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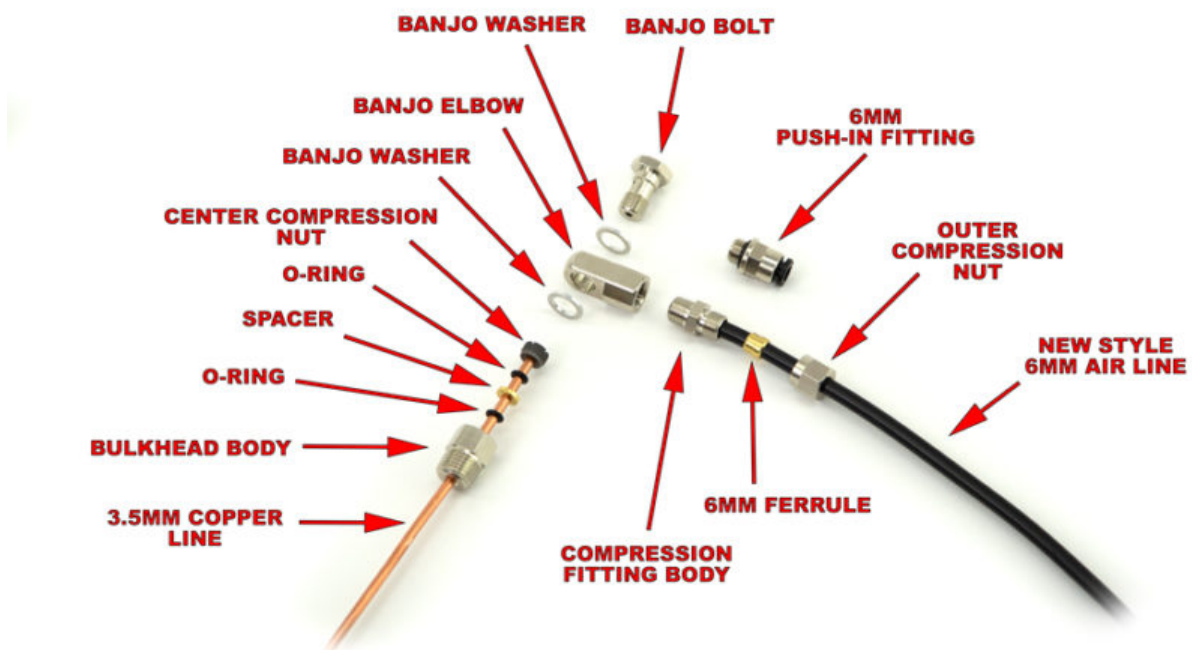
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ARB Air Locker Fittings – New Style How To

🕒 AUGUST 22, 2018

👤 Tim Lund



ARB Bulkhead Fitting Kit – New Style.

Earlier this year ARB rolled out their newest bulkhead fitting kit ([ARB pn#170114](#)) for the ARB Air Locking differentials and it has some new features over the older fitting kit it replaces. A couple weeks ago we went

through the [older style ARB bulkhead kit \(ARB pn# 170111\)](#) that has been in use for over a decade, now it's time to show you the newer kit.

First off, it is different and yes, it has more parts. It may seem a little more complicated, but we think once you see the differences, you agree with us that the new ARB Bulkhead kit is dang cool and the benefits and upgrades are well worth the changes.

Benefits:

- Get the perfect crimp on the internal copper line every time.
- Simple banjo style 90° top fitting makes assembly/disassembly easy.
- New 90° banjo fitting make hose routing around a truss or other components easier.
- New thicker wall polymer plastic air hose.

What comes in new ARB airline conversion kit:



The ARB #[ARB171321](#) Pressure Supply kit comes with a roll of #[ARB170314](#) – 6m (18') roll of the new thicker wall 6mm black polymer plastic air line, #[ARB170114](#) Bulkhead Fitting kit, and #ARB180305 bag of zip ties to anchor the airline with.

Tools Needed to install:

12mm, 14mm or 9/16" wrenches

Drill

Drill bits: 3/16, 3/8", 7/16s

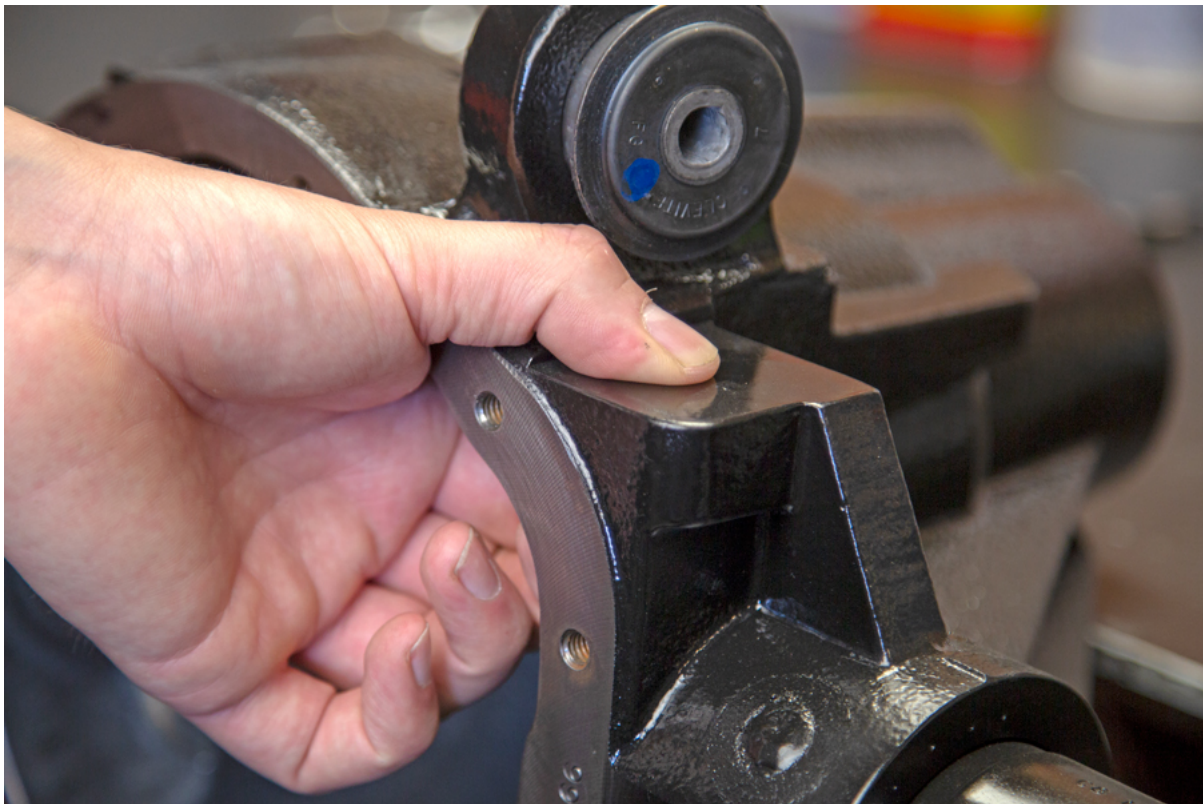
Tubing cutter

Box knife

How to Install the new style ARB Bulkhead Fitting Kit:

If you are installing from scratch start here. If you are retrofitting an already installed ARB, move on down the page.

Of course you're going to want to start with an empty housing, you definitely don't want to drill into a housing if it is already set-up with gears and your Air Locker, too much risk of contamination.



