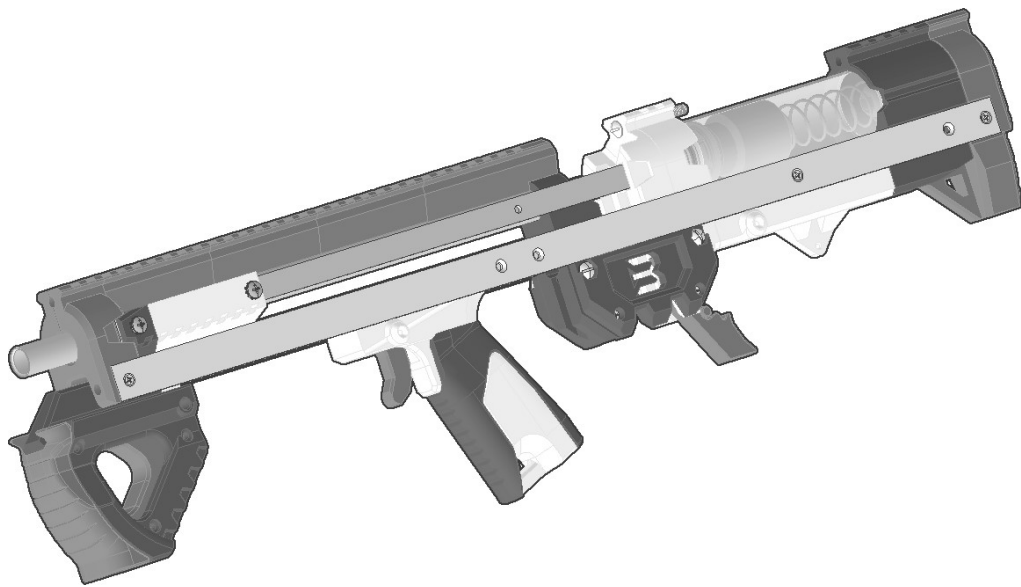


# TALON CLAW Bullpup ASSEMBLY

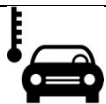


The Talon Claw U is a Mag-Fed Pump-Action Homemade Nerf Blaster design for half-length darts ONLY released as a CC-NC license file set by Captain Slug (<http://www.captainslug.com>).

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. I would recommend a minimum of 1.5mm walls/perimeters for every part.

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

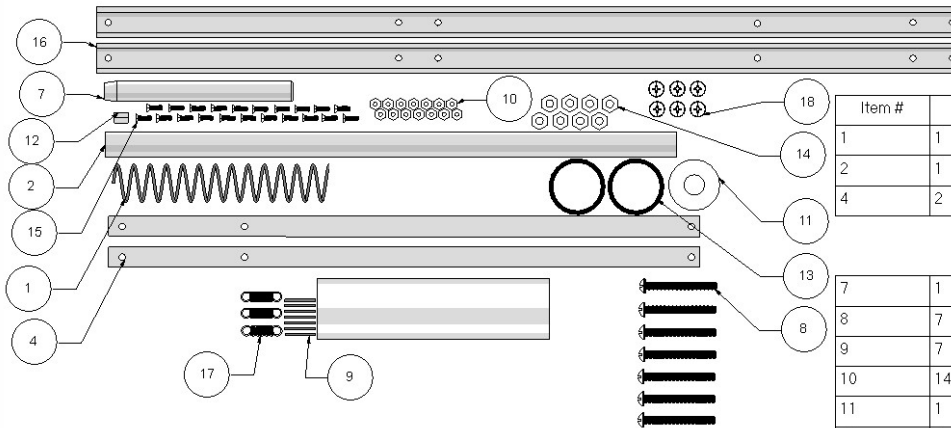
<https://www.etsy.com/shop/CaptainSlug>



**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 #	Qty	Part Name
1	1	Main Spring
2	1	Barrel
4	2	BoltArm

7	1	Ram2core
8	7	10-32 Screws (1-3/4")
9	7	Short Pins
10	14	4-40 Hex Standoff
11	1	ShockPad
12	1	4-40 Standoff (11/32")
13	2	Dash 123 O-Rings
14	8	10-32 Hex Nuts
15	21	4-40 Screws (3/8" flat)
16	2	UChannel
17	3	Extension Springs
18	6	10-32 Screws (5/16")

## TC Bullpup Hardware Kit 01/03/20

Printed Parts NOT included.

Tools needed: Philips Screwdriver, 3/8 Combination Wrench, Round Needle File

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.

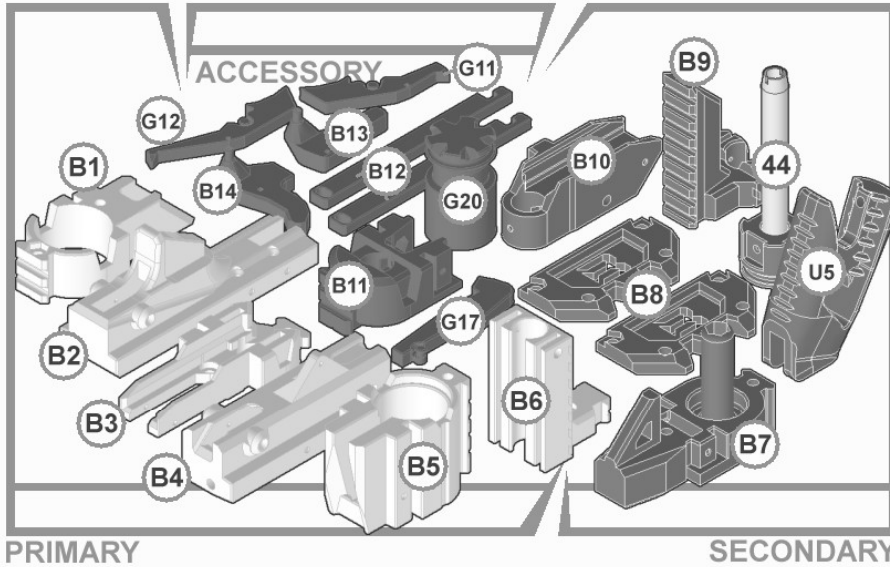
To assemble this blaster you will need a Slotted Screwdriver, Small Philips Screwdriver, 3/8 Combination Wrench, and a Round Needle File. You may also need a 3/8" socket and a square drive extension to use with it.

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, 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.

# TC Bullpup Printed Part Set

01/03/20



Item #	Quantity	Part Name
B1	1	PCap
B2	1	Gripf
B3	1	Magback
B4	1	Mframe
B5	1	Coupler
B6	1	DoomS2
B7	1	Buttplate
U5	1	ARGrip5t
B8	2	Nameplate
44	1	Ramrod
B9	1	DoomS1
B10	1	Magfront
G17	1	Sear
B11	1	Muzzle
G20	1	V4 Piston
B12	2	Triglink
B13	1	TriggerD
B14	1	TriggerMain
G11	1	Release
G12	1	Krelease

## OPTIONS

	Railgasm	
AFG	Pyrangle	VFG
	Upgraded Ram	
	SCAR	VF1
	Stock	
	Iron Sights	

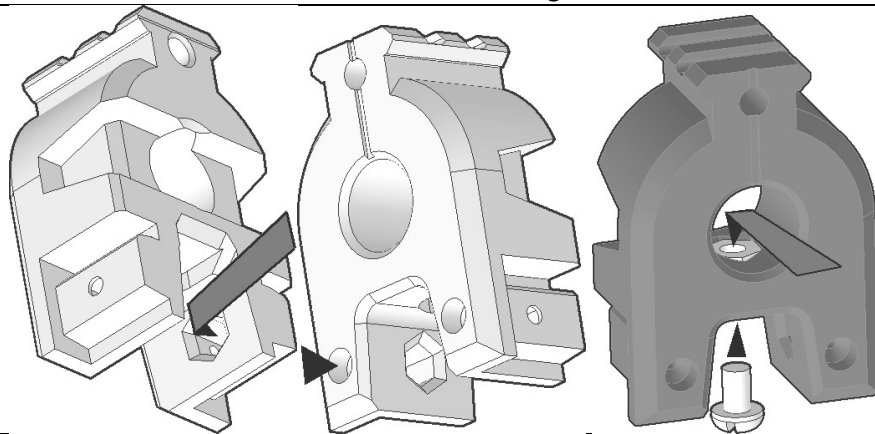
Note: Print layers should not be any larger than 300 microns.  
 Parts were designed for PLA filament, but can be printed using ABS without issue. No support material is needed.  
 Most of the parts should print to tolerance on their hole diameters, but results may vary so expect to have to touch up some of them with a round needle file

- Captain Slug

Assembly Instructions:

<http://www.captainslug.com/nerf/TCBAsembly1.pdf>

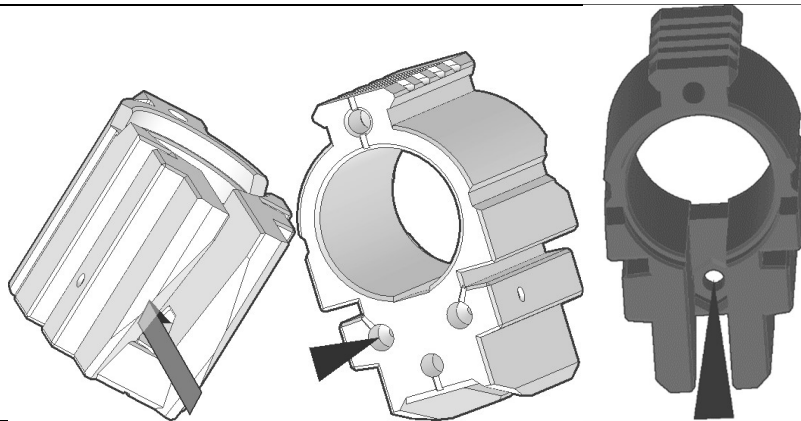
Above is a list of every printed part needed to assemble this blaster. The majority of the through holes should print to the required tolerance, but you will likely have one or two that may require minimal filing. Also make sure to trim off any burrs or oversized edges.



Use a slotted screddriver to push a 4-40 standoff into the socket from the middle of the Muzzle print.  
 Drive a 4-40 screw into the hole perpendicular to the standoff until it bottoms out against the standoff.  
 Repeat for the opposite side.

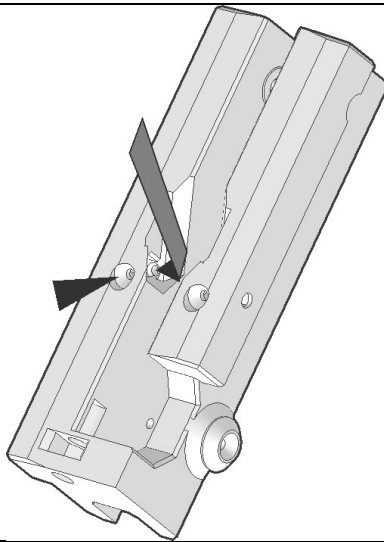
Insert a hex nut into the socket inside the barrel hole of the print.

