






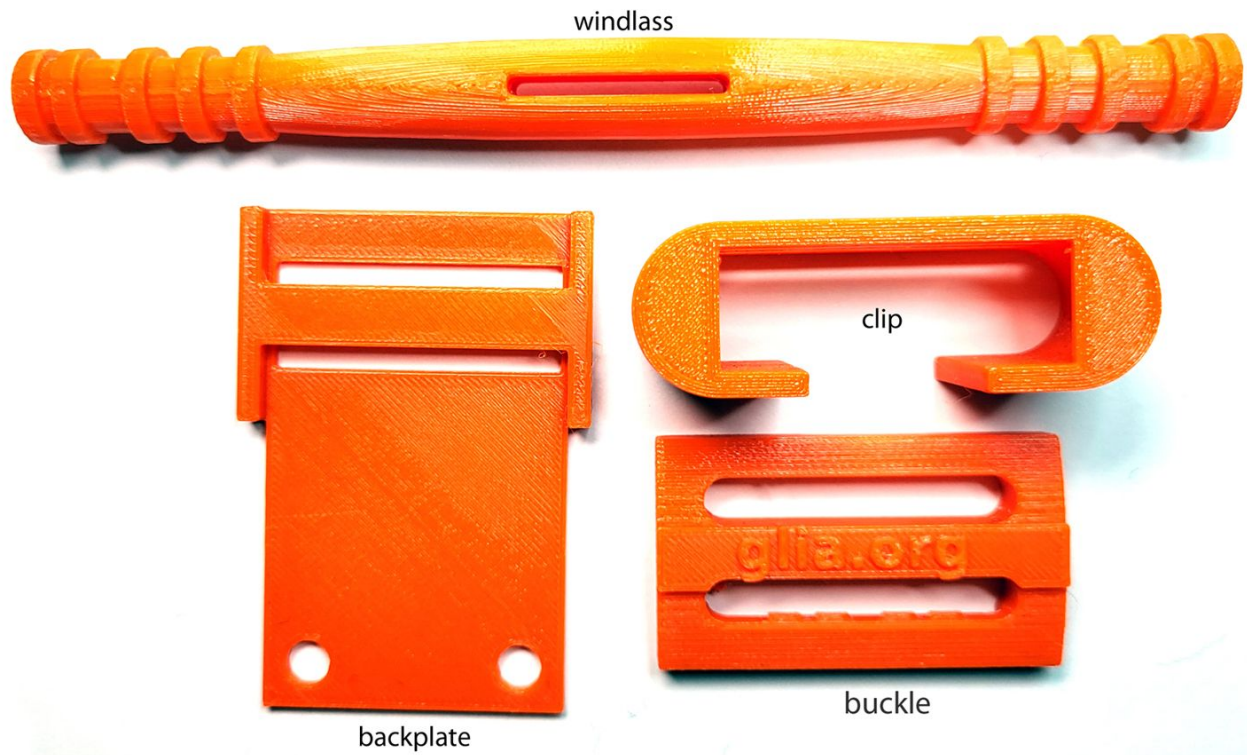


TOURNIQUET ASSEMBLY INSTRUCTIONS

Bill of materials:

<p>Black Non-Adhesive Hook and Loop Tape 3.8cm wide (1.5") for front face of external belt</p>	<p>White Self-Adhesive Hook and Non-Adhesive Loop Tape 1.9cm wide (.75") for clip</p>	<p>Polyester Cotton Webbing Strap 3.8cm wide (1.5"), 0.5mm thick for back face external belt</p>	<p>Nylon Heavy Webbing Strap no stretch at all 1.9cm wide (.75"), 1mm thick for internal belt</p>
			
<p>Double Cap Rivet 7mm head</p>	<p>Strong Polyester Thread [We use Tex-40 TK50/2 Poly Poly Core]</p>	<p>Cyanoacrylate (Super Glue) for ABS, or 90 second Epoxy Adhesive for PETG</p>	
			

3D printed tourniquet pieces



Instructions and details for printing plastic parts for this tourniquet is on Glia's GitHub site at:

