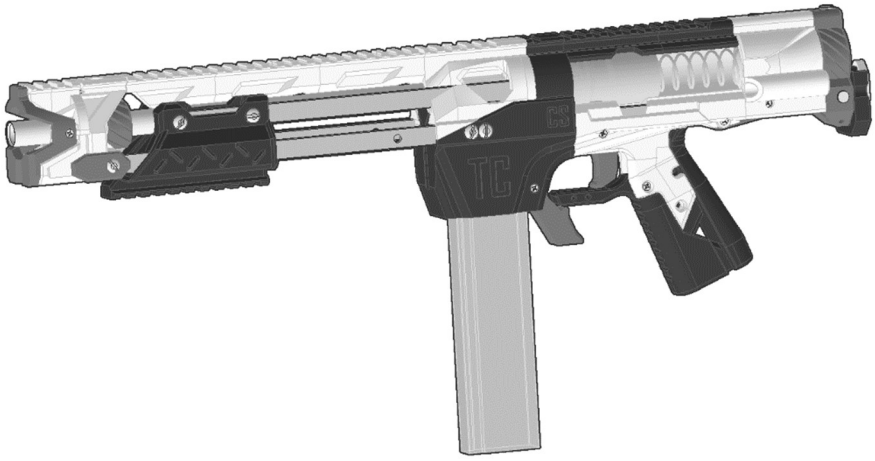
TALON CLAW T4 ASSEMBLY

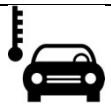


The Talon Claw T4 is a Mag-Fed Pump-Action Homemade Nerf Blaster design released as a Non-Commercial license file set by Captain Slug (http://www.captainslug.com).

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 300 Micron or smaller. It is also advisable to print with 1.5mm to 2mm walls/perimeters.

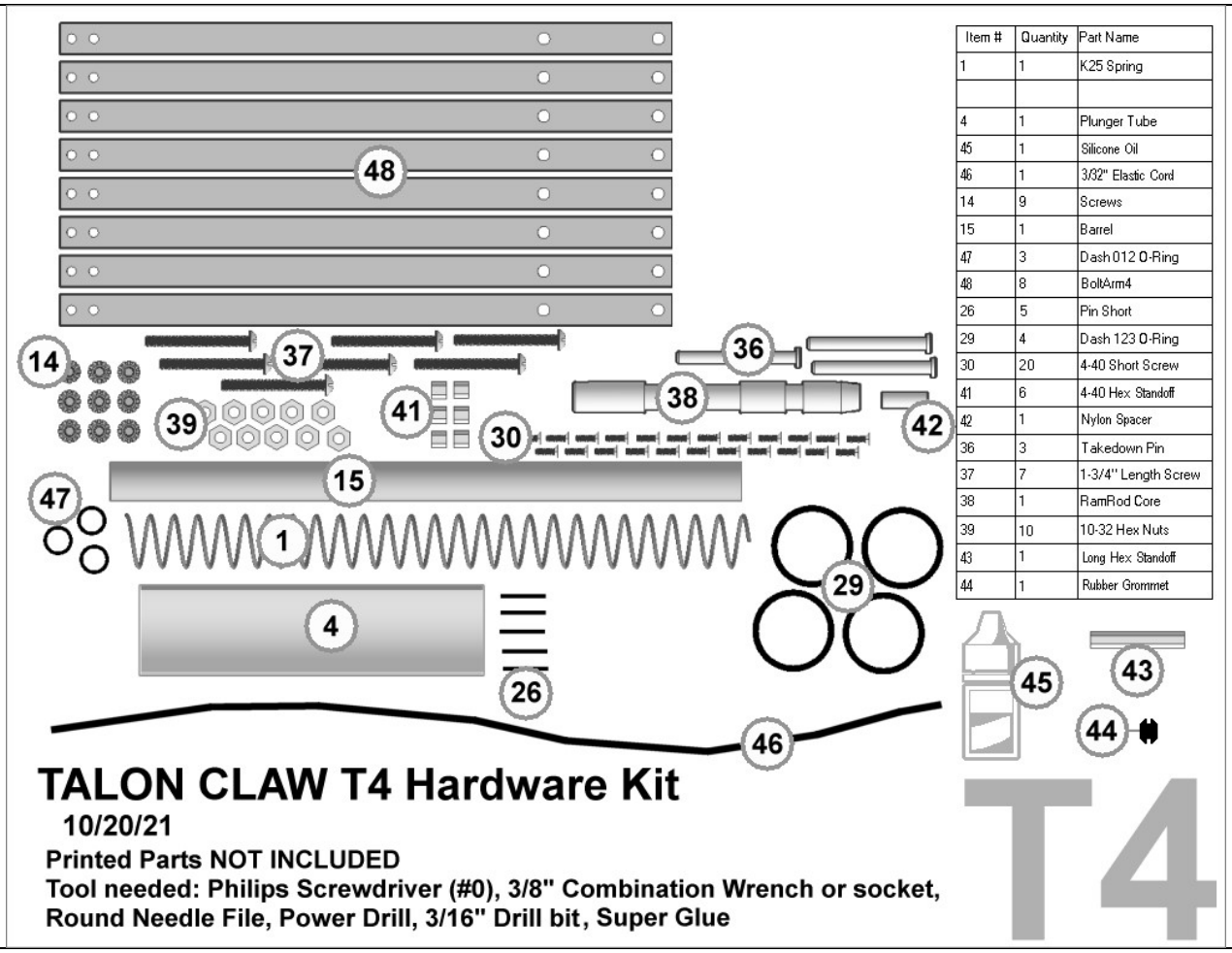
Hardware kits and Full Blasters are available for sale as made-to-order items. I'm producing these myself in what remains of my free time.

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 use this blaster for indoor wars or wars involving very short distances. The muzzle velocities this design can reach are between 150fps and 210fps depending upon the darts used and the spring installed. If indoor use is intended, obtain the lower fps springs that are currently available for this design (K31 and 788) and use them.



Item #	Quantity	Part Name
1	1	K25 Spring
4	1	Plunger Tube
45	1	Silicone Oil
46	1	3/32" Elastic Cord
14	9	Screws
15	1	Barrel
47	3	Dash 012 O-Ring
48	8	BoltArm4
26	5	Pin Short
29	4	Dash 123 O-Ring
30	20	4-40 Short Screw
41	6	4-40 Hex Standoff
42	1	Nylon Spacer
36	3	Takedown Pin
37	7	1-3/4" Length Screw
38	1	RamRod Core
39	10	10-32 Hex Nuts
43	1	Long Hex Standoff
44	1	Rubber Grommet

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.

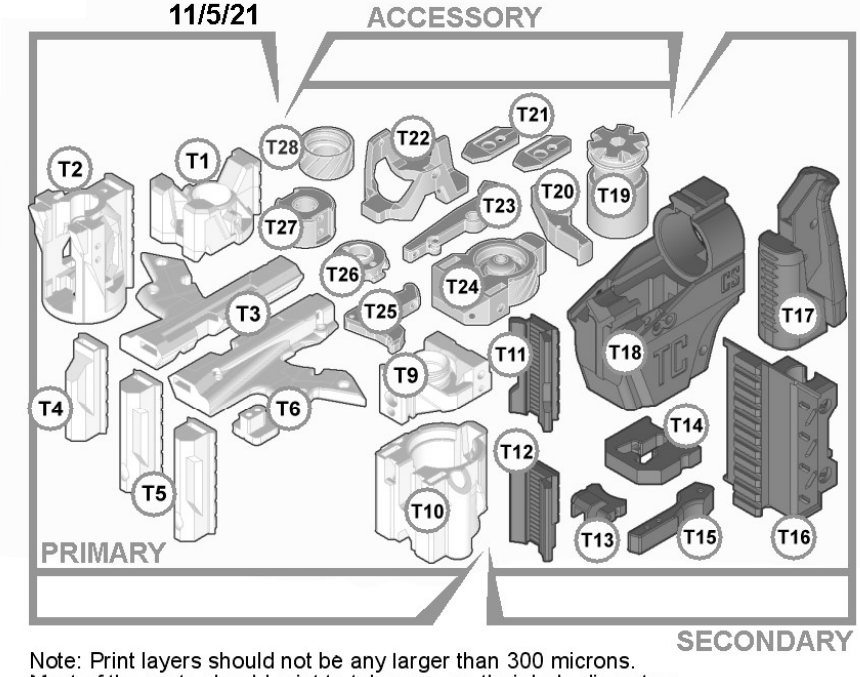
To assemble this blaster you will need a Slotted Screwdriver, Small Philips Screwdriver, 3/8 Combination Wrench, and a Round Needle File. You may also need a 3/16” drill bit and a SLOW power drill. Super glue is optional.