Drive a short 10-32 screw into the hex nut from underneath until the end of the screw is flush with the opposite side of the hex nut.

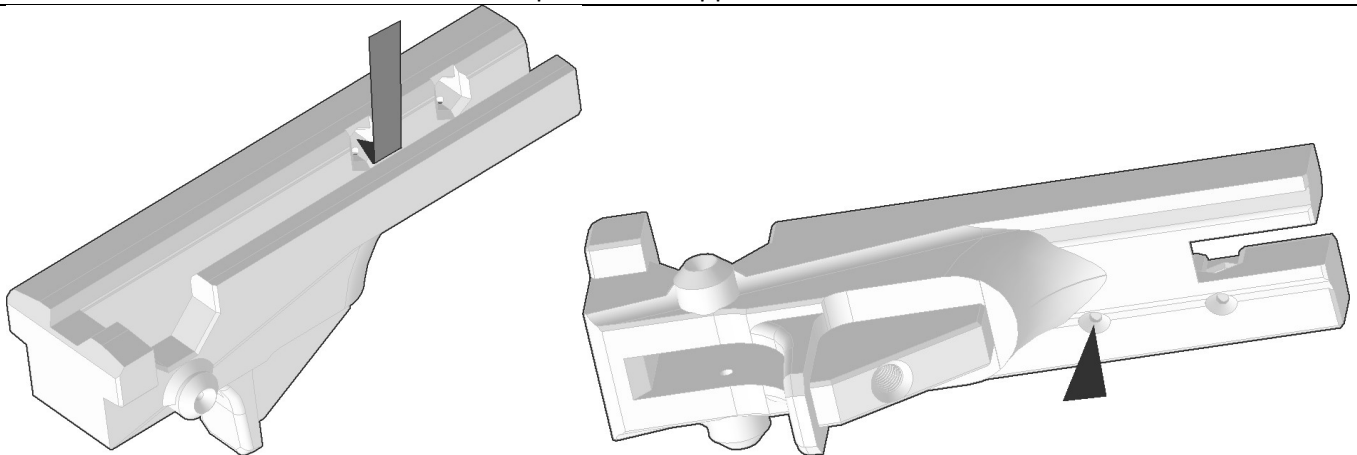


Use a slotted screddriver or allen key to push a 4-40 standoff into the socket from the middle of the Coupler print.  
 Drive a 4-40 screw into the hole perpendicular to the standoff until it retains the standoff.  
 Repeat for the opposite side.

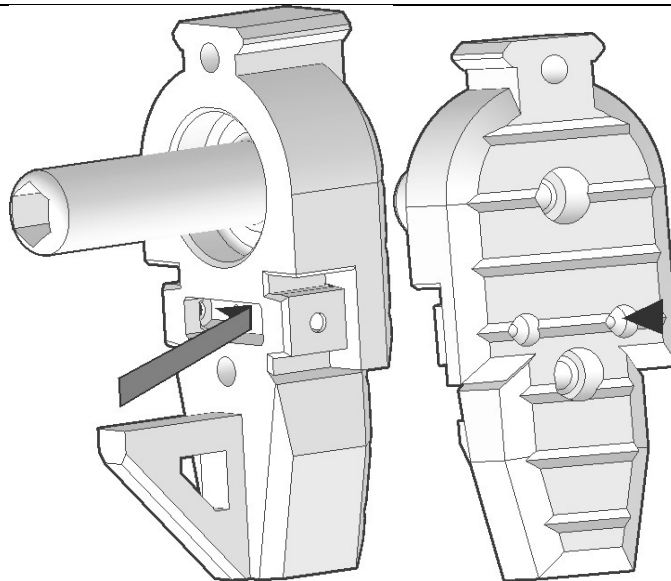
Add a hex nut to the end of a long 10-32 screw. Then use a hammer to drive the hex nut into the socket in the middle of the Coupler print. Unscrew the long 10-32 screw to remove it from the hex nut, leaving the hex nut in the socket.



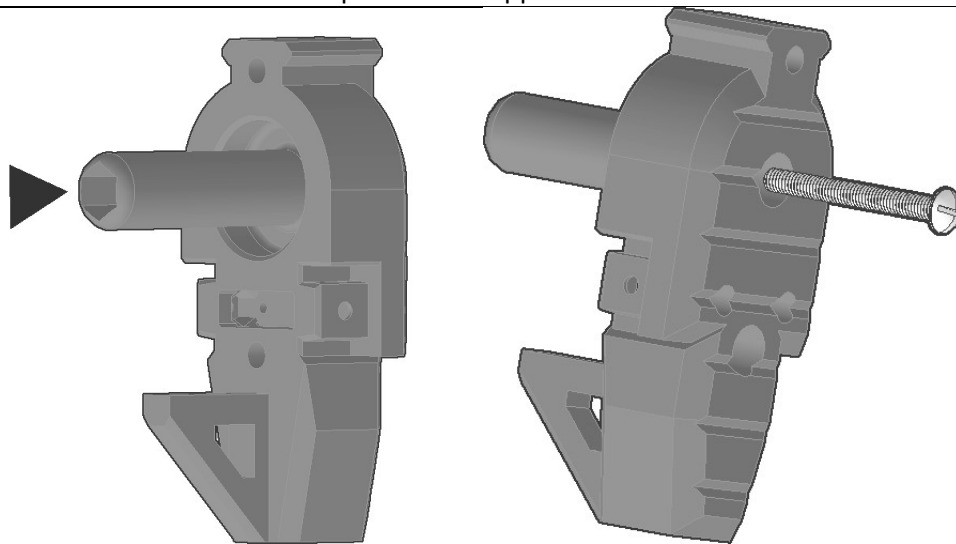
Use a slotted screddriver or allen key to push a 4-40 standoff into the socket from the middle of the Mframe print.  
 Drive a 4-40 screw into the hole perpendicular to the standoff until it retains the standoff.  
 Repeat for the opposite side.



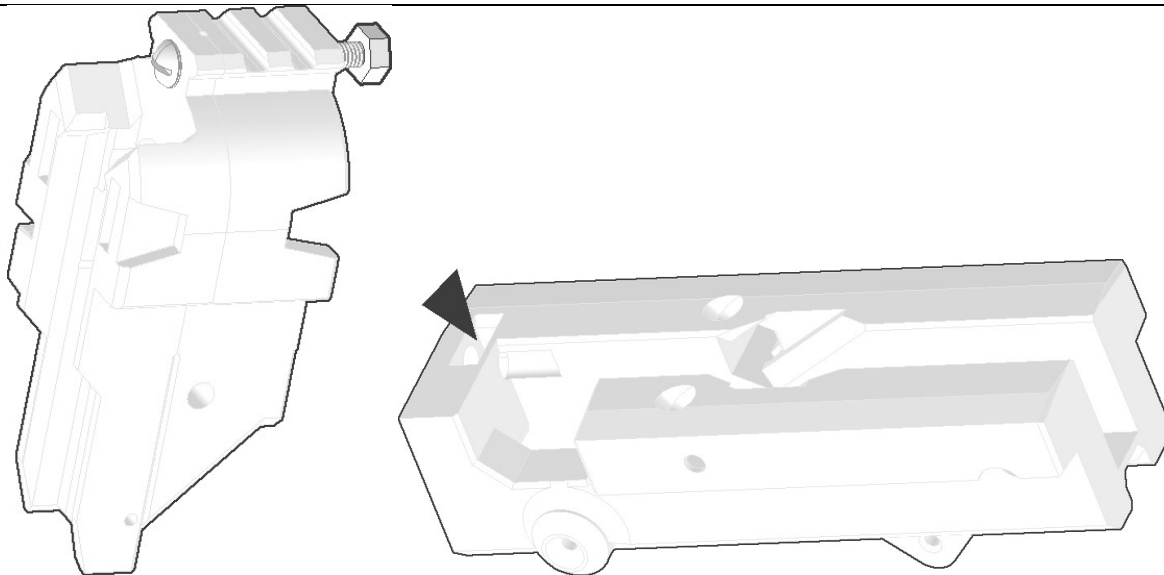
Use a slotted screddriver or allen key to push a 4-40 standoff into the socket from the middle of the GripF print.  
 Drive a 4-40 screw into the hole perpendicular to the standoff until it retains the standoff.  
 Repeat for the remaining socket.



Use a slotted scredriver or allen key to push a 4-40 standoff into the socket from the middle of the Buttplate print.  
Drive a 4-40 screw into the hole perpendicular to the standoff until it retains the standoff.  
Repeat for the opposite side.

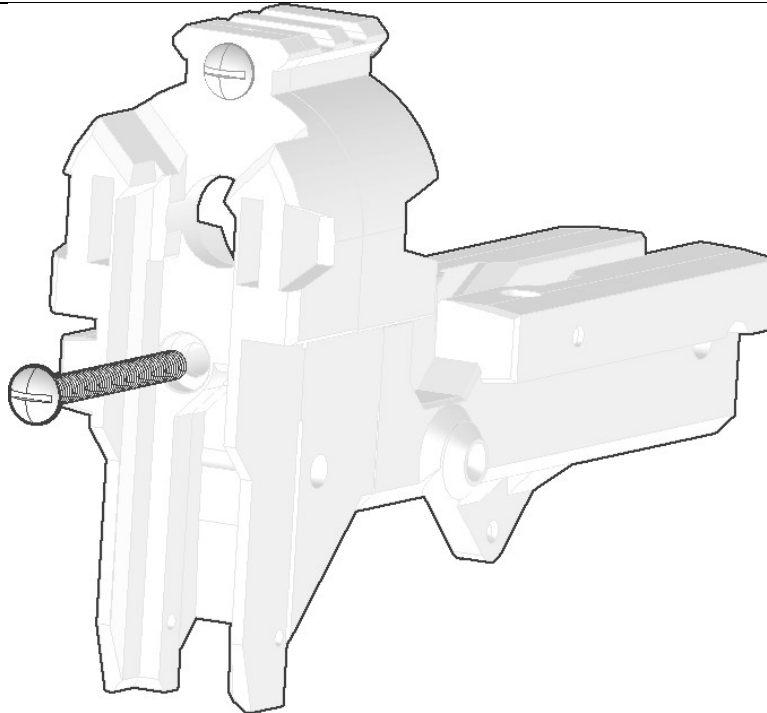


Screw a hex nut onto the end of a long 10-32 screw, and use it to push the hex nut into the socket in the front of the Buttplate print. Unscrew the long 10-32 screw from the hex nut to leave it there.  
Drive the long 10-32 screw in through the hole in the back of the print until it engages the hex nut.  
Continue driving it into the hex nut until tightened.