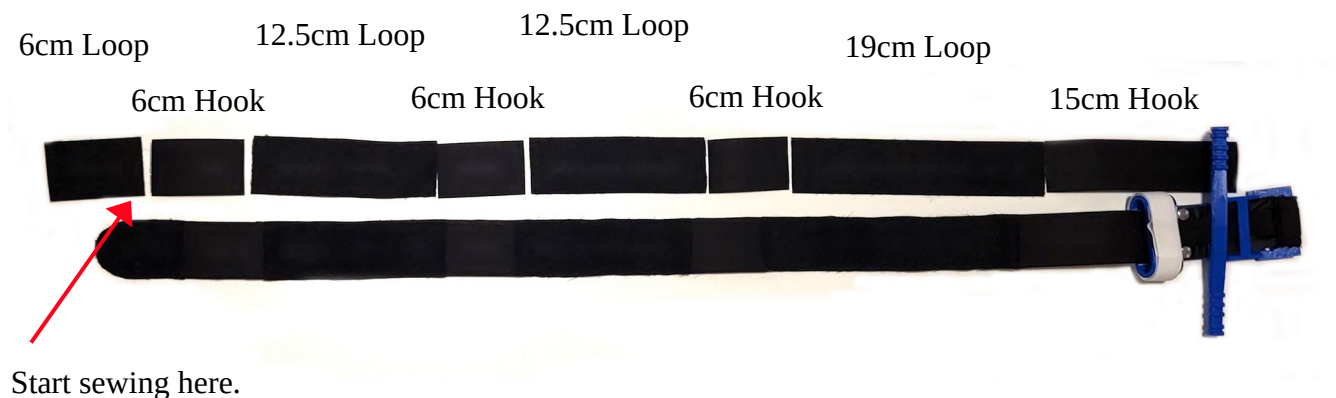
<https://github.com/GliaX/tourniquet>

Instructions for Assembling a Tourniquet:

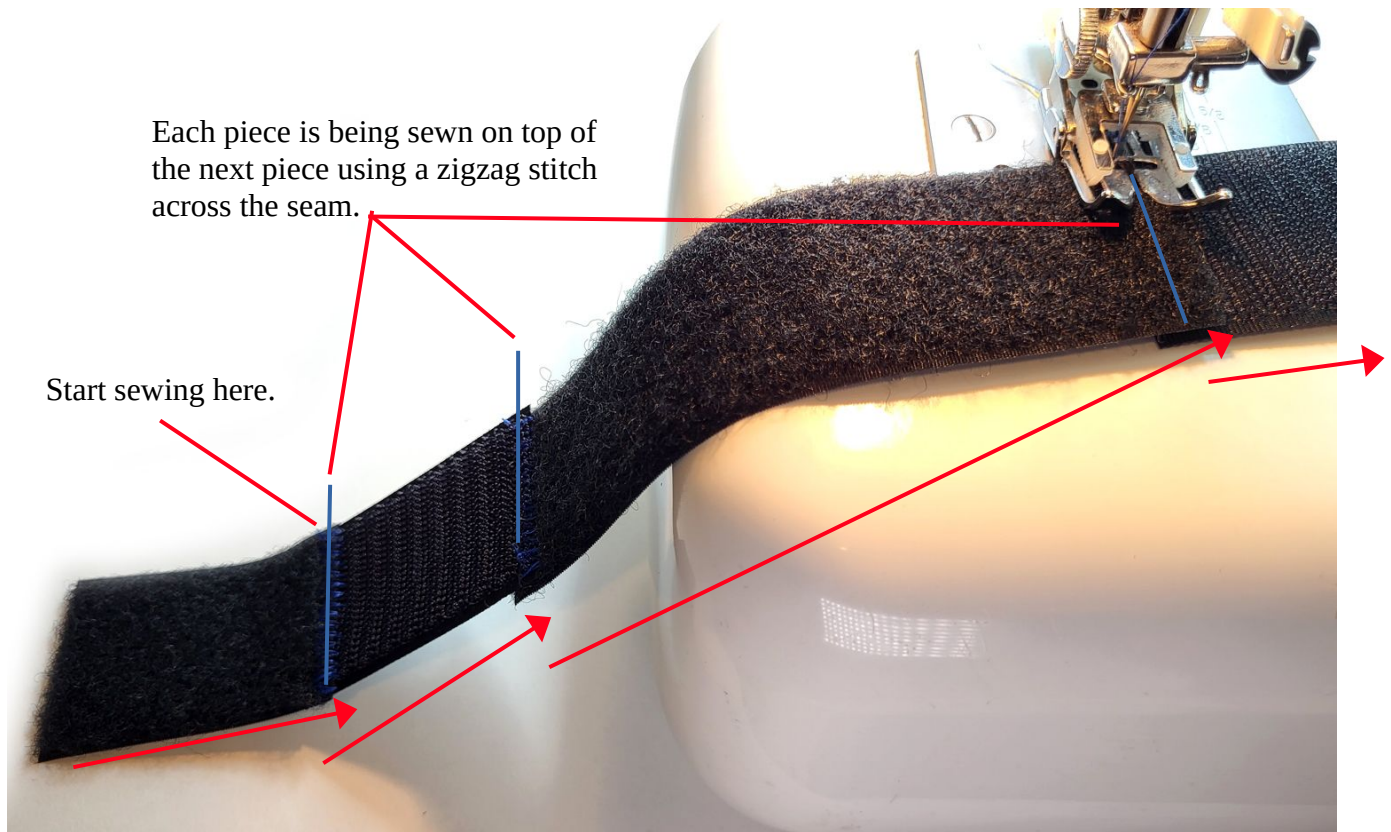
1. Cut all the strapping, hook and loop to the required lengths specified in the table below:

Material	Quantity	Length
Black Non-Adhesive Hook 4 cm wide	3	6 cm
Black Non-Adhesive Hook 4 cm wide	1	15 cm
Black Non-Adhesive Loop 4 cm wide	1	6 cm
Black Non-Adhesive Loop 4 cm wide	2	12.5 cm
Black Non-Adhesive Loop 4 cm wide	1	19 cm
Polyester Cotton Strap 4 cm wide	1	92 cm
Nylon Heavy Webbing Strap 2 cm wide	1	92 cm
White Adhesive Hook 2 cm wide	1	16 cm
Non-Adhesive Loop 2 cm wide	1	17 cm

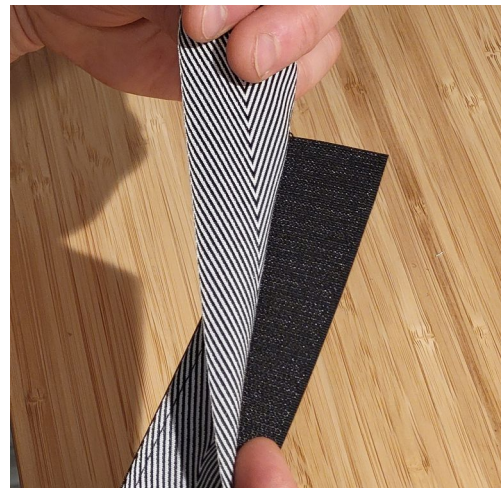
2. For the front face of the belt, begin by placing the Hook and Loop in order of how they will be sewn together. The first piece to sew is the 6cm Loop to the 6cm Hook at the rounded end of the belt.



3. Sew pieces together sequentially in a cascading pattern by placing the edge of each piece above the edge of the next piece and then sewing across them along the seam a couple of times with a zigzag stitch. This type of assembly increases tensile strength, and facilitates a smooth pull through the buckle.



4. Sew the polyester cotton webbing strap (3.8cm wide) to the Hook and Loop assembly just sewn, making sure that the Hook and Loop is facing outward. Sew one long side only and leave the other side free to insert the internal belt. (For alternative method of inserting internal belt, please see Addendum to Tourniquet Assembly Instructions.)



