

Deterrence Dispensed presents



PLASTIKOV

build documentation

IvanTheTroll
version 2.00

Preface

The Plastikov is a 3D printable AKM-pattern receiver meant to be used with ‘headspaced’ AKM parts kits. While not near as strong and lacking the longevity of proper AK builds, it drastically reduces the tooling requirements and offers a cheap, easy way to run AKM kits without any serious permanent modifications. When care is given to building out a Plastikov, it can be just as reliable as proper AK builds (up to the point that the longevity issues of the Plastikov catch up to it).

This document will cover the steps, tips, and advice I have to lend after having built out many Plastikov receivers – I recommend you read this document in its entirety before you begin assembling your receiver.

You can watch this assembly process on video here:

https://lbry.tv/@Ivan's_CAD_Streams:c/Plasikov-Complete-Build-Video:a.

I recommend you use this document as to supplement the video, having text-based steps helps keep things organized, being able to see things in real time helps clear up confusing instructions.

Do not be intimidated by the length of the build video/tutorial – this process is not much more complex than assembling an AR15 from parts. With a little patience, the extensive tutorial value provided by this document and the build video should be able to help coach you through the build.

If you have found this tutorial useful, consider sending me Bitcoin to further development of this sort of thing – there is much more to explore in 3D printed guns, DIY guns, DIY ammo, etc.



BTC: bc1qm9q5lu5skq8e50yqz8hps69r44lmue6sfq5y2y

For those who said it could never be done;
For those who push the limits despite what is said:
A stone rolling downhill continues to gain momentum.

Remember that it is our shared responsibility to be safe and smart with firearms and show the world there is a peaceful way to own guns – take the time to get training, to learn basic (and advanced) safety rules, and to share the hobby with everyone interested – those most scared of guns in the hands of the people are often the ones who have no experience with guns in the first place.

TESTING RELEASE NOTICE

The Plastikov is rather well understood, and when built properly to the instructions in this document, is a safe firearm to shoot. I have personally shot over ten Plastikov receivers to the point that they have broken, in each case the failure was a gradual fatigue crack and not a violent failure - however, if you don't closely follow these instructions (ESPECIALLY the "Step 11/pre-flight" check at the end of the tutorial), you could cause a more dramatic failure.

The Plastikov is released in good faith, with my and others having demonstrated repeatable results, reliable function, and safe failures. If you have questions, comments, feedback for improvement, or interesting results from testing (or just a cool build to show off), you can leave these responses in the 'plastikov_dev' team on https://keybase.io/team/det_disp.

Table of Contents

Preface	2
Shopping List	6
Build Tutorial	10
Step 1: Lay Out Your Parts	10
Step 2: Cleanup Receiver Print.....	11
Step 3: Mount Stock and Rear Trunnion to Rear Receiver	12
Step 4: Installing Trigger and Disconnect	13
Step 5: Mate Front and Rear Receiver Sections	13
Step 6: Installing Trigger Guard/Mag Catch.....	14
Step 7: Installing Hammer.....	14
Step 8: Installing Pistol Grip	15
Step 9: Installing Barrel Assembly.....	15
Step 10: Installing Rails	16
Step 11: Performing Function and Safety Check – PRE-FLIGHT CHECK	17
FAQ/Troubleshooting	18

Shopping List

This list will cover what supplies you will need for a Plastikov build. I will include links to some items, but for the generic screws I'll allow you to hunt down your own – Amazon changes links on these things often enough that they go dead (or link to the wrong thing). I used Amazon for my screws, but I can recommend BoltDepot as a great source for high-quality screws.

Headspaced AKM Parts Kit

Without delving into technical matters, these kits will be sold by sellers who refer to them as “headspaced”. It is somewhat uncommon to find AKM kits sold this way – the best retailer is ArmsOfAmerica, who sell good quality headspaced kits built out from surplus parts – a formula for a good AK. You can always get a stripped kit and headspace it yourself, but if you have the tooling to do that work (or the money to pay someone else to do it), you're probably better off doing a traditional/proper AK build. For questions about what kits will and won't work, read the “FAQ/Common Issues” section at the end of this document.

