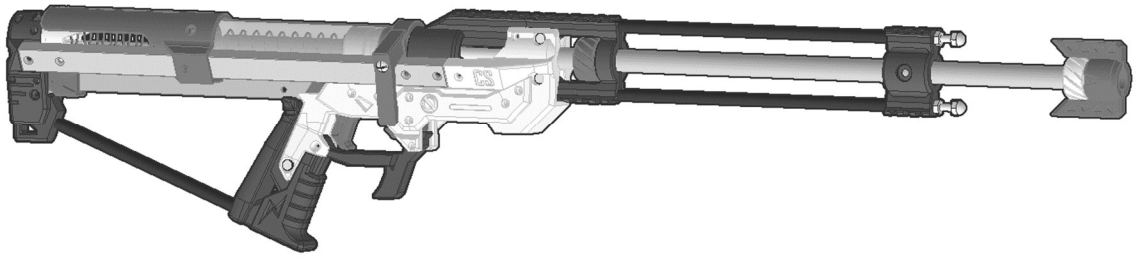
Indra ASSEMBLY

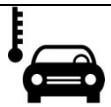


The Indra is a Bolt-Action Mag-Fed Homemade Nerf Blaster design for full-length and half-length darts released as a CC-NC license file set by Captain Slug (http://www.captainslug.com).

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.

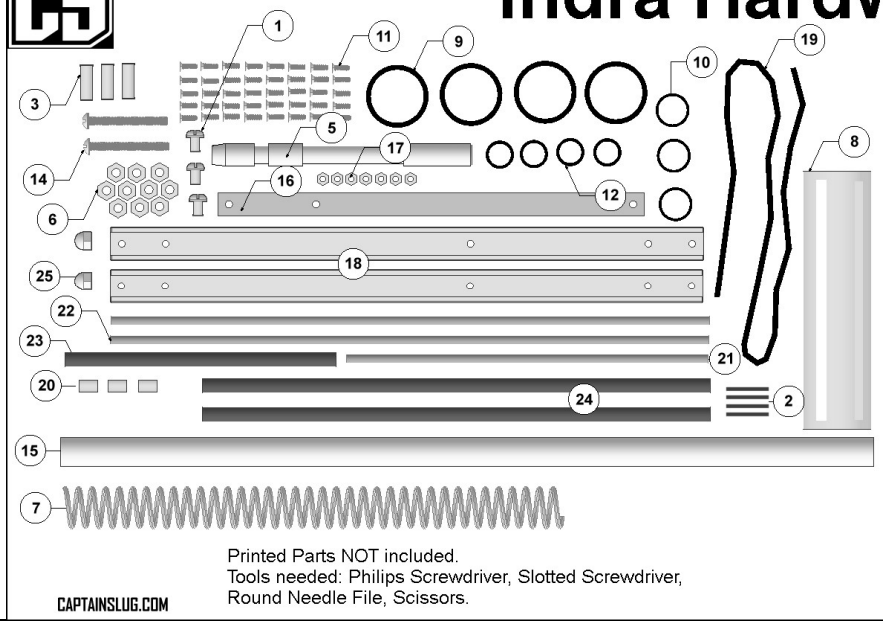
https://www.etsy.com/shop/CaptainSlug



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.

Indra Hardware Kit



5/10/21

Item #	Quantity	Part Name
1	3	.31" 10-32 Screws
2	4	Short Pins
3	3	Nylon Spacer
5	1	Ramrod Core
6	10	10-32 Hex Nut
7	1	Main Spring
8	1	Plunger Tube
9	4	Dash 123 O-Ring
10	4	016 O-ring
11	40	4-40 Screws
12	4	012 O-ring
14	2	1.75" L 10-32 Screw
15	1	Barrel
16	1	TC Bolt Arm
17	7	Hex Standoffs
18	2	U-Channel (13.125")
19	1	3/32" elastic
20	3	1/4" Aluminum Standoff
21	1	8-1/4" Threaded Rod
22	2	13" Threaded Rod
23	1	6" TR Cover
24	2	11-1/4" TR Cover
25	2	Acorn Nut
26	2ml	Silicone Oil

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

CAPTAINSLUG.COM

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.

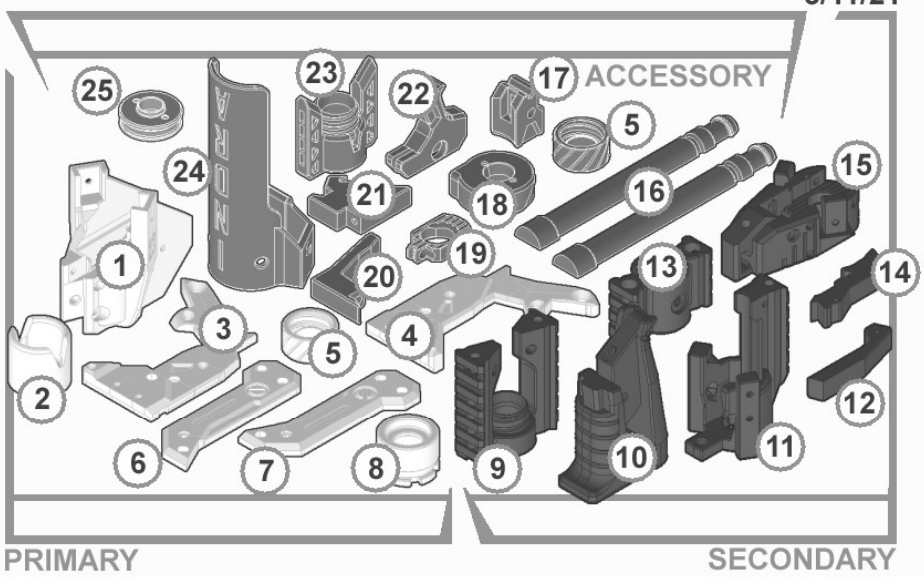
To assemble this blaster you will need a Slotted Screwdriver, Small Philips Screwdriver, 3/8 Combination Wrench, and a Round Needle File. You may also need a 3/8” socket and a square drive extension to use with it.

The Hardware Kit comes with silicone oil for lubricating the plunger tube during assembly. 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.

Indra Printed Parts

5/11/21



Item #	Quantity	Part Name
1	1	MagFront
2	1	FButt
3	1	GripR
4	1	GripL
5	2	Collet
6	1	MagR
7	1	MagL
8	1	Phead
9	1	RailD
10	1	Griddle
11	1	Core
12	1	Tguard
13	1	MidBar
14	1	Release
15	1	Butt
16	2	Stem
17	1	TrigRear
18	1	Bandle
19	1	Sear
20	1	Handle
21	1	MidBlock
22	1	Trigger
23	1	Muzz
24	1	Cheek
25	1	RamB

OPTIONS

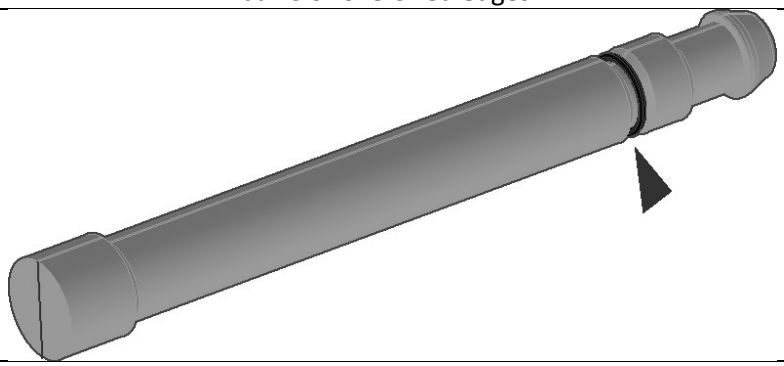
		Railgasm	RMAX
	AFG	Pyrangle	VFG
		SCAR	
		Stock	
		Iron Sights	

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.

