

THE BUBAR-10
3D Printable
'LR308-Style Lower
Receiver

Preface

The BUBAR-10 is a 3D printable LR308-style lower receiver. It utilizes simple metal parts to greatly enhance the strength/durability of the lower – able to withstand pushup tests, drops, throws, kicks, and other hard abuse. At the core of its design is a U-Bolt to clamp the buffer tower down (preventing cracks), two humps to spread bending force at the rear of the receiver along the top deck of the lower, and two eye bolts to act as the front takedown lugs on the lower (which also help clamp the front of the lower together, enhancing strength further).

Note: While the BUBAR is a very strong lower, it is not advised to shoot it without its metal reinforcements – without these reinforcements, the lower will not prove strong or reliable.

This documentation will walk you through the process of building your own BUBAR lower – while many of the steps are standard to building out an AR15 lower, some fitting is required on the metal reinforcements for this lower, and some things are unique to this build due. Do not assume you know how to assemble your parts without reading the documentation!

You can watch this assembly process on video here:
odysee.com/@Ivan's_CAD_Streams/BUBAR10Tutorial

Make sure you refer to the README for basic info/print settings for this lower!

I recommend you use this document 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. If you run into issues, the troubleshooting section at the end of this document should help you out.

Make sure you CAREFULLY read the shopping list section of this document – due to the lack of standardization among AR-10 parts, gaps in standard sizes for hardware store parts, and for the convenience of the builder, if you just guess at what parts you'll need you may end up going wrong.

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.

<https://ctrlpew.com/donate-to-ivanthetroll/>

A big Stoner Rifle is a good thing

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.

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Shopping List

Starting right off – the AR10 is a platform that lacks proper standardization. There are two prevailing specs (LR308 and Armalite spec), but from one manufacturer to the next, nobody can seem to agree what either of those specs actually mean. I based the BUBAR-10 on the PSA AR-10 uppers (which are LR308 spec), and can certainly verify it works with this lower. I planned the BUBAR-10's shopping list such that the items that commonly seem to differ from one maker to the next are not an issue. However, outside of PSA AR-10 uppers, I can't guarantee that you won't have to do some fitting or buy parts outside the scope of this shopping list – welcome to the wonderful world of AR10s.

This list will cover what supplies you will need for a BUBAR-10 build. You will need some basic tools, such as a 1/4", 5/32", and 3/8" drill bit, a hammer, a 1/8" punch, a screwdriver or allen key to install your pistol grip screw, a battery drill, a Dremel tool with a cutoff wheel (or a metal file), a ¼-28" tap, and optionally a pair of needle-nosed pliers (these are always handy).

AR10 Parts

The big-ticket item for this build will be an AR10 upper – the BUBAR is compatible with LR308 uppers, but some uppers may take fitting because "LR308 spec" doesn't actually mean much. Uppers with railed/free floated handguards should be compatible across the board with the BUBAR, but again – it's hard to ensure everything works when every company makes things differently.

The BUBAR is designed to only use carbine buffer tubes/buffers – this is because the U-Bolt reinforcement doesn't play nice with the shorted threaded section found on rifle gas tubes. Remember that you can use any length upper/gas system with a carbine buffer/tube – the idea that this somehow will damage your gun is wrong. You can use a 20" upper with a carbine buffer tube, so long as you are using a carbine buffer and spring.

Some variation exists in AR10 magazines, and since metal mags can be expensive, I just tested with PMAGs – which seem to be good to go across the board.

Broken down, you will need:

- A complete AR10 upper – any barrel length, gas system length, etc, so long as it claims to be LR308 spec it should work. I recommend PSA's AR10 uppers, they are quite nice and at least the one I've got is exceptionally accurate. The BUBAR has no issues handling other common AR10 chamberings such as 6.5 Creedmore. Note that you will need a bolt carrier group and charging handle with your complete upper – some uppers don't include them, make sure yours does!
- An AR10 buffer and buffer spring
 - I've seen people claim AR10s work with AR15 buffers and springs, but if you're ordering an AR10 upper from a place, I'm sure they sell a buffer and spring that they have tested with the upper they are going to sell you – worth saving the hassle to get a buffer and spring you know are compatible

AR15 Parts

What the heck? AR15 parts? Yep, that's right – the AR10 and AR15 lower parts kits are nearly identical, and for the BUBAR build, I decided to center on using standard AR15 lower parts kits (except for the buffer and spring, as explained above).