Your parts kit will need to have a headspaced barrel assembly, the bolt/bolt carrier it was headspaced with, an AK fire control group (this can be bought separately from your kit), an AK pistol grip (this can be bought separately from your kit), a trigger guard/magazine catch assembly (this can be bought separately from your kit), as well as a recoil spring assembly (this can be bought separately from your kit), as well as some furniture if your kit doesn't come with any. Do note that you may have to fit some furniture to your receiver (or vice versa).

The link to AOA's headspaced kits: <https://armsofamerica.com/shop-all/headspaced-kits/>



Example of useable AKM Parts kit

Receiver Rail Kit + Screws

The Plastikov relies on steel rails (as plastic is not strong enough to hold up for more than a few rounds when it comes to being AK bolt carrier rails). These rails come in two primary forms – “hand-fit” (AKA “tubing”) spec, and “milled” (AKA “drop-in”) spec. Hand-fit rails are generally cheaper, but require hand-fitting in order to work correctly in the gun. The milled spec rails are more expensive but will drop in with minimal (if any) hand fitting.

The rails will require the use of 16 M2.5x8 screws. I recommend opting for good quality screws and not cheap ones from Amazon.

If you opt to make your own rails, note that a good quality stainless (such as 304 or 17-4PH) or good carbon steel (no mild steel) is recommended. I have put thousands of rounds on 304 stainless rails without issue, check the “FAQ/Common Issues” section at the end of this document for more info on material selection for rails, and the “Hand Fit Rail Guide” text file in the documentation folder for info on how to hand fit a set of “hand-fit” spec rails.

At the time of publication, both *avesrails.com* and *riptiderails.com* are offering Plastikov rails for sale (or are getting ready to offer them). I have personally tested their rail offerings and can confirm they worked great for me. They are both offered with the required screws.



Example of milled spec Plastikov rails

“Pistol” Rear Trunnion

For this build to work with most AKM kits, it relies on a generic rear trunnion. You can get the exact rear trunnion I used here:

https://ak-builder.com/index.php?dispatch=products.view&product_id=29874

While other generic pistol trunnions should work, I cannot guarantee they will. The AK-Builder rear trunnion fits snug and works properly.



Generic Pistol Rear Trunnion

AR15 Stock

You will need an AR15 tube-based stock (unless you are building something without a stock). You will also need the tube itself, as well as whatever other mounting hardware is required for it.

Hammer/Trigger Bolts & Nuts: 2x M5x60

The Plastikov uses M5x60 metric bolts and M5 nuts to hold in the trigger and hammer (shoutout to Brandon Herrera for the idea). You will need two bolts and two nuts. I used bolts and nuts from BoltDepot, they shipped fast and cheap and seem to be great quality. The following link lists both the bolts and the nuts:

<https://www.boltdepot.com/Product-Details.aspx?product=6209>

These bolts must be cut down to 51mm (shaft length) long. Refer to the Plastikov Complete Build Video for info on how to do this.

Barrel Mounting Bolts and Nuts: 6x M4x16, 6x M4 Nuts

You will need 6 M4x16 bolts (these can be cut down from M4x20 bolts) and 6 M4 nuts. I bought mine from Amazon, but if you are ordering from BoltDepot for the M5 bolts, might as well get these from there as well.

Trigger Guard Bolts and Nuts: 5x M4x8, 5x M4 Nuts

You will need 5 M4x8 bolts and 5 M4 nuts. I bought mine from Amazon, but if you are ordering from BoltDepot for the M5 bolts, might as well get these from there as well.

Receiver Mating Bolts and Nuts: 6x M4x25, 6x M4 Nuts

You will need 6 M4x25 bolts and 6 M4 nuts. I bought mine from Amazon, but if you are ordering from BoltDepot for the M5 bolts, might as well get these from there as well.

Rear Trunnion Mounting Pin: 4.5x60mm Drill Rod (or 4.5x60mm Pin)

You will need a 4.5mm diameter, 60mm long length of drill rod (or a pin that matches those specs). I bought a 100mm length of drill rod from Amazon and cut it down to size using a Dremel tool with a cutting disc. You may find 4.5mm pins that are not drill rod on McMaster or other hardware sites, which you could cut down using a hacksaw. I would advise against just using a M4.5 bolt, since a snug fit on this pin will help extend the life of your receiver.

Tooling:

You will need a 2.5, 4, 4.5, and 5mm drill bit, as well as a drill to use them with. Your tools required may vary beyond this, though a small metal file, small hammer, small screwdriver, and metric Allen wrench set is all that I needed when installing milled-spec rails.