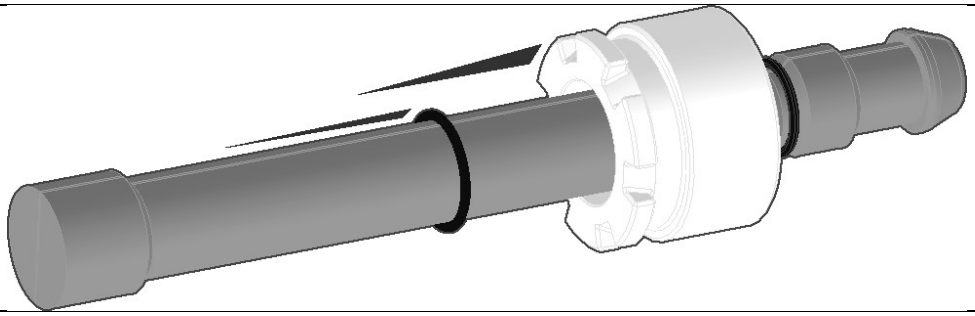
- Captain Slug

Assembly Instructions:
http://www.captainslug.com/nerf/IndraAssembly1.pdf

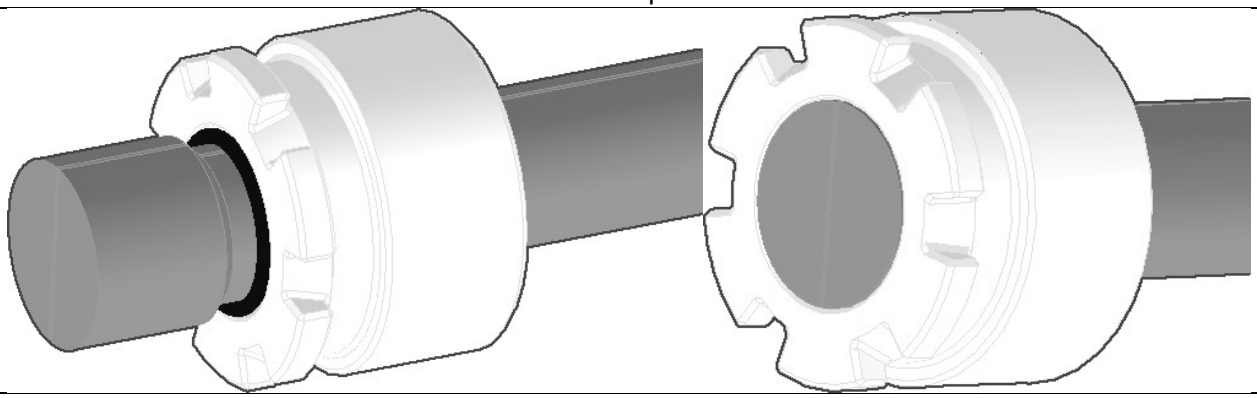
Above is a list of every printed part needed to assemble this blaster. The majority of the through holes should print to the required tolerance, but you will likely have one or two that may require minimal filing. Also make sure to trim off any burrs or oversized edges.



Place two Stem prints face-to-face as shown to create the Stem assembly.
Use a slotted screwdriver to stretch an 012 o-ring on over the back end of the pair of print, then force it past the catch notch and into the notch where shown.
Use a file to clean up the edges of the prints and remove any burrs.

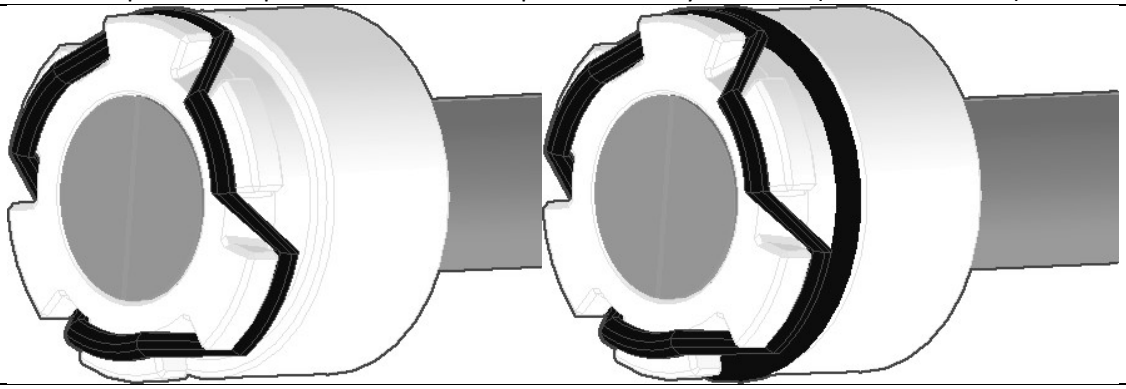


Slide an 016 size o-ring over the back end of the Stem assembly, then follow that with the Phead print. If the Phead print will not slide onto the Stem assembly then you need to go back and finish using a file to remove burrs from the edges of the Stem prints.



Slide the o-ring and the Phead print towards the wider end of the pair of Stem prints. Use a slotted scredriver or to push the 016 o-ring into the bore of the Phead print.

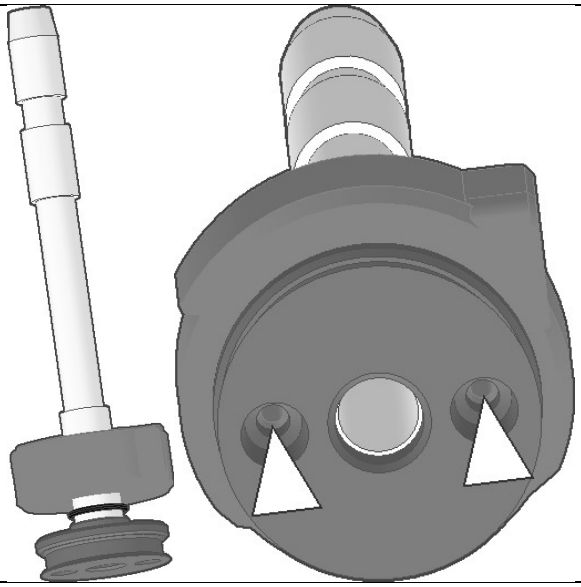
Now force the wider end of the pair of Stem prints into the bore of the Phead print. You may need to use a hammer to tap the Stem prints into the Phead print until they are flush (or close to flush)



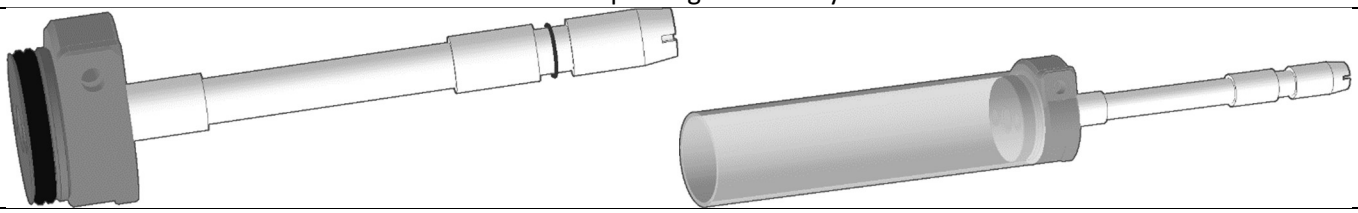
Hook a 123 size o-ring over the back of one the of the tabs on the front of the Phead print, then ahead of the next, then behind the next, and so on until it wraps around them like so.

Add a second 123 o-ring into the undercut behing that first one.

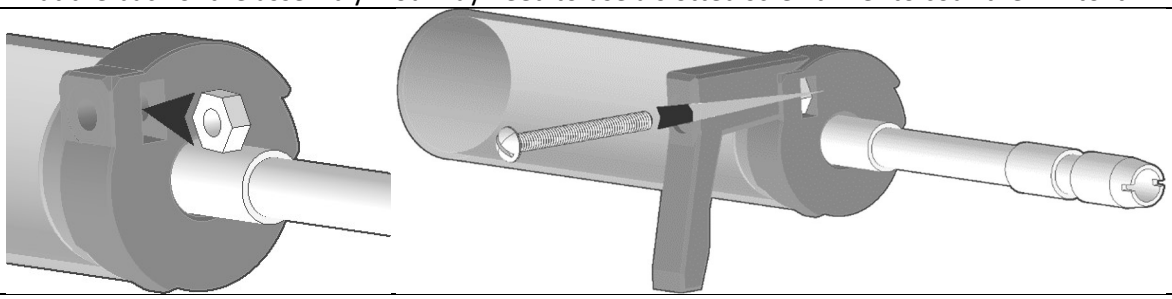
Set the Plunger assembly aside.



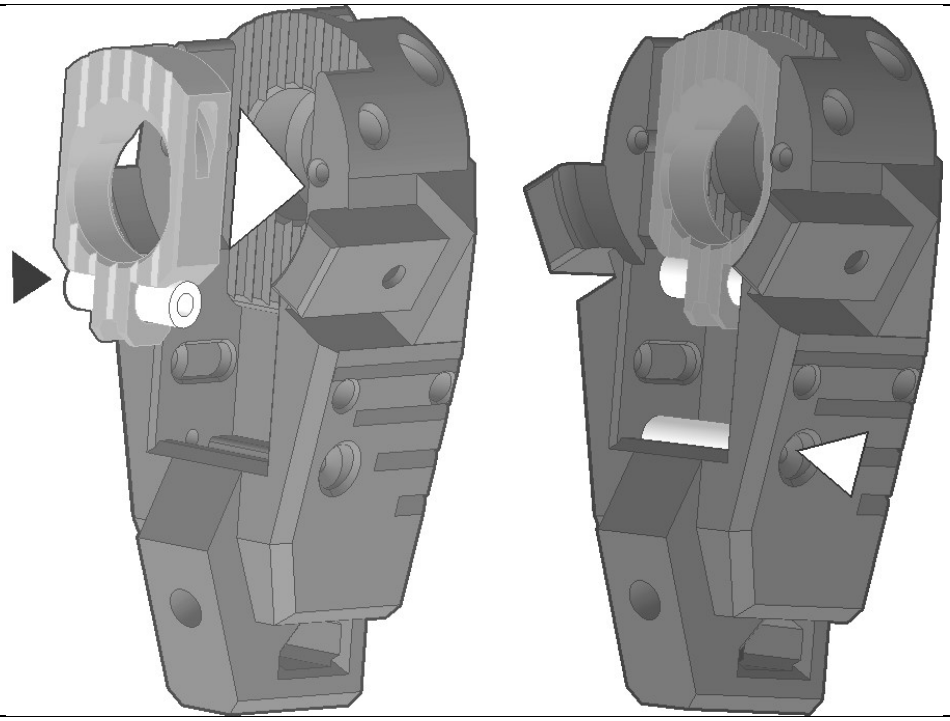
Slide the Bandle print onto the back end of the Ramrod core with the slotted side of the print facing forward. Follow it by an 012 o-ring, then the RamB print until it bottoms out against the end of the Ramrod Core.
Slide the Bandle print and o-ring against the RamB print, then drive a 4-40 screw in through each hole until all the parts are clamped together firmly.