Some of the weirdness in AR10 parts from one manufacturer to the next is in the lower parts kit – magazine catches, bolt hold opens, and even takedown pins can vary quite a bit. This is part of what guided my decision in making the BUBAR avoid AR10 lower parts kits, because those kits are not universal, whereas AR15 kits are.

Broken down, you will need:

- Standard AR15 carbine lower parts kit
 - Fire control group – hammer, trigger, disconnecter, plus the springs for each of these parts
 - Safety selector, detent, and spring
 - Magazine catch, catch spring, and button
 - Buffer retainer, buffer retainer spring
 - Buffer tube – try and find a “mil-spec” buffer tube, some of the commercial ones really suck
 - Buffer tube castle nut and locking plate
 - **AR15 bolt hold open**
 - This build uses an AR15 bolt hold open in place of an AR10 one – yes this works fine, no you don't want it to use AR10 catches because nobody can agree on what an AR10 bolt catch actually is.

*Note: You do not need the trigger guard or takedown pins/springs from an AR15 lower parts kit – you can save these parts to have as extras for other builds, though. You will need to use one of the takedown pins as a tool for building your BUBAR, so don't throw them away or anything silly like that.

- An AR15 pistol grip – the BUBAR does not work with most AR15 grips that feature an extended backstrap. Some may fit, but I would say as a rule you will want to either use grips that don't have the backstrap or shave down the top of the backstrap on your desired grip until it fits.
- An AR15 stock – I like B5's Bravo stock – it's a bit pricey, but fits great on mil-spec buffer tubes and works great for me. There are some printable stocks out there.

Metal Reinforcing Parts

The BUBAR uses a few metal reinforcements to make it strong – a U-Bolt and two rod-end eye bolts.

It also uses bushings, which are to be inserted into the lugs on the upper receiver, in order to accomplish two things: using a standard size takedown pin, and to allow use of the rod-end eye bolts (which are what makes the BUBAR so strong).

Because AR10 takedown pins are nominally 9/32", standard AR15 takedown pins (nominally 1/4") won't properly fit into the lugs in the upper receiver. While the nominal size for AR10 uppers is 9/32", some manufactures take this to mean 0.281", some think it means 0.278", etc – so there's not the same sort of standards as we enjoy with AR15s.

So in an effort to maximize the compatibility of the BUBAR, I opted to call for the install of these bushing. They are cheap, easy to make on your own (if you would like), easy to install, and are not permanent – they can be removed just as easily as they are installed. This will be covered in the assembly portion of the video.

You can source these parts yourself, or buy these parts in a hardware kit, such as that offered here:

- 1x <https://www.mcmaster.com/3201T49/>
 - The U-Bolt required is a 1/4"-20 thread, 1-1/8" ID. I prefer carbon steel to stainless steel (since there is a little grinding required on the u-bolt, and stainless steels can be annoying to file sometimes). You will also need two 1/4"-20 nuts and a nut plate for the U-Bolt, but your U-Bolt will usually come with these.
- 2x <https://www.mcmaster.com/97135A210/>
 - Two 1/4"-20 locking nuts – for securing the rod-end eye bolts
- 2x <https://www.mcmaster.com/59895K11/>
 - Two 1/4"x 1-3/16" Flat-Shoulder Rod-End Eye Bolts are required – these are a somewhat uncommon size bolt, are tricky for boltmakers to produce, and tend to be pretty expensive.
- 1x 9/32" OD 1/4" ID Brass Bushing, 0.745" long
- 1x 9/32" OD 1/4" ID Brass Bushing, 0.495" long
 - Both these brass bushings can be cut from tube stock, such as <https://www.mcmaster.com/8859K25/>

The BUBAR also uses extended length pins in place of the standard takedown pins. You will need two pins – both are 0.250" in diameter. While you can use any sort of pin, I like the spring-detent pins like these.

For the front pin, I use this: <https://www.mcmaster.com/98404A135/>

For the rear pin, I use this: <https://www.mcmaster.com/98404A139/>

Your options are open here, and 1/4" bolts, dowell pins, and several other solutions will work. Pick what seems best to you, cut pins to length if you need to, and you'll be good to go.