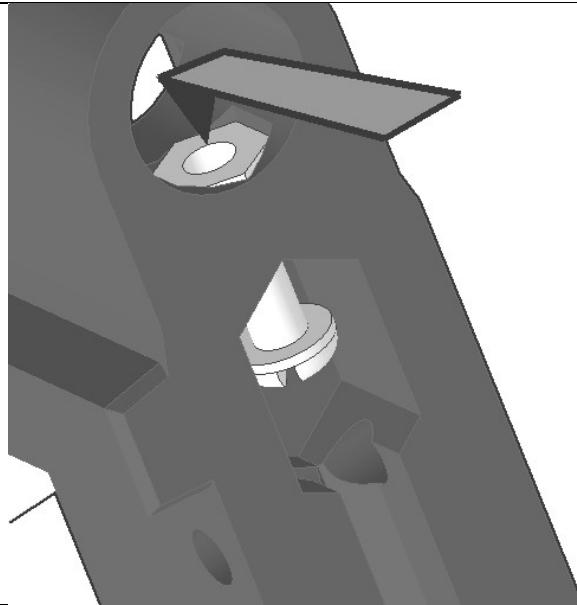


Feed a long 10-32 screw through the upper hole in Magback and Pcap prints. Add a hex nut to the end of the screw, then tighten until the hex nut is drawn into the socket. Drive the screw until the hex nut bottoms out and the two parts are held tightly together.

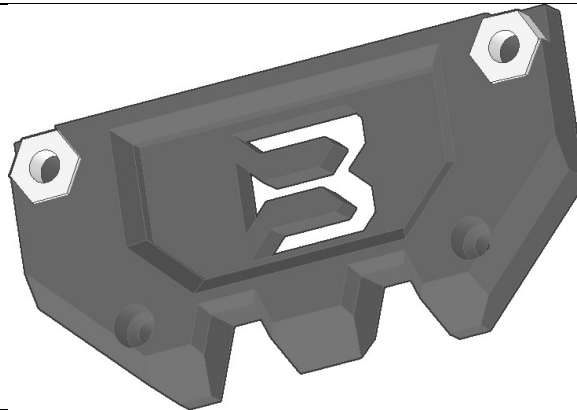
Add a hex nut to the slot in the Mframe print.



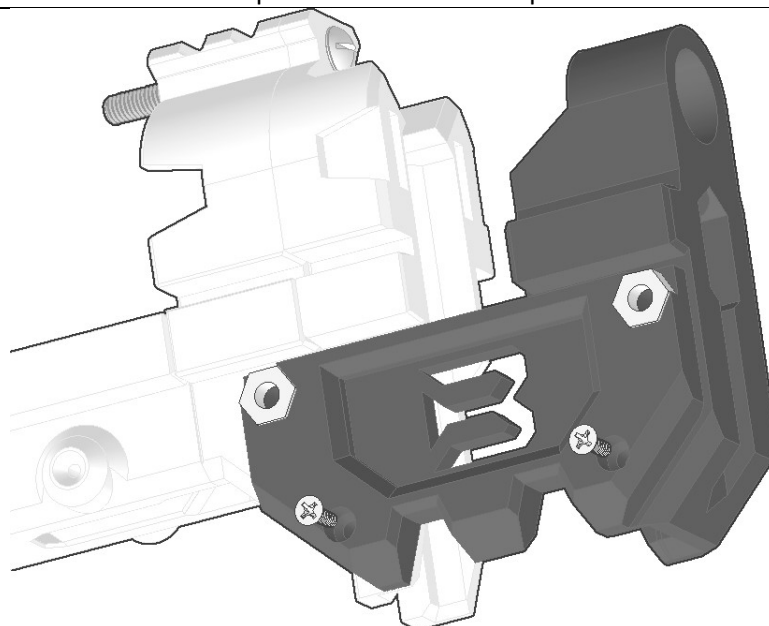
Drive a long 10-32 screw through all three parts and then into the hex nut.  
Continue driving the screw until tightened.



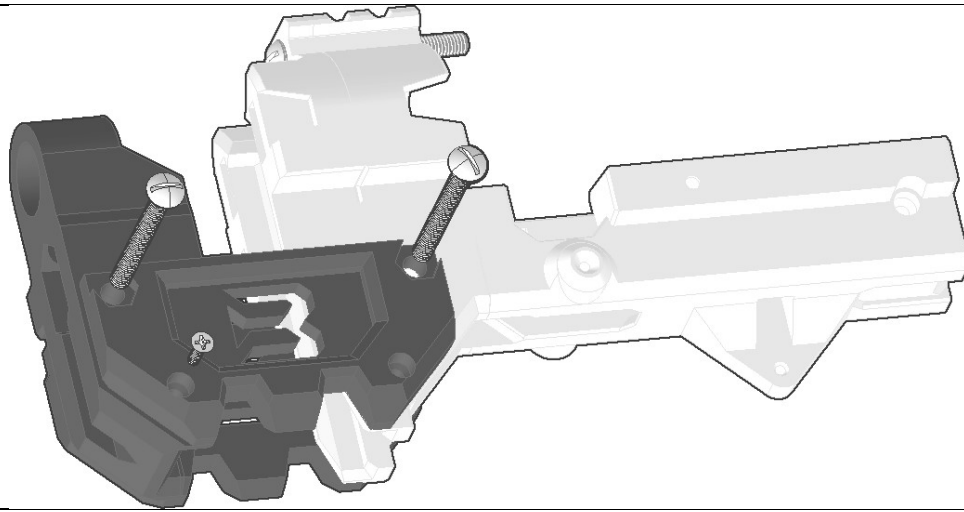
Add a hex nut to the socket inside the barrel hole of the Magfront print.  
Drive a short 10-32 screw into it from underneath until the end of the screw is flush with the opposite side of the hex nut.



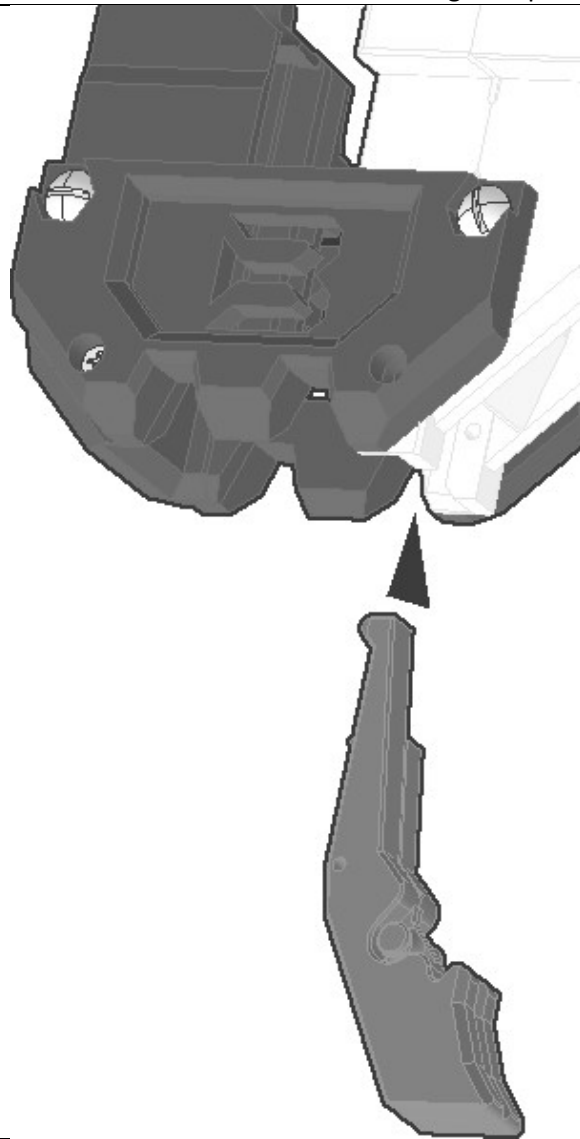
Use a hammer to tap a hex nut into each socket in one of the nameplate prints. Making sure to line the hole in the hex nut up with the holes in the print.



Use 4-40 screws to secure the nameplate print to both the magfront print and the prior magback assembly.

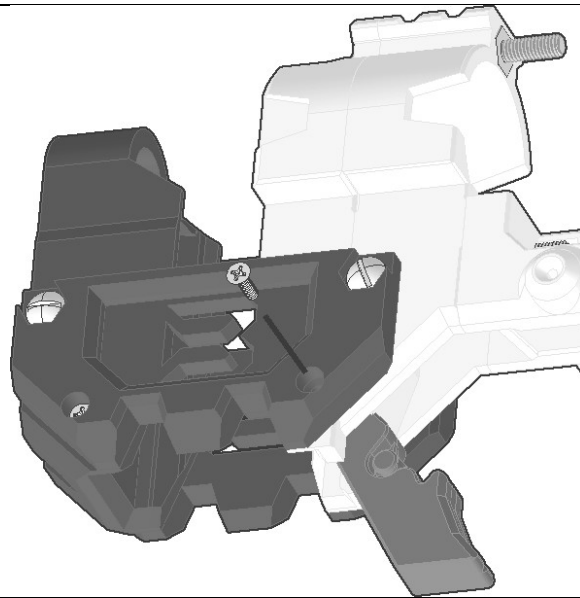


Line up the remaining nameplate print and drive two long 10-32 screws through the assembly and into the hex nuts retained on the opposite side.  
Drive another 4-40 screw into the magfront print.

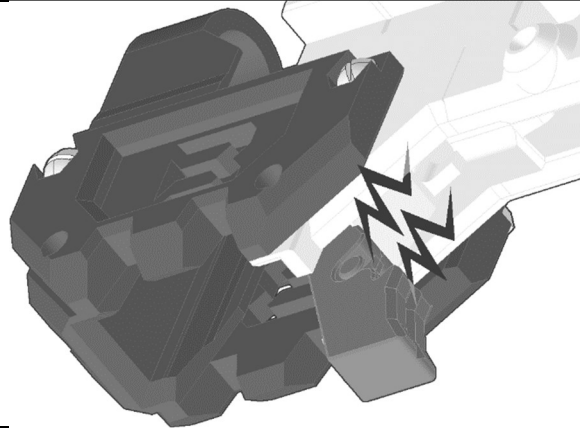


Slide the Trelease and Krelease prints into the assembly until the holes in both line up with the holes in the assembly.