Add two 123 size o-rings to the undercut on the RamB print.
Add one 012 o-ring to the undercut at the front of the Ramrod Core.
Add some silicone oil to the inside of one end of the plunger tube, then force the plunger tube over the two 123 o-rings at the back of the assembly. You may need to use a slotted screwdriver to coax them into it.

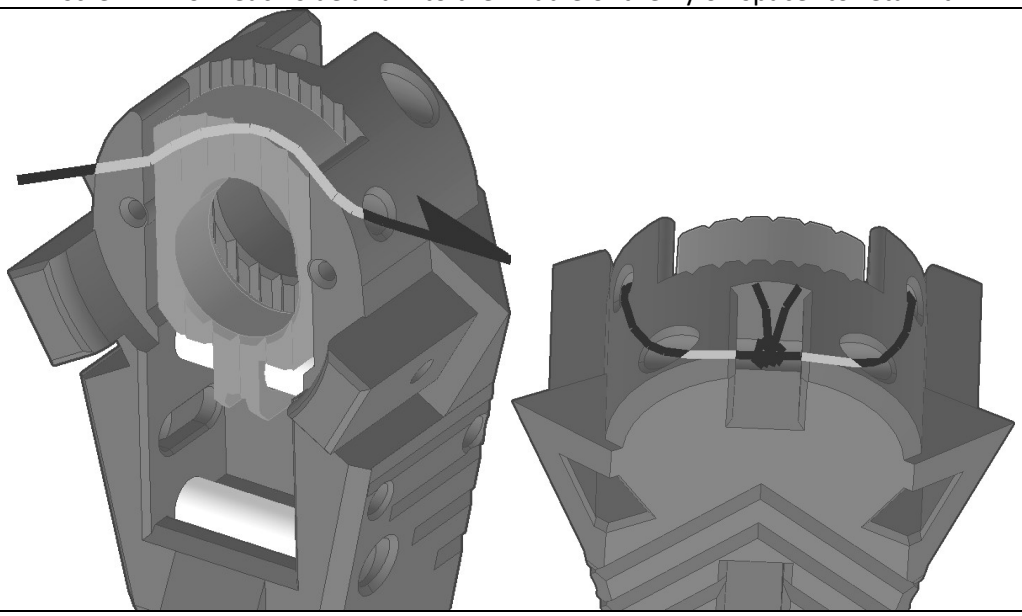


Force a hex nut into the slot in the front of the Bandle print until it lines up with the hole in the side.
Line the Handle print up with the hole in both prints then feed a long 10-32 screw in through both and drive it into the hex nut until tightened.
Set the Ram assembly aside.



Slide a nylon spacer into the Sear print, then seat the Sear print into the Butt print. MAKE SURE THAT THE CHAMFERED SIDE of the Sear print that also has a ridged surface on it is facing forwards. Test the fit of the Sear print inside the Butt print to see if it slides freely within it. If it binds at all you will need to file or sand the sides and edges of the sear print.

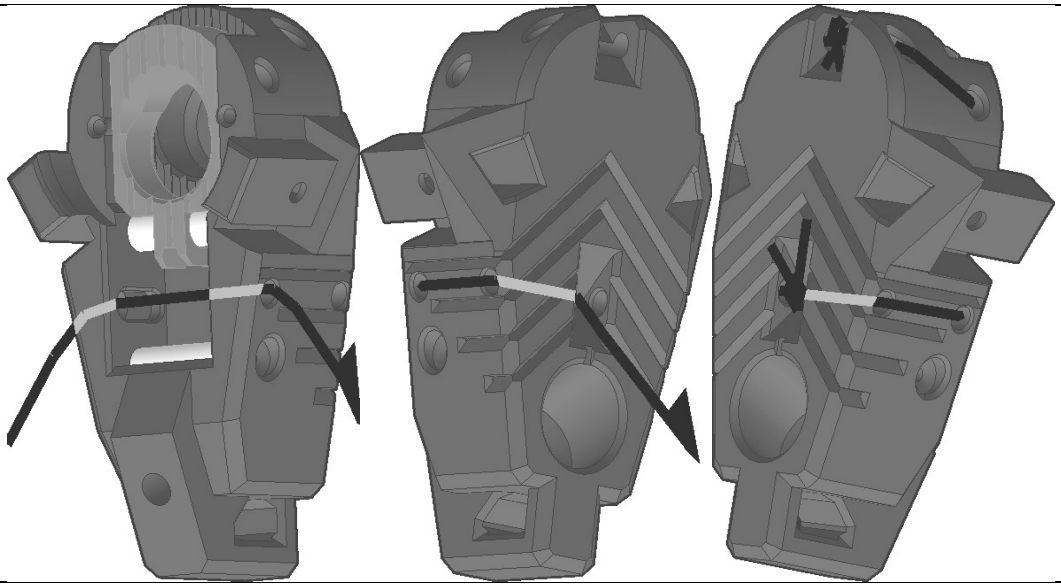
Line up a nylon spacer into the recess inside the Butt print that lines up with the holes in the sides of it. Drive a 4-40 screw in from each side and into the middle of the nylon spacer to retain it.



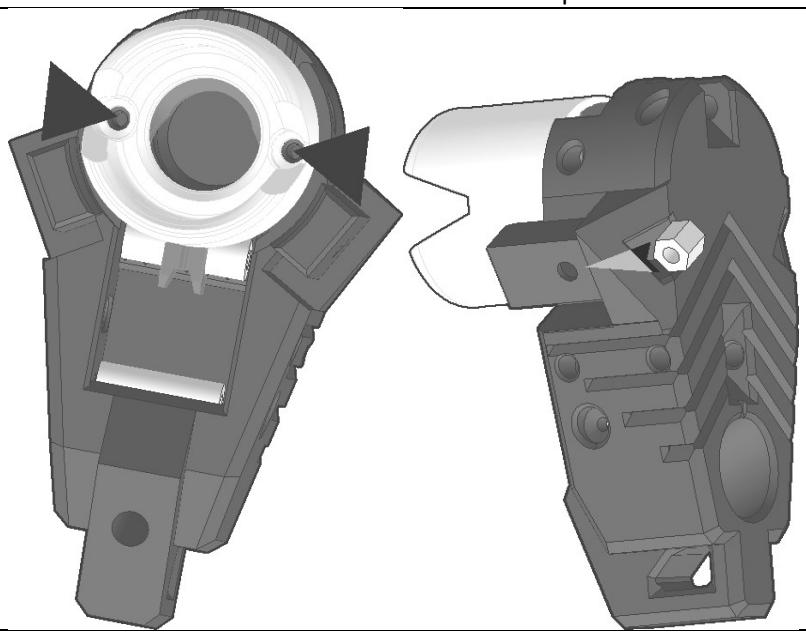
Fish some 3/32” elastic through the hole in the side of the Butt print near the top, through the arched channel inside the Sear print, then out through the opposite hole in the Butt print. Feed both free ends of the elastic into the holes further back in the top of the Butt print and out of the slot at the top rear of it.

Pull both ends a little taught, then tie a square knot.

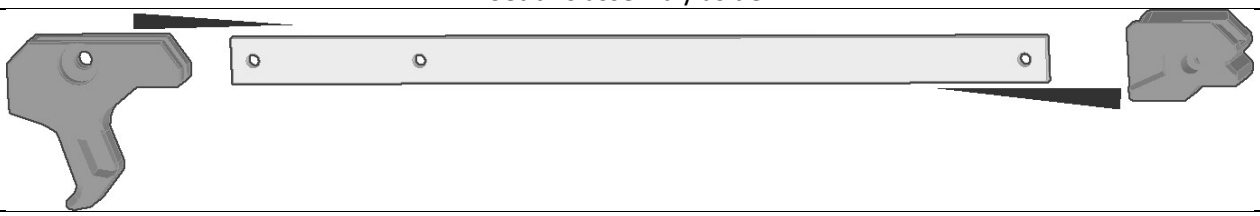
Trim off the excess elastic from the exposed tails.



