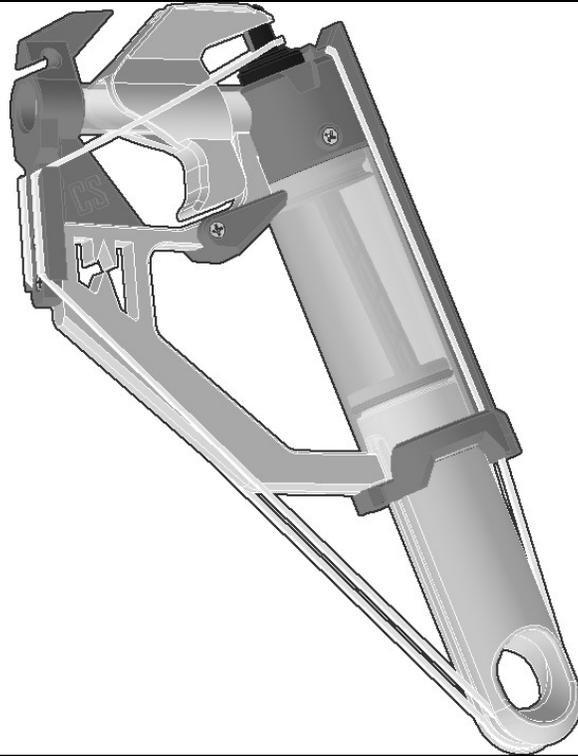


WSPR ASSEMBLY INSTRUCTIONS



The WSPR is a Muzzle-Loading Single-Shot Homemade Nerf Blaster design released as a Non-Commercial license file set by Captain Slug (<http://www.captainslug.com>).

You are welcome to and encouraged to modify the files in any way you want. The Majority of the parts can be printed with infill as low as 20% in PLA, but I would recommend printing in layers of 200 Micron or smaller.

Hardware kits and Blaster kits are available for sale. I'm producing these myself in what remains of my free time.

<https://www.etsy.com/shop/CaptainSlug>



DO NOT STORE IN TEMPERATURES ABOVE 100F. Storing the blaster inside of a car in warmer months will cause the printed parts to distort or warp beyond their intended shape. If you have to store one in a vehicle, store it in the trunk.



DO NOT aim this blaster at faces. The muzzle velocities this design can reach are between 60fps and 100fps depending upon the darts used and the bands installed.

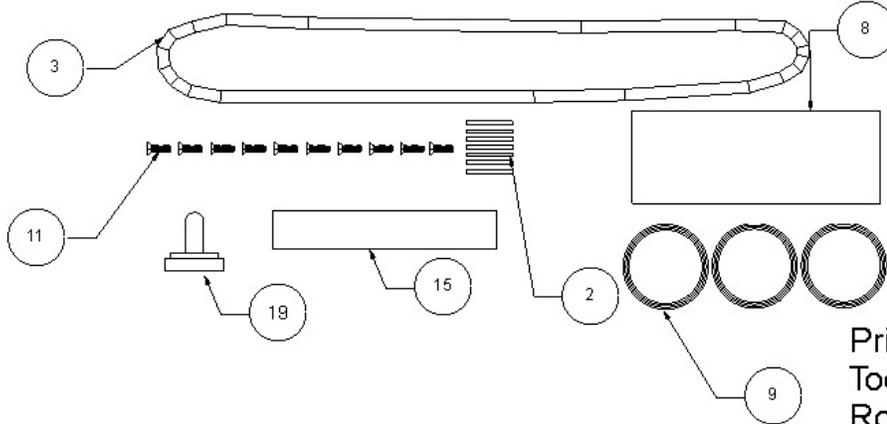
For most of the above hardware list the quantities are the MINIMUM required for assembly. Easily-lost items will have several spares and I typically include extras of the majority of the items.