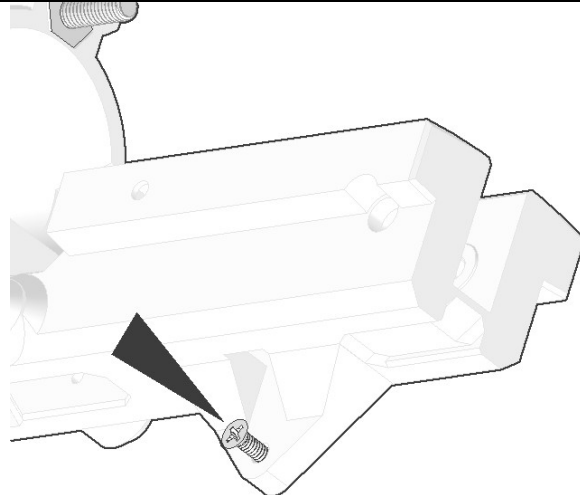




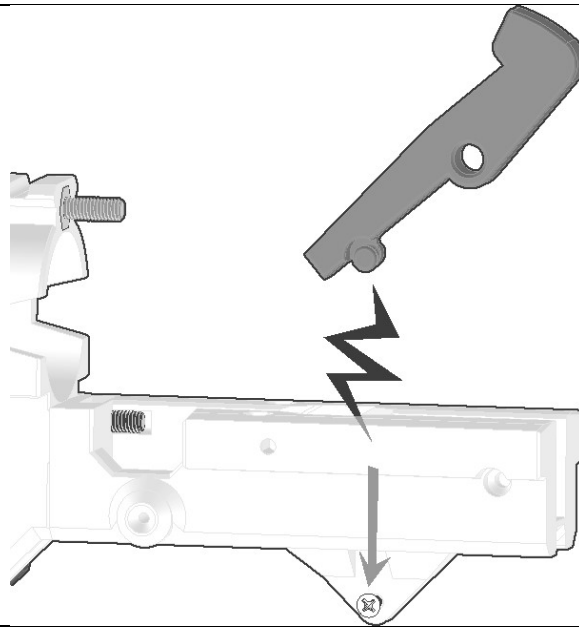
Slide a short pin through all of the parts until the release prints are retained.  
If the short pin will not feed through all of the parts you may need to remove the release prints and clean out the holes in them using a 3/32" drill bit.  
Once the short pin is in place, retain it by driving a 4-40 screw into the hole.



Hook the loop of an extension spring onto the peg in the back of the Pcap print, and then onto the corresponding peg of one of the release prints. Repeat for the opposite side.

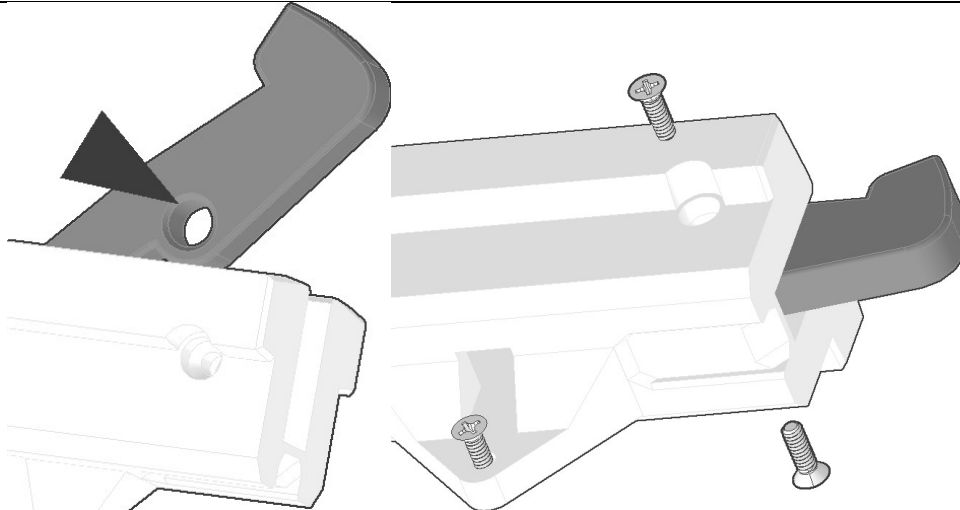


Drive a screw into the hole in the bottom of the Mframe print. Do not drive it in fully as it will be used as a peg for the Sear return spring.



Hook the loop of an extension spring onto the peg of the Sear print, then fish the spring in through the inside of the Mframe print.

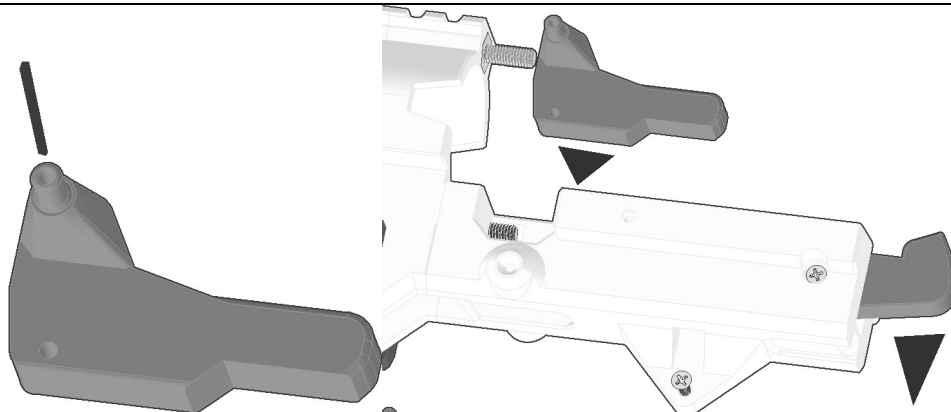
Hook the free end onto the 4-40 screw.



Insert the round 4-40 standoff into the hole in the Sear print.

Tilt the Sear print down until the standoff lines up with the through hole in the Mframe print.

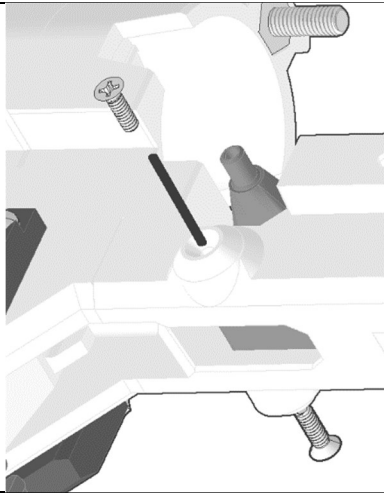
Secure the standoff from each side with a 4-40 screw.



Use a hammer to lightly tap a short pin into the hole in the peg of the TriggerD print.

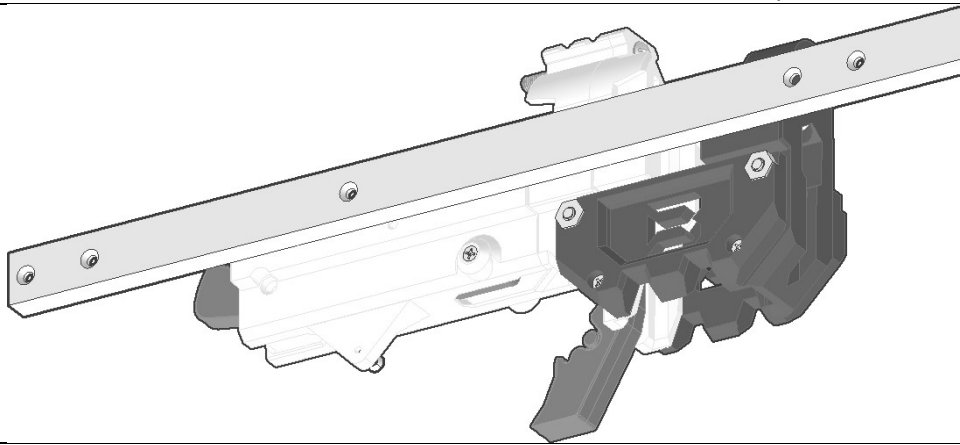
If it won't insert you may need to clean out the inside of the hole with a 3/32" drill bit.

Tip the Sear back by hand and slide the TriggerD print into the top of the Mframe print until it's underneath the front end of the Sear print.



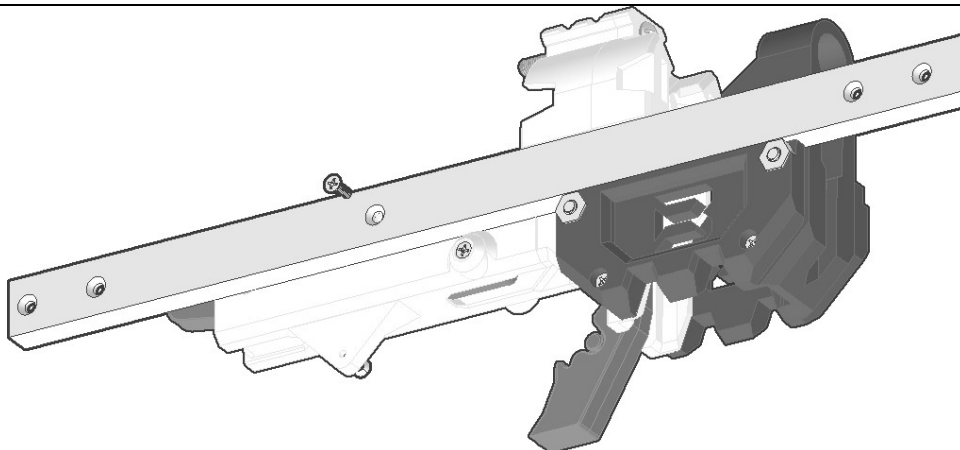
Line the hole in the TriggerD print up with the holes in the Mframe print. Drive a short pin through both parts until centered.

Drive a 4-40 screw into each side to retain the short pin.

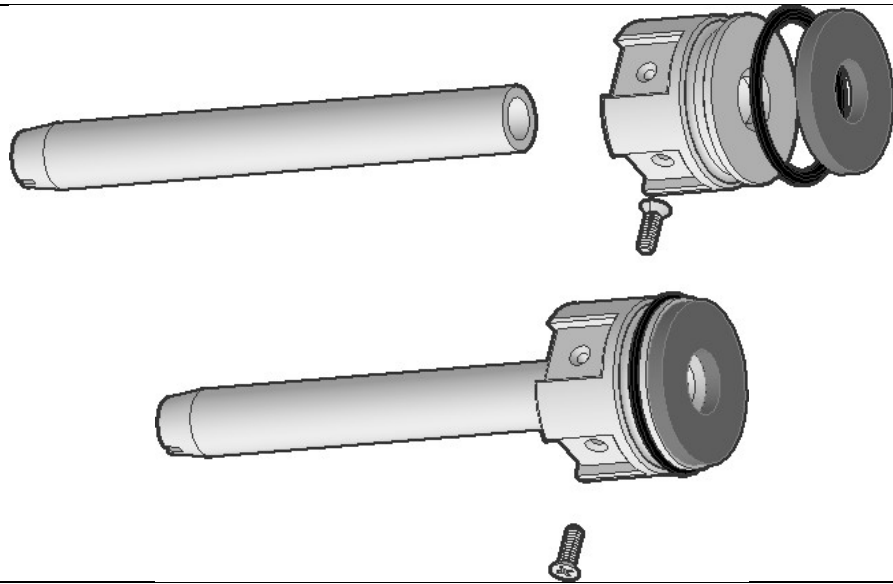


Push a u-channel onto the right side of the assembly, lining up the hole in it with the hole in the side of the Mframe print.