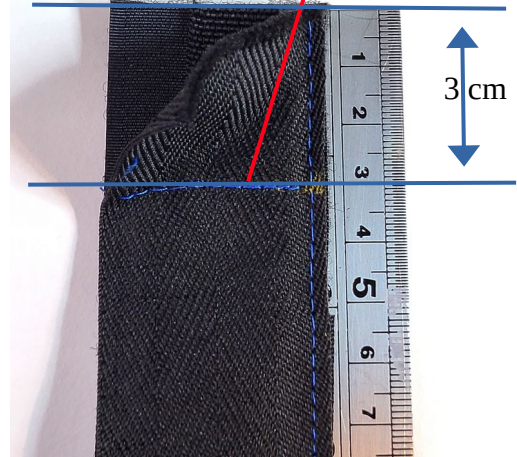
5. Insert the internal belt between the front and back of the external belt, and then sew across the internal and external belts with a straight stitch 3 cm from the end with the small 6 cm Loop piece, anchoring the internal belt between both sides of the external belt.

Internal belt sandwiched between both sides of external belt.

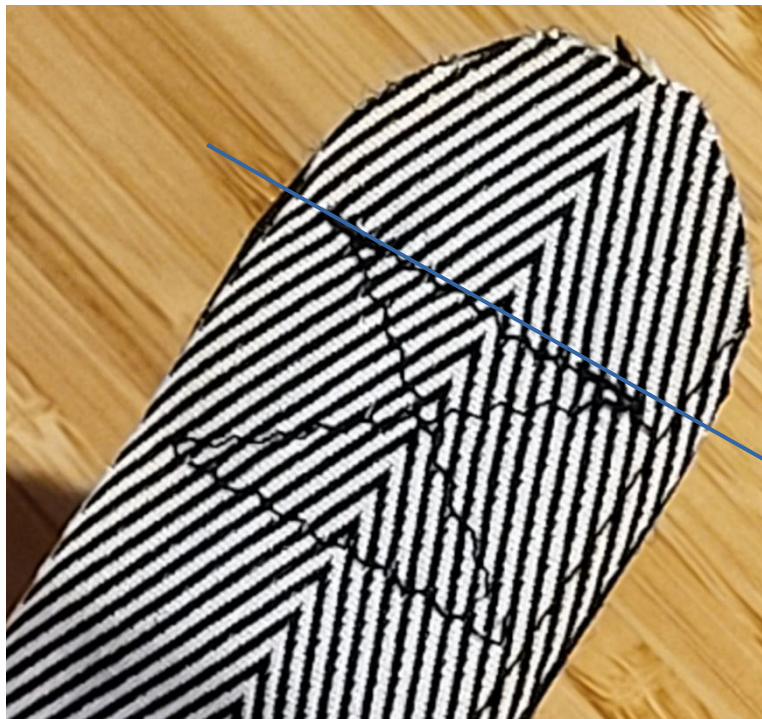
6 cm Loop piece

External belt stitched down one side, still open on the other side and the ends.

Straight stitch sewn across both internal and external belts.

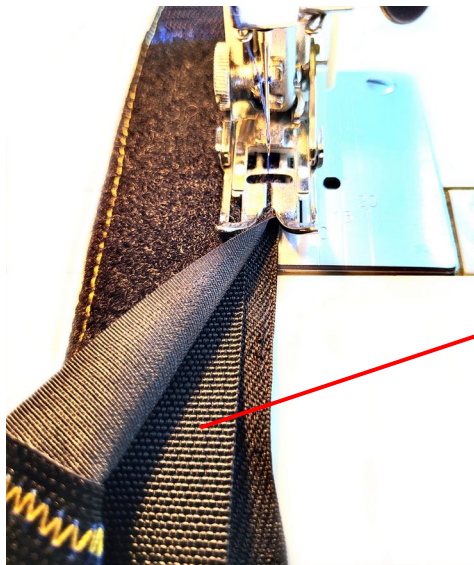


6. Sew box stitch 5 cm from end (2 cm from straight stitch across belts), then cut end round and sew around the cut edge. Carefully burn off frayed edge of belt.