To assemble this blaster you will need a Slotted Screwdriver, Small Philips Screwdriver, 3/8 Combination Wrench, and a Round Needle File. You may also need a 3/16" drill bit and a SLOW power drill.

WSPR Hardware Kit

08/10/19

Item #	Quantity	Part Name
2	7	Short Pins
3	3	1/8" Cord
8	1	Plunger Tube
9	3	Dash 123 O-Ring
11	10	4-40 Screws
15	1	Barrel
19	1	M12 Toggle Switch Boot



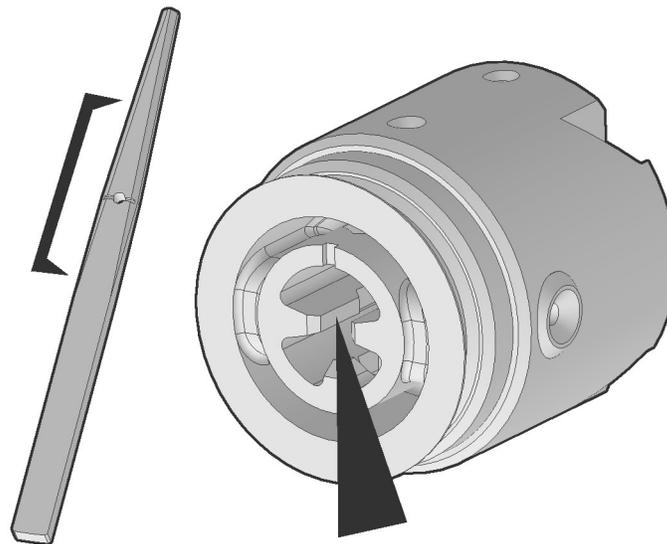
Printed Parts NOT included.
Tools needed: Philips Screwdriver,
Round Needle File, Scissors.

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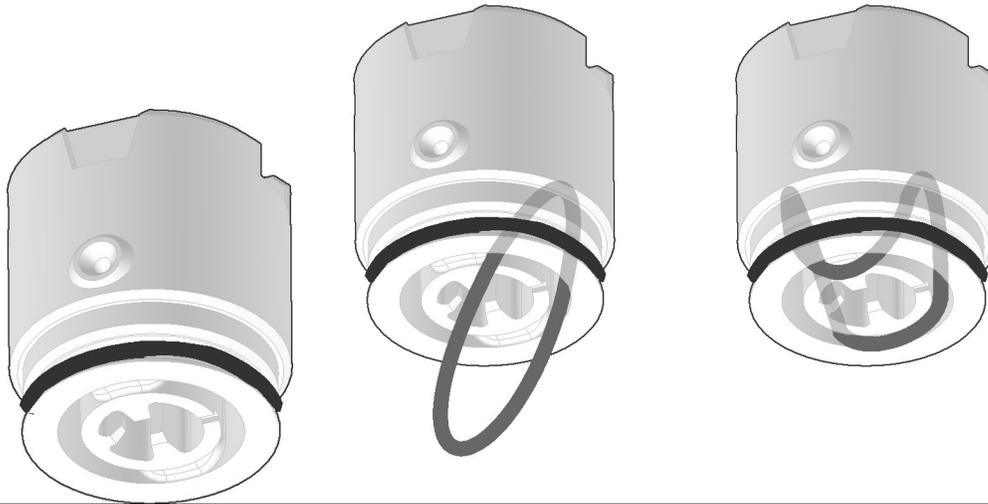
The Plunger Tube in the Hardware Kit does come pre-lubricated. But it's also a good idea to have extra lubricant on-hand for the Plunger Tube and I would recommend only using a clear Silicone Grease such as Oatey's brand #30219. Any clear 90% silicone grease will work fine so long as it does not include any additives. NEVER USE SILICONE LUBRICANT FROM AN AEROSOL CAN. The propellants used in those are harmful to plastic parts.