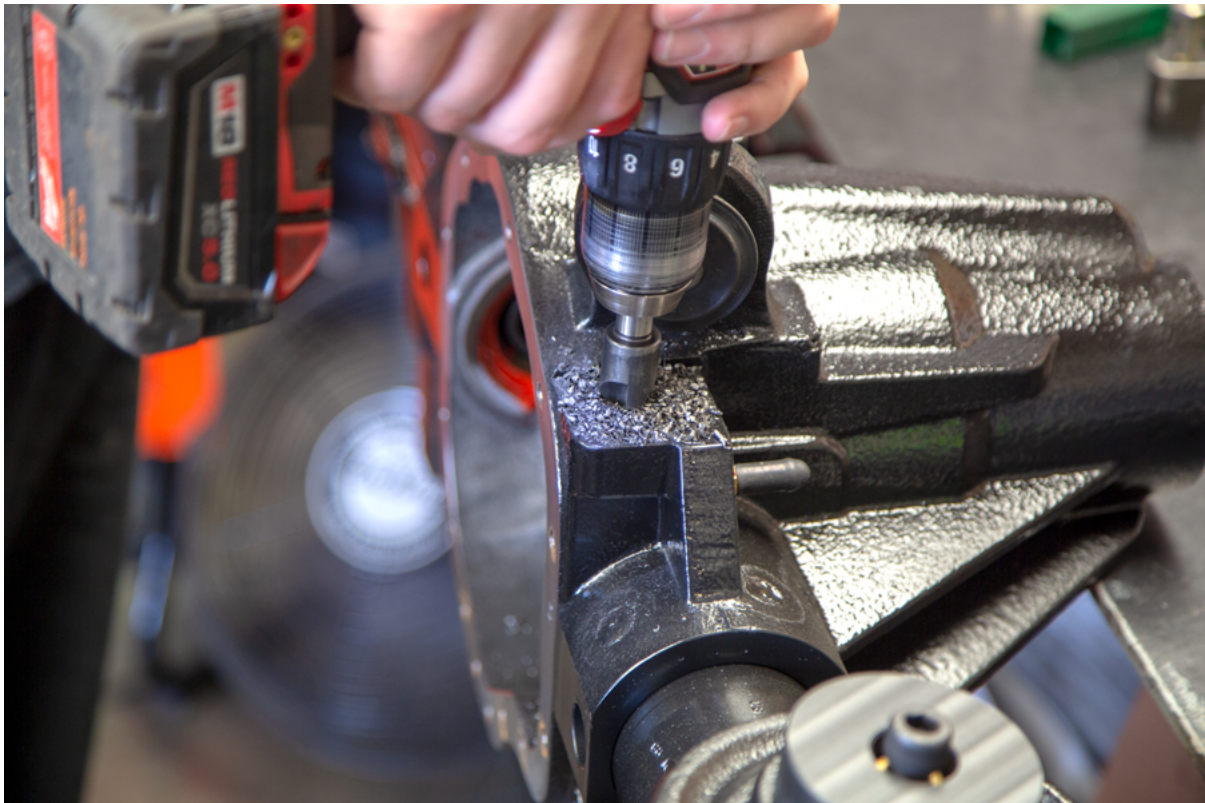
The first step is to find where there is room in the axle housing for the bulkhead fitting kit and copper line to pass through the housing. Use your thumb and forefinger to feel around the housing for a good spot.



Use a center punch and mark where you want to install the bulkhead fitting.



Drill a 7/16" hole. We like to start with a smaller bit, say in the 1/8" or 3/16" range and work our way up to 7/16". You will find that you'll end up with a straighter, much cleaner drilled hole.



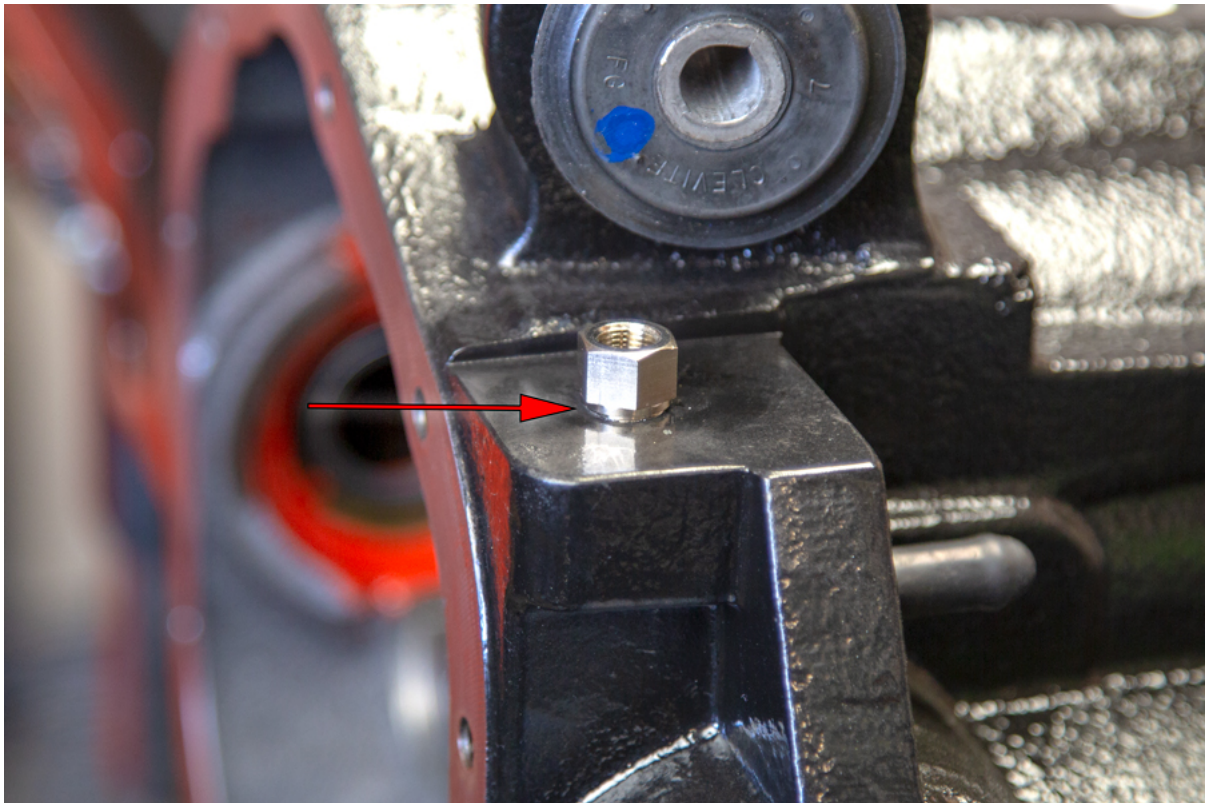
Once it is drilled to $\frac{7}{16}$ ", we like to use a chamfer bit to clean the edges of the hole up and to give the $\frac{1}{4}$ " NPT tap a nice guide to help start. You don't need to go much, about an $\frac{1}{8}$ " chamfer is enough to do the trick.



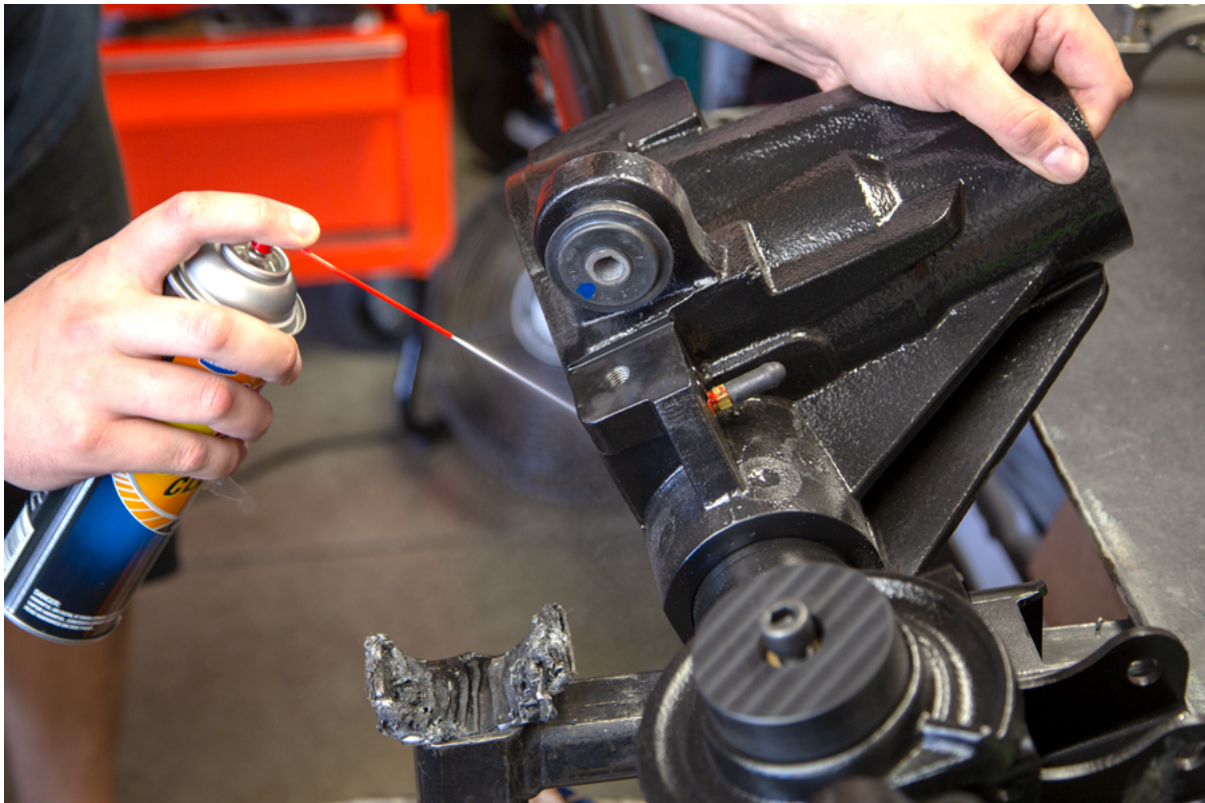
Use a 1/4" NPT tap and carefully tap the 7/16" hole in the housing.

The NPT tap is a tapered thread as is the bulkhead body. The deeper you tap the hole, the further the fitting will screw down into it, if you go too far, the fitting will be loose in the hole.