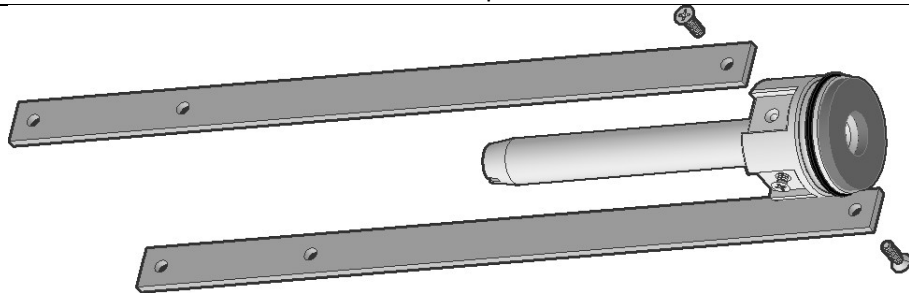
If it is uncooperative going into place you may need to loosen some or all of the screws that are securing the nameplate on this side.



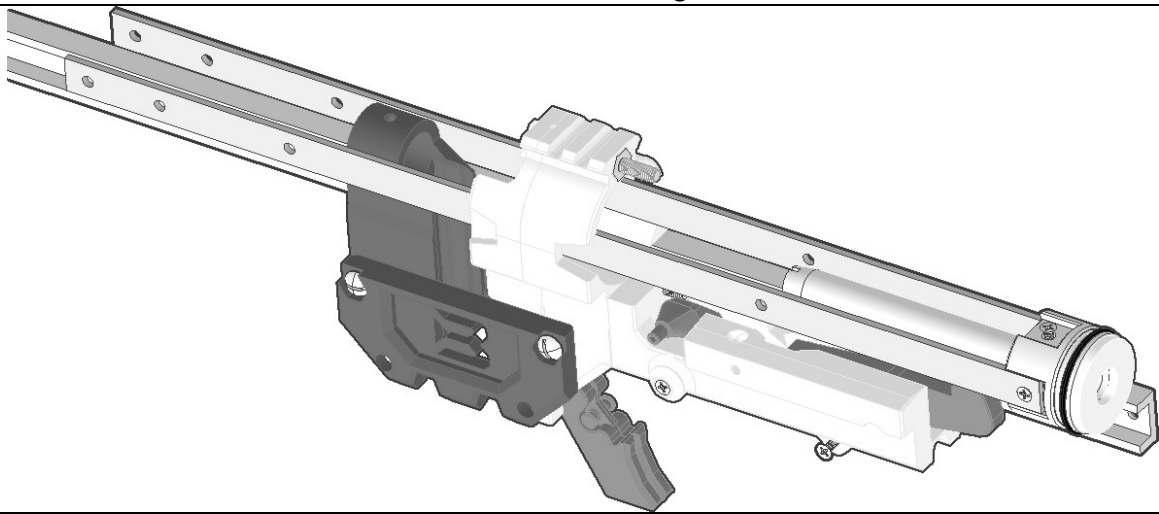
Drive a 4-40 screw in through the hole of the u-channel and into the standoff retained in the Mframe print.



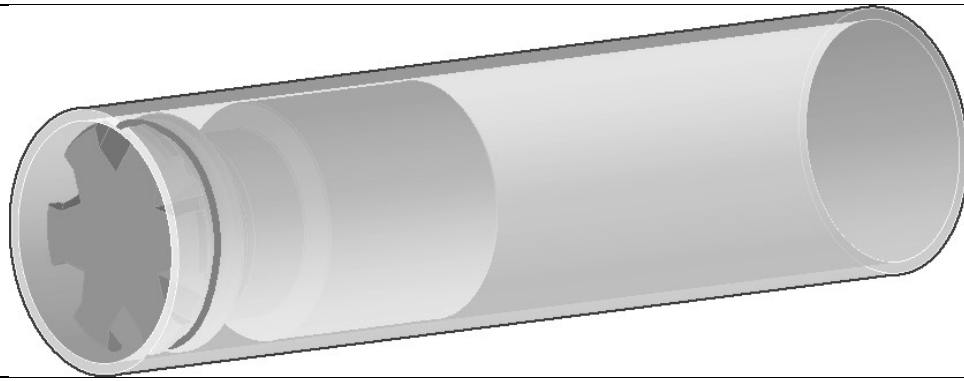
Push the Ramrod Core into the RamBase print, then secure it with a 4-40 screws from each side. **DO NOT OVERTIGHTEN.** Add an o-ring to the undercut in the RamBase print, then add the adhesive-backed Shockpad to the back face of the RamBase print.



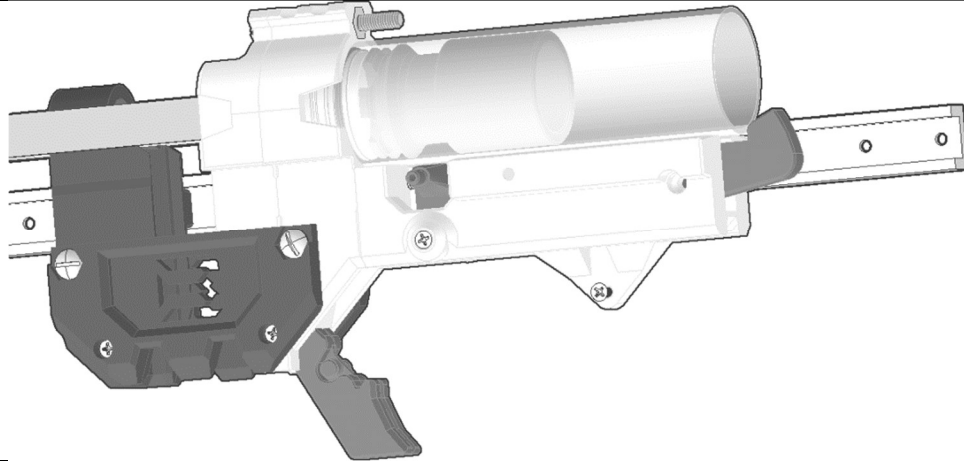
Secure a bolt arm to each side of the ramrod base using a 4-40 screw. **DO NOT OVERTIGHTEN.**



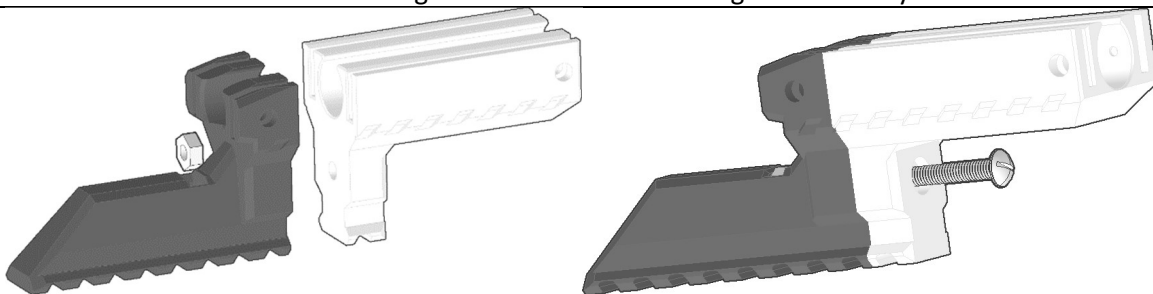
Slide the bolt arms through the slots in the back of the magwell assembly



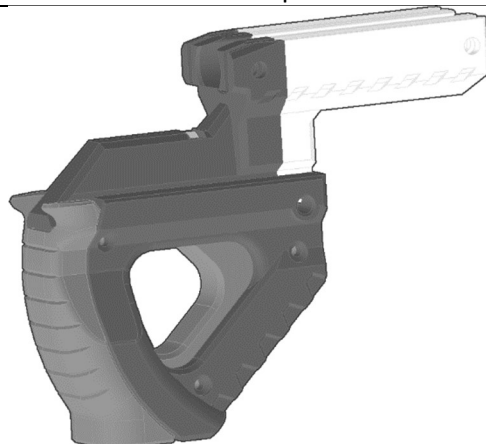
Add an o-ring to the undercut of the Plunger/Piston print.  
Slide it into the lubricated end of the plunger tube.



Slide the ramrod assembly all the way forward in the magwell assembly.  
Push the Sear out of the way by hand, then slide the plunger tube onto the base of the ramrod until the plunger tube bottoms out against the inside of the magwell assembly.



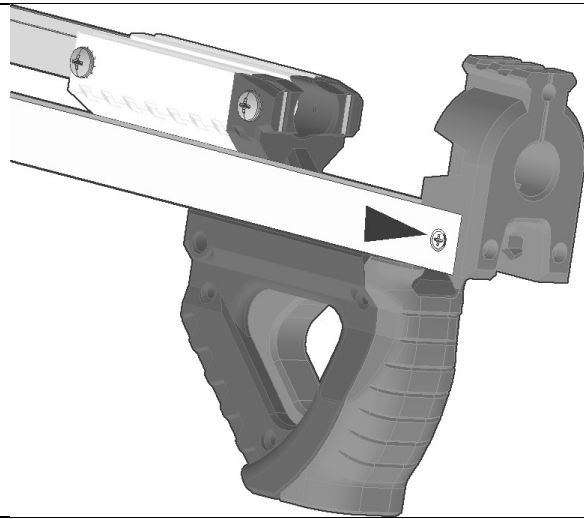
Slide a hex nut into the slot in the DoomS2 print.  
Drive a long 10-32 screw in from the back of the DoomS1 print and into the hex nut. Continue until tightened.



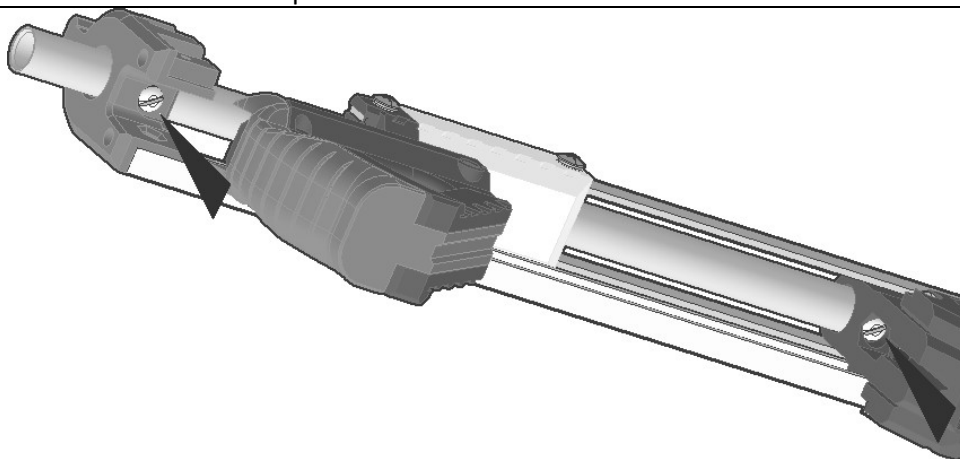
Attach a foregrip to the rail segment. Making sure that it does not extend back behind the rear surface of the rail segment. Doing so will impede priming of the blaster.