ALSO AVOID DRY-FIRING THIS BLASTER EXCESSIVELY. Firing without a dart in the barrel will add unneeded wear on this blaster.

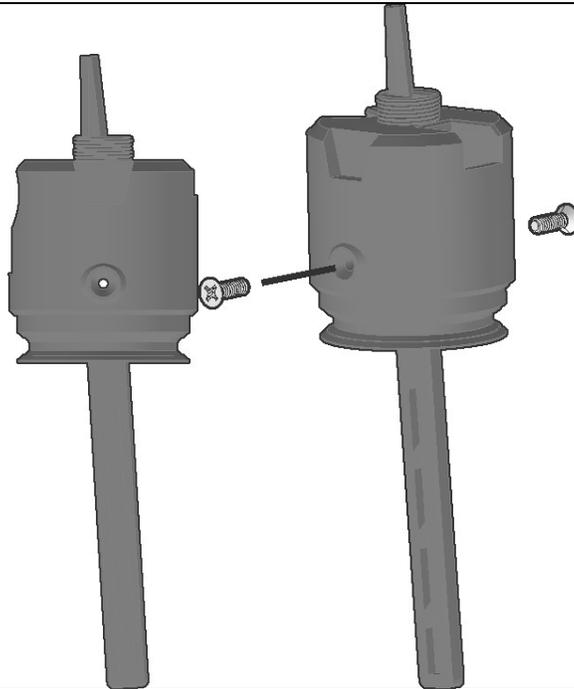
Above is a list of every printed part needed to assemble this blaster. The majority of the through holes should print to the required tolerance, but you will likely have one or two that may require minimal filing. Also make sure to trim off any burrs or oversized edges.



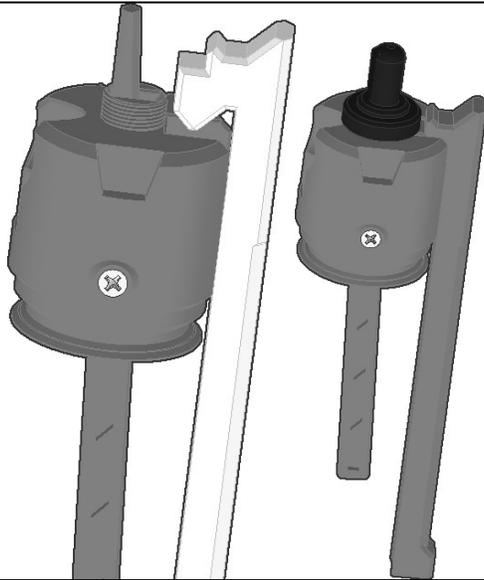
Use a small round needle file to clean up the topside of the SearW print where indicated. Do the same for both sides of where indicated. Test the fit of both parts together to confirm that the SearW slides easily between the two teeth inside CapW.



Add a 123 O-Ring to the undercut on the outside of the print.
Fold a 123 O-Ring in half and insert both sides of it into the well in the bottom of the CapW print.



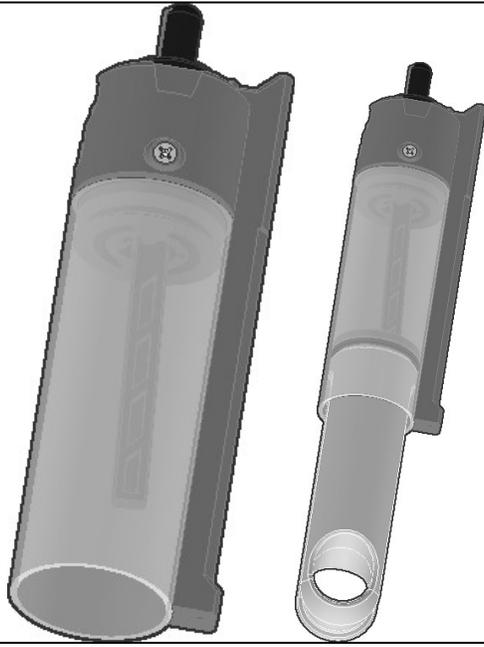
Slide the SearW print into the bottom of the CapW print until the holes in both prints line up.
Push a Short Pin in through both parts. Then cap off both sides by driving 4-40 screws into each.