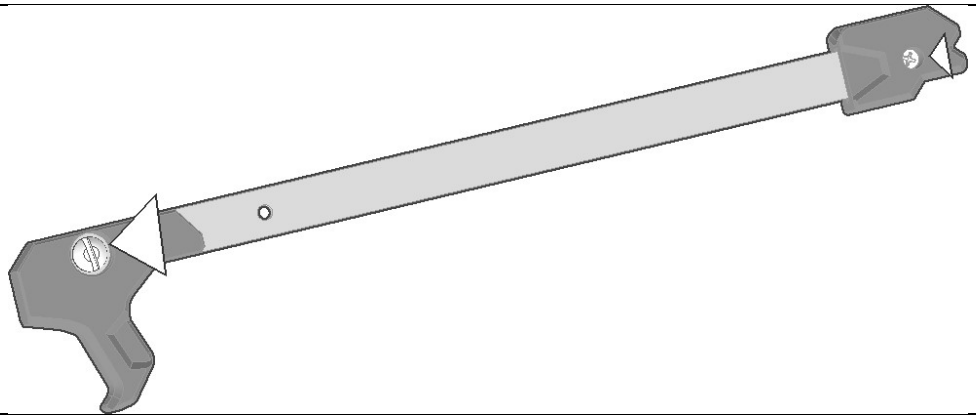
Feed the 3/32” elastic through the hole in the side of the Butt print where shown and out the opposite side.
Then through the hole in the side towards the back and out through the slot at the back. Repeat for the opposite side.
Pull both ends a little taught, then tie a square knot.
Trim off the excess elastic from the exposed tails.



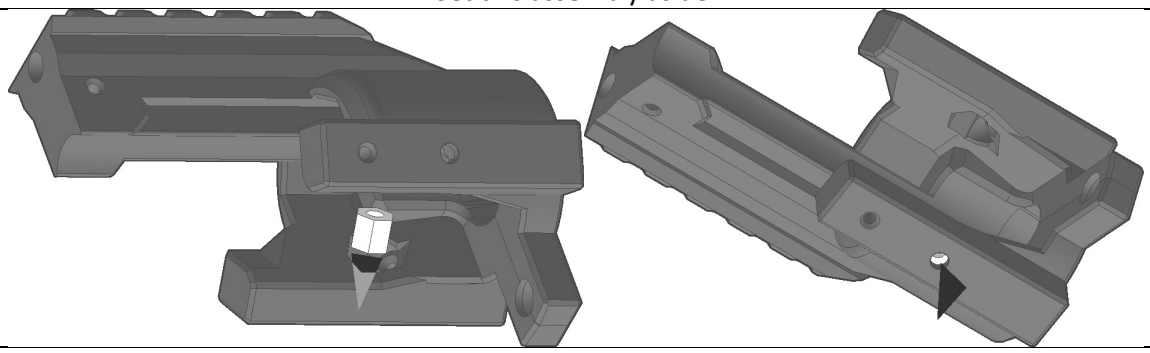
Attach the Fbutt print to the front of the Butt print using two 4-40 screws.
Use a slotted screwdriver to force a 4-40 standoff into the slot in the back of the Butt print. Repeat for the opposite side.
Set this assembly aside.



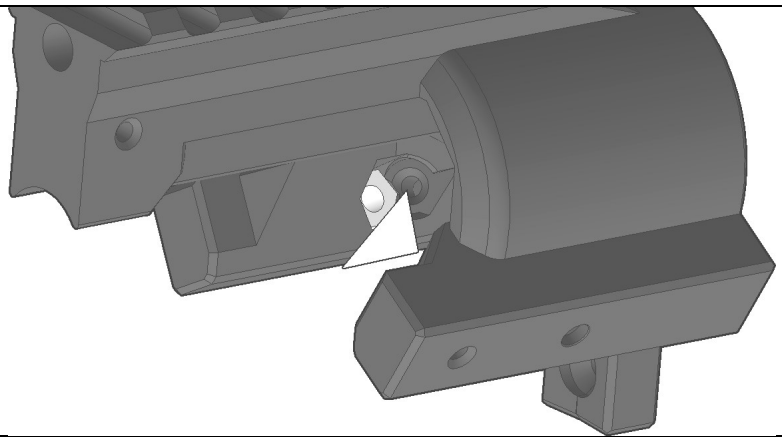
Slide the Trigger print onto the front of the aluminum BoltArm at the end with the two holes. Slide the TrigRear print onto the opposite end. NOTE THE ORIENTATION OF BOTH. Installing the TrigRear print upside-down will prevent it from working.



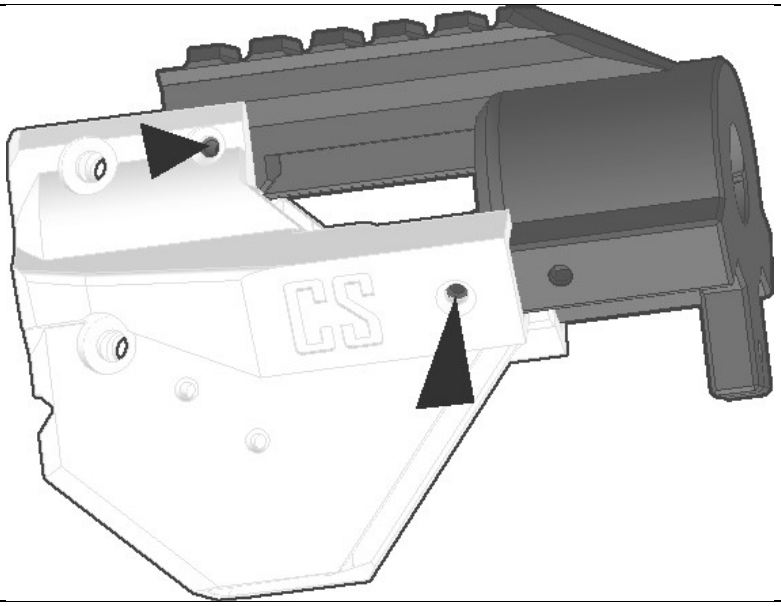
Drive a short 10-32 screw into the threaded hole in the Bolt arm that's inside the Trigger print.
Drive a 4-40 screw into the TrigRear print where shown to secure it.
Use a file to debur the top edges of the Trigger print.
Set this assembly aside.



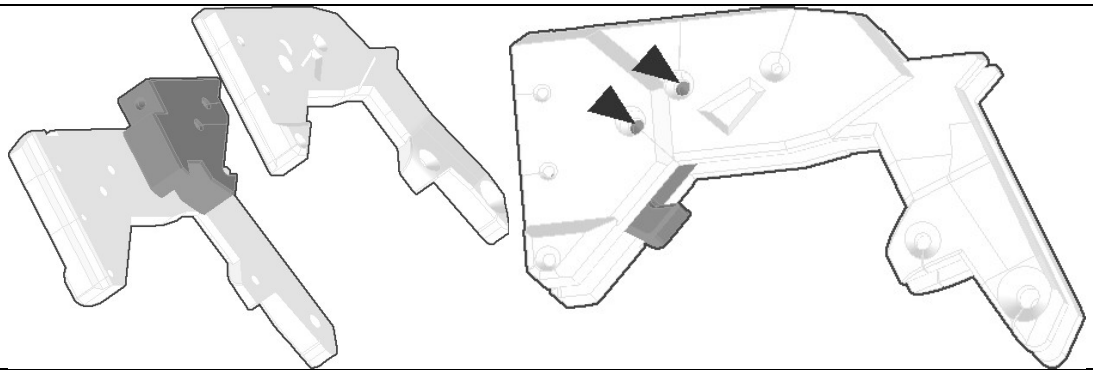
Use a slotted screwdriver to force a hex standoff into the socket on the inside of the Core print.
Use a 4-40 screw from the outside of the print through the hole indicated to pull the hex standoff to the bottom of the socket.



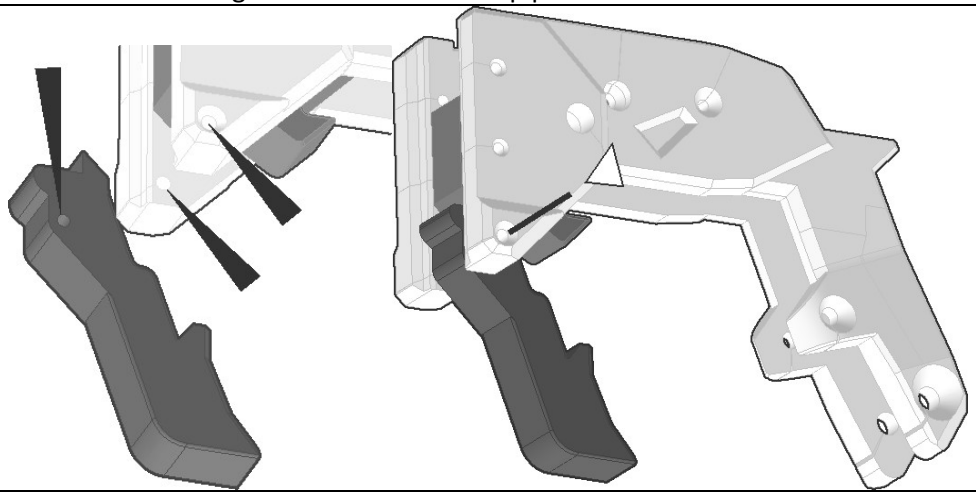
Drive a 4-40 screw into the angled hole next to the hex standoff on the inside of the Core print until the head of the screw bottoms out against the hex standoff.
Repeat the above sets for the other side. Then remove the screws that were used to pull the hex standoffs to the bottom of their sockets.