Build Tutorial

I recommend you read this section in its entirety, then watch the build video while you go about building your BUBAR. It's a fairly easy process but following the video should save you from wasting any time due to silly mistakes. Note that because much of the assembly process is identical to the steps for building a UBAR, some images from the UBAR build may be used here – if this confuses you, refer to the video (linked at the beginning of this document) for help.

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

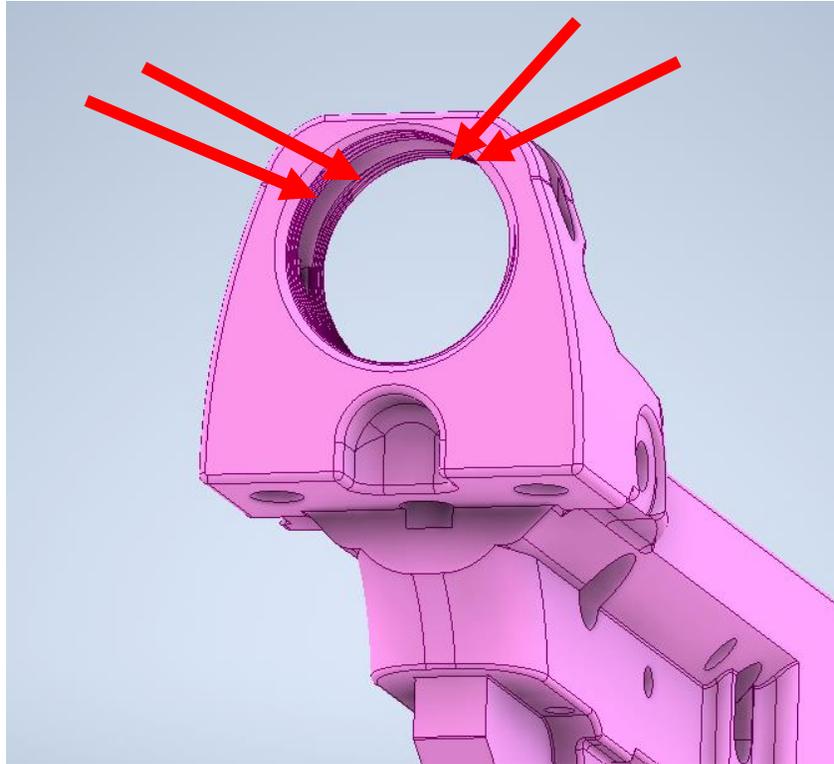
Step 0: Lay Out Your Parts/Prep Work

Begin by laying out all your parts, tools, and other equipment. Being at least sort of organized helps ensure no little parts get lost!