Slide the Backstrap print into the keyway in the top of the CapW print.
Screw the toggle switch boot onto the threads on the top of the CapW print until it bottoms out.



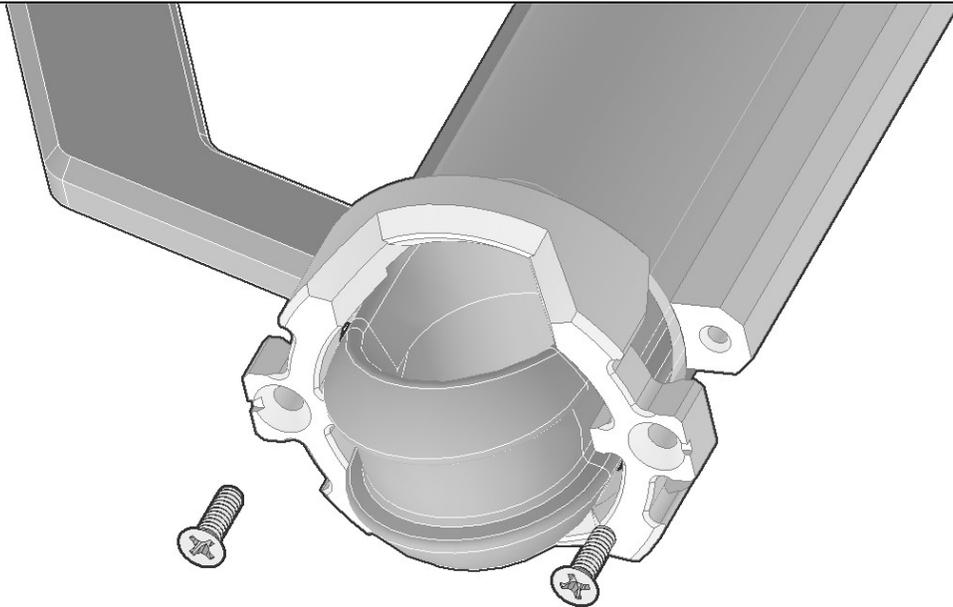
Deburr the inside edges of the PlungerW3a and Plunger W3b prints where shown.
Attach both parts together using two 4-40 screws.
Add a Dash 123 O-ring to the undercut.



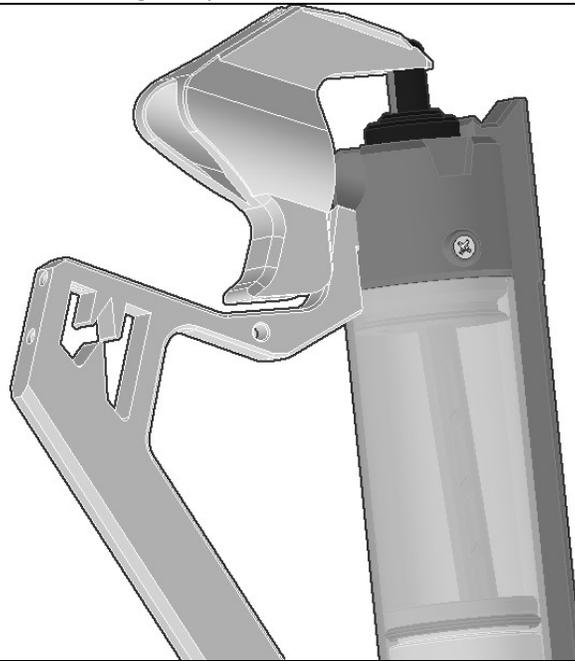
Add the plunger tube to CapW
If not sent pre-lubricated, add a small amount of silicone grease to the inside of the plunger tube.
Then slide the Plunger into the plunger tube.