The hardware kit includes silicone oil for lubricating the inside of the plunger tube. 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, especially if the higher load rating springs are installed. Also do not pull the trigger with the foregrip in the rearward position (with the breech open). The breech being slammed closed by the main spring is very likely to damage both the breech itself and the magwell.

Talon Claw T4 Part Set

11/5/21



Item #	Quantity	Part Name
1	1	Muzz2
2	1	Upper
3	1	GripSides
4	1	TCbsf
5	2	TCbs
6	1	Washer
9	1	Muzz
10	1	KiriW
11	1	Rail1
12	1	Rail2
13	1	GripB
14	1	Latch
15	1	Tguard
16	1	Doom
17	1	Gripm
18	1	Lower
19	1	Plunger
20	1	Release
21	2	4Tie
22	1	Trench
23	1	SearTC
24	1	Butt
25	1	Trigger
26	1	RamB
27	1	RamF
28	1	Collet

Note: Print layers should not be any larger than 300 microns.
Most of the parts should print to tolerance on their hole diameters, but results may vary so expect to have to touch up some of them with a round needle file

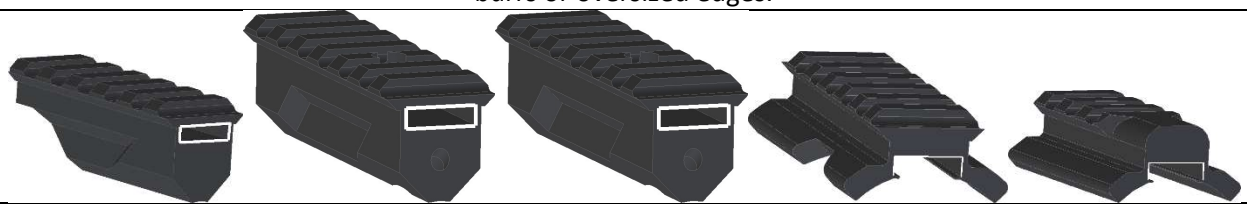
- Captain Slug

Assembly Instructions:
http://www.captainslug.com/nerf/T4Assembly1.pdf

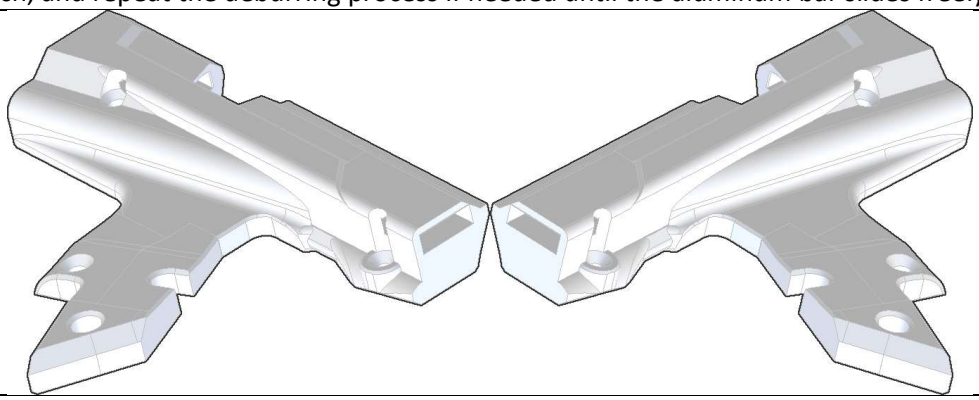
OPTIONS

		Grip Insert	RMAX
VFG	AFG	Pyrangle	AyyFG
	SCAR	Iron Sights	
	Riser	Knuckleduster	

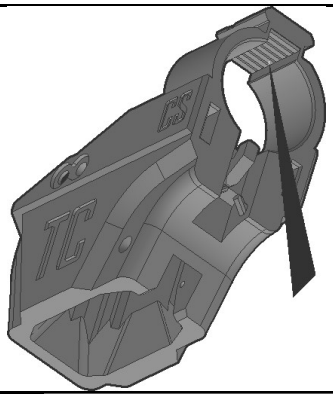
Above is a list of every printed part needed to assemble this blaster. The majority of the through holes should print to the required tolerance, but you will likely have one or two that may require minimal filing. Also make sure to trim off any burrs or oversized edges.



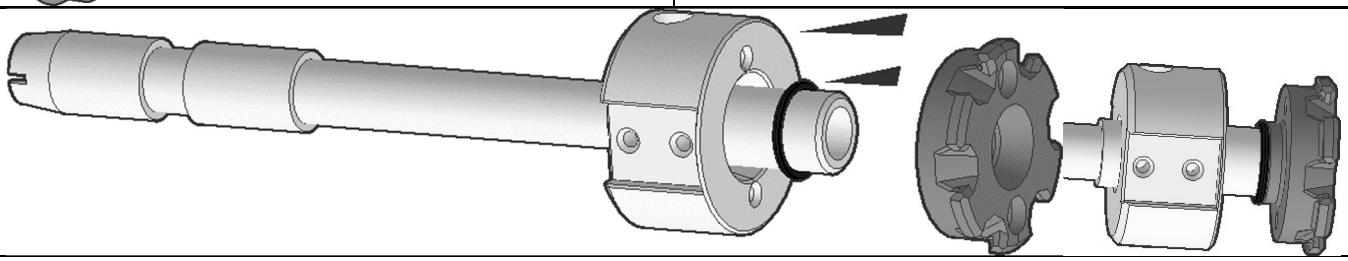
Use a sharp knife to deburr the edges of the rectangular holes in the prints shown above. Test fit the aluminum bars inside each, and repeat the deburring process if needed until the aluminum bar slides freely in each.



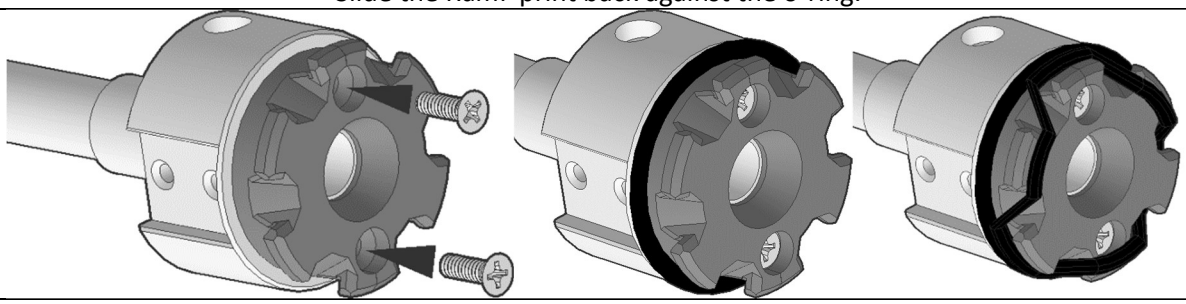
Use a small slotted screwdriver to check the inside of the rectangular slots in the grip side prints for loose or sagging printer filament strands. Test fit an aluminum bar inside each, and repeat the interior cleaning process until the aluminum bar slides freely in each.



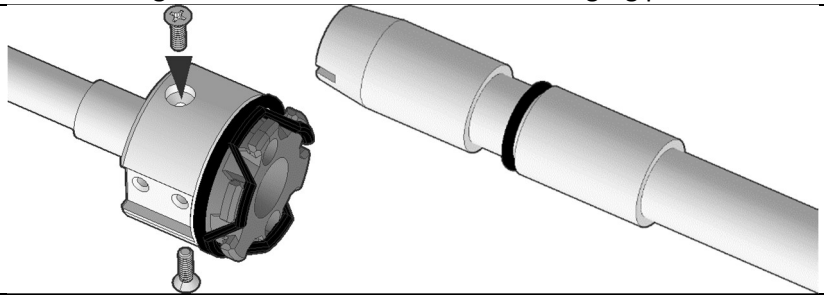
Inspect the indicated area of the Lower print for sagging filament strands. Test fit an aluminum bar inside the open rectangular slot. If obstructed by strands, use a round needle file in the indicated area to sand them down until the aluminum bar slides freely.