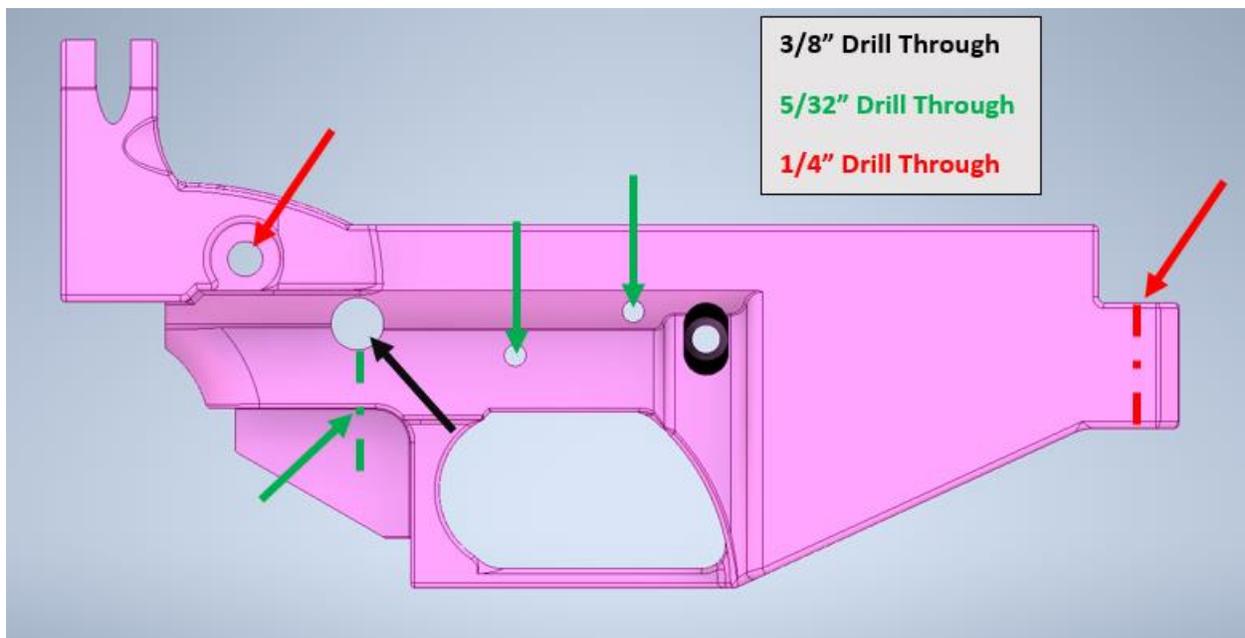
My Spread of Tools/Parts

As usual, remove all support material from your receiver. Be thorough and remove it all – be gentle when removing the supports from the buffer tube threads, you don't want to damage the threads on accident! Note that there are no threads at the top of the buffer tube hole – you won't need to remove support material from there, so don't accidentally try gouging threads into the top of the hole.



The top of this hole doesn't have threads – don't make the mistake of thinking the threads are clogged with support material!

Finish your prep work by using your drill and drill bits to clear out the through-holes on the lower – your 5/32" drill bit will be used to clear out the hammer and trigger holes, as well as the safety selector detent hole. Your 3/8" drill bit will be used to clear out the safety selector hole. Finally, your 1/4" drill bit will be used to clear out the rear takedown pin hole.



Step 1: Install Bushings in Upper Receiver Lugs

As discussed in the shopping list section, this build relies on simple bushings to allow the upper to work with the standard-sized eyebolts and takedown pins – not only does this ensure that the same reinforcement parts you use on the UBAR build work on the BUBAR, but it also keeps the cost of these parts down – you’d need custom-made eyebolts if you wanted to go without these bushings, which would be extremely expensive.

Now, installing these bushings is very easy – if you are making your own bushings from tube stock, mark the tube to the lengths specified in the shopping list. If you have pre-cut bushings, skip this step.



Mark the length that you will need



Cut the length that you will need off the tube stock

Test how your bushing fits into the front lug on your upper. Because AR upper rear lugs are cut oblong, your rear bushing should fit easily into the hole – but your front bushing may be a little tight. I recommend you use a little sandpaper to sand down the outside of the bushing so that it will fit snug, but not tight, into the front lug on the upper.



Check how the bushing fits in the upper



If your bushing feels very tight in the lug, you may need to sand down the outside of the bushing just a hair.

When you prepare to install your bushings into the upper, I recommend you use an **AR15** takedown pin as a bushing installation tool – AR15 takedown pins will fit inside of these bushings perfectly and will protect the thin wall of the bushing as you install it. Using the AR15 takedown pin as a tool, you can tap on the head of the AR15 takedown pin with a hammer to seat the bushing in the AR10 upper. If you ever need to remove the bushing, you can easily do so using an AR10 takedown pin as a punch.



Using an AR15 takedown pin as an installation tool for the bushings is recommended!



Using the AR15 takedown pin as a tool, you can tap on the head of the pin to seat the bushing into the upper. Perform these steps for both bushings, and once the bushings are inside the lugs on the upper, you are ready to proceed.

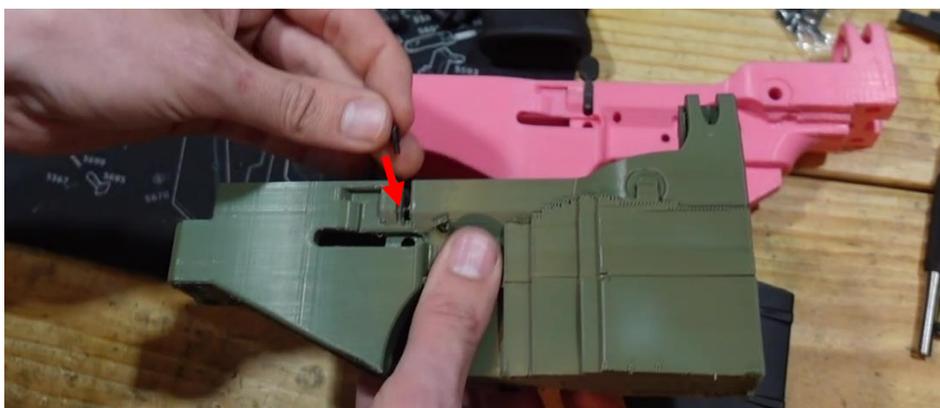
Step 2: Install the Bolt Catch/Hold Open

