Home Made Backpack

by TeamBlomander

A couple of months ago I started brainstorming the idea of making my own backpack when I didn't find one that fit me just right. I wanted one that would look good for both school, and city, and be sturdy and blend in well enough for the woods on a day trip. I drew inspiration mainly from three bags; the Goruck, Savotta Jääkäri S, and Fjällräven Kånken. One of the main points was that I didn't want a bag that was a hassle to get my books out of every lesson, so I came up with a very simple magnet design. The back flap simply magnets onto the front, both stiffened with a strip of plastic. The bottle side pockets are a Kånken knock off basically. Inside the bag is a laptop sleeve which fits my 12ish inch Macbook, but doubles as a watterbladder sleve. There is also a zippered compartment for nuts and bolts. On the front are four rows of MOLLE webbing for attaching pouches or a bike lock. The bag is made of 1000 denier Cordura in olive green. The straps are polyester. Zipper YKK. It measures 50x26x16 cm.

When I had designed the bag I got to work on the proper measurements and such. I made a prototype using IKEA bags and duct tape, fixed some things, and then ordered it all from a Swedish website which specializes in tactical materials (for airsoft and stuff). I drew the parts with chalk, cut them out and then handed it all over to my girlfriend who is a very talented seamstress! She used a regular sewing machine which to our surprise handled the thick straps perfectly. The needles were new and sharp and changed once during the process to make the work easier. I am so pleased with this bag and the way it turned out and works!

Step 1: Shopping List

For this project you will need:

- 1x1.5 meter Cordura 1000d.
- Olive green 6mm zipper, 25cm long.
- Tensionlock standard, 25mm.
- Synthetic strap 25mm, 3 meter.
- Synthetic strap 40mm, 2 meter.
- Sowing needles #110.
- Thread Güntermann Mara #70, 700 meter.
- 2mm thick, hard plastic (for two 4x25cm straps).
- 6x Ø8x3 mm neodymium magnets (N35-45).
- The strongest glue you can find. I used loctite.

Step 2: Preparing the Parts

The image shows the way I drew and cut the cloth to minimize spill. All measurements include seam allowance (1.5cm each way). The cloth was, as written on the photo, 100x150cm. Draw the parts on with chalk and cut out.

NOTE: I will be using the words "Inside" and "Outside" when referring to the fabrics sides (Inside being the coated side, Outside being the nice side).

The black lines on the "Side 1/2" will be described in another step, so simply cut square pieces.

The "Synthetic strap 25mm, 3 meter" can be cut to the following pieces:

- 4x 29cm. (MOLLE)
- 2x 40 cm. (Bottom part of shoulder straps)
- 2x 12cm. (Tensionlock loop)

The "Synthetic strap 40mm, 2 meter" can be cut to the following pieces:

- 2x 55cm. (Shoulder straps)
- 1x 29cm. (Horizontal "cover")

The "2mm thick, hard plastic" can be cut to:

- 2x 4x25cm.

Step 3: MOLLE

Starting with the front of the bag. Lay the bottom row of MOLLE webbing 4.1cm from the bottom of the "Front down" piece. The middle seam goes right in the middle (at 14.5 cm from each side). The next six seams are spaced at 3.8cm, three right, three left. Use a tight zigzag seam.

The next row of MOLLE goes 2.6cm above the first one. Tip: use a piece of webbing for spacing. Proceed as above for the next three MOLLE rows.

Step 4: Zippered Pocket

The first step is to sow the bottom half of the zipper together with the "Front down" and the "Zipper pocket"

1. Place "Front down" with the Outside up.
2. Then open the zipper and place it up-side-down at the edge of the "Front down" upper edge.
3. Then place the "Zipper pocket" with the Inside up on the edge of the zipper.
4. Sow the seam close to the edge of the three pieces.
5. Expose the zipper as would be seen when finished and sow a clean seam close to the teeth of the zipper, just because it looks nicer.

Really study the pictures of the finished bag for this part! Not very easy!

The next step is to sow the top half of the zipper together with the "Front upp" and the "Zipper pocket".

1. To make the "overhang" over the zipper, fold the bottom of the "Front upp" piece 3.5cm from the bottom.
2. Sow the fold close to the edge.
3. Fold the "zipped pocket" into just that, a pocket, so the edge of the cloth reaches the top of the zipper.
4. Place along the edge.
5. Then put the overhang over the zipper.
6. Sow the three pieces together.

Step 5: Sides

Sow a hem on the top of the side pockets. Sow the side pockets to the sides inside the seam allowance, just for the easy of the pieces all ready being stuck together when putting the bag together.

Again, study the pictures of the bag carefully as it is rather difficult to describe precisely what to do.

1. Now, cut away the top of the sides along the lines pictured.
2. Then cut another 1.5cm straight down the middle in order to be able to hem the edge.
3. Use a very tight zigzag to hem and to secure the edge from fringing.

Step 6: Backside

The first step on the back piece, is to sow on the shoulder straps at the top.

1. 34cm from the bottom of the "Back", lay the 4cm wide straps at an angle which you find comfortable to carry. I used about 45 degrees. See finished bag for approximate positioning.
2. Cut the straps so that it will NOT be exposed once the horizontal strap is attached.
3. Sow the shoulder straps on along the edges within the horizontal strap, and the with a cross inside for extra strength.
4. Sow the horizontal strap on, covering the shoulder straps. I used a tight zigzag seam along the top edge, and a regular straight seam along the bottom.

Next hem the computer pocket and sow on to the "Back" inside the seam allowance, again just for the ease of the pieces being stuck together before sowing the bag together.

Step 7: Putting the Bag Together

Sow the back, the front, and the sides together leaving 1.5cm at the bottom so that the "Base" will be easier to attach. When sowing the sides and back together, remember to include to bottom part of the shoulder straps, being the 2.5 cm straps. Attach these at the very bottom at about 45 degree angle, see picture.

Sow on the base.

Of course sow right on the "seam allowance edge" (1.5 cm from all edges).

Step 8: The Closing Mechanism

You should now have 9.5cm of cloth sticking up on the front, and 5.5cm sticking up on the back.

1. On the front, fold the side edges in at 1.5 cm from the edge.
2. Fold down the top 1cm.
3. Then fold that down 4.5cm.
4. Then sow a straight seam close to the folded edge, creating a long 4cm wide sleeve!
5. Put in the plastic piece with the three magnets spaced evenly and glued securely facing OUT.
6. Sow along the side edge to shut the sleeve.

Do precisely the same on the back piece (although it will look slightly different as the sides are attached). Also, the three magnets will be facing IN. (See pictures and figure out how the magnets need to go before sowing it all shut!)

Step 9: The Shoulder Straps

Attach the 12cm of 2.5cm strap at the bottom on the "outside" of the 4cm strap. Slide on the tensionlock. Attach the other side of the 12cm to the "inside" of the 4cm strap to create a locked loop. Then attach the long piece of 2.5cm strap to the tenisonlock and you have your shoulder strap! Burn the edges of the straps so they don't fringe.

Step 10: DONE!

Notes:

The backpack needs to be supported with some kind of frame, perhaps a sitpad or such, which I have not yet done, but will be simple enough to just keep in the laptop sleeve. I am thinking of adding a carrying handle. Magnets could be stronger. They stay closed even when motorcycling but it would not hurt to have a bit more "bite". Also, this instruction was more difficult to write than the bag was to make.

That's it folks!

Thank you for viewing and good luck with your sowing!

Hugo and Ella

Nice backpack! That really looks excellent. Do you happen to have any photos taken during the building process? If you do, you should definitely add them to your steps :)