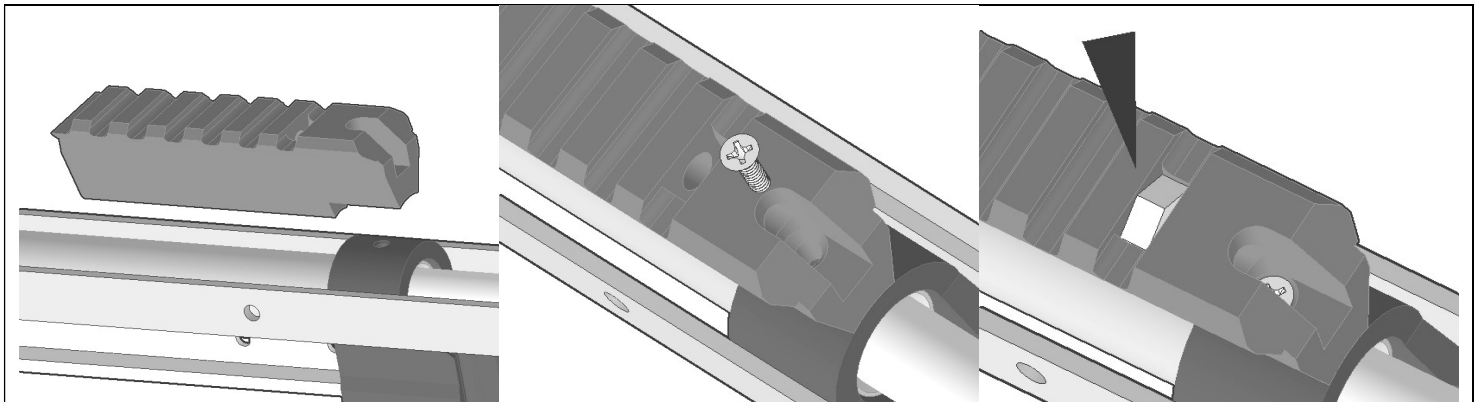
Slide the foregrip assembly onto the bolt arms.  
Secure it with four short 10-32 screws.



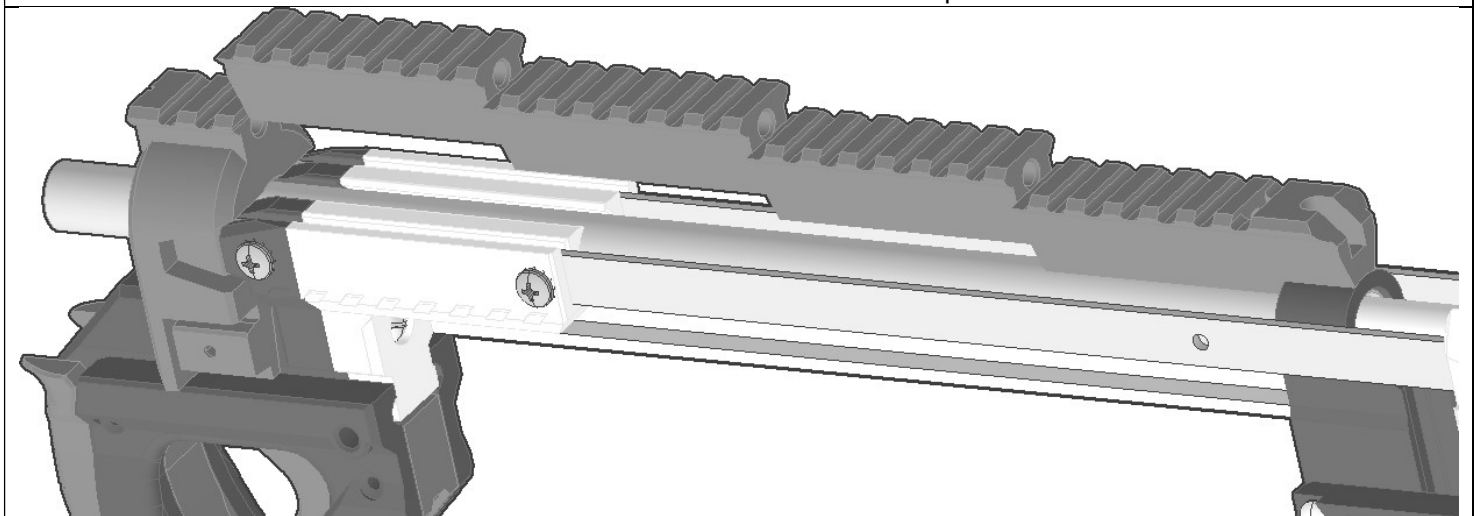
Secure the Muzzle print to the end of the u-channel with a 4-40 screw.



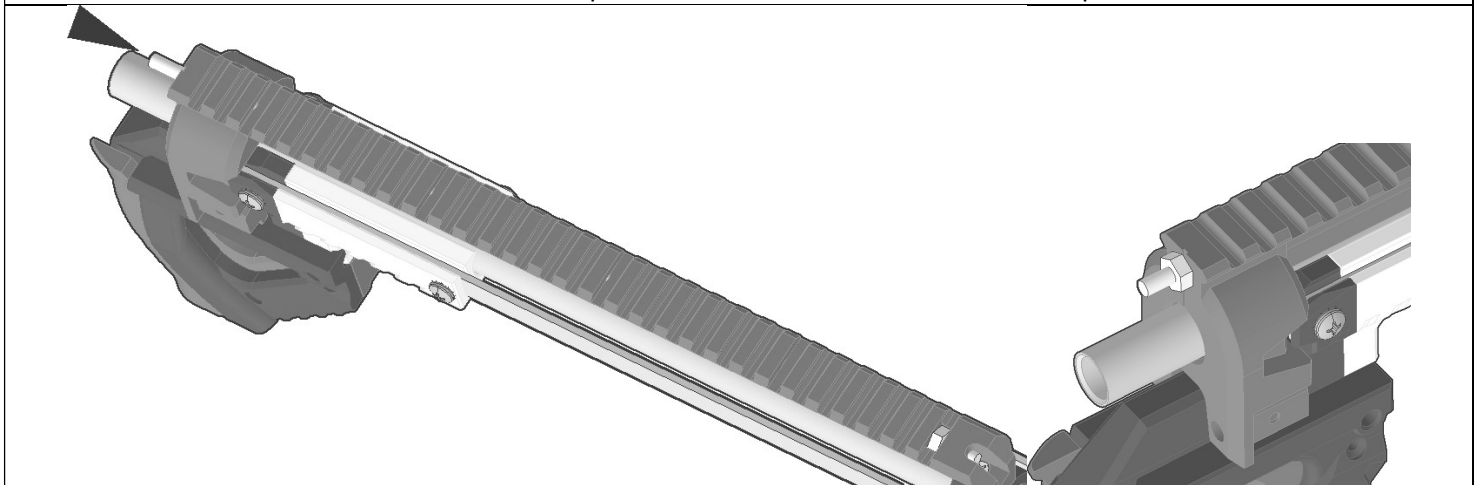
Slide the foregrip back a few inches as shown.  
Slide the barrel in through the Muzzle and Magfront prints until it is flush with the back of the Magfront print.  
Tighten both indicated screws to clamp the barrel into place.



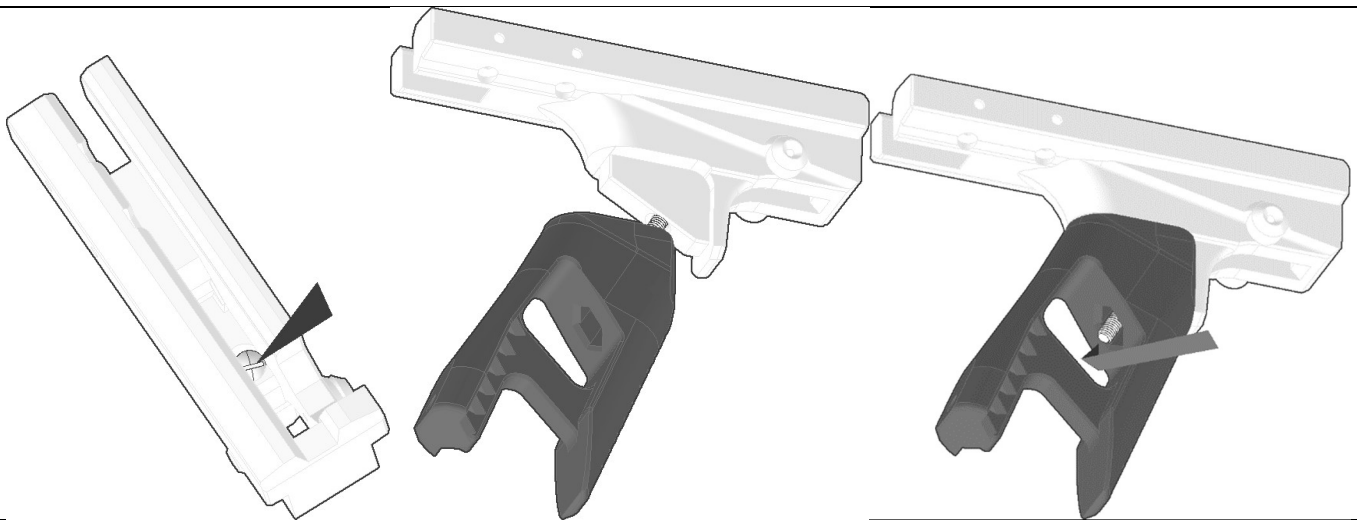
(If included) Line the BPrailD print up with the hole in the top of the Magfront print. Then secure it by driving a 4-40 screw through both parts.  
Add a hex nut to the slot in the BPrailD print



Slide the three OGrail prints inbetween the Muzzle and BPrailD prints



Drive a 13-inch threaded rod through all of the parts and then into the hex nut.  
Add a hex nut to the end of the threaded rod and tighten until all of the parts are pulled tightly together.