3 cm sew line pictured above

7. Sew the open side of the exterior belt making sure not to sew the side edge of the internal belt as well. **It is **very important** that the internal belt remains free to move.**



Internal belt is away from stitches down side of external belt.

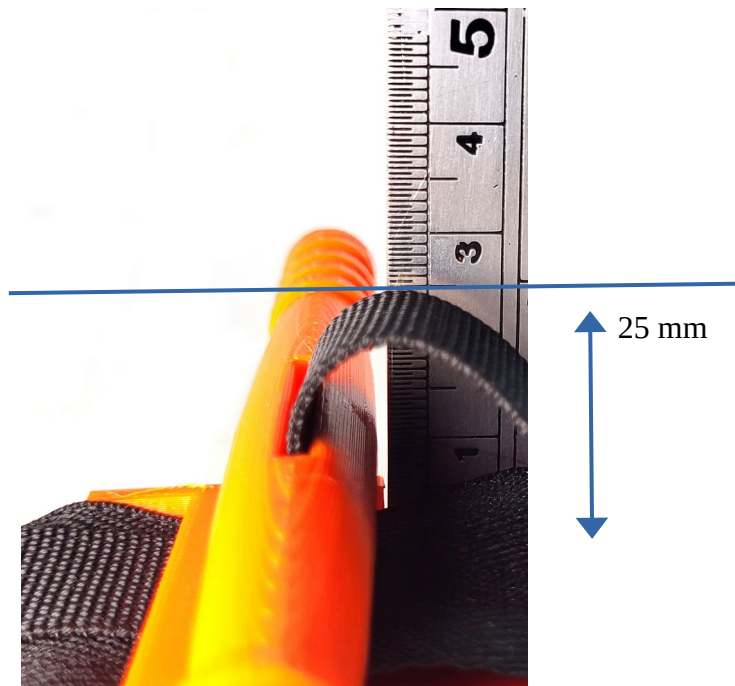
8. Insert only the internal belt through the slot in the 3d-printed windlass rod.



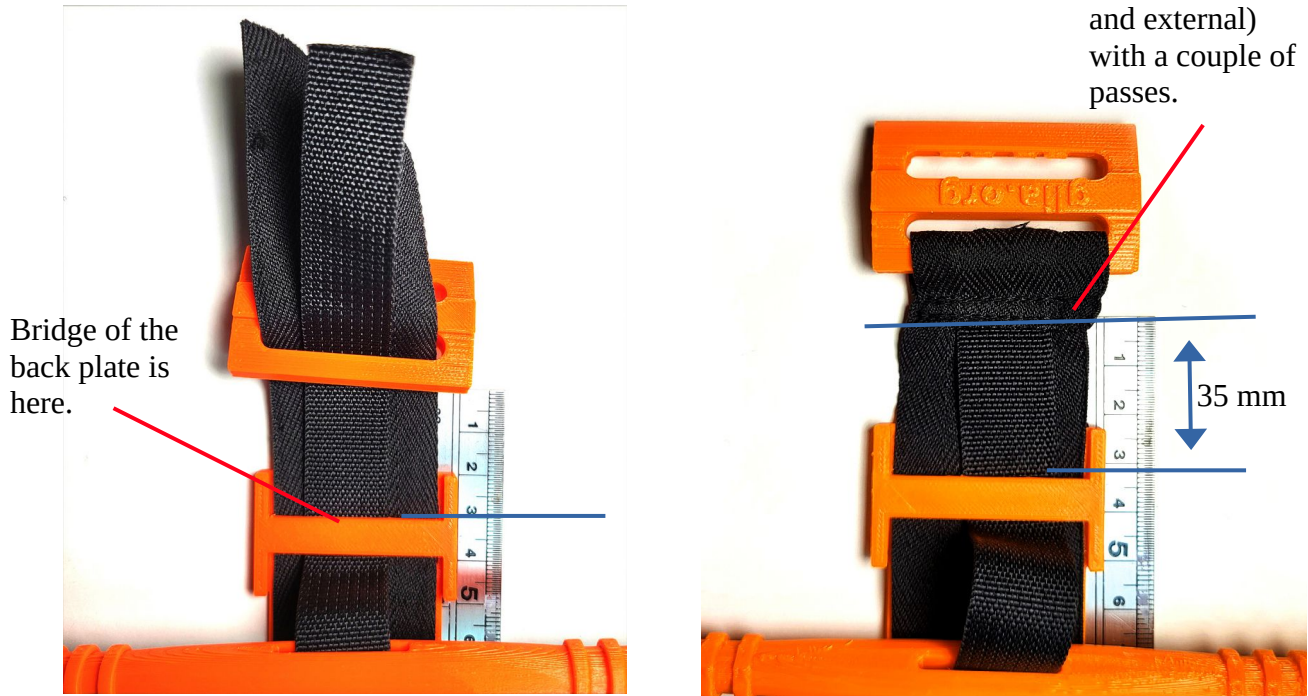
9. Then insert the internal and external belts through the slot on the back plate, ensuring the orientation of the back plate is correct as in the photo below.