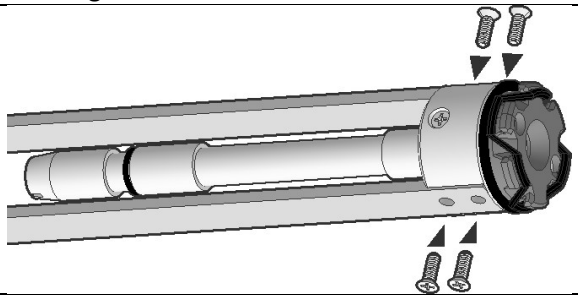
Slide the RamF print onto the back of the Ramrod Core.
Stretch a 012 O-ring onto the back of the Ramrod Core.
Slide the RamB print onto the back of the Ramrod Core until it bottoms out against it.
Push the 012 o-ring back against the lip on the RamB print.
Slide the RamF print back against the o-ring.



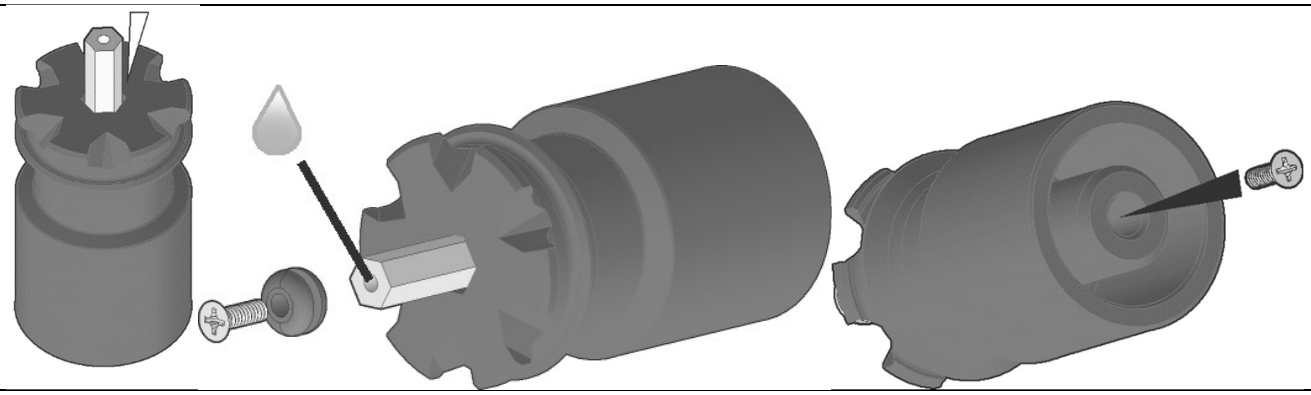
Drive two screws through the RamB print and into the RamF print until the two are clamped together.
Add a 123 O-ring to RamB. Then add a second in a zigzag pattern as shown.



Drive a screw into each side of the RamF print until it clamps against the Ramrod Core.
Add an 012 o-ring to the undercut at the front of the Ramrod Core.



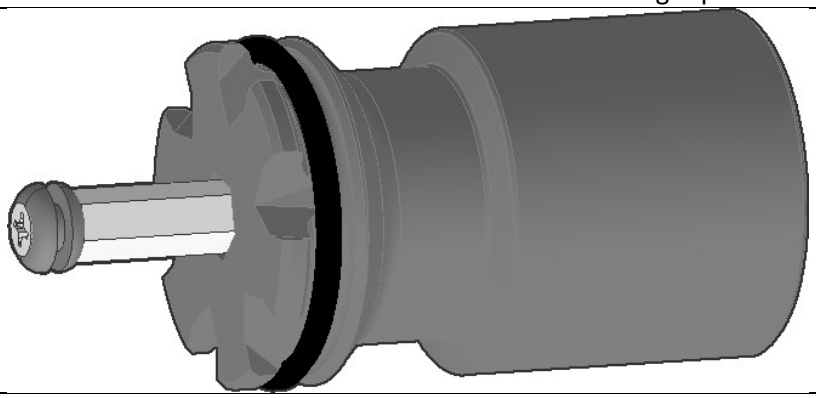
Line a BoltArm4 up to the slot in the side of the RamF print and drive two screws through the holes and into the RamF print until secure. Repeat for the opposite side.



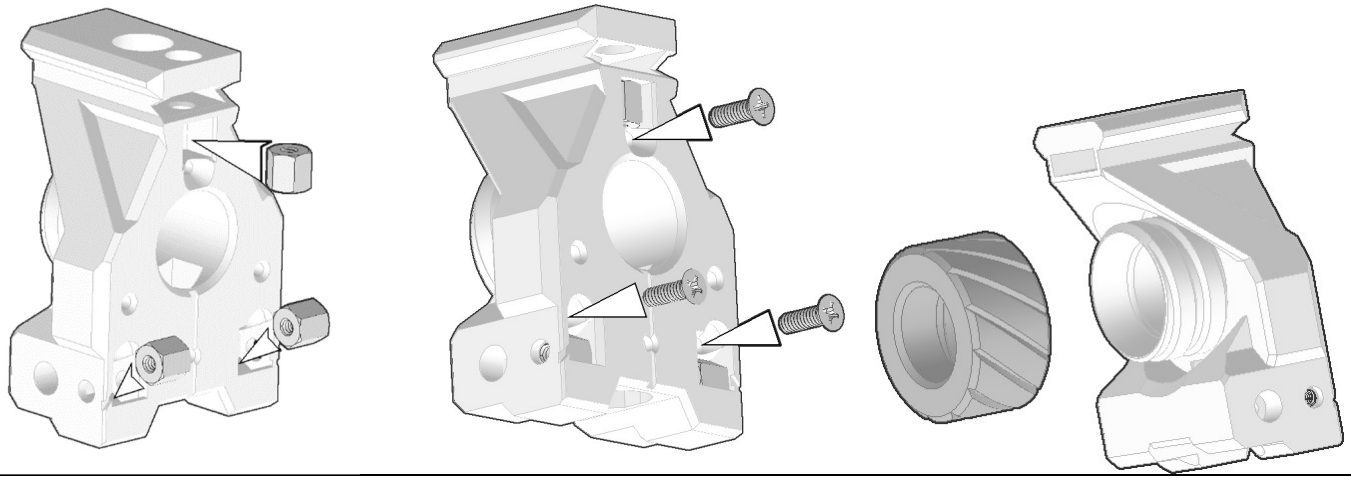
Push the long hex standoff into the front of the Plunger print. You may need to use a hammer to tap it into place until it bottoms out in the socket.

To add the optional air brake feature put a drop of super glue into the thread in the exposed end of the long hex standoff. Feed a 4-40 screw through the rubber grommet, then drive it into the end of the long hex standoff until the head of the screw is flush with the top of the rubber grommet, and the bottom of the rubber grommet is against the standoff.

Use a 4-40 screw to secure the standoff in the Plunger print.