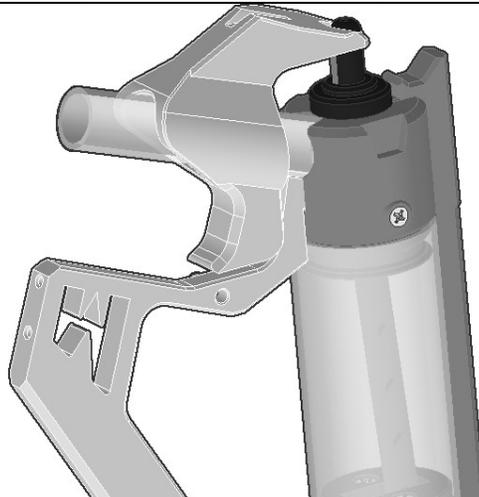
Attach the TguardW print to the front of the CapW print.



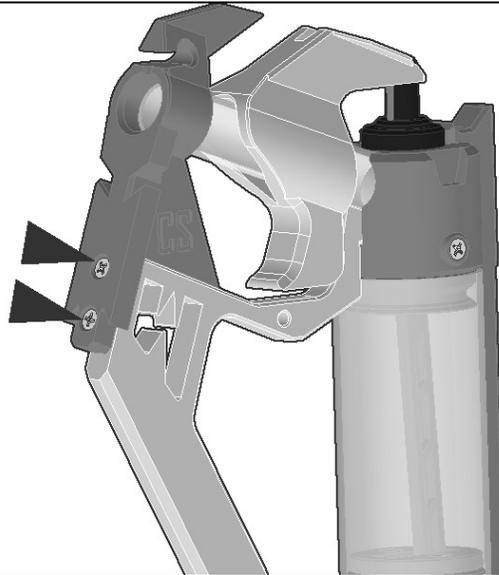
Slide the RingW print over the tail of the PlungerW print, then secure it to BackstrapW and TguardW with 4-40 screws



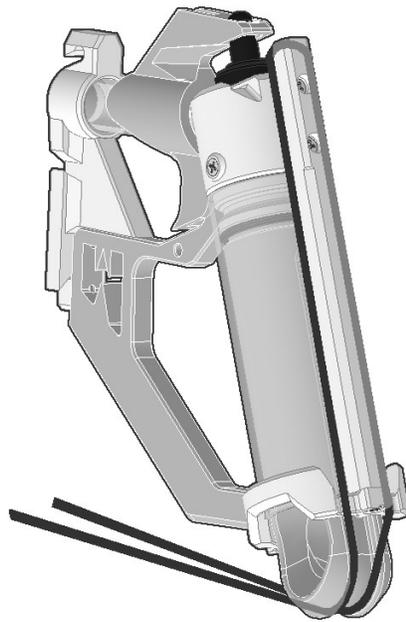
Work the TriggerW print onto the Toggle Switch Boot.



Slide the Barrel through it and into the socket in the CapW print. This will retain the TGuard.



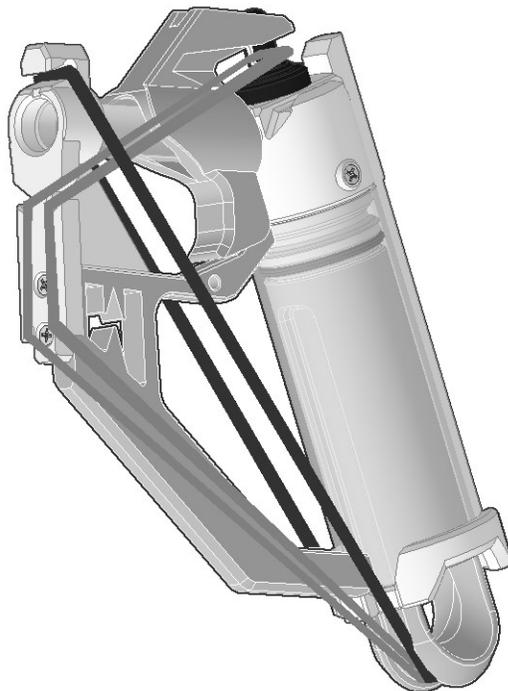
Press the MuzzleW print onto the end of the barrel until it bottoms out on it. Then attach the MuzzleW to the front of TguardW with two 4-40 screws