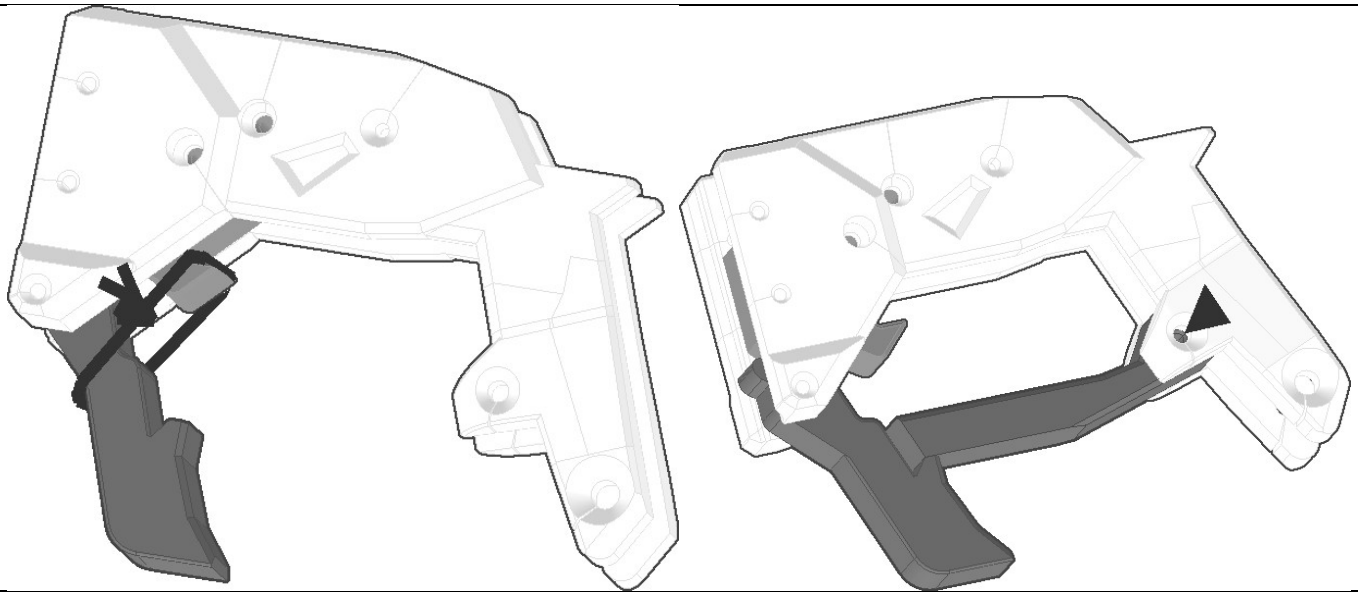
Slide the MagFront print onto the Core print. Then secure them together by driving 4-40 screws into the indicated holes on each side.



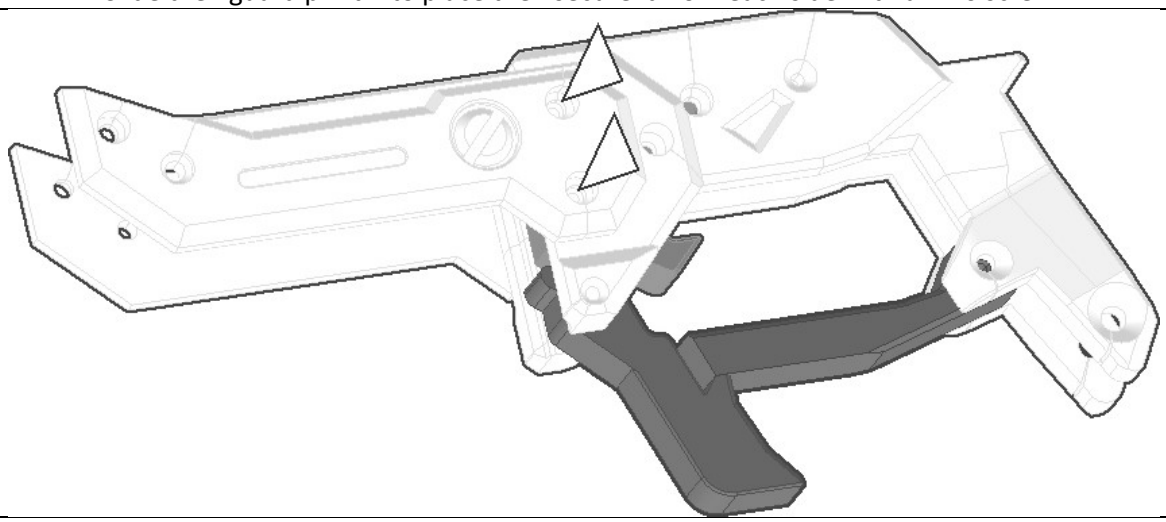
Line up the GripL and GripR prints with the holes in the sides of the MidBlock print.
Drive 4-40 screws in through both sides of the Grip prints to secure them to the MidBlock print.



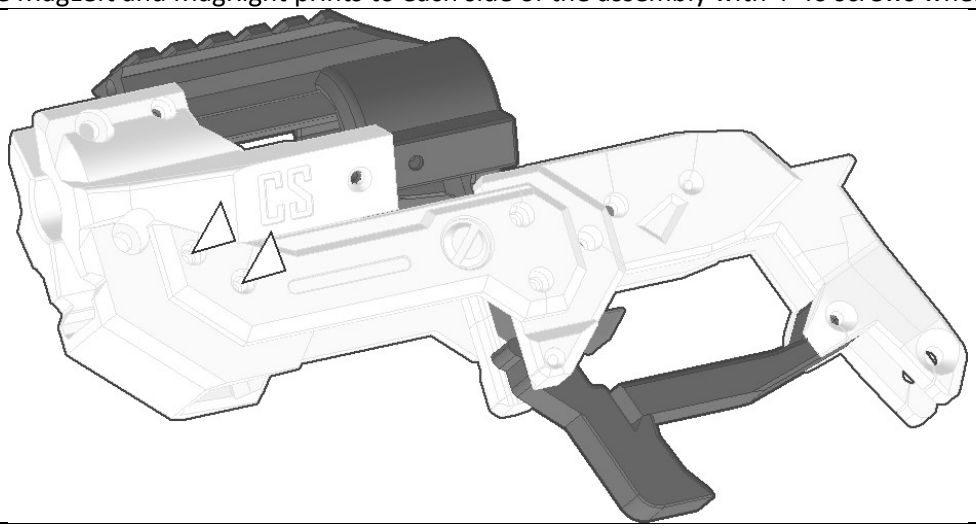
Try to slide a short print through the indicated holes. If it won't go all the way through any of them you may need to clean them out using a 3/32" drill bit.
Line up the Magrelease hole with the holes in the Grip prints and force a short pin through all three. Drive a 4-40 screw in from each side to retain the short pin.



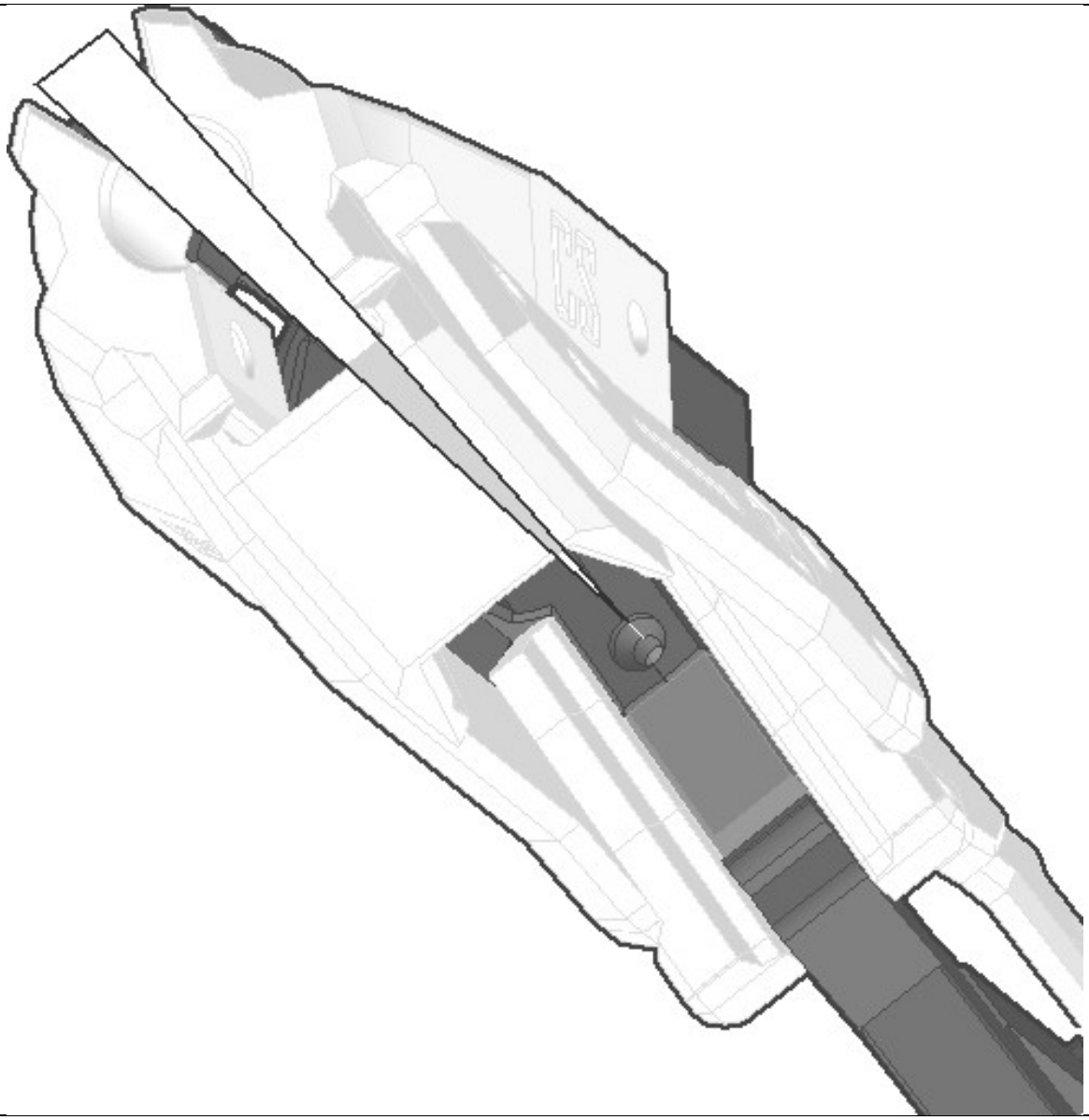
Loop some 3/32” elastic around the front of the Release print and the hook on the MidBlock print until fairly taught then tie both free ends together with a square knot. Cut the excess elastic off the tails.
Slide the Tguard print into place then secure it from each side with a 4-40 screw.