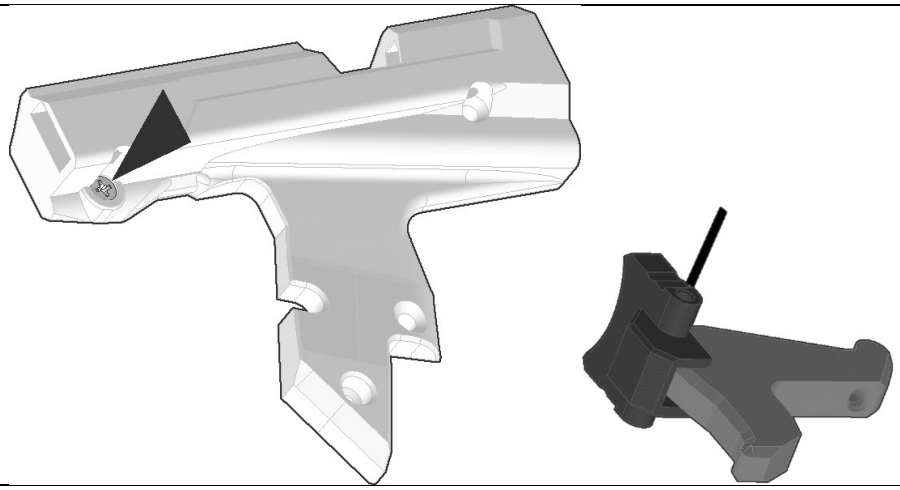
Add a 123 o-ring to the undercut of the Plunger print. Apply and spread some silicone oil onto the rubber grommet and o-ring.



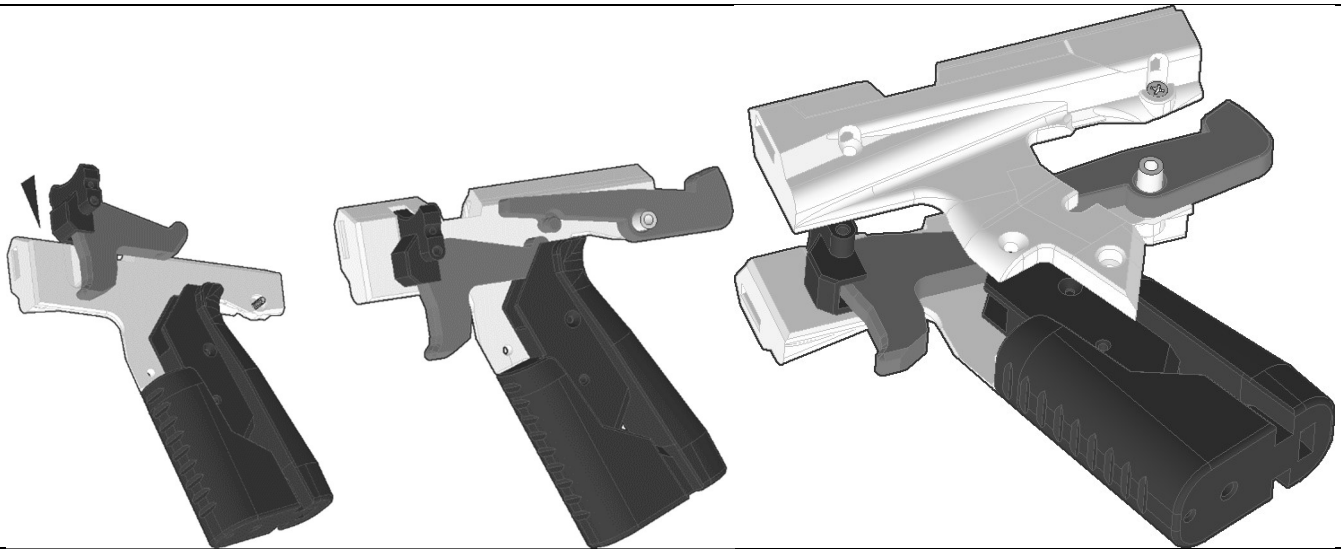
Deburr the edges of the hex sockets in the front of the Muzz print. Then slide a hex standoffs into each.

Drive three 4-40 screws into the holes where indicated to retain the hex standoffs.

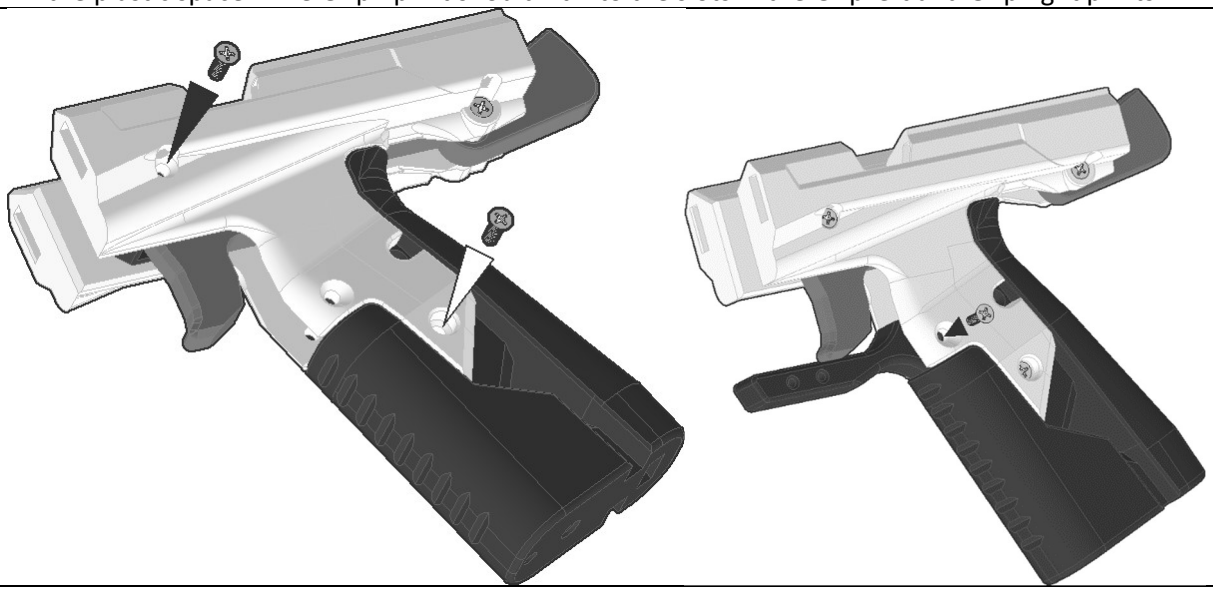
Screw the Collet print onto the back of the Muzz print.



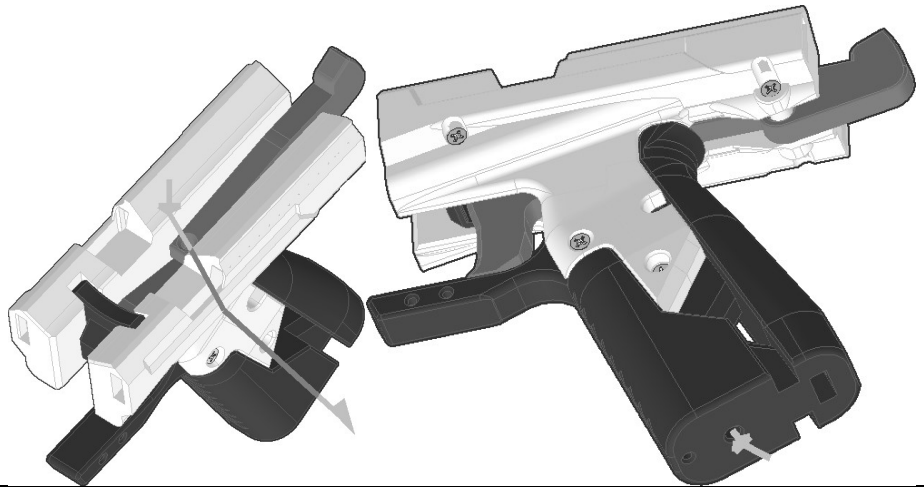
Drive a 4-40 screw into the GripRight print where indicated until it bottoms out. Repeat for the GripLeft print.
Line up the hole in the Trigger print with the through hole in the GripB print. Force a short pin through both until centered.