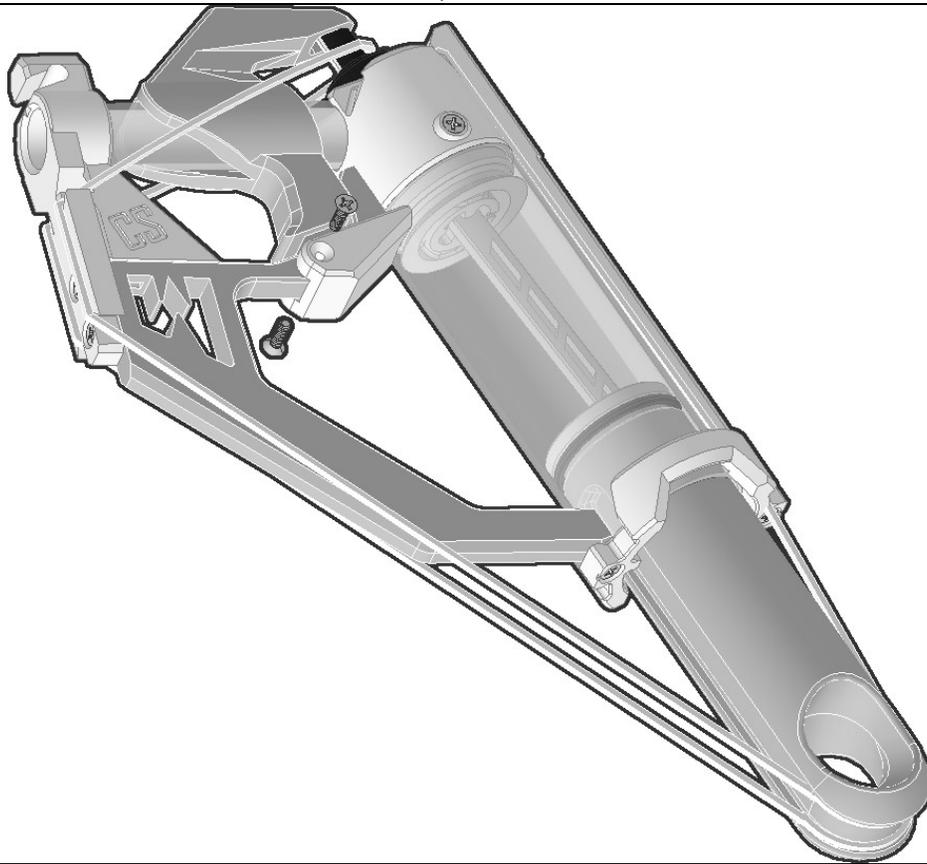
Loop the Main Cord over the top of BackstrapW, then down through the notch in the plunger tail.



Stretch the free end up over the muzzle and through both sets of hooks. Wrap it up and through the notches, then around the backside of the Toggle Switch boot.



For a second cord, repeat the prior steps, but anchor the front end into the loop into the hook at the top of the MuzleW print.



Use two 4-40 screws to secure the “BirdPad” to the trigger guard section below the trigger. Pull the plunger to prime. Pull the trigger to fire. If the catch fails to release, remove the plunger and deburr the edges of the catch and/or lightly sand or file the catch surface of the sear.