****A little tapping fluid or some oil will help lubricate the tap threads and make the cutting action a little smoother.****



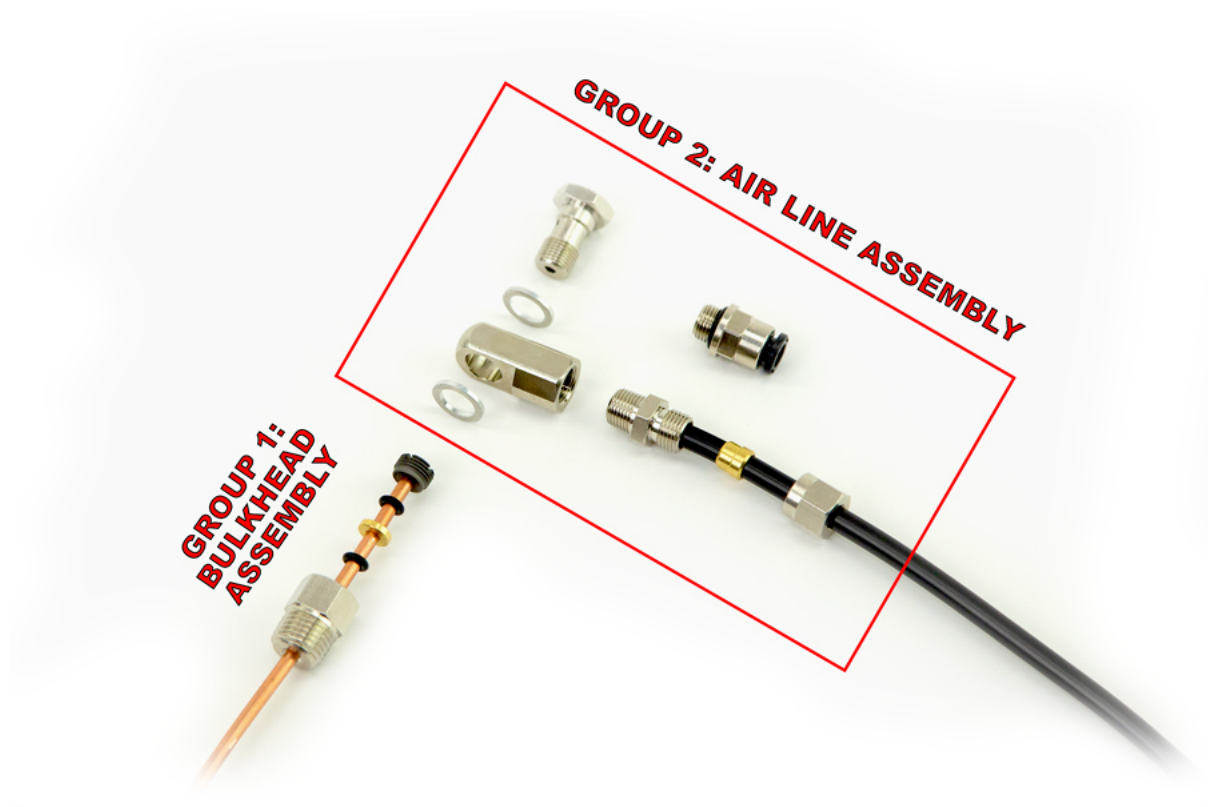
You want to make sure you tap the hole far enough down that the bulkhead body screws down only leaving a thread or two exposed. Now that doesn't mean to just crank the fitting further down in the hole. If the fitting doesn't go down far enough, pull it out and tap the hole a little deeper.



Clean the hole and housing out good with a little compressed air and brake clean.

With that, you now have the housing prepped for an ARB fitting kit. Start assembling the Air Locker/gears as normal. You'll install all the bulkhead pieces after initial gear set-up.

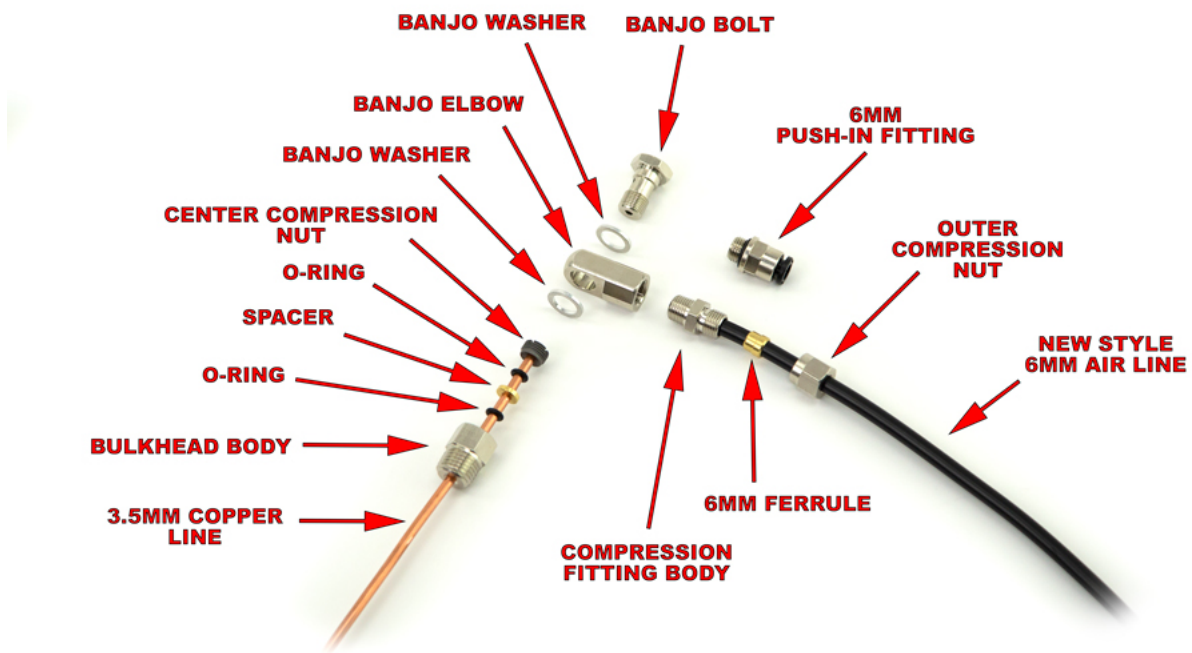
Now let's take a close look at the new ARB bulkhead fitting kit and how it goes together:



Just like the older style bulkhead kit, this kit can be broken up into two different groups.

Group 1 is the housing bulkhead assembly and are the parts that anchor the copper line in the axle housing.

Group 2 is the air line assembly and are the parts that anchor the polymer air line and seal it to Group 1.



Here is the parts breakdown of the new [ARB170114 bulkhead fitting kit](#). If you are familiar with the older ARB bulkhead fitting kit (ARB170111) the first things you'll note are the double o-rings in the bulkhead and the 90° banjo style fitting.

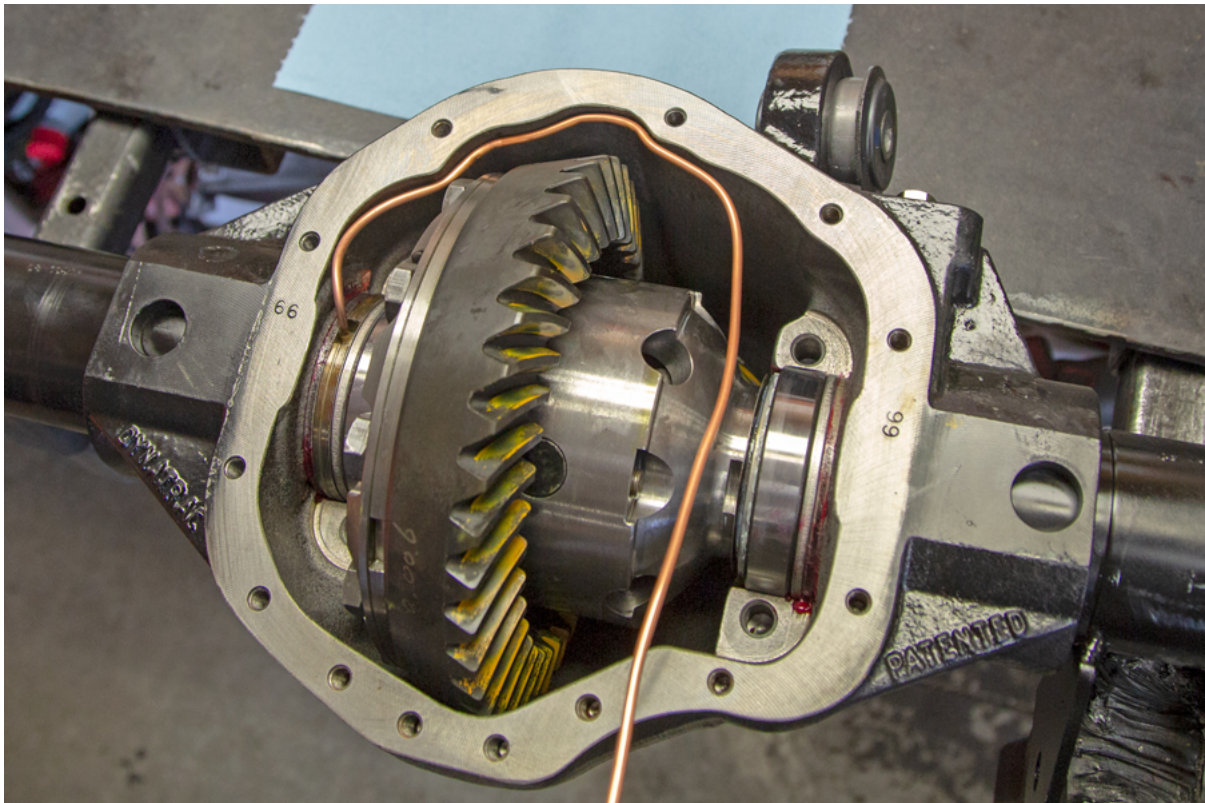
Start out by installing the ARB bulkhead body:



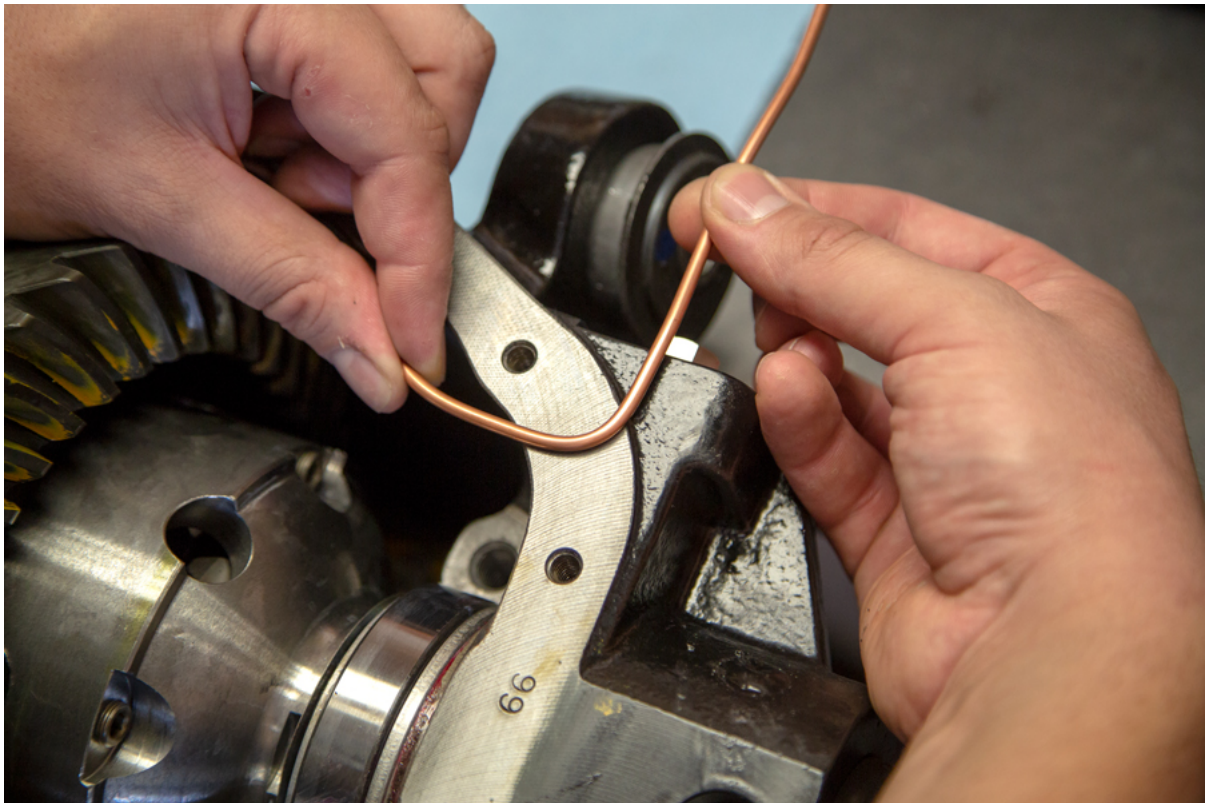
Add a little pipe sealant to the threads of the bulkhead body, we've found that the liquid thread sealants work the best. However, you can use teflon tape or even a little silicone to seal up the threads in a pinch.



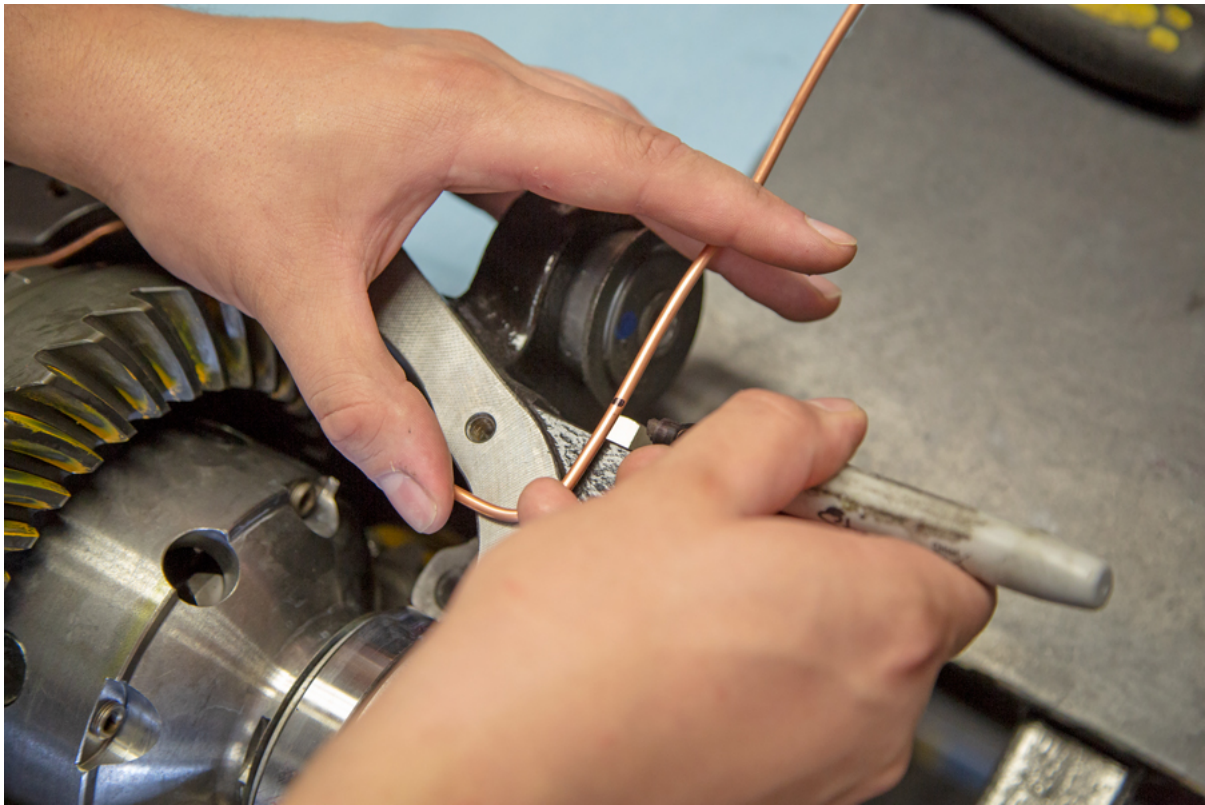
Screw the bulkhead body down into the threaded hole and use a 14mm or 9/16" wrench to tighten it. The bulkhead body is brass, be careful not to over-tighten and break it.