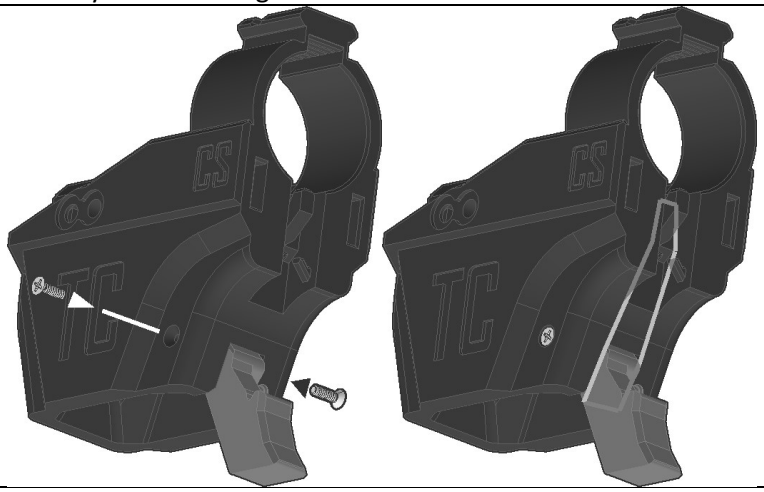
Place a plastic spacer into the center hole of the Sear print. Sandwich the Sear, Griddle, and GripB prints inbetween the GripRight and GripLeft prints, placing the screws you drove into the GripLeft and Grip Right prints into the center hole of the plastic spacer. The GripB print should fit into the slots in the GripLeft and GripRight prints.



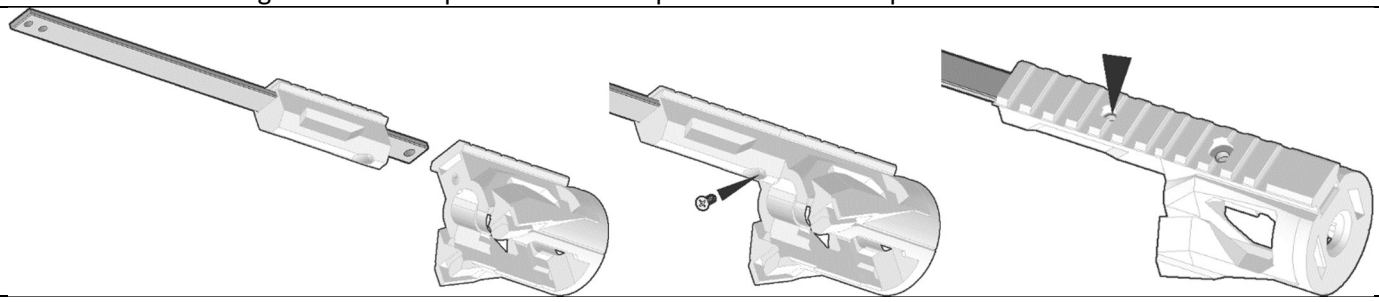
Drive two 4-40 screws into the holes where indicated. Repeat for the opposite side.
Slide the Tguard print into the front of the assembly and secure with two 4-40 screws.



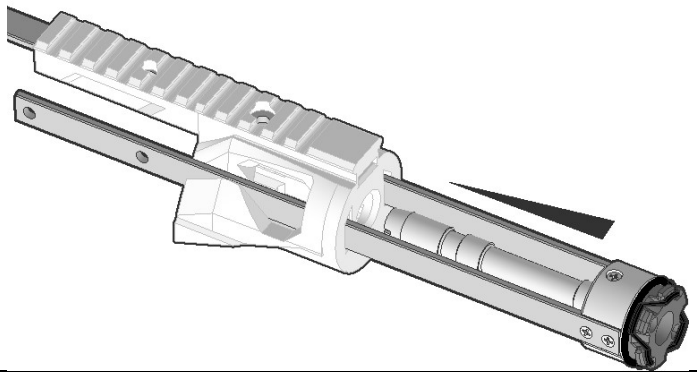
Tie a knot in the free end of the elastic cord and fish the opposite free end through the holes in the sear, trigger, and Griddle prints.
The elastic cord will poke out the bottom of the Griddle print. Pull it taught, then tie a knot as close to the Griddle print as you can manage. Use scissors to trim off the excess.



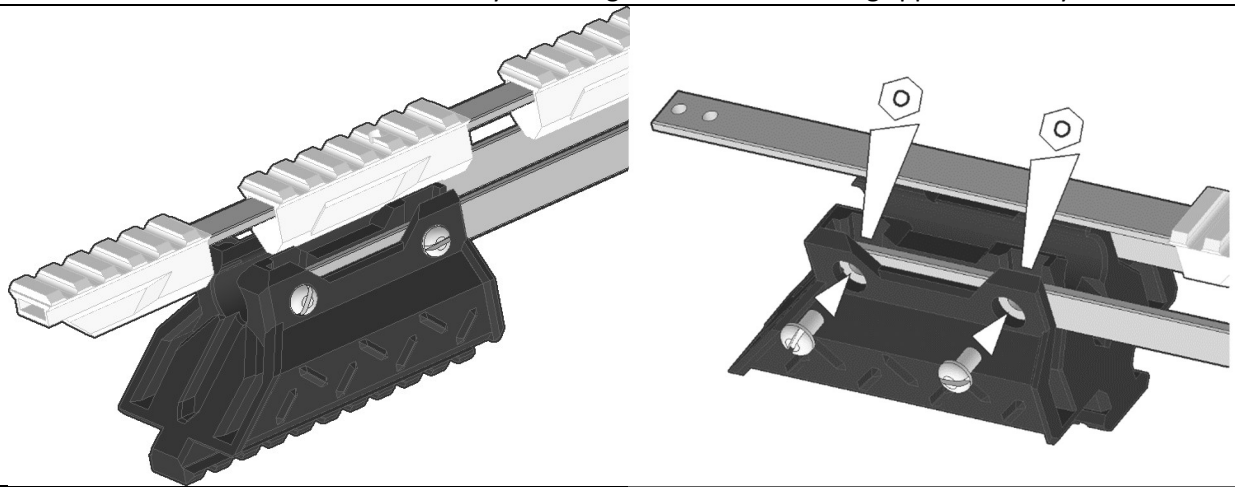
Slide the TRelease print into the MagLower print so that their through holes all line up.
Force a short pin through all three until roughly centered.
Drive a 4-40 screw in from each side to retain the pin.
Loop some elastic around the front of the release print, then up over the larger hook in the back of the MagLower print.
Pull taught then tie a square knot to complete the elastic loop. Then trim off the excess.



Slide a BS print over a Bolt arm piece as shown, then slide the Bolt arm into the slot in the front of the MagUpper print as shown until it bottoms out. Drive a 4-40 screw in through the angled hole in the underside of the BS print to secure it to the MagUpper print.
Drive a 4-40 screw into the top of the BS print where indicated to secure it to the Bolt Arm.

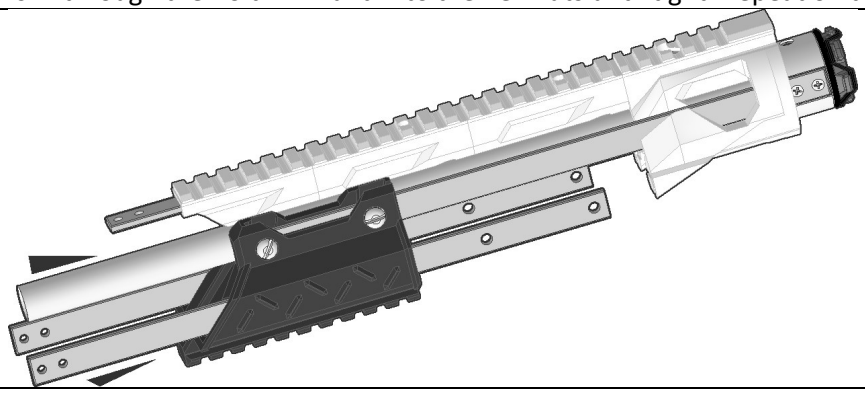


Slide the Ramrod Assembly in through the back of the MagUpper assembly.