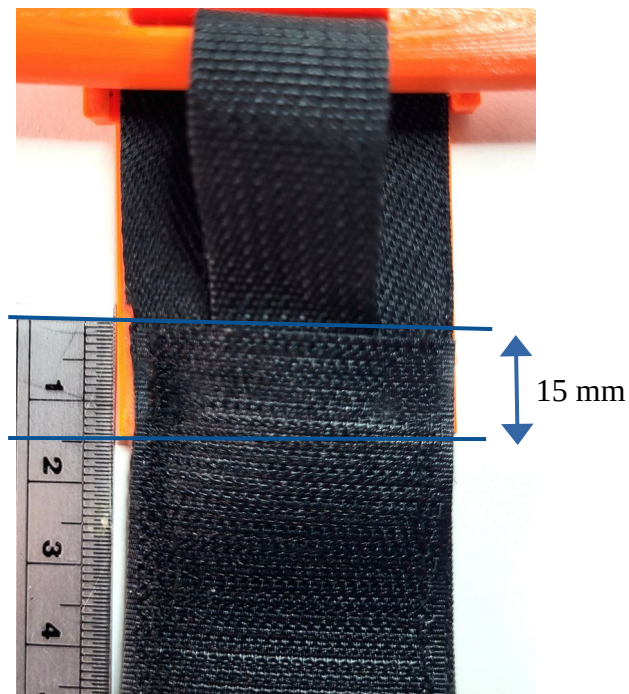
10. With the windlass in place, pull the internal belt up to 25 mm above the backing plate.



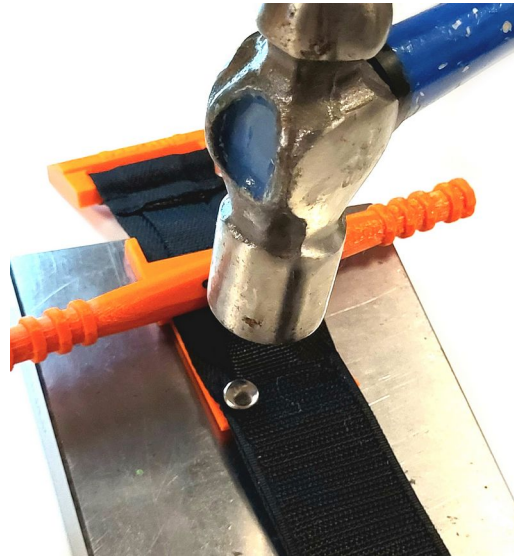
11. Insert the free end of the belts (both internal and external) through the toothless slot of the 3D printed buckle. Fold over and sew both internal and external belts to themselves 35 mm from the bridge of the back plate.



12. Position edge of back plate under the piece of hook by 15 mm.



13. Punch two holes through the external belt only (avoid the internal belt) where the holes are located on the back plate to mount it to the belt. Use a 7 mm head double cap rivet to fasten the back plate to the belt.