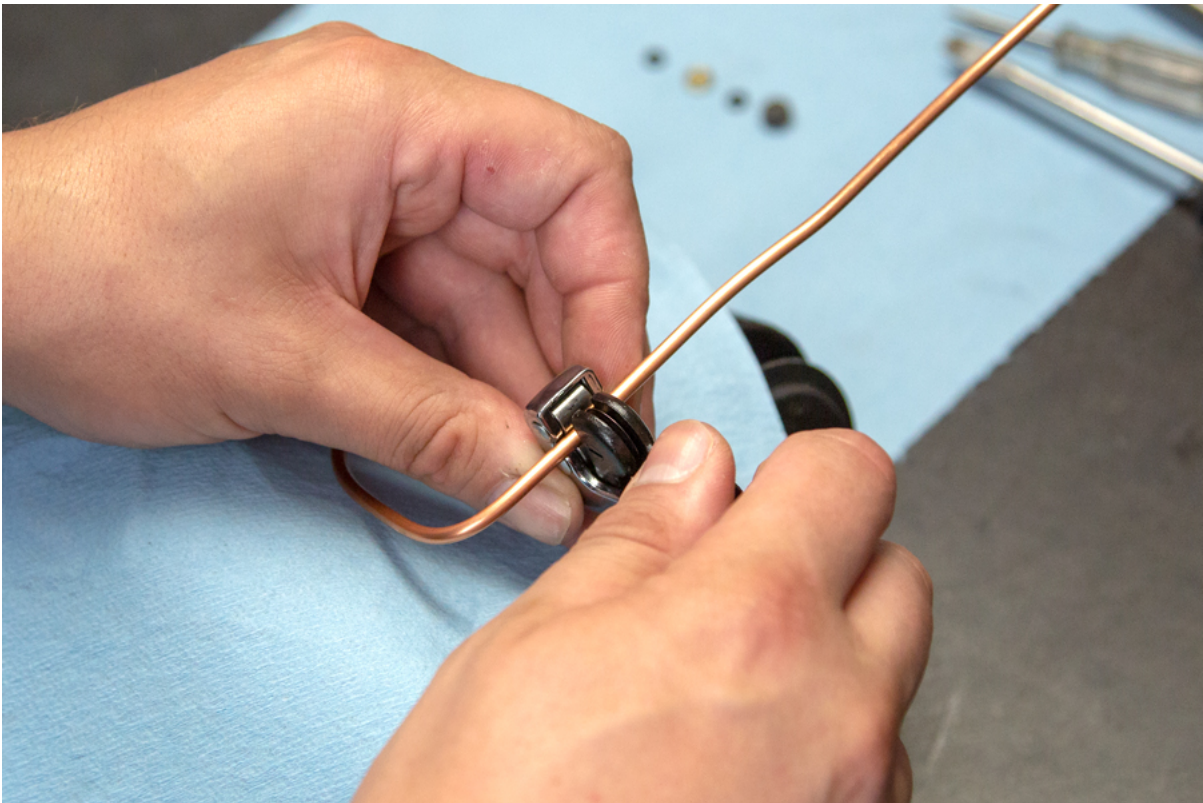
Once the ARB is installed, bend the copper line along the top of the axle housing. The soft copper line easily forms to the contours.



Continue routing the copper line over and then bend it up in line with the bulkhead body.



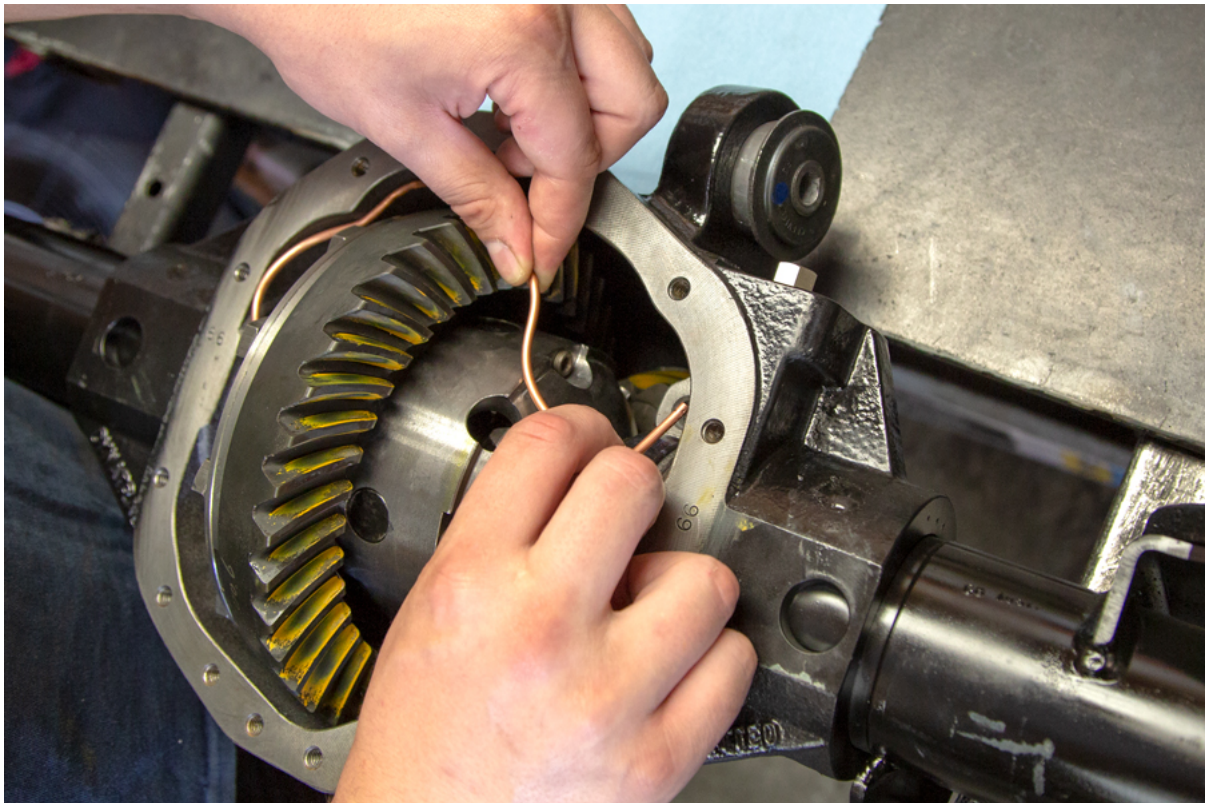
Push the copper line up tight against the top of the housing and mark a line even with the top of the bulkhead body.



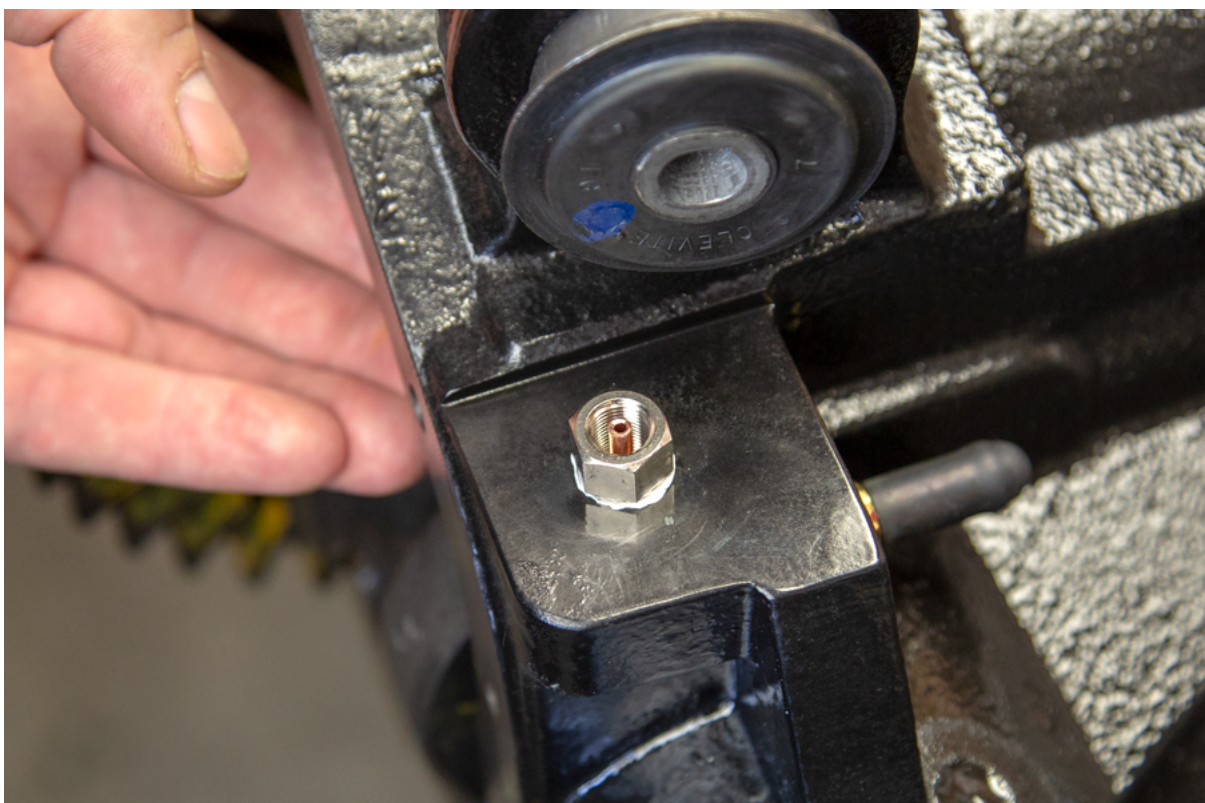
Cut the copper line at that mark and make sure to deburr the end of the cut hole.

Remove the Air Locker and seal housing from the axle and blow air up through the seal housing to clean out any grit from deburring the air line.