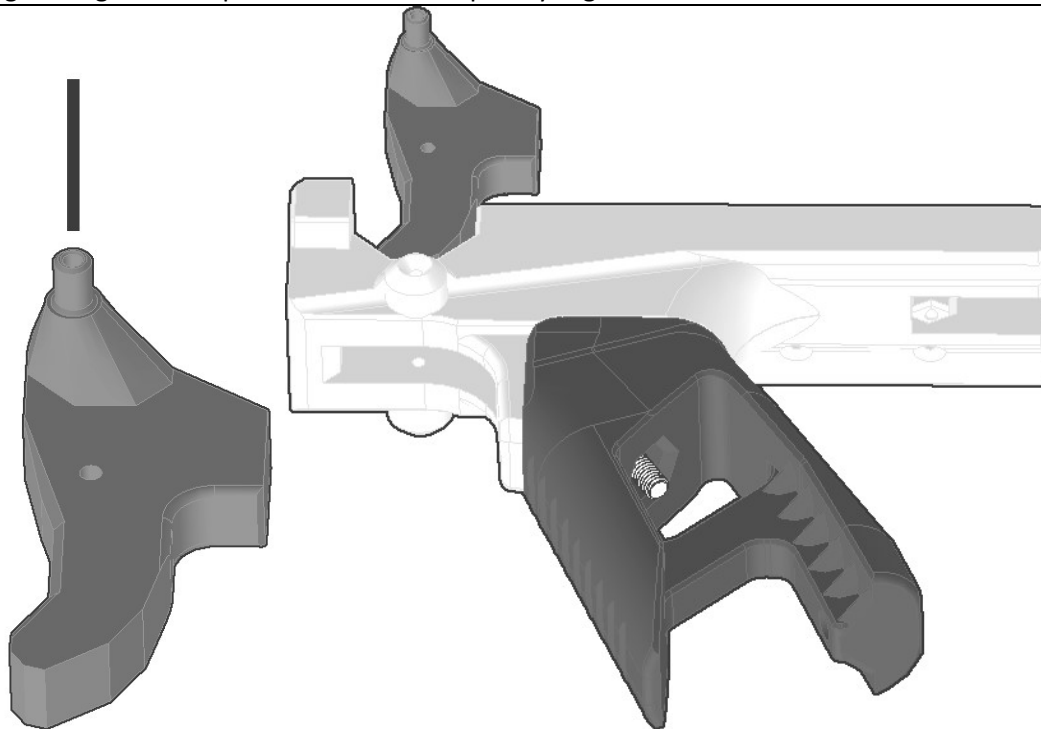


Force a long 10-32 screw into the hole inside the GripF print.

Slide the ARgrip print onto the end of the screw, and over the boss of the GripF print.

Add a hex nut to the end of the long 10-32 screw, then use a slotted screwdriver to tighten the screw until it draws the hex nut into the socket of the ARgrip print.

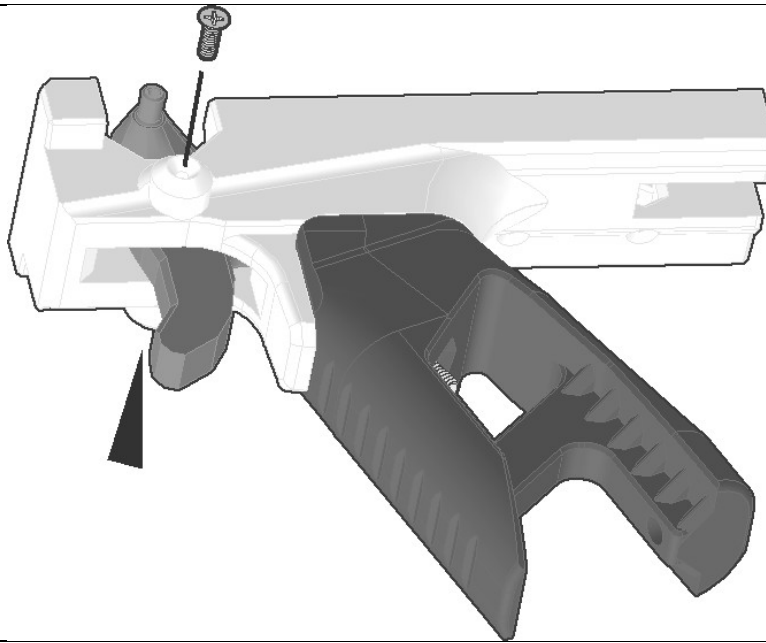
Continue tightening until the parts are drawn completely together and the hex nut bottoms out in the socket.



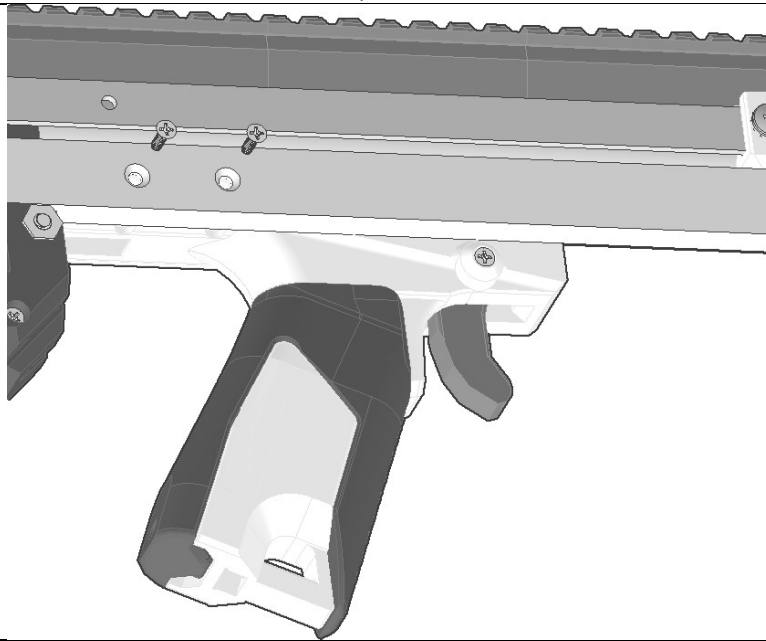
Use hammer to gently drive a short pin into the hole in the peg of the Trigger print. If it won't go into the hole you may need to clean it out with a 3/32" drill bit.

Slide the Trigger print into the GripF assembly until the holes in both parts line up.



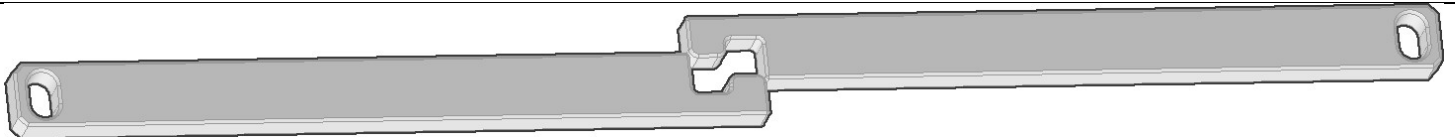


Force a short pin through the holes in both parts. Then retain it from each side by driving a 4-40 screw into the GripF print.



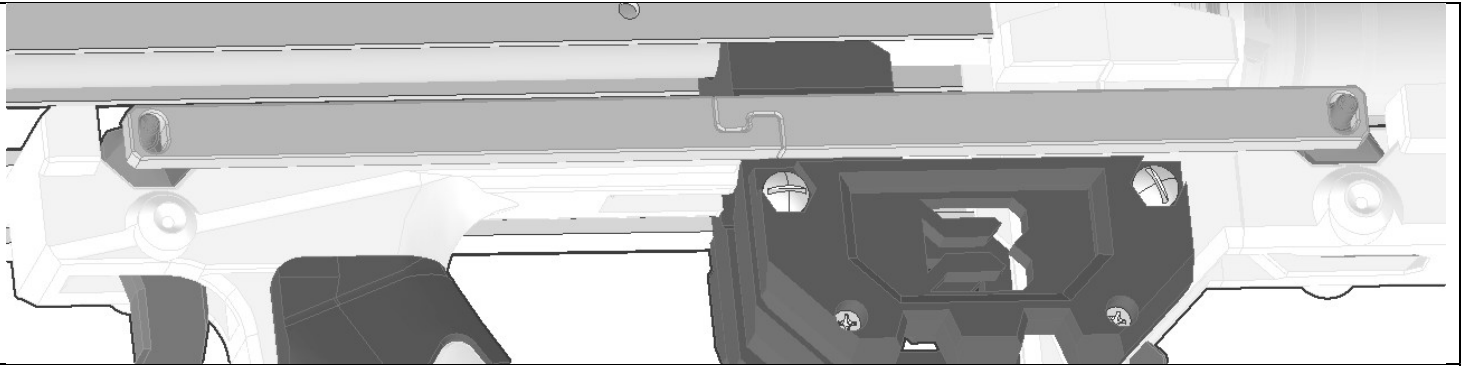
Push the GripF assembly into the u-channel ahead of the Magwell. Some sanding, filing, or trimming of the print may be needed for a nice fit between the parts.

Secure the GripF assembly to the u-channel by driving two 4-40 screws through the u-channel and into the standoffs retained in the GripF print.

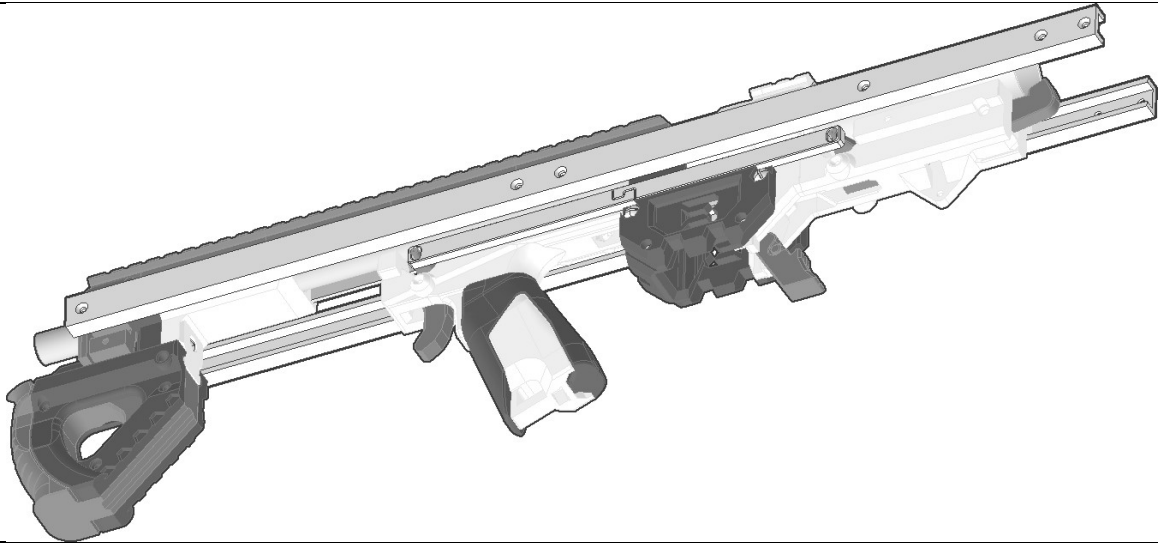


Test-fit the joint between the two Triglink prints. Some sanding or filing may be needed to get them to fit together nicely.