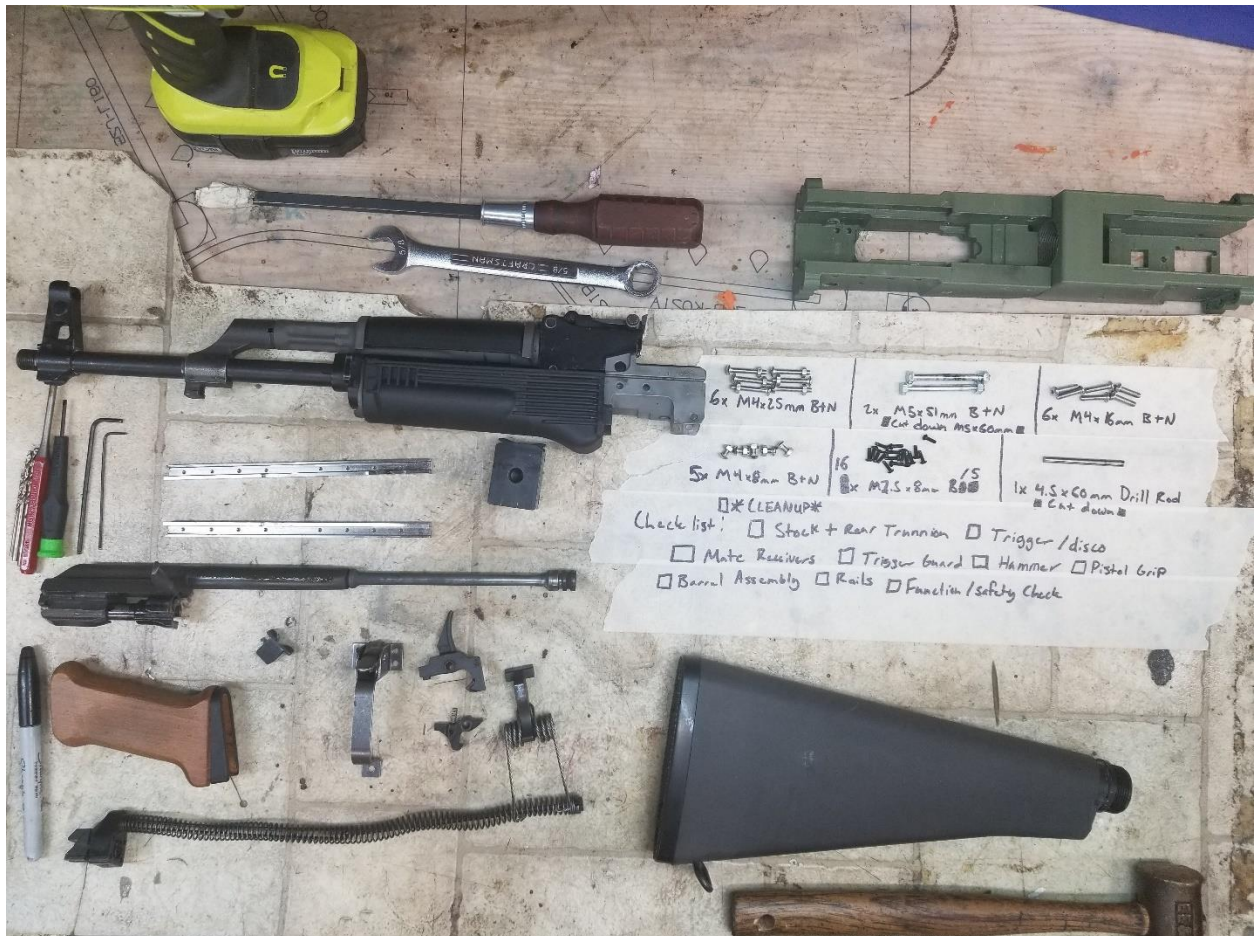
Build Tutorial

I recommend you read this section in its entirety, then watch the build video while you go about building your Plastikov. You are, of course, free to build as you would like, but having the manual in your mind while watching the video should make each step clear.