****Note: lay a shop towel over the diff to keep any contaminates out****



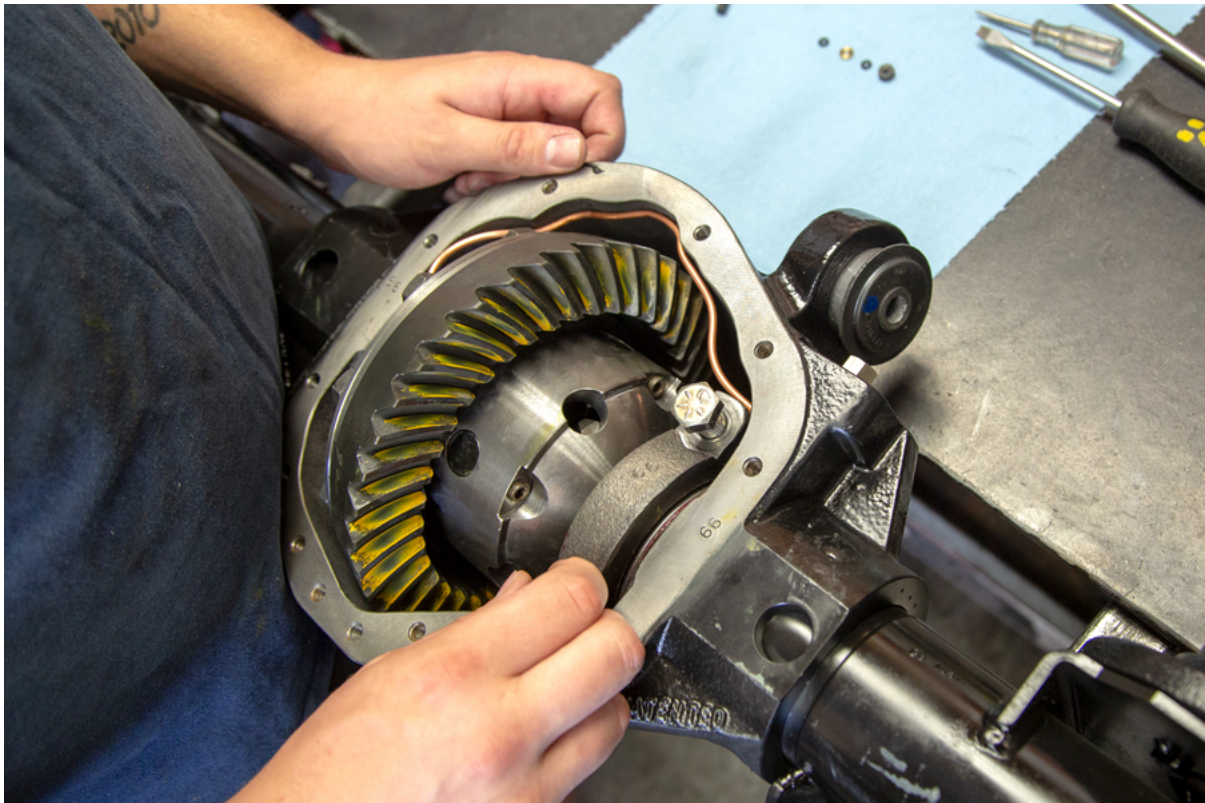
Bend the copper line down and then up in through the bulkhead fitting.



When pushed up through the bulkhead, it should be level with the top of the bulkhead AND there should be enough room in the housing for the copper line to drop back down about 1/4".



To center the copper line in the bulkhead body, carefully use a small flat blade screwdriver between the copper line and bulkhead body to move it one way or the other.



Install the bearing cap and screw down the bolts, this way the bearing cap will help support the copper line as you are installing the internal bulkhead parts.



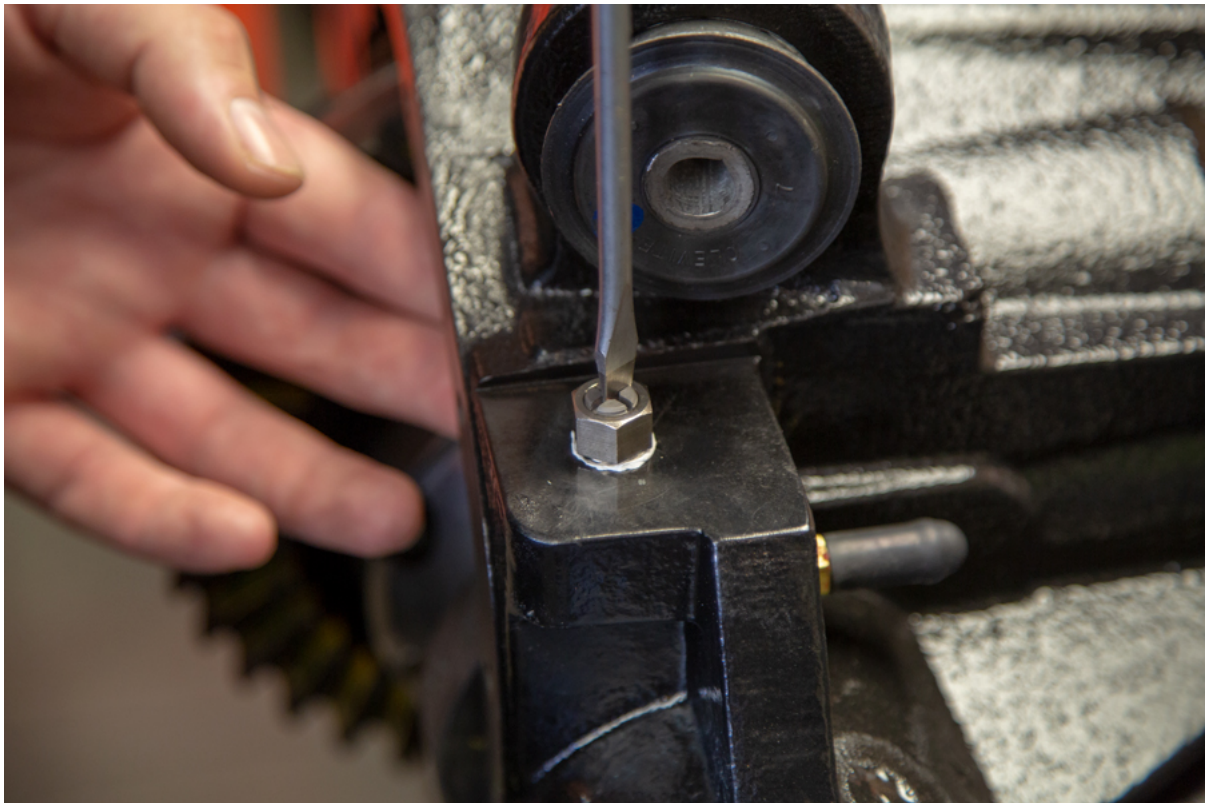
Install the first of the two black o-rings down over the copper line.
We're using a medium flat blade screwdriver between the top of the bearing cap and the copper line inside the housing to help hold the copper line up through the bulkhead body.



Then install the little brass spacer over the copper line and carefully push down with a flat screwdriver.



Push the second ARB o-ring over the copper line and very carefully push it down with your flat bladed screwdriver.



Install the center compression nut and screw it down into the bulkhead body.



Screw in the center compression nut until it stops, give it a little extra twist to make sure it's tight and that's it. No more worrying about over-tightening the fittings... that's it, they're tight.

This is one of the big benefits to this new #170114 bulkhead fitting kit, the components that make up the kit are designed and machined to lock in the two o-rings to the perfect seal. No worries about over-tightening and pinching down the copper line, no more worries about under-tightening and having the copper line come off... Just a perfect seal every time.

New ARB 6mm Black Air Line:



5MM AIR LINE
(OLD STYLE BLUE AIR LINE)

6MM AIR LINE
(NEW STYLE BLACK AIR LINE)

The difference between the older blue air line and the newer 6mm polymer black air line is easy to see, going from a 5mm OD to 6mm OD doesn't sound like much, but it sure is noticeable just looking at them. The ID is the same, the extra 1mm has been added to the wall thickness, making this new line quite a bit stronger.

