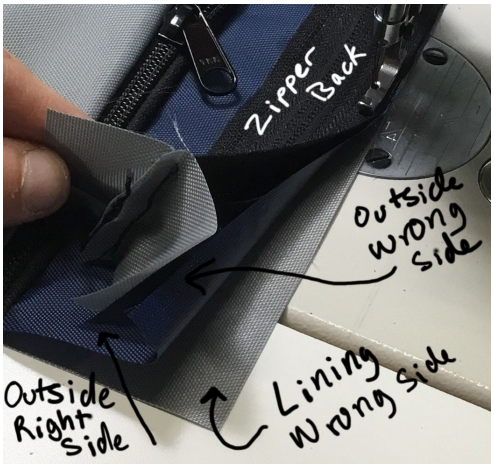
This pouch will have a **boxier, more 3-D shape**, and won't have a seam at the bottom. So the main structure of it requires just one rectangle like the last one, but the fold will be at the bottom instead of at the side.
For the second side of the zipper, flip the top layer up and the bottom layer down so that you still have the same sandwich in the same order. The three edges marked with red brackets will be aligned and stitched together.



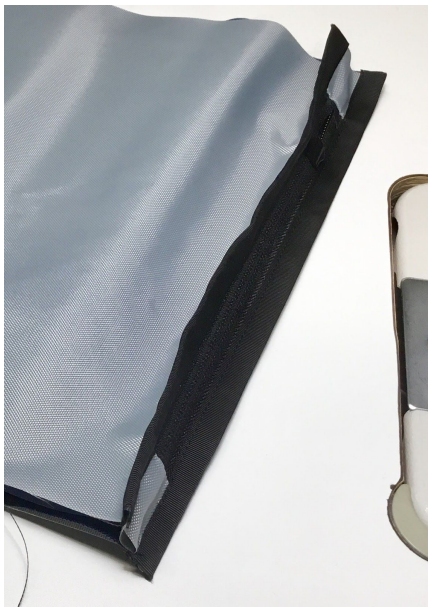
Once that's stitched, turn the outside fabric right side out to have a tube the right way out, or turn the lining to have a tube that's inside out. Topstitching the second side in this case is a lot trickier, because you have to do it through the tube you've just made. I think it's easiest with the tube inside out, but stitching from the outside so that the other end is in your way from the top where you can see it, rather than from the bottom where you might sew it by mistake. Start carefully, and sew just a bit at a time so that you can reposition things after every few stitches. You don't need to get a long straight stretch under the needle, just a little and then you can reposition. By the time you get to the end, your tube will be scrunched up around the needle assembly of your sewing machine. I know, mildly annoying, but not a big deal. Clip the threads and raise the needle and presser foot and slide it back out the way it came.

Incidentally, an **even simpler way to make a lining** is to just put the lining against the outside fabric and treat them as if they were one piece, topstitching at the zipper just like in the last pouch. That doesn't encase the zipper and the raw edges (which doesn't always matter on all fabrics anyway) but it's really easy and still gives you the other benefits of having a lining: It looks nicer, it's sturdier, and it hides the back side of any stitching from exterior features.

This is the order in which it's assembled, shown on a different pouch in different colors that will have a pocket on the outside (which is coming next!):



Of course, you can also **bind raw edges when zippers are involved** just like you can bind the edges of regular seams, and that's what I did inside this pocket pouch:

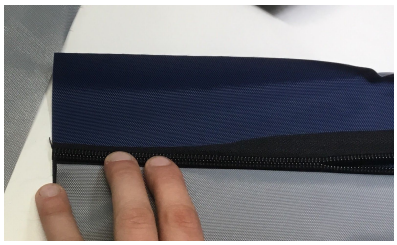


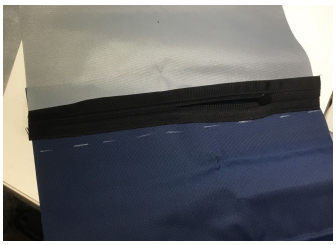
This method gives you a nice, finished interior that won't get caught on the slider, and it works whether you're using a lining or not. It also gives the zipper area a little more structure although it makes a little more bulk too, so you should consider how those bound edges will add to the bulk of the side seams of the pouch depending on what they're going to involve later.

Exterior pockets
Before sewing up the sides, let's go back to that outside pocket to look at one more way to attach a zipper and stop its ends.

This pocket will be on the outside of the pouch, with its zipper set a bit below the top zipper. The bottom of the pocket will be the same as the bottom of the pouch, and the sides will be

incorporated into the side seams of the pouch. We'll start by sewing one side of the zipper onto the fabric of the pocket as usual. Then we'll make a chalk line on the outside of the pouch ¼" below where the top of the pocket will sit. Note that I'm using the outside fabric by itself at the point; I haven't put it together with the lining yet, so the stitching for the pocket won't show on the inside of the pouch.
One way to eyeball this is to position the pocket where you want it, with the top edge of the zipper tape folded under. Then, holding the folded-under part exactly where it ends up, mark that spot and draw a horizontal line at that height:





Then, align the edge of the zipper tape at the chalk line with right sides facing each other, and sew at ¼" from the edge (or whatever seam allowance you feel is applicable). You can do two lines of stitching if you want for extra security, but it doesn't take much; since the zipper tape already has a selvedge edge that doesn't fray, you don't really need to do much to it to cover it unless you want to. When you flip the pocket back down, it has a neat turned-under top edge.