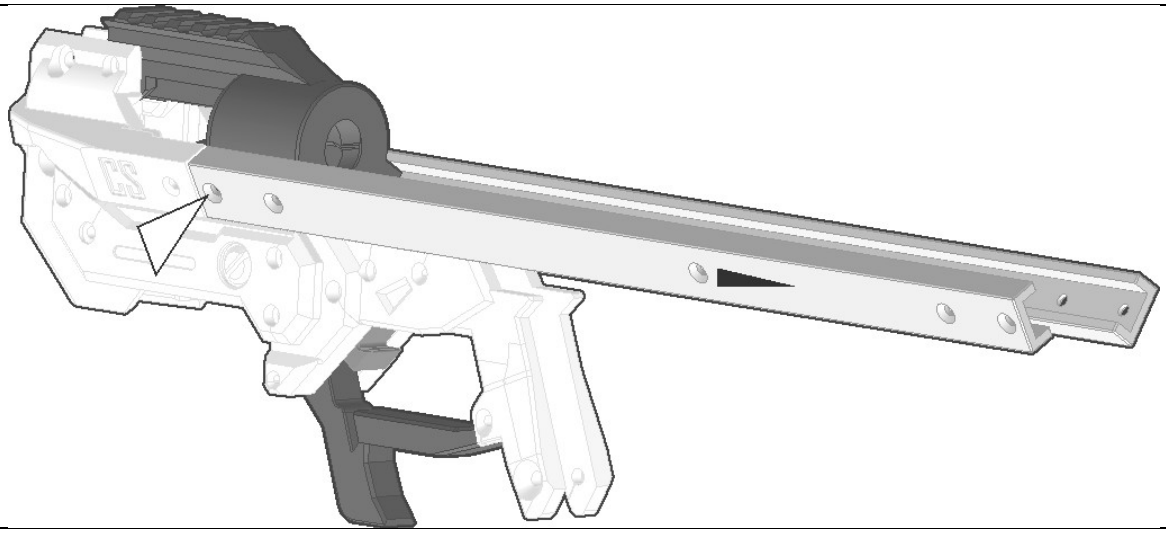
Attach the MagLeft and MagRight prints to each side of the assembly with 4-40 screws where shown.



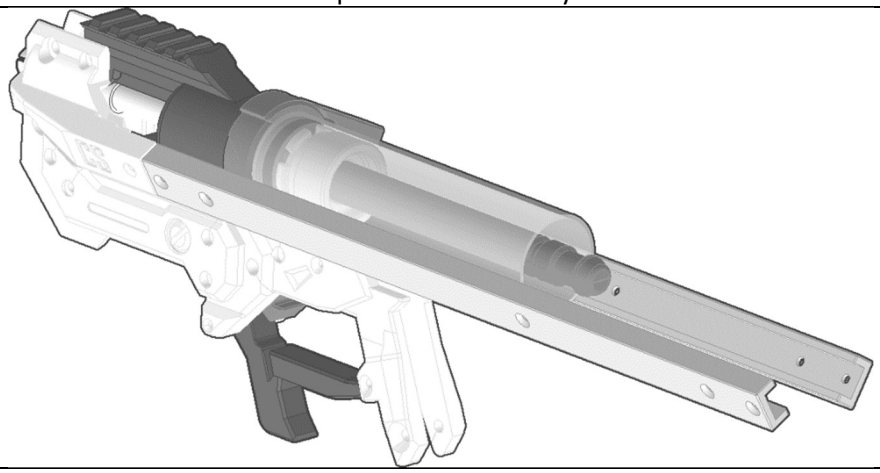
Slide the Magwell assembly into the top of the Grip assembly then secure them together on each side using two 4-40 screws where indicated.



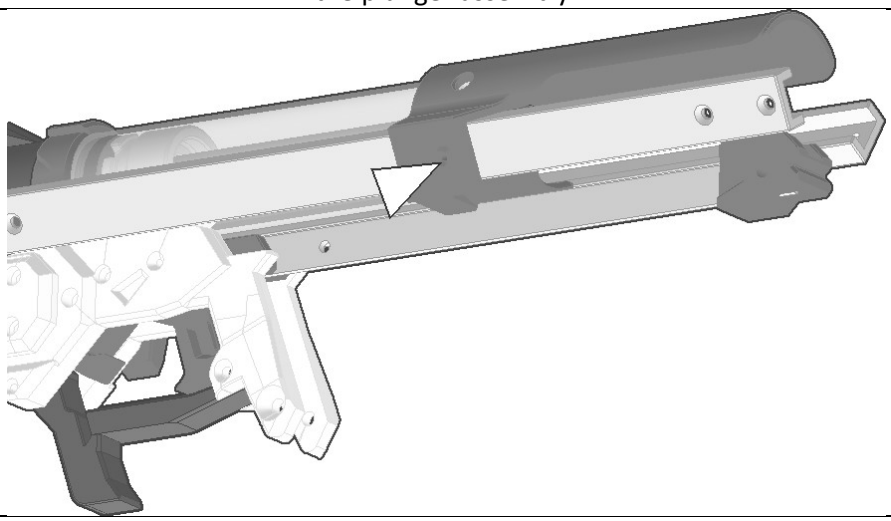
Drive a final 4-40 screw in from the front of the assembly and then through the hole in the front of the tab sticking out the bottom of the Core print.



Attach a u-channel to each side of the assembly with a 4-40 screw where indicated. Make note of the center hole location on each u-channel, as they need to be closer to the back end of the blaster assembly in order for later assembly steps to work correctly.



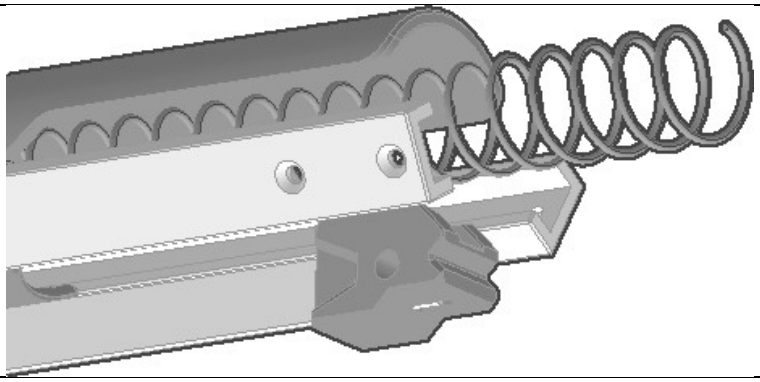
Slide the Ram assembly into the back of the Magwell. Add some silicone oil into the end of the plunger tube, then add the plunger assembly.