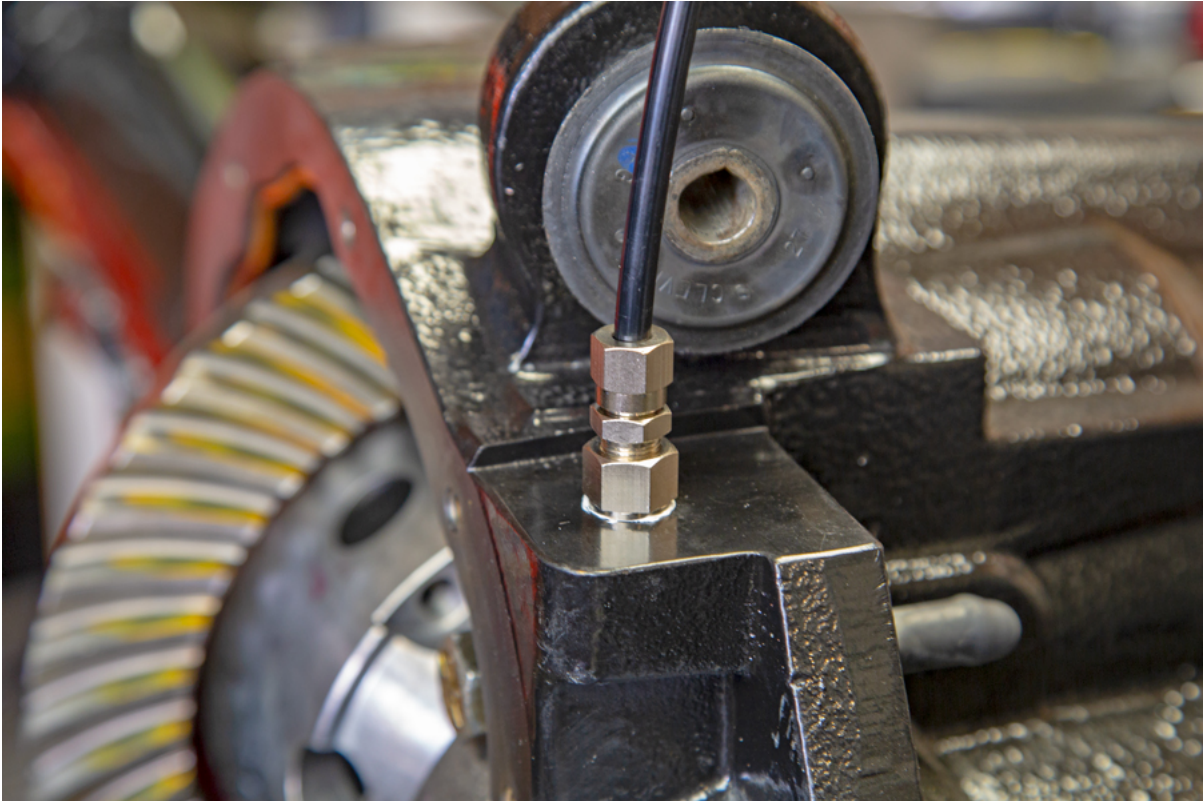
What is polymer?

The simplest definition of a polymer is “a useful chemical made of many repeating units”.

All plastics are a polymer of some sort and there are many different styles depending on usage and desired characteristics.

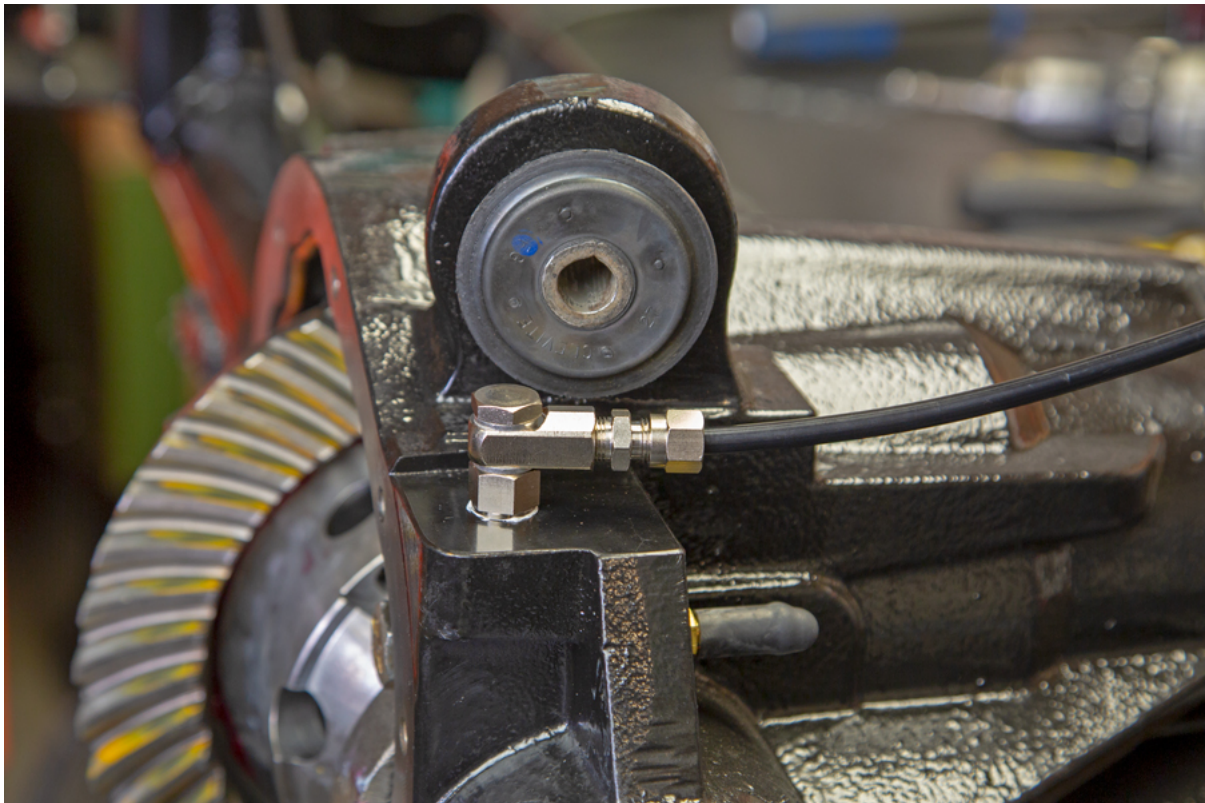
In general Polymers can be very resistant to chemicals and can be very light in weight with significant degrees of strength

Two different ways to connect your airline:



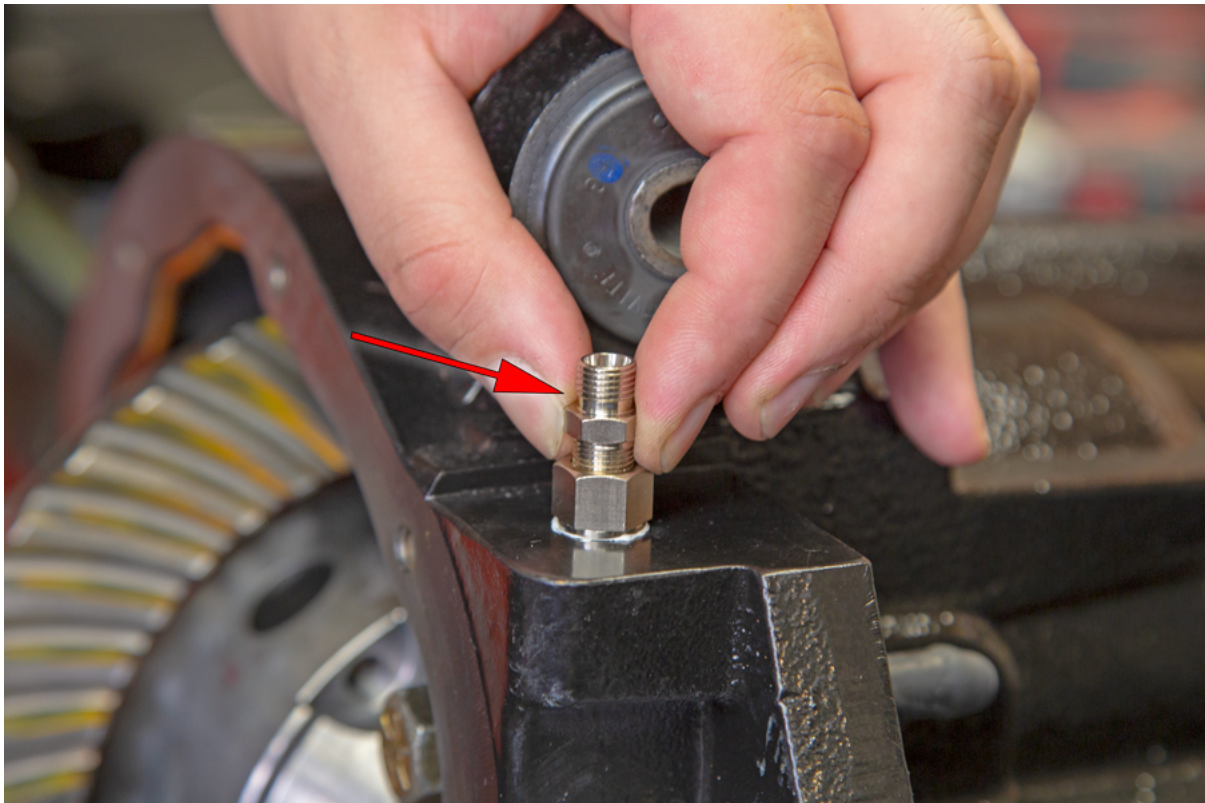
You can still run the airline in a straight out position just like they've been ran for many years. This arrangement has been the go-to set-up with an ARB since it's inception and it works real well in many applications.