Like those little end tabs, this is another case where, if you don't feel like doing math, you can get away with just making the pocket a little oversized and then trim it to fit the main fabric afterward. I stitched it down to the edges of the main fabric just to keep things together while I work on the next steps (which, actually, are already described above).

One thing to note about making an outside pocket this way is that the zipper teeth are going to be sewn into the side seams of the pouch, so the side seams will act as the zipper stoppers. But the teeth will not really fold flat when the pouch is turned right side out the way that plain fabric does. It won't be a problem for this pouch because it isn't going to be flat anyway, but if you're going for flat edges you might want to use the extension tab method on the pocket's zipper as well.

Before finishing the pocket pouch, I decided it should have a handle and a little snap hook so that it can be easily attached to D-rings or whatever on another bag. This is just a piece of black grosgrain, and it's sewn across each end of the zipper:

In retrospect, I should have made the handle a little longer. But oh well; it's not really structurally important, just a little "extra" detail.

Now we'll **finish up the side seams** on the pocket pouch. With the whole thing inside-out, we just need to sew down both sides and across the bottom. Like the zippers, I bound these edges with grosgrain. When sewing the side seams, now you'll notice the advantage of the extra tabs at the ends of the zipper. If you recall that in the first pouch, we had to fudge the zipper a wee bit at the top of the side seam so as to sew through something flat, in this case we don't have to do anything of the sort because there aren't any zipper teeth in the part of the gray tab we'll be sewing through. So you can just flatten the whole thing and sew it that way. That handle has to get folded in half to do this too, but that won't matter and you'll see why in the next step.

The pouch technically could be considered finished at this point, but let's do one more thing to **give it some depth**. We're going to open up each corner and flatten it the other way, sort of like an origami technique, and sew across the resulting triangle. It's a short seam, so backtack it plenty at each end:

One note is that I really should have made the tabs on the ends of the main zipper longer, and used a shorter piece of zipper; the zipper itself got a bit in the way of doing this on the top corners. Also, depending on the size of your triangular corners, the total amount of seam binding you have to sew through at the top corners especially can end up being a lot. So if your machine has trouble with lots of thick layers, that's a good reason to use a different method for finishing at least some of the seams.

The result is this:

As a variation, you could sew across those triangles only at the bottom, or sew the tops and the bottoms by different amounts. Sewing a larger triangle makes the pouch deeper but not as wide.

To **finish the boxy pouch**, we'll do the side seams slightly differently. When the side seams haven't been sewn up yet, the piece is a tube with a zipper in one part. So instead of sewing up the sides with the zipper at the top or bottom, we'll do it with the zipper in the middle:

I've also bound these edges. I'm not worrying too much about the ends of the bindings, as long as they're either singed or cut at an angle so they don't fray; they'll be inside where they won't show. You could tuck them around more neatly if you are so inclined.

Now I'll flatten out the corners like before, only this time I'm sewing bigger triangles:

When I turn it, I have a boxier shape with a zipper that is actually longer than the overall length of the "box". This is useful for something like a shoe bag, where you might need an extra wide opening in order to get bulky shoes in.

By the way, that white pouch in the picture is a teaser for Part 2, which deals with making larger bags with zippers, and also includes a neat twist on the exterior pocket. It also demonstrates another method for sewing in a zipper, that's actually fancier-looking but easier on the calculator. So take a look even if you aren't going to make a duffel bag today!

Bits and pieces and extras:
The pouches we've gone through aren't necessarily that exciting on their own. But there are lots of little touches you can add that can really make them stand out. I've found it really useful to add snap hooks and D-rings to pouches like these, so they can be easily attached to other bags or hung up, so I can attach my keys to them, etc. The possibilities are endless - for example, you could make a larger bag with D-rings and a smaller one with matching straps so that the smaller one is like a detachable exterior pocket. Or make one of these into a small handbag by attaching a shoulder strap, or a purse to hold your wallet and phone so you can easily grab it out of your saddlebag when you go into stores on a ride.
Ideally, any of these little additions should usually be sewn on first; they'll be more difficult to get at after the bag has been assembled. With a little thought, you can make someone a neat little set of travel accessories tailored to their specific needs and all designed to work together.

Since these can be all sizes, I recommend using recycled/upcycled materials whenever possible; old jeans, tarps, canvases, Tyvek envelopes, banners, jackets, bags, etc, can all be great sources of materials and hardware.

But if you want to buy new stuff or have something specific in mind, here are some good sources:

Outdoor Wilderness Fabrics: www.owfinc.com
Seattle Fabrics: www.seattlefabrics.com
Rockywoods: www.rockywoods.com
The Rain Shed: www.therainshed.com
Creative Design Works: http://cdwplus.com
Buckle Guy: www.buckleguy.com

Now, on to Part 2 - Duffel bags and more about creating 3-D shapes!

As always, if you have any questions please ask or comment on the Dill Pickle blog - I am always happy to help! And again, if you used and enjoyed this tutorial, please consider making a small donation to a worthy cycling advocacy organization.