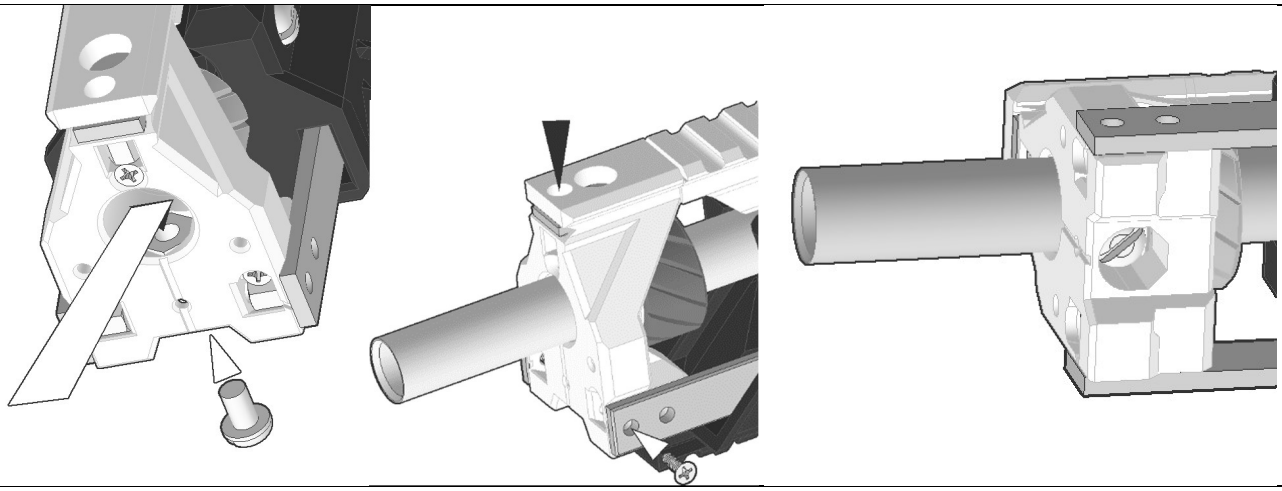
Slide the Doom4 Print onto the pair of Bolt Arms from the Ramrod assembly. Slide the next BS print and then the BSF print onto the upper Bolt Arm.

Slide a hex nut into the angled slots as shown in the DOOM print. Line up the hex nuts and the holes in the BoltArm4. Drive 10-32 screws in through the BoltArm4 and into the hex nuts until tight. Repeat on the opposite side.

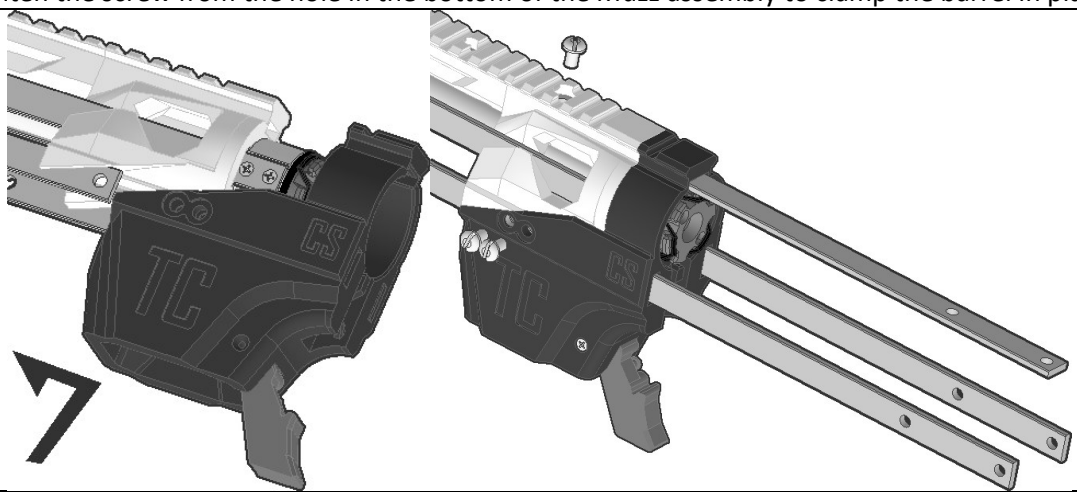


Slide the barrel in through the middle of the DOOM print and then into the socket in the front of the MagUpper print until it bottoms out.

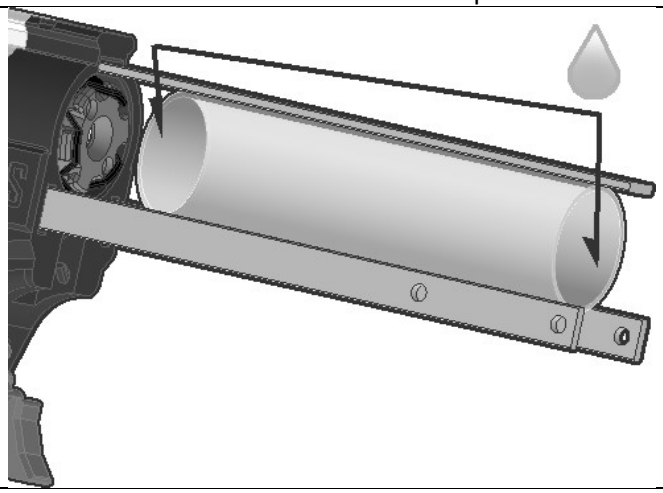
Slide the lower Bolt Arm pair through the DOOM print.



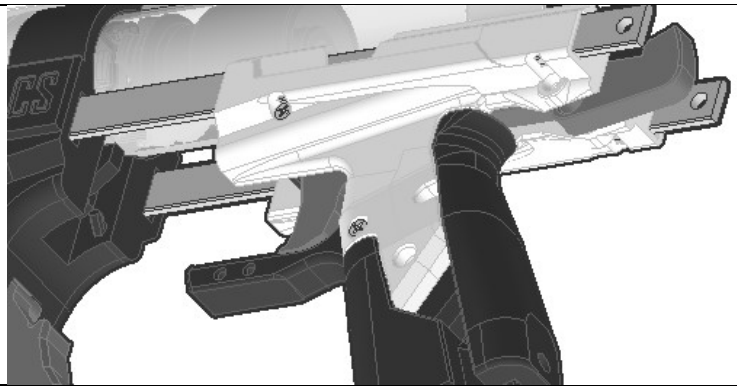
Put a hex nut into the slot inside the Muzz print, then drive a 10-32 screw into it from the hole in the underside of the print.
Slide the Muzz assembly onto the upper BoltArm4's end and between the BoltArm4 pair. Secure it to the Bolt Arms by driving 4-40 screws in where indicated.
Tighten the screw from the hole in the bottom of the Muzz assembly to clamp the barrel in place.



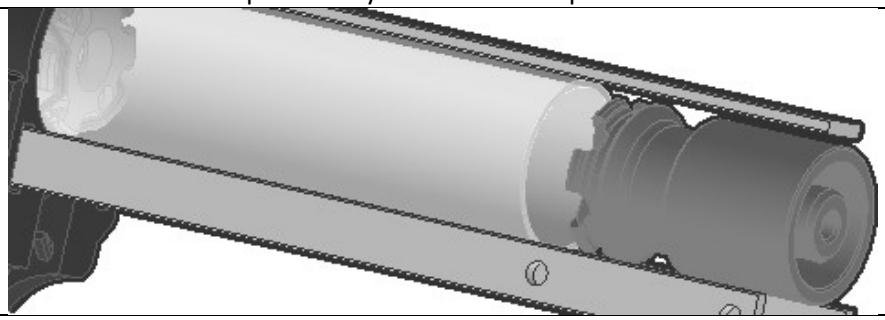
Slide the MagLower assembly onto the back of the MagUpper assembly.
Slide the last three BoltArm4s into the slots in the back of the MagLower print until their holes line up with the holes in the sides and top of the assembly.
Drive two 10-32 screws into the side holes. Repeat for the opposite side.
Drive a 10-32 screw into the hole in the top of the assembly.