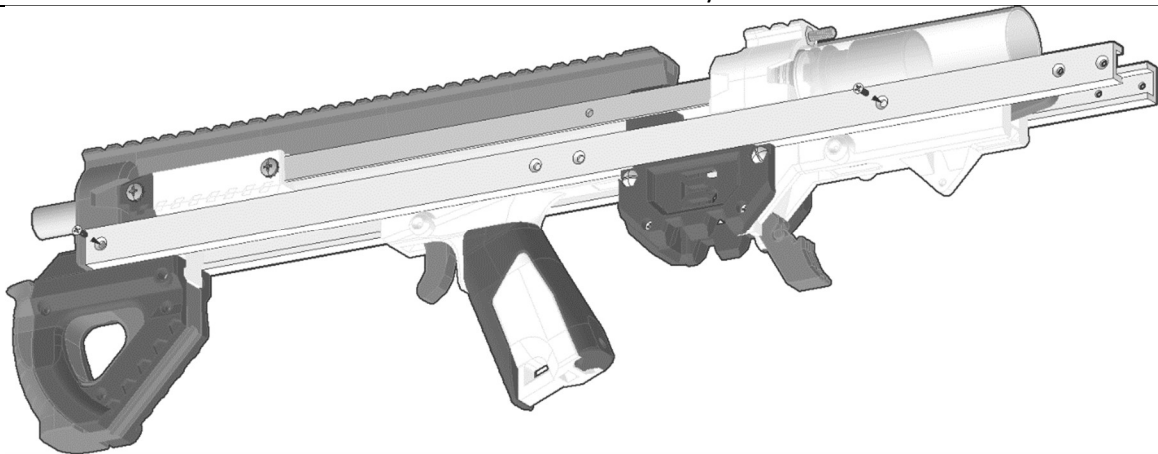
If desired, adhere to two parts using super glue. Wait for the glue to dry completely before continuing.



Slide the slots in the Triglink prints onto the pegs of the Trigger and Trigger D prints. You will need to pull one or both pegs by hand a little in order for them to line up with the slots.

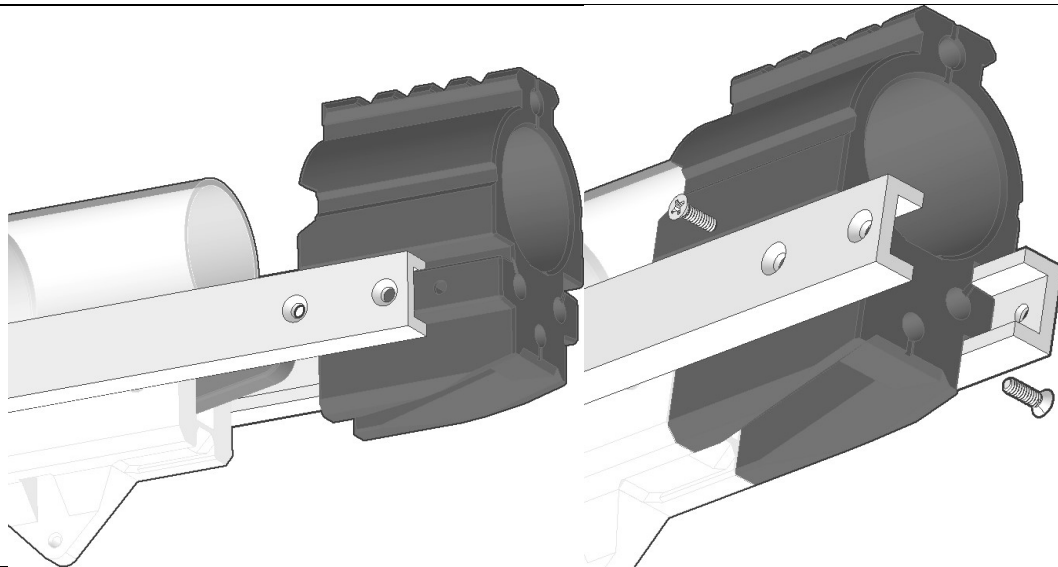


Carefully slide the remaining u-channel onto the left side of the blaster over the Triglink prints until it bottoms out against the whole assembly. Again, the screws that retain the nameplate may need to be loosened to allow that print to move out of the way.

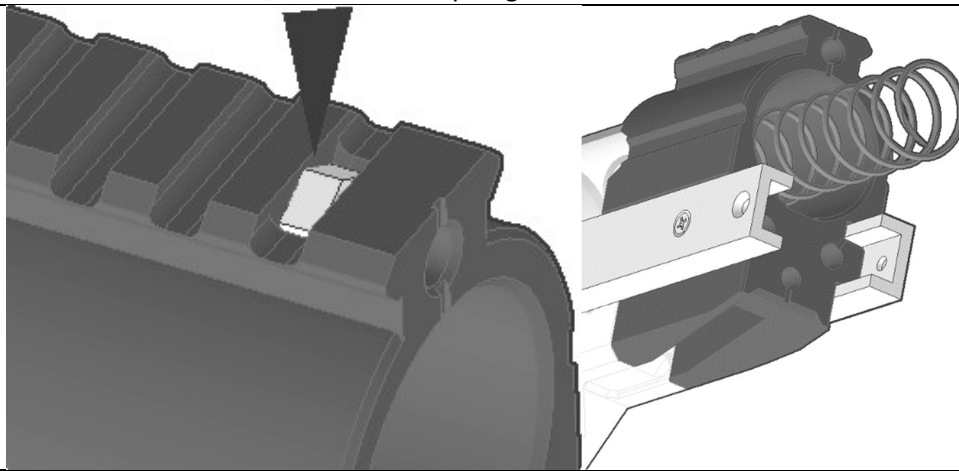


Secure the u-channel to the Muzzle and Mframe prints with 4-40 screws.

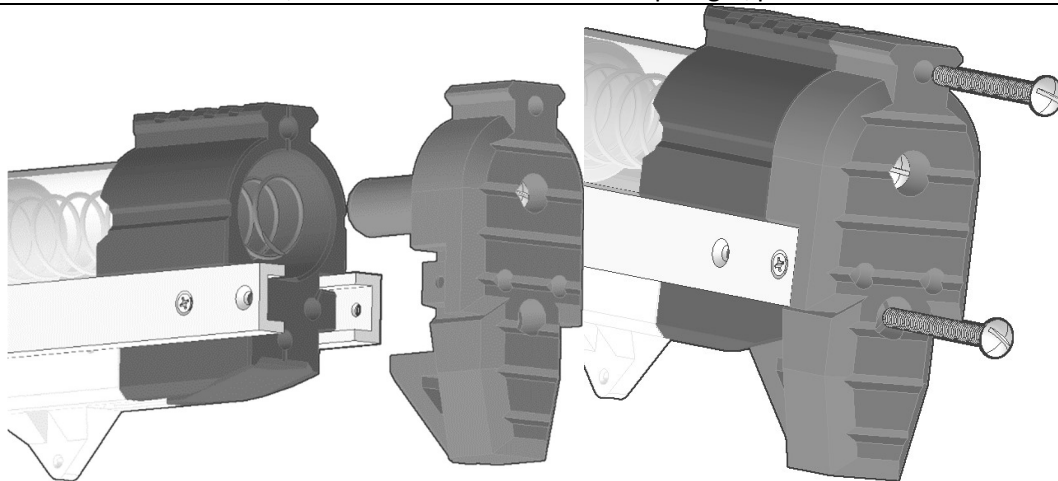
Pull the Trigger to confirm the function of the Trigger assembly. It should be able to move the Sear with little effort. If it requires too much effort or does not work you will need to remove the u-channel and diagnose the assembly issue now.



Slide the coupler print into the u-channels, then onto the plunger tube until flush. Secure with a 4-40 screw on each side.

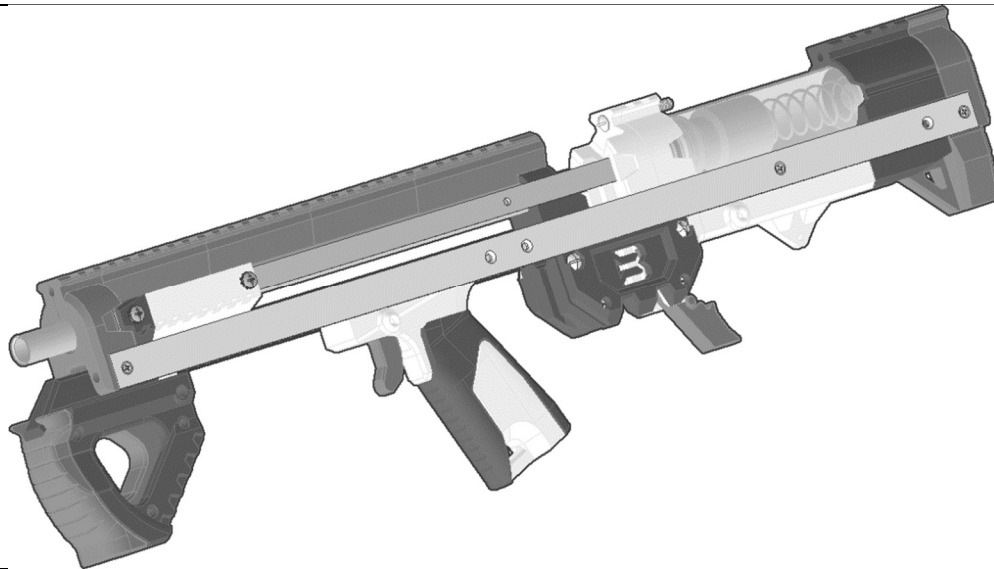


Add a hex nut to the slot in the top of the coupler print. Slide the main spring into through the coupler, into the plunger tube, and then into the back of the plunger/piston.



Slide the spring guide on the Buttplate print into the center of the main spring. Then slide the Buttplate print inbetween the u-channels.

Secure the Buttplate print to the coupler using two long 10-32 screws.  
Then optionally to the u-channel using two 4-40 screws.



Insert a magazine into the magwell. If the fit is too tight you may need to loosen the screw that clamps the barrel into the muzzle, then the two that attach the front of the NamePlate prints to the MagFront print. Then retighten once the magazine fit feels correct.

Slide the foregrip back to compress the mainspring until the plunger gets engaged on the Sear. With the breech OPEN install a Magazine loaded with darts. The design natively supports both Talon mags, and Katana mags. 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 reverse the last 2 steps in these instructions in order to take the buttplate off.

The Blaster and Hardware Kits are shipped with K25 springs. The K25 is rated slightly lower than the K26, which is also available. 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.