This step is easy – you will need to clean out the hole for the bolt catch plunger and spring using your 5/32" drill bit. Be gentle (drilling with the drill in reverse can help) and ensure you don't drill the hole any deeper than it was printed – you just need to remove all the stubborn support material in that hole.



Clean out the bolt catch spring plunger hole with a 5/32" drill bit.

Take your bolt catch, bolt catch plunger, bolt catch spring, and bolt catch roll pin and install the bolt catch – this is done just like on a standard AR15 lower, where you place the spring into the hole you just cleaned up, then place the plunger, then slide the bolt catch into place, depressing the plunger, and stick the roll pin through. Note that the roll pin/bolt catch are generally non-removeable on the BUBAR – while you can use a soldering iron to remove and reinstall the roll pin, you will not be able to remove the bolt catch once it is installed unless you remelt the plastic around the roll pin hole.

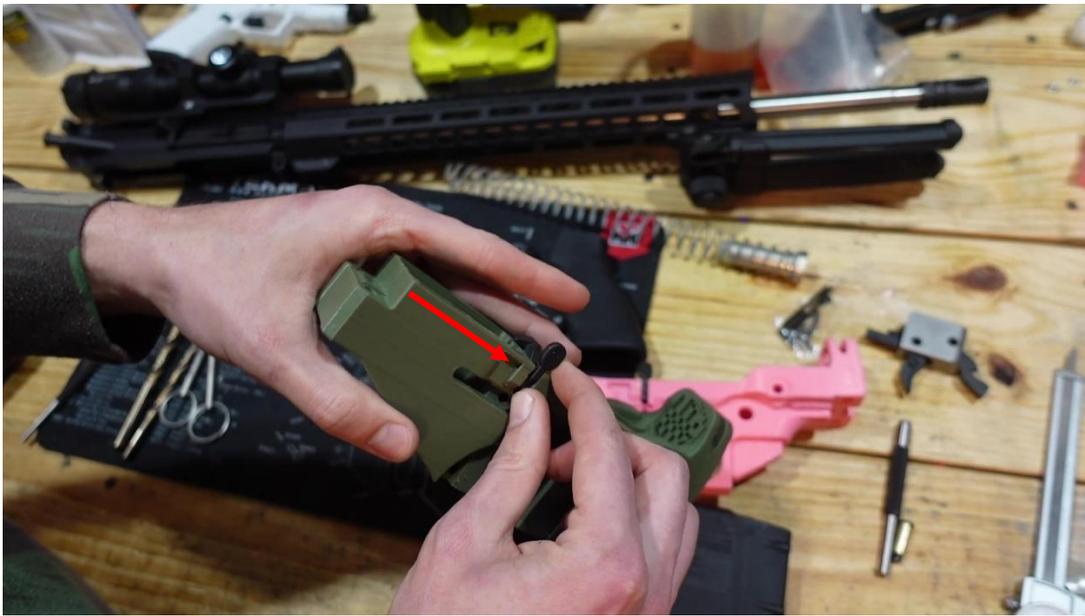


Insert the bolt catch spring and plunger into the hole. If your plunger gets stuck in the hole, you will need to use your 5/32" drill bit to clear out the hole a little more. To get your plunger out, touch a hot soldering iron to the tip of the plunger – it will heat up enough to come free, but be careful that you don't let it go flying under spring pressure.



How to remove a stuck/sticky bolt catch plunger

With the spring and plunger installed, take your bolt catch and line up the hole in the bolt catch with the hole for the lower.



Next, place the bolt catch roll pin into the trough in the lower. I like to use a screwdriver to push it into place from this point, but you can use a punch or similar tool if you'd like.



Place the roll pin into its trough



Use a screwdriver to push the roll pin into place while holding the bolt catch in alignment with the hole.