****REFER TO THE README FOR BASIC PRINT INFORMATION****

Step 1: Lay Out Your Parts

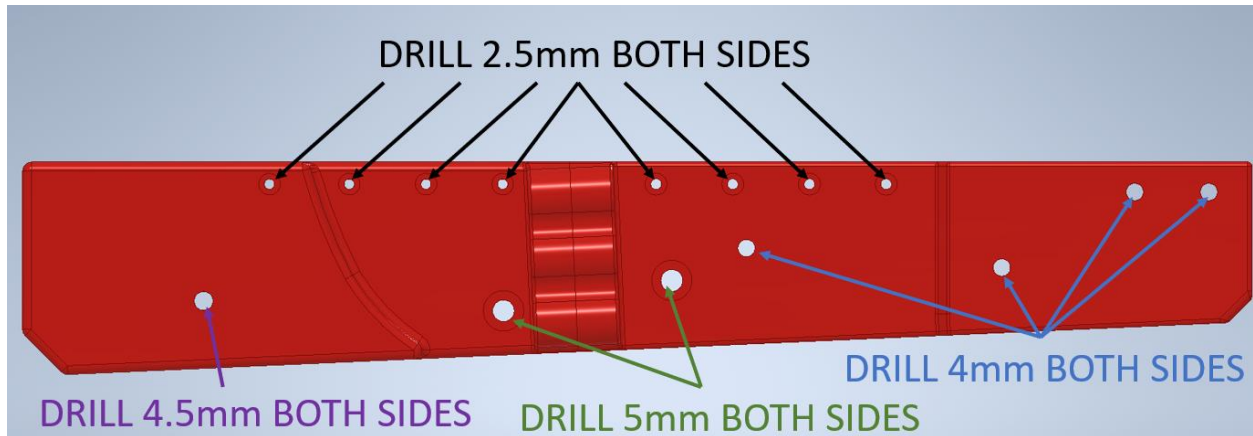
This step is simple – gather up all your parts and lay them out. Make sure you have all the parts you need. If you are going to be cutting down any bolts or pins, go ahead and do so now. If you cut down a bolt, remember that you will need to apply a chamfer around the end you cut down and will need to ensure that nuts can still thread easily on to the bolt.



Spread of parts and tools used in assembling a Plastikov v2.0

Step 2: Cleanup Receiver Print

Take your two receiver sections and remove all supports from them. Be sure to remove all supports from the threaded section on the back side of the rear receiver. After supports are removed, you will take your drill bits (2.5mm, 4mm, 4.5mm, and 5mm) and drill the holes shown below to size. Be careful not to drill at an angle and walk the holes out of round – try and keep the drill steady, the holes straight and circular.



Step 3: Mount Stock and Rear Trunnion to Rear Receiver

Parts used: Rear receiver, buffer tube/stock (as applicable), 4.5x60mm pin (or drill rod), pistol rear trunnion.

Take the rear receiver and screw in your buffer tube of choice. I used an A2/M16 style buffer tube, but carbine tubes will work as well. If you use a carbine tube, you may opt to print and install the 'buffer tube retaining plate adapter' part found in the files. This part will allow you to use the anti-rotation plates that carbine and pistol tubes work with. Installation is simple – the peg on the adapter lines up with the recess in the receiver, the plate will line up with the recess on the adapter. Some hand fitting may be required, and really part is not strictly necessary – you can tighten down your castle nut to the point the tube should not spin loose.

While installing your tube, ensure that there is no debris or support material remaining in the threads on the receiver. The tube should go in without too much resistance – if it is fighting you, use a little oil and go slowly. If it is too loose, your print settings were likely changed far away from recommend/default settings, or your printer itself is not working right. You could use pipe thread sealing tape as a shim, but you should solve your printer/slicer issue.

With the buffer tube installed, you can mount your stock of choice to it if you would like – I find it easier to complete the rest of the assembly with the stock off, but this is up to you. Once you have got your tube threaded in and know it fits, you can just take it back off and reinstall it as your last step – I recommend doing this first only because if it won't fit due to some print issue, it'd suck to have completed the rest of the assembly only to find that out.

Next, take your pistol trunnion and drop it down into the receiver. It should fit snugly, ensure that all support material is removed. With the trunnion installed, take your 4.5mm drill rod and tap it into the hole that lines up with the rear trunnion. You may need to use a hammer and punch to drive it in for it is first installation. If you drilled this hole out straight to 4.5mm in step 2, the pin should go easily – if your holes wandered a little, you may have to take the rear trunnion out and drill the holes so they align better.