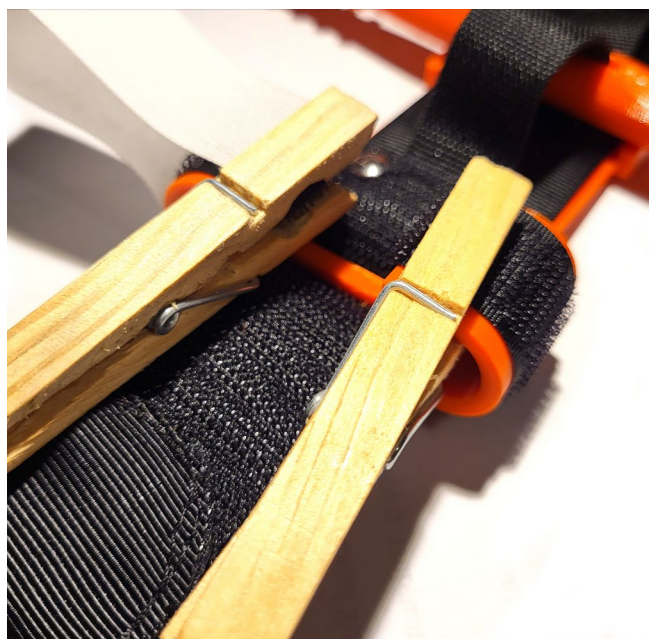
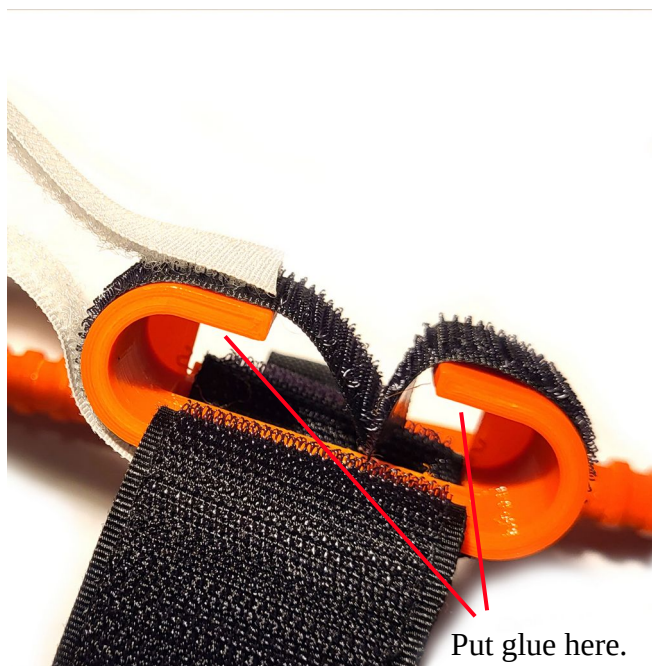
14. Put the clip onto the belt. The clip is positioned so that the open end is always pointing toward the long end of the belt, capped end toward the buckle. Slide the 3D printed clip onto the belt by putting the belt down through slot 1 and up through slot 2, as shown below. Pull the clip along length of belt until it reaches the back plate and the belt is taught.



15. To sew the Hoop and Loop assembly to be adhered to the clip, sew the end of the white non-adhesive Loop (face down) to the centre point of adhesive Hook (face up / black in the photo below).



16. Adhere the Hook to the clip (Hook is black in the photos). Use Cyanoacrylate (Super Glue) to permanently stick this piece onto clip if clip is printed with ABS. Use 90 second epoxy adhesive to stick if clip is printed in PETG. Glue is applied as a dab under the open ends of the clip to glue the folded over ends of the Hook piece. Loop piece is free to wrap over top.



Use something to hold hook in place while glue dries.

17. To prepare for folding, position the white Loop piece same as in the photos below.



Front



Back

18. Completed tourniquet, folded and ready for packaging.

Standard folding procedures can be found here:

<https://www.youtube.com/watch?v=CSECJQPJmLw>