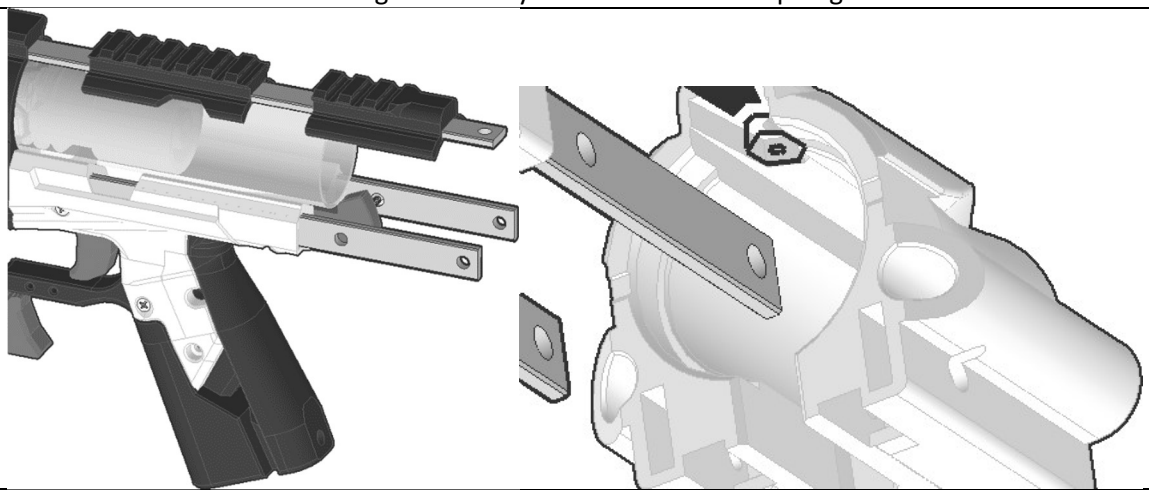
Apply some silicone oil to the inside of the plunger tube near both ends.
Slide it into the back of the Magwell assembly and onto the back of the Ramrod assembly.



Slide the Grip assembly onto the lower pair of BoltArm4s.

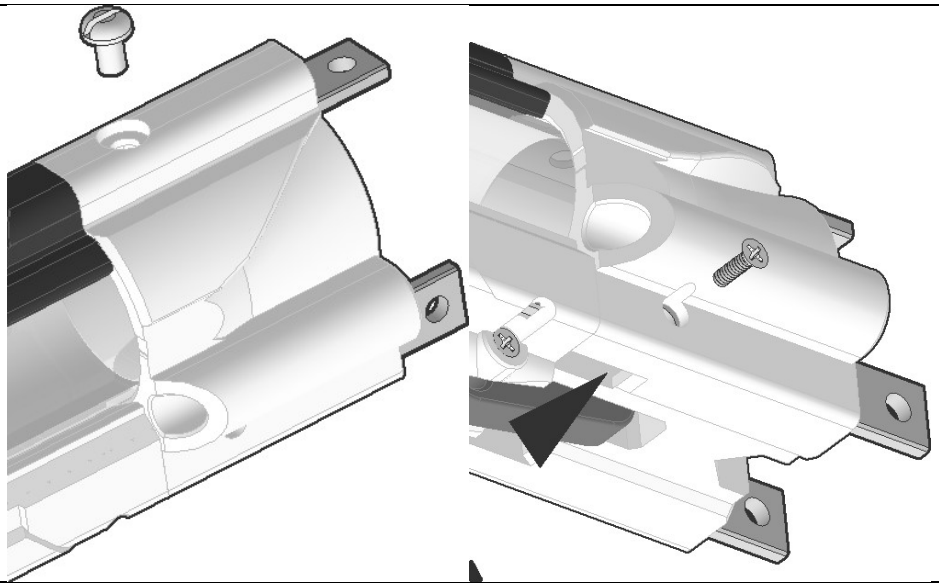


Slide the Plunger assembly into the back of the plunger tube.

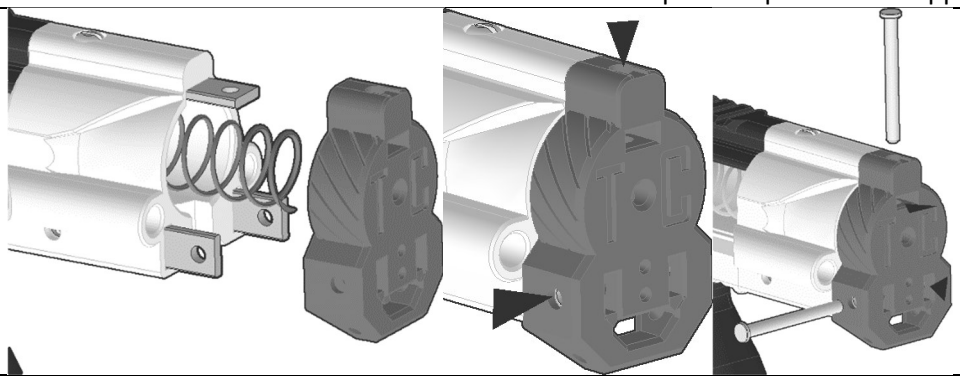


Slide the Rail1 and Rail2 prints onto the upper BoltArm4. These prints may need to be deburred at one end in order to fit.

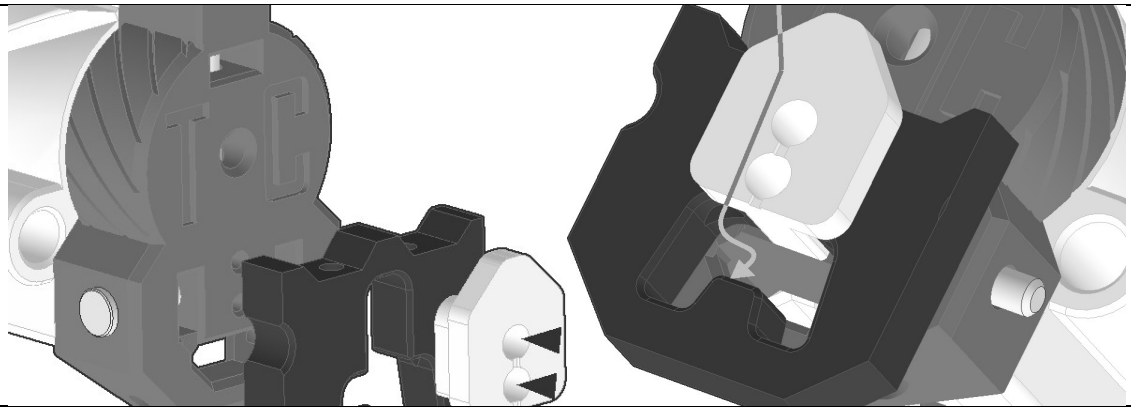
Add a hex nut to the inside socket of the Kiri print where shown, then slide it onto the bolt arm set.



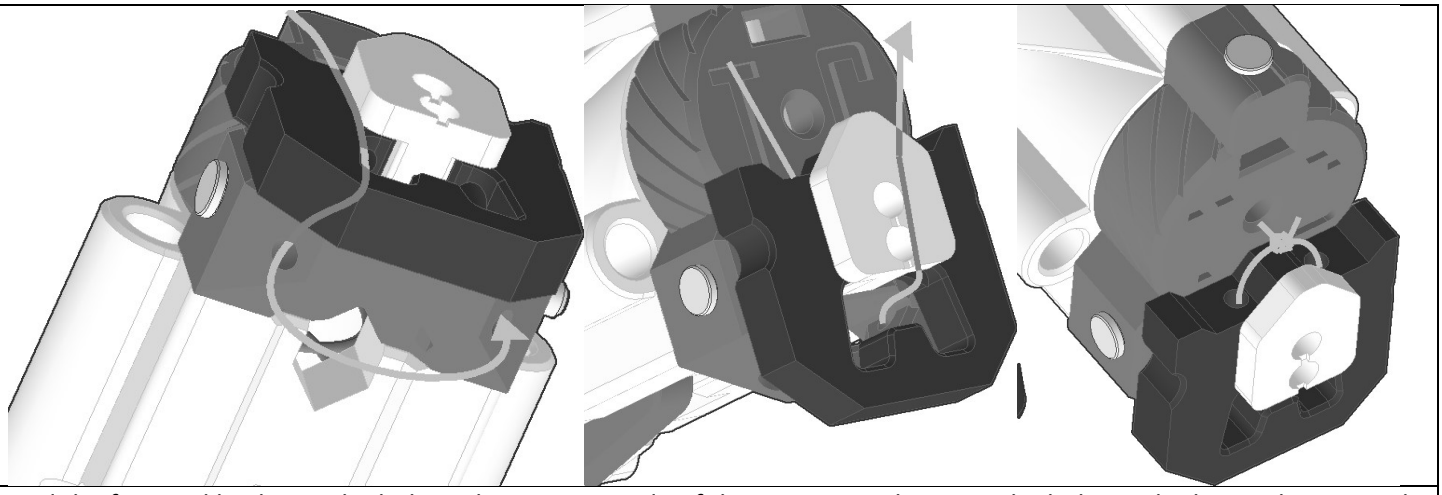
Line up the hole in the hex nut with the hole in the upper Bolt Arm, then drive a 10-32 screw in through the print and bolt arm until it drives into the hex nuts and clamps in place.
You can optionally add a hex standoff to the slot in the underside of the Kiri print until it lines up with the hole in the side, the drive a 4-40 screw into the standoff from the side of the print. Repeat for the opposite side.