If your pin is cut a little short, just try and center it in the receiver. If your pin is a little long, you can trim it down some more or just leave it sticking out a little – I've tested this with a 50mm pin to ensure it's strong enough even if you mess up by 10mm, so don't worry too much.

Step 4: Installing Trigger and Disconnecter

Parts used: Rear receiver, trigger, disconnecter, disconnecter spring, M5x60 bolt, M5 nut

*Note: Your M5x60 bolts must be cut down to 51mm (shaft length) long. When cutting down bolts, it is important that you re-apply a chamfer to the end of the bolt so that a nut can still spin on to it. Test that a nut can spin down onto any bolt you cut down before installing it. Refer to the Plastikov Complete Build Video for more info on how to do this.

This step is straightforward – install the trigger and disconnecter as you would normally on an AK. Refer to the video for how I held things together if you are stuck. Ensure that the BOLT is installed from the LEFT to the RIGHT, and not the other way around. Once the bolt is fully inserted (the hex head of the bolt should sit inside the hex-shaped recess on the receiver) and the trigger and disconnecter are held by the bolt, spin the nut until it is tight. I used a screwdriver to spin mine on, you could also use a pair of needle-nosed pliers. If you have the appropriate socket or wrench, you could use that as well.

*Note: when you have finished your basic function testing with your Plastikov, you may opt to apply temporary Loctite (blue or yellow) to keep the nut from coming loose. Alternatively, you can use a soldering iron to melt the edge of the circular recess down into the way of the nut, so that the nut cannot spin loose because the melted plastic is holding it in place.

Step 5: Mate Front and Rear Receiver Sections

Parts used: Front receiver, Rear receiver 6x M4x25 bolts, 6x M4 nuts

Take both receiver sections and lay them together. The alignment pins will be useful if your print comes out nicely, but if they are preventing you from lining up your receiver sections, you can snip them off – they aren't structural at all, just for convenience. With the receiver sections laid next to each other, take one of your M4 bolts and install it from the FRONT receiver to the REAR receiver while holding the receiver sections tight against each other. Once the bolt is fully inserted, thread one of your nuts onto the end of the bolt. Do not tighten the nut down at this time, just get it started on the bolt. Repeat this process for all 6 bolts.

With all 6 bolts started, tighten them in a cross-wise pattern (top-left bolt, bottom-right bolt, top-right bolt, bottom-left bolt, middle-right bolt, middle-left bolt). In order to get them tight, spin the nut down until it feels tight using needle nosed pliers (or a wrench, if you have small metric wrenches). Next, spin the bolt out about half a turn. This will ensure the nut is snug against the flange. Finally, while holding the nut still with your pliers/wrench, tighten the bolt until it is snug.

*Note: when you have finished your basic function testing with your Plastikov, you may opt to apply temporary Loctite (blue or yellow) to keep the nuts from coming loose.

Step 6: Installing Trigger Guard/Mag Catch

Parts used: Receiver assembly, Trigger guard/Mag catch assembly, 5x M4x8 bolts, 5x M4 nuts.

*Note: If your trigger guard assembly is not assembled, you will need to refer to a video on how to do this BEFORE you install the trigger guard. Youtube has several videos on this.

Lay your trigger guard assembly in place on the bottom of the receiver. Install all 4 bolts and nuts on the front side of the trigger guard assembly – follow the same basic process as you used in step 5 (install bolts, spin on nuts, tighten down nuts). I recommend you use yellow or blue Loctite on these screws/nuts, as they have a tendency to shake themselves loose every couple hundred rounds.

Install the bolt at the rear of the trigger guard last – it will require you to force the trigger guard into the recess on the receiver, then installing the bolt. This bolt requires Loctite or it will come loose pretty often – with a pistol grip installed, this bolt really isn't explicitly required (the Plastikov v0.9 that I ran to 2.5k rounds shook this bolt loose at 50 rounds and I never reinstalled it), but to prevent it from getting lodged in the receiver once it comes loose, use Loctite or simply don't install it.

*Note: If your mag catch is brand new, you will have to hand fit it. There are videos on how to do this, I mention how I hand fit mine in the Plastikov Complete Build Video.