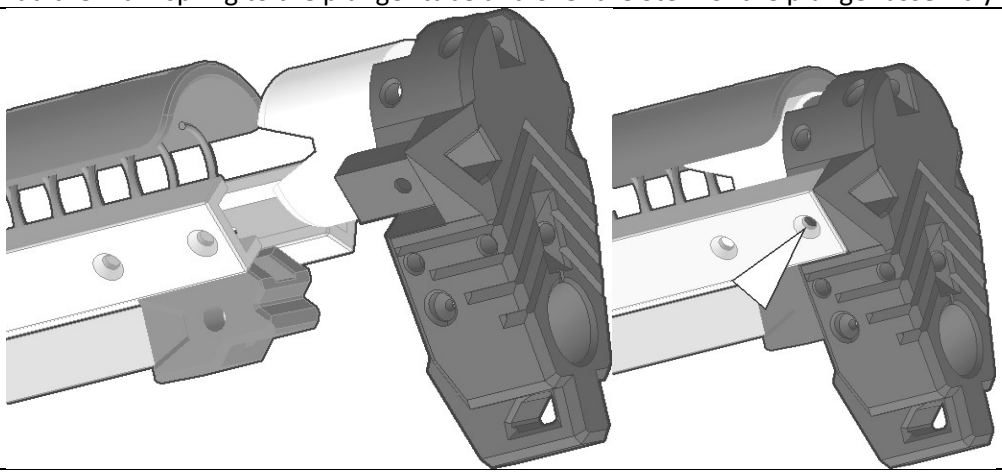
Slide the Trigger assembly in through the back of the grip. If it rubs against them too much the sides or edges of the trigger print will need to be touched up with a file.

Slide the Cheek print over the u-channel pair and then onto the back of the plunger tube.

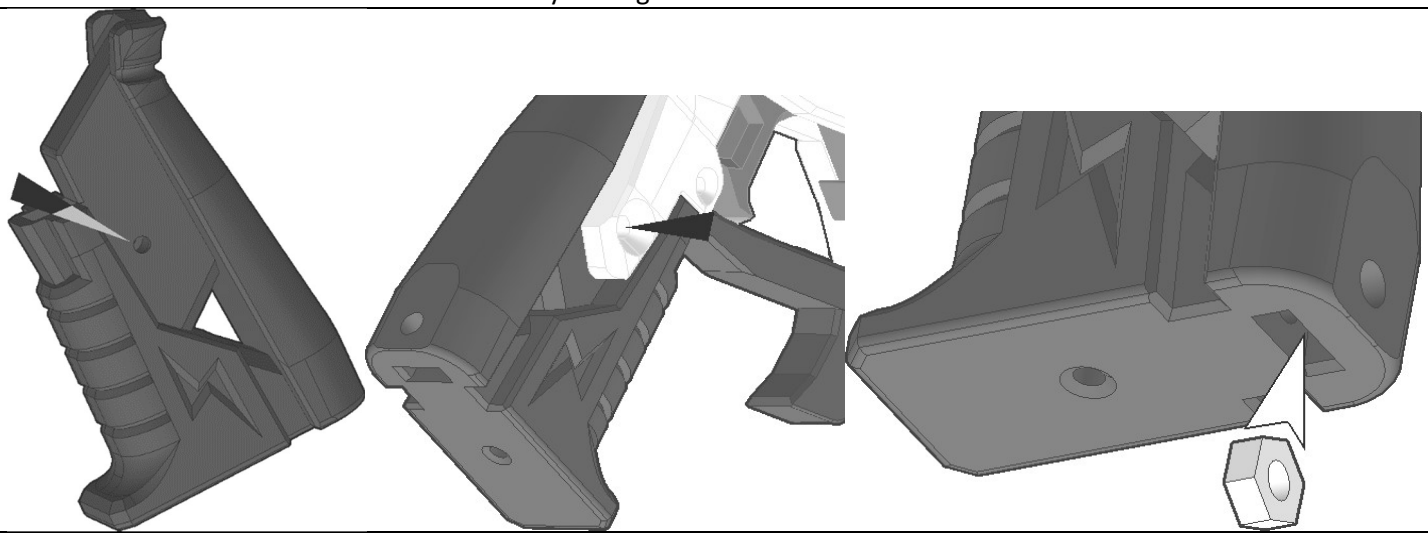
Line up the holes in the Cheek print with the holes in the U-channel pair and drive a 4-40 screw in from each side.



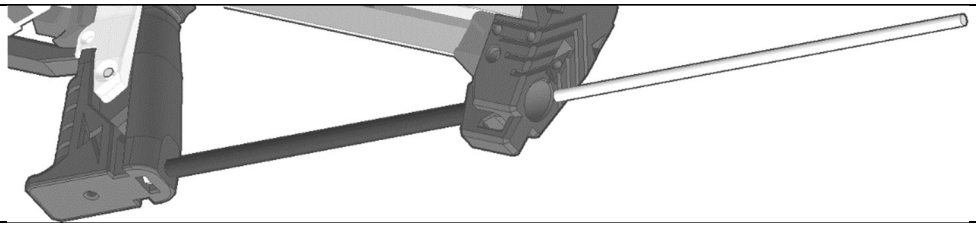
Add the main spring to the plunger tube and over the Stem of the plunger assembly.



Slide the Butt assembly over the main spring and into the U-channel pair until it bottoms out.
Secure it from each side by driving a 4-40 screw into the retained hex standoffs.

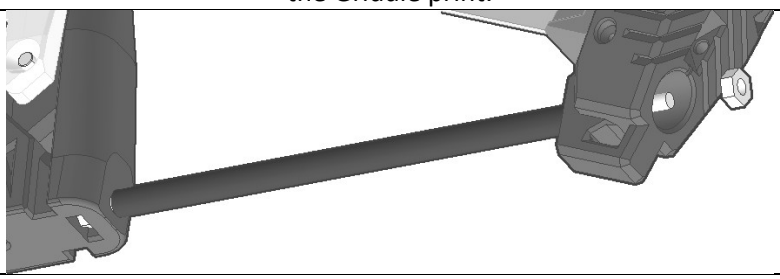


Roll a round aluminum standoff into the slot in the Griddle print until it lines up with the holes in each side.
Slide the Griddle print into the Grip halves then secure it with a 4-40 screw from each side.
Use a slotted screwdriver to force a hex nut onto the slot in the bottom of the Griddle print until it lines up with the hole in the back of it.

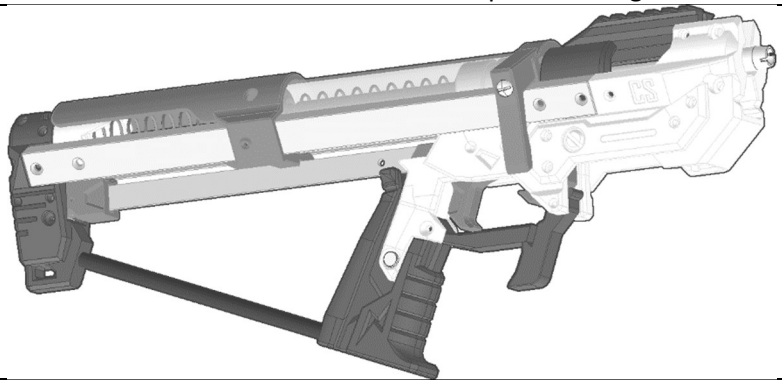


Wedge a 6-inch length piece of spacer tubing or a decorative stock spacer print between the back of the Griddle and the front of the Butt print. Feed an 8-1/4 inch length threaded rod through all three until you can screw it into the hex nut in

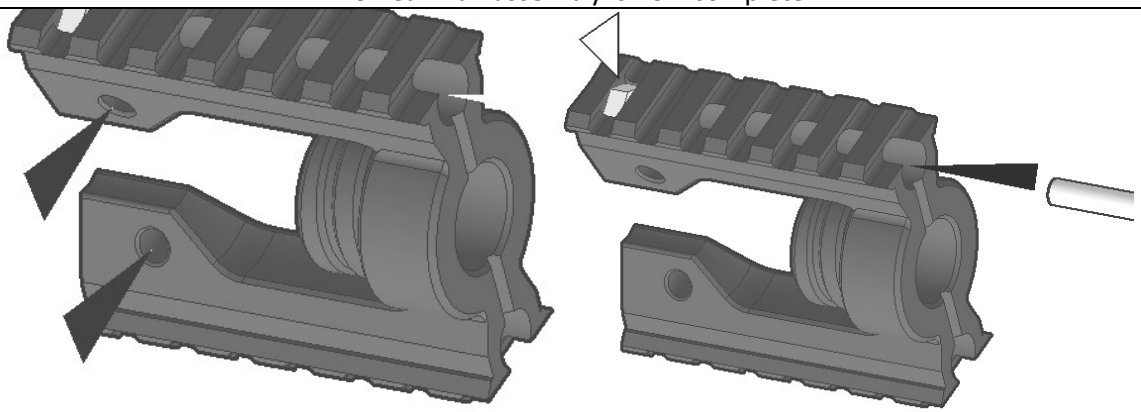
the Griddle print.