If you are familiar with ARB Air Locker set-ups, another thing you might notice is that ARB no longer uses the air line support spring with the new 6mm black air line. This new thicker wall air line is much stronger than the old blue air line so the support spring is no longer needed.



The new 90° banjo style fittings will allow you to run the airline in a horizontal position for better clearance around a truss or other components that may interfere with running the airline straight out.

Assembling the ARB bulkhead kit for straight through airline:



Screw the Compression Fitting Body down into the Bulkhead Fitting. The 1/8" BSP threaded side screws into the Bulkhead Fitting, the compression thread side has this little gap (red arrow) between the end of the threads and the hex head landing.



Slide the outer compression nut and ferrule onto the black air line, insert into the compression fitting body and screw down by hand.

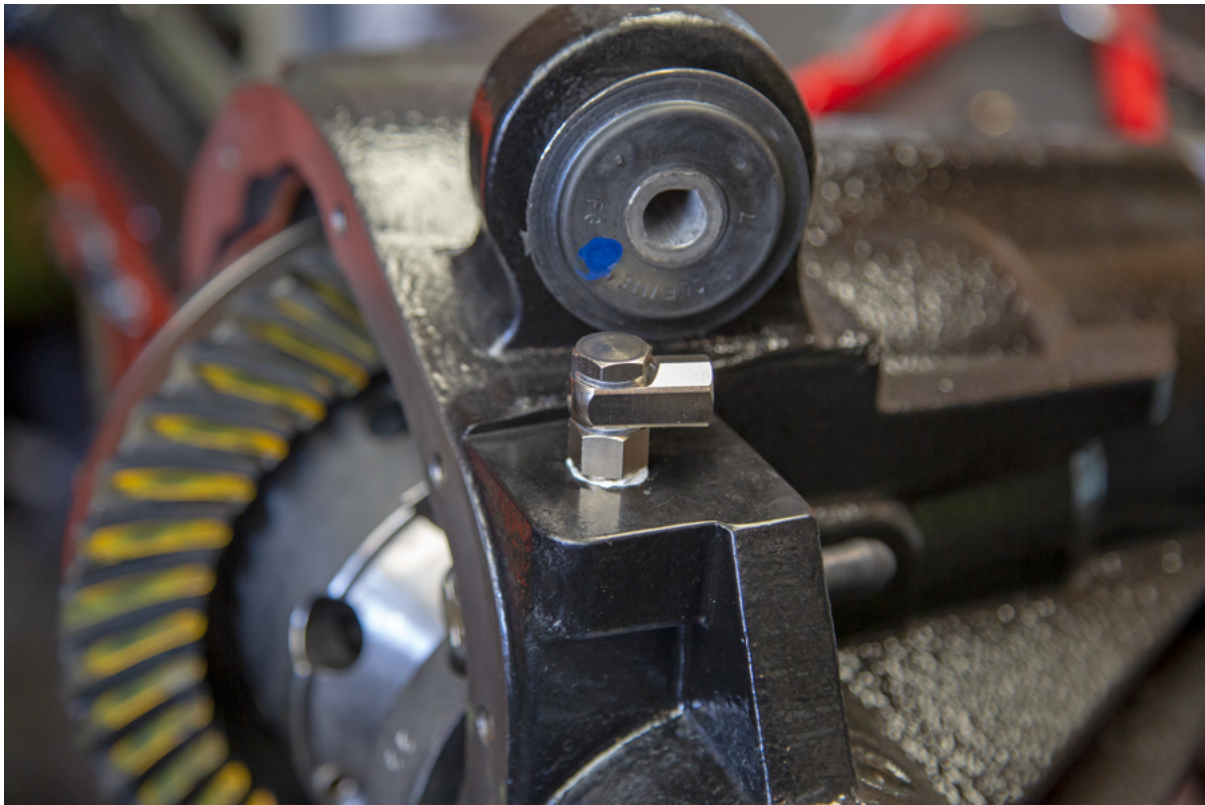


Use a 12mm wrench on the compression body and another 12mm wrench on the outer compression nut and tighten the nut down tight.

****These are brass fittings, so tight is a subjective thing. You want it tight enough to crimp the ferrule down on the black air line, but not so tight that you damage the brass fittings.**

Assembling the ARB 90° Banjo style fitting:

The ARB Banjo fittings are pretty much the same as any banjo fitting you'd find in a brake system. You have the banjo fitting, a cross-drilled banjo bolt and two sealing washers to go on either side of the fitting.



Place a sealing banjo washer on either side of the banjo fitting and run the banjo bolt down through the center.



Then use a 14mm or 9/16" wrench to tighten the banjo bolt.

Screw the Compression Fitting Body into the banjo fitting and tighten. Use a 14mm (or 9/16") wrench on the banjo body and a 12mm wrench on the compression fitting body.

Slide the outer nut and ferrule onto the end of the black air line, slide it into the compression fitting body and screw the outer nut on.

Use a 12mm wrench on the compression fitting body and another 12mm wrench on the outer compression nut to tighten them together. You need to tighten the outer nut enough that it locks the ferrule to the air line.

The [#170114](#) bulkhead kit comes with one push-in fitting to attach the 6mm black air line to the ARB solenoid. If you order an extra ARB 6mm push-in fitting ([#170213](#)), you could run it into the banjo fitting and have the quick-release function at both ends of the airline.

Want to swap your old style blue line to the new larger 6mm black air line?

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16 Replies to “ARB Air Locker Fittings – New Style How To”



Cody says:

May 4, 2019 at 2:41 pm

If you install the straight fitting, do you follow the same steps as the 90, as in o ring/washer/o ring and the compression nut?

REPLY



Tim Lund says:

May 6, 2019 at 7:51 am

Yes, the installation of the bulkhead body it the same for both the straight through fitting and the 90° banjo.

REPLY



Cam says:

May 15, 2019 at 5:00 am

The old bulkhead fitting (the first one u put in after u run a tap) is the same as the new one making for an easy upgrade.

The original o ring thing is crap would like to c an olive or feral or forcit to make it better or even a olive style joiner for the solid line

REPLY



Tim Lund says:

May 15, 2019 at 7:29 am

Yes, the thread pitch of the new bulkhead body is the same as the old one, making it an easy upgrade.

The original o-ring style worked well.... IF the installer didn't over tighten it. That's the beauty of the new bulkhead fitting, you cannot over tighten the o-rings.

REPLY



DAVE TELENKO says:

November 3, 2019 at 10:13 am

Hey on the push on fittings can the be reused?

REPLY



Tim Lund says:

November 4, 2019 at 9:48 am

Yes, push in the hose and the collar to release the hose, then to reinstall, just push the hose back in.

REPLY



Joe Utley says:

February 12, 2020 at 6:09 am

I noticed the only time you used thread sealant was in the bulkhead. Would it be incorrect to use thread sealant on the other threaded items used in this set such as the center compression nut or all of the threaded parts in group 2?

REPLY



Tim Lund says:

February 17, 2020 at 8:32 am

You only need it on the bulkhead body to seal the coarse NPT threads.
The center fittings all seal just fine.

REPLY



Andrew says:

April 26, 2020 at 12:46 pm

Hi. Could this system be used for oil lines. I'd like to install piston oil jets into a race motor through the engine block. Are the seals etc resistant to hot oil ?

Thanks.

REPLY



Tim Lund says:

June 2, 2020 at 9:12 am

The internal seal is viton, so in theory it should work.

REPLY



Brian Cooke says:

August 9, 2020 at 3:42 pm

Hey Tim, I've been running ARB's since Feb '87 and don't want two different sizes of lines, 2 repair kits, extra hose for 5mm and 6mm. 5mm has never had a hole or pinch or leak since '87 and '95 (9"). Do you or anybody have a 5mm to 6mm hose adapter or

maybe just go to McMaster and get a new 90deg 5mm push lock...so I can keep old my old stuff including solenoids. Remember Vantage rock crawl contest?

REPLY



Tim Lund says:

August 11, 2020 at 8:07 am

Brian, You can order the complete bulkhead kit ARB #171321 and swap it all over. Then you would be running the same line size front and rear. Solenoids don't change, just the push in fitting that screws into the solenoid.

Vantage Rock Crawl was a great both years they held it!

REPLY



Michael Skillern says:

July 19, 2021 at 6:42 am

I would like to get extra brass ferrules, do you sell just that part?

REPLY



Tim Lund says:

July 19, 2021 at 9:34 am

Yes, drop us an email: sales@northridge4x4.com or give us a ring at: 866-6015340

REPLY



Ian says:

May 24, 2022 at 8:43 pm

When did arb switch from 3/16" to 3.5mm? I have older lockers but no idea what tubing it has internally...

REPLY



Tim Lund says:

May 25, 2022 at 7:55 am

That was many years ago. 15+ years or so.

REPLY

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