Step 7: Installing Hammer

Parts used: Receiver assembly, Hammer, Hammer spring, M5x60 bolt, M5 nut

*Note: Your M5x60 bolts must be cut down to 51mm (shaft length) long. When cutting down bolts, it is important that you re-apply a chamfer to the end of the bolt so that a nut can still spin on to it. Test that a nut can spin down onto any bolt you cut down before installing it. Refer to the Plastikov Complete Build Video for more info on how to do this.

This step can be a little tricky depending on how you insert your hammer. I choose to wrestle it into place, some people use a method where they fold the hammer spring legs over each other to avoid having to fight it. You will hold your hammer down into the receiver, then, like with the trigger and disconnect, you will take your M5x51 bolt from the LEFT side to the RIGHT side, pinning the hammer in place as you do so. Once the bolt is fully inserted (the hex head of the bolt should sit inside the hex-shaped recess on the receiver) and the trigger and disconnect are held by the bolt, spin the nut until it is tight. I used a screwdriver to spin mine on, you could also use a pair of needle-nosed pliers. If you have the appropriate socket or wrench, you could use that as well.

*Note: when you have finished your basic function testing with your Plastikov, you may opt to apply temporary Loctite (blue or yellow) to keep the nut from coming loose. Alternatively, you can use a soldering iron to melt the edge of the circular recess down into the way of the nut, so that the nut cannot spin loose because the melted plastic is holding it in place.

Step 8: Installing Pistol Grip

Parts used: Receiver assembly, Pistol grip, Pistol grip screw, Pistol grip mount

Drop your pistol grip mount into the receiver. You may have to file the square hole in the receiver to allow the mount to fit, they can be snug depending on your print settings. The threaded section on the pistol grip mount should face rearward, not forward. Once it is dropped into place, take your pistol grip and screw and install it. You can get your pistol grip very tight without damaging your receiver (so long as you printed at 100% infill like the readme calls for).

Step 9: Installing Barrel Assembly

Parts used: Receiver Assembly, Barrel Assembly, 6x M4x16 bolts, 6x M4 nuts

Start by taking your 6 M4 nuts and installing them into the inside of the receiver. There are 6 recesses that will each hold one M4 nut. Depending on your print settings, these recesses may be fairly tight – you can use a small clamp to help seat the nuts. Next, take your barrel assembly and place it down into the receiver. You may have to push it until you meet resistance, then take your barrel assembly out and remove any plastic the front trunnion is scraping off the receiver. The front pocket for the trunnion is tight, and depending on your printer settings, can come out very tight. You can use a speedy clamp or similar tool to help push the barrel assembly down into the receiver. You can tell that the barrel assembly is fully seated when you can see clear through the receiver and lower hole on the trunnion. Remember to take the barrel assembly out and remove plastic if it is not seating fully.

With the barrel assembly fully seated, take one of your M4x16mm bolts and start it. It should not thread into the receiver (assuming you did step 2 correctly) and should thread into the nut that you installed first in this step. Get the bolt started, but do not get it tight yet – install all 6 bolts first. You should feel when the bolt passes into the trunnion and may be met with some resistance. If you feel resistance, I recommend you turn your bolt forward half a turn, then backward one quarter of a turn. Repeat this process until the resistance lightens up or your screw is installed.

With all 6 screws installed, I recommend you tighten them in this pattern: Front right, rear left, front left, rear right, middle left, middle right. These bolts do not need to be extremely tight, but they should be more than “just snug”.

*Note: when you have finished your basic function testing with your Plastikov, you may opt to apply temporary Loctite (blue or yellow) to keep the bolts from coming loose. In my experience, this isn't needed for these bolts – just check that they are still tight after every range trip.

Step 10: Installing Rails

Parts used: Receiver Assembly, Rail set, 16x M2.5x8 bolts

This step is best understood from watching the build video – you’ll need to take your rails (if you’re using milled spec rails, no hand-fitting should be needed – if you’re using hand-fit rails, refer to the “Hand Fit Rail Guide” text document in the documentation folder) and place them on the bolt carrier. Next, place the carrier and rails as one unit down into the receiver, and slide the carrier all the way forward once the rails are fully lowered. At this point you are ready to bolt your rails in place. Take your screws and install both rails. It is important to hold the rails down into the receiver and against the inside wall when screwing the bolts in. After installing all the bolts, the rails should be flush against the outside of the receiver (no gaps between the web of the rail and the wall of the receiver. The bolt carrier should move freely, but depending on your print settings it may be tight at first – a little oil on the upper rail should free things up a bit, and continued operation will break the rails in.