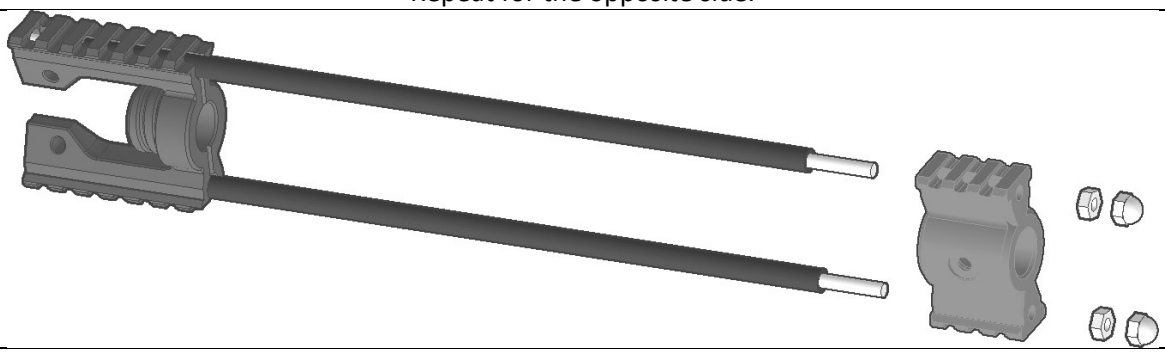
Keep screwing it into the hex nut until it no longer sticks out the back of the Butt print.
Add a hex nut to the end of the threaded rod and use a pair of pliers or a 3/8” socket to drive it down to the bottom of the bore in the back of the Butt print until tight.



The Rear-Half assembly is now complete.

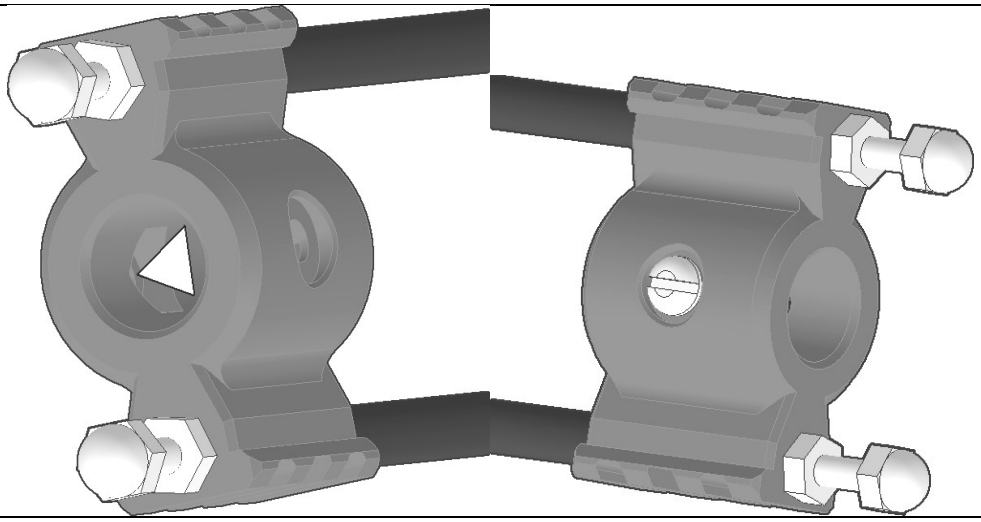


Use a ¼” drill bit or needle file to clean up the holes in the RailD print until you can force a round aluminum standoff into each one until centered.
Use a slotted screwdriver to force a hex nut into the slot in the top of the RailD print.
Feed a 13-inch long threaded rod into the front of the RailD print and then screw it into the hex nut. Stop screwing the threaded rod into the hex nut once the threaded rod starts to poke out the opposite side of the RailD print.
Repeat for the opposite side.

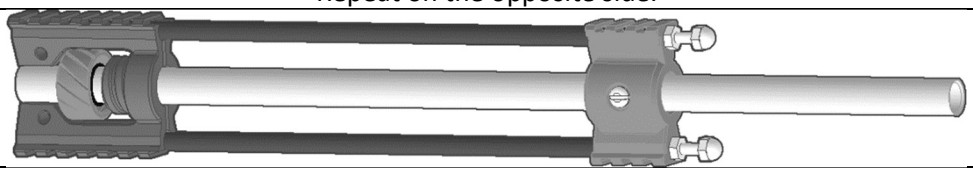


Slide the 11-1/4 long spacer tubing (or three Rail prints) over the threaded rods and into the RailD print until they bottom out.
Slide the MidBar print over the threaded rods and then onto the spacer tubing until it bottoms out on those. Add a hex

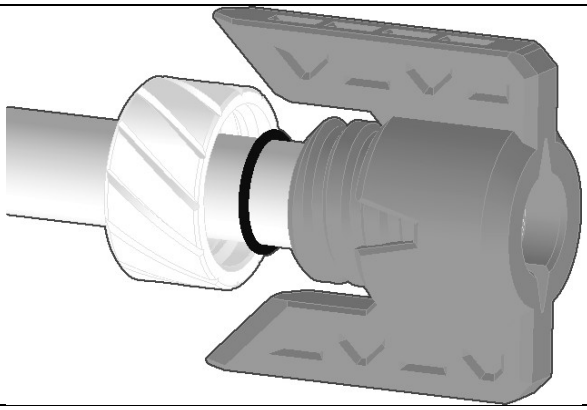
nut to each threaded rod and tighten them down against the MidBar print until snug. Cap off the threaded rods with acorn nuts.



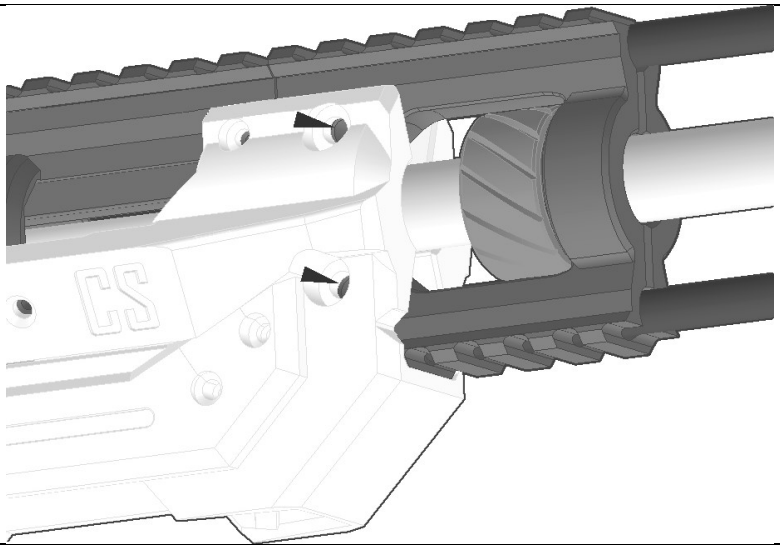
Add a hex nut to the socket on the inside of the MidBar print. Drive a short 10-32 screw into the Hex nut from the hole on the outside of the print until the end of the screw is flush with the inside surface of the hex nut.
Repeat on the opposite side.



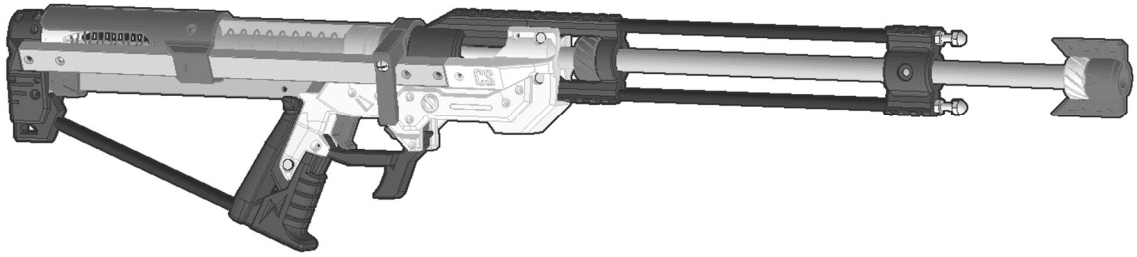
Slide the barrel into the MidBar print, then into the RailD print, add a 016 o-ring to the end of it, then in through a Collet print.
Make the back end of the barrel flush with the back of the RailD print.
Tighten the screws in each side of the MidBar print to clamp down onto the barrel.
Slide the Collet print and o-ring forward against the RailD print and screw the Collet into the RailD print until it bottoms out.



Silde the remaining Collet print, and 016 o-ring, and the Muzz print onto the exposed end of the barrel until the Muzz print bottoms out against it.
Slide the Collet print and o-ring forward against the Muzz print and screw the Collet into the Muzz print until it bottoms out. Check for how secure the hold is and adjust as needed.



Slide the barrel assembly onto the end of the Ramrod core and the front of the magwell assembly until the holes in both lines up. Drive a 4-40 screw into each of the four holes and into the aluminum standoffs to secure the assemblies together.



Insert a magazine into the magwell. Use the bolt handle to rotate the bolt out of the locked position. While bracing the stock against your shoulder or stomach, use the bolt handle to pull the plunger tube and ramrod assembly to the back of the blaster until it bottoms out into the catch. Slowly move the bolt handle forward to chamber the dart into the barrel. Once the bolt bottoms out against the magwell, rotated it back down to the side to lock it in place. Aim and pull the trigger to fire.

Replacing the Main Spring does not require full disassembly of the Blaster. You just need to loosen or remove the two screws in the side of the Cheek print and then slide it forward on the u-channel pair until the main springs can be pulled out of the Fbutt print, then fed out the top of the blaster.

The Blaster and Hardware Kits are shipped with 788 springs. The is rated lower than the K25 and K26 springs, which are also available. The K31 spring is rated even lower and is recommended for indoor play.