Step 3: Install the Buffer Tube/U-Bolt

Take your lower, buffer tube, castle nut, locking plate, buffer retainer, buffer retainer spring, and u-bolt (along with its nuts and nut plate). At this point, you will need to make a decision – you will either have to clearance the threads on your u-bolt, or your buffer tube. It's generally quicker to clearance the threads on the buffer tube, but if you mess it up you can ruin the buffer tube. Clearance the threads on the u-bolt, and you'll spend a little more time but it's rather hard to mess things up with this. I recommend the latter method. If you wish to instead clearance the buffer tube, refer to the general steps I provide in the build video (linked at the top of this document). Generally, you just need to ensure that the bolt can fit over the top of the buffer tube without having to be forced.

Begin by taking your buffer tube and u-bolt. The u-bolt will need to be able to straddle the threads on the buffer tube – because no perfect-fit u-bolt exists, you will have to do a little grinding/filing on the u-bolt.



Test the fit between the u-bolt and buffer tube. Out of the box, the u-bolt will not be able to sit down on top of the tube – you will need to clearance the u-bolt so that it can sit down on the tube.

Generally, you will just need to grind down the threads on the inside edges of the u-bolt in order to make it fit over the buffer tube – I use a Dremel tool with a cutoff wheel, and it takes me about 5 minutes to clearance a u-bolt. You can use a metal file to make this modification, but it might take you a little longer. Use your Dremel or file (or both) and cut away on your u-bolt to make it look like mine below. You will want to grind down on both legs of the u-bolt. After your cuts start to look similar to mine, you can start test fitting the u-bolt on the tube – it should be able to sit down onto the tube without much resistance. If you have to force the bolt onto the tube, you should clearance the bolt furthe



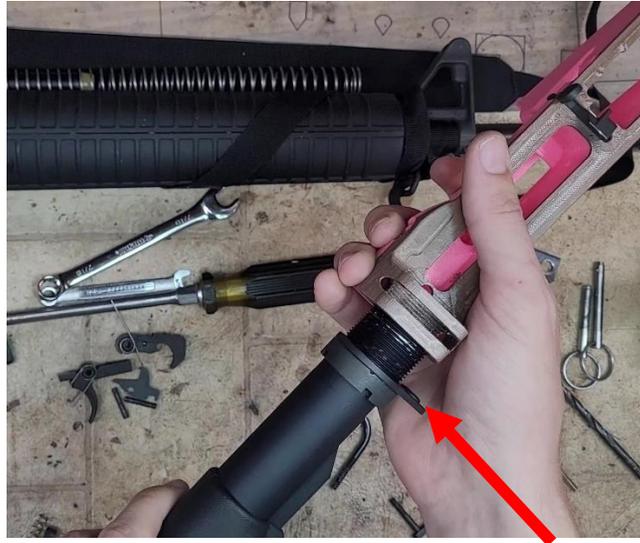
Example of how much clearance is usually needed.



Example technique to grind down on the insides of the bolt using a Dremel tool – you will want to hold the bolt using pliers or a vice, as it will get too hot to hold quickly.

Once you can get the u-bolt to fit fully over the tube, you are ready to move on. Take your buffer tube, castle nut, and locking plate. Thread them into the buffer threads on the back of the lower. You will need to ensure that you don't screw the tube in crooked – take your time and ensure things thread together straight. Your tube should thread in without excessive resistance – if things feel tight, ensure that you aren't screwing things in crooked. Depending on your print settings, your fit might be tight enough that you should use a little oil on the threads of the tube to help things thread in a little easier, but this is generally not required.

Like with normal AR15 assembly, thread your tube in to the point that it is one turn away from the bottom edge of the tube covering the hole for the buffer retainer.



Behind threading your tube into your lower. Ensure you thread things together straight! Ensure that your castle nut and locking plate are in place on the tube before you begin threading it on to the lower. And remember – the side of the locking plate with the nub goes towards the lower!

Once the tube is started screwing in, you can take the buffer retainer and place it into it's hole in the lower. Remember, the nipple-side goes up!



Place the retainer into this hole before you screw the tube in fully. Do not install the retainer spring yet.

After installing the retainer, screw the buffer tube in just enough so that the retainer can no longer fall out of its hole. Spin the castle nut to clamp the locking plate against the rear end of the lower – the nub on the locking plate will sit inside the cutout on the lower.