Step 11: Performing Function and Safety Check – PRE-FLIGHT CHECK

Parts used: Assembled Plastikov

To start this step, install your recoil spring. Ensure the firearm is unloaded, then rack the bolt and pull the trigger several times. Hold the trigger down and pull the bolt back, let go of the bolt so it springs forwards, then release the trigger and pull it again. Check for these things:

- When you pull the trigger, the hammer falls fully and hits the bolt.
- When you pull the bolt back, it does not require excessive force (the bolt should not feel like it is sticking)
- The bolt returns all the way forward under spring tension when release. (Be aware that AKs sometimes hold the bolt in place with their hammer, you can nudge the bolt carrier forward if it doesn't want to go, but don't guide it in – it should still close on its own).
- When you release the trigger, the hammer does NOT fall, and is caught by the trigger. (It resets for the next shot).

After this first test, grab a magazine and try installing it. If you have a brand-new mag catch, it will likely still need fitting. If your magazine locks in, you are all set. Give it a wiggle and swap the mag in and out several times to ensure the latch is working properly.

Next, check headspace if you have gauges. If your parts kit is from a reputable company like Arms of America, there's no real need to check it – but if you have a used kit or one of the cheap AMD65 kits, you should pick up headspace gauges (at least a no-go gauge). This is not Plastikov specific, since the Plastikov itself does not really have any bearing on the headspace of the gun, it is just a good idea to have a set of gauges and check every couple hundred to thousand rounds.

This check primarily applies to people who make their own rails, or do hand-fit rails that don't have hammer cutouts: ensure that with the hammer pushed all the way towards either side of the receiver that it doesn't hit the rail as it rotates backward. Having these cutouts not be in place/being too small is probably the biggest danger a Plastikov could pose to its operator. If the hammer cannot hit the rails, you are good to go. If it can, break out the Dremel tool and make the cutout a little wider.

The next item to check is that your ejector works and that the gun will cycle rounds. Because the Plastikov has no safety, this can be a safety concern if you do not know what you are doing. You can remove the hammer from the gun to ensure you won't have a negligent discharge when testing this, or you can just be vigilant to keep anything that could pull the trigger away from the trigger. Load a magazine, then rack the gun – it should be able to chamber a round fully from the magazine. Yank back briskly on the charging handle – the ejected round should go flying. You can perform as many dry cycles like this as you would like, but usually if it does well on one or two rounds here it will be safe to fire.

Your next check will be to actually fire the gun – I recommend you wear safety glasses at least for the first couple hundred rounds. Fire your first mag slowly, checking for cracks on the receiver. If there is a hidden anomaly in the print, it will usually show up right away. If you think you see a crack, mark it with a sharpie or pencil and fire another couple rounds. Did the crack grow or move? If not, it is probably not a crack, but just a scratch. After your first mag of slow fire, if no cracks have shown up, your Plastikov should be safe to fire for hundreds if not thousands more rounds (there are several ways to extend the lifespan of your receivers if you wish, they are described in the FAQ section).

FAQ/Troubleshooting

Q: What sort of round counts should I expect? What ends up breaking?

A: I got 2.5k rounds on a PLA+ receiver. I have not had any receivers past v0.9 printed in PLA+ fail before 1000 rounds – so you are quite likely to make it to 1000 without worry. Each of my Plastikov receivers have died due to fatigue cracking (the repeated impact of firing/recoil) in the receiver – these cracks usually take quite a few rounds to propagate to the point that they make the gun quit working properly. Once you notice a fatigue crack, it is best if you just reprint whichever receiver section is cracking. I have had two cracks in the rear receiver where the rear trunnion mounts open up while I've been shooting – In both cases the gun recoiled and went back into battery, but I could feel something was wrong (the stock goes all wobbly because the rear trunnion had cracked out of the receiver). Pretty much the only way you would have a projectile bolt carrier hit you is if you took another shot past the point the stock had fallen without having the gun in your shoulder – the stock/rear trunnion would fall off, you'd fire again, and the carrier would hit you and leave you with a nasty bruise.

Q: How many rounds can I fire before heat becomes a concern?