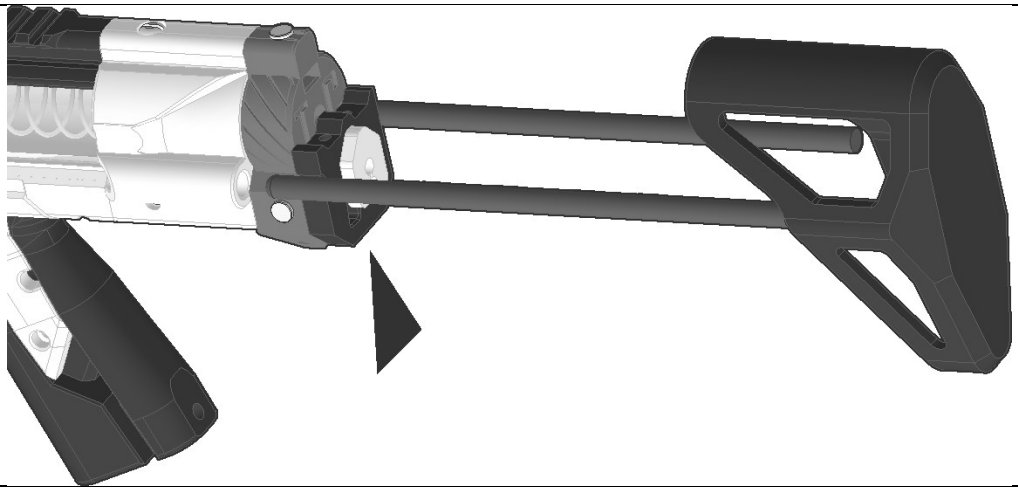
Add the main spring of your choice, then slide the Butt print onto the Bolt Arm set.
Line up the holes in all of them and then touch them up with a 3/16” drill bit.
You have the option of securing the Butt print with a two takedown pins, or two long screws driven through hex nuts added to the slots in the back.



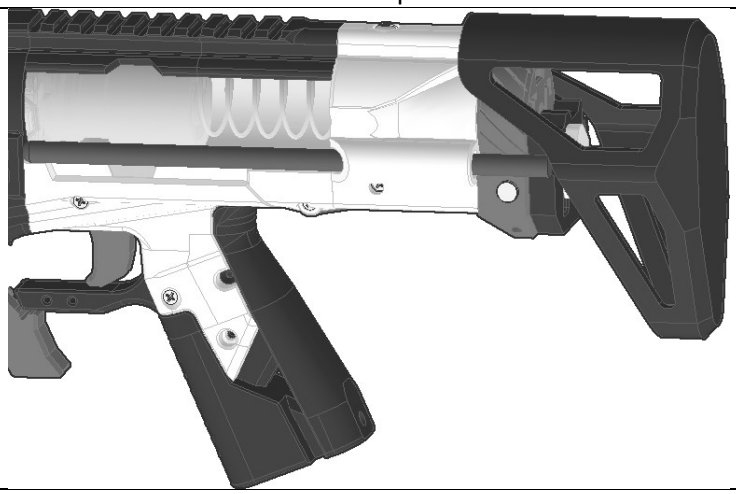
To add the optional collapsible stock slide the washer print into the slot in the Latch. Then line up the holes in the Washer print with the holes in the back of the Butt print. Drive a 4-40 screw in through each hole.
Fish some elastic cord in through the hole in the top of the Latch print, out the middle of it, then fish the free end into the hole inside the hoop of the Butt print.



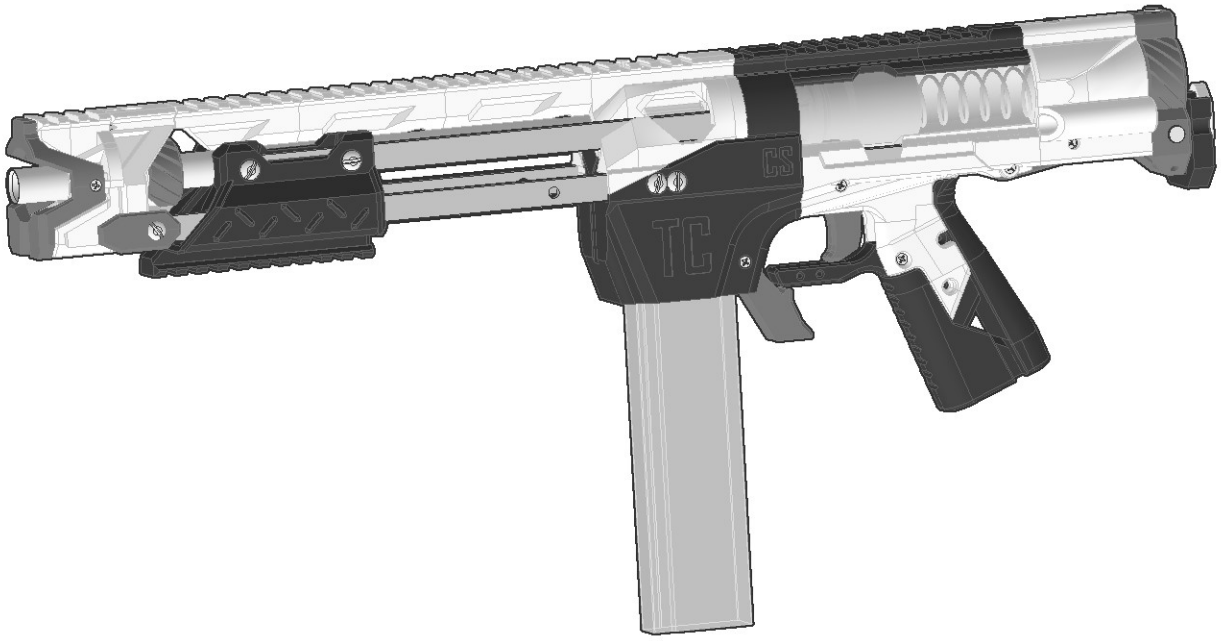
Feed the free end back into the hole in the opposite side of the Butt print, then into the hole inside the Latch print and out the top of it.
Take both free ends of the elastic cord and pull them taught. Then tie a square knot as shown.
Use scissors to cut off the excess.



Push up on the Latch print from underneath, then slide the optional stock (custom or Worker PDW stock) into the holes in the Kiri print.



The stock can be fully collapsed, then pulled out until it locks. To adjust it (or remove it) just push up on the latch print again and slide it to a different position.



Slide the foregrip back to compress the mainspring until the plunger gets engaged on the Sear. Insert a Magazine loaded with darts. Slide the foregrip all the way forwards to chamber the dart in the top of the Magazine. You can load up to three darts into the barrel at a time if desired by cycling the Foregrip back and forth multiple times prior to pulling the Trigger. ONLY PULL THE TRIGGER WHEN THE BREECH IS CLOSED AND THE FOREGRIP IS IN THE FORWARD POSITION. If you do not have a dart loaded in the barrel and need to pull the Trigger to de-prime the blaster, plug the end of the barrel with your finger before doing so.

Replacing the Main Spring does not require full disassembly of the Blaster. You just need to remove the takedown pins or long screw that hold the Butt print in place.

The Blaster and Hardware Kits are shipped with K25 springs. The K25 is rated slightly lower than the K26. The alternate spring options are the K31 and 788 which both have to be purchased separately or opted for as a replacement. Either are recommended for indoor use, or for younger players.