Screw the tube in just enough to keep the retainer from falling out, while ensuring the tube is more or less straight (the lug on the bottom of the tube which the stock locks onto should be at the bottom of the tube).



Begin tightening the castle nut, which will push the locking plate towards the lower.



Ensure that the nub on the locking plate aligns with this cutout in the lower. Tighten the castle nut enough to keep it from coming loose, but do NOT tighten it down to mil-spec.

When tightening the castle nut down, avoid using a castle nut wrench or tightening to mil-spec – you just need the castle nut to be tight enough to ensure it doesn't come loose. You can get it tight once the u-bolt is properly installed but tightening the castle nut too much without the u-bolt in place can damage the receiver.

With the castle nut snug and buffer tube installed, it's time to take your u-bolt and make one final adjustment to it. Place your u-bolt down over the tube, into its slot on the lower. You will notice the top of the u-bolt sticks up past the top of the lower – you will need to Dremel or file the top of the u-bolt down so that it is flush with the top of the lower. Note: you should take the bolt out of the lower before grinding or filing it down – it will get hot as you grind on it, and you don't want to melt your lower.



Install the u-bolt. You may have to gently tap the bolt to get it into place, but it shouldn't take much force. If it feels like it needs to be hammered into place, ensure that your u-bolt legs are not bent out of shape and clearance the parts further.



Grind the top of the bolt so that it's flat and flush with the top of the lower. REMOVE THE BOLT FROM THE LOWER BEFORE GRINDING ON IT! Don't melt your lower on accident!

With the top of the bolt buzzed off, you are ready to clamp things in place. Start by taking your buffer retainer spring and stuffing it up the underside of the hole that the buffer retainer is already installed in.



Install the buffer retainer spring into this hole – the underside of the hole you already put the buffer retainer into.

Take your nut plate and use it to compress the buffer retainer spring. Screw your two nuts onto the legs of the u-bolt while holding the plate in place. At this point, tighten these nuts down to clamp the buffer tube into place. You don't have to get these nuts extremely tight, but a good, more-than-snug fit that doesn't have any chance of coming loose is desired.



Install nut plate and nuts. Use a 7/16" wrench to tighten these nuts.

After tightening these nuts, you can install your buffer and buffer spring. Congrats! You're done with this step (which is the hardest part of the assembly).



Installing the buffer and buffer spring – simply push it into place and it'll shove past the buffer retainer.

Step 4: Install the Eye Bolts/Front Takedown Lugs

Take your lower, your upper receiver, your two eye bolts, your two locking nuts, and your two takedown pins. On the AR10 uppers I have tested with so far, I have not needed to remove any material from the tops of the eye bolts – but some uppers may need this. If when you go to put your upper on the lower, the upper contacts the top of these eye bolts, you will need to grind down the tops of these bolts. A quick buzz with a Dremel tool to add a little clearance, and you'll be good to proceed.



Grind down on the top of the eye bolts about this much – you want the top of the eye bolts to sit flush with the top deck of the lower.

Stick both eye bolts into their holes at the front of the lower. Take your locking nuts and start threading them on the to bolts – do not tighten them yet, just get them started. Because the eye bolts will have to be aligned parallel in order for the takedown pins to fit through them, you will have to use your upper receiver as an alignment tool. This is rather simple – take your upper receiver and seat it on the lower. Ensure that the upper receiver is pushed towards the buffer tower on the lower, then stick your rear takedown pin into place. Because you haven't tightened the nuts on the eye bolts yet, the rod ends should be able to spin so that the front lug on the upper receiver can sit down between them.



Mate your upper and lower receivers. Make sure that the eye bolts are not tightened down yet! They should be able to rotate to allow the upper to fit.



Make sure that the upper and lower receivers are pushed together, then stick your rear takedown pin into place. It might be tight when you first insert it – it will loosen up some over time, but if you can't stand pins being tight then you can oil the pin, or sand the pin down a little.

After you have laid the upper on the lower and stuck the rear pin in place, you can stick your front takedown pin into place – it might be tight, and you can apply oil or sand down the pin a little if it feels too tight. Once the front pin is in place, tighten the locking nuts. You don't need these nuts to be extremely tight – because they are locking nuts, they won't come loose from vibration. You just need them to be tight enough to keep the bolts from trying to rotate on their own. On my builds, I have tightening the nuts until the front takedown pin becomes hard to remove, then loosened the nuts just enough so that the front takedown pin is still a little tight to remove, but not something I have to struggle with.