A: About 90 rounds on a PLA receiver, 120 on a nylon receiver. If you need to fire this many rounds without a cooling break, ensure the barrel is not loaded (no forces pushing on the end of it) while it cools – some shifting could happen if you get the receiver hot, force the barrel to move, then let the gun cool. I haven't been able to observe this happening in practice, but it could happen in theory.

Q: Can the Plastikov work without a stock?

A: Yes, I have fired hundreds of rounds without having the stock in my shoulder.

Q: What parts kits work?

A: Essentially any headspaced AKM kit. You will run into fitment issues with some handguards, you can either Dremel the receiver to accept your handguard or Dremel your handguard to fit the receiver. I bought a cheap set of used AK103 style furniture for my v2.0 Plastikov and just Dremeled it to fit the notches in the Plastikov receiver. AK74 kits should work, as they follow the AKM spec as far as the receiver is concerned.

Q: What mags work?

A: I have tested mine with factory steel mags, as well as PMAGS. One tester used printed mags, and they ran fine. In my testing the steel mags are more reliable (PMAGS sometimes do not want to feed the first couple rounds out easily from a fully loaded mag). Any quality AK mag should work.

Q: I have hand-fit spec rails. How do I hand fit them?

A: Refer to the “Hand Fit Rail Guide” text document in the documentation folder for more info.

Q: Why won't my dust cover fit?

A: Some dust covers fit really tight; some few won't fit without modification. If you have a cover that won't fit on, use a file to take a little (less than a millimeter) of material of the BOTTOM of the square cutout at the rear of the cover and it should fit on. These are not precision-made parts, and the Plastikov will not work with covers that want to sit too low.

Q: I am having failures to eject and/or jams of fired cases. What is wrong?

A: This should not happen with milled spec/drop in rails. If it is, ensure that the ejector has not peened over into a rounded shape – if it has, you may need to use a Dremel tool to grind the ejector back so that it presents a square face to the bolt.

If you are using hand-fit spec rails, failure to ejects indicate that your eject isn't bent up sharply enough, or that you trimmed the ejector too short. If you trimmed your ejector too short, there isn't much you can do – you can try placing a shim between the left side rail and the receiver or bending the ejector up more to compensate.

Q: What materials are suitable for making the rails? Can I use aluminum or mild steel?

A: I have tested 1018 steel (both hardened and as-rolled), and it held up fine for the rails, but was too soft to work as an ejector. 304 Stainless, 17-4PH Stainless, and any equally hard carbon steels would work – but aluminum and mild steel are too soft to hold up as the ejector. One DIY option is to heat-set a stainless steel tab into the receiver to act as the ejector – I did this on the Plastikov v0.9 that went to 2.5k rounds. I cut the ejector area out of the 1018 rails I had been using and bent a square of 304 Stainless into an “L” shape, then heated it with a soldering iron until it melted into the receiver – I don't recommend this option over milled or hand-fit spec rails, but it is a viable option.

Q: I have failures to eject occasionally when the top cover is installed, but the gun runs fine with the top cover off.

A: If you are using hand-fit rails, ensure they are fit properly. If using milled-spec rails, ensure that you top cover isn't deformed/bent. The printed top covers offer a little more room for ejected cases to leave from and might be a good option if you're having issues with factory top covers.

Q: Where are the files for the AMD stock?

A: I am intentionally omitting them from the files for now. I may add them back later, but for now the AR15 tube-based setup is much closer to universal solution.

Q: What furniture works? Why won't my handguard fit?

A: The Plastikov is still sized for AMD-65 style handguards. This means that if you want to use lower handguards that don't follow this pattern will either need modification to the lips that fit into the receiver (I used a Dremel to cut a set of knockoff AK103 furniture so it would fit), or you will need to modify the receiver so that the handguard will fit. If you want to modify the handguard, simply attempt to install it, and make note of where you will need to remove material to get it to fit into the slots on the receiver. If you plan to modify the receiver, attempt to install the handguard and make note of where you will need to modify the receiver to allow the handguard to fit. Because the receiver is stronger with the smaller cutouts like the AMD-65 handguard uses and because ammo is currently hard to come by/expensive, I can't go through with another 2.5k round on a receiver printed to accept wood handguards and the like to ensure it works fine – so I stuck with the handguard cutout I know will last without issues.