Install your front takedown pin. You may have to wiggle the eye bolts to ensure the holes all line up.



Use your 7/16" wrench to tighten the nuts on the eye bolts. Don't make things so tight that the pin becomes very hard to remove, but don't leave any gap between the nut and the bottom of the lower.

After you have snugged up the nuts, you can remove both takedown pins and separate the upper and lower – all your metalwork is now done, and you're ready to move to the next step.



Separate the upper and lower

Step 5: Install the Pistol Grip

Take your 1/4-28 tap, tap handle/wrench, your lower, your pistol grip, pistol grip screw, pistol grip lock washer (if you have one that came with your grip screw), and whatever tool you need to tighten your pistol grip screw (some screws need an Allen wrench, some need a screwdriver).

While you don't necessarily *have to* use a tap to thread your pistol grip screw hole, doing so ensures that your threads will be strong and secure, and that you won't damage your lower while installing your pistol grip. It is possible to just ram your bolt into the lower and have it cut its own threads, but this tends to damage the receiver, even if you are gentle.

Tap the pistol grip screw hole with your tap. If you aren't familiar with using a tap, refer to the build video linked at the top of this document – you will want to use some form of oil on the tap, to two two twists forward, one twist back as you tap, and avoid going too quickly.



Tap the pistol grip screw hole if you're cool. Otherwise, you can just jam a screw in there.

After tapping the grip screw hole, you can install your fire control group – this is bog-standard AR15 stuff, if you are unfamiliar with it, refer to the build video, or an AR15 build video like Larry Potterfield's on Youtube.



Install the trigger and disconnect



Install the hammer

Next, install the safety, safety detent, safety detent spring, and pistol grip – again, bog-standard. Check out the build video or Larry Potterfield if you get stuck.



Install the safety, detent, spring, and pistol grip. Standard AR lower building operation.

Note: the BUBAR will not work with the grip pictured without modification to the grip!

At this point, all you have left to do is install the magazine catch and function check. Magazine catch installs standard as well – just like any AR lower. Double check to make sure you've got all your support material removed before you install your magazine catch parts.



Install the magazine catch.



You can check magazine fitment now – they should slot in easily and drop free, assuming your print settings were good and you removed all your supports. If your printer exhibits ringing or z-banding, you may need to do some light sanding on the front and rear faces of the magwell – it is designed to be a perfect fit with a perfect print, and has no added tolerance for rough prints.

Set your upper on your lower, install your push pins, and do a basic function test. Congrats! Your BUBAR build is ready to test fire.



Mount the upper on the lower. Function check, then fire test!

FAQ/Troubleshooting

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

A: More so than with other prints, this will depend on the quality of your print and the material used – with a solid PLA+ print, this lower should last a long time – more likely to break from hard abuse than regular use. However, with underextruded, cold, or otherwise defective prints, this lower could certainly succumb to the impact of a 308-propelled bolt carrier quickly.

Q: What sort of reliability should I expect?

A: I haven't had any reliability issues – all the important geometry on this lower is mil-spec (or adjusted slightly from mil-spec to make things easier to print). Magazines, your choice in upper/parts kit, and your ammo will end up determining the reliability of your build more than anything.

Q: What can I do about the rough finish where supports were touching the lower?

A: If the few places this happens bothers you, you can use a soldering iron to melt these areas smooth.

Q: Why can't I get the upper on? Why won't the pin holes align?

A: Two things – first, note that the rear pin hole in the upper is oblong – as a result, it might look like the front pin hole isn't lining up, when in reality you just need to push the upper towards the butt of the rifle after inserting the rear takedown pin. Secondly, if you don't clearance the top of the rod ends, some uppers will contact the rod ends and will be unable to sit flat on the lower. If your pin holes still don't line up, your issue lies in your printer calibration – if you calibrated to a 20mm cube and then your pin holes don't line up when printing an AR10 lower, it's very likely that you need to calibrate on a larger cube.

Q: What parts work?

A: Refer to the shopping list – in general, PSA AR10 uppers are ideal, and LR308-based upper should work.

Q: What mags work?

A: I only recommend PMAGs. It should work with other mags, but you should be cool